

# COVID-19 in schools and early childhood education and care services – the experience in NSW: 16 June to 17 September 2021

Prepared by the National Centre for Immunisation Research and Surveillance (NCIRS)

18 February 2022

## Overview

- This report provides an overview of SARS-CoV-2 Delta (B.1.617.2) variant transmission in all schools and early childhood education and care (ECEC) services and associated households in New South Wales (NSW), Australia during the Delta variant outbreak between **16 June 2021 and 17 September 2021** (end of school term 3).
- Data are reported for primary (first) cases in schools (between 16 June and 17 September) and ECEC services (between 16 June and 31 August), with school and ECEC close contacts and household contacts of secondary cases followed for 30 days following school or ECEC exposure.
- From 25 June 2021, stay-at-home orders (lockdown) were implemented, initially in Greater Sydney and then the entire state of NSW. Schools resumed for Term 3 on 12 July 2021 via online teaching, but remained open for students who required onsite attendance. A range of COVID-19 mitigation measures, including mandatory mask use for adults and high school students, were implemented from 12 July 2021. Vaccination rates were low in working age adults at outbreak onset (16 June 2021), but reached 73% for dose 1 and 47% for dose 2 in the population aged  $\geq 16$  years in NSW by 17 September 2021.
- In this reporting period, there were 44,734 notifications of locally acquired COVID-19 cases in NSW (population 8.1 million). Of these, 12,455 (27.8%) were among those aged 0 to  $\leq 18$  years.
- Overall, there were 531 exposure events in educational settings, with 614 individuals (380 students [61.9%] and 234 staff members [38.1%]) identified as primary COVID-19 cases, who had an opportunity to transmit SARS-CoV-2 to others in their school or ECEC service. Of these 531 events, 339 (involving 397 primary cases) were reviewed in detail and data are presented in this report. The majority of primary cases (93.7%) were unvaccinated.
- From the 339 events, 14,509 individuals (11,254 students [77.6%] and 3,255 staff members [22.4%]) were identified as close contacts of the 397 primary cases. The majority of close contacts (13,869 of 14,509; 95.6%) underwent SARS-CoV-2 nucleic acid testing; 636 were identified as secondary cases, resulting in an overall secondary attack rate among close contacts in educational settings of 4.6%. The secondary attack rate from a 1- or 2-dose vaccinated primary case was lower at 3.3%.
- For the 636 secondary cases 1,536 household contacts were identified; 914 of these became infected with SARS-CoV-2, resulting in a household contact attack rate of 59.5%.
- Transmission rates in schools and ECEC services during this SARS-CoV-2 Delta variant outbreak in NSW (4.6%) were approximately five times higher than those with the ancestral strain of SARS-CoV-2 in NSW in 2020 (0.9%), despite limited school attendance and community lockdowns (see previous NCIRS reports [here](#) and publication [here](#)).
- Increasing COVID-19 vaccination rates (including in those aged  $\geq 12$  years) and numerous social and public health measures to reduce transmission in educational settings and the community underpinned a return to face-to-face learning in Term 4 2021. For more information, refer to [NSW Health website](#).

## Background

The National Centre for Immunisation Research and Surveillance (NCIRS), with the support of the NSW Ministry of Health and NSW Department of Education, has been conducting surveillance of SARS-CoV-2 transmission in educational settings (schools and early childhood education and care [ECEC] services) since the start of the COVID-19 pandemic 2020 in New South Wales (NSW), Australia. NSW has a population of 8.1 million, with about 1.8 million residents aged  $\leq 18$  years. The state has approximately 3,100 schools and 5,800 ECEC services.

NSW experienced an outbreak of the SARS-CoV-2 Delta (B.1.617.2) variant<sup>1</sup> from 16 June 2021 to October 2021. The first cases in schools were identified on 18 June 2021. Stay-at-home orders (lockdown) were implemented in Greater Sydney (36 local government areas [LGAs]) from 25 June 2021 and a state-wide lockdown (128 LGAs) from 14 August 2021. Stay-at-home orders were eased on 11 October 2021.

The start of the Greater Sydney lockdown coincided with the commencement of the 2-week winter school holiday period (end of Term 2). During that time, ECEC, vacation care and out-of-school-care (care before and after school) services were kept open. NSW schools commenced Term 3 on 12 July 2021 via online teaching in the Greater Sydney area, but remained open for any student who required onsite attendance (e.g. children of essential workers, vulnerable children and students who required onsite attendance). Mitigation measures were implemented using the [NSW tiered COVID-19 safe schools operation plan](#); all adults and high-school students were required to wear masks. Adults (including staff members) were required to sign in and out (using QR code system), and non-essential adults were allowed limited entry in educational settings. Primary school and ECEC children were not required to wear masks.

For more information on the outbreak response, visit [NSW Health website](#). Refer also to [NSW public health orders and restrictions](#).

