Report of the thirty-seventh meeting of the European Regional Commission for Certification of Poliomyelitis Eradication

7–8 September 2023
Copenhagen, Denmark
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ABSTRACT

The thirty-seventh meeting of the European Regional Commission for Certification of Poliomyelitis Eradication (RCC), held on 7–8 September 2023, reviewed annual updates submitted by the Member States of the WHO European Region on the status of the national polio eradication programmes in 2022. The RCC concluded, based on available evidence, that there was no wild poliovirus transmission in the WHO European Region in 2022 and the events and outbreaks caused by vaccine-derived poliovirus were adequately managed. The RCC also concluded that Bosnia and Herzegovina and Ukraine remain at high risk of a sustained polio outbreak in the event of importation of wild poliovirus or the emergence of circulating vaccine-derived poliovirus primarily due to low population immunity.

Keywords

POLIOMYELITIS – prevention and control
IMMUNIZATION PROGRAMS
EPIDEMIOLOGIC SURVEILLANCE – standards
CONTAINMENT OF BIOHAZARDS – standards
LABORATORY INFECTION – prevention and control
STRATEGIC PLANNING
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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AFP</td>
<td>acute flaccid paralysis</td>
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<tr>
<td>bOPV</td>
<td>bivalent oral polio vaccine</td>
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<td>CC</td>
<td>Certificate of Containment</td>
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<td>CP</td>
<td>Certificate of Participation</td>
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<td>cVDPV</td>
<td>circulating vaccine-derived poliovirus</td>
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<tr>
<td>cVDPV2</td>
<td>circulating vaccine-derived poliovirus type 2</td>
</tr>
<tr>
<td>cVDPV3</td>
<td>circulating vaccine-derived poliovirus type 3</td>
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<td>CWG</td>
<td>containment working group</td>
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<td>ES</td>
<td>environmental surveillance</td>
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<td>EV</td>
<td>enterovirus</td>
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<td>EVS</td>
<td>enterovirus surveillance</td>
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<td>GPEI</td>
<td>Global Polio Eradication Initiative</td>
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<td>ICC</td>
<td>Interim Certificate of Containment</td>
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<td>IM</td>
<td>infectious material</td>
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<td>IPV</td>
<td>inactivated poliovirus vaccine</td>
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<td>IPV1</td>
<td>Inactivated poliovirus vaccine dose 1</td>
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<tr>
<td>IPV2</td>
<td>Inactivated poliovirus vaccine dose 2</td>
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<tr>
<td>ITD</td>
<td>intratypic differentiation</td>
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<td>MSNAC</td>
<td>Member States National Authority for Containment</td>
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<td>NCC</td>
<td>National Certification Committee</td>
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<tr>
<td>nOPV</td>
<td>novel oral polio vaccine</td>
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<tr>
<td>NPEV</td>
<td>non-polio enterovirus</td>
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<td>NPCC</td>
<td>National Poliovirus Containment Coordinator</td>
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<td>OBRA</td>
<td>outbreak response assessment</td>
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<tr>
<td>OPV</td>
<td>oral polio vaccine</td>
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<td>PIM</td>
<td>potentially infectious material</td>
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<td>PEF</td>
<td>poliovirus essential facilities</td>
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<tr>
<td>POL3</td>
<td>3 doses of polio vaccine</td>
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<td>VI</td>
<td>virus isolation</td>
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<td>VPD</td>
<td>vaccine-preventable disease</td>
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<td>WPV</td>
<td>wild poliovirus</td>
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<td>WPV1</td>
<td>wild poliovirus type 1</td>
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<tr>
<td>WPV3</td>
<td>wild poliovirus type 3</td>
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Introduction
The thirty-seventh meeting of the European Regional Commission for Certification of Poliomyelitis Eradication (RCC) was held on 7–8 September 2023 in a hybrid mode in Copenhagen, Denmark. The meeting was opened by Dr Siddhartha Datta, Regional Advisor, Vaccine-preventable Diseases and Immunization Programme, WHO Regional Office for Europe (Regional Office) and Professor David Salisbury, the RCC Chair, who welcomed the Commission members and meeting participants. Dr Tapani Hovi completed his tenure as RCC member. The RCC Chair, members and the Secretariat thanked him for his diligence and expertise over 11 years of service.

Scope and purpose of the meeting
The scope and purpose of the meeting were to:

- brief the RCC on the current global and regional status of polio eradication;
- review annual updated certification documentation on poliomyelitis (polio) in all Member States of the WHO European Region (the Region) for 2022;
- review response and risk mitigation activities in the Member States;
- review the current status of regional poliovirus containment;
- recommend the Regional Office strategies and/or actions to strengthen efforts to sustain polio-free status of the Region focusing on high-risk countries and the countries experiencing poliovirus events; and
- review working procedures of the RCC and to discuss a plan of activities for 2024.

Plenary Session 1: Update on global polio eradication and sustaining polio free Europe

Global update from Global Polio Eradication Initiative (GPEI)
Dr Tallis, WHO headquarters, presented the 2022–2026 GPEI goals and strategy milestones and trends in wild poliovirus (WPV) type 1 (WPV1) cases and isolates from 2016–2023. As of August 2023, WPV1 was detected in seven paralytic cases and 49 environmental surveillance (ES) isolates, mostly in Afghanistan and Pakistan. The quality of polio immunization is improving in Afghanistan, but pockets of persistently missed children remain, particularly in the southern region of the country. WPV1 detections have decreased in Pakistan, but significant numbers of children are being missed due, in part, to parental resistance to vaccination.

