

# Six Steps to a Polio-Free World

*An Insider's Look at a Massive Polio Immunization Campaign*

By Jen Banbury

**I**n India, a boy struggles to cross a busy street. He uses a handmade crutch to hobble forward, dragging a twisted, useless leg behind him. This is a picture of polio.

For most of the 20th century, the word polio spread terror throughout the U.S., where epidemics killed thousands and left tens of thousands permanently paralyzed. But an effective vaccine and mass immunization wiped out the disease in developed countries. And since the start of the Global Polio Eradication Initiative (see page 14) in 1988, the number of polio cases worldwide has decreased by over 99 percent.

Still, this highly infectious disease — for which there is

no cure — remains endemic in India, Nigeria, Afghanistan, and Pakistan, and continues to re-emerge in outbreaks in other developing countries. Poliovirus has also re-established itself (by jumping borders) in four previously polio-free countries.

UNICEF and its partners — including Rotary International, the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and the Bill & Melinda Gates Foundation — are working to permanently end polio. This is no simple feat — it requires enormous immunization campaigns that target tens of millions of children at a time.



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### 1. Planning a Campaign

Though many children in the developing world receive the polio vaccine as part of their regular health care, immunization campaigns target all children under five in a given country to ensure that none fall through the cracks. UNICEF typically assists governments and partners in overall planning and implementation of campaigns.

But huge quantities of the oral polio vaccine (OPV) cannot be made overnight. UNICEF begins discussions with WHO-accredited manufacturers up to two years before a campaign — working out quantities, prices, and timelines. Complicating matters, there are four types of OPV, targeting different strains or combinations of strains, so UNICEF must make sure the right vaccine is available. All the planning must have flexibility built in for emergencies. In response to an unexpected polio outbreak in the Republic of Congo in 2010, UNICEF was able to supply the country with the correct OPV within just ten days.



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### 4. Getting the Word Out

“You need to set up a system so that people know about the campaign,” says UNICEF’s Chief of Immunization Jos Vandelaer. “You need to explain to people: Why do they need a campaign, although their children already got a dose? What are the dates? Is there a danger in being immunized? All these things need to be wrapped into the communications strategy of the country’s campaign, and that takes preparation and time to roll out.”

In addition, explains Vandelaer, different strategies work in different countries. For some, mass media campaigns using TV, radio, or even text messages are effective. But during UNICEF’s recent campaign in Afghanistan, local religious leaders and female volunteers going door-to-door made the biggest difference. In some countries where old rumors that vaccines lead to sterility or other disabilities still occasionally surface, it’s important that communications include assurances that the vaccine is both safe and essential. UNICEF communications officers work closely with governments and health officials to craft the best messaging for their country’s campaign.



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### 5. The Volunteers

To give a child polio vaccine, a volunteer tips two drops of the vaccine from a vial into the child’s mouth. It may not taste great, but it’s much simpler than having to get (or give) a shot. Polio volunteers receive training, but they don’t need to be health workers as do those helping with, say, measles immunization campaigns. Depending on the country, one polio drive can have thousands of volunteers.

UNICEF and its partners train organizers; organizers train volunteers. On the day (or days) of the campaign, everything is planned down to the last detail. Every volunteer or team knows exactly where they need to go. They know how many children will be in the village or neighborhood they’re traveling to. If they’re taking public transportation, they know when the bus leaves, and they have been given correct bus fare. With so many volunteers fanning out, it’s essential to keep track of which children have already received their OPV dose that day, so all children have one finger marked with a pen as soon as they swallow their drops.

## 2. Getting the Vaccine There

UNICEF contracts its own freight-forwarding company to deliver vaccines. When a manufacturer confirms that an order of, say, 60 million doses of OPV is ready for Nigeria, the freight-forwarding company will find out the weight and volume of the shipment and start looking for space on aircrafts for shipping. Sixty million doses — in standard 20-dose vials — take up about five 40-foot long shipping containers. The least expensive transport is on commercial airlines. But the vaccine is kept cool using dry ice — a “dangerous good” in commercial aviation because it emits carbon dioxide, displacing oxygen — and most airlines can only transport a limited amount. That means that, for large campaign orders, UNICEF often has to arrange charter flights.

UNICEF does a lot of pre-planning and paperwork to ensure that when the OPV lands, it clears customs as quickly as possible. Still, if the vaccine arrives on a weekend or holiday, UNICEF may need to coordinate with the government to make sure customs staff are on hand to expedite the process.



