

In brief

Children and COVID-19 outcomes

29 September 2021

Background

- Early in the COVID-19 pandemic in Australia, [very few children were admitted to hospital](#), with only 44 hospitalisations nationally between February and September 2020.¹
- The clinical course for most children positive for SARS-CoV-2 was mild.¹
- [Multisystem inflammatory syndrome in children](#), or paediatric inflammatory multisystem syndrome, is a childhood disease that is temporally associated with COVID-19. While most children survive, the long-term outcomes are currently unknown.²
- With the implementation of vaccination in adults and the emergence of the Delta strain, [children are increasingly infected](#).³
- While [evidence on transmission from children is limited](#), a recent *New England Journal of Medicine* letter found efficient transmission of SARS-CoV-2 from school-age children and adolescents to household members led to the hospitalisation of adults with secondary cases of COVID-19.⁴
- There are [calls to offer vaccination to adolescents](#) and young adults. In Australia, both Pfizer and Moderna have been approved for use in people aged 12 years and older.⁴⁻⁷

Recent trends in COVID-19 in children and adolescents

- The US Centers for Disease Control and Prevention reports recent trends in emergency department visits and hospitalisations for children and adolescents.
 - COVID-19 cases, emergency department visits and hospital admissions [increased from June to August 2021](#) among persons aged 0-17 years.⁸
 - Weekly COVID-19-associated [hospitalisation rates among children and adolescents](#) rose nearly five-fold from late June to mid-August 2021, coinciding with increased circulation of the Delta variant.⁹
 - Proportions of hospitalised children and adolescents with severe disease were similar before and during the period of Delta predominance.⁹
 - Although the cumulative rate of COVID-19-associated hospitalisation among children (8.0 per 100,000 population) is low compared with that in adults (164.5), [one in three hospitalised children was admitted to an intensive care unit](#).¹⁰
 - Emergency department visits and hospital admissions in August were higher in states with lower population vaccination coverage and lower in states with higher vaccination coverage.⁸
 - Hospitalisation rates were 10 times higher among unvaccinated than among fully vaccinated adolescents.⁹

According to Reuters, [children currently make up about 2.4%](#) of the US COVID-19 hospitalisations.¹¹

[Emerging data from a large study in Canada](#) suggest that children who test positive for COVID-19 during the Delta wave may be more than twice as likely to be hospitalised as they were when previous variants were dominating transmission ([source currently only on twitter](#)).¹²

In England, the highest [number of children admitted to hospital](#) with COVID-19 was at the end of July 2021, when Delta was circulating (an average of 53 admissions per day).¹³

Post-acute sequelae of COVID-19

There is emerging evidence on post-acute sequelae of COVID-19 in children, however the dates of data used are not when Delta was the predominately circulating variant.

- Children appear to be at a decreased risk of post-acute sequelae of COVID-19. In a [study published in Lancet](#), only a small proportion of children had illness duration beyond four weeks, and their symptom burden decreased over time. Almost all children had symptom resolution by eight weeks.¹⁴
- A [small study in Sweden](#) found that a subset of children hospitalised for COVID-19 experienced long-term health issues, based on reports from them or their guardians.¹⁵ While a [study from Italy](#) found that 42.6% of children presented at least one symptom over 60 days after infection.¹⁶
- A [study from Victoria, Australia](#) on 171 children with COVID-19 during July and August 2020, found while some children had symptoms up to eight weeks from symptom onset, all 151 (20 loss to follow up) had returned to baseline health status at the follow up in March 2021.¹⁷

Education

A commentary in [the Lancet](#) expects that high rates of COVID-19 transmission (especially by the delta variant) in schools will lead to significant educational disruptions.¹⁸

[In Israel](#), a multidisciplinary academic group on children and coronavirus believes that the pandemic has led to a lack of structured learning and social interaction and the resultant threat of deepening social and health disparities. They advocate for a safe and monitored school reopening, stressing the importance of education as a determinant of health, continuously weighing this stance against evolving COVID-19-risk data.¹⁹

A [news article](#) quotes a University of Newcastle professor saying the gap between Aboriginal children and non- Aboriginal children in literacy, numeracy and writing skills would likely worsen in remote communities due to COVID-19.²⁰

The [University of Newcastle with community and consultative groups](#) have created resources following concern that COVID-19 restrictions could harm learning outcomes for Aboriginal and Torres Strait Islander children across the Hunter and Central Coast regions. This is to address the critical need to re-engage Aboriginal students in school as NSW transitions out of pandemic restrictions.²¹

Some [Aboriginal children](#) in Australia are at high-risk of entry to out-of-home care within Western Sydney, so donation drives to provide working computers to high-school children have been carried out.²²

Method

To inform this brief, PubMed and Google searches were conducted using terms “(hospitalisations OR outcomes) AND delta AND children” and “effects of delta variant OR B1.6172 on children OR hospitalisation” on 6 September 2021.

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