Circulating Vaccine-Derived Poliovirus Type 2 Outbreak in Indonesia

Situation Report No 13 – 10 July 2023

Outbreak response:
- Coordination and planning
- Surveillance
- Immunization response
- Advocacy, social behavior change, and risk communication

Summary
Outbreak confirmation:
- Total number of AFP cases with cVDPV2: 4
- Total number of healthy children with cVDPV2: 11 (4 in Aceh and 7 in West Java)
- Outbreak grade: 2

Infected Provinces and Districts:
- Aceh Province: 1 case with paralysis each in Pidie, North Aceh and Bireun districts
- West Java province: 1 case with paralysis in Purwakarta district

Index case:
- Source: AFP case
- Location: Mane sub-district, Pidie district
- Onset of paralysis: 9 October 2022
- Sex: Male
- Age: 7 years old
- Vaccination status: 0 dose

Most recent case (by date of onset):
- Source: AFP case
- Location: Maniis Subdistrict, Purwakarta District, West Java Province
- Onset of paralysis: 16 February 2023
- Sex: Female
- Age: 4 years old
- Vaccination status: 0 dose

Outbreak Response:
- Aceh Province: All children 0 to below 13 years
- North Sumatra and West Java Province: All children below 5 years
- Target: 6.5 million children
- Vaccine type: nOPV2

Crash Programme
- West Sumatra and Riau: All children below 5 years (0-59 months: bOPV and 4-59 months: IPV)

Key highlights
- On 2 and 3 July, The Ministry of Health (MoH) conducted a preparatory meeting on the outbreak response assessment (OBRA), inviting the PHO Aceh, West Java, and North Sumatra as well as partners. The meeting concluded with several action points: required data and documents need to be finalized, to complete and upload documents, the assessment process prepared, and the team that will be involved in the interviews appointed.
- On 23 June 2023, the MoH, World Health Organization (WHO), and UNICEF held a socialization meeting to discuss the OBRA activity plan and preparations for Provincial Health Offices (PHOs) and all District Health Offices (DHOs) in Aceh and West Java. During the meeting, WHO and UNICEF reminded PHOs and DHOs of the need for completeness of documents. One of the agreed follow-up actions was to finalize the calculations and upload all complete documents on nOPV2 vaccines for the outbreak response activities. Following up, on 26 June 2023, WHO and UNICEF supported PHO and DHOs in West Java in conducting a desk review meeting to validate supplementary immunization activities coverage in the first and second round as well as on logistics data. During the meeting, the team emphasized the importance of accountability in vaccine management and complete documentation.
- MoH circulated a letter instructing Puskesmas to input individual data on nOPV2 status in the electronic data registry called Aplikasi Sehat IndonesiaKu (ASIK), to prepare OBRA documents, and to complete the nOPV2 vaccine management report at all levels, namely PHO, DHO and Puskesmas.
Situation Update

- A seven-year-old male child from Mane village, Mane sub-district, Pidie district, Aceh province developed AFP with the onset of paralysis on 9 October 2022. The child did not have any travel history and had never received a polio vaccine, either the inactivated polio vaccine (IPV) or the oral polio vaccine (OPV). Laboratory confirmation of VDPV2 was received on 12 November 2022. Genetic sequencing results showed VDPV2 with 25 nucleotide changes. Whole genome sequencing is pending. Quantitative immunoglobulin test shows that the child is immunocompetent. In Mane, Pidie district, Aceh, 32 stool samples from healthy children in the surrounding area who are not contacts of the case were collected and tested for poliovirus. 4 stool specimens tested positive for VDPV2 with 25-26 nucleotide changes in the viral protein 1 (VP1) region.

- The second case was reported in North Aceh district. A three-year-old male child from Teupin Gadjah village, Tanah Jambo Aye Sub-district, Aceh province developed AFP with the onset of paralysis on 3 January 2023. The child did not have any travel history and had never received a polio vaccine (IPV or OPV) through the routine immunization program but received the nOPV2 vaccine on 13 December 2022. Laboratory confirmation was received on 26 January 2023. Genetic sequencing results showed VDPV2 with 27 nucleotide changes. Whole genome sequencing is pending. A quantitative immunoglobulin test is also pending.

- The third case was reported in the Bireuen district. A four-year-old boy from Meunasah Keutapang village, Jeunieb sub-district, Aceh province developed AFP with the onset of paralysis on 13 January 2023. The child did not have any travel history and had never received any polio vaccine (IPV or OPV) from the routine immunization program. The child received the nOPV2 vaccine on 6 December 2022 during the first campaign round. Laboratory confirmation was received on 7 February 2023. Genetic sequencing results showed cVDPV2 with 34 nucleotide changes. Whole genome sequencing is pending. A quantitative immunoglobulin test is also pending.