In the WHO African Region, after WPV1 detections in February 2022, a large, coordinated response was implemented across Malawi, Mozambique, Tanzania, Zambia, and Zimbabwe, including 21 rounds of supplemental immunization activities (SIA). The last case was detected in August 2022, already twelve months ago. An outbreak response assessment (OBRA) is planned in the third quarter of 2023 and closure of these outbreaks will be considered.

Globally, geographic distribution of circulating vaccine-derived poliovirus (cVDPV) type 2 (cVDPV2) cases has been declining. The Democratic Republic of Congo, Nigeria, Somalia, and Yemen consistently account for 80–90% of the global cVDPV2 caseload. Fewer but larger polio vaccination campaigns and their timeliness and quality remain the key to success. Effective immunization response stopped most outbreaks. Over the past 18 months, 29% of campaigns met the target of implementing the first campaign within 28 days of outbreak confirmation. However, this was not achieved in the most consequential geographies and countries that have repeated importations from these geographies. These countries require a more intensified and tailored approach.

Global poliovirus surveillance performance is highly variable by country; however, both Afghanistan and Pakistan meet the target of 35 days from acute flaccid paralysis (AFP) onset to case reporting. Currently, 45 countries have not introduced a second dose of inactivated polio vaccine (IPV) vaccine and the global coverage of the first dose of IPV (IPV1) was highly variable by country in 2022.
There is a continued need to reach children persistently missed for polio vaccination with regular SIAs, ensure high-quality responses to outbreaks, enhance the current data-driven approach, and better integrate social and behaviour change activities. GPEI is currently off-track to meet Goal Two of the Polio Eradication Strategy 2022–2026 strategic framework (namely to Stop cVDPV transmission and prevent outbreaks in non-endemic countries) due to the challenges responding to cVDPV outbreaks, continued transmission in the most consequential geographies, the lack of an outbreak response in some countries, and a growing susceptibility to type 1 and type 2 polioviruses.

**Discussion**

The RCC noted reduced AFP surveillance in countries over time, partly due to inadequate funding for polio activities, particularly in countries that have transitioned off GPEI support. Many countries in the European Region are not conducting AFP surveillance and it is assumed that a clinical case would be identified by the health-care system. The role of supplementary poliovirus surveillance thus becomes invaluable. The RCC noted that there are more global resources in place for WPVs than for vaccine-derived polioviruses (VDPVs).

**Polio programme annual update from the WHO Regional Office for Europe**

The Region continued reporting polioviruses of concern, mainly due to increased travel from areas of circulation, pockets of unimmunized children, and the continued use of live type 2 polio vaccines elsewhere. In 2022, the Region dealt with two poliovirus outbreaks in Israel (cVDPV3 and cVDPV2), a cVDPV2 outbreak in the United Kingdom, and poliovirus detections in Germany, Netherlands (Kingdom of the), Poland and the Russian Federation. Fewer poliovirus detections have occurred in 2023, but the significance of these detections is greater. France reported detections of cVDPV2 and immunodeficiency-related vaccine-derived poliovirus type 3, both in patients from outside the region, Israel detected Sabin type 2 and cVDPV2, Poland detected cVDPV3 and the Russian Federation detected cVDPV2.

The last cVDPV2 from the 2021 Ukrainian outbreak was isolated in December 2021. For the 2022 cVDPV3 outbreak in Israel, the last virus was detected in May 2022. The last cVDPV2 detection in the United Kingdom was in November 2022. For the 2022–2023 cVDPV2 outbreak in Israel, the frequency, concentration and geographic distribution of detections have been declining rapidly with the last isolate in May 2023. Poland detected three VDPV3 in 2023; the viruses were not classified yet with a search continuing for a possible chronic excreter.

A risk assessment for vaccine-preventable diseases (VPD) was conducted for Ukraine and neighbouring countries in 2022. Recommendations from this assessment included updating polio outbreak preparedness and response plans, enhancing and maintaining VPD surveillance efforts, developing and implementing a standardized digital system incorporating the existing web-based reporting platforms, building vaccine confidence among resident and refugee populations, ensuring multilingual risk communication and community engagement, and conducting primary immunodeficiency surveillance.

Out of 51 countries using an IPV-only schedule globally, 39 are in the European Region. Aside from Malaysia and most recently Canada, United Kingdom and United States, no other IPV-only country has reported cVDPV2 circulation. The bivalent oral polio vaccine (bOPV) cessation group at GPEI is working to support policy recommendations for the Strategic Advisory Group of Experts on Immunization in the second quarter of 2024, including the role of novel oral polio vaccine (nOPV) type 1 and nOPV type 3. In 2018, the RCC and European Technical Advisory Group of Experts on Immunization recommended that Member States in the Region gradually phase out OPV.
As of September 2023, only Turkmenistan has a single dose of IPV in the routine schedule. Kazakhstan maintains one bOPV booster dose, and Azerbaijan plans to keep two bOPV booster doses.

