Circulating Vaccine-Derived Poliovirus Type 2 Outbreak in Indonesia

Situation Report No 12 – 17 June 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

- PHO West Java conducted an evaluation of the polio supplementary immunization activity (SIA) with representatives from all (27) districts, the local AEFI committee, the Ministry of Health (MoH), and partners. Polio outbreak response activities, challenges as well as outbreak response assessment (OBRA) preparation were the main topics of discussion. Some of the action points include continuing mop-up activities for districts that have not reached the target of 90% coverage and conducting rapid convenience assessments (RCAs) in all districts.
- 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 which are Provincial Health Office (PHO), District Health Office (DHO) and Puskesmas.
- MoH and provincial health office (PHO) Aceh supported by UNICEF conducted offline training in Aceh from 22 May to 21 June 2023 to strengthen the capacity of health workers in recording and reporting on ASIK application.
- Polio SIA in North Sumatera has been concluded by 30 May 2023, which has been followed by RCAs in some areas in North Sumatera by PHO, MoH, and WHO.
- WHO is assisting PHOs and DHOs in three provinces (Aceh, West Java and North Sumatera) to improve the SIA coverage, acute flaccid paralysis (AFP) surveillance performance, and OBRA preparation strategy.
- UNICEF is assisting PHOs and DHOs in evaluating vaccine and logistics management.
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 analysing 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 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
On 6 June, WHO held a coordination meeting with partners such as UNICEF, the United States Agency for International Development (USAID), US Centres for Disease Control (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 preparations for the OBRA.

Aceh
On 29 May, WHO and district health office (DHO) Aceh Jaya had a coordination and advocacy meeting with the regent of Aceh Jaya district. In this meeting, the team discussed achievements and best practices related to the polio SIA which reached a coverage rate of over 95%. One notable best practice that emerged from the discussion was the active involvement of policymakers, public officials, and community and religious leaders in observing and participating in the campaign activities on the ground. During the meeting, WHO advocated for the regent’s support for routine immunization efforts. Recognizing the importance of sustained immunization coverage, the regent expressed commitment to this cause and agreed to issue an instruction letter addressed to the Aceh Jaya government, calling for support across various sectors to ensure the successful implementation of routine immunization for children.

West Sumatra
On 25 May, WHO assisted DHO Agam in conducting a coordination meeting with the director of Lubuk Basung hospital. The objective of this meeting was to establish effective communication, coordination, and collaboration to enhance the surveillance of vaccine-preventable diseases (VPDs), particularly AFP. Discussions took place among the director, the head of the medical service department, and all relevant technical units, including the emergency room staff, pediatricians, physiotherapy, and inpatients staff. The primary focus of the discussions was on developing a strategy to identify AFP cases within the hospital setting. This involved implementing both passive and active surveillance methods, as well as conducting thorough hospital record reviews (HRR) to detect cases. The management expressed their commitment to supporting the surveillance activities and agreed to send regular weekly reports to the DHO, commencing in the upcoming weeks.

Figure 2. AFP cases classification in West Java (above) and in Aceh (below) period week 1 2022 to week 23 2023 as of 16 June 2023
Surveillance

Aceh
On May 29, WHO assisted DHO Aceh Jaya in conducting an HRR for AFP cases in Teuku Umar district hospital, Calang. Aceh Jaya is one of the silent districts\(^1\) for AFP surveillance. During the HRR, a thorough investigation was carried out, resulting in the identification of three suspected AFP cases. Recognizing the importance of prompt action, the DHOs will initiate follow-up procedures for these cases. This will involve close coordination with Puskesmas to ensure appropriate monitoring and collection of samples for further analysis.

North Sumatra
On 31 May, WHO assisted PHO North Sumatera to conduct monthly desk reviews and refresher sessions of the VPD surveillance programme including AFP surveillance to strengthen its performance. The participants were surveillance officers from DHOs, Puskesmas, private and public hospitals. To enhance the surveillance performance, several activities were conducted, including a workshop on AFP surveillance, socialization, and advocacy to the management of hospitals, HRRs, monthly coordination meetings, and a desk review in North Sumatra. As a result, there is a significant improvement in AFP surveillance indicators: the number of AFP cases reported increased from 15 to 177 cases and the number of silent districts dropped from 15 to 4 districts, between March 2023 and June 2023.

