

# Poliomyelitis

## Annual Epidemiological Report for 2018

### Key facts

- The WHO European Region was declared polio-free in 2002. Neither wild-type nor vaccine-type viruses were notified in the WHO European Region in 2018, but the risk of importation and subsequent transmission remain high in some countries.
- The most recent polio outbreaks in the EU/EEA area were in 2001 (three polio cases among Roma children in Bulgaria) and in 1992 (an outbreak in the Netherlands in a religious community opposed to vaccination).
- Inactivated poliovirus vaccines (IPV) are used in all EU/EEA countries. A fully immunized population is protected against disease that may be caused by both wild and vaccine-derived polioviruses.
- Imported wild-type and vaccine-type polioviruses remain a threat to unvaccinated people in the EU/EEA. Maintaining high vaccination coverage in all population groups and continued acute flaccid paralysis (AFP) surveillance remain the most important tools for keeping Europe polio-free. If justified, supplementary environmental surveillance in specific populations may provide additional information.
- A polio Public Health Emergency of International Concern (PHEIC) was declared by the International Health Regulations (IHR) Emergency Committee (EC) in May 2014 and is reviewed at three-month intervals. Polio remained a PHEIC throughout 2018.

### Methods

This report is based on data for 2018 retrieved from The European Surveillance System (TESSy) on 11 March 2020. TESSy is a system for the collection, analysis, and dissemination of data on communicable diseases.

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

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

Twenty-eight EU/EEA Member States reported data on polio to ECDC for 2018, and 23 of them did so in accordance with the 2008, 2012 or 2018 EU case definitions [3]. All Member States reported data from comprehensive surveillance systems with national coverage.

Member States of the WHO European Region submit annual reports on the status of their national polio eradication programme to WHO [4]. The last update was in May 2019 [5]. The following factors for the reintroduction and

---

Suggested citation: European Centre for Disease Prevention and Control. Poliomyelitis. In: ECDC. Annual epidemiological report for 2018. Stockholm: ECDC; 2021.

Stockholm, September 2021

© European Centre for Disease Prevention and Control, 2021. Reproduction is authorised, provided the source is acknowledged.

transmission after importation are assessed: routine immunisation coverage, surveillance indicators, the existence of a national outbreak preparedness plan, and the presence of high-risk groups or pockets of susceptible individuals.

## Epidemiology

For 2018, no cases of poliomyelitis were reported by any of the 30 EU/EEA countries.

## Discussion

Europe has remained polio-free since 2002. The latest assessment by the European Regional Certification Commission for Poliomyelitis Eradication (RCC) concluded that there was no wild poliovirus transmission or circulation of vaccine-derived poliovirus in the WHO European Region in 2018. However, one EU/EEA country (Romania) and two countries bordering the EU/EEA (Ukraine and Bosnia and Herzegovina) remain at high risk of a sustained polio outbreak following wild poliovirus importation or emergence of circulating vaccine-derived polio virus due to suboptimal programme performance and low population immunity [5]. The RCC expressed concern around indications that vaccine coverage is declining in a few countries in the WHO European Region. The RCC also expressed concern over the number of countries in the WHO European Region proposing to establish poliovirus essential facilities (PEFs) and urged them to carefully consider the requirements for establishing and maintaining PEFs. In 2018, the process for certification of PEFs was initiated.

Globally, in 2018 33 wild poliovirus cases type 1 (WPV1) were reported from two countries: Afghanistan (21) and Pakistan (12). Naturally circulating WPV2 was declared globally eradicated in September 2015. No cases due to WPV3 have been detected since 10 November 2012 [5,6]. The number of AFP cases caused by cVDPV slightly increased in 2018 (105 globally). However, in 2017 all cases were caused by cVDPV2, while in 2018 cases were reported due to cVDPV1 (Papua New Guinea (26), Indonesia (1)), cVDPV2 (Nigeria (34), Democratic Republic of Congo (20), Niger (10), Somalia (6\*), Mozambique (1)) and cVDPV3 (Somalia (7\*)) [7]. In 2018, the number of affected countries increased to seven countries compared to two countries in 2017 (Syria, Democratic Republic of Congo) [7].

The risk of the reintroduction and establishment of the virus in Europe persists as long as there are non- or under-vaccinated population groups in European countries and poliomyelitis is not eradicated [8]. The spread of polioviruses through faecal excretion from imported cases remains a potential threat. In order to avoid vaccine-associated paralytic polio and cVDPVs, the new endgame strategy for polio eradication includes sequential oral polio vaccine withdrawal, which started in 2016 with Sabin type 2 strains [9].