The Secretariat presented the following activities planned for the upcoming months:

- review the polio emergency status in the Region
- provide technical assistance and guidance to affected countries
- provide technical assistance to strengthen AFP surveillance and sensitize countries on ES
- conduct surveillance reviews in selected countries
- revise the risk assessment methodology and operations plan for the RCC
- finalize the review of preparedness plans with a focus on vaccine response
- revise the polio outbreak simulation exercise methodology
- conduct simulation exercises in selected countries.

Discussion

The RCC discussed the value of ES and acknowledged the high coverage with IPV1 and IPV dose 2 (IPV2) vaccination in most countries in the Region. The RCC expressed concern over the lack of data on polio vaccination rates in northern Syria and noted the movement of people across the border into Türkiye.

WHO European Polio Laboratory Network update and status of poliovirus containment in the European Region

The WHO European Regional Polio Laboratory Network encompasses 47 national and subnational laboratories in 37 countries. These laboratories provide services to all 53 Member States.

The 2023 accreditation review found that overall laboratory performance was excellent. One national laboratory regained full accreditation for virus isolation (VI) and intratypic differentiation (ITD) of poliovirus and one lab is provisionally accredited pending VI proficiency testing and resumption of PV diagnostic work. Several laboratories had difficulties receiving proficiency panels. Currently, 43 reports are finalized, one is in process, and three are under review.

The network maintained its performance accreditation standards in 2022. The current situation in the Region calls for the Network’s flexibility and the use of ITD needs to expand. Emerging methods such as direct detection of nucleotide sequences and whole genome sequencing are being considered for implementation and laboratories are recovering from the COVID-19 pandemic. Challenges include increased ES resulting in a significant workload for laboratories. Some countries in Central Asia batch samples before shipping, which delays lab processing; and the war in Ukraine creates uncertainty about logistics and information flow for future samples. Supplying laboratories in Belarus and the Russian Federation with ITD kits and conducting proficiency testing is not currently possible. The status of ITD implementation in laboratories in the Russian Federation needs clarification and there has been a rapid change in management and staffing of the lab in Türkiye. There is no online analysis tool for laboratory data; an increasing number of polioviruses require sequencing beyond the VP1 gene, and the introduction of nOPV type 2 has increased the ITD complexity. The Russian Federation has been able to access ITD kits for testing and is reporting results via the ITD algorithm.

The RCC is concerned that the laboratory staff in Türkiye are not being paid by the government for the work conducted in Northern Syria. WHO’s Regional Office for the Eastern Mediterranean together with GPEI needs to identify sustainable solutions to poliovirus surveillance in the conflict zone.
Regional inventory summary and containment progress were reviewed. In 2023, there were 42 countries in the Region without poliovirus essential facilities (PEF) and 11 countries with PEF; in two of these countries the challenges persist. In the 11 PEF countries there are 32 PEFs, and 29 Certificate of Participation (CP) applications have been submitted to the Containment Working Group (CWG); of these, 20 CPs have been issued. Countries are currently preparing for the next steps of the certification process – conducting facilities audits against poliovirus containment requirements and submitting applications for the Interim Certificate of Containment (ICC). Two ICCs have been issued by the CWG to date. There are constant changes to the National Poliovirus Containment Coordinators (NPCCs) in countries, who need to be educated about poliovirus containment work.

There is a robust mechanism of inventory revision for infectious material/potentially infectious material (IM/PIM) in the Region and there has been progress with PEF audits in a number of countries. An all-Region NPCC and National Authority for Containment (NAC) meeting is scheduled for end-September 2023. Challenges to poliovirus containment exist; all guidance documents on poliovirus containment are currently under revision. The status of Romania’s current stocks remains unclear and Israel needs to confirm the destruction of VDPV2 and VDPV3 materials. Other countries need to review their materials generated during 2021–2023 diagnostic and surveillance activities, especially those countries, where polioviruses of concern were detected (VDPV2, VDPV3 and Sabin 2) and dispose of IMs and PIMs; and Serbia needs to expedite its work on PEF certification.

**Discussion**

The RCC discussed country and site retention of poliovirus materials and the status of a rapid test for poliovirus. There is currently no rapid diagnostic test on the horizon, however, there are some promising developments on rapid tests for clinical samples and potentially for environmental samples.

**Assessment of country polio preparedness in the European Region**

The Secretariat conducted an assessment of polio preparedness plans shared by the countries. The objectives of this activity were to assess the type, quality and completeness of polio preparedness plans from countries, identify plan components that need strengthening, identify support needs for developing and updating these plans, and identify specific plans that could be used to guide countries in developing and updating their plans.

The Regional Office received polio preparedness plans from 48 of the 53 Member States. Of these, eight plans are valid, seven are expired, 29 have no end date, two were not included in the assessment because they are not translated, and two had no start or end date. Of the 46 plans that were reviewed, seven countries used the GPEI preparedness template. The types of plans submitted include 18 to sustain polio-free status, 10 preparedness or preparedness and response plans, 12 response plans, and nine other types of plans.

