Circulating Vaccine-Derived Poliovirus Type 2 Outbreak in Aceh, Indonesia
Situation Report No 7 - 25 February 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: 7
  (3 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 Bireuen districts

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: Jeunieb sub-district, Bireuen district, Aceh Province
- Onset of paralysis: 13 January 2023
- Sex: Male
- Age: 4 years old
- Vaccination status: 0 dose

Outbreak Response:
- Aceh Province: All children 0 to below 13 years
- North Sumatra Province: All children below 5 years
- Target: 2.5 million children
- Vaccine type: nOPV2

Key highlights
- Three confirmed vaccine-derived poliovirus type 2 (VDPV2) cases have been reported, one each in Pidie, North Aceh and Bireuen districts.
- Circulation of VDPV2 (cVDPV2) was confirmed through four positive stool specimens collected from healthy children, living in the same village but not close contacts of 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 the third case have a genetic link with the first case.
• On 20-22 February, MoH conducted an advocacy and socialization meeting on crash programme/strengthening polio immunization in Padang, West Sumatra province. A joint commitment signing was conducted at the end of the meeting with all the participants involved. WHO also delivered a presentation on the global polio situation and strategy to achieve high and uniform coverage. The meeting was followed by a health workers’ orientation on 22-24 February, inviting all immunization staff of DHOs and Puskesmas.

• On 15 February, MoH released an official letter informing the expansion of polio SIA in Aceh province by 28 February 2023. However, for those districts which achieved below 90% on that date, the implementation of sweeping will continue up to 12 March 2023.

• On 13 February, the launching of polio supplementary immunization activities (SIAs) using nOPV2 was conducted in several districts/cities in North Sumatra. In Kota Medan, attended by the Director General of Disease Control and Prevention of MoH and the Mayor of Kota Medan. More than 600 children received the novel oral polio vaccine type 2 (nOPV2) vaccine, including ten refugee children from Somalia.

• On 9-10 February, WHO assisted the district health office (DHO) Bireuen in conducting an epidemiological investigation of the most recent cVDPV2 case. The team then visited and coordinated with the paediatrician who administers the treatment to the child, and the director of Fauziah public hospital to review the medical record. Additionally, the team collected specimens from 20 healthy children for laboratory testing.

**Situation updates**

• A seven-year-old male child from Mane village, Mane sub-district, Pidie district, Aceh Province developed acute flaccid paralysis (AFP) with the onset of paralysis on 09 October 2022. The child did not have a 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.

• The second case was reported from the 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 03 January 2023. The child did not have a 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 from 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 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.

• In response to the detection of the former case, a field investigation was undertaken:
  o 32 stool samples from healthy children in the surrounding area who are not contacts of the case were collected and tested for poliovirus.
  o 4 stool specimens tested positive for VDPV2 with 25-26 nucleotide changes in the viral protein 1 (VP1) region.

![Figure 2. AFP cases classification in Aceh period week 1 2022 to week 7 2023 as of 24 February 2023](image)
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 21 February, WHO assisted DHO Medan to coordinate polio outbreak surveillance activities with the private hospital RS Bina Kasih. The hospital management agreed to identify healthy children that usually visit their clinic and gather them on one day for vaccination. The team coordinated the same with the private Prof. Guslihan clinic which receives a high number of visits from healthy children. Every day, the Puskesmas transports the vaccine to the clinic according to the target number of children. This strategy aims to reach those children who typically receive vaccinations from a private clinic.
- On 10 February, the provincial health office (PHO) North Sumatra, WHO, and UNICEF conducted a coordination meeting to discuss action points related to advocacy and health workers’ orientation on logistics, waste management of nOPV2, recording and reporting.
- On 9 February, a meeting was held among polio partners, including the US Agency for International Development (USAID), CDC, UNICEF, and WHO to discuss the continuous support for the cVDPV2 outbreak response.

![Coordination meeting on polio SIA in PHO North Sumatra](left), coordination with private hospitals and clinics to involve in polio SIA implementation in Kota Medan (middle and right). Credit: PHO (left) and WHO/Dr Candora Tambunan (middle and right).

**Surveillance**

- On 9 and 10 February, WHO assisted the DHO Bireuen in conducting an epidemiological investigation of the most recent cVDPV2 case. The team spoke to the child’s paediatrician and the director of Fauziah public hospital to review the medical record. The team also collected specimens from 20 healthy children for laboratory testing.

![Epidemiological investigation of the 3rd cVDPV2 case](Credit: DHO Bireuen)
• On 15-16 February, MOH, PHO Aceh, DHO Bireuen, Puskesmas Jeunib, and WHO conducted house-to-house screening to find any additional cases. A total of 212 households were surveyed, and no additional AFP cases were identified. The team also identified 119 children under 5 years old, among whom 51 and 57 children had not received any OPV and IPV, respectively. In addition, 172 (77%) out of 223 children aged 0-12 years old received nOPV2.