\(^1\) 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.
West Java

- On 13 June, WHO assisted DHO Karawang and Puskesmas Wadas to conduct a HRR in Karawang General Hospital. Prior to this activity, the team coordinated with the hospital management, which consisted of the director, head of medical management, medical record unit, neurologist, paediatrician, nurses from the pediatric room, emergency room, and polyclinic room. The hospital will officially appoint a surveillance officer who will be responsible for AFP surveillance and ensuring adherence to the management system. In the new protocol, every morning during shift changes, the designated staff in each room will monitor patients for signs of flaccid paralysis. The medical record unit will list the diagnosis based on the ICD-10 code and report it to the surveillance officer. During the HRR, the team reviewed medical records from the past two months, leading to the identification of three AFP cases. Additionally, four AFP outpatient cases were discovered from the electronic register. Immediate follow-up procedures will be initiated for all these identified cases.

- On the same day, the team also conducted a HRR in Bayukarta Hospital, Karawang district. The hospital effectively implemented surveillance management protocols. Two cases suggesting AFP were found, but upon further evaluation, the respective patients did not exhibit any signs of paralysis.

- On 7 June, WHO assisted DHO Bogor City to conduct HRRs in Kota Bogor General Hospital and Bunda Suryatni Hospital, five AFP cases were found in Kota General Hospital, and no case in Bunda Suryatni Hospital.

- On 8 June, WHO assisted DHO Depok City to conduct HRRs in three hospitals: Mitra Keluarga, Bunda Margonda, and Hermina. During the HRR, five AFP cases were found and will be followed up by Puskesmas and the respective hospitals. Hospital-based surveillance needs to be strengthened by DHO as surveillance officers are not appointed in every hospital.
• On 25 May, DHO Bandung City held a monitoring and evaluation meeting on VPD surveillance attended by 80 surveillance officers from all Puskesmas and 40 surveillance officers from hospitals, as well as an expert committee from paediatricians and epidemiologists. WHO delivered a global update on AFP surveillance and best practices in polio outbreak responses. During the meeting, active surveillance (early detection, timeliness, accuracy, and completeness) and setting the schedule of HRR for June 2023 in all priority hospitals were discussed among the participants. The annual target of AFP in Bandung City year 2023 is 32 cases. As of May 2023, the team has already managed to identify 16 AFP cases. This progress underscores the need for ongoing monitoring and follow-up within the subsequent 60 days to ensure comprehensive case management and proper investigation.

• On 26 May, WHO assisted DHO Depok City to conduct a HRR together with paediatricians in Khidmat Sehat Afiat Depok City hospital by gathering additional information from manual registers in various units, in addition to the data obtained from the online system. During the HRR, the team identified seven AFP cases that exhibited symptoms of flaccidity attributed to hypokalaemia. These cases require immediate follow-up by the DHO team to ensure proper investigation, management, and appropriate interventions.

West Sumatera

On 25 May, WHO assisted DHO Agam to conduct HRR in Rizki Bunda hospital. Although the surveillance team has been activated in this hospital, no cases of AFP have been reported thus far. However, considering that the hospital recently migrated from manual to electronic medical records, there is a possibility of data integration issues or errors in the newly installed system. Recognizing this concern, the team provided guidance and a refresher session to the surveillance officers regarding AFP case and diagnosis that shown AFP sign and symptoms. This would enable them to re-evaluate the medical records once the system has fully settled. Additionally, the team asked the director to strengthen the surveillance team in the hospital through an official letter regarding the formation of a surveillance task force to work together on strengthening surveillance.
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 16 June 2023, Aceh reported 63 AFP cases from 21 districts with an NP-AFP rate of 6.01 per 100,000 population under 15 years of age and specimen adequacy of 68%, even though there are two silent districts in Aceh namely Aceh Singkil and Bener Meriah. The NP-AFP rate in West Java was 2.57 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 296 AFP cases in 27 districts, with an annualized NP-AFP rate of 3.63 per 100,000 population under 15 years and specimen adequacy of 80.1%.

