Circulating Vaccine-Derived Poliovirus Type 2 Outbreak in Indonesia
Situation Report No 8 – 15 March 2023

Outbreak response:

- Coordination and planning
- Surveillance
- Immunization response
- Advocacy, social behaviour change, and risk communication

Summary
Outbreak confirmation:
- Total number of cVDPV2 virus cases: 8 (4 AFP case and 4 healthy children)
- 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: Manis 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

- Four confirmed vaccine-derived poliovirus type 2 (VDPV2) cases have been reported, one each in Pidie, North Aceh and Bireun districts in Aceh Province and one in Purwakarta district, West Java province.
- The fourth case from Purwakarta district is a four-year-old girl from Tegaldatar village, Manis Subdistrict, West Java province. She developed acute flaccid paralysis (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. Genetic sequencing results showed cVDPV2 with 30 and 31 nucleotide changes. Whole genome sequencing and a quantitative immunoglobulin test is pending.
- Circulation of VDPV2 (cVDPV2) was confirmed through four positive stool specimens collected from healthy children, living in the same village but not in close contact with the first case. The outbreak was confirmed on 25 November 2022. Investigation showed that the virus identified in Pidie District is not genetically linked with any previous cVDPV2. The second and third case have a genetic link to the first case.
- On 6 March 2023, West Sumatra and Riau launched a crash programme by administering an additional dose of bivalent oral polio vaccine (bOPV) and IPV. Prior to the launch, multisectoral coordination was conducted to engage various media channels in promoting this campaign, mobilize the target population, provide additional post-immunization services, and monitor implementation.
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 (IPV or 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. Whole genome sequencing is pending. A quantitative immunoglobulin test is also pending. Following the identification of the latest case in West Java, a field investigation was carried out. The investigation involved collecting and analysing 30 stool samples from healthy children in the surrounding area who were not contacts of the case. The samples were tested for poliovirus. The laboratory results are still pending.

Based on the examination conducted by the United States Centres for Disease Control (CDC) headquarters, the Ministry of Health (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

Aceh
- On 27 February, WHO and UNICEF assisted the district health office (DHO) Banda Aceh in a meeting with the principals of pre-schools (PAUD) in Banda Aceh. Many schools have not reached the vaccination target. Some of the obstacles faced were not getting permission from parents related to deworming medicines. On 28 February, UNICEF and WHO joined a coordination meeting with the Assistants of the Mayor of Banda Aceh, DHO Banda Aceh, the head of sub-districts, and Puskesmas representatives. During the meeting, participants discussed challenges and explored solutions to improve the coverage rate and ensure uniformity in the implementation of the immunization programme. After the meeting, house-to-house and schools visits were conducted (sweeping sessions) which led to an increase in the number of vaccinated children aged 0-59 months; the total coverage in Banda Aceh increased from 44.9% on 27 February to 58.7% as of 12 March.

North Sumatra
- On 25 February, PHO North Sumatera, WHO, DHO Deli Serdang, and Puskesmas Kenangan held a coordination meeting to discuss the ongoing polio supplementary immunization activity (SIA). During the meeting, local government representatives and cadres expressed their support and commitment to assist health workers in conducting sweeping sessions to increase vaccination coverage.

West Sumatra
- On 2 March, WHO participated in a multisectoral coordination meeting regarding the crash immunization programme in Agam district. Attendees included the Regent, the head of DHO, the head of the women’s organization (TP-PKK), the police department, military officers, the head of the education office, the head of the community empowerment office, the director of hospitals, the head of the local Indonesian Ulema Council (MUI) chapter, all sub-district leaders, and chairs of health professional organizations (doctors, midwives, and nurse).
- On 1 March, WHO joined a coordination meeting with the director of medical service, M. Djamil provincial referral hospital, Padang city in preparation of a crash immunization programme for polio. As part of this programme, the hospital has agreed to provide post-immunization support by administering additional dose of bOPV and IPV to all target children and management will actively encourage all staff to vaccinate their children against polio during this campaign. PHO, DHO, and WHO will work closely to improve community access to immunization during the crash campaign but also in the long term through routine immunization programmes.
- On 27 February, WHO assisted DHO South Solok to conduct a cross-programme coordination meeting attended by the head of DHO, the health promotion officer, the immunization and surveillance officer, the family health and nutrition officer, and all (eight) immunization programme officers of the Puskesmas. One of the decisions taken was to promote the crash polio programme massively to the community through online and offline media. On the same date, WHO also participated in a multisectoral coordination meeting in Pasaman district. This meeting was attended by the regent, the head of DHO, the head of the women’s organization (TP-PKK), the police department, the military office, the head of an education office, the head of the community empowerment office, the director of hospitals, the head of MUI, all sub-district leaders and chairs of health professional organizations (doctor, midwife, nurse).
- On 27 February, WHO joined the coordination meeting on the crash programme with the Mayor of Pekanbaru and the cross-sectoral in Forkopimda (leaders coordination forum at the district level). The secretary of Pekanbaru suggested that sub-district leaders (Camat) work together with Puskesmas-related strategies. Puskesmas then shared the immunization schedule with the sub-district office for them to monitor implementation.
Riau