At the beginning of the Delta variant outbreak on 16 June 2021, among those aged  $\geq 16$  years in NSW, 21% had received dose 1 and 4% had received dose 2 of a COVID-19 vaccine. In mid-July, school staff working in LGAs of concern were prioritised for vaccination<sup>2</sup> and it was mandatory for childcare workers who live or work in the LGA of concern to have their first vaccination dose by 30 August 2021.<sup>3</sup> From 6 September 2021 all school and ECEC services staff state-wide were prioritised for vaccination.<sup>4</sup> The peak number of new COVID-19 notifications in NSW occurred on 10 September 2021 and at that point 70% of the NSW population aged  $\geq 16$  years had received dose 1 and 41% had received dose 2 of a COVID-19 vaccine, with coverage in those aged 12–15 years growing since vaccination commenced in that age group from 13 September 2021. Refer to [Figure 1](#) for vaccination coverage rates in people aged  $\geq 16$  years during the period 16 June 2021 to 17 September 2021.

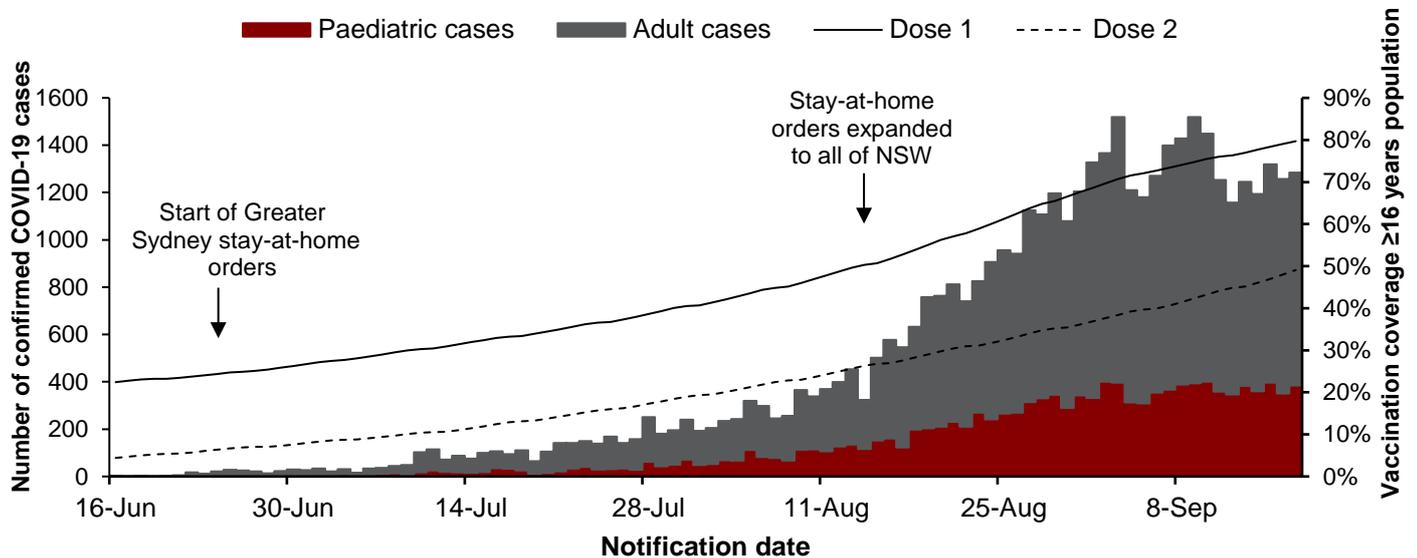
The Delta (B.1.167.2) variant of concern (VOC) became the predominant global strain throughout early-mid 2021 and was estimated to be 97% (76–117%) more transmissible than the Alpha VOC.<sup>2</sup> On 26 November 2021, the World Health Organization (WHO) announced that the Omicron (B.1.1.529) variant, first identified in South Africa, was a new VOC. The data presented in this report pre-date the emergence of the Omicron variant in Australia.

### Brief overview of the epidemiology of the COVID-19 Delta variant outbreak in NSW

A total of 44,734 locally acquired COVID-19 cases were notified between 16 June 2021 and 17 September 2021. Of these, 12,455 (27.8%) cases were in children and young people (refer to [Figure 1](#)): 3,691 (29.6%) were aged 0–5 years; 4,382 (35.2%) were aged 6–12 years; and 4,382 (35.2%) were aged 13–18 years.

Of all NSW COVID-19 cases in children and young people, where the investigation of the source of infection had been completed up to 17 September 2021, 5,970/12,455 (47.9%) were reported to have acquired infection from household contacts. Forty-eight (0.4%) children and young people with COVID-19 were identified as Aboriginal and/or Torres Strait Islander. Numbers have been calculated from publicly available data on COVID-19 from NSW Health.<sup>5</sup>

**Figure 1: COVID-19 cases in NSW, by age and notification date, 16 June 2021 to 17 September 2021 with vaccination coverage (dose 1 and dose 2) in adults aged 16 years and older\***



Term 2	School Holidays	Term 3
Schools fully open Limited mitigation strategies Signing in required by non-essential adults	Greater Sydney lockdown Rural and regional local government areas in lockdown from early August 2021 All of NSW in lockdown from 14 August 2021 Schools open for vulnerable children and children of essential workers Mask use for anyone aged >12 years (excluding people who may not tolerate masks such as people with disability) No parents onsite All extracurricular activity cancelled ECEC services (childcare) fully open From 6 September 2021 all school and ECEC staff state-wide prioritised for vaccination	

\* Vaccination in adolescents aged 12–15 years commenced on 13 September 2021.

