COVID-19 in schools and early childhood education and care services – the Term 2 experience in NSW

Prepared by the National Centre for Immunisation Research and Surveillance (NCIRS)
31 July 2020

Overview

- This report provides an overview of investigation into all COVID-19 cases in the state of New South Wales (NSW), Australia in all schools and early childhood education and care (ECEC) services between 10 April 2020 and 3 July 2020 (school term 2 of the academic year).
- 6 individuals (4 students and 2 staff members) from 6 educational settings (5 schools and 1 ECEC service) were confirmed as primary COVID-19 cases who had an opportunity to transmit the SARS-CoV-2 virus to others in their school or ECEC service.
- 521 individuals (459 students and 62 staff members) were identified as close contacts of these primary 6 cases.
- No secondary cases were reported in any of the 6 educational settings.
- In Term 2 no student or staff member contracted COVID-19 from a school or ECEC setting.
- For details on Term 1 data refer to NCIRS report here or publication in The Lancet Child and Adolescent Health here.

Background

Our first report of schools and early childhood education and care (ECEC) services reported 27 primary cases in school term 1 (28 January to 9 April 2020), coinciding with the emergence of COVID-19 pandemic and the first wave in New South Wales, Australia. By 6 April, incidence of COVID-19 was declining and was very low from 20 April (less than 10 cases/day) due to increased availability of testing coupled with public health mitigation strategies such as restrictions on population mobility, home or hotel isolation of returning travellers and increased hygiene measures.

Schools reopened on 29 April, allowing for vulnerable students and children of essential workers to return onsite. Between 29 April and 22 May there was an incremental increase in the number of students returning to school, and full face-to-face teaching commenced on 25 May. ECEC services remained open throughout the autumn school holidays and into Term 2.

The National Centre for Immunisation Research and Surveillance (NCIRS), with the support of the NSW Ministry of Health and NSW Department of Education, continued surveillance of SARS-CoV-2 transmission in educational settings. Through this investigation, we aimed to monitor the transmission of SARS-CoV-2 in schools and childcare centres in NSW. This report summarises the preliminary findings of this work in NSW ECEC services and primary and high schools.

Methods

COVID-19 is a notifiable disease in Australia. When a person is diagnosed with COVID-19 a public health response is initiated that includes follow up of each case to identify their close contacts and dates of exposure to the person (case) while infectious. A 'close contact' is defined as a person who has been in face to face contact for at least 15 minutes or in the same room for 2 hours with a case while infectious. Once close contacts are identified, they are required to enter home quarantine for 14 days from the date of last exposure to the infectious case, watch for any symptoms and if they become unwell, have a nose/throat swab taken to test for COVID-19. NSW Health and NCIRS followed up all close contacts of COVID-19 cases in the schools and ECEC services that an adult or child with COVID-19 attended while infectious. For schools and ECEC services, all close contact staff and students who agreed

to participate in enhanced surveillance also had all or combination of the following: a) filled out a symptom questionnaire; b) were swabbed to test for COVID-19 within the first 2 weeks after the last contact with the case, irrespective of whether they had symptoms; and c) had a blood sample taken to detect antibodies to the SARS-CoV-2 virus (which is evidence of an immune response to infection) at 4 to 6 weeks after the exposure. Some primary cases were reviewed by an expert panel once additional test results (repeat swabs and antibody testing 4 weeks after a positive swab) and data (evidence of any epidemiological link or secondary transmission) became available.

Results

10 educational settings (three high schools, six primary schools and one ECEC service) were investigated for having a case with COVID-19 in staff member or student who attended while infectious. Three primary cases from three of these educational settings were reviewed by an expert panel and deemed to be not true COVID-19 cases and one case from one educational setting was thought to have had COVID-19 several months prior to diagnosis. Public health measures were implemented and these educational settings participated in enhanced surveillance prior to the expert panel review.

In the remaining six educational settings (two high schools, three primary schools and one ECEC service) there were a total of six COVID-19 cases (two staff members, four students/children). The public health staff identified 521 close contacts of these six cases (459 students/children and 62 staff members). In total, 61% (n=319) of the close contacts had a nose/throat swab taken and 8% (n=44) underwent antibody testing. There were no secondary cases identified.

High schools

A total of two COVID-19 primary cases (2 students) were identified who had attended two high schools while infectious. The total number of close contacts in these two high schools was 165 students and 23 staff members (188 close contacts total). Nose/throat swabs were taken from 55% (n=103) of contacts, all of whom tested negative, as shown in Figure 2.