## Public health implications

A polio PHEIC was declared by the IHR Emergency Committee in May 2014 and is reviewed at three-month intervals [5,10]. The risk of transmission following importation remains high in some countries because transmission after reintroduction may occur if vaccination coverage is not satisfactory ( $\leq 90\%$  for three doses of either IPV or oral poliovirus vaccine) or if there are pockets of susceptible people. IPV are used in all EU/EEA countries. Vaccination coverage levels in the EU/EEA can be considered satisfactory, but a decrease in vaccination coverage in a small number of countries is concerning. Although the population immunity in Romania has slightly improved in 2018, it is still considered suboptimal [5]. Vigilance needs to remain high. Unvaccinated population pockets should be identified and immediate targeted actions should be taken to increase vaccination coverage in these populations (and potentially in the general population) in accordance with national and WHO guidelines. High immunisation coverage in all population groups is essential and will also provide population immunity to protect still susceptible individuals [11]. Maintaining high vaccine coverage and continued clinical and, if available, environmental surveillance remain the most important tools for keeping Europe polio-free.

\*One cVDPV2 and cVDPV3 isolated from one child.

## References

1. European Centre for Disease Prevention and Control. Introduction to the Annual Epidemiological Report. In: ECDC. Annual epidemiological report for 2018. Stockholm: ECDC; 2018. Available at: <http://ecdc.europa.eu/annual-epidemiological-reports/methods>
2. European Centre for Disease Prevention and Control. Surveillance systems overview [downloadable spreadsheet]. Stockholm: ECDC; 2018. Available at: <https://www.ecdc.europa.eu/en/publications-data/surveillance-systems-overview-2018>
3. European Centre for Disease Prevention and Control. EU case definitions. Stockholm: ECDC; 2018. Available at: <https://www.ecdc.europa.eu/en/surveillance-and-disease-data/eu-case-definitions>
4. World Health Organization Regional Office for Europe. RCC Terms of Reference. Copenhagen: WHO Regional Office for Europe. Available at: <https://www.euro.who.int/en/health-topics/communicable-diseases/poliomyelitis/activities/certification-and-maintenance-of-polio-free-status-in-the-european-region/european-regional-commission-for-the-certification-of-poliomyelitis-eradication/rcc-terms-of-reference>
5. World Health Organization Regional Office for Europe. 33rd meeting of the European Regional Commission for Certification of Poliomyelitis Eradication (RCC) – 28-29 May 2019 – Copenhagen, Denmark. Copenhagen: WHO Regional Office for Europe; 2019. Available at: [https://www.euro.who.int/\\_data/assets/pdf\\_file/0016/414025/33rd-RCC-eng.pdf](https://www.euro.who.int/_data/assets/pdf_file/0016/414025/33rd-RCC-eng.pdf)
6. World Health Organization Regional Office for Europe. Polio in the WHO European region – Fact sheet July 2016. Copenhagen: WHO Regional Office for Europe; 2016. Available at: [http://euro.who.int/\\_data/assets/pdf\\_file/0005/276485/Factsheet-Polio-en.pdf](http://euro.who.int/_data/assets/pdf_file/0005/276485/Factsheet-Polio-en.pdf)
7. Global Polio Eradication Initiative. Circulating vaccine-derived poliovirus. Geneva: WHO; 2019. Available at: <http://polioeradication.org/polio-today/polio-now/this-week/circulating-vaccine-derived-poliovirus>
8. Derrough T, Salekeen A. Lessons learnt to keep Europe polio-free: a review of outbreaks in the European Union, European Economic Area, and candidate countries, 1973 to 2013. Euro Surveill. 2016 Apr 21;21(16). Available at: <http://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2016.21.16.30210>
9. Global Polio Eradication Initiative. Global Polio Eradication Initiative – Annual Report 2018. Geneva: WHO; 2019. Available at: <http://polioeradication.org/wp-content/uploads/2016/07/Annual-report-2018.pdf>
10. World Health Organization. WHO statement on the meeting of the International Health Regulations Emergency Committee concerning the international spread of wild poliovirus. Geneva: WHO; 2014. Available at: <http://www.who.int/mediacentre/news/statements/2014/polio-20140505>
11. Celentano LP, Carrillo-Santistevé P, O'Connor P, Danielsson N, Huseynov S, Derrough T, et al. Global polio eradication: Where are we in Europe and what next? Vaccine. 2018 Aug 28;36(36):5449-5453.