
Polio

Eradication

Report by the Director-General

1. This report provides an update on polio eradication and summarizes the remaining operational, epidemiological and financial challenges to securing a lasting polio-free world. A previous version of this report was noted by the Executive Board at its 144th session.¹ The report has been revised to reflect the Executive Board's discussions, which focused on the need to fully implement and finance all aspects of the Global Polio Eradication Initiative Polio Endgame Strategy 2019–2023 at all levels to ensure global certification of a polio-free world by the end of 2023. A status update on polio transition is available in a separate report.²

2. Implementation of the Polio Eradication and Endgame Strategic Plan 2013–2018 has brought the world to the brink of polio eradication. The Global Polio Eradication Initiative Polio Endgame Strategy 2019–2023,³ which has been drafted in a thorough consultative process over 12 months, builds on the lessons learned since 2013, and sets out the road map to achieving global certification by 2023.

3. The Strategic Plan highlights which activities need to be undertaken and what the Global Polio Eradication Initiative needs to do differently to certify the eradication of wild poliovirus, respond rapidly and effectively to the ongoing detections of circulating vaccine-derived poliovirus, and prepare for a world free of polio, by ensuring the sustainability of gains. Extensive stakeholder engagement was crucial to the strategy's development. An independent evaluation of eradication strategies in areas that remain endemic, recommended by the Independent Monitoring Board of the Global Polio Eradication Initiative and implemented during the third quarter of 2018, helped to inform development of this extended plan. The Global Polio Eradication Initiative Polio Endgame Strategy 2019–2023 focuses on increasing performance everywhere, including using the proven eradication tools and building blocks that have succeeded in eradicating the disease in 99% of the world. The Plan acknowledges the urgent need to eradicate wild polioviruses as soon as possible, both to prevent global re-emergence of such strains, and also to enable the rapid cessation of oral polio vaccine use, and thereby prevent long-term risks of outbreaks of circulating vaccine-derived polioviruses.

4. All necessary tools and tactics are in place to achieve certification; there are no biological or technical obstacles remaining, and success will depend on mobilizing sufficient political and societal

¹ See document EB144/9 and the summary records of the Executive Board at its 144th session, fourth meeting.

² Document A72/10.

³ Available at <http://polioeradication.org/tools-and-library/resources-for-polio-eradicators/polio-endgame-strategy-2019-2023/> (accessed on 27 March 2019).

will to ensure that the Strategic Plan is fully financed and implemented at all levels. In a joint statement issued in January 2019, the chairs of the main global advisory bodies on poliomyelitis: the Emergency Committee of the International Health Regulations; the Independent Monitoring Board; the Global Commission for the Certification of the Eradication of Poliomyelitis; and the Strategic Advisory Group of Experts on immunization, highlighted that, “There is no reason why polio should persist anywhere in the world. To succeed by 2023, all involved in this effort must find ways to excel in their roles. If this happens, success will follow.”¹

5. While maintaining full focus on eradication, the Strategic Plan also incorporates elements to prepare for a polio-free future by working more systematically with other health programmes and initiatives, forging alliances to jointly drive country impact. As eradication approaches, intensive collaboration with other public health programmes, under the leadership of national governments, with clear roles, responsibilities and accountability structures, is becoming essential to ensure the sustainability of eradication and eventually transfer the knowledge, expertise and lessons learned from polio eradication to help protect populations. The scope and nature of this more systematic collaboration will be tailored to countries’ specific situations and defined by the needs of national governments. In this vein, the Strategic Plan solidifies and formalizes collaboration with Gavi, the Vaccine Alliance, which will join the Polio Oversight Board. Systematic collaboration is also being strengthened with other health sector and non-health sector actors, and commitments are being undertaken to ensure full transparency on long-term budgets, including key post-certification costs, such as stockpiles and inactivated polio vaccine.

6. After eradication of polio has been certified, the Post-Certification Strategy, noted by the Seventy-first World Health Assembly in May 2018,² will guide the world on the activities and functions that must be sustained in order to maintain a world free of polio. The activities and strategies outlined in the Strategic Plan, particularly systematic collaboration with other partners, will help pave the way to a successful transition. The Secretariat will continue to report annually to the Health Assembly, through the Executive Board as necessary, on progress until global polio eradication has been certified.

GLOBAL POLIO ERADICATION – A DUAL EMERGENCY IN RESPECT OF WILD AND VACCINE-DERIVED POLIOVIRUS

Wild poliovirus transmission

7. Efforts are continuing to eradicate all remaining strains of wild poliovirus. The last reported case of poliomyelitis due to wild poliovirus type 2 was reported in 1999, and wild poliovirus type 2 was officially certified as eradicated in September 2015. Wild poliovirus type 3 has not been detected globally since November 2012, when the last case of poliomyelitis due to this strain was reported in Yobe State, Nigeria. Since that time, all cases of paralytic poliomyelitis due to wild poliovirus have been caused by wild poliovirus type 1. Wild poliovirus remains classified as endemic in three countries: Afghanistan, Nigeria and Pakistan. In 2018, wild poliovirus type 1 cases were detected in Afghanistan and Pakistan.

