



## Commentary

## Eradication of wild poliovirus in Nigeria: Lessons learnt



Osmond C. Ekwebelem<sup>a,\*</sup>, Obinna V. Nnorom-Dike<sup>b</sup>, Abdullahi Tunde Aborode<sup>c</sup>,  
Nicholas C. Ekwebelem<sup>d</sup>, Job C. Aleke<sup>b</sup>, Ekenedirichukwu S. Ofielu<sup>b</sup>

<sup>a</sup> Research and Development Hub, University of Nigeria, Nsukka, Nigeria

<sup>b</sup> Faculty of Biological Sciences, University of Nigeria, Nsukka, Nigeria

<sup>c</sup> Healthy Africans Platform, Research and Development, Ibadan, Nigeria

<sup>d</sup> Faculty of Clinical Sciences, University of Port Harcourt, Port Harcourt, Nigeria

## ARTICLE INFO

## Keywords:

Nigeria  
Eradication  
Polio  
Vaccine  
Wild poliovirus

## ABSTRACT

**Introduction:** On August 24, 2020, Nigeria recorded a monumental success by achieving the aim of a “wild polio-free country” after completing three years without any case of wild poliovirus (WPV).

**Methods:** For this commentary, we consulted relevant publications, official documents, and working plans and policy statements of the relevant organizations responsible for Nigeria’s Polio Eradication Initiative.

**Results:** Efforts to curb the challenges the Polio Eradication Initiative (PEI) faced in Nigeria through effective partnerships, the CORE Group Polio Project (CGPP), Volunteer Community Mobilizers (VCMs), and Global Polio Eradication Initiative (GPEI) partners proved successful, as it resulted in Nigeria being removed from the list of endemic countries in September 2015, and subsequently declared free of WPV on August 24, 2020, following an absence of indigenous transmission for three years.

**Conclusion:** Unrelenting prioritization of polio eradication and global support is still needed to achieve a polio-free world.

## 1. Background

In 1988, the World Health Assembly made a commitment in Geneva to eradicate polio by the year 2000 [1]. After launching the polio eradication initiative in 1988, the world witnessed a drastic decrease in the number of confirmed wild polio cases from an estimated 350,000 to only 138 cases at the end of 2020 [2]. The lack of strict surveillance in most African countries, before the introduction of the CORE Group Polio Project (CGPP), made it very important to eradicate wild poliovirus in Nigeria, regarded as a source of wild poliovirus exportation in the African region [3]. By overlooking local concerns and related national and international issues, the polio eradication initiative that was initially implemented in 1995 in Nigeria, almost collapsed [4]. A few years later, the boycott campaign, ignited by religious, health, and fertility concerns, threatened the vaccination efforts in most Northern Nigerian states [5]. As a result, restoring public trust, cooperation, and support, which were lost due to unverified rumours about the polio vaccine’s safety, became paramount in the quest to achieve the eradication goals.

After the boycott of polio vaccine in northern Nigeria, the Nigerian government, with the aid of the CORE Group Polio Project (CGPP),

World Health Organization (WHO), and United Nations Children’s Fund (UNICEF), revamped the polio eradication initiative in 2006 by addressing the health and safety concerns of the northern communities [6]. Some effective strategies employed by CGPP, WHO, and UNICEF were the utilization of community health workers and volunteer community mobilizers (VCMs) to build community engagement, target regions at high risk, tracking down missed children, and ensuring community-based surveillance and independent monitoring campaign [7]. As a result of these innovative strategies, the number of WPV cases in Nigeria decreased from 1122 in 2006 to only 6 WPV cases in 2014 [8]. The continuation of strict monitoring and surveillance on the progress of immunization activities was maintained, and without any confirmed case of WPV after three years, Nigeria was declared free from WPV on August 24, 2020. This is a landmark victory for a country that accounted for nearly half of the world’s polio cases in 2008. Therefore, as we celebrate our triumph over the eradication of WPV, it is necessary to checklist the lessons learned from Nigeria’s PEI efforts.

\* Corresponding author. Research and Development Hub, University of Nigeria, Nsukka, 410001, Nigeria.

E-mail address: [osmond.ekwebelem.197684@unn.edu.ng](mailto:osmond.ekwebelem.197684@unn.edu.ng) (O.C. Ekwebelem).