Some plans require urgent revision. Plans tested via simulation exercises or real-life scenarios tend to be of higher quality, even if not compliant with the GPEI model. France and the Netherlands (Kingdom of the) have developed separate plans for containment breaches, and Belarus and the United Kingdom have relevant chapters. A uniform approach for plans based on GPEI guidance is not feasible. The preparedness section in the electronic annual progress report (e-APR) should be revised.
Discussion

The RCC discussed the importance of countries conducting an outbreak simulation exercise in order to test their plan. GPEI guidelines may not be relevant to the Region; it may be necessary to develop Region-specific guidance. Approaches of WHO’s Western Pacific Region and the Pan American Health Organization need to be compared. The Regional Office works closely with the Eastern Mediterranean and South-East Asia regions on preparedness activities.

RCC recommended that a technical report on the polio preparedness assessment be presented at the upcoming Global Certification Commission (GCC) meeting to encourage other RCCs to share progress on reviewing plans in their regions.

Plenary Session 2: Sustainability of polio-free Europe: Review of national updated documents and risk assessment for 2022 by epidemiological zones

Update on status of received reports

At the time of the meeting, all 53 eAPRs for 2022 were received, although some submissions were late and required repeated follow-up by the Secretariat.

Discussion

The RCC commended the Secretariat for its review of the eAPRs and the preparation of summaries for all countries. The RCC noted that the use of the eAPR for reporting helps countries submit their annual reports more easily and timely. Nordic-Baltic zone.

Based on the information available, the RCC concluded that the probability is high that WPV or VDPV had not been circulating in the zone in 2022 and that WPV importation or circulation of VDPV would have been detected promptly by the existing health/surveillance systems. The risk of transmission following the importation of WPV or circulation of VDPV in countries of this zone ranges from low to intermediate. There is declining vaccination coverage in Estonia and suboptimal AFP surveillance in all countries implementing it. National Certification Committee (NCC) memberships in Lithuania and Sweden present a potential conflict of interest that needs to be addressed.

Feedback to the countries

- **Denmark** – is considered to be at low risk. The preparedness plan has not been tested. Presence of PEF requires higher attention to surveillance and preparedness.
- **Estonia** – is considered to be at intermediate risk. The RCC noted that Estonia had suboptimal population immunity in both 2021 and 2022 and that the country lacks a current national plan of action for outbreak response.
- **Finland** – is considered to be at low risk. Immunization coverage in 2022 was concerning.
- **Iceland** – is considered to be at low risk.
- **Latvia** – is considered to be at low risk. The RCC is concerned that the plan of action for outbreak response has not been updated since 2016.
- **Lithuania** – is considered to be at low risk. There are NCC members with potential conflicts of interest. The RCC is concerned about the expired plan of action for outbreak response and low vaccination coverage in some districts.
- **Norway** – is considered to be at low risk. Norway noted that they have vulnerable populations.
- **Sweden** – is considered to be at low risk. There are NCC members with conflicts of interest. Presence of PEF requires higher attention to surveillance and preparedness.
Western zone
Based on the information available, the RCC concluded that the probability is high that neither WPV nor VDPV had been circulating in the zone in 2022 and that WPV importation or circulation of VDPV would have been detected promptly by the existing health/surveillance systems. The risk of transmission following the importation of WPV or circulation of VDPV in countries of this zone ranges from low to intermediate. Polio vaccination coverage in Austria has been suboptimal since 2015. Several countries had suboptimal or uncertain immunization coverage of infants by 12 months of age. The RCC advised that supplementary surveillance in the presence of PEF can be further developed and improved in PEF-hosting countries.

Feedback to the countries
• Austria – is considered to be at intermediate risk. The RCC continues to have concerns over suboptimal immunization coverage in the country.
• Belgium – is considered to be at intermediate risk due primarily to the containment risk. Presence of PEF requires higher attention to surveillance and preparedness, including availability of ES in the locality of manufacturing.
• France – is considered to be at low risk. The RCC also advises to review the national inventory and ensure that all poliovirus materials of concern (WPV type 3 (WPV3), VDPV2) have been inventoried and destroyed in non-PEF. Presence of PEF requires higher attention to surveillance and preparedness.
• Germany - is considered to be at low risk. The RCC appreciates the efforts of the country to address declines in polio vaccination coverage and notes the effective response to the VDPV1 event.
• Ireland – is considered to be at low risk.
• Luxembourg – is considered to be at low risk.
• Monaco – is considered to be at low risk.
• Netherlands (Kingdom of the) – is considered to be at low risk. Presence of PEF requires higher attention to surveillance and preparedness. The RCC encourages the country to have additional protections in place to address containment breach risks.
• Switzerland – is considered to be at low risk due to the suboptimal quality of poliovirus surveillance. Destruction of WPV3 is in progress.
• United Kingdom – is considered to be at low risk. Presence of PEF requires higher attention to surveillance and preparedness. The RCC expresses concern that the annual report did not contain information on zero-dose children, particularly in the communities where the polio risk is high. The RCC also expresses concern about the lack of funding for previously recommended activities and requests a supplementary six-month report on the status of the polio outbreak.