![Figure 5. House to house screening and collected the data in Bireuen district. Credit: DHO](image)

• As of 24 February, the non-polio AFP (NPAFP) rate was 4.9 per 100 000 population under 15 years of age and the specimen adequacy rate was 56.3% in 2022. There are four silent districts1 in Aceh, namely Kota Lhokseumawe, Gayo Lues, Aceh Tenggara, and Kota Subulussalam. In 2023, 25 AFP cases have been reported from 9 districts in Aceh, the annualized NPAFP rate is 2.3 per 100 000 population under 15 years with 86.7% specimen adequacy.

![Figure 6. NPAFP rate and specimen adequacy in Aceh province](image)

• On 7 February, PHO North Sumatra, DHO Padang Lawas Utara and WHO conducted a sensitization session with staff of Gunung Tua public hospital in Padang Lawas Utara district to strengthen the hospital’s active surveillance, especially for AFP case finding during polio SIA. The same activity was conducted in Aceh province, where WHO assisted DHO Banda Aceh in conducting active surveillance in Bhayangkara Hospital in Banda Aceh.

**Immunization response**

• The 2nd round of polio SIA in Aceh province is being conducted in two phases based on polio SIA coverage in 1st 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 is 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 13-14 February, PHO North Sumatra, DHO and WHO staff conducted supportive supervision on the polio SIA in implementation in several districts and cities, including Kota Medan, Deli Serdang, Langkat, Mandailing Natal, Padang Lawas and Asahan. The aim of the supportive supervision was to ensure that the implementation follow the guidance

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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.
outlined in the standard operating procedures (SOPs).

- On 22 February, PHO Aceh conducted a data review and validation meeting of polio SIA for DHOs and Puskesmas with more than 200 participants. WHO, UNICEF, UNDP, and MoH facilitated the session. In North Sumatra, several districts also conducted data review meetings of polio SIA, namely Toba, Phakpak Barat, Tapanuli Utara, and Samosir districts, which were facilitated by WHO and PHO North Sumatra.

- Daily coverage monitoring and feedback is provided to local government, PHO, DHO, stakeholders, and implementers.

- As of 23 February, 3,295,808 doses of nOPV2 were administered during the polio SIA in Aceh and North Sumatra; 2,184,394 (85.2%) received 1st dose and 1,111,414 (43.3%) out of 2,564,594 children in both provinces. In Aceh, 1,143,287 (93.9%) received 1st dose and 1,111,414 (91.3%) received 2nd dose out of 1,217,939. Meanwhile, in North Sumatra, 1,041,107 (77.3%) received 1st dose out of 1,346,655.

- As of 21 February, 51 rapid convenience assessments (RCAs) had been conducted in Aceh, covering 14 out of 23 districts: during the first round of polio, SIA, 1,949 children aged 0-12 years were assessed, with 1,718 (88.1%) of them having received the first dose of the vaccine. The main reasons for children missing vaccination were sickness, lack of awareness, and travelling (parents). During the second round, two RCAs were conducted in Pidie district, and 43 children aged 0-59 months were assessed. Of these, 42 (97.7%) had been vaccinated with the first dose of the vaccine and 40 (93.0%) had received the second dose. 13 children aged 5-<7 years were assessed, with all of them (100%) having received the second dose. Finally, 23 children aged 7-12 years were assessed, with 22 (95.6%)
having received the second dose of the vaccine. The main reasons for children missing vaccination were sickness.

Advocacy, social behaviour changes, and risk communication

Advocacy

- On 6-8 February, MoH conducted an advocacy and socialization meeting on polio SIA in North Sumatra province with the governor, mayors/regents, head of TP PKK, and other stakeholders. At the end of the meeting, all participants signed off on a joint commitment to the implementation of polio SIA in the province. WHO also delivered a presentation on the global polio situation and strategy to achieve high and uniform coverage. The event was followed by a health workers orientation on 8-10 February which invited all immunization staff and environmental health staff of 33 DHOs and immunization staff of 615 Puskesmas. Several districts and cities also conducted advocacy for their local government heads and stakeholders. At DHO Mandailing Natal, an advocacy and socialization meeting was held with the regent and other stakeholders regarding polio SIA. A total of 120 participants attended, including the heads of the Indonesian Medical Association (IDI), Indonesian Paediatric Society (IDAI), midwives association, Association of Indonesian Early Childhood Educators and Education Personnel (HIMPAUDI), police, heads of sub-districts and villages, and more. A joint commitment and instruction letter were created.