- The fourth case was reported in Purwakarta district. A four-year-old girl from Tegal datar village, Maniis Subdistrict, West Java province developed AFP with the onset of paralysis on 16 February 2023. The child did not have any travel history and had never received any polio vaccine (IPV or OPV) from the routine immunization program. Genetic sequencing results showed cVDPV2 with 30 and 31 nucleotide changes. Following the identification of the latest case in West Java, a field investigation was carried out. The investigation involved collecting and analyzing 30 stool samples from healthy children in the surrounding area who were not contacts of the case, and seven children are polio positive.

- Based on the examination conducted by the United States Centres for Disease Control (CDC) headquarters, MoH reported that the VDPV2 identified from the Pidie district is not genetically linked to any previously sequenced VDPV2 and will be identified as INO-ACE-1. The positive results from the healthy children were examined as well and genetically linked with INO-ACE-1. Therefore, the PV2 virus was classified as cVDPV2.
Outbreak response

Coordination and planning

North Sumatra
On 20 June, WHO dan UNICEF supported the MoH and PHO of North Sumatra with the organization of a coordination meeting for the OBRA preparation with PHO and 33 DHOs. The meeting was attended by various key personnel, including the head of the Centers for Disease Control and Prevention (CDC), the head of the surveillance unit, environmental health officers, pharmacy officers, and health promotion officers. UNICEF assisted the PHO and DHOs in the preparation of documents, specifically related to the management of nOPV2 vaccines and social mobilization.

Riau
On 19 June, PHO Riau and DHO Pekanbaru along with WHO conducted a routine immunization review meeting attended by 61 participants from the head and immunization coordinators of Puskesmas and hospital staff. DHO Pekanbaru evaluated the routine immunization coverage on manual and electronic data using ASIK, including OPV and IPV, and PHO Riau presented an introduction of IPV2 which was rolled out nationwide on 21 June 2023. WHO delivered job aids for participants showing the immunization programme according to guidelines, including catch-up immunization.

Surveillance

North Sumatra
Environmental surveillance (ES) is conducted regularly in North Sumatra as an integral part of polio eradication efforts. A well-performing ES site is indicated by enterovirus findings in at least 50% of all tests. Cemara Wastewater Management Installation (IPAL), situated in Medan City, is the assigned ES site for the province. In 2023, four ES samples were collected monthly since January, all of which resulted in positive findings of enterovirus. Furthermore, the last three ES specimens between February and April resulted in positive nOPV2. This is expected as supplementary immunization activities (SIAs) in response to the polio outbreak in Aceh were delivered between 13 February and 14 April 2023.

Riau
On 22 June, MoH and PHO Riau conducted a vaccine-preventable disease (VPD) surveillance desk review meeting. A total of 36 participants consisting of the surveillance team and hospital representatives from all 12 districts.

Figure 2. AFP case classification in West Java (above) and in Aceh (below) period week 1 2022 to week 24 2023 as of 30 June 2023
participated. PHO Riau evaluated the surveillance performance, including acute flaccid paralysis (AFP) and measles surveillance, and evaluated EWARS performance, while MoH presented the topic of VPD and specimen packaging. WHO contributed to the discussion and provided technical information on updated guidelines i.e., hospital record review, the requirement for a surveillance team at the hospital, AFP specimen collection management, determination of AFP cases, collaboration with other departments in the Puskesmas such as nutrition & health promotion to increase VPD case finding, and VPD form filling. The same activity was conducted by DHO Pekanbaru on 21 June, attended by 40 surveillance and laboratory officers from all Puskesmas.

West Sumatra

On 15 June, WHO assisted DHO Solok Selatan to conduct a VPD surveillance training for surveillance officers from eight Puskesmas. Solok Selatan District is one of the silent districts which has not reported any AFP cases for two years. The participants discussed how to improve AFP surveillance performance. WHO explained the strategies for improving community-based and hospital-based surveillance in detecting AFP cases.

In 2022, the non-polio AFP (NP-AFP) rate in Aceh was 5.77 per 100 000 population under 15 years of age with specimen adequacy of 55%. As of 30 June 2023, Aceh reported 68 AFP cases from 21 districts with an annualized NP-AFP rate of 7.42 per 100 000 population under 15 years of age and specimen adequacy of 70%, even though there are two silent districts in Aceh, namely Aceh Singkil and Bener Meriah. The NP-AFP rate in West Java was 2.62 per 100 000 population under 15 years of age and the specimen adequacy was 78.9% in 2022 with one silent district (Kota Cimahi). In 2023, West Java reported 332 AFP cases in 27 districts, with an annualized NP-AFP rate of 3.88 per 100 000 population under 15 years and specimen adequacy of 80.3%.