<https://doi.org/10.1016/j.puhip.2021.100144>

Received 11 January 2021; Received in revised form 3 May 2021; Accepted 7 May 2021

Available online 15 May 2021

2666-5352/© 2021 The Authors. Published by Elsevier Ltd on behalf of The Royal Society for Public Health. This is an open access article under the CC

BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## 2. Lessons learnt

1. Polio eradication effort in Nigeria highlights that public trust remains a key factor for a successful eradication program. One of the challenges faced in Nigeria's wild polio eradication effort was the lack of trust in the efficacy of western medicine and anti-immunization rumours and sentiments in North-East Nigeria. The spread of unverified rumours that the polio vaccine was contaminated with anti-fertility hormone, HIV, and cancerous agent exacerbated the distrust. Commendably, the introduction of the CORE Group Partners Project (CGPP) in Nigeria in 2014 [9,10] not only improved polio vaccine acceptance, but also ensured that grassroots level strategies were leveraged to help transform attitudes, mindsets, and behaviours of people in the hard-to-reach communities in Nigeria. The volunteer community mobilizers (VCMs), which were utilized through the CGPP, gained strong interpersonal and communication skills that enabled them to resolve trust issues preventing vaccination compliance in communities and households. In a similar vein, accommodating the opinions of the northern religious and traditional rulers greatly helped in securing the much-needed trust, which offered the eradication program a platform to continue. This shows that the concerns and reservations of the most disease-burdened communities are to be regarded as a priority and doing so allowed the eradication campaign to attain its desired expectation in Nigeria.
2. Nigeria's polio eradication effort highlights that strict surveillance is vital in ensuring that overlooked vulnerable communities are identified. Independent surveillance by key stakeholders and interested parties such as CGPP did not only ensure an effective intervention strategy but also encouraged support from politicians and private-public partnerships. With the aid of CGPP, the PEI in Nigeria ensured stringent surveillance through the VCMs and NGOs. The VCMs received lectures on the importance of the PEI, and training on routine vaccination, Acute Flaccid Paralysis (AFP) surveillance, neighbourhood engagement, community mobilization, behavioural change communication tools, and interpersonal skills [9]. Equipped with these skills, the VCMs ensured the immunization program and other health incentives reached the hard-to-reach populations displaced by violence through health camps, house-to-house visits, community meetings, compound dialogues, and tracking of uncooperative parents, overlooked children, and dropouts. The contribution of CGPP and VCMs in Nigeria's PEI efforts was vital in the reduction in the number of WPV cases in Nigeria as well the reductions in the number of families refusing polio vaccination, the percentage of households with missed children, and the percentage of non-compliant households.
3. The knowledge and experiences garnered from Nigeria's PEI efforts provide important lessons that accountability is a driving force in any eradication campaign. Clear communication, which entailed reiterating the facts related to the polio vaccine, was maintained with Nigerians, particularly the concerned northern population. The VCMs, which were all women selected by and from their local communities, were comprehensively trained, supervised by CGPP, and assigned households in their community. The VCMs were responsible for carrying out grassroots sensitization and making constant visits to speak with healthcare personnel and families about polio vaccination and routine immunization, aiming to counter misconceptions and misinformation. Independent monitoring and surveillance by concerned northerners ensured that agencies beyond government control were held accountable. The CGPP implemented polio eradication activities in Nigeria through the National Polio Emergency Operations Centre (EOC) to pinpoint which Nigerian states needed to increase their polio immunization efforts. The EOCs were set up to hold all stakeholders, both at state and local levels, accountable for their role as well as enhance immunization coverage in states which were unable to achieve the 80% benchmark for

vaccination coverage [10]. At quarterly meetings involving the key stakeholders, state governors, and president, the EOCs must present a report detailing each state's effort in increasing immunization coverage. In cases where the immunization coverage was below the 80% benchmark, corrective measures would be introduced for the state [10]. In each aspect, accountability not only played a key role in eliminating prejudice and unverified reports, but also played a key role in pushing the polio intervention towards success by fortifying the efficiency, transparency, and credibility of the polio eradication initiative.