Central zone
Based on the information available, the RCC concluded that the probability is high that WPV had not been circulating in the zone in 2022 and likelihood of VDPV circulation was ruled out by the field and the desk reviews. The risk of transmission following the importation of WPV or circulation of VDPV in countries of this zone ranges from low to intermediate. There was decreasing vaccination coverage at the subnational level in Poland and Slovenia. Hungary has an outdated preparedness plan for outbreak response. This subregion has two PEF countries: Belarus and Hungary.
Feedback to the countries

- **Belarus** – is considered to be at low risk.
- **Bulgaria** – is considered to be at low risk. The RCC notes that including cases of facial palsy in AFP surveillance reporting skews the reporting and should be avoided.
- **Czechia** – is considered to be at low risk.
- **Hungary** – is considered to be at low risk. The RCC is concerned about the outdated preparedness plan for outbreak response.
- **Poland** – is considered to be at intermediate risk due to decreasing subnational immunization coverage. RCC commended Poland for responding to the influx of refugees from Ukraine and expanding ES in the country.
- **Slovakia** – is considered to be at low risk.
- **Slovenia** – is considered to be at intermediate risk due to decreasing subnational immunization coverage.

Southern zone

Based on the information available, the RCC concluded that the probability is high that WPV had not been circulating in the zone in 2022 and that WPV importation or circulation of VDPV would have been detected promptly by the existing health/surveillance systems as it was detected in Israel. The risk of transmission following the importation of WPV or circulation of VDPV in countries of this zone was low. Vaccination coverage is uncertain in Cyprus and Greece and there are persistently under-immunized communities in Israel. AFP surveillance is suboptimal throughout the subregion.

Feedback to the countries

- **Andorra** – is considered to be at low risk. RCC urges the need and importance to nominate an NPCC as soon as possible and officially inform the Regional Office.
- **Croatia** – is considered to be at low risk. The RCC is concerned about the expired plan of action for outbreak response and low vaccination coverage in some districts.
- **Cyprus** – is considered to be at low risk. The RCC is concerned about the methodology used to assess vaccination coverage.
- **Greece** – is considered to be at low risk. The RCC commended the country for the recent vaccination of migrant populations and IPV catch-up activities. The RCC reiterates concerns that the vaccination coverage data may not be accurate.
- **Israel** – is considered to be at low risk. The RCC commended Israel for the SIAs that have been conducted and encouraged the country to conduct additional targeted vaccination activities in under-immunized communities. The RCC encourages the country to destroy or transfer remaining VDPV2 and VDPV3 materials.
- **Italy** – is considered to be at low risk.
- **Malta** – is considered to be at low risk. The RCC is concerned that a preparedness plan for outbreak response was not shared with the Secretariat. The RCC encourages the country to increase its surveillance performance.
- **Portugal** – is considered to be at low risk.
- **San Marino** – is considered to be at low risk. The RCC encourages the country to improve AFP surveillance.
- **Spain** – is considered to be at low risk.
Central-Eastern zone
Based on the information available, the RCC concluded that it is unlikely that WPV has been circulating in the zone in 2022 and the likelihood of VDPV circulation was ruled out by the field and the desk reviews. The risk of transmission following importation of WPV or circulation of VDPV in countries of this zone ranges from low to high. The risk is high in at least two countries: Bosnia and Herzegovina and Ukraine, primarily due to suboptimal immunization coverage. The AFP surveillance is suboptimal throughout the zone, with the exception of Ukraine. A preparedness plan for outbreak response has expired for Bosnia and Herzegovina. There are containment risks in Romania and Serbia. NCC membership in Bosnia and Herzegovina presents a potential conflict of interest that needs to be addressed. Reports were received after the deadline from Albania and Romania.

Feedback to the countries
- **Albania** – is considered to be at low risk.
- **Bosnia and Herzegovina** – is considered to be at high risk due to suboptimal vaccination coverage with 66% of the population living in districts with 3 doses of polio vaccine (POL3) coverage below 90%. The country is also missing a preparedness plan for outbreak response and has NCC members with a conflict of interest. The RCC notes that there have been improvements and encourages the country to continue working toward improved performance with both vaccination coverage and surveillance.
- **Montenegro** – is considered to be at intermediate risk due to suboptimal vaccination coverage and suboptimal surveillance performance. The RCC expresses a concern that for four years the NPCC is reported as not appointed in the country. The RCC urges the need and importance to nominate an NPCC and officially inform the Regional Office as soon as possible.
- **North Macedonia** – is considered to be at intermediate risk due to suboptimal vaccination coverage and surveillance performance. The RCC expresses concern about the absence of an NPCC in the country and urges the country to nominate an NPCC as soon as possible and officially inform the Regional Office.
- **Republic of Moldova** – is considered to be at intermediate risk due to suboptimal vaccination coverage. RCC commended the actions taken in response to the refugee influx from Ukraine.
- **Romania** – is considered to be at intermediate risk due to suboptimal vaccination coverage. As a PEF country, Romania is also subject to a containment risk. The RCC urges the need for high-level political commitment and effort to immediately proceed towards destruction/transfer of all poliovirus materials that are currently subject to containment or towards appropriate containment certification of the facility retaining these materials.
- **Serbia** – is considered to be at intermediate risk due to suboptimal surveillance performance. RCC expresses a concern that there is no progress with the containment certification process in Serbia and the application for a CP is still pending with the country.
- **Ukraine** – is considered to be at high risk due to low vaccination coverage with 98% of the population living in districts with POL3 coverage below 90%. The RCC commends the country on the efforts made during the conflict to maintain surveillance, laboratory capacity, and vaccination coverage. The RCC urges the country to increase vaccination coverage and minimize the susceptibility gap.
MECACAR zone
Based on the information available, the RCC concluded that the probability is high that neither WPV nor VDPV had been circulating in the zone in 2022. The risk of transmission following the importation of WPV or circulation of VDPV in countries of this zone ranges from low to intermediate. Preparedness plans for outbreak response are expired in Armenia and Türkiye. Turkmenistan remains the only Member State in the Region that has not introduced a second dose of IPV.