## Methods

All NSW schools and ECEC services that had a child or adolescent aged ≤18 years and/or adult with laboratory-confirmed COVID-19 attend while infectious (defined as 48 hours before symptom onset, based on national guidelines) were investigated to determine onward transmission in close contacts from the educational setting.

A 'close contact' was defined as a person in the same class or who had face-to-face contact with a case while infectious (i.e. during their symptomatic period and 48 hours before symptom onset). All close contacts were required to quarantine for 14 days from their last exposure date. A 'casual contact' was defined as a person who was onsite at the school or ECEC service at the same time as the case but did not meet the definition of a close contact. Casual contacts were required to quarantine for 5 days. Both close and casual contacts were required to undergo SARS-CoV-2 nucleic acid testing before de-isolation. If any casual contact tested positive, all contacts at the educational setting were upgraded to 'close contacts'.

This report includes data on all schools where a primary (first) case(s) occurred between 16 June 2021 and 17 September 2021. For ECEC services, this report covers primary cases between 16 June 2021 and 31 August 2021; data collection ceased on 31 August 2021 due to the large volume of data that had already been collected. All contacts were followed up until 15 October 2021.

Household transmission from school or ECEC secondary cases were followed up for 28 days following exposure between 16 June 2021 and 18 October 2021. Data on who infected who in households were identified by data matching and manual review of case notes collected during contact tracing interviews.

Full details of our methods can be found in our previous [reports](#) and [publication](#).<sup>6</sup>

## Results

From 16 June 2021 to 17 September 2021, there were 531 COVID-19 exposure events in schools and ECEC services, involving 614 primary (first) cases (380 students and 234 staff members), as shown in [Figure 2](#). Nearly half of the primary cases (45%) acquired COVID-19 through household contacts, with the remainder from an unknown source or community non-household contacts. The frequency of COVID-19 exposure events increased as community incidence of COVID-19 increased over the study period.

In this reporting period (excluding ECEC services in September 2021), there were 386 COVID-19 exposure events and 454 primary cases. Contact lists were available for review for 28/28 (100%) high schools; 146/165 (88%) primary schools; 9/20 (45%) K–12 schools; 17/17 (100%) schools for specific purposes (SSP); and 139/156 (89%) ECEC services. Therefore, in total 339 exposure events from 397 primary cases were reviewed (240 students and 157 staff members) for this report.

Of the 14,509 close contacts (11,254 students and 3,255 staff members) identified for the 397 primary cases, nearly all (95.6%; n=13,869) underwent nucleic acid testing on at least one occasion following the exposure.

Secondary transmission occurred in 40.4% of the COVID-19 exposure events (137/339): there were 2 events in high schools [2/28; 7.1%]; 59 in primary schools [59/146; 40.4%]; 5 in K–12 schools [5/9; 55.6%]; 6 in SSP [6/17; 35.3%]; and 65 in ECEC services [65/139; 46.8%].

Of the 397 primary cases, a total of 636 close contacts (493 students and 143 staff members from the 13,869 close contacts) were infected with SARS-CoV-2, giving an overall secondary attack rate of 4.6% (refer to [Table 2](#)). Higher secondary attack rates occurred when the primary case was an adult staff member as compared with a child or an adolescent. The highest transmission rate occurred in ECEC services between staff members (13.4%) and from staff members to any contact (10.2%) followed by K–12 settings between staff members (16.1%).

The majority (93.7%) of primary cases at the time of this study were unvaccinated (refer to [Table 1](#)). Twenty-five staff members were vaccinated with at least one dose.

**Table 1: Number and proportion of primary cases vaccinated across New South Wales educational settings followed up from 16 June 2021 to 17 September 2021**

