

# Wild poliovirus type 1 (WPV1) - Malawi

On 17 February 2022, WHO received an update regarding the detection of wild poliovirus type 1 (WPV1) in Malawi which was previously notified on 31 January 2022 through an IHR notification as a case of poliovirus type 2 (PV2). The case, a child under 5 years old, from Central constituency, Lilongwe district, Central Region, developed acute flaccid paralysis (AFP) on 19 November 2021. Two stool specimens were collected for testing on 26 and 27 November, and were received at the Regional Reference Laboratory, the National Institute of Communicable Disease (NICD) in South Africa, on 14 January 2022, and then forwarded to the United States Centers for Disease Control and Prevention (US CDC).

Sequencing of the virus conducted by the NICD on 2 February, and the US CDC on 12 February confirmed this case as WPV1. Analysis shows that the current WPV1 isolate in Malawi is genetically linked to a Pakistan sequence detected in 2020 in Sindh province.

Africa was declared free of indigenous wild polio in August 2020 after eliminating all forms of wild polio from the region, and in Malawi, the last clinically confirmed WPV case was reported in 1992.

## Public health response

Global Polio Eradication Initiative (GPEI) partners, including WHO, is supporting the Malawi health authorities to carry out a risk assessment and outbreak response, including supplemental immunization. Surveillance measures are being activated and expanded in Malawi and neighbouring countries to detect potential cases.

GPEI Rapid Response Team has been sent to Malawi to support coordination, surveillance, data management, communications, and operations. Partner organizations also sent teams to support emergency operations and innovative vaccination campaign solutions.

## WHO risk assessment

Polio is a highly infectious disease, caused by a virus that invades the nervous system and can cause permanent paralysis (approximately one in 200 infections) or death (approximately 2-10% of paralyzed cases). The virus is transmitted by person-to-person, mainly through the faecal-oral route or, less frequently, by a common vehicle (for example, contaminated water or food).

Two of the three types of wild poliovirus have been eradicated (WPV2 and WPV3), with ongoing global efforts to eradicate WPV1. Currently, wild poliovirus is endemic in two countries: Pakistan and Afghanistan. The detection of WPV1 outside the two countries where the disease is endemic demonstrates the continuous risk of international spread of the disease until every corner of the world is free of WPV1.

The risk at the national level in Malawi is assessed as high given the presence of high population density, low vaccination coverage (<80%) in many districts and lack of a catch-up campaign for more than six years, accumulated susceptible populations, suboptimal AFP surveillance, and lack of environmental surveillance, that may be affecting the ability to ascertain cases. Furthermore, the switch from the trivalent Oral Polio Vaccine (OPV) to bivalent OPV in Malawi was completed on 25 April 2016, and Inactivated Polio Vaccine (IPV) was introduced on 14 December 2018. The most recent supplementary immunization activities (SIAs) with a vaccine containing type 2 vaccine were conducted in 2013.

Additionally, the country is currently affected by tropical storm Ana which may impact the country's response capacity by impairing Polio SIAs and surveillance activities. According to the UN flash update on

Malawi tropical storm Ana, as of 11 February, there have been 995 072 people affected in 19 districts, 206 people injured, 46 people reported dead, and 18 people are reported still missing. The United Nations and partners are supporting the life-saving emergency flood response

The risk at the regional level is assessed as moderate given the significant population movement between Mozambique and Malawi, suboptimal vaccination coverage in the neighbouring countries, and suboptimal AFP surveillance activities. The risk at the global level is assessed as low given the existing response capacity in place and the moderately high global Polio coverage estimates.

### **WHO advice**

It is important that all countries, particularly those with frequent travel and contacts with polio-affected countries and areas, strengthen the surveillance of AFP cases to rapidly detect any new poliovirus importations and to facilitate a rapid response.

Under the International Health Regulations (2005) (IHR), countries must investigate and notify any poliovirus isolate, whether the isolate is from AFP cases, AFP contacts or environmental surveillance. Local health authorities should initiate the investigation within 24 hours of a poliovirus isolate being reported.

Isolation of poliovirus in a previously non-infected area represents an event or outbreak that requires national authorities to complete an immediate risk assessment to inform the type and scale of response. Following initial investigation and risk assessment, national authorities must continue to collect detailed information to update the situation analysis and risk assessment (i.e. results from laboratory investigations, or detailed information on affected communities, etc.). Neighbouring countries/regions must also continue to update their risk assessment with support from WHO regional offices.

Countries, territories, and areas should also maintain systematically high routine immunization coverage rates (>90%) both at national and subnational levels to minimize the consequences of any new poliovirus introduction. WHO recommends that two high-quality large-scale vaccination campaigns (>90% of children vaccinated) should be completed within eight weeks of laboratory sequencing results. A mop-up round might be required as an additional step wherever monitoring suggests children have been missed in certain health districts or areas, to ensure interruption of transmission (even in the absence of new poliovirus detections). Communication and social mobilization activities should be an integrated part of reactive Polio immunization campaigns.

WHO does not recommend any restriction on travel and/or trade to Malawi based on the information available for this current event. WHO's International Travel and Health recommends that all travelers to polio-affected areas be fully vaccinated against polio. Residents (and visitors for more than 4 weeks) from infected areas should receive an additional dose of OPV or IPV within four weeks to 12 months of travel.

As per the advice of an Emergency Committee convened under the International Health Regulations (2005), efforts to limit the international spread of poliovirus remain a Public Health Emergency of International Concern (PHEIC). Countries affected by poliovirus transmission are subject to Temporary Recommendations. To comply with the Temporary Recommendations issued under the PHEIC, any country infected by poliovirus should declare the outbreak as a national public health emergency, consider vaccination of all international travelers, ensure such travelers are provided with an international certificate of vaccination, restrict at the point of departure the international travel of any resident lacking documentation of appropriate polio vaccination, intensify cross-border efforts to substantially increase vaccination coverage of travelers, and intensify efforts to increase routine immunization coverage.