

## Polio Networks Preventing and Responding to Outbreaks and Emergencies

### Polio Assets Transforming

Over three decades, the Global Polio Eradication Initiative (GPEI) has built significant infrastructure and human resources for disease surveillance, social mobilization, and vaccine delivery; developed knowledge and expertise; and learned valuable lessons about reaching the most vulnerable and hard-to-reach populations on earth. These staff and infrastructure are now supporting broader health and development activities. Polio-funded workers at country level spend on average 50% of their time working on public health efforts, beyond polio eradication.

#### 10 Key Polio Functions:

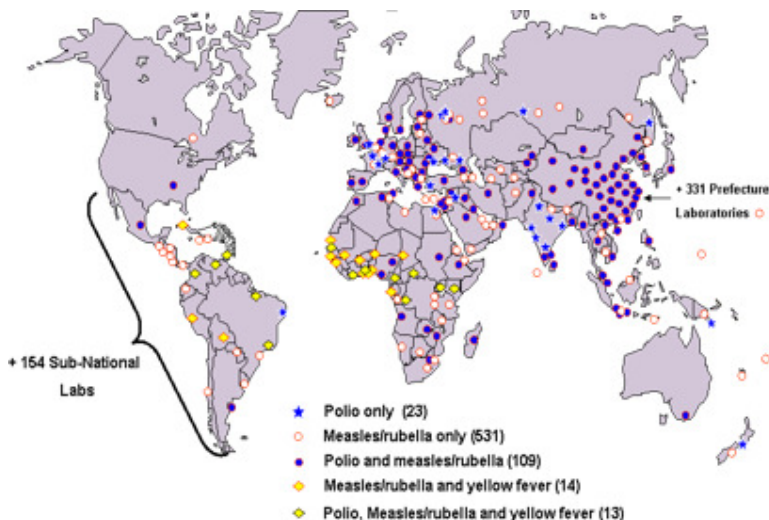
- Implementation and Service Delivery
- Monitoring and Data Management
- Disease Surveillance
- Planning
- Communications and Community Engagement
- Capacity Building
- Resource Mobilization and Advocacy
- Policy and Strategy
- Partnerships and Coordination
- Management and Operations

### Outbreaks Around the World

Since March 2014, there have been at least 140 serious outbreaks in 107 countries that have received global attention (for example, Ebola, Avian Flu, MERS, Zika, etc). In the 21<sup>st</sup> Century, diseases spread faster and farther through in the global community, and have great health and economic impact on the population and global health community. Yet most countries are not prepared: less than a third of the countries worldwide have met the standards of the International Health Regulations to prevent and control public health threats. To respond to this threat, the Global Health Security Agenda is advancing international collaboration focusing on preventing, detecting, and responding to outbreaks. **Polio-funded infrastructure and human resources constitute in certain countries the largest available capacity for outbreak preparedness.**

### Disease Detection

The polio lab and surveillance infrastructure has served as the foundation for real-time vaccine preventable disease surveillance systems and could be even further expanded. The Global Polio Lab Network currently includes over 140 labs and is linked to the global measles/rubella and yellow fever lab networks. The polio lab and surveillance system's ability to establish, monitor, and often meet global performance targets is a major asset that can be usefully applied to other diseases.



### Vaccine Preventable Disease Prevention and Outbreak Response

Polio staff have been detecting and responding to outbreaks of vaccine preventable diseases besides polio for years. They identify outbreaks of measles and other diseases and report them to local authorities, plan and implement immunization campaigns in response to these outbreaks, and work with governments and communities to prevent them in the future. For example, Nepal's polio eradication programme has been reporting on cases of measles, rubella, neonatal tetanus, and Japanese encephalitis since 2004. Its staff have helped plan and monitor campaigns launched in response to the collected surveillance data, have worked to introduce six new vaccines since 2002, and have trained government staff in vaccine management.<sup>1</sup>



Measles & Polio Campaign, DR Congo

<sup>1</sup> Paudel KP, Hampton LM, Gurung S, et al. Adapting Nepal's Polio Eradication Programme. Bulletin of the WHO. 2017; 95:227-232. |

