

Measles and whooping cough outbreaks in South Africa: A sign of low vaccination coverage, experts warn

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Credit: AI-generated image

The concentrated global effort to use vaccination as a public health intervention began in [1974](#). Since then, vaccination has changed our lives. Worldwide, in the decades 2000–2020, childhood vaccination led

to the reduction of deaths in children under 5 by 50% to [5.4 million deaths](#) per year. Vaccination currently averts more than [5 million deaths](#) each year [worldwide](#). These are deaths that would have been caused by measles, whooping cough, tetanus, polio, diphtheria, pneumonia, rotavirus diarrhea, and other [vaccine-preventable diseases](#). But in recent months there have been numerous outbreaks of these diseases. Scientists from the South African Medical Research Council explain why these diseases continue to threaten children's health in the country.

The country currently has outbreaks of several diseases. What are they?

There is an increased spread of [measles](#) in South Africa now.

Measles is a highly infectious disease that spreads through droplets. It is the second most frequently reported disease outbreak in Africa after cholera. It accounts for 11.5% of all reported disease [epidemics on the continent](#).

Children who have not been vaccinated against [measles](#) are at high risk of the disease and its complications. These include pneumonia, brain damage, and death. Measles is one of the most dangerous but preventable childhood diseases. Up to [10% of children](#) under five years of age who develop measles die from complications of the disease.

An effective [vaccine](#) against measles has been available for decades. A child requires two doses of the measles vaccine to develop protective immunity against the disease. The two doses of the measles vaccine are given at 6 and 12 months of age in South Africa. At least 95% coverage of 2 doses of the measles vaccine is required for herd immunity against [measles](#) and protect those who aren't able to get vaccinated.

Another highly infectious disease that has recently seen an increase in cases in South Africa is pertussis, also referred to as [whooping cough](#). Pertussis spreads easily from person to person through droplets produced by coughing or sneezing. Complications of whooping cough include pneumonia, seizures, brain damage, and death. The best way to prevent pertussis is through [vaccination](#).

These diseases are preventable. What's behind the spread?

The resurgence of [vaccine-preventable diseases](#) in South Africa is due to immunity gaps caused by low vaccination coverage. A [national survey](#) conducted from July to December 2019 found that only 81% of children had received all their vaccine doses scheduled up to 12 months of age in South Africa. This percentage has increased only slightly to [82%](#) since then, according to estimates from the World Health Organization (WHO) and the United Nations Children Fund (UNICEF).

What's the cause of the gaps in immunization?

Over the last two years, routine immunization services and coverage of essential childhood vaccines have been disrupted. And many [catch-up vaccination efforts](#) have been postponed due to the COVID-19 pandemic. This has led to an increase in the number of children who are unvaccinated or under-vaccinated.

The country's low vaccination coverage is due to both [supply and demand issues](#). These relate to the provision of vaccines and the population's decision to vaccinate. [Structural barriers](#) such as vaccine availability and access to health facilities are well known to reduce vaccination coverage.

Research also [suggests](#) that social and [psychological factors](#), such as

concerns about the safety and efficacy of vaccines, influence decisions around vaccination. Some caregivers are conflicted about vaccinating their children.

[Vaccine hesitancy](#) represents a motivational state of being conflicted about or opposed to vaccination. Evidence from several studies conducted in South Africa has shown a significant [increase in vaccine hesitancy](#). This has had a dramatic impact on routine immunization services and ultimately reduced vaccine coverage over the years.

What steps can be taken to close these gaps?

Globally, many initiatives exist to improve childhood immunization, especially in low- and [middle-income countries](#). Within the context of the Immunization Agenda 2030 (IA2030) program, WHO, UNICEF and Gavi, are launching the ["Big Catch-Up"](#) initiative. This initiative aims to support countries like South Africa to plan and implement intensified efforts to bolster immunization. It has three main objectives:

- to reach children who missed vaccination during 2020–2022 for catch-up vaccination
- to restore vaccination coverage to the last best coverage in 2019
- to strengthen immunization programs to reach the under-vaccinated and unvaccinated children.

[Interventions](#) that are focused on improving the [healthcare system](#) include cold-chain infrastructure improvements to ensure availability and access to vaccines. Some other [interventions](#) that can improve uptake of vaccines include using motivational posters or flyers, sending reminders (messages or letters), and material or monetary incentives to caregivers or pay-for-performance schemes for healthcare workers providing vaccinations to children.

Informing and providing education to caregivers and [healthcare workers](#) has also been [effective](#) increasing vaccination in children in cases where parents were hesitant. However, not enough research is done on interventions to dispel misinformation and misconception regarding immunization, which is one of the leading causes of vaccine hesitancy.

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