Circulating Vaccine-Derived Poliovirus Type 2 Outbreak in Indonesia

Situation Report No 11 – 23 May 2023

Outbreak response:
- Coordination and planning
- Surveillance
- Immunization response
- Advocacy, social behaviour 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
- The second round of supplementary immunization activities (SIA) for type 2 novel oral polio vaccine (nOPV2) commenced in North Sumatera and West Java provinces on 15 May 2023.
- The provincial health office (PHO) Aceh conducted vaccine management training for 44 participants from district health offices (DHOs) in 23 districts. The participants included professionals from the immunization and pharmacy units.
- The Ministry of Health (MoH), in collaboration with PHO Aceh, WHO, and UNICEF, conducted an evaluation of the polio SIA in Aceh. DHOs with the highest and lowest coverage of the polio SIA presented their lessons learned while participants also discussed the preparation for the Outbreak Response Assessment (OBRA) and strategies to enhance routine immunization.
- GPEI has planned the first OBRA in Indonesia from 10th to 20th July 2023. The purpose is to assess whether vaccination and surveillance response is robust enough to detect and stop poliovirus transmission, and what is required to address gaps.
- MoH, in collaboration with PHOs, DHOs, the Adverse Events Following Immunization (AEFI) committee, professional organizations, and partners, conducted an evaluation of the polio crash programme in West Sumatera and Riau provinces. PHOs each presented the barriers, enablers, and best practices while WHO provided a risk analysis as both provinces fell short of the 95% coverage target. Riau and West Sumatera committed to addressing the immunization gap by strengthening routine immunization and improving vaccine-preventable disease (VPD) surveillance.
- MoH conducted a refresher course with DHOs of silent districts in West Java to improve the performance of acute flaccid paralysis (AFP) surveillance.
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 programme 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 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 programme. 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 programme. 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, 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 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

On 8 May, WHO held a coordination meeting with partners such as UNICEF, the United States Agency for International Development (USAID), CDC and Rotary International to discuss the current situation, challenges, and support for the outbreak response in Aceh, North Sumatera, and West Java as well as the OBRA preparation.

Aceh

From 11-12 May, MoH in collaboration with PHO, DHOs, and partners conducted a polio outbreak response evaluation meeting in Banda Aceh City, Aceh province. This evaluation meeting brought together over 130 participants from 23 DHOs in Aceh and partner organizations. During the meeting, the MoH acknowledged the achievements of 20 DHOs that had achieved a commendable coverage rate of 90% in both round one and round two of the response efforts. To acknowledge their dedication, the MoH presented rewards to these DHOs.

West Java

- On 13 May, evaluation meeting was conducted in Purwakarta. Some caregivers expressed reluctance to vaccinate their children with nOPV2, it caused that they believed a full dose of bOPV and IPV would be sufficient to protect against the polio virus and side effects.

North Sumatra

- On 12 May, PHO North Sumatra in collaboration with WHO and UNICEF organized a coordination meeting to monitor the preparation for the second round of the polio SIA. The meeting focused on refreshing microplanning, recording and reporting procedures, vaccine management, and technical implementation. During the meeting, WHO provided materials on effective strategies to reach the targeted children for the polio SIA. More than 200 health
workers from Puskesmas in 33 districts participated virtually. On the same day, Simalungun DHO conducted a coordination meeting with Puskesmas regarding the preparation for the second round of the polio SIA. All 46 heads of Puskesmas in the district committed to achieving high coverage within one week of implementation. As of 22 May, the Simalungun district had successfully achieved 94% coverage for the polio SIA during the second round.

Figure 4. Coordination meeting on polio SIA in North Sumatra province

- On 17 May, WHO and UNDP supported PHO North Sumatera to conduct a coordination meeting on the surveillance and immunization programme in North Sumatra. The meeting was attended by key personnel, including the head of CDC PHO, the head of Surveillance and Immunization, and surveillance and immunization officers from the PHO of North Sumatra. Participants provided updates on the coverage of the polio SIA, silent districts for AFP surveillance, and routine immunization.

Surveillance

**West Java**

- On 17 May, PHO West Java conducted a coordination meeting on VPD outbreaks for all 27 districts. During the meeting, WHO reminded participants to strengthen AFP surveillance specifically in the context of the outbreak. Emphasis was placed on both active and passive surveillance in all priority district hospitals.

