

How does Covid-19 affect children of different age groups?

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- **The risk of Covid-19 infection has been shown to be relatively lower in children compared to adults.**
- **However, evidence shows that children in different age groups may be affected differently.**
- **The true infection numbers might, however, be impacted by factors, such as a lack of testing in children.**

The exact role children play in transmitting the new coronavirus is still being investigated by scientists worldwide. However, current evidence suggests that, if infected, children are less severely affected by Covid-19 (the disease caused by SARS-CoV-2) compared to adults, and are therefore less likely to be hospitalised.

Based on published studies, reasons for this phenomenon range from [better blood vessel health](#) to [lower levels of a particular enzyme](#) that allows the virus to enter cells to recent immunisation that serves as a protective factor.

However, while the majority of studies indicate that the risk of infection in younger children is low, the question around transmission in this age group remains hazy. In the case of older children, [an article by the BBC reports on a review](#) (published on 13 November) that shows growing evidence that they can catch and transmit the coronavirus at similar rates compared to adults.

Children and Covid-19: Defining the age bracket

[A Covid-19 guidance document](#) by the Centers for Disease Control and Prevention (CDC) indicates that children are defined as those aged from 1 month to 18 years. The question, however, is whether children across this age group are similarly affected by Covid-19. This is what the available data suggests:

What the literature says

[According to the CDC](#), the true incidence of coronavirus infection in children is unknown due to a lack of widespread testing as well as the prioritisation of testing for adults and those who have a severe form of the illness.

They also note that in the US and worldwide, fewer cases of Covid-19 have been reported in children (aged 0–17 years) compared to adults, and that hospitalisation rates in children are significantly lower than in adults, suggesting less severe Covid-19 illness compared to adults.

Data indicates that only 7.3% of all Covid-19 cases in the US have been among children as of August 2020.

In South Africa, the statistics aren't far off: the National Institute for Communicable Diseases' (NICD) October 2020 [surveillance report](#) on Covid-19 in children shows that children and adolescents under 18 years, only made up 8% of laboratory-confirmed Covid-19 cases and 3.2% of all Covid-19-associated admissions at sentinel hospitals.

However, like the CDC, the NICD also points to concerns about possible limited testing in children, which means that cases among children may be missed. Taking this into consideration, the number of reported Covid-19 cases among children and adolescents aged 18 years and under in South Africa, as of 19 September, reflects the following:

- 662 343 laboratory-confirmed cases of Covid-19 have been reported to the NICD.
- Of these, 52 715 (8%) involved children aged 18 years and under.
- The median age of the children was 13.2 years.
- 2 261 (4.3%) were under the age of 1 year.
- 20 145 (38.2%) were 15 years and older.

"The data presented showed that children made up 8% of all laboratory-confirmed Covid-19 cases reported in South Africa and around 3.2 % of Covid-19-associated admissions, despite comprising just over a third of the population," the NICD report reads.

In the same surveillance report, data from 9 October 2020 had revealed that the cumulative weekly Covid-19 incidence curve has increased with age, from 119 per 100 000 among children aged 1–4 years, to 539 per 100 000 among adolescents aged 15–18.

Based on these reports, it appears then that older children are more likely to experience severe illness.

Infants, children who have underlying medical conditions and severe Covid-19 illness

The CDC states that additional data illustrates that children who have underlying medical conditions (although it is not exactly clear which conditions these are), as well as infants (younger than 1 year), are at risk of severe illness.

Consistent with these findings is data from Europe and China, notes the NICD report. In China, 11% of infants under the age of 1 year had severe or critical illness, compared to 4.8% among children in the rest of the age groups.

In a multicentre study of Covid-19 hospitalisations among children in Europe during April 2020, infants younger than 1 year were five times more likely to be admitted into intensive care units (ICU), although overall mortality was low at 0.7%, explains the report.

In a South African context, asthma or chronic pulmonary diseases were the most frequently reported underlying conditions, followed by HIV and diabetes in October, with diabetes mellitus and heart disease being the most frequently reported among paediatric patients who had underlying conditions, who died in hospital.

Data is still limited

As it stands, available data on the effect of SARS-CoV-2 on children is relatively limited compared to data on adults. More data is therefore needed to fully understand the association between the two.

One factor to also bear in mind when considering to what extent the virus affects children is that a number of studies have shown that children are more likely to be asymptomatic (display no symptoms) or mildly symptomatic, compared to adults.

In fact, [evidence suggests](#) that as many as 45% of paediatric infections are asymptomatic. Considering the CDC's and NICD's points on a lack of widespread testing, the key focus on adult testing might also skew the numbers and there might not be a true representation of how many children have contracted the virus so far.