Polio and strengthening routine immunization

CRIPPLING, POTENTIALLY FATAL
Polio is a highly contagious viral infection, mainly affecting children under the age of five, which can lead to paralysis or even death.

Although many infected people have no symptoms, they do excrete the virus, which can easily infect others. In areas with poor sanitation, the virus easily spreads through contaminated water or food.

One in 200 infections leads to irreversible paralysis (usually in the legs). Among those paralysed, 5% to 10% die when their breathing muscles become immobilized.

GLOBAL POLIO ERADICATION EFFORTS
Polio can be prevented through vaccination. Multiple doses of polio vaccine are required and usually provide life-long protection.

When the Global Polio Eradication Initiative (GPEI)\(^1\) was launched in 1988, polio was endemic in 125 countries and paralysed about 1,000 children a day. Thanks to global efforts to vaccinate children in health centres and through campaigns, polio cases have decreased by 99%: from more than 350,000 cases a year to 413 reported cases in 2014.

Despite the remarkable progress, it is no time for complacency. Overcoming the final 1% of cases to achieve global eradication is similar to completing the last miles of a marathon - the final stretch is often the most difficult and takes the most strenuous and focused effort. Failure to eradicate polio now could result in as many as 200,000 new cases every year within a decade.

Half of polio cases from 2009-2011 resulted largely from weak immunization services and health systems, accessibility and security issues.\(^1\) In the past decade, polio has spread to over 20 polio-free countries from endemic areas.

IMPACT OF POLIO ERADICATION
As long as a single child anywhere remains infected, children in all countries are at risk of polio. However eradication is within reach and will pay dividends for generations to come.

A 2010 study\(^3\) estimates that polio eradication will provide at least US$ 40-50 billion of net benefits for the world’s poorest countries over the next 20 years, primarily from avoided treatment costs and productivity gains. Improved delivery of other health interventions, broader disease surveillance capacity, and improved vaccine delivery systems created by polio eradication efforts add to the economic benefits.

Today, more than 10 million people are walking who would otherwise have been paralysed from the poliovirus.\(^3\) For families around the world, polio eradication means lives saved and the prevention of devastating disability.

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\(^1\) The Global Polio Eradication Initiative (GPEI) is a public-private partnership led by national governments and spearheaded by the World Health Organization (WHO), Rotary International, the US Centers for Disease Control and Prevention (CDC), and the United Nations Children’s Fund (UNICEF). Its goal is to eradicate polio worldwide.
**STEPS NEEDED FOR A POLIO-FREE WORLD**

In May 2012, the World Health Assembly declared the completion of polio eradication to be an emergency for global public health. One year later, the World Health Assembly endorsed the new *Polio Eradication & Endgame Strategic Plan 2013-2018*.

Under this plan, two types of polio vaccine are recommended to be used to boost population immunity to all three serotypes of poliovirus.

At least one injected dose of inactivated polio vaccine (IPV) is to be introduced into the routine immunization schedules of all countries by the end of 2015. This will help prepare for the phased withdrawal of the oral polio vaccine (OPV) by 2020. IPV will also help accelerate eradication in the remaining infected areas, in combination with OPV.

A switch from the trivalent OPV (containing the eradicated type 2 poliovirus serotypes) to the bivalent OPV is planned for April 2016. Subsequently, OPV will gradually be phased out by 2020.

This switch and eventual withdrawal of OPV will eliminate the rare risks of vaccine-associated paralytic polio (VAPP) and circulating vaccine-derived poliovirus (cVDPV). OPV, which provides herd immunity to polio, will continue to be used if and wherever a polio outbreak needs to be contained.

The two polio vaccines will work together in routine immunization programmes to induce a stronger immune response, especially in areas where wild poliovirus or cVDPVs are still circulating.

**IMPORTANCE OF STRENGTHENING ROUTINE IMMUNIZATION**

*Routine immunization is the sustainable, reliable and timely interaction between the vaccine, those who deliver it and those who receive it to ensure every person is fully immunized against vaccine-preventable diseases.*

Strengthening routine immunization is a pillar of the polio eradication strategy. High routine immunization coverage establishes a strong base for population immunity to prevent polio outbreaks and builds a sustainable platform to introduce the Inactivated Polio Vaccine (IPV) and deliver other lifesaving vaccines.

In polio-endemic countries, the virus persists in marginalized populations, and in areas where health systems and immunization services are largely non-existent or ineffective in reaching the eligible population and oversight and management are weak. These countries also contain many of the world’s under-vaccinated children.

Vaccination campaigns have been and remain incredibly efficient vehicles to reach hard-to-reach populations in crises contexts with basic health interventions, and will remain so in crises or outbreak situations.

However, in this final stretch towards eradication, strengthening routine immunization will be even more important to help successfully interrupt all poliovirus transmission by reaching even more children with the polio vaccines. The poliovirus cannot survive for long periods outside of the human body. If the virus cannot find unvaccinated persons to infect, polio will die out.
Strengthening routine immunization involves:

- maximizing the reach of vaccines through a well-functioning supply and cold chain system, efficient service delivery and the capacity building of vaccinators and district management;
- managing programmes with strong political and management support, effective planning, as well as policy and strategy development;
- mobilizing people through community and caretaker engagement; and
- monitoring programme performance with rigorous disease surveillance, data analysis and evaluation.

**IMPACT OF STRENGTHENING ROUTINE IMMUNIZATION**

In 10 priority countries with significant polio investments, GPEI polio-funded assets are spending more than half of their time towards broader health interventions, including strengthening routine immunization.

Access to immunization services is an indicator of whether other primary health services are reaching people. Routine immunization visits provide an opportunity for delivery of more preventive, diagnostic and curative services for improved reproductive, maternal, child and adolescent health. A polio-free world can be a path to better health for all.

Together, strengthening routine immunization and polio efforts can amplify each other’s impact: together they will more rapidly and effectively achieve polio eradication targets, as well as improve child health overall.

**Quick facts**

- The global effort to eradicate polio is one of the largest public-private partnerships for health in history, backed with international investments of more than US$ 11 billion.
- A global network of more than 20 million volunteers has underpinned GPEI worldwide by immunizing nearly 3 billion children over the past 20 years.
- If countries improved routine immunization coverage by an additional 2% per year, the investment would avert approximately 300,000 additional vaccine-preventable deaths annually.\(^1\)

**Resources**

- **Global Polio Eradication Initiative**  
  [www.polioeradication.org/Home.aspx](http://www.polioeradication.org/Home.aspx)
- **WHO: Polio Eradication**  
- **Gavi: Inactivated Polio Vaccine Support**  

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\(^1\) GPEI Polio Eradication & Endgame Strategic Plan 2013 -2018, p9  
\(^4\) [http://www.polioeradication.org/resourcemanager/strategyandwork.aspx](http://www.polioeradication.org/resourcemanager/strategyandwork.aspx)  
\(^5\) With the type 2 wild poliovirus serotype already successfully eradicated, the only cases of paralytic polio now are caused by the type 2 serotype component in trivalent OPV. That is why a switch will be implemented from trivalent OPV to bivalent OPV in routine immunisation programmes,  