- On 23 May, WHO assisted MOH and PHO West Java to conduct and facilitate an AFP surveillance refresher session for silent districts namely Sukabumi, Bandung district, Garut, Ciamis, Depok City, Banjar City, and Pangandaran. The meeting, which had over 90 participants from district health offices (DHOs), surveillance officers from Puskesmas, and hospitals, took place virtually. During the meeting, the current situation of AFP surveillance was discussed, along with strategies to enhance AFP case finding, and improve reporting and recording practices. The follow-up actions identified were for DHOs to achieve a non-polio AFP (NP-AFP) rate of three cases per 100,000 people under 15 years old. This includes conducting hospital record reviews (HRR) and implementing active surveillance in priority hospitals. The PHO will assist DHOs in determining which hospitals should be visited weekly or biweekly, while Puskesmas would undertake community-based surveillance within their designated areas of operation. Progress will be closely monitored through biweekly desk reviews conducted by MoH and PHO West Java.

**North Sumatra**

On 5-19 May, PHO North Sumatera conducted several activities to strengthen AFP surveillance in Humbang Hasundutan, Tapanuli Utara, Binjai, Dairi and Toba districts. The team conducted VPD surveillance socialization meetings and provided on the job training related to HRR in all target districts. Head of CDC PHO North Sumatera secured an audience with the district government of Tapanuli Utara to ensure commitment for improving AFP surveillance performance.
Figure 5. Strengthening of VPD surveillance in 5 selected districts. Credit: PHO North Sumatera

Riau

On 17 May, DHO Indragiri Hilir in collaboration with WHO conducted a HRR at Hospital Puri Husada Tembilahan. Due to the absence of a surveillance team at the hospital, the hospital management team was the main focal point. During the meeting, the hospital management team expressed their commitment to establish a surveillance team, understanding its crucial role. The HRR process involved reviewing both electronic and manual data since the recent case list had not yet been recapitulated in the computer system. The HRR revealed a total of 17 cases of AFP.

Figure 6. HRR in Hospital Puri Husada Tembilahan, Indragiri Hilir, Riau Province. Credit: DHO Indragiri Hilir

West Sumatera

- On 5 May, WHO assisted MoH and PHO in facilitating a surveillance refreshment meeting for surveillance officers from silent districts. The meeting focused on discussing strategies to identify cases through community-based surveillance and hospital-based surveillance, as well as addressing the current situation of AFP surveillance, recording, and reporting. As a follow-up action from the meeting, the DHOs committed to strengthening AFP surveillance by implementing both community-based and hospital-based surveillance. Each health facility was tasked with reporting at least one AFP case. Additionally, MoH planned to organize fortnightly desk review meetings with the silent districts in West Sumatera Province to monitor progress and provide support. Continuing the efforts from the AFP surveillance refreshment meeting, the DHOs of Bukittinggi and Pariaman conducted HRRs at Dr. Sadikin Hospital and Dr. Achmad Mochtar Hospital, respectively. During the HRR, several AFP suspect cases were identified, and the DHOs took necessary follow-up actions.
On 5 May, DHO Padang Pariaman with support from WHO conducted a follow up visit to a positive vaccine related poliovirus (VPV) case in Sub District of Limau Purut, Padang Pariaman district. During the visit, the surveillance officer and doctor conducted interviews, observations and filled in the necessary forms, including the KU-60 and medic resume forms. According to the examination results, no paralysis was observed in the case. Currently the patient routinely attends physiotherapy session at the local hospital, as advised by the doctor. The visit also involved discussions on strategies for identifying AFP cases and strengthening collaboration with health facilities in AFP surveillance.

On 17 May 2023, DHO Dharmasraya organized a VPD surveillance training for all 14 surveillance officers from the Puskesmas. The training covered various topics, including policies related to VPD surveillance, the implementation of surveillance for diphtheria, measles-rubella, pertussis, and AFP, recording and reporting practices, and response measures for VPD outbreaks. Towards the end of the meeting, all surveillance officers expressed their commitment to achieving the performance indicator targets in surveillance. The DHO also pledged to closely monitor the surveillance performance in the Dharmasraya district.

In 2022, the NP-AFP rate in Aceh was 5.7 per 100,000 population under 15 years of age with specimen adequacy of 55%. As of 19 May 2023, Aceh reported 57 AFP cases from 19 districts with NP-AFP rate of 5.1 per 100,000 population.
under 15 years of age and specimen adequacy of 71.9%, even though there are four silent districts in Aceh namely Simeulue, Aceh Singkil, Aceh Jaya, and Bener Meriah. The NP-AFP rate in West Java was 2.37 per 100 000 population under 15 years of age and the specimen adequacy was 78.2% in 2022 with one silent district namely Kota Cimahi. In 2023, West Java reported 166 AFP cases in 25 districts, with an annualized NP-AFP rate of 1.99 per 100 000 population under 15 years and a specimen adequacy of 78.2%.