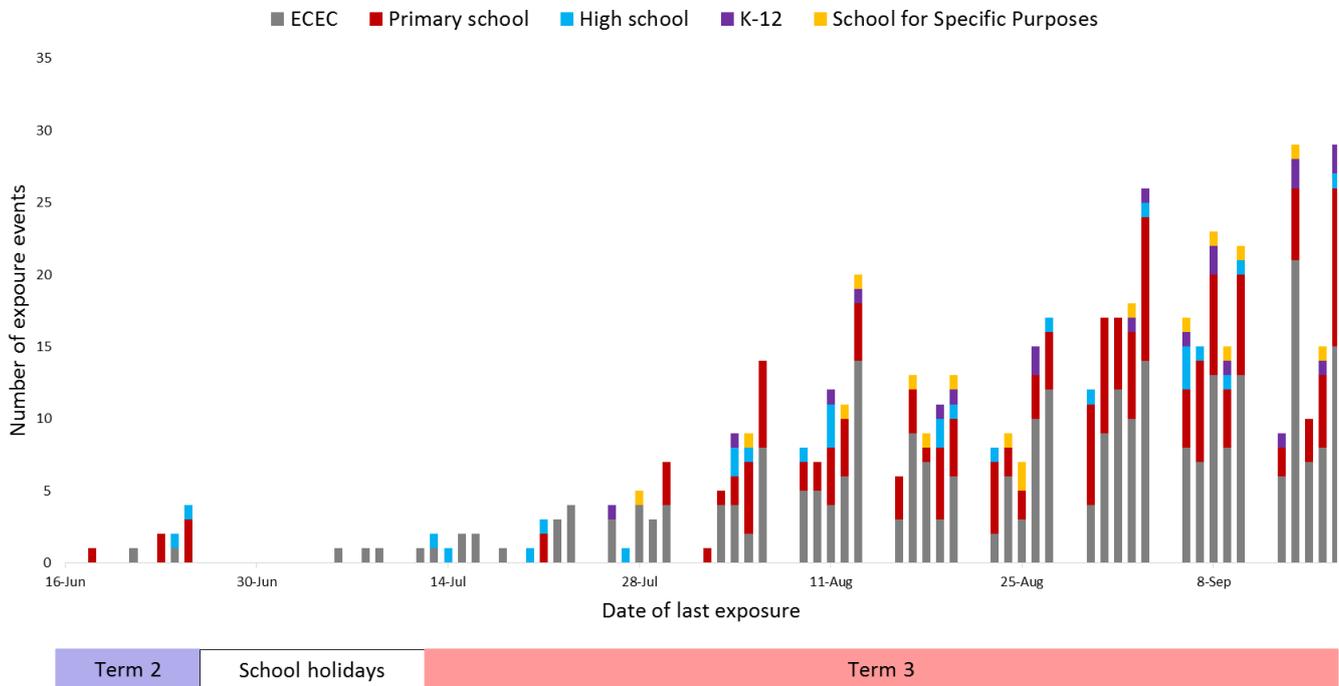
Number of primary cases per educational setting (%)						
Number of valid doses	High school	Primary school	K–12 school	Schools for specific purposes	Early childhood and education care	Total
<b>2-Doses*</b>	3 (10.3)	1 (0.5)	0 (0)	3 (15.0)	1 (0.6)	8 (2.0)
<b>1-Dose†</b>	2 (6.9)	6 (3.3)	0 (0)	5 (25.0)	4 (2.6)	17 (4.3)
<b>Unvaccinated‡</b>	24 (82.8)	177 (96.2)	10 (100)	12 (60.0)	149 (96.8)	372 (93.7)
<b>Total</b>	29 (100)	184 (100)	10 (100)	20 (100)	154 (100)	397 (100)

\* 2-doses was defined as having two doses of vaccine, with the second dose at least 14 days prior to infection onset date and a minimum of 14 days between the two doses.

† 1-dose was defined by having one dose of vaccine at least 14 days prior to infection onset date.

‡ Unvaccinated was defined as having no vaccine or having 1 dose <14 days prior to infection onset date.

**Figure 2: NSW schools and ECEC services with a COVID-19 event, 16 June 2021 to 17 September 2021**



### High schools

A total of 29 COVID-19 primary cases (19 students and 10 staff members) were identified in 28 high-school events. In one event there were co-primary cases (2 students). These 29 primary cases had 1,675 (1,414 students and 261 staff members) close contacts, 1,609 (96.1%) of whom underwent nucleic acid testing. A total of 46 secondary cases (40 students and 6 staff members) were identified across 2 schools (secondary attack rate 2.9%). Refer to [Figure 3](#).

**Figure 3: Number of NSW high-school events with secondary transmission of COVID-19 between 16 June 2021 and 17 September 2021**



2 out of 28 events with secondary transmission

## Primary schools

A total of 184 COVID-19 primary cases (136 students and 48 staff members) were identified in 146 primary school events. Thirty-five events had co-primary cases of students. Of the 6,196 close contacts identified (4,979 students and 1,217 staff members), 5,927 (95.7%) underwent nucleic acid testing. A total of 217 secondary cases (206 students and 11 staff) were identified in 59 of 146 events (40.4%). Refer to [Figure 4](#).

The overall secondary attack rate in primary schools was 3.7%, with the highest attack rate from student to student (4.4%). Refer to [Table 2](#).

