

## SURVEILLANCE REPORT

Annual Epidemiological Report for 2015

# Poliomyelitis

### Key facts

- The WHO European Region was declared polio-free in 2002. There was neither wild-type nor vaccine-type transmission in the WHO European Region in 2015, but the risk of importation and subsequent transmission remain high in some countries.
- The most recent polio outbreaks in what today constitutes the EU/EEA were in 2001 (three polio cases among Roma children in Bulgaria) and in 1992 (outbreak in the Netherlands in a religious community opposed to vaccination).
- Inactivated poliovirus vaccines are used in all EU/EEA countries. Wild-type polioviruses can cause natural disease, while live attenuated polio vaccine viruses may cause vaccine-associated paralytic polio (VAPP), although the risk is very low.
- In 2016, poliomyelitis remained endemic in three countries: Nigeria, Afghanistan and Pakistan.
- In August 2015, two cases of circulating vaccine-derived poliovirus type 1 (cVDPV1) were confirmed in Ukraine. No cases were reported in 2016.
- Imported wild-type and vaccine-type polioviruses still remain a threat to unvaccinated people in the EU/EEA. Maintaining high vaccination coverage in all population groups and continued AFP clinical surveillance remain the most important tools for keeping Europe polio-free. If justified, supplementary environmental surveillance in specific populations can provide supplementary information.
- A polio Public Health Emergency of International Concern (PHEIC) was declared by the IHR Emergency Committee (EC) in May 2014 and is reviewed at three-month intervals. The last update was in November 2016.

### Methods

This report is based on 2015 data retrieved from The European Surveillance System (TESSy) on 26 October 2016. TESSy is a system for the collection, analysis and dissemination of data on communicable diseases. EU Member States and EEA countries contribute to the system by uploading their infectious disease surveillance data at regular intervals.

For a detailed description of methods used to produce this report, please refer to the *Methods* chapter [1].

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Suggested citation: European Centre for Disease Prevention and Control. Poliomyelitis. In: ECDC. Annual epidemiological report for 2015. Stockholm: ECDC; 2017.

Stockholm, November 2017

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An overview of the national surveillance systems is available online [2].

Additional data on this disease are accessible from ECDC's online *Surveillance atlas of infectious diseases* [3].

Thirty EU/EEA Member States report data on polio to ECDC on an annual basis, 26 of which report data in accordance with the 2008 or 2012 EU case definition (Commission Implementing Decision 2012/506/EU of 8 August 2012 of the European Parliament and of the Council). All Member States report data from comprehensive surveillance systems with national coverage.

## Epidemiology

In 2015, no cases of poliomyelitis disease were reported by any of the 30 EU/EEA countries. Member States of the WHO European Region submit reports on the status of their national polio eradication programme to WHO on an annual basis [8]. The following risk factors for reintroduction and transmission after importation are assessed: health system, routine immunisation coverage, presence of high-risk groups or pockets of susceptible individuals, surveillance indicators, and existence of a preparedness plan.

On 31 May–2 June 2016, The European Regional Commission for the Certification of Poliomyelitis Eradication (RCC) reviewed the reports on the national polio eradication programme of all countries in the WHO European Region [8].

The RCC concluded, based on available evidence, that there was no wild poliovirus transmission in the WHO European Region in 2015, but the risk of importation and subsequent transmission remains high in some countries. The RCC also identified issues that threatened the future polio-free status of the Region and proposed actions to be taken by Member States and the WHO Regional Office for reducing the risk of polioviruses circulating in the Region. The RCC discussed cVDPV1 in Ukraine and subsequent response activities as well as the decline in vaccine coverage in some countries.

While two countries in the WHO European Region (Bosnia and Herzegovina, and Romania) were considered to be at high risk of establishing substantial poliovirus transmission in the event of reintroduction, the current situation in Ukraine was of particular concern. If wild poliovirus were to be introduced into Ukraine, the RCC has no doubt that the consequence would be a significant disease outbreak, threatening the polio-free status of the European Region and presenting a significant setback to the Global Polio Eradication Initiative.

On 20 September 2015, WHO declared wild poliovirus type 2 eradicated worldwide.

## Threats description up to 6 December 2016

On 5 May 2014 [10], WHO declared the international spread of wild poliovirus in 2014 a Public Health Emergency of International Concern (PHEIC) following the confirmed circulation of wild poliovirus in several countries and the documented exportation of wild poliovirus to other countries. On 11 November 2016 [4], the Temporary Recommendations in relation to PHEIC were extended for another three months.

In 2016, wild poliovirus cases were reported from three countries: Pakistan (20 cases), Afghanistan (13 cases) and Nigeria (4 cases) [6]. After more than two years without the detection of wild polio in Nigeria, three laboratory-confirmed wild poliovirus type one (WPV1) cases with onset between July and August 2016 were reported in the state of Borno. A regional outbreak response in Nigeria is implemented, including also neighbouring countries [11].

Two cases of cVDPV1 were reported to WHO in 2016 from Laos, compared with 32 in 2015.

Ukraine was considered no longer infected by cVDPV, but remains vulnerable to international spread according to a 22 August 2016 statement by the 10th IHR Emergency Committee regarding the international spread of poliovirus [12].

The most recent polio outbreaks in what today constitutes the EU/EEA were in 2001 (three polio cases among Roma children in Bulgaria [4]) and in 1992 (outbreak in the Netherlands [5] in a religious community opposed to vaccination).

## Discussion

Europe has remained polio-free since 2002. The latest assessment by the European RCC concludes that there was no wild poliovirus transmission in the WHO European Region in 2015, but the risk of importation and subsequent transmission remains high in some countries. Two cases of paralytic poliomyelitis caused by cVDPV1 were confirmed in Ukraine.

Polio remains endemic in three countries: Afghanistan, Pakistan and Nigeria. After Nigeria had interrupted the endemic transmission of wild poliovirus, three cases of WPV2 were reported in July and August 2016.

The risk of importation to Europe exists as long as there is polio circulating in the world. The importation of polioviruses through faecal excretion remains a potential threat. In order to avoid cases of polio due to VAPP and cVDPVs, the new endgame strategy for polio eradication includes sequential oral polio vaccine withdrawal, starting with Sabin type 2 strains [12].

The April 2016 meeting of the Strategic Advisory Group of Experts on immunisation (SAGE) presented the globally coordinated withdrawal of the type 2 component in OPV – also referred to as the 'tOPV to bOPV switch' [13].

## Public health conclusions

The risk of transmission following importation remains high in some countries, because transmission after reintroduction may occur if pockets of susceptible people exist. Vaccination coverage levels in the EU/EEA can be considered satisfactory as a whole (>90% for three doses of either IPV or OPV) and can explain the absence of WPV circulation in the region so far; however, vigilance needs to remain high. Unvaccinated population pockets should be identified, and targeted actions to increase vaccination coverage in these populations should to be immediately addressed, in accordance with national and WHO guidelines. High immunisation coverage in all population groups is essential and will also provide herd immunity to still susceptible individuals.

Maintaining high vaccine coverage and continued clinical, and, if indicated, environmental surveillance remain the most important tools for keeping Europe polio-free.

## References

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