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# **Poliomyelitis**

## **Poliomyelitis eradication**

### **Report by the Director-General**

1. This report to the World Health Assembly provides an update on work towards fully implementing and financing all aspects of the Polio Eradication Strategy 2022–2026. The risk of international spread of poliovirus continues to be classified as a public health emergency of international concern.<sup>1</sup> At its 152nd session in January 2023, the Executive Board noted an earlier version of this report.<sup>2</sup>

2. The Polio Eradication Strategy 2022–2026 aims to interrupt all remaining poliovirus transmission chains in the year 2023. Identifying and reaching all remaining zero-dose children in the most consequential geographies,<sup>3</sup> the seven subnational geographies affected by complex humanitarian emergencies, will be key to achieving that goal. Operations are being adapted as part of efforts to eradicate poliomyelitis, including through national emergency operations centres, in order to deliver oral polio vaccine as part of a broader humanitarian and emergency response. In the first half of 2023, a strategic review of operations will be conducted under the auspices of the Independent Monitoring Board to evaluate progress. The Polio Oversight Board will meet in September 2023 to consider and respond to the results of the review.

### **GOAL 1: PERMANENTLY INTERRUPT ALL POLIOVIRUS TRANSMISSION IN ENDEMIC COUNTRIES**

3. In the year 2022, wild poliovirus type 1 continued to be detected in parts of Afghanistan and Pakistan, the last two remaining countries where the virus is endemic. Both countries have continued to make progress since the year 2020, as demonstrated by the declining number of poliomyelitis cases and positive environmental samples, geographically localized transmission, and reduction in the number of transmission chains to a single active chain in each country. Cases of poliomyelitis are now primarily restricted to the eastern region of Afghanistan and the southern Khyber Pakhtunkhwa province of Pakistan, where challenges remain in reaching all children. The periodic detection of wild poliovirus

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<sup>1</sup> Statement of the thirty-fourth Polio IHR Emergency Committee, February 2023 (<https://www.who.int/news/item/02-02-2023-statement-of-the-thirty-fourth-polio-ih-er-emergency-committee>, accessed 6 March 2023).

<sup>2</sup> Document EB152/18; see also the summary records of the Executive Board at its 152nd session, eighth meeting, section 1.

<sup>3</sup> Eastern Afghanistan; southern Khyber Pakhtunkhwa province, Pakistan; north-western Nigeria; eastern Democratic Republic of the Congo; northern Yemen; south-central Somalia; and Tete province and hinterland, northern Mozambique.

type 1 from environmental samples outside of these remaining reservoir areas demonstrates the continued risk of transmission.

4. In Afghanistan, two cases of poliomyelitis due to wild poliovirus type 1<sup>1</sup> and 22 positive environmental samples for wild poliovirus type 1 were reported in the year 2022.<sup>2</sup> The southern, south-eastern and eastern regions of Afghanistan, particularly their respective districts bordering Pakistan, are at high risk for poliovirus transmission given the high proportion of zero-dose children and inconsistent quality of polio vaccination campaigns. The genetic diversity of wild poliovirus type 1 transmission in Afghanistan continues to decline; from eight separate and individual transmission chains in 2021, only one appears to remain active at the start of 2023.

5. Despite a significant improvement in access for house-to-house vaccination since the year 2021, challenges remain in parts of the southern region of Afghanistan amid ongoing concerns regarding the safety of frontline health workers and operational complications arising from the evolving coronavirus disease (COVID-19) pandemic. Although overall national polio vaccination coverage is high (upwards of 90%), subnational gaps in immunity continue among persistently missed children in reservoir areas. In response to a local decree to suspend female workers from national and international nongovernmental organizations, the Global Polio Eradication Initiative has strongly reiterated its commitment to supporting all health workers on the frontline and, in particular, the essential role played by women in both national and global eradication efforts.