¹ Joint statement by the Chairs of the Emergency Committee of the International Health Regulations, the Independent Monitoring Board, the Global Commission for the Certification of the Eradication of Poliomyelitis, and the Strategic Advisory Group of Experts on immunization, January 2019. Available at <http://polioeradication.org/news-post/to-succeed-by-2023-extraordinary-joint-statement-to-polio-eradicators/> (accessed 6 March 2019).

² See the summary records of the Seventy-first World Health Assembly, Committee B, fourth meeting, section 3, fifth meeting, section 1 and sixth meeting, section 3.

8. In Nigeria, no new case of poliomyelitis due to wild poliovirus type 1 has been confirmed since the detection in the State of Borno of cases in August 2016 and the detection of the virus in a healthy child in September 2016. However, as a result of continuing gaps in surveillance in areas at high risk of polio and inaccessible areas, undetected and continued circulation of this strain cannot be ruled out. The Government of Nigeria continues to implement an aggressive outbreak response, conducted in close coordination with neighbouring countries across the Lake Chad subregion, within the context of the broader humanitarian emergency affecting the subregion. Lack of access and inability to conduct high-quality vaccination and surveillance in many areas of Borno State remain the primary challenges. A key objective continues to be preventing the outbreak from spreading to other areas of the subregion. Additional measures are being implemented to increase surveillance sensitivity and to boost immunity levels, including the following: expanding environmental surveillance; testing of healthy individuals (including adults) as they exit inaccessible areas; setting up permanent vaccination posts at key crossing points into inaccessible areas in order to vaccinate children and people in older age groups; and rapidly conducting mop-up immunization campaigns as and when opportunities arise or areas become accessible.

9. Afghanistan and Pakistan continue to be treated as a single epidemiological block. In 2018, eight cases of paralytic poliomyelitis due to wild poliovirus type 1 were reported in Pakistan, the same number as in 2017, while in Afghanistan, 21 cases were reported, compared with 12 in 2017. In Afghanistan, the increase in the number of cases reported has resulted from persistent pockets of children being missed during supplementary immunization activities in high-risk areas of the Southern and Eastern regions. Both countries continue to coordinate immunization and surveillance activities. Even though independent technical advisory groups underscore the feasibility of rapidly interrupting transmission of the remaining poliovirus strains, realization of that goal depends on reaching all children who have not been vaccinated and identifying and eradicating all remaining transmission reservoirs.

10. In Pakistan, continued high-level commitment to polio eradication on the part of the newly-elected authorities will be vital. Environmental surveillance in both countries confirms the risk of ongoing transmission of the virus to polio-free areas from remaining reservoir areas, which are home to communities that are extremely hard to access. Efforts in both countries are focusing on clearly identifying missed children and determining the reasons why they have been missed, and putting in place operational plans to overcome these challenges. In particular, emphasis continues to be placed on reaching high-risk mobile population groups travelling internally within both countries and across the border. Given the fact that the areas where polioviruses remain, are home to communities that are extremely challenging to access, these populations are often not able to receive the support required to meet their basic health needs. Stronger collaboration between polio and the humanitarian programmes in these areas has the potential to support broader development goals while increasing access to and wider community acceptance of polio vaccination.

11. Virus transmission is now primarily restricted to two cross-border corridors: the first links eastern Afghanistan with Khyber Pakhtunkhwa and Federally Administered Tribal Areas in Pakistan, and the second links southern Afghanistan (Kandahar and Hilmand) with the Quetta block, Balochistan province, in Pakistan, as well as Karachi (Pakistan). Coordination of the polio eradication programme has continued to improve at the national, provincial and regional levels, as well as among the districts bordering the common corridors of transmission, focusing on vaccination of people in high-risk mobile populations and those in populations living along the border. In January 2019, the WHO Director-General and the WHO Regional Director for the Eastern Mediterranean travelled to Afghanistan and Pakistan to meet with heads of State and senior government officials to discuss measures to interrupt the remaining chains of wild poliovirus transmission affecting both countries.

