

COVID Reinfection Remains Rare in Kids

— Risk increases by age, U.K. study finds

by [Lei Lei Wu](#), Staff Writer, MedPage Today

March 29, 2022

Fewer than 0.5% of children infected with COVID had a subsequent COVID infection, and reinfection was not associated with more severe disease, British researchers found.

Reinfection rates were highest among adolescents ages 12 to 16 (0.49%), followed by children ages 5 to 11 (0.24%) and children younger than age 5 (0.18%), reported Helen Campbell, PhD, of the U.K. Health Security Agency, and colleagues.

From January 2020 to July 2021, the reinfection rate was more than three times lower in children than in adults, at 21 per 100,000 people in children 16 and under compared to 72 per 100,000 in adults, the study group noted in *Lancet Child & Adolescent Health*.

Of the 2,343 children who were reinfected, 109 were hospitalized during either their first or second infection, three-quarters of which had an underlying comorbidity.

Campbell and colleagues noted that the risk of COVID reinfection was tied to community infection rates.

"Importantly, the risk of reinfection appears to be associated with emergence of new variants ... which can at least partially evade immunity from previous infection as well as vaccination," they said. "In our cohort, reinfection rates were much higher during the Delta wave than the Alpha wave, which might be because the Alpha variant is antigenically similar to previously circulating SARS-CoV-2 strains while the Delta variant ... [is] antigenically distant."

During the peak Delta period, in the summer of 2021, older children had higher reinfection rates than younger children. Reinfection rates ranged from 5.5 per 100,000 in adolescents ages 12 to 16 to 0.9 per 100,000 in children younger than age 5. Unvaccinated adults ages 20 to 29 had the highest reinfection rate during this time, at just above 20 per 100,000 people.

Children [ages 12 to 15 did not start getting vaccinated](#) until September 2021 in England, and children ages 5 to 11 [became eligible this February](#).

More children were asymptomatic in reinfection than in primary infection (49.1% vs 37.0%, $P < 0.0001$), the investigators reported.

"The indirect effects of the pandemic on children, including the impact of COVID-19 on household family members, schooling, and mental health, are important to note," Nigel Crawford, PhD, MPH, of the Royal Children's Hospital in Parkville, Australia, said in a [corresponding commentary](#). "Hence, understanding the risk of reinfection in children is paramount, including the study finding that the reinfection rate was lowest in those not yet able to access a vaccine in most countries."

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Campbell and colleagues used national testing data from England from January 2020 to the end of July 2021. Reinfection was defined as a subsequent positive PCR or lateral flow device result at least 90 days after an initial positive test. Patients who tested positive twice within 90 days, even with a negative result in between, were not included in the study. If patients were reinfected multiple times, only their first reinfection was included.

The overall reinfection rate was 67 per 100,000, with 0.68% individuals reinfected after a primary infection. There were no differences in sex or ethnicity between primary and secondary infections, the study group noted. However, the median age of hospitalized children was slightly higher among those reinfected compared to those with their first infection (13 vs 11 years).

Crawford pointed out that the paper did not look at whether multisystem inflammatory syndrome in children (MIS-C), which can present weeks after COVID infection, occurred after reinfection as well. Campbell and colleagues also acknowledged that their paper did not examine reinfection with Omicron.

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Disclosures

This study was funded by the U.K. Health Security Agency.
The study authors and Crawford reported no disclosures.

Primary Source

Lancet Child & Adolescent Health

Source Reference: [Mensah AA, et al "Risk of SARS-CoV-2 reinfections in children: a prospective national surveillance study between January, 2020, and July, 2021, in England" *Lancet Child Adolesc Health* 2022; DOI:\[https://doi.org/10.1016/S2352-4642\\(22\\)00059-1\]\(https://doi.org/10.1016/S2352-4642\(22\)00059-1\)](#)

Secondary Source

Lancet Child & Adolescent Health

Source Reference: [Crawford NW "Importance of understanding the reinfection risk of COVID-19 in children" *Lancet Child Adolesc Health* 2022; DOI: \[10.1016/S2352-4642\\(22\\)00093-1\]\(https://doi.org/10.1016/S2352-4642\(22\)00093-1\)](#)