Feedback to the countries

- **Armenia** – is considered to be at intermediate risk due to suboptimal surveillance quality. The preparedness plan for outbreak response has also expired. The RCC recommends a surveillance review be conducted in Armenia.
- **Azerbaijan** – is considered to be at intermediate risk due to suboptimal vaccination coverage and suboptimal surveillance performance.
- **Georgia** – is considered to be at intermediate risk due to suboptimal vaccination coverage with more than two-thirds of the population living in districts with POL3 coverage below 90%. Surveillance performance needs to be improved.
- **Kazakhstan** – is considered to be at low risk.
- **Kyrgyzstan** – is considered to be at intermediate risk. The RCC has concerns about sub-national vaccination coverage and the performance of AFP surveillance. The RCC recommends the country improve the AFP surveillance rate and improve the timeliness of reporting to WHO.
- **Russian Federation** – is considered to be at low risk.
- **Tajikistan** – is considered to be at low risk.
- **Türkiye** – is considered to be at low risk. The RCC is concerned that the preparedness plan for outbreak response has expired. The RCC commends Türkiye for conducting AFP testing for Syria and advises the country to report AFP samples from Türkiye and northern Syria separately in future reports.
- **Turkmenistan** – is considered to be at low risk. The RCC has concerns about delays with IPV2 introduction.
- **Uzbekistan** – is considered to be at low risk.

Poliovirus surveillance landscape analysis in the European Region
The aim of the analysis was to evaluate the role of poliovirus ES in the Region including describing regional and country-level implementation of ES, evaluating ES’ role in detecting circulation and importations of poliovirus in IPV-only and OPV-using contexts, examining how countries have responded to poliovirus detections made through ES, and assess the current limitations associated with its use in the Region. Country-level data from 2018–2022 were obtained from eAPRs, supplementary laboratory data, national immunization coverage and vaccine schedules from the electronic Joint Reporting Form, and annual poliovirus risk assessments.

From 2018–2022, 26 countries in the Region reported conducting ES for poliovirus during one or more years. Fewer countries reported use of ES than enterovirus surveillance (EVS) (30 countries) or AFP surveillance (44 countries). Between 8–11 countries used ES in combination with AFP surveillance or with EVS (2–3 countries) or both (10–13 countries). Of the 53 countries in the Region, 39 (74%) use IPV-only, and 18 (46%) of these use ES; 14 (26%) countries use OPV in their routine immunization programme, and seven (50%) of these countries use ES.

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1 Eastern Mediterranean, Caucasus, Central Asian Republics and Russian Federation
The number of ES sites and samples collected was highly variable by country with a median of 140 samples from 14 sites annually per country; sample collection in some countries was irregular and not poliovirus-specific. The total population included in the network was also highly variable by country with the greatest number of sites/samples and population covered from catchment areas >1,000,000 persons, which is outside the GPEI-recommended catchment size.

The enterovirus (EV) target detection rate for ES sites is ≥50% for samples collected over 12 months. Among countries with ES, higher EV percentages were isolated annually from IPV-only countries compared to OPV-using countries. Sabin-like polioviruses were only isolated from 3.3% of samples in OPV-using countries and from 2.4% of samples from 44% of IPV-only countries.

EVS was implemented in 30 countries from 2018–2022, including 25 IPV-only countries and five OPV-only countries. Three (12%) IPV-only countries reported the detection of polioviruses through EVS during 2018–2022 versus all OPV-using countries. Higher percentages of non-polio enteroviruses (NPEVs) and polioviruses were detected through EVS in IPV-using countries.

AFP surveillance was implemented in 44 countries in the Region from 2018–2022 including all 14 OPV-using countries and 30 (77%) IPV-only countries. In polio-free regions, the target annual non-polio AFP rate is ≥1 per 100,000 population less than 15 years; this was met by 4–10 OPV-using countries and 6–13 IPV-only countries during a single year.

In summary, the implementation and sensitivity of poliovirus surveillance are highly variable in countries in the Region. AFP surveillance was weak in many IPV-only countries but improved overall in 2022. EVS was widely implemented and sensitive in some IPV-only countries but there was low overall sensitivity of ES in many countries, especially OPV-using countries. However, ES is still detecting NPEVs and polioviruses in these countries, and more polioviruses are detected in more countries through ES in IPV-only countries than EVS or AFP surveillance. ES can provide early detection of subclinical circulation of polioviruses, particularly where AFP/EVS is suboptimal or in subnational areas with low coverage and/or heightened risk of importation. Not all ES detections in the Region require an emergency response but should serve as a reminder of poliovirus importation risk and the need to address immunity gaps. In temperate climates with strong sanitation, vaccination schedules with IPV-only can protect recipients from paralysis and reduce transmission of poliovirus through the oral-oral route. Poliovirus infection in IPV-only settings with high vaccination coverage is less likely to result in clinical paralytic polio and will not be detected by AFP surveillance. ES may be more sensitive than AFP surveillance in some IPV-only settings; particularly areas at higher risk of poliovirus importation.