Primary schools

A total of three primary cases (one student and two staff members) were identified in three primary schools. The total number of close contacts in these three primary schools was 210 students and 21 staff members (231 close contacts total). Nose/throat swabs were taken from 57% (n=132) of contacts. Antibody testing was performed on 39 cases. Overall, as shown in Figure 3, no individuals were identified to have been infected following close contact with a school case in these three primary schools. SARS-CoV-2 antibodies were not detected in all 39 samples.

ECEC services

One primary case (one child) was identified in one ECEC service. The total number of close contacts was 84 students and 18 staff members (102 close contacts total). Nose/throat swabs were taken from 82% (n=84) of contacts. Six of the 24 children who shared the same class underwent SARS-CoV-2 antibody tests, all of which were negative. Overall, as shown in Figure 4, no individuals were identified to have been infected following close contact with an ECEC case.

Figure 1: NSW schools and ECEC services with a COVID-19 primary case(s) from Term 2

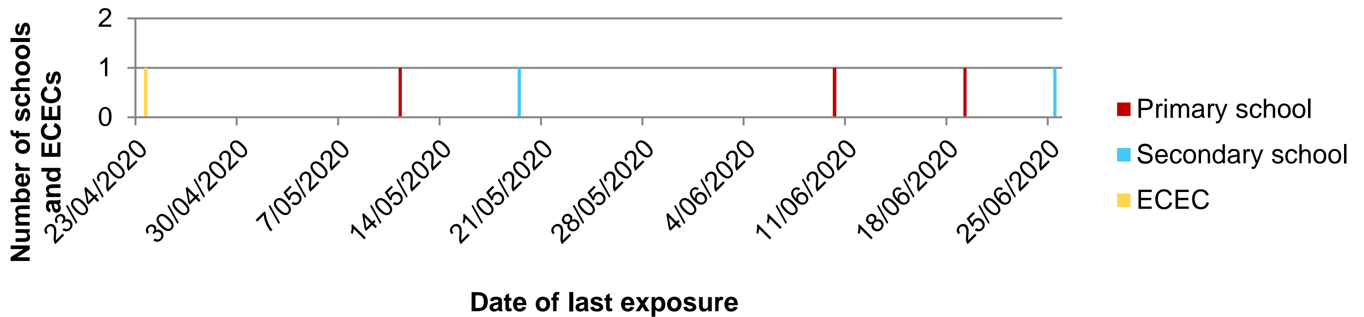


Figure 2: Cases and close contacts among staff members and students in 2 NSW high schools in Term 2 showing no transmission

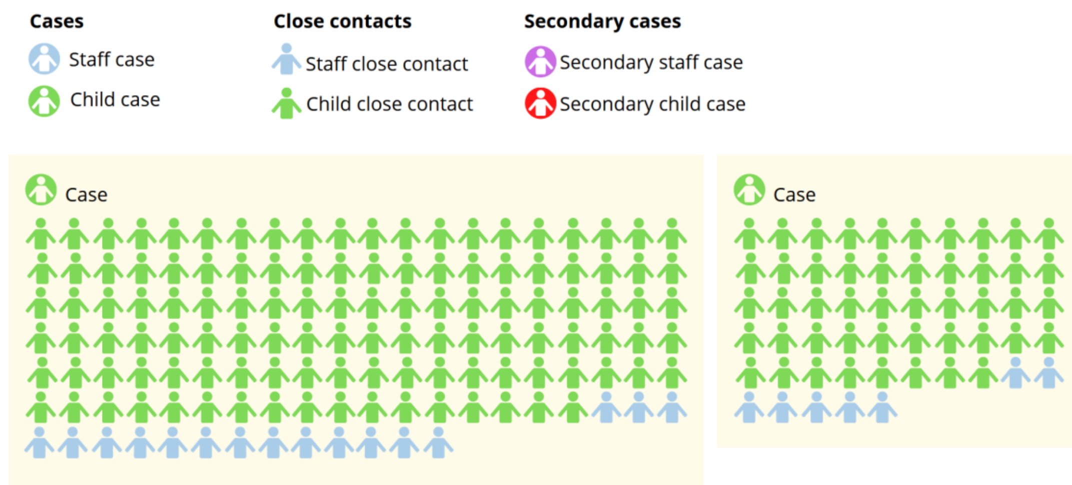
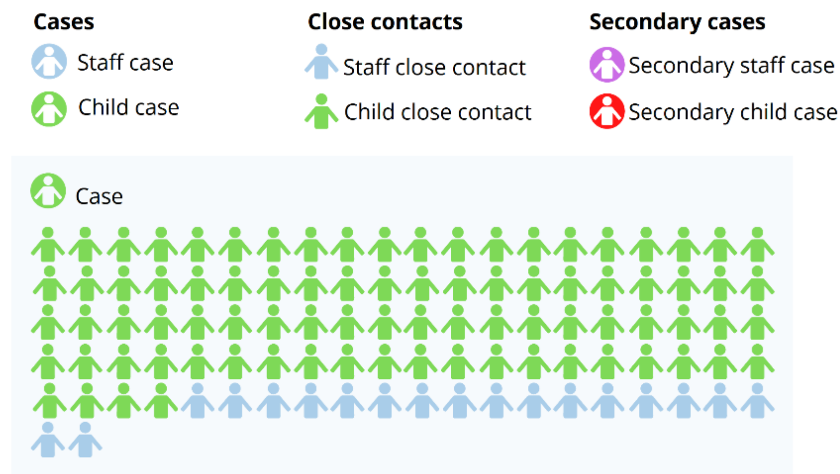