**Figure 4: Number of NSW primary school events with secondary transmission of COVID-19 between 16 June 2021 and 17 September 2021**



## Kindergarten to Year 12 (K–12) schools

A total of 10 COVID-19 primary cases (5 students and 5 staff members) were identified in 9 K–12 school events. One school had a co-primary case (student). Of the 182 close contacts identified (101 students and 81 staff members), 176 (96.7%) underwent nucleic acid testing. A total of 14 secondary cases (8 students and 6 staff members) were identified in 5 of 9 events (55.6%). Refer to [Figure 5](#).

The overall secondary attack rate in K–12 schools was 8.0%, the highest across all school settings. Refer to [Table 2](#) for further details. The secondary attack rate was highest (16.1%) between staff members.

**Figure 5. Number of NSW K–12 school events with secondary transmission of COVID-19 between 16 June and 17 September 2021**



## Schools for specific purposes

A total of 20 COVID-19 primary cases (8 students and 12 staff members) were identified in 17 SSP events. Three schools had co-primary cases. These 20 primary cases had 470 (205 students and 265 staff) close contacts, 450 (95.7%) of whom underwent nucleic acid testing. A total of 25 positive secondary cases (16 students and 9 staff members) were identified in 6 of 17 events (35.3%). Refer to [Figure 6](#). The overall attack rate in SSP was 5.6%. Refer to [Table 2](#).

**Figure 6: Number of NSW schools for specific purposes events with secondary transmission of COVID-19 between 16 June 2021 and 17 September 2021**



6 out of 17 events with  
secondary transmission

## ECEC services

A total of 153 COVID-19 primary cases (75 children and 78 staff members) were identified in 139 ECEC events until 31 August 2021. Fourteen events had co-primary cases. These 153 primary cases had 5,986 (4,555 children and 1,431 staff members) close contacts, 5,707 (95.3%) of whom underwent nucleic acid testing. A total of 334 secondary cases (223 children and 111 staff members) were identified in 65 of 139 events (46.8%). Refer to [Figure 7](#). The overall attack rate was 5.9% and the highest attack rate was between staff members (13.4%). Refer to [Table 2](#).

**Figure 7: Number of NSW Early childhood education and care (ECEC) events with secondary transmission of COVID-19 between 16 June 2021 and 31 August 2021**