## 3. Keeping It Cool

While the vaccine is being transported, it's usually kept at -20 degrees Celsius (-4 degrees Fahrenheit), frozen for stability. Upon arrival in country, the vaccine is checked to ensure that the cold chain hasn't failed. After the OPV is distributed to regional health centers throughout the country, it's moved to more conventional refrigeration and the temperature rises to 2-8 degrees Celsius (35-40 Fahrenheit) so that it remains chilled, but becomes liquid for administration to children.

When the immunization drive begins, volunteers will transport the vaccine in portable cold-box carriers. Some will travel by car or bus, others might be on foot, in a boat, riding a bicycle or motorcycle, or leading a cold-box laden donkey along a mountain track to a village. Even with all the care taken to maintain the temperature, something can go wrong. So every single vial has a “vaccine vial monitor” (VVM) — a square strip that changes color if the vaccine has experienced extreme temperatures in transit. Each vaccinator is trained to check the VVM before giving the vaccine and will discard vials that have been compromised.



## 6. Reaching Every Child

There are always unexpected hurdles. When UNICEF's Jos Vandelaer worked on a country's campaign a decade ago, rebel-controlled villages were virtually inaccessible and wary of anything done in cooperation with the government. The solution? Work with non-rebel neighbors to convey the importance of the vaccines and ferry OPV for the rebels' children. Soon after, that country was declared polio-free.

Though governments play an essential role, it's the parents, communities, volunteers, religious leaders, village elders, teachers, and health workers who are the real drivers in campaigns. They are the reason around 55 million children were immunized in Nigeria last fall, 10 million this year in Afghanistan, and 8 million in the Democratic Republic of the Congo in March. Immunization drives generate tremendous community spirit — a nationwide feeling that the entire country is working as one to keep its children safe and sound. With the dedication of all these people — and with help from UNICEF and its partners — a polio-free world might be just around the corner.





### In India, “Change Agents” Fight Polio

In India, immunization campaigns are powered by “change agents” like Munni Begum, who works in the “mohallas,” or slums, of Moradabad. Moradabad’s immunization rate is less than 15 percent — one of the lowest in the country. Munni is part of a team of five female community health volunteers who are trying to increase it.

The program is part of an initiative supported by UNICEF with funds from the IKEA Foundation. Munni’s team identifies families with babies who need to be immunized and talks with parents to dispel vaccination myths and help them understand the benefits. They are benefits Munni understands very clearly herself.

Some 30 years ago, her own infant son Zulfikar became seriously ill. “He was three months old and he had a sudden, very high fever,” she says. “I cleaned him with cold water, but I realized that his legs could not stand. They were very soft.”

As she recalls the moment, her eyes well with tears. “I took him to the doctor and the doctor said, ‘He has polio.’”

Munni’s husband, who earned only a few rupees a day pulling a rickshaw, saved what he could for Zulfikar’s treatment, often sacrificing money the family would have used to buy food. But despite medication, therapy, and an operation, nothing could help the baby.

“I didn’t know immunization could save my child,” Munni says sadly.

Today, Zulfikar is married. His wife Ayesha Parveen, who herself contracted polio as a child, is now six months pregnant. Munni makes sure Ayesha receives her folic acid supplements and prenatal care. And there is no doubt in her mind that her grandson or granddaughter will be immunized against polio.

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দু মৌড়া  
পলিও দুরকার

### Partners in Polio Eradication

The Global Polio Eradication Initiative (GPEI) is a global program partnership led by national governments and spearheaded by UNICEF, the World Health Organization (WHO), Rotary International, and the Centers for Disease Control and Prevention (CDC). Together, these partners devise and implement global strategies to achieve a polio-free world.

The polio eradication coalition also includes governments of countries affected by polio, private foundations including the Bill & Melinda Gates Foundation and the UN Foundation, development banks, donor governments, inter-governmental and non-governmental organizations,

and corporate partners. Volunteers in developing countries also play a key role; 20 million have participated in mass immunization campaigns.

In addition, UNICEF receives funds from generous partners who want to join the fight to end polio. Recently, the U.S. Fund for UNICEF gratefully received a \$4 million grant from Google Inc. to address the critical fundraising gap of \$14 million in UNICEF’s Oral Polio Vaccine (OPV) pipeline for outbreak response. Bob Manoukian, a dedicated U.S. Fund National Board Member, was inspired by Google’s grant and has sponsored his own generous donation of \$1 million.