- On 3 March, WHO assisted DHO Pekanbaru to conduct a virtual coordination meeting and capacity building with health professional associations (doctors, paediatricians, midwives, epidemiologists, and nurses) and the local AEFI committee. WHO presented material on strengthening health workers capacity on multiple injections, the safety aspects of the polio vaccine, and strategies in reaching coverage. Each health professional association supports the crash programme by deploying vaccinators, providing and disseminating (information, education and communication) IEC material through their official social media, assisting in reporting and recording (manual and electronic), and socialize communities in particular areas.

- On 3 March, WHO joined a cross-programme coordination meeting to discuss the preparedness of the crash programme held by PHO Riau. The action plan focused on engaging stakeholders for mobilization of the target population, raising awareness in communities through massive information sharing on various media platforms, monitoring and daily coverage reporting.
Surveillance

- On 7-10 March, MoH and WHO conducted a workshop on AFP surveillance strengthening in North Sumatra, attended by more than 130 participants from PHO, 33 DHO, and 33 hospitals. WHO explained how to strengthen VPD surveillance. One main follow-up action was to establish a hospital surveillance team to improve case finding.
- On 27 February, surveillance officers, the head of CDC PHO North Sumatera, and WHO held a coordination meeting to discuss the strategy to enhance AFP surveillance performance and to identify the silent districts’ challenges. The conclusion was to strengthen the commitment of high-level policy makers 33 DHOs in North Sumatera. The following day, a virtual meeting was conducted as refreshment training on AFP and other VPD surveillance, strengthening the commitment and socialization to increase the NP AFP rate target >3/100.00. More than 140 surveillance officers from 33 districts attended.

![Figure 5. AFP surveillance workshop in North Sumatra](Credit: WHO/Ni’mah Hanifah)

- As of 15 March, the non-polio AFP (NPAFP) rate was 4.9 per 100 000 population under 15 years of age. The specimen adequacy rate was 56.3% in 2022. There are four silent districts\(^1\) in Aceh, namely Kota Lhoksumawe, Gayo Lues, Aceh Tenggara, and Kota Subulussalam. In 2023, 28 AFP cases have been reported from 14 districts in Aceh, the annualized NPAFP rate is 4.6 per 100 000 population under 15 years with 82.1% specimen adequacy.

![Figure 6. NPAFP rate and specimen adequacy in Aceh province](Credit: WHO/Ni’mah Hanifah)

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\(^1\) 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

- The second round of polio SIA in Aceh province was conducted in two phases based on the polio SIA coverage in the first round as of 2 January:
  a) Phase 1 (starting 30 January 2023): 13 districts (with coverage ≥90%).
  b) Phase 2 (starting 13 February 2023): 10 districts (with coverage <90%).

- The outbreak response was extended to the close-by provinces of North Sumatra, Riau, and West Sumatra:
  a) North Sumatra (starting 13 February 2023): polio SIA for all children under 5 years old using nOPV2.
  b) West Sumatra and Riau (starting 6 March 2023): with a special emphasis on strengthening routine immunization with the administration of additional doses of IPV for children aged 4 to under 5 years and bOPV for children under 5 years.

- On 6 March 2023, West Sumatra and Riau provinces launched the crash programme for polio by administering an additional dose of bOPV and IPV. Pekanbaru conducted a launch event, attended by the Head of PHO Riau, the Woman Organization (TP-PKK), the Military, the Police, the leader of the Indonesian Doctor Association, the Pediatrician association, and WHO. PHO Riau and some DHOs launched an integrated health programme including programs such as stunting prevention. Meanwhile, in West Sumatra, the Governor, the head of PHO, the Women Organization (TP PKK), the Policy Department, the Military Office, the Head of the Regional Representative of Pariaman, all the sub-districts leader, and WHO attended the programme launch.