Circulating vaccine-derived poliovirus transmission

12. As the world approaches successful eradication of wild poliovirus transmission, the circulation of vaccine-derived polioviruses, while not a new phenomenon, continues to take on added significance. Inadequate routine immunization levels coupled with subnational gaps in surveillance in high-risk countries continue to be the main risk factors for the emergence or continuing circulation of vaccine-derived polioviruses. Strengthened efforts must be made to tackle both risk factors. However, the only and surest way to prevent circulation of vaccine-derived polioviruses in the future is to stop oral polio vaccine use rapidly, which can only occur after the successful eradication of wild polioviruses. As such, wild poliovirus eradication now faces a dual emergency. In 2018, outbreaks due to circulating vaccine-derived poliovirus newly emerged or continued in the Democratic Republic of the Congo, Kenya, Mozambique, Niger, Nigeria, Papua New Guinea and Somalia. An outbreak detected in 2017 in the Syrian Arab Republic was successfully stopped through a comprehensive outbreak response, and no new cases have been reported since September 2017.

13. In the Democratic Republic of the Congo, outbreaks are ongoing involving four genetically distinct strains of circulating vaccine-derived poliovirus type 2: (a) in the province of Haut Katanga, (b) in the province of Mongala, (c) in the province of Maniema and (d) in the provinces of Haut Lomami, Tanganika, Haut Katanga and Ituri. In total, 42 cases have been confirmed in the country since the detection of the first outbreak in June 2017, of which 20 cases were detected in 2018. WHO assesses the overall public health risk associated with these four outbreaks to be very high at the national level, and the risk of international spread to be high given the rise in outbreaks and their geographic spread towards international borders. Operational gaps in the response persist, with high-risk populations still under-immunized, rendering the response thus far unable to control the outbreaks or prevent geographic spread.

14. In February 2018, the Government declared the polio outbreaks to be a national public health emergency, with the aim of filling operational gaps in the quality of outbreak response. Recognizing the risks associated with these outbreaks, on 26 July 2018 provincial governors adopted the Kinshasa Declaration for the Eradication of Poliomyelitis and the Promotion of Vaccination, in which they committed themselves to ensuring “coordinated action at all levels” in order to urgently improve the quality of outbreak response and stop circulation of these viruses. The polio outbreak response is being conducted during an ongoing Ebola virus disease outbreak affecting North Kivu province in the east of the country (close to provinces affected by type 2 circulating vaccine-derived poliovirus). As in the past, the polio teams are coordinating closely with the broader humanitarian emergency network to ensure that both outbreaks are addressed in a coordinated manner (as was the case during the 2017 Ebola virus disease outbreak in Equateur province, which was successfully stopped).

15. The Horn of Africa is affected by outbreaks due to circulating vaccine-derived polioviruses, both type 2 and type 3. The circulating vaccine-derived poliovirus type 2 was isolated from cases of acute flaccid paralysis as well as environmental samples in Mogadishu (Somalia) and from environmental samples in Nairobi (Kenya). Genetic sequencing of this strain suggests it had been circulating without detection since 2016, underscoring the dangers of gaps in subnational surveillance. In addition to circulating vaccine-derived poliovirus type 2, circulating vaccine-derived poliovirus type 3 was isolated from acute flaccid paralysis cases and environmental samples in Mogadishu. Regional outbreak response activities for both strains are currently being implemented, in line with internationally-agreed guidelines. Somalia, Kenya and Ethiopia have all declared these outbreaks to be national public health emergencies.

16. In Nigeria, two separate outbreaks due to circulating vaccine-derived poliovirus type 2 were confirmed in 2018. In Sokoto State, four genetically-related viruses were isolated from four environmental samples collected between 24 April and 9 May 2018; no associated case of acute flaccid paralysis has been detected, as the virus was isolated only from environmental samples. The country is also being affected by another outbreak, which originated in Jigawa State, and has subsequently spread to other states in the country, and internationally to neighbouring Niger. Since the detection of the original outbreak in Jigawa, 42 cases have been reported, including 33 cases in six different states in Nigeria, and nine cases in Niger. Of particular concern is the detection of a case associated with this outbreak in Kwara state, immediately bordering neighbouring Benin, magnifying the risk of further international spread.

17. Outbreak response activities are being implemented, using a mix of vaccine formulations, in order to counter circulating vaccine-derived poliovirus type 2 strains and to prevent potential continuation of circulation of wild poliovirus type 1. In Papua New Guinea, a circulating vaccine-derived poliovirus type 1 outbreak was confirmed in June 2018, as the virus was initially isolated from an acute flaccid paralysis case and two healthy community contacts. The Government immediately declared the outbreak to be a national public health emergency, and launched a comprehensive emergency outbreak response. Since the initial confirmation of the virus in June, additional cases have been confirmed in other areas, prompting the Government to extend the response to the level of nationwide campaigns and, given proximity of cases to border areas with Indonesia, both countries have been implementing cross-border vaccinations to minimize the risk of international spread of this strain. In January 2019, an outbreak of genetically-distinct circulating vaccine-derived poliovirus type 1 was confirmed in Indonesia, in Papua province bordering Papua New Guinea. The virus was isolated from a child with acute flaccid paralysis, as well as from a healthy community contact. District-level outbreak response was immediately launched following detection of the outbreak, with a further outbreak response in high-risk provinces to be implemented.