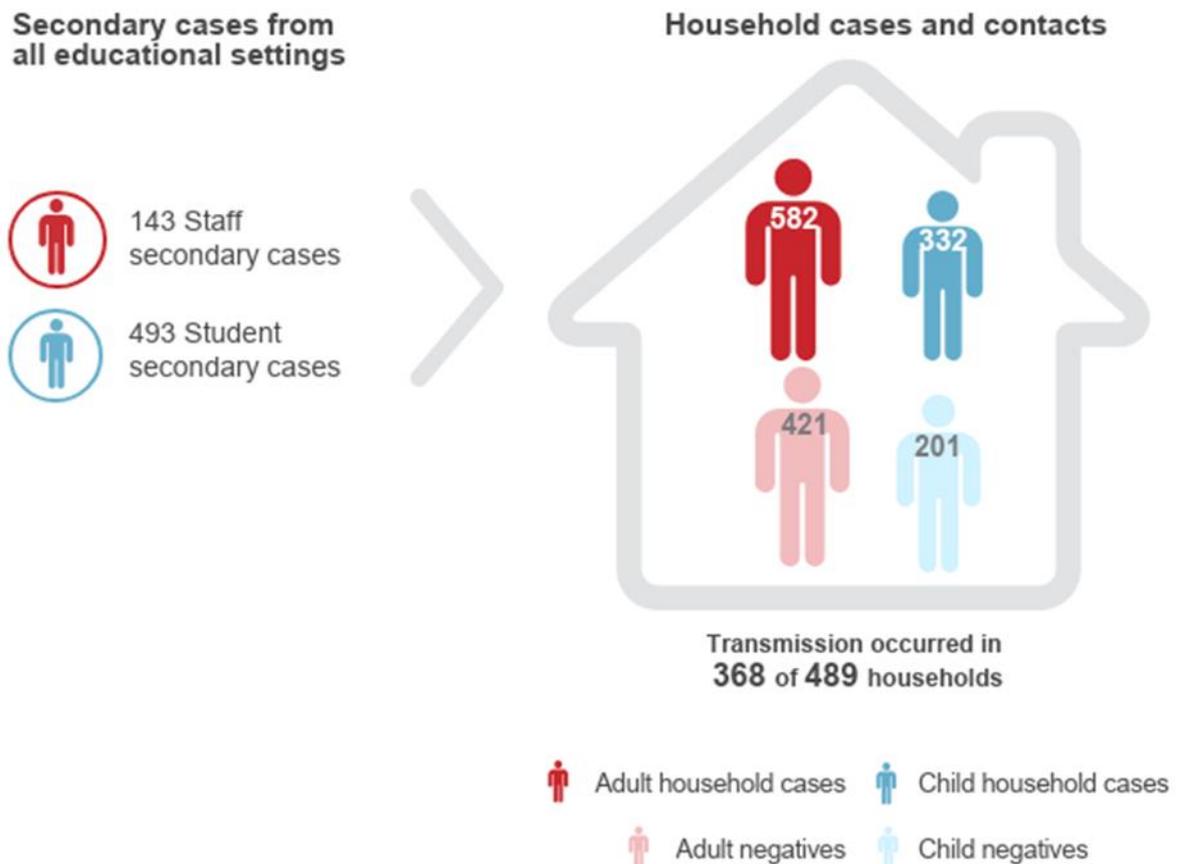


65 out of 139 events with  
secondary transmission

## Transmission in household contacts from secondary cases

A total of 1,536 household contacts were identified from the 636 secondary cases (493 students and 143 staff members) who came from 489 households. Of the 1,536 household contacts, 914 were infected with SARS-CoV-2 in 368 of the households, resulting in an attack rate of 59.5%. In two thirds of the households (234/368; 63.6%), all household members acquired SARS-CoV-2 infection. Refer to [Figure 8](#).

**Figure 8: Household cases resulting from a secondary case in NSW educational settings between 16 June 2021 and 17 September 2021 (excluding early childhood and care services in September 2021)**



**Table 2: Secondary attack rates of COVID-19 in educational settings, by primary and secondary case type and educational setting type, between 16 June 2021 and 17 September 2021\***

Primary case type	Close contact type	Number of positive cases / total number of tested cases	Attack rate (%)
<b>All settings</b>			
<b>Any</b>	<b>All</b>	636/13869	4.6%
Adult	All	337/4759	7.1%
Adult	Adult	106/1317	8.0%
Adult	Child	231/3442	6.7%
Child	All	312/9405	3.3%
Child	Adult	41/1942	2.1%
Child	Child	271/7463	3.6%
<b>K-12</b>			
<b>Any</b>	<b>All</b>	14/176	8.0%
Adult	All	6/42	14.3%
Adult	Adult	5/31	16.1%
Adult	Child	1/11	9.1%
Child	All	8/134	6.0%
Child	Adult	1/50	2.0%
Child	Child	7/84	8.3%
<b>High School</b>			
<b>Any</b>	<b>All</b>	46/1609	2.9%
Adult	All	0/52	0.0%
Adult	Adult	0/49	0.0%
Adult	Child	0/3	0.0%
Child	All	46/1557	3.0%
Child	Adult	6/209	2.9%
Child	Child	40/1348	3.0%
<b>Primary School</b>			
<b>Any</b>	<b>All</b>	217/5927	3.7%
Adult	All	17/1054	1.6%
Adult	Adult	5/285	1.8%
Adult	Child	12/769	1.6%
Child	All	186/5020	3.7%
Child	Adult	8/939	0.9%
Child	Child	178/4081	4.4%
<b>SSP</b>			
<b>Any</b>	<b>All</b>	25/450	5.6%
Adult	All	17/301	5.6%
Adult	Adult	5/163	3.1%
Adult	Child	12/138	8.7%
Child	All	8/149	5.4%
Child	Adult	4/93	4.3%
Child	Child	4/56	7.1%
<b>ECEC</b>			
<b>Any</b>	<b>All</b>	334/5707	5.9%
Adult	All	337/3310	10.2%
Adult	Adult	106/789	13.4%
Adult	Child	231/2521	9.2%
Child	All	64/2545	2.5%
Child	Adult	22/651	3.4%
Child	Child	42/1894	2.2%

Note: For five primary schools and two ECEC services where both a staff member and student were co-primary cases, the close contacts have been counted in attack rate calculations for both categories of primary cases.

\* Excluding ECEC services in September 2021.

The secondary attack rate from a fully (2.8%) or partially vaccinated (3.5%) primary case was lower than from an unvaccinated individual (4.6%). Refer to [Table 3](#).

**Table 3: Secondary attack rates of COVID-19 in educational settings, by vaccination status of the primary case type and educational setting type, between 16 June 2021 and 17 September 2021\***

Primary case type	Close contact type	2-Dose <sup>†</sup>		1-Dose <sup>‡</sup>		Unvaccinated <sup>§</sup>	
		Number of positive cases / total number of tested cases	Attack rate (%)	Number of positive cases / total number of tested cases	Attack rate (%)	Number of positive cases / total number of tested cases	Attack rate (%)
Any	All	3/107	2.8%	13/371	3.5%	617/13301	4.6%
Adult	All	3/107	2.8%	13/371	3.5%	318/4191	7.6%
Adult	Adult	2/44	4.5%	1/125	0.8%	103/1111	9.3%
Adult	Child	1/63	1.6%	12/246	4.9%	215/3080	7.0%
Child	All	0/0	–	0/0	–	309/9315	3.3%
Child	Adult	0/0	–	0/0	–	41/1905	2.2%
Child	Child	0/0	–	0/0	–	268/7410	3.6%

\* Excluding ECEC services in September 2021. One primary school was excluded due to having co-primary cases with different vaccination status  
<sup>†</sup> 2-Dose was defined as having two doses of vaccine, with the second dose at least 14 days prior to infection onset date and a minimum of 14 days between the two doses.