- On 3 March, WHO and IOM assisted Puskesmas PB Selayang II, Medan city, North Sumatra province to conduct sweeping of polio SIA. A total of 60 refugee children and 5 children in orphanages received nOPV2.

- On 2 March, WHO assisted Puskesmas Rantang Medan conducted sweeping of polio SIA. The heads of villages and the local government was active to mobilize the community.

- On 1 March, MoH, WHO, and PHO North Sumatra conducted rapid convenience assessments (RCA) in Hutagodang and Sampean villages in the area of Hutagodang Puskesmas, Labuhanbatu Selatan district. Most caregivers had been informed about polio SIA by health workers (midwives).

- On 24 February and 8 March, UNICEF assisted DHO Banda Aceh to conduct house-to-house and school visits to seek unvaccinated children. On 9 March, this activity was conducted in the Aceh Besar district.
On 23 February, PHO Aceh, DHO Aceh Utara and Puskesmas Meurah Mulia, WHO and UNICEF conducted RCAs in Pulo Kitou village. The following day, PHO Aceh, DHO Bireun and Puskesmas Peudada, WHO and UNICEF carried out RCAs in Meunasah Pulo village. On 2 March, PHO Aceh conducted a virtual RCA training for all (23) DHOs that aim to validate their reporting coverage of polio SIA. PHO Aceh requested all districts to perform RCAs in two Puskesmas in each district before 17 March 2023.

Figure 9. Monitoring and evaluation meeting of the first round polio SIA in North Sumatra. Credit: PHO

Figure 10. RCA on polio SIA in Bireun district (left) and North Aceh (middle) and RCA training was led by head of disease prevention and control unit (P2P) of PHO Aceh (right). Credit: DHO (left) and PHO (right).

During the crash programme in West Sumatera and Riau, it was observed that parents were less willing to have their children receive a polio injection compared to the oral polio vaccine. The hesitancy towards the injection primarily stemmed from concerns over potential adverse effects following immunization (AEFI). Consequently, the coverage rate for polio injection in West Sumatra and Riau was lower than that of the oral polio vaccine. During the programme’s implementation, parents frequently raised questions about the difference between the two types of polio vaccine and whether their children needed additional doses of polio vaccine after completing the routine immunization schedule.

Figure 11. Immunization for children in a daycare in Banda Aceh and in schools in Aceh Besar district, supported by UNICEF and the Head of Religious Affair office Aceh Besar. Credit: UNICEF/Dita Ramadonna
- Daily coverage monitoring and feedback is provided to local government, PHO, DHO, stakeholders, and implementers.
- As of 14 March, 3,507,255 doses of nOPV2 had been administered during the polio SIA in Aceh and North Sumatra; in Aceh, 1,153,406 out of 1,217,939 (94.7%) children received the nOPV2 vaccine in the first round and 1,161,710 (95.4%) in the second round, respectively. In North Sumatra, 1,192,139 (88.5%) children out of 1,346,655 received nOPV2 in the first round.

- As of 14 March, 559,244 (48.5%) out of 1,152,310 children aged 0-59 months received bOPV and 472,449 (41.0%) out of 1,090,128 children aged 4-59 months received IPV in both provinces namely West Sumatra and Riau. In West Sumatra, 282,690 (55.2%) out of 512,309 children aged 0-59 months received bOPV and 226,965 (46.8%) out of 484,793 children aged 4-59 months received IPV. Meanwhile, in Riau, 276,554 (43.2%) out of 640,002 children aged 0-59 months received bOPV and 245,484 (40.6%) out of 605,335 children aged 4-59 months received IPV.

![Figure 12. Polio SIA coverage in Aceh province (left) and North Sumatra (right)](image)

![Figure 13. Polio SIA (crash program) in Riau (left) and West Sumatra (right)](image)
Advocacy, social behaviour changes, and risk communication

Advocacy

- On 24 February, WHO attended an audience meeting with the assistant of the Padang city mayor on development and economic affairs where participants discussed government support to achieve set targets for containing polio transmission. In this meeting, it was agreed that the Government of Padang City will provide support to the immunization programme and the ongoing crash programme polio campaign by encouraging involvement from related cross-sectors.

Social and Behaviour Change (SBC)

- UNICEF supported PHO Riau in a meeting with the District People’s Representative Council (DPRD) for a discussion on health and the crash programme polio. UNICEF also participated in a press conference with the media regarding the AEFI case in Kota Pekanbaru.

