Polio Vaccination Coverage: Mapping Immunization Gaps and Progress

by Florian Nadegger

Routine childhood immunization is one of the most effective public-health measures to prevent life-threatening diseases. Among these, the polio vaccine has been essential in reducing the global incidence of poliomyelitis by more than 99% over the past decades. Vaccination protects children from permanent paralysis, prevents virus circulation, and contributes to the long-term goal of global polio eradication.

Despite worldwide progress, disparities in vaccination coverage remain across countries and regions. These gaps can allow the poliovirus to re-emerge, particularly in communities with low immunization rates. Vaccination policies, healthcare access, cultural beliefs, and socioeconomic factors all shape how consistently the vaccine is administered. Understanding these spatial patterns is key for identifying vulnerable populations and improving vaccination equity.

This map visualizes the distribution of polio vaccination coverage across the world, highlighting both high-performing areas and regions where immunization rates lag. By connecting geospatial analysis with public-health data, this project illustrates where targeted interventions may be needed to support SDG 3.

My message is that maintaining strong vaccination systems is essential for preventing disease resurgence. Ensuring that all children receive their routine vaccinations not only protects individuals but strengthens community immunity. By investing in public-health infrastructure, addressing misinformation, and reaching underserved populations, countries can move closer to the goal of eradicating polio once and for all.

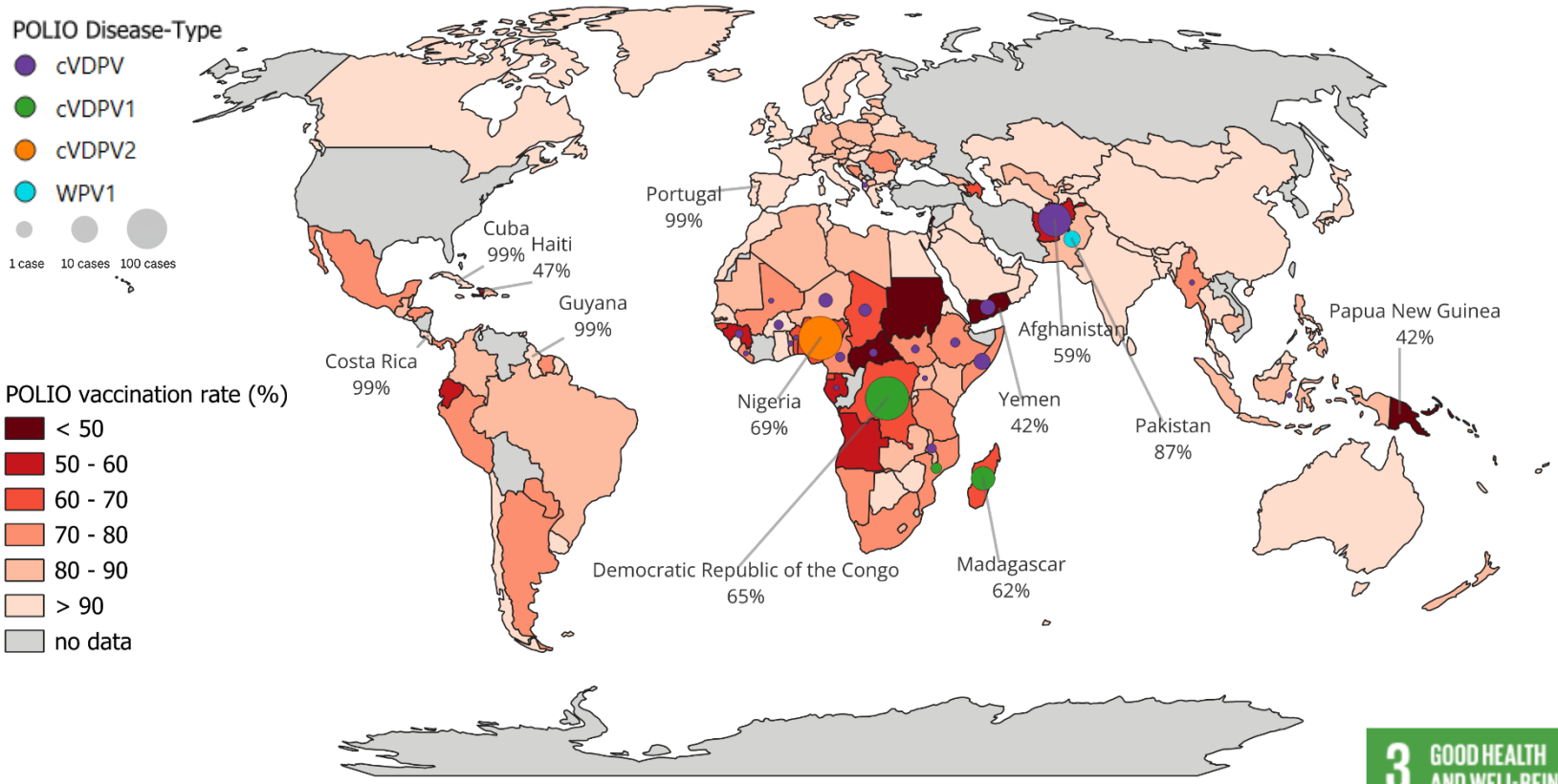
Global Polio Vaccination Coverage

How Polio Vaccination Protects Children

Prevents Paralysis
99% effective against paralysis. Protects children from lifelong disability.

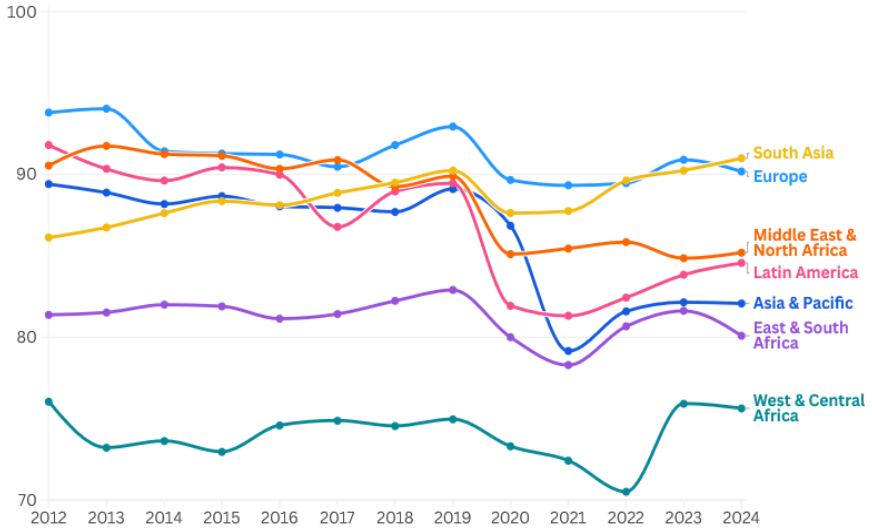
Community Protection
High coverage reduces virus spread and protects vulnerable children.

Stops Outbreaks
Vaccination breaks transmission chains and prevents polio resurgence.



Average POLIO coverage per region

Observed over the recent 12 years



Data source: WHO / UNICEF (2023) | Map design: Florian Nadegger

Regional vaccination trends

While most regions sustain coverage above 85–90%, West & Central Africa remains below this level. Lower routine vaccination makes populations more susceptible to cVDPV outb-reaks.

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