**Discussion**

The RCC discussed whether EVS has been effective in detecting polio cases in the Region. The WHO guidelines were developed for countries with a higher EV burden. The RCC noted that ES isolation was higher in IPV-only countries compared to OPV-using countries. This could be due to issues with sample collection in some countries. Fewer Sabin-like polioviruses were isolated in OPV-using countries. There are many differences between countries and the way that they collect samples and treat water, so it is difficult to make comparisons.

The RCC recommended that a country context should be taken into consideration when considering expanding ES. Most countries are using ES not just for poliovirus surveillance, but also for other viruses. RCC discussed the frequency of sampling and increasing the number of ES sites; the location of sampling sites may be more important than the total number. The Regional Office may consider providing guidance to countries on how supplemental surveillance should be used depending on the goals to be achieved.
Plenary Session 3: 2022 outbreaks in the European Region

Ukraine cVDPV2 outbreak
In 2021, an outbreak of poliovirus was confirmed in Ukraine with cVDPV2 isolated in two children with AFP and 19 healthy contact children. A vaccination campaign was conducted in 2022 but affected by the war. Routine POL3 coverage among children up to one year of age in 2022 was 80.1% with the lowest vaccination rates reported in Zakarpattya where cases were identified. The outbreak response included increasing the sensitivity of AFP surveillance and ES, improving the performance of the catch-up polio immunization campaign, and carrying out a communication campaign to maximize vaccination coverage.

An OBRA took place in May 2022, which found Ukraine had responded appropriately to the outbreak despite enormous challenges and found no evidence of continued cVDPV2 transmission. Key recommendations and conclusions were for the Regional Office to consider closing the outbreak and obtain information on surveillance and vaccination from the European countries receiving Ukrainian migrants. As recommended by OBRA, Ukraine submitted a report of activities through August 2023 to confirm that surveillance and immunization activities are maintained. Polio vaccination coverage for the first seven months of 2023 was very low (45.5%–52.6 for doses 3–6) and challenges exist with denominators since so many children have left Ukraine.

Challenges of the outbreak response included mass displacement of people during the war, insufficient vaccination coverage, and challenges to cold chain and logistics. The country plans to improve data monitoring and vaccine supply and distribution, transition to using only IPV vaccine, train medical personnel, and improve communication work with the population. ES strengthening is ongoing.

Advice to Ukraine
The RCC commended the Ukrainian staff for the tremendous efforts undertaken during an extraordinarily difficult situation and noted there is no evidence of ongoing poliovirus transmission in Ukraine nor any evidence of poliovirus transmission in children leaving Ukraine for neighbouring countries. The RCC agrees with the recommendation to close the outbreak but encouraged the country to take all possible measures to improve population immunity.

Israel cVDPV3 outbreak
After the first VDPV3 detection in September 2021, an AFP case was detected in February 2022 and eight additional isolates from health contacts; the last environmental detection was in June 2022. Israel increased ES from 30 to 90 sites and developed an in-house reverse transcription polymerase chain reaction test to screen for the unique outbreak strain.

A polio vaccination campaign with bOPV and IPV was conducted focusing on children aged 6 weeks through 17 years for complete polio vaccination.

Advice to Israel
The RCC acknowledged the high-quality surveillance and vaccination response in Israel but would like to better understand the resulting immunization coverage levels. Due to the lack of identification of new cases using extremely sophisticated technology, the RCC agrees with the Regional Office that the outbreak is over.
United Kingdom cVDPV2 outbreak
Poliovirus type 2 was predominantly present in ES sampling sites covering North and East London but was also detected at lower frequency and concentration in adjacent areas. The outbreak response included intensified clinical and ES surveillance with increased frequency of sampling and 15 new ES sites across England. Routine childhood immunization was strengthened and an IPV booster campaign was conducted for all children <10 years of age in Greater London. The last poliovirus isolation was in November 2022.

A stool survey was implemented in October 2022 to collect samples from children <16 years of age using an opportunistic approach. Thus far, no poliovirus has been isolated but a mix of other enteroviruses was found. The country plans to further develop lab algorithms, conduct clinical data follow-up, and continue the study.

Advice to United Kingdom
The RCC commends the country for the strong outbreak response and encourages the country to continue the intensified EVS and expanded ES and recommends using bag filtration for ES. The RCC also encourages the country to expand the NCC to include public health participants. The country should continue catch-up IPV vaccination and provide data on zero-dose children. The RCC requests an update from the country within six months to provide information about catch-up vaccination, zero-dose children, and the status of RCC members.