### Response to Ebola in West Africa

Polio eradication staff played a key role in stopping a potentially massive Ebola outbreak in Nigeria in 2014<sup>2,3</sup>. In particular, officers from the national polio Emergency Operations Center (EOC) organized and led the Ebola EOC created in response to the outbreak and applied staff and methods from polio eradication efforts to containing the Ebola outbreak. Case surveillance and investigation, mostly performed by polio surveillance personnel, identified 892 contacts of Ebola patients, of whom 891 were fully monitored for signs of Ebola over 21 days each. In addition, social mobilization teams applied the methods of polio eradication in reaching out to at-risk groups, key community leaders, and the general population to provide education on Ebola prevention and to dispel rumours. This rapid response limited the outbreak in Nigeria to only 19 confirmed and one probable case and successfully contained the virus to Lagos and one other state.

In addition to the work in Nigeria, polio staff from across the globe from partners such as WHO, CDC and UNICEF were deployed to support the Ebola emergency response in Liberia, Sierra Leone, and Guinea, bringing their experience in outbreak prevention and response, communications, and behaviour change.

### Responding to Other Diseases

In addition to work against Ebola and vaccine preventable diseases, polio infrastructure and staff have strengthened surveillance and aided efforts to control other disease outbreaks. Reports have documented the successful use of polio infrastructure and staff in Angola, Nigeria and Ethiopia for non-polio outbreak response<sup>4,5</sup>. For example, in Angola surveillance for Marburg fever was greatly facilitated during an outbreak by basic and communications infrastructure that was put into place for the poliomyelitis-eradication initiative. In Ethiopia, polio staff have worked to control cholera outbreaks and provide training on outbreak detection and response in general. In Nigeria, polio staff have been engaged in responding to Avian Flu as well as Ebola. In India, polio surveillance and social mobilization networks have responded to Kala Azar outbreaks and prevention campaigns.

### Polio Networks Support Other Life Saving Interventions

Polio infrastructure and staff have supported national health systems in other ways besides outbreak detection and response. They have provided disaster relief assessments and assistance in Nepal, Pakistan and India. They support health camps and immunization campaigns that include polio but address broader health and nutrition issues such as severe and chronic malnutrition in India and Pakistan and malaria in Nigeria. In Ethiopia, the programme supports anti-fistula efforts by actively engaging with communities to identify women suffering from fistulas and connecting them to treatment. Experts estimate that vitamin A drops in polio campaigns have prevented more than 1.5 million deaths. The social mobilization networks and communication strategies developed for polio eradication have been used to promote multiple health and related initiatives, including national nutrition and sanitation strategies in India, Pakistan, and Democratic Republic of Congo (DRC); breast feeding, diarrhea management, and hand washing in India and DRC; birth registration in DRC; and promotion of use of health services in Ethiopia, Nigeria, India and others.



Bed net for malaria prevention distributed during a polio campaign in Niger

*We ...recognize the significant contribution that the polio related assets, resources and infrastructure will have on strengthening health systems and advancing UHC". G7 Ise-Shima Vision for Global Health, May 2016.*

Eradicating polio has involved trying to reach every last child on the planet, whether it be a nomadic child in the Sahel or a refugee child in a war zone. The same infrastructure and staff can often deliver services that other programmes cannot reach.

<sup>2</sup> Lessons from Polio to Ebola. Lancet Infectious Diseases. 2015;15:863.

<sup>3</sup> Vaz RG, Mkanda P, Banda R, et al. The Role of the Polio Program Infrastructure in Response to Ebola Virus Disease Outbreak in Nigeria 2014. Journal of Infectious Diseases. 2016;213(S3):S140-6.

<sup>4</sup> Kouadio K, Okeibunor J, Nsubuga P, et al. Polio Infrastructure Strengthened Disease Outbreak Preparedness and Response in the WHO African Region. Vaccine. 2016;34:5175-5180.

<sup>5</sup> Ndayimirije N, Kinkdhauser MK. Marburg Hemorrhagic Fever in Angola- Fighting Fear and a Lethal Pathogen. New England Journal of Medicine. 2015;352:2154-2155.