1 A ‘silent’ district is a district, area, or other administrative entity that has not reported a single AFP case for a period ranging from 6 to 12 months or longer.
Immunization response
North Sumatra
On 23 June, WHO supported the PHO of North Sumatra and DHO of Kota Binjai in conducting a rapid convenience assessment (RCA) of the second round of SIA for polio in Puskesmas Tanah Tinggi. The team visited two villages, Tanah Tinggi and Timbang Langkat, and conducted house-to-house visits, covering a total of 40 households. The results indicated that the team identified 55 targeted children, with 94.5% of them having received the first dose and 83.6% having received the second dose of nOPV2. As part of the action points, Puskesmas Tanah Tinggi recorded the children who still needed the second dose of nOPV2.
All SIA implementation has been completed in all provinces. As of 23 June, 12 416 088 doses of nOPV2 have been administered during the polio SIA in Aceh, North Sumatra, and West Java. In Aceh, 1 180 322 out of 1 217 939 (96.9%) children received the nOPV2 vaccine in the first round and 1 153 310 (94.7%) in the second round, respectively. In North Sumatra, 1 294 171 children out of 1 346 655 (96.1%) received nOPV2 in the first round and 1 276 852 (94.8%) in the second round, respectively. In West Java, 3 834 634 out of 3 984 797 (96.2%) children received nOPV2 in the first round and 3 676 799 (92.3%) in the second round, respectively.

Logistics

On 27 June 2023, UNICEF and UNDP supported PHO and DHOs in North Sumatera to conduct a desk review on vaccines and logistics following the completion of the second round of Polio Outbreak Response. During the meeting, all DHOs were requested to compile data on the coverage, allocated vaccines, used vials, unused vials, and remaining vials. UNICEF also reminded PHO and DHOs to complete and upload all documents required for OBRA activity in July.

On 21–22 June, as part of the vaccine management training series for Puskesmas staff, UNICEF Field Office Aceh continues supporting the training. The training was attended by immunization managers, cold chain managers, and pharmacy staff from all Puskesmas in Banda Aceh and Meulaboh. Facilitators for this training came from UNICEF, PHO, and DHOs. The activities are part of UNICEF’s support in strengthening the capacity of health workers in Puskesmas level in vaccine management.
On 17 and 18 June, PHO West Java conducted an evaluation meeting on the polio outbreak response in Kota Bandung. During the evaluation meeting, UNICEF re-emphasized the importance of having an accounting system and documentation on nOPV2 vaccine management.

Surge Support

MoH
- MoH continues to monitor and evaluate the implementation of the polio outbreak response in Aceh and West Java. The expansion of the response is implemented to close-by provinces of North Sumatra, Riau, and West Sumatra.
- MoH is regularly providing feedback on polio vaccination and surveillance updates.

WHO
WHO deployed national staff in Aceh, North Sumatra, West Java, West Sumatra, and Riau provinces and international staff in Aceh and West Java to intensify support for the polio outbreak response. Their support focuses on technical assistance related to vaccine mobilization, assessment, advocacy, surveillance, data quality monitoring, laboratory testing and specimen shipment, and capacity building of health workers.

UNICEF
UNICEF provides technical assistance with a primary focus on immunization, advocacy, communication for development, and vaccine management in Aceh, West Java, and North Sumatra. This support is provided by both national staff and field staff.

ROTARY
Rotary's support includes active participation in Polio SIA campaigns through social mobilization efforts, such as distributing banners, balloons, and T-shirts, conducting community visits, and providing transportation and hospitality for children with cVDPV2.
**Key Issues**

- Vaccine management: It is essential to improve and streamline vaccine reporting and ensure proper handling of opened nOPV2 vials. Any remaining vials to be either discarded locally or transferred to a higher-level facility, following the nOPV2 management guidelines.
- In preparation for the implementation of OBRA, it is expected that the response to the KLB (Outbreak) has been executed in accordance with the Standard Operating Procedures (SOP) and MoH can prove responses. The identification of polio cases in three provinces and the result of IR coverage should serve as a reminder for all provinces to enhance their efforts in encouraging individuals to actively seek and report AFP cases, with a focus on priority sites.

**Next Steps**

- The OBRA assessment from 10-20 July at the national level, as well as in Aceh, North Sumatera, and West Java Provinces. The OBRA team comprises international independent experts from Global Polio Eradication Initiative (GPEI) partners.
- MoH, PHO, and DHO are finalizing required data/documents, to complete and upload documents, preparing the assessment process, and appointing the team that will be involved in the interviews. MoH and PHO encouraged silent districts to report AFP cases and reach the NP-AFP rate. Those districts do more Hospital-based surveillance and community-based surveillance. They also monitor the Early Warning Alert Response System (EWARS) and hospital manual reports regularly.
- As the required coverage of the polio crash programme has not been reached, West Sumatera and Riau are improving IPV and bOPV coverage with catch-up immunization campaigns to be integrated into routine immunization services.
- The Puskesmas conducts sixty-day follow-ups for cases with inadequate specimens, and a team of polio experts classifies the cases that have not been classified.
- After OBRA assessment is done at National, Province, District, Puskesmas, Hospital, and Community level, the result and next recommendations would be delivered to them.

**Relevant Links**

- [http://polioeradication.org/](http://polioeradication.org/)
- [https://www.who.int/indonesia/emergencies/polio-outbreak](https://www.who.int/indonesia/emergencies/polio-outbreak)

For more information, please contact:

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