



Pan American
Health
Organization



World Health
Organization
REGIONAL OFFICE FOR THE
Americas

Epidemiological Alert

Detection of vaccine-derived poliovirus type 2 (VDPV2) in the United States: Implications for the Region of the Americas

21 July 2022

Given the identification of a case of acute flaccid paralysis related to type 2 vaccine-derived poliovirus in an unvaccinated individual from Rockland County, New York, United States of America, the Pan American Health Organization / World Health Organization (PAHO/WHO) reiterates to Member States to join efforts in order to maintain and strengthen surveillance for the detection of cases and achieve adequate vaccination coverage against poliomyelitis.

Situation summary

No cases of wild poliovirus have been detected in the countries and territories of the Region of the Americas in over 30 years. In 1994, the Americas became the first region in the world to be certified polio-free by the World Health Organization (WHO). The early detection of cases through the implementation of surveillance of acute flaccid paralysis (AFP) in children under 15 years of age and maintaining adequate polio vaccination coverage have been key to this achievement.

On 21 July 2022, as a result of surveillance conducted in the United States of America, the New York State Department of Health reported the identification of a case of paralytic poliomyelitis in an unvaccinated individual in Rockland County. Initial sequencing confirmed by the United States Centers for Disease Control and Prevention (U.S. CDC) indicates that this is a case of vaccine-derived poliovirus type 2 (VDPV2).¹ The investigation is ongoing, further information will be shared as it becomes available.

On 10 June 2022, the Pan American Health Organization / World Health Organization (PAHO / WHO) published the Epidemiological Alert on the risk of poliovirus outbreak in the Region of the Americas, available at: <https://bit.ly/3cypDaf>, warning of the risk of the emergence of vaccine-derived poliovirus and urging Member States to implement effective measures to

¹ Polio Global Eradication Initiative. Report of polio detection in the United States. Statement. 21 July 2022. Available at: <https://polioeradication.org/news-post/report-of-polio-detection-in-united-states/>; Rockland County. Press Release. Case of Polio in Rockland County. 21 July 2022. Available at: <https://rocklandgov.com/departments/health/press-releases/2022-press-releases/case-of-polio-in-rockland-county/>; New York State, Department of Health. New York State Department of Health and Rockland County Department of Health Alert the Public to A Case of Polio In the County. 21 July 2022. Available at: https://health.ny.gov/press/releases/2022/2022-07-21_polio_rockland_county.htm

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reduce the risk of outbreaks by maintaining high and homogeneous vaccination coverage, as well as having sensitive epidemiological surveillance systems allowing for timely detection and investigation of acute flaccid paralysis cases.

In recent years, polio vaccination rates have dropped considerably, even prior to the COVID-19 pandemic, polio vaccination had fallen below the recommended 95% or greater coverage goal to prevent the reintroduction of the virus in this Region. During the pandemic - which has affected health services throughout the region, including routine vaccination - polio vaccination rates have continued to decline. In 2020, only 80% of children had received the third dose of polio vaccine necessary for full immunization, a decrease of 87% compared to 2019. If this trend in vaccination coverage continues, there is a high risk of outbreaks occurring after the importation of a virus (wild or vaccine-derived) or the emergence of poliovirus derived from the vaccine, and that these are not detected in time.

Guidance for national authorities

PAHO/WHO reiterates to Member States the need to increase efforts to achieve optimal levels of population immunity through high and homogeneous vaccination coverage, and through sensitive epidemiological surveillance that allows the timely detection and investigation of all AFP cases.

Following is a reminder of the considerations on vaccination, surveillance, risk mitigation and outbreak response plans.

Vaccination

PAHO/WHO recommends all countries achieve and maintain high levels of polio vaccine coverage ($\geq 95\%$), both nationally and subnationally. Countries that have not introduced the second dose of inactivated polio vaccine (IPV2) should do so as soon as possible.

Surveillance

It is important that all countries/territories in the region strengthen surveillance of AFP cases to facilitate a timely response to the detection of an import or emergence of vaccine-derived poliovirus:

- Detection and reporting of cases of AFP in children under 15 years of age: Train health personnel at all levels in the detection and notification of AFP. The number of AFP cases reported each year is used as an indicator of a country's ability to detect polio, even in countries where the disease no longer occurs. A country's surveillance system must be sensitive enough to detect at least one case of AFP for every 100,000 children under the age of 15, even in the absence of polio.
- Collection and transport of stool samples for analysis: At the onset of paralysis, polio can be difficult to differentiate from other forms of AFP such as Guillain-Barré syndrome, transverse myelitis or traumatic neuritis. All children with AFP should be screened for wild poliovirus within 14 days of the onset of paralysis. For polio testing, fecal samples are tested for the presence of poliovirus. Samples must arrive at the laboratory within 72 hours of collection. Otherwise, they must be frozen (at -20 degrees Celsius) and then sent frozen.

- Laboratory confirmation: The sample is inoculated into cell cultures where the virus can infect and replicate. The isolated virus is then typified by molecular assays (RT-PCR) to determine the serotype and whether it is a wild virus, or a vaccine virus. Then genetic sequencing tests confirm its genotype. The genetic sequence obtained is compared with a reference bank of known polioviruses, allowing inferences to be made about the geographical origin of the virus isolated from the sample.

Outbreak response plan

Countries/territories are urged to have an up-to-date outbreak response plan in place to be prepared to respond in a timely manner the occurrence of an imported WPV1 or vaccine-derived poliovirus case or to the emergence of vaccine-derived poliovirus.

Additional information

- Global Polio Eradication Initiative. Available at: <https://bit.ly/3NFEPQD>
- WHO - Global eradication of wild poliovirus type 3. Available at: <https://bit.ly/33YW8EK>
- WHO - Polio Factsheet. Available at: <https://bit.ly/2m1wajq>
- Global Polio Eradication Initiative - WHO Global Circulating Vaccine-derived Poliovirus (cVDPV) as of 22 March 2022. Available at: <https://bit.ly/39gVSJR>
- WHO - GPEI guidelines on Classification and reporting of VDPV. Available at: <https://bit.ly/3QcmUCB>
- WHO - Statement of the Thirty-first Polio IHR Emergency Committee. Available at: <https://bit.ly/3xoMkEo>
- Global Polio Eradication Initiative - GPEI: Outbreak Countries. Available at: <https://bit.ly/3xmb4qz>
- Global Polio Eradication Initiative - GPEI: Surveillance. Available at: <https://bit.ly/3zvoucM>
- PAHO/WHO - 13th Meeting of the Regional Certification Commission for the Polio Endgame in the Region of the Americas Report. Available at: <https://bit.ly/3HakAbj>
- PAHO/WHO - Reports of the Technical Advisory Group (TAG) meetings. Available at: <https://bit.ly/3aKuW5p>