Figure 9. HRR in Rizki Bunda Hospital, Agam district. Credit: WHO/Novi Anggraeni.

Figure 10. NP AFP rate and specimen adequacy in West Java (above) and Aceh (below) province.
Immunization response

Aceh

- From 25 to 27 May, PHO Aceh with support from UNICEF and assisted by WHO conducted a microplanning workshop for children's routine immunization in the Pidie Jaya district. The workshop brought together 25 participants from 12 Puskesmas and DHOs. PHO Aceh trained the Puskesmas staff during these workshops on developing effective microplanning strategies, including how to identify priority villages and establish agendas for routine immunization.
- On 5 June, UNICEF Field Office Aceh supported PHO and Aceh Privileges and Welfare Bureau (Biro Isra under the Regional Secretary) in conducting a coordination meeting with the Advisory Committee for School Health Program (Tim Pembina Usaha Kesehatan Sekolah/Madrasah/Dayah – TP UKS/M/D), Education Department, Religious Affairs Department at province and districts levels in Aceh. The objective of the meeting was to share and socialize the decree from four ministries (MoH, Ministry of Education, Culture, Research and Technology, Ministry of Religious Affairs, and Ministry of Home Affairs) on Student Health Status Improvement activities, to map and strengthen the activities of TP UKS/M/D in Aceh, particularly on the screening of immunization status and the support to school children immunization month (Bulan Imunisasi Anak Sekolah – BIAS) for all schools in Aceh. The activity was part of UNICEF’s support for strengthening the routine immunization programme for elementary school children in Aceh.

![Figure 11](image1.jpg)

Figure 11. Socialization on the decree from 4 ministries (Ministry of Health, Ministry of Education, Culture, Research and Technology, Ministry of Religious Affairs, and Ministry of Home Affairs) on Student Health Status Improvement Activities in Aceh. Credit: UNICEF/Dita

- The UNICEF Data Team continued their support for MoH and PHO Aceh in conducting a series of offline training sessions in Aceh from 22 May to 21 June 2023 to strengthen the capacity of health workers in recording and reporting for routine immunization programs. The training includes training of trainers (ToT) at the provincial level and ASIK users in Puskesmas in the province. To date, all Puskesmas in six districts in Central Aceh region and in six districts in Banda Aceh region, have participated in ASIK training supported by UNICEF.

![Figure 12](image2.jpg)

Figure 12. ASIK training in Central Aceh region (left) and Banda Aceh region (right). Credit: UNICEF/Haditya (left) and WHO/Fathun (right).

North Sumatra

- On 30 May, PHO North Sumatera in collaboration with WHO and UNDP organized a data validation exercise for the polio SIA. The objective was to review and synchronize data on coverage rates, as well as the utilization of vaccines and logistics at both province and district levels. Several DHOs are required to re-identify children who received the
first dose separately during the second round of implementation. This step was necessary to ensure accurate and proper recording of immunization data.

- On 6 June, MoH held a monitoring and evaluation meeting to assess the polio SIA in five districts: in the Nias Islands namely Nias, Gunung Sitoli, Nias Barat, Nias Utara, and Nias Selatan. These districts reported the lowest coverage out of 33 districts. During the meeting, several key issues were discussed, including the gap in target population estimates between the national and district levels. The geographical challenges and low population density in these areas were also highlighted, making it difficult to maintain vaccine efficiency during mop-up activities. To address these concerns, it was determined that a rapid convenience assessment (RCA) needed to be conducted. This assessment will help identify tailored strategies to improve coverage and overcome the specific barriers faced in these districts.