Immunization response

Aceh

- On 9-10 May, PHO Aceh, WHO and UNICEF organized a microplanning workshop for routine immunization in Aceh Besar. A total of 56 health workers from 28 Puskesmas participated in the workshop. Similarly, the same activity was conducted in Sabang district on 19-20 May, with the participation of 13 health workers from various Puskesmas. During these workshops, PHO Aceh provided training to the Puskesmas staff on developing effective microplanning strategies. The participants were guided on how to identify priority villages and establish agendas for routine immunization. The aim of these workshops was to enhance the capacity of health workers in planning and implementing successful routine immunization programs.
North Sumatra

- On 15 May, PHO North Sumatera in collaboration with WHO and DHO Medan organized the kick-off event for the second round of the polio SIA. The event was coordinated by Puskesmas Sentosa Baru and was attended by key stakeholders, including the head of the PHO, the head of CDC PHO, the head of surveillance and immunization of PHO North Sumatera, the head of the Medan Perjuangan subdistrict and the head of Puskesmas Sentosa Baru.

West Java

- On 9 – 10 May, MOH, and WHO conducted a Rapid Convenienced Assessment (RCA) in Bandung and Cimahi cities, districts with low performance in the polio SIA. These districts have a population characterized by high mobility, slum areas, and a significant number of people residing in densely populated areas. The RCA activities were carried out in conjunction with sweeping activities.
- On 18 May, DHO in collaboration with WHO conducted supportive supervision at Prestige Private Hospital for sweeping activities as part of the polio SIA in Bandung City. The information about the SIA was disseminated through social media and regular patient networks. Additionally, information, education, and communication (IEC) materials for polio and the SIA activity were distributed.

- As of 22 May, 10 338 370 doses of nOPV2 have been administered during the polio SIA in Aceh, North Sumatra, and West Java. In Aceh, 1 179 441 out of 1 217 939 (96.8%) children received the nOPV2 vaccine in the first round and 1 153 413 (94.7%) in the second round, respectively. In North Sumatra, 1 286 929 (95.6%) children out of 1 346 655 received nOPV2 in the first round and 1 103 356 (81.9%) in the second round, respectively. In West Java, 3 764 062 (94.5%) out of 3 984 797 children received nOPV2 in the first round and 1 851 169 (46.5%) in the second round, respectively.

**Logistics**

- On 3-5 May, PHO Aceh with support from UNICEF organized a vaccine management training programme for the DHOs from all 23 districts in Aceh. A total of 44 participants, including staff from immunization and pharmacy units, attended the training in Banda Aceh. The training focused on various aspects of vaccine management, including storage, temperature control, cold chain management, and waste management.

- On 11 May, PHO North Sumatera received a shipment of 1 399 000 dosages of the nOPV2 vaccine for the second round of polio SIA. The vaccines have been successfully distributed to all 33 districts in the province.

- On 12 May, PHO West Java received a delivery of 4 982 500 dosages of nOPV2 vaccine for the second round of polio SIA. The vaccines have been effectively distributed to all 27 districts in the province.
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 support with social mobilization (banner, balloon, T-shirt) during Polio SIA launching in Pidie district and Banda Aceh city, Aceh province as well as in Purwakarta district, West Java province.
- Rotary joins health workers and communities in conducting visits to Posyandu and door-to-door visits over several days. Also, distribute T-shirts and provide children with small gifts such as balloons and plastic balls.
- Rotary supports the first and the four children with cVDPV2 for transportation from their house to the hospital for further examination and hospitality.
- The first child with cVDPV2, in Pidie district, Aceh province was gifted a bicycle to encourage physical exercise.

Key Issues
- UNICEF is conducting EVM assessment in some Districts in Provinces
- Hospital-Based Surveillance is conducted in Silent Districts.

Next Steps
- The OBRA will be conducted on 10-20 July 2023 in Aceh, North Sumatera, and West Java provinces. The OBRA team consists of international independent experts from GPEI partners.
• MoH encourages North Sumatera and West Java to reach the target of nOPV2 in the second round of SIA by implementing more immunization sessions in some services area, SIA promotion, and collaborating with many stakeholders to reach population in elite area.

• Silent districts in Aceh, North Sumatera, West Java, West Sumatera, and Riau are encouraged to report AFP cases and reach the NP-AFP rate by PHO and MoH. Silent District does more Hospital Based surveillance and Community-based surveillance.

• Regarding the coverage of the crash program is not reached, West Sumatera and Riau will reach the children with uncompleted Polio immunization status by implementing catch up.

Relevant Links

• http://polioeradication.org/
• https://www.who.int/indonesia/emergencies/polio-outbreak

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