6. In Pakistan, 20 cases of poliomyelitis due to wild poliovirus type 1<sup>3</sup> and 41 positive environmental samples for wild poliovirus type 1<sup>4</sup> were reported in the year 2022. All cases were concentrated in three districts (out of a total of 171 districts) in the southern Khyber Pakhtunkhwa province of Pakistan; however, poliovirus continues to be detected in environmental samples outside of this remaining reservoir area. An operational plan specifically targeting the southern Khyber Pakhtunkhwa province is being implemented. As in Afghanistan, the genetic diversity of wild poliovirus type 1 transmission in Pakistan continues to decline, with a single active individual transmission chain at the start of 2023, compared with 11 chains in the year 2020 and four in the year 2021.

7. In the fourth quarter of 2022, the Technical Advisory Group on poliomyelitis eradication in Pakistan, a high-level delegation of the Polio Oversight Board, and WHO and UNICEF Regional Directors met to review the progress made to date and underscored the current epidemiological opportunity to successfully eradicate poliomyelitis in Pakistan. As part of the high-level visit, the delegates met with women health workers, provincial and national polio coordinators, and the Prime Minister of Pakistan.

8. In the year 2022, one case of wild poliovirus type 1 was reported from Lilongwe in Malawi (with onset of paralysis in the year 2021) and eight from the Tete province of Mozambique. Cases were clustered along the Zambesi River and along transport routes linking the major population centres. Genetic sequencing data suggest that a single importation event from Pakistan occurred sometime between the second half of 2019 and early 2020.

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<sup>1</sup> Onset of paralysis on 14 January 2022.

<sup>2</sup> Date of collection of the most recent positive samples: 20 July 2022.

<sup>3</sup> Onset of paralysis of the most recent case on 1 August 2022.

<sup>4</sup> Date of collection of the most recent positive samples: 20 July 2022.

9. A subregional, multicountry emergency outbreak response is continuing in south-east Africa across five countries.<sup>1</sup> In the fourth quarter of 2022, an outbreak response assessment, a team of external reviewers from the Global Polio Eradication Initiative, noted the high-level comprehensive response across that region, concluding that vaccination campaigns have been consistently improving, and emphasized the need to build on those efforts to ensure the outbreak is fully stopped. The conclusions of that assessment were further endorsed by the African Regional Certification Commission for Polio Eradication, which convened in South Africa in December 2022. At a high-level visit to Mozambique in February 2023, the Regional Director for Africa and representatives of the Polio Oversight Board further underscored the importance of urgently and fully stopping this outbreak.

## **GOAL 2: STOP TRANSMISSION OF CIRCULATING VACCINE-DERIVED POLIOVIRUS AND PREVENT OUTBREAKS IN NON-ENDEMIC COUNTRIES**

10. In the past two years, circulating vaccine-derived poliovirus type 2 cases have been reported from 31 countries in three regions. In addition, circulating vaccine-derived poliovirus type 1 and type 3 cases have been reported in the Democratic Republic of the Congo, Israel, Madagascar, Malawi, Mozambique and Yemen.

11. To support the achievement of the objectives of the Polio Eradication Strategy 2022–2026, a detailed global surveillance action plan for 2022–2024 has been developed aimed at improving the timeliness of detection of any polioviruses from any source. Its implementation will be monitored by the Global Commission for the Certification of the Eradication of Poliomyelitis.

12. Special attention is being paid to four clearly defined outbreak areas that collectively accounted for almost nine tenths of all circulating vaccine-derived poliovirus type 2 cases in the year 2022, namely: eastern Democratic Republic of the Congo, north-western Nigeria, south-central Somalia and northern Yemen. The intensity of transmission in these areas has been exacerbated by a number of factors, notably: insufficient quality and timeliness of outbreak response; lack of outbreak response with type 2 vaccines; and disruption in delivery of essential immunization services resulting in a persistently high proportion and concentration of zero-dose children and communities. Notable progress has been made in northern Nigeria where, as a result of concerted outbreak response efforts, two significant transmission chains appear to have been interrupted, with a primary chain remaining in the north-west of the country.