<sup>‡</sup> 1-Dose was defined by having one dose of vaccine at least 14 days prior to infection onset date.

<sup>§</sup> Unvaccinated was defined as having no vaccine recorded, or 1 dose <14 days prior infection onset date.

## Discussion

During the reporting period, NSW experienced a large COVID-19 outbreak caused by the SARS-CoV-2 Delta (B.1.617.2) variant, which commenced on 16 June 2021, with most cases occurring in Greater Sydney (population 5.7 million).<sup>5</sup> The Delta variant infects people at a higher rate than the ancestral strain of SARS-CoV-2.

Delta variant transmission rate (4.6%) seen in NSW schools in Term 3 2021 was consistent with the rates reported in our last schools report,<sup>7</sup> despite higher rates of community transmission. Schools with higher rates of attendance did not necessarily have higher rates of transmission; some schools in regional areas had one case attend and no secondary transmission. However, this observation may have been confounded by the fact that during this period, high school attendance occurred in areas of the state where there was low or no local COVID-19 transmission and a low likelihood of multiple simultaneous attendances of COVID-19 cases at schools or ECEC services.

Overall, there was a five-fold higher rate of transmission (secondary attack rate 4.6%) in educational settings during this outbreak period than in 2020 (secondary attack rate 0.9%). Transmission was highest between K–12 staff members (16.1%) and ECEC staff members (13.4%). These high transmission rates led to the prioritisation of staff vaccination in areas of high community circulation of the virus in NSW, which ultimately contributed to a very high vaccination rate.

The vast majority of primary cases were unvaccinated. Among the vaccinated primary cases, secondary attack rates were lower than in the unvaccinated cases. This suggests that the COVID-19 vaccine may have an effect on preventing infection (thus introductions into schools) and reducing transmission from those who were infected.

The study also showed the Delta variant was also more easily transmitted among household members (59.5%), regardless of age, than previous SARS-CoV-2 variants, with approximately 11-fold higher transmission seen in households than in schools and ECEC services.

## Conclusion

This report provides insight into the transmission of the Delta variant in NSW schools and ECEC services between 16 June 2021 and 17 September 2021. Our findings remain consistent with our previous report and showed that transmission in educational settings was five-fold higher with the Delta variant (4.6%) than with the ancestral strain (0.9%). Transmission among household members was also found to be higher than in school settings.

### Term 4 2021

While this report presents data from Term 3 2021, our study continued in Term 4 2021 (5 October 2021 to 17 December 2021).

In Term 4, students returned to face-to-face learning from 18 October 2021 and attendance rates were more than 85% in schools from 24 October 2021. All schools were required to follow on-site mitigation measures as per NSW Education COVID-Safe measures Level 3 setting and all NSW educational staff members were required to be vaccinated by 8 November 2021. Adolescent (12–19 years) vaccination rates for dose 2 saw an increase from 49.5% on 18 October 2021 to 79.4% on 17 December 2021.

As COVID-19 continued to circulate in the community, exposure events in schools and ECEC services also continued to occur during Term 4: there were a total of 985 exposure events in schools between 18 October 2021 and 17 December 2021, the majority of which (61%) were within the primary school setting, reflecting infection among an unvaccinated population. However, for the majority of Term 4, daily NSW state-wide COVID-19 case numbers were low, ranging from 129 to 300 notifications per day.

Case notifications started to rise rapidly, primarily among those aged over 19 years, from 27 November 2021. This coincided with the introduction of the SARS-CoV-2 Omicron variant in NSW. Cases infected with the Omicron variant also attended some schools; data on both Delta and Omicron variant transmission in Term 4 2021 in NSW will be reported separately.

Numerous mitigation measures have been shown to be effective and are important to ensure uninterrupted face-to-face learning among students. One of these, rapid antigen testing for close contacts, commenced in NSW schools on 26 October 2021 as a method to return students into the classroom earlier in their isolation period. Data on the NSW rapid antigen home testing 'test to stay' program in Term 4 will be reported separately. In addition, vaccination using the Pfizer COVID-19 vaccine (Comirnaty) among 5–11 year olds commenced on 10 January 2022.

School participation is vital for children's education and social and mental wellbeing. NCIRS, NSW Health and NSW Education will continue to study and understand the transmission of SARS-CoV-2 in educational settings to ensure that robust scientific evidence is available to inform policy and practices to maximise face-to-face learning while reducing harm from COVID-19.

## Acknowledgements

We gratefully acknowledge all the schools, staff members, children and families who have participated in the enhanced investigations.

