Polio Infrastructure: On the Frontline of Health Emergencies

POLIO GLOBAL ERADICATION INITIATIVE

Overview

The tools, infrastructure, and knowledge developed to eradicate polio have saved countless lives across the globe and often serve as the default epidemic response programme in dozens of countries during health emergencies. Health workers and systems that deliver polio vaccines have helped fight other vaccine-preventable childhood diseases, tackle Ebola, COVID-19 and other disease outbreaks, deliver malaria prevention tools, and improve disease surveillance.

The polio programme has one of the largest disease surveillance systems in the world, which comprises a network of environmental surveillance sites and 146 laboratories across over 90 countries. While this system is primarily responsible for poliovirus detection and investigates over 150,000 cases of acute flaccid paralysis every year, in many low-income countries GPEI resources support much of the vaccine-preventable disease surveillance. Collectively, they have helped detect and respond to measles outbreaks, yellow fever, and neonatal tetanus, among other diseases.

Alongside its vast disease surveillance network, the GPEI benefits from some of the most advanced data monitoring and disease response systems that are coordinated out of the programme's Emergency Operations Centres (EOCs) in many countries. Further, it draws on a network of hundreds of thousands of workers on the frontline of eradication and community mobilizers who are key to raising awareness and encouraging parents and caregivers to vaccinate their children.

An investment in polio infrastructure goes far beyond polio eradication - it is an investment in strong health emergency and pandemic response systems that the world desperately needs as it continues to tackle COVID-19 and prepares for future health threats.

Support for the COVID-19 Response

In March 2020, the polio programme made the difficult decision to pause vaccination campaigns for four months because of the COVID-19 pandemic, to protect communities and polio staff from the coronavirus.

While the campaign pause set back eradication efforts, the strong global footprint of the polio infrastructure meant that the GPEI was ready to step up and support countries' response to the pandemic. The immediate availability of teams with extensive expertise in outbreak detection and response was crucial to increasing capacity for many countries, and included:

Up to **30,000 polio program staff** and **over USD$100M in polio resources** supported country logistics and communications campaigns around the COVID-19 response and disease surveillance in over 50 countries.

The **GPEI's network of close to 150 labs** provided significant support to track COVID-19 cases. Digital maps drawn from this data helped experts trace contacts, predict transmission patterns, and make evidence-based decisions about social distancing guidelines in challenging contexts.

Front-line staff, including **grassroots social mobilization networks in countries such as Pakistan, Afghanistan, and Nigeria**, enabled officials to educate communities and promote effective contact tracing, public health

messaging, social distancing, and uptake of COVID-19 vaccines. In Pakistan alone, the polio programme supported nationwide engagement with religious leaders, journalists, community influencers and the use of social media platforms that helped reach over 23 million people with accurate messaging on COVID-19.

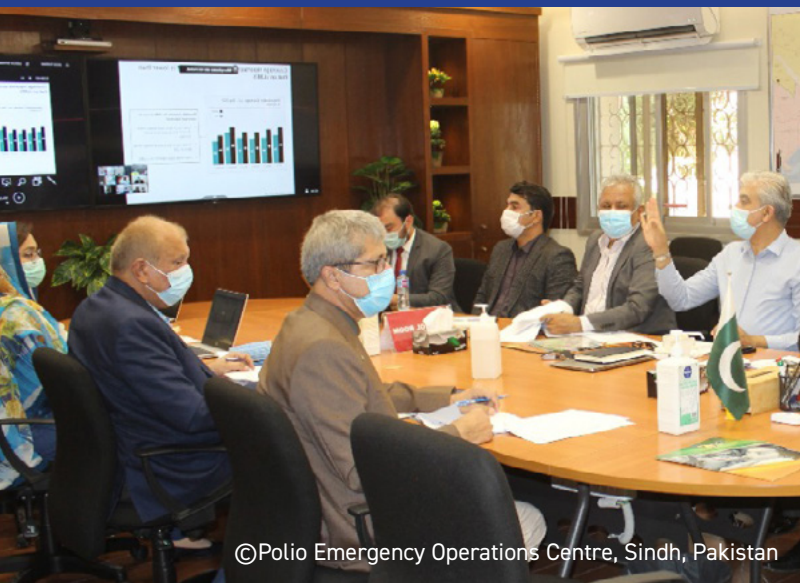
Stopping Ebola in Nigeria

When Ebola struck West Africa in 2014, Nigeria reported its first case in July that year. The emergence in Nigeria was particularly worrying given the population size and the country's role as a regional travel hub.

Nigeria had established an EOC in 2012 to improve polio eradication efforts and was able to leverage this experience to swiftly tackle Ebola. Thanks to support from donors and partners, polio staff from the EOC were able to quickly create an EOC against Ebola, which centralised management and coordination for the outbreak response, surveillance, laboratory services and social mobilization.

Through the networks created by the polio programme, the team was able to reach virtually everyone at risk for Ebola with communications, including through established religious and traditional leaders that GPEI had long worked with. With the benefit of polio data systems and digital maps, the team efficiently traced over 99.9% of Ebola contacts.

As a result, Nigeria contained its Ebola outbreak in just three months and registered only 19 cases against the tens of thousands registered in neighbouring countries without strong polio infrastructure. This experience is a strong reminder of how lessons learned from the polio programme can reap significant broader health benefits.



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Securing Polio's Contribution for the Future

Continued investment in polio infrastructure is vital to helping countries strengthen their disease surveillance and response systems to prepare against future outbreaks and pandemics.

To effectively reap the benefits of the programme's assets in the long-term, it will be important for donors and country governments to support the integration and transition of polio infrastructure into national health systems.

Against the backdrop of COVID-19 pandemic response and an ever-tightening fiscal environment, the GPEI will endeavour to eradicate all forms of polio under its 2022-2026 Strategy and maintain polio-free status whilst supporting an expedited, risk-based transition of United Nations Children's Fund (UNICEF) and WHO polio staffing and infrastructure to countries and essential immunization or health emergencies programmes. This will help strengthen national immunization, health and disease surveillance systems, and will sustain polio gains once eradication is achieved.