Circulating Vaccine-Derived Poliovirus type 2 (cVDPV2) – Syrian Arab Republic

Q&As - Circulating vaccine-derived poliovirus type 2 in Deir-Ez-Zor, Syria

Has polio returned to Syria?

An outbreak of circulating vaccine-derived poliovirus type 2 (cVDPV2) has been confirmed in Syria.

The newly-detected cVDVP2 strain is unrelated to the 2013 WPV1 outbreak. At that time, Syria was affected by of an outbreak of wild poliovirus type 1 (WPV1). A large-scale outbreak response, involving Syria and other countries in the Middle East, effectively stopped this outbreak, and no cases of WPV1 have been reported in Syria since 21 January 2014.

Does this disrupt progress towards eradication?

No. GPEI is prepared to respond to cases of vaccine-derived poliovirus, and well proven strategies have shown to be very effective in stopping these types of viruses from spreading

As part of the polio eradication endgame, countries around the world in April 2016 switched from trivalent to bivalent oral polio vaccine (OPV), which reduces the risk of vaccine-derived polio. The detection of vaccine-derived poliovirus type 2 following the switch is not unexpected, as children who have received trivalent OPV will continue to excrete the type 2 vaccine-strain for some time. It is important to ensure that we rapidly detect these type 2 strains and that subsequent risk assessment and response measures are conducted.

The most important thing we must do to achieve eradication is to stop the transmission of wild poliovirus in the three remaining endemic countries – Afghanistan, Pakistan and Nigeria. In these three countries, we remain focused on continuously strengthening disease surveillance to find the virus wherever it is hiding, and conducting high quality vaccination campaigns to raise population immunity against the virus and protect every child against polio.

It is crucial that all countries maintain strong disease surveillance and ensure all children are vaccinated against polio, particularly in hard-to-reach and underserved areas.

What is GPEI doing to address this outbreak?

The strategies used to eliminate wild poliovirus are also used to stop cVDPV: intensified disease surveillance to find the virus wherever it is hiding, and rapid boosting of population immunity, through immunization.

Outbreak response activities are being conducted in line with internationally agreed protocols, and include targeted polio vaccination campaigns to rapidly raise population immunity against the disease and protect children from the virus. Surveillance and immunization activities are being strengthened in neighbouring countries.

How can GPEI work in complex situations of insecurity and instability, such as in Syria?

Insecurity compromises the delivery of immunization services and the ability to conduct disease surveillance. However, GPEI is well-equipped to quickly and effectively respond to these kinds of scenarios. We have the tools, strategies and know-how to successfully stop outbreaks in complex contexts, as we've shown in the Horn of Africa and the Middle East a few years ago. We have also learned many valuable lessons from the 2013 outbreak in Syria and the successfully implemented outbreak response, and similar measures will again be implemented to stop this outbreak. GPEI works with many partners on the ground to reach every last child with polio vaccines and to find the disease wherever it emerges, and works with any group whose aim is to provide polio immunization services to communities.

What is circulating vaccine-derived poliovirus?

Circulating vaccine-derived poliovirus is an extremely rare strain of poliovirus, genetically changed from the original strain contained in oral polio vaccine (OPV). When children are given OPV, they shed the weakened vaccine-virus in their stools. On rare occasions, when population immunity is very low, this vaccine-virus can pass between unvaccinated children and can mutate along the way. After a long period of time, and multiple mutations, the vaccine-virus can regain the ability to paralyse. When this paralytic virus emerges in a community it is called vaccine-derived poliovirus. If the virus is transmitted from person to person, we call this circulating vaccine-derived poliovirus (cVDPV).

It is important to recognise that occurrence of cVDPV is an extremely rare event. In 2016, more than 450 million children were vaccinated against polio, and there were only 5 cases of paralytic polio caused by cVDPV. It is also important to remember that if enough children have been vaccinated against polio, they are protected against wild but also vaccine-derived polioviruses, as the vaccine-virus cannot find hosts in which to mutate.

The GPEI is actively working with countries to eradicate both wild and vaccine-derived polioviruses. The same strategies that are being used to fight wild poliovirus are also used to stop cVDPV. It remains critical that all countries maintain strong disease surveillance and ensure all children are vaccinated against polio.

For updates on the cVDPV outbreak situation in Syria, visit http://polioeradication.org/where-we-work/syrian-arab-republic/