The following people have contributed to the COVID-19 schools transmission investigation project:

### **NCIRS core clinical and epidemiological team**

*Lead authors:* Ye Jin (Zoe) Joo, Archana Koirala, Helen Quinn, Noni Winkler, Kristine Macartney

*Clinical and epidemiological team:* Nick Wood, Lucy Deng, Evangeline Gardiner, Zoe Croker, Twingle Daniel, Anita Mudge, Alexis Pillsbury, Nicola Carter, Alex Hendry, Amy Logan, Angela Damoka-Isolabella, Caitlin Uren, Cara Toscan and Aiken Dao

*Design, publication and media:* Salema Barrett, James Green, Deepika Jindal, Madeleine Smith

**NSW Health:** Christine Selvey, Jeremy McAnulty, Caroline Sharpe, Michelle Cretikos, Victoria Pye, Jennie Musto, Joanna Forbes, MoH Operations, MoH COVID-19 Data Team: Daniel Barry, Emily McGovern, Richard Harwood, Hafiz Khusyairi, Aedan Roberts, Nastaran Faraji, Xiao Chen Yu

**NSW Education:** Trish van Tussenbroek, Nicki Surace, Kim Hoskin

**Independent schools:** Robyn Yates

**Catholic schools:** Gerard Delany, Jacqueline Frost

**Public Health Units:**

South-Eastern Sydney: Vicky Sheppeard, Mark Ferson

South-Western Sydney: Naru Pal, Kate Alexander

Western Sydney: Shopna Bag, Conrad Pereira

Sydney: Leena Gupta, Johanne Cochrane, Isabel Hess

Northern Sydney: Michael Staff

Nepean Blue Mountain: Sheena Kakar, Victor Carey

Hunter New England: David Durrheim, Craig Dalton, Rachel Latta

Western NSW: Priscilla Stanley

## Glossary

<b>Community non-household contact</b>	a person in close contact of a COVID-19 case who does not live in their household
<b>ECEC</b>	Early childhood education and care: all forms of education for children under school-age, including childcare and preschool
<b>High school</b>	a secondary school (Year 7 to 12) that caters for children aged 12 to ≤18 years
<b>Household tertiary case</b>	a person who lives within the same household as a secondary case and gets infected with SARS-CoV-2 from exposure to that secondary case
<b>K-12 school</b>	a school (Kindergarten to Year 12) that caters for children aged 4 to ≤18 years in which contacts were not restricted to the primary or secondary school
<b>LGA</b>	Local Government Area
<b>NSW</b>	New South Wales
<b>Primary case</b>	a person who has SARS-CoV-2 infection and brings it into a school or ECEC
<b>Primary school</b>	an elementary school (Kindergarten to Year 6) that caters for students aged 4 to ≤12 years
<b>SARS-CoV-2</b>	Severe Acute Respiratory Syndrome-Coronavirus-2: the name of the coronavirus that causes COVID-19 disease
<b>SARS-CoV-2 nucleic acid test</b>	a test that detects the SARS-CoV-2 genome
<b>Secondary attack rate</b>	a measure of the frequency of new cases of COVID-19 among the contacts of primary cases
<b>Secondary case</b>	a person who gets infected with SARS-CoV-2 in a school or ECEC setting from exposure to a person with COVID-19
<b>Secondary transmission</b>	transmission of SARS-CoV-2 from a primary case to exposed contacts
<b>SSP</b>	Schools for Specific Purposes
<b>VOC</b>	Variant of Concern

## References

1. NSW Health. Public health alert – COVID019 case. 16 June 2021. Available from: [https://www.health.nsw.gov.au/news/Pages/20210616\\_01.aspx](https://www.health.nsw.gov.au/news/Pages/20210616_01.aspx). Accessed 8 January 2022
2. NSW Government. Teacher vaccinations prioritised in South Western Sydney. Available from: <https://education.nsw.gov.au/news/latest-news/teacher-vaccinations-prioritised-in-south-western-sydney>. Accessed 8 January 2022
3. NSW Health. New protections and compliance rules to carry NSW through vaccination targets. Available from: [https://www.health.nsw.gov.au/news/Pages/20210820\\_02.aspx](https://www.health.nsw.gov.au/news/Pages/20210820_02.aspx). Accessed 8 January 2022
4. Community Colleges Australia. NSW mandates vaccination for all school staff and identifies opening date. Available from: <https://cca.edu.au/nsw-mandates-vaccination-for-all-school-staff-and-identifies-opening-date/>. Accessed 8 January 2022
5. NSW Government. NSW COVID-19 data. Available from: <https://data.nsw.gov.au/nsw-covid-19-data>. Accessed 8 January 2022
6. Macartney K, Quinn HE, Pillsbury AJ, Koirala A, Deng L, Winkler N, Katelaris AL, O'Sullivan MVN, Dalton C, Wood N, and the NSW COVID-19 Schools Study Team. Transmission of SARS-CoV-2 in Australian educational settings: a prospective cohort study. *The Lancet Child and Adolescent Health*. 2020;4: P807-816.
7. National Centre for Immunisation Research and Surveillance (NCIRS). COVID-19 transmission in NSW schools and ECEC services in Term 4, 2020. Available from: <https://www.ncirs.org.au/covid-19-in-schools>. Accessed 8 January 2022.