

# Hurdles In Achieving The Global Goals Of Vaccination

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## Introduction

Vaccination is one of the most effective public-health interventions, but the existence of safe and effective vaccines does not guarantee that every person receives them. Global immunization goals depend on a complete system: vaccines must be financed, produced, regulated, purchased, transported, stored, delivered by trained workers, accepted by communities, recorded accurately, and repeated on schedule. A failure at any point can leave children and adults unprotected. For this reason, the barriers to vaccination cannot be reduced to ignorance, religion, or political weakness alone.

The Global Vaccine Action Plan guided work during 2011–2020, and Immunization Agenda 2030 now provides the principal global framework. Its aim is not merely to raise national averages but to ensure that everyone, everywhere, at every age benefits from immunization. The latest WHO–UNICEF estimates show both achievement and continuing inequality. In 2025, about 90 percent of infants received at least one dose of a diphtheria-tetanus-pertussis-containing vaccine and 85 percent completed the three-dose series, yet approximately 13.5 million children remained “zero-dose,” meaning they received no routine vaccine in their first year. Measles first-dose coverage was 84 percent, HPV first-dose coverage among girls was 33 percent, and yellow-fever coverage in at-risk countries remained far below the level needed for reliable population protection.

## What Global Targets Actually Measure

Coverage statistics are useful but can conceal important gaps. A country may report a high national DTP3 rate while particular districts, displaced populations, urban informal settlements, remote communities, or minority groups remain unprotected. The difference between the first and third DTP doses also reveals dropout: families may begin vaccination but fail to complete the schedule because of distance, cost, stockouts, migration, poor service, or missing reminders. Measuring only doses administered does not show whether vaccines were timely, equitably distributed, correctly stored, or accurately recorded.

Global goals therefore include reducing zero-dose children, preventing outbreaks, introducing underused vaccines, improving life-course vaccination, and integrating immunization with primary health care. They also depend on disease surveillance. A program cannot respond effectively if measles, polio, diphtheria, yellow fever, or other vaccine-preventable diseases are detected late or if

laboratory and reporting systems are weak. (World Health Organization, 2025)

## Conflict, Displacement, and Fragile Health Systems

War and political instability disrupt vaccination in several interconnected ways. Clinics may close, health workers may flee, roads and cold-chain equipment may be destroyed, and public funding may shift toward immediate security needs. Families may be displaced repeatedly and lose vaccination documents. In conflict zones, reaching a settlement may require negotiated access, local partners, mobile teams, and security analysis. Even when vaccine supplies exist nationally, they may not reach the children at highest risk.

Fragility is not limited to active war. Floods, drought, earthquakes, epidemics, climate-related displacement, and economic crisis can interrupt routine services. Emergency campaigns may temporarily raise coverage, but repeated campaigns cannot replace a reliable primary-care system. Sustainable progress requires local clinics, trained staff, electricity or alternative cold-chain technology, dependable transport, and plans for maintaining services during shocks.

## Financing, Procurement, and Supply Chains

Vaccination programs require predictable long-term financing. Costs include not only the vaccine but also syringes, safety boxes, refrigerators, temperature monitoring, transport, staff time, training, waste disposal, data systems, community outreach, and surveillance. Donor support has helped many countries introduce vaccines, but abrupt reductions in external financing or poorly planned transitions can create coverage gaps. Domestic budgets are therefore essential, particularly for routine services that must continue every year.

Procurement failures can produce stockouts even when funding is available. Forecasting may be inaccurate, orders delayed, regulatory processes slow, or global supply concentrated among a small number of manufacturers. A diversified manufacturing base and transparent purchasing can improve security, but quality standards cannot be compromised. At the local level, weak inventory management may leave one clinic with excess stock while another has none. Temperature excursions can damage some vaccines, so cold-chain monitoring and trained handling are indispensable.

## Access Barriers Faced by Families

A service described as “free” can still impose costs. Families may pay for transportation, lose a day’s wages, wait for hours, arrange childcare, or return repeatedly after a clinic cancels a session. Rural distance, inaccessible buildings, inconvenient hours, gender restrictions, language differences, disability, legal-status fears, and lack of documentation can all reduce uptake. Migrants and nomadic populations may fall between administrative jurisdictions, while children in urban slums may be

geographically close to hospitals but disconnected from routine public services.

Missed opportunities also occur inside the health system. A child may visit a clinic for another reason but leave without vaccination because staff do not check status, vaccines are stored in another facility, or workers incorrectly treat a mild illness as a contraindication. Integrating immunization with maternal care, nutrition, growth monitoring, school health, and other primary-care contacts can close these gaps. (World Health Organization, 2026)

## Confidence, Misinformation, and Trust

Vaccine hesitancy is not one uniform attitude. Some people accept most vaccines but worry about one product; others delay because of practical barriers rather than opposition. Concerns may arise from misinformation, past medical mistreatment, political polarization, religious interpretation, fear of side effects, uncertainty about new technologies, or distrust of institutions. Labeling communities as irrational can deepen resistance.