Figure 3: Cases and close contacts among teachers and students in 3 NSW primary schools in Term 2 showing no transmission

Figure 4: Cases and close contacts among staff and children in 1 NSW ECEC service in Term 2 showing no transmission



Excluded cases

One high school and two primary schools had possible COVID-19 cases and underwent public health response and enhanced surveillance. After additional information was received and additional testing (including antibody testing in some cases) and review undertaken, these cases were deemed by an NSW Health expert panel to have had false positive results. All these cases had no epidemiological link to another COVID-19 case and occurred while community transmission in NSW was negligible.

One primary school had a case that was later deemed to have been historical. That person's SARS-CoV-2 infection was deemed likely to have occurred 3 months earlier (based on epidemiological data and the person's antibody response to the virus).

However, given the importance of ensuring a timely public health response, those schools did undergo contact tracing, cleaning and self-isolation of close contacts (441 students and 22 staff members). A total of 216 close contacts (47%) had a nose/throat swab taken and 54 (12%) underwent blood tests for SARS-CoV-2 antibodies. All of the tests were negative. As a result, data from these schools were excluded from this report.

Conclusion

Our investigation of COVID-19 cases in schools and ECEC services continued in Term 2, between 10 April and 3 July. Because of effective public health mitigation strategies, community circulation of SARS-CoV-2 was extremely low in NSW. Schools remained open throughout the term (29 April to 3 July) following a graded return to face-to-face teaching, with full face-to-face learning resuming by week 5 (25 May) of Term 2. Schools and ECEC services were not required to follow all adult physical distancing guidelines but to follow good hygiene practices and additional cleaning in line with guidance from the Australian Health Protection Principal Committee (AHPPC) and NSW Health.

There were three primary schools, two high schools and one ECEC service with primary cases of COVID-19, of which two were staff members and four were students/children. There were a total of 521 close contacts (62 adults and 459 students/children) with no evidence of secondary transmission.

Our previous investigation in Term 1 2020, published in The Lancet Child and Adolescent Health, showed that transmission in educational settings is limited. Ongoing surveillance is important as outbreaks within educational settings have been shown to occur, especially when infection is unrecognised and exposure is prolonged. Our data from Term 2 highlight that with community awareness, implementation of hygiene and mitigation strategies, staying at home when symptomatic, early testing and contact tracing, transmission can continue to be limited in these settings.

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Acknowledgements

We would like to thank all schools, staff and student contacts and their families who participated in this investigation, especially those who assisted with the enhanced investigation.

The following people have contributed to the COVID-19 schools transmission investigation project:
NCIRS core clinical and epidemiological team: Kristine Macartney, Nicholas Wood, Noni Winkler, Helen Quinn, Archana Koirala, Lucy Deng, Catherine Glover and Alexis Pillsbury
NCIRS interview and home visit team: Lisa Pelayo, Ajay Jadhav, Evangeline Gardiner
ICPMR/NSW Pathology: Kerri Basile, Jen Kok, Matthew O'Sullivan, Linda Hueston, Dominic Dwyer
NSW Health: Caroline Sharpe, Craig Dalton, Paula Spokes
Western Sydney PHU: Anthea Katelaris, Shopna Bag, Stephen Corbett; **Northern PHU:** Michael Staff; South West **Sydney PHU**: Stephen Conaty, Christine Harvey, Kate Alexander; **Nepean-Blue Mountains PHU**: Brad Forssman, Sheena Kakar; **South Eastern Sydney PHU**: Vicky Sheppeard, Mark Ferson