- On 20-22 February, MoH held an advocacy and socialization meeting on the crash programme and strengthening polio immunization in West Sumatra province to the governor, mayor/regent, head of police, head of Islamic organization (Nahdlul Ulama and Muhammediyah), head of TP PKK, head of community and village empowerment, and other stakeholders. The meeting was attended by more than 80 participants, and a joint commitment signing was conducted at the end of the meeting with all participants. WHO also delivered a global polio situation and strategy presentation to achieve high and uniform coverage, followed by a health workers orientation on 22-24 February which invited all immunization staff of DHOs and Puskesmas. WHO staff emphasized the current concern related to low coverage immunization in West Sumatra and asked all sectors, particularly health workers, to work together not only for the crash polio immunization programme but for all immunization programmes.

Social Behaviour Change (SBC)

- To promote the polio SIA in North Sumatra, DHOs and Puskesmas conducted socialization through mobile education cars, radio, and TV advertisements in most of the districts.

- UNICEF is collaborating with three radio stations in Pidie to disseminate the audio public service announcement (PSA) expected to reach listeners across Pidie and other districts adjacent to Pidie, such as Bireuen, Pidie Jaya, and Aceh Besar.

- UNICEF coordinated with the Communication and Informatics Office in Pidie for PSA dissemination.
UNICEF coordinated with “Radio Republik Indonesia” Lhokseumawe Office for PSA dissemination. It is estimated that the audio PSA reached the population in Kota Lhokseumawe, North Aceh, East Aceh, Bireuen, Central and Bener Meriah district.

Mobile education cars and house-to-house campaigns were used not only to ensure that the communities received proper information concerning the current Polio vaccination campaign but also to address vaccine hesitancy.

The mobilization of mobile education cars is estimated to reach the overall population in 77 sub-districts across 4 districts in Aceh and covering more than 2,000 villages.

Figure 12. Technical briefing and interpersonal communication training for Posyandu cadres and health promotion team Aceh Besar (left) and briefing on advocacy, communication & social mobilization strategies for the head of Puskesmas across Aceh Besar (right). Credit: UNICEF.

Figure 13. Education & socialization by health promotion team, Kota Lhokseumawe Municipal, and DHO Aceh Besar. Credit: DHO Kota Lhokseumawe and DHO Aceh Besar.

Risk Communication

On 13 February, UNICEF supported socialization for local religious leaders in Banda Aceh. The Head of DHO Banda Aceh conveyed the need for support from local religious leaders (men and women) for a better understanding of polio among communities. This socialization is led by the Shari’ah Islam Office. Later on, Banda Aceh Shari’ah Islam Office issued a text from the Jumu’ah prayer, emphasizing the dangerous impact of polio and the importance of Polio SIA.

Schools are still requesting parents’ permission for children to be immunized, either through WhatsApp or an informed consent letter. Coordination with the education/religious affairs ministry office was then conducted. Q & A were also shared through a WhatsApp Group of parents.

Information, education and communication (IEC) materials (posters and flyers) with information on the danger of polio and its prevention were created by the UNICEF team and shared through WhatsApp and social media, as well as printed in public places.

A coordination meeting was held with all school principals, teachers, and school committees with high targets and high challenges led by DHO Aceh Jaya supported by UNICEF on 8 February 2023, to gather commitment from schools during the second round of polio outbreak response. Should the parents need socialization prior to the vaccination session, schools will facilitate the location, mass mobilization, and coordination with Puskesmas.

UNICEF supported an orientation and coordination meeting with 1075 principals of Early Childhood Education/Kindergartens/Elementary Schools/Junior High Schools under the Department of Education and Culture Office of North Aceh District.
Logistics

- nOPV2 vaccines and logistics have arrived in Aceh PHO for the second polio SIA round in Aceh (about 25,750 vials) and North Sumatra PHO for the first round (about 33,700 vials) and have been distributed to DHOs and Puskesmas.
- On 22 February 2023, MOH, UNICEF, WHO, and UNDP supported PHO Aceh in conducting a desk review on nOPV2 vaccine utilization that was compared against the coverage, particularly for children who received the first dose of the nOPV2 vaccine during the second round of implementation.
- On 20 February, MoH conducted an evaluation meeting of the nOPV2 vaccine and logistics wastage management for the PHO, DHOs, and Puskesmas in Aceh province with more than 100 participants attending. The action points of this meeting were to properly monitor details of the nOPV2 stock, doses received, used, wasted, and lost.
- On 16 February 2023, UNICEF supported PHO Aceh in conducting a refresher training on nOPV2 vaccine management for immunization managers in DHOs and Puskesmas with an attendance of more than 180 participants.
- UNICEF provided technical support, submitted vaccine request forms (VRF) to the outbreak response & preparedness group (ORPG), updated the National Logistic Plan (NLP), and conducted advocacy, communication, and social mobilization (ACSM).

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.

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 The Global Polio Eradication Initiative (GPEI) partners.
- Implementation of advocacy, communication, and social mobilization interventions as per the SIA planning.
- An advocacy meeting with the governor and all mayors in Riau province will be held on 27 February to 1 March, and a health workers’ orientation will be held on 1-3 March.
- AFP surveillance training will be held on 7-10 March in North Sumatra province.

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

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