

# Epidemiology of SARS-CoV-2 infection and SARS-CoV-2 positive hospital admissions among children in South Africa

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## Abstract

**Introduction:** We describe epidemiology and outcomes of confirmed SARS-CoV-2 infection and admissions among children <18 years in South Africa, an upper-middle income setting with high inequality. **Methods:** Laboratory and hospital COVID-19 surveillance data, 28 January - 19 September 2020 was used. Testing rates were calculated as number of tested for SARS-CoV-2 divided by population at risk; test positivity rates were calculated as positive tests divided by total number of tests. In-hospital case fatality ratio (CFR) was calculated based on hospitalized positive admissions with outcome data who died in-hospital and death was judged SARS-CoV-2 related by attending physician. **Findings:** 315,570 children aged <18 years were tested for SARS-CoV-2; representing 8.9% of all 3,548,738 tests and 1.6% of all children in the country. Of children tested, 46,137 (14.6%) were positive. Children made up 2.9% (n=2,007) of all SARS-CoV-2 positive admissions to sentinel hospitals. Among children, 47 died (2.6% case-fatality). In-hospital deaths were associated with male sex [adjusted odds ratio (aOR) 2.18 (95% confidence intervals (CI) 1.08 - 4.40)] vs female; age <1 year [aOR 4.11 (95% CI 1.08-15.54)], age 10-14 years [aOR 4.20 (95% CI 1.07-16.44)], age 15-17 years [aOR 4.86 (95% 1.28 -18.51)] vs age 1-4 years; admission to a public hospital [aOR 5.07(95% 2.01 -12.76)] vs private hospital and [?]1 underlying conditions [aOR 12.09 (95% CI 4.19-34.89)] vs none **Conclusions:** Children with underlying conditions were at greater risk of severe SARS-CoV-2 outcomes. Children > 10 years and those with underlying conditions should be considered for increased testing and vaccination.

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