**West Java**

- On 24 May, WHO conducted monitoring visits to three major hospitals in Depok city (Khidmat Sehat Afiat, Bunda Margonda, and Citra Arafid Sawangan hospitals) focusing on their role in the polio SIA campaign. These hospitals catered to caregivers from elite residential areas and apartments, with approximately 200 children being served at Bunda Hospital in Margonda, Depok. The management team of Bunda Hospital proactively disseminated information about the polio SIA campaign through social media platforms and broadcasted it to their network of regular patients. This approach aimed to raise awareness and encourage participation among the targeted population.

- As of 17 June, 12 404 595 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, 1 294 171 (96.1%) children out of 1 346 655 received nOPV2 in the first round and 1 276 852 (94.8%) in the second round, respectively. In West Java, 3 833 808 (96.2%) out of 3 984 797 children received nOPV2 in the first round and 3 666 910 (92%) in the second round, respectively.

![Figure 13. Polio SIA coverage in North Sumatra (above) and West Java (below)](image-url)
Logistics

- From 7 to 9 June 2023, UNICEF Field Office in Aceh continued its support on conducting the vaccine management training for immunization staff and pharmacy staff at Puskesmas level from another seven districts in Aceh province. The training was conducted in Medan.

- On 6 June, PHO West Java in collaboration with WHO and UNICEF conducted an internal evaluation on nOPV2, and logistics used and its management during polio SIA implementation. More than 400 participants from Puskesmas joined virtually from all (27) districts. This meeting aimed to confirm and validate vaccines, logistical data-related issues and completing reports, especially for gaps/lost vaccines as per the guidelines scheme.

- On 30 – 31 May 2023, UNICEF supported PHO Aceh in conducting a series of vaccine management training for immunization staff and pharmacy staff at Puskesmas level from six districts in Banda Aceh and from six districts in Aceh Besar region. Previously, on 2 – 5 May 2023, another series of vaccine management training for immunization managers and pharmacy managers at districts level had been conducted in Banda Aceh.

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

- The target coverage of 95% for the polio crash programme involving IPV and bOPV has not been achieved in West Sumatera and Riau provinces. The Ministry of Health (MoH) has encouraged these provinces to enhance their coverage by conducting catch-up immunization campaigns as part of the routine immunization program.
- 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 OPV management guidelines.
- There is a low level of compliance with reporting nOPV2 coverage through the ASIK application. A comparison of data from the second round of polio SIA in North Sumatra revealed that manual reporting coverage was 94.8%, whereas the coverage reported through ASIK was only 50.9%. Similar issues were observed in West Java, with manual reporting coverage at 92% and ASIK reporting at 48.2%. Efforts should be made to improve compliance and ensure accurate electronic reporting through the ASIK application.

Next Steps

- The OBRA desk review is scheduled from 3-7 July 2023, followed by 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, DHO and partners will provide support in the preparation and collection of OBRA documentation. Planning, SIA performance, routine immunization, surveillance, communication/social mobilization, and vaccine management are indicators that will be assessed during the OBRA assessment.
- At the time of writing, an evaluation of the polio outbreak response was scheduled in West Java on 15-17 June 2023 where MoH continues to encourage Puskesmas to intensify social mobilization, promotion, and collaboration efforts.
- MoH, PHO, DHOs, and partner teams were actively involved in conducting RCA after SIAs round.
- 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 (Early Warning Alert Detection System (EWARDS) and hospital manual report regularly.
- Puskesmas are encouraged to record and reporting the individual data target on ASIK application
- Hospitals are requested to Follow up on the Circular Letter of the Director of Referral Health Services Number YR/01.03/111.1/3295/2022 concerning the delivery of AFP surveillance implementation in Hospitals.
- The surveillance rate for NP-AFP has reached approximately 3/100 000 population under 15 years old. DHOs will be encouraged to further intensify hospital active surveillance efforts.
- The completion of cold chain inventory is essential at various levels including at PHO, DHO, and Puskesmas level. To that end, MoH collaborates with UNICEF to disseminate a letter that instructs health facilities to update their cold chain inventory and PHO is instructed to monitor this activity.

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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