13. High-profile detection of vaccine-derived poliovirus type 2 recorded in Canada, Indonesia, Israel, the United Kingdom of Great Britain and Northern Ireland and the United States of America are being managed appropriately by local public health authorities by strengthening surveillance and addressing essential immunization gaps.

14. Despite the challenges associated with the four clearly defined outbreak areas mentioned in paragraph 12 above, significant progress has been made in stopping the transmission of circulating vaccine-derived polioviruses and, overall, the circulation of such strains of poliovirus continued to narrow geographically in the year 2022. The number of new emergencies has also continued to decline, from 40 in the year 2019 to five in the year 2022. In the year 2022, there remained a total of 19 lineages,

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<sup>1</sup> Malawi, Mozambique, Zimbabwe, United Republic of Tanzania and Zambia.

consisting of five newly emerged lineages and 14 continuing from previous years, 10 of which are from the most at-risk geographical areas.<sup>1</sup>

15. Efforts across regions to boost immunization systems in the wake of the COVID-19 pandemic have continued to be strengthened, including through: the WHO regional committees; the Ministerial Regional Subcommittee on Polio Eradication and Outbreaks in the Eastern Mediterranean Region; the Forum on Immunization and Polio Eradication in Africa hosted by the President of Senegal and the Chair of the African Union; and Building Momentum for Routine Immunization in Africa, a high-level event held on the margins of the Thirty-sixth Ordinary Session of the African Union Assembly, co-hosted by the Government of Sierra Leone.

16. To stop transmission of circulating vaccine-derived poliovirus type 2 more effectively and sustainably, novel oral polio vaccine type 2 continues to be administered through the WHO Emergency Use Listing procedure, with over 600 million doses administered across 28 countries as at the start of 2023. Full licensing and prequalification of novel oral polio vaccine type 2 remains on track for the end of 2023. Supply constraints for novel oral polio vaccine type 2 that surfaced in late 2022 are expected to improve in the second half of 2023. Although some new emergences linked to novel oral polio vaccine type 2 are expected given the scope and scale of its use over the past two years, data from over 1000 isolates sequenced to date continue to demonstrate the vaccine's enhanced genetic stability compared with monovalent oral polio vaccine type 2 (and hence a significantly lower risk of reverting to forms that can cause paralysis).<sup>2</sup>

17. High-quality and rapid-response campaigns targeting any current or newly detected outbreak will be required to achieve goal 2 of the Polio Eradication Strategy 2022–2026. To enable and ensure a timely and effective response, the Strategic Advisory Group of Experts on immunization stresses conducting outbreak response without delay. For outbreak response with oral polio vaccines, novel oral polio vaccine type 2 should be the preferred option. However, if unavailable, Sabin oral polio vaccine type 2 could be used under exceptional circumstances, when, for example: there is a supply shortage of novel oral polio vaccine type 2; it is not possible to achieve Emergency Use Listing readiness; or there is co-circulation with other polioviruses warranting a response with trivalent oral polio vaccine. To boost immunity levels more rapidly, novel oral polio vaccine type 2 could be used at shorter intervals (1–2 weeks, compared with the traditional 4-week interval). The group also recommended that in areas of persistent poliovirus circulation, countries should supplement outbreak response with additional campaigns using inactivated polio vaccine (full or fractional dose).<sup>3</sup>

## Enabling environment

18. The Gender Equality Strategy 2019–2023 of the Global Polio Eradication Initiative aims to identify and address gender-related barriers to immunization. This is integral to the Polio Eradication Strategy 2022–2026, which sets clear goals to strengthen gender responsiveness as a key factor for

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<sup>1</sup> Two from northern Yemen; four from eastern Democratic Republic of the Congo; one from south-central Somalia; one from Tete province, Mozambique; and two from northern Nigeria.

<sup>2</sup> Circulating vaccine-derived poliovirus type 2 detections in Burundi and Democratic Republic of the Congo, 16 March 2023 ( <https://polioeradication.org/news-post/gpei-statement-on-cvdpv2-detections-in-burundi-and-democratic-republic-of-the-congo/>, accessed 30 March 2023).