Israel cVDPV2 outbreak
The first cVDPV2 detection was in April 2022 with an AFP case reported in February 2023. The country has conducted intensive surveillance and nationwide IPV catch-up vaccination. PVs were found in almost all areas of the country but viral load is decreasing with the last detection in May 2023. Israel has developed community-tailored immunization campaigns, increased vaccinators, conducted outreach and door-to-door vaccination, and used social media and local influencers for communications. This outbreak was in an insular, well-defined community and communications have taken place within sites where this community commonly travels.

Advice to Israel
The RCC commends the country for the extremely high standard of polio surveillance and encourages continued surveillance until and after the closure of the outbreak. The RCC also encourages the country to make every effort to improve polio immunity in affected communities.

Conclusions
All 53 countries submitted their annual reports for 2022 and based on the available information, the RCC concluded that the WHO European Region continued to be free of endemic polio.

The RCC is concerned about the slow recovery of vaccination of children following the COVID-19 pandemic; there is still more work to be done particularly in identifying and catching up zero-dose children. The Regional Office will soon release a guide on addressing immunization inequity which is a hands-on document to be used at the subnational level to address community-level gaps. It is hoped that immunization uptake will increase in the Region in 2024. There will be a special focus on Poland due to its proximity to Ukraine and the large refugee populations living there.

The RCC feels that the four polio outbreaks were well managed and evidence suggests transmission has stopped. The RCC concurred with the Secretariat’s recommendation to close the outbreaks in Ukraine (cVDPV2) and Israel (cVDPV3) and looks forward to closing the two remaining outbreaks. The RCC noted that good progress is being made by the affected countries.
The RCC expressed concerns about the considerable challenges that remain in Ukraine. The country has the lowest immunity in the Region which puts them at considerable risk if wild or vaccine-derived polio were to be introduced. All efforts must be made to improve routine vaccination coverage.

The RCC noted continued gaps in polio containment in the Region and welcomed additional advocacy with Romania. There are also challenges with the inventory process for non-PEF countries.

The RCC commended the work the Secretariat has done to streamline the annual reporting by the countries, including further enhancement of the electronic submission via eAPR.

The RCC suggested a follow-up teleconference in six months to review additional information from the outbreak countries. The RCC requested that the Secretariat expand the Commission’s composition with an additional virologist.

**Recommended actions to countries and WHO**

**Population immunity**
- In light of the recent outbreaks and increased detection of VDPVs and pre-VDPVs in the European Region, countries need to improve their routine polio vaccination coverage.
- Countries should focus on zero-dose children and identify communities and/or geographical areas with immunity gaps and take steps to address these gaps. Delays in vaccination and barriers to vaccination should be identified and addressed by countries.

**Surveillance**
- As countries continue to recover from the COVID-19 pandemic which impacted poliovirus surveillance, all efforts should be made to improve the performance of AFP surveillance and introduce/optimise supplementary poliovirus surveillance in order to detect poliovirus in a timely manner.
- Countries should continue working with the Regional Office to develop long-term sustainability plans for laboratory-based poliovirus surveillance.
- The Polio Eradication Strategy for 2022–2026 emphasizes the importance of rapid poliovirus detection. The RVC urges timely collection and shipping of relevant samples; this remains an important performance indicator.

**Poliovirus containment**
- All countries should appoint an NPCC and ensure his/her function is adequately supported by the government to allow intersectoral collaboration in maintaining a national inventory of all poliovirus IM and PIM, including new highly attenuated polioviruses (nOPV/S19).
- Countries should continuously assess national inventories with a special focus on IM and PIM with poliovirus type 2 and WPV3, including VDPV3, and ensure proper destruction or transfer of these materials if they are retained in non-PEFs. Destruction or transfer procedures should be documented and reported to the NPCC or NAC, as appropriate.
- All PEF countries are encouraged to proceed further with containment certification of all PEFs with issued CPs towards an ICC or CC in accordance with the Containment Certification Scheme and to complete this step by the end of 2024.
- Countries are encouraged to consider conducting a poliovirus containment breach simulation exercise in accordance with national contexts.

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Preparedness
- Some national plans to respond to a WPV/VDPV event or outbreak are outdated; all countries should ensure that adequate up-to-date plans are in place and share them with the Secretariat. Countries are encouraged to test their preparedness plans through simulation exercises or other tools.
- For countries considering the establishment of PEFs, the national plan of action should include detailed plans on the outbreak control response to a containment breach from a certified facility.

Polio Laboratory Network
- All countries with WHO-accredited polio laboratories should implement molecular ITD to prepare for the adoption of direct molecular detection of polioviruses once available. These countries should also ensure that the ITD methods accepted and/or recommended by WHO are accepted and endorsed for use in their countries and that the polio laboratories are adequately resourced to perform their critical function.
### Annex 1. RCC conclusions on risk of sustained transmission in the event of WPV importation or emergence of VDPV, per Member State in the WHO European Region, based on available evidence for 2022

<table>
<thead>
<tr>
<th>Country</th>
<th>Surveillance quality</th>
<th>Population immunity</th>
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</table>
Annex 2: List of participants

RCC
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Türkiye, member
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Rapporteur
Lisa Jacques-Carroll
The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

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Georgia
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Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands (Kingdom of the)
North Macedonia
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
Türkiye
Turkmenistan
Ukraine
United Kingdom
Uzbekistan