Inactivated poliovirus vaccine campaign in Kenya: Lessons learned

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Kenya has been free of polio since 2006. But it experienced several importations of wild poliovirus (WPV) causing outbreaks in 2009, 2011 and 2013. The latest reintroduction was the 2013 Horn of Africa WPV1 outbreak, which started in neighbouring Somalia in April 2013. A total of 217 children were paralysed in that outbreak; of which, 14 were in Dadaab, northeast Kenya. The Dadaab area also experienced an outbreak of circulating vaccine-derived poliovirus type 2 (cVDPV2) in 2012, genetically linked to a similar outbreak in Somalia. Despite the ongoing polio campaigns and routine immunization, pockets of immunity gaps among under fives in these countries are believed to be a catalytic factor that enables poliovirus circulation following an importation event.

In response to the 2013 WPV1 outbreak in Dadaab, inactivated poliovirus vaccine (IPV) was co-administered with oral poliovirus vaccine (OPV) in Dadaab refugee camps and adjacent host communities via a campaign in December 2013. The IPV co-administration was in line with the recommendations from the Strategic Advisory Groups of Experts (SAGE) and Independent Monitoring Board (IMB) for polio eradication.\textsuperscript{1} As demonstrated in past studies,\textsuperscript{2} IPV is more effective than OPV alone in closing the remaining immunity gap. In addition, IPV is effective in preventing the emergence of circulating vaccine-derived polioviruses (cVDPVs). IMB has also suggested having an IPV exercise as quickly as possible to get operational, communication and social mobilization aspects/challenges under way in campaign settings.
Methods

- The campaign targeted five refugee camps in Dadaab and five surrounding host communities in Dadaab, Fafi and Habaswein districts, which included 126,000 under fives.
- The Kenyan Ministry of Health, in collaboration with the polio partners WHO, UNICEF, UNHCR and Centers for Disease Control and Prevention (CDC), closely monitored the preparatory, implementation and evaluation activities of the campaign.
- A study was conducted to identify community attitudes and acceptance towards IPV to determine the communication and social mobilization approach for the campaign.
- During the campaign period, immunization activities were conducted over five working days from 14–18 December 2013, followed by a vaccination coverage survey.
- To ensure injection safety, all children were immunized at fixed posts, temporary fixed posts and mobile team posts.

Results

An independent vaccination coverage survey revealed the OPV and IPV coverage to be 92.8% in the refugee camps and 95.8% in the host communities.4

The reasons most commonly cited by caregivers for children older than six weeks not receiving the vaccine were: “did not know where to get vaccine” (46%); followed by “child absent during the campaign” (9%). The most common sources of information about the campaign were: “public address system or megaphone announcements” (76%); followed by “visit by social mobilizer/health worker” (47%); and “radio” (36%).

Operational challenges encountered

- Inadequate qualified vaccinators capable of injecting intramuscular vaccine;
- Low number of health facilities in relation to diverse population and area size;
- Lack of availability of suitable places for organizing temporary fixed posts in communities;
- Lack of sufficient cold chain logistics (vaccine carriers, ice packs, cold boxes) and freezing spaces;
- Gathering isolated nomadic populations into temporary fixed posts for vaccination difficult;
- Seasonal out migration of nomadic population; and
- Insecurity in some host communities.

Lessons learned

Routine immunization services – number of health facilities, outreach sessions, human resources and cold chain logistics were suboptimal in the campaign area. An injectable vaccine campaign in such a setting is challenging although outsourcing of skilled vaccinators as well as internal and external adjustment of cold chain logistics were applied to tackle the situation in the campaign area. Additionally, the scattered population and nomadic living pattern placed a heavy demand on transportation resources. Similarly, insecurity limited the movement of vaccinators in some settlements resulting in some susceptible children missing the opportunity. All these factors accounted for the high operation cost of the campaign – US$1.04 per vaccinated child. In well-established routine immunization (RI) settings, the cost is much lower. In examples like this the campaign duration may need to be extended to tackle aspects such as vaccinator and logistics shortages. For this campaign, with a scattered population, need-based house-to-house vaccinations proved effective and feasible.

Conclusion

Despite the logistics, human resources and social mobilization challenges faced in Kenya 98% administrative and 93–96% survey coverage was achieved in the campaign. Based on the lessons learned in Kenya, it is evident that IPV can be administered in similar geographical settings as well as in countries with well-established RI structures. Systematically tailored training; timely and capacity-based operational/micro-planning; and evidence-based communication and social mobilization can make for successful outcomes.

References