<sup>3</sup> Highlights from the Meeting of the Strategic Advisory Group of Experts on immunization, 20–22 March 2023 are available at [https://cdn.who.int/media/docs/default-source/immunization/sage/2023/march-2023/sage\\_march\\_2023\\_meeting\\_highlights.pdf?sfvrsn=a8e5be9\\_3](https://cdn.who.int/media/docs/default-source/immunization/sage/2023/march-2023/sage_march_2023_meeting_highlights.pdf?sfvrsn=a8e5be9_3) (accessed 31 March 2023).

achieving poliomyelitis eradication. The programme's commitment to gender-responsive programming closely aligns with the Immunization Agenda 2030 and the gender policy of Gavi, the Vaccine Alliance.

19. As a result of the COVID-19 pandemic, cross-programmatic integration has been accelerated and the polio programme has been working closely with other health programmes. In places where the polio programme is present, polio staff have contributed to the COVID-19 pandemic response and immunization recovery efforts, including the administration of COVID-19 vaccines.

20. The Global Polio Eradication Initiative aligns its priorities with the goals of the Immunization Agenda 2030 and the strategy of Gavi, in particular on identifying and reaching zero-dose communities. WHO/UNICEF estimates indicate that immunization coverage has declined globally, resulting in a significant increase in the number of zero-dose children to 25 million in the year 2021, which is 2 million more than in the year 2020 and 6 million more than in the year 2019.

## **PREPARING FOR THE POST-CERTIFICATION WORLD**

### **Containing poliovirus**

21. Through resolution WHA71.16 (2018) on poliomyelitis: containment of polioviruses, Member States committed to accelerating progress towards poliovirus containment certification, signalling a universal intent to achieve the goals set out therein. While progress has been made, it has not been universal nor fast enough. As at 13 February 2023, three Member States had yet to complete their initial inventories for poliovirus type 2 materials,<sup>1</sup> an activity due for completion by July 2016. Twenty-two Member States have reported retaining poliovirus type 2 materials in 59 facilities designated as serving critical functions requiring retention. Of the 20 Member States with a designated national authority, 19 have initiated the certification process in respect of 48 facilities. Of the three Member States that have not initiated certification of their facilities, two<sup>2</sup> have yet to formally appoint a national authority for containment and one<sup>3</sup> has yet to submit its facility application – activities that were due for completion by March 2019. Three Member States<sup>4</sup> have yet to initiate enrolment of their 10 facilities in the containment certification scheme, while five Member States<sup>5</sup> have yet to complete their application process for certificates of participation for their 10 facilities, as required by the end of 2019. Furthermore, five Member States<sup>6</sup> have yet to share their plans in respect of facility applications for interim certificates of containment in the scheme, a measure previously recommended by the Global Commission for the Certification of the Eradication of Poliomyelitis to be completed by the end of 2022 at the latest. High-level advocacy, including targeted outreach by the Director-General with high-risk Member States, has been initiated to ensure rapid and full implementation of the activities and related time frames outlined in resolution WHA71.16.

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<sup>1</sup> Brazil, Indonesia and the United States of America.

<sup>2</sup> China and Romania.

<sup>3</sup> Serbia.

<sup>4</sup> China, Romania and Serbia

<sup>5</sup> Australia, France, the Islamic Republic of Iran, Pakistan and the United Kingdom of Great Britain and Northern Ireland.

<sup>6</sup> Australia, China, the Islamic Republic of Iran, Romania and Serbia.

22. In June 2022, the Global Polio Eradication Initiative published a dedicated global poliovirus containment strategy<sup>1</sup> as well as an associated action plan,<sup>2</sup> workplan, and monitoring and evaluation framework for 2022–2024. The third edition of the WHO Global Action Plan to minimize poliovirus facility-associated risk after type-specific eradication of wild polioviruses and sequential cessation of oral polio vaccine use was also revised in 2022, with the fourth edition<sup>3</sup> coming into force in July 2022 following its endorsement by the Containment Advisory Group. Reviews of the corresponding containment certification scheme and the guidance relating to minimizing risks for facilities collecting, handling or storing materials potentially infectious for polioviruses are similarly under way.