Risk Communication

- UNICEF supported advocacy and socialization meetings for crash programme polio in West Sumatera (20 – 22 February 2023) and in Riau (27 February – 1 March 2023) where UNICEF presented the communication strategy/approach to reduce vaccine hesitancy.
- Following these advocacy and socialization meetings, UNICEF also supported orientation training for DHOs and health workers in Puskesmas for both provinces where UNICEF presented the communication strategy/approach to reduce vaccine hesitancy.
- UNICEF supported MoH and collaborated with WHO on the development of IEC materials (poster and leaflet) for the crash programme polio in West Sumatera and Riau.
- UNICEF supported an interim evaluation in two districts with the lowest coverage and a high number of unvaccinated children (Aceh Besar on 8 March and Banda Aceh on 28 February). This involved cross-sectoral
collaboration with the education office, religious affairs ministry, and head of sub-district. This evaluation has significantly improved coverage in Banda Aceh from 86% to 93% within one week. However, only marginal progress was observed in Aceh Besar.

- During the polio SIA in Aceh, the head of the subdistrict supported this activity by disseminating information and coordinating the head of villages, TP-PKK, and village midwives to identify unimmunized children as well as attending immunization sessions. Daily feedback and cross-sectoral coordination at the district level was conducted through WhatsApp groups.

Logistics

- bOPV and IPV vaccines for crash programme polio in West Sumatera and Riau had arrived in the provinces and were directly distributed to districts and Puskesmas prior to the commencement of the programme.
- UNICEF provided technical support on vaccine management in Puskesmas during the crash programme polio in West Sumatera and Riau, particularly during implementation in Posyandu.
- On 8 March 2023, MoH and WHO monitored the progress of the crash programme at the Nursing Secretariat Immunization post and Koto Parak Posyandu of Puskesmas Pauh, Padang city, West Sumatra. During the monitoring, it was observed that most children received the OPV vaccine instead of the IPV due to a lack of understanding of the benefits of IPV and concerns about multiple injections. Health workers involved in the programme need to improve the socialization of immunization and emphasize the benefits of multiple injections to ensure parents understand the importance of quality immunization for achieving herd immunity.
- Following a coordination meeting held via Zoom on 20 February, PHO Aceh, UNICEF, and WHO closely coordinated with those DHOs and Puskesmas who were not following the standard operating procedures (SOP) for the disposal of nOPV2 vials. They also assisted in recording vaccines used with a standardized reporting form.

Surge Support

MoH

- MoH continues to monitor and evaluate the implementation of the polio outbreak response in Aceh and plans the expansion of the response 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 and international personnel to Aceh, North Sumatra, West Sumatra, and Riau provinces 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.
- WHO personnel regularly assess environmental surveillance sites.
- WHO provides management support to the polio outbreak response.
UNICEF
- UNICEF has established a field office in the capital of Aceh province. The teams have been reinforced with a surge in support of national officers and consultants for immunization, advocacy, and communication for development (C4D).
- UNICEF deployed national personnel members to support polio outbreak response in PHO and DHOs in Aceh with a primary focus on immunization, advocacy, and communication.
- UNICEF supported the extended polio outbreak responses in North Sumatra, Riau, and West Sumatra through the deployment of national personnel with a primary focus on providing technical assistance on vaccine management and immunization.

Rotary
- Rotary continues to provide T-shirts and other IEC materials to the districts of Aceh Province.

Key Issues
- Vaccine hesitancy needs to be addressed through targeted communication and social mobilization efforts.
- Surveillance needs strengthening to reach the enhanced target non-polio AFP and stool adequacy rates by ensuring no AFP cases are missed.
- The outbreak response plan and budget are to be validated by MoH and shared with WHO to be endorsed by the Outbreak Response and Preparedness Group (ORPG) and ensure funds for the response.
- The campaign coverage data management and reporting mechanism needs to be improved, especially for children who received the first dose of nOPV2 during the second round of the campaign.
- The nOPV2 vaccine utilization data and reporting mechanism needs to be improved, especially for the unused, broken, or missing vials during the first and the second round in Aceh; and for the first round in North Sumatra.

Next Steps
- Weekly tracking of preparedness for the next mass vaccination response campaign at national, provincial, and district levels is to be conducted with special attention on the low-performing districts. Information is to be shared regularly with Global Polio Eradication Initiative (GPEI) partners.
- Coordination and evaluation of nOPV2 utilization and waste management plan in Aceh and North Sumatera.
- A nOPV2 SIA in West Java will start on 3 April 2023. To request support from stakeholders and local government, MOH and PHO West Java will hold an advocacy meeting with them.

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

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