4. Public and private partnership, advocacy, and resource acquisition were essential in achieving the polio eradication goals in Nigeria. The PEI in Nigeria secured key global partnerships with the Bill & Melinda Gates Foundation, WHO, CDC, UNICEF, and Rotary International. These effective partnerships with international organizations, government agencies, civil societies, universities, NGOs, and community organizations at the local levels ensured that several crippling challenges encountered during the eradication effort were adequately handled, with the incorporation of health incentives such as; bed nets, deworming capsules and vitamin A supplement into mass immunization programs. These incentives, which were secured through partnership, reassured parents, as well as increased their confidence that the government sought after what was best for the nation and their communities. In addition, the CGPP was successfully put into practice through a partnership with local and international NGOs collaborating with the Nigerian government and UN implementing partners such as WHO and UNICEF. These partnerships ensured that the CGPP efforts were not crippled by insufficient government staffing at the periphery and indifference and lack of know-how among government staff to manage this sort of work the PEI demanded [9,10]. Through advocacy and raising awareness regarding the importance of polio vaccination in non-compliant communities, the CGPP and other Global Polio Eradication Initiative (GPEI) partners, particularly UNICEF, contributed to this accomplishment – Nigeria's WPV-free status.

## 3. Conclusion

It is wise to acknowledge that the need to maintain vigilance for any potential resurgence of wild poliovirus is still paramount. Though Nigeria's journey to wild polio-free status has not been easy, it has however taught us some lessons that will place us in a favourable position to combat future disease control and eradication efforts such as the current COVID-19 pandemic. Our responsibility as a global community is to ensure that we sustain efforts towards wild polio eradication in the two remaining endemic countries – Afghanistan and Pakistan. Furthermore, healthcare providers must be armed with verified and up-to-date information that will enable them to counter arguments against vaccines, especially vaccine distrust and hesitancy promoted by religious leaders, misinformation, and personal opinion.

## Funding

None.

## Author contributions

Osmond C. Ekwebelem developed the concept for this commentary and wrote the first draft. Obinna V. Nnorom-Dike, Abdullahi Tunde Aborode, Nicholas C. Ekwebelem, Job C. Aleke, and Ekenedirichukwu S. Ofielu revised the second draft, assisted with data gathering and prepared the manuscript. All the authors contributed, read, and approved to the final manuscript.

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Acknowledgements

Special thanks to the invited reviewers for their insightful comments.

### References

- [1] S.L. Cochi, H. Lea, K. Anjali, P. Carol, J. Hamid, The global polio eradication initiative: progress, lessons learned, and polio legacy transition planning, *Health Aff.* 2 (2016) 77–283.
- [2] World Health Organization (WHO), Polio case count-2020. [http://www.who.int/immunization\\_monitoring/en/diseases/poliomyelitis/case\\_count.cfm](http://www.who.int/immunization_monitoring/en/diseases/poliomyelitis/case_count.cfm). (Accessed 30 December 2020).
- [3] N.U. Nasir, S.A. Bandyopadhyay, F.E. Mntagnani, J. Akite, B.E. Mungu, V.I. Uche, M.A. Ismaila, Polio elimination in Nigeria: a review, *Hum. Vaccines Immunother.* 12 (2016) 658–663.
- [4] S. Abimbola, A.U. Malik, G.F. Mansoor, The final push for polio eradication: addressing the challenge of violence in Afghanistan, Pakistan, and Nigeria, *PLoS Med.* 10 (2013), e1001529.
- [5] A.S. Jegede, What led to the Nigerian boycott of the polio vaccination campaign? *PLoS Med.* 4 (2007) 73.
- [6] A.J. Mohammed, K. K Datta, G. Jamjoon, J. MagobaNyanzi, R. Hall, et al., Report on barriers to polio eradication in Nigeria. Independent evaluation team for Nigeria. Global polio eradication initiative, *Glob. Health Action* 9 (2009) 30–33.
- [7] H.B. Perry, R. Solomon, F. Bisrat, L. Hilmi, K.V. Stamidis, R. Steinglass, et al., Lessons learned from the CORE Group polio Project and their relevance for other global health priorities, *Am. J. Trop. Med. Hyg.* 4 (2019) 107–112.
- [8] A.W. Hamisu, F. Shuaib, T.M. Johnson, K. Craig, B. Fiona, R. Banda, et al., Profile of polio-compatible cases in Nigeria, *Publ. Health* 18 (2018) 8–14.
- [9] S. Usman, L. Bologna, K.V. Stamidis, The CORE Group partners Project in North east Nigeria: community engagement strategies to combat skepticism and build trust for vaccine acceptance, *Am. J. Trop. Med. Hyg.* 4 (101) (2019) 68–73.
- [10] J.I. Duru, S. Usman, O. Adeosun, K.V. Stamidis, L. Bologna, Contributions of volunteer community mobilizers to polio eradication in Nigeria: the experiences of non-governmental and civil society organizations, *Am. J. Trop. Med. Hyg.* 101 (2019) 74–84.