### **Cessation of oral polio vaccine and certification**

23. Following the successful eradication of wild polioviruses globally, the use of all remaining oral polio vaccine in routine immunization programmes will end in order to eliminate the risk of vaccine-derived polioviruses.

24. On 28 and 29 June 2022, the Global Commission for the Certification of the Eradication of Poliomyelitis met to review the global criteria for poliovirus certification. Recognizing the programme advances in genomic analysis and the widespread use of environmental surveillance in many countries, the Global Commission concluded that the traditional approach to the certification of eradication, namely requiring evidence of three years without detection of polioviruses from any source, may no longer be justifiable to verify the absence of wild poliovirus transmission. Instead, the Global Commission recommended the adoption of a more flexible approach to certification, whereby traditional surveillance indicators are considered in a broader geopolitical, area-specific context. At the same meeting, the Global Commission initiated its evaluation of concrete criteria for the eventual validation of the absence of vaccine-derived polioviruses, including the necessary timelines that might be needed without detection of circulating vaccine-derived poliovirus from any source, following the global cessation of the use of oral polio vaccines in routine immunization programmes.

## **FINANCING AND GLOBAL COMMITMENT TO POLIOMYELITIS ERADICATION**

25. The global political will to eradicate poliomyelitis remains strong, as demonstrated by the high-level commitments to poliomyelitis eradication made during sessions of the World Health Assembly, the Rotary International Convention, the G7 Leaders meeting, the Commonwealth Heads of Government meeting and the G20 Development and Health Ministers meeting, as well as at the global pledging moment held at the World Health Summit in Berlin, Germany. At this event, held on 18 October 2022 and co-hosted by the Government of Germany, global leaders pledged US\$ 2.6 billion in funding towards the Polio Eradication Strategy 2022–2026,<sup>4</sup> an important first step in securing the

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<sup>1</sup> Global Polio Eradication Initiative. Strategy for Global Poliovirus Containment. Geneva: World Health Organization; 2022 (<https://polioeradication.org/wp-content/uploads/2022/07/Strategy-Global-Poliavirus-Containment.pdf>, accessed 6 March 2023).

<sup>2</sup> Global Polio Eradication Initiative. Global Poliovirus Containment Action Plan 2022–2024. Geneva: World Health Organization; 2022 (<https://polioeradication.org/wp-content/uploads/2022/07/GPCAP-2022-2024.pdf>, accessed 6 March 2023).

<sup>3</sup> WHO Global Action Plan for Poliovirus Containment, Fourth edition (unedited version), Geneva: World Health Organization; 2022 (<https://polioeradication.org/wp-content/uploads/2022/07/WHO-Global-Action-Plan-for-Poliavirus-Containment-GAPIV.pdf>, accessed 6 March 2023).

<sup>4</sup> Global leaders commit US\$ 2.6 billion at World Health Summit to end polio. Available at: <https://polioeradication.org/news-post/global-leaders-commit-usd-2-6-billion-at-world-health-summit-to-end-polio/> (accessed 6 March 2023).

full US\$ 4.8 billion needed to ensure the successful implementation of the Strategy. Additional commitments have been made since then by new and existing partners, including through the European Investment Bank, and, at its December 2022 meeting, the board of Gavi, the Vaccine Alliance, extended the Gavi eligibility and co-financing exemptions for inactivated polio vaccine in support of polio eradication efforts.

#### **ACTION BY THE HEALTH ASSEMBLY**

26. The Health Assembly is invited to note the report and provide guidance on the following questions:

- (a) What measures should be adopted to ensure that all remaining zero-dose children in the most consequential geographies are reached with oral polio vaccine, amid broader humanitarian emergencies affecting these areas?
- (b) What steps should be taken to ensure that the financial resources required to fully implement the Polio Eradication Strategy 2022–2026 are mobilized, including to rapidly operationalize pledges, and mobilize additional commitments through international and national resources?

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