Effective communication begins with listening. Health workers should explain expected reactions, rare serious risks, disease consequences, eligibility, and what to do after vaccination in language people understand. Trusted local clinicians, religious leaders, teachers, women's groups, and community organizations can help when they are genuinely involved rather than used merely as messengers. Digital misinformation requires rapid, evidence-based responses, but deleting false claims alone cannot repair distrust created by disrespectful care, corruption, or inconsistent policy.

## Data Quality and the Problem of Invisible Children

Good data helps locate under-immunized populations, but denominators are often uncertain. Census figures may be old, migration rapid, and paper registers incomplete. Administrative coverage can even exceed 100 percent when target populations are underestimated or when doses given to people from neighboring districts are assigned incorrectly. Digital registries can support reminders and continuity, but they require privacy safeguards, interoperability, reliable electricity and connectivity, and alternatives for people without formal identification.

Programs should use disaggregated information by district, age, sex, income, disability, displacement status, and other relevant factors while avoiding stigmatization. Community mapping and local knowledge can reveal settlements absent from official records. The purpose of data is not simply to satisfy reporting requirements but to direct resources to children and adults who are repeatedly missed.

## Program Quality, Safety, and Workforce Capacity

Public confidence depends on safe delivery. Vaccinators need training in storage, preparation, injection technique, contraindications, infection prevention, adverse-event recognition, and respectful communication. Systems must investigate adverse events following immunization transparently, distinguish coincidence from causation, and correct genuine quality problems. Concealing uncertainty or dismissing families' experiences can damage trust more than an honest explanation.

Health-worker shortages and burnout also limit coverage. Temporary campaign workers may deliver large numbers of doses but cannot replace stable, supervised teams. Fair pay, supportive management, adequate supplies, and protection from violence are necessary. Where community health workers extend access, their role should be integrated into the formal system rather than treated as unpaid labor.

## Strategies for Achieving Immunization Goals

Progress requires a layered strategy. Governments should finance routine immunization as a core public service, strengthen procurement and cold chains, maintain surveillance, and publish transparent subnational data. Services should be designed around families through mobile clinics, extended hours, reminder systems, school and workplace programs, and integration with primary care. Conflict-affected areas need negotiated access, flexible delivery models, and partnerships with organizations already trusted locally.

Reaching zero-dose children should be treated as an equity test because these children often lack other health and social services. Microplanning can identify missed settlements, while follow-up systems can reduce dropout between doses. Countries should prepare for new vaccines without weakening existing programs, expand regional manufacturing while maintaining regulatory rigor, and communicate uncertainty honestly. International agencies can provide finance, technical support, pooled procurement, emergency coordination, and shared learning, but country ownership and community participation determine whether gains endure.

## Outbreaks, Catch-Up, and Life-Course Immunization

Routine coverage gaps eventually appear as outbreaks. Measles is especially sensitive because it spreads efficiently and requires very high population immunity. When children miss doses during conflict, migration, a pandemic, or a health-system disruption, catch-up activities must identify cohorts across several ages rather than simply restarting infant services. The "Big Catch-Up" approach illustrates the need to restore doses missed during COVID-19 while strengthening routine

delivery so that another immunity gap does not accumulate.

Global goals also extend beyond childhood. Adolescents may need HPV vaccination and catch-up doses; pregnant people may be offered vaccines that protect both parent and infant; health workers and older adults may require risk-based or seasonal vaccination. Life-course programs create additional opportunities but also increase financing, data, communication, and workforce demands. New products should be introduced with realistic delivery plans, not only procurement announcements. (World Health Organization, 2026)

## Ethics, Mandates, and Priority Setting

Vaccination policy also raises ethical questions about autonomy, collective protection, scarcity, and fairness. Requirements for school, employment, travel, or outbreak control should have a clear legal basis, use the least restrictive effective measure, allow medically appropriate exemptions, and be accompanied by accessible services. Punitive policy is especially unjust when people are willing to vaccinate but cannot reach a clinic or when records are inaccurate.

When supply is limited, priority decisions should be transparent and based on risk of exposure, risk of severe disease, ability to preserve essential services, and equity. Countries should avoid allowing wealth or political influence to determine access. Compensation and support systems for rare serious vaccine injuries can strengthen fairness and trust without implying that vaccines are generally unsafe.

## Conclusion

The major hurdle to global vaccination is not a single anti-vaccine belief or a simple shortage of doses. It is the interaction of conflict, poverty, weak primary care, fragile supply chains, inconsistent financing, workforce limitations, poor data, missed opportunities, and distrust. In 2025, modest global progress reduced the number of zero-dose children, but coverage remained below the trajectory required for Immunization Agenda 2030. Achieving the goals demands reliable local systems that make vaccination convenient, safe, respectful, and routine. Equity—not only the national average—should be the measure of success.

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