18. In January 2019, confirmation was received of a circulating vaccine-derived poliovirus type 2 in Mozambique. Two genetically linked isolates were detected, from an acute flaccid paralysis case (with onset of paralysis on 21 October 2018 in a six-year old girl from Molumbo district, Zambézia province, who had no history of vaccination) and a community contact of the case. The Ministry of Health and local public health authorities immediately launched a thorough field investigation to assess the extent and original source of circulation of the virus, and planned an outbreak response, in line with internationally agreed outbreak response protocols.

Public health emergency of international concern

19. The declaration in 2014 of the international spread of wild poliovirus as a public health emergency of international concern and the temporary recommendations promulgated under the International Health Regulations (2005) remain in effect. All countries currently affected by circulation of either wild or vaccine-derived polioviruses have declared such events to be national public health emergencies and are implementing national emergency action plans. The designation of the international spread of poliovirus as a public health emergency of international concern has now been in place for four years (an exceptional use of the declaration of a public health emergency of international concern). The Emergency Committee convened under the International Health Regulations (2005) concluded at its twentieth meeting in February 2019 that the situation continued to represent a public health emergency of international concern. The Emergency Committee cautioned that, “there is a risk of global complacency as the numbers of wild poliovirus cases remains low and eradication becomes a tangible

reality.”¹ The Chair of the Committee warned that, “our worry is that complacency is the biggest risk. The reality is that there is no reason why we should not be able to finish this job. The real request to donors and partners: continue your support until we finish this job. It’s probably more urgent than ever that we redouble our efforts and finish this job.”²

PHASED REMOVAL OF ORAL POLIO VACCINES

20. To eliminate the long-term risks of vaccine-derived polioviruses and vaccine-associated paralytic polio, oral polio vaccines are being removed in a phased manner. The first phase took place with the switch from trivalent to bivalent oral polio vaccine between 17 April and 1 May 2016. Once all remaining foci of wild poliovirus transmission have been eradicated and the world is certified as polio-free, all use of remaining oral polio vaccine will be stopped. Until all use of oral polio vaccine has ceased, Member States are encouraged to minimize the risks and consequences of potential vaccine-derived polioviruses by ensuring high routine immunization coverage, conducting surveillance for any emergence of circulating vaccine-derived poliovirus, and maintaining strong outbreak response capacity.

21. In the lead-up to the switch to bivalent oral polio vaccine, global supply constraints of the inactivated poliovirus vaccine had emerged owing to technical difficulties encountered by manufacturers in scaling up production. As a result, some countries experienced delays in supply. The supply situation has improved in recent months and all countries now have access to supplies for their routine immunization programmes. The global supply situation was further improved thanks to Member States increasingly adopting dose-sparing strategies, such as intradermal administration of fractional-dose inactivated poliovirus vaccine, as recommended by the Strategic Advisory Group of Experts on immunization. Several Member States have already adopted this approach, notably Bangladesh, Cuba, Ecuador, India, Nepal, Sri Lanka, and several additional countries across the Region of the Americas are in the process of doing so. Gavi, the Vaccine Alliance, in June 2018 made a commitment to additional support for inactivated polio vaccine in priority countries until 2021. The Global Polio Eradication Initiative and its partners are continuing to explore new approaches for inactivated poliovirus vaccine in order to ensure an affordable and sustainable supply following certification, for instance, through the use of vaccine manufactured from Sabin strains of poliovirus or non-infectious materials such as virus-like particles.

CONTAINMENT AND CERTIFICATION

22. Efforts to contain poliovirus type 2 were intensified in 2017 and 2018. These continue to be guided by 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 (GAPIII),³ and by WHO guidance on minimizing risks for facilities collecting, handling or storing materials potentially

¹ Statement of the Emergency Committee under the International Health Regulations (2005) regarding the international spread of poliovirus. Available at <https://www.who.int/news-room/detail/30-11-2018-statement-of-the-nineteenth-ihc-emergency-committee-regarding-the-international-spread-of-poliovirus> (accessed 7 March 2019).

² Comments by Professor Helen Rees, Chair of the Emergency Committee, at a media briefing following the Committee’s nineteenth meeting in November 2018.

³ 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: GAPIII. Geneva: World Health Organization; 2015. Available at <http://apps.who.int/iris/handle/10665/208872> (accessed 7 March 2019).

infectious for polioviruses. The deliberations of the Containment Advisory Group on issues related to the implementation of GAPIII have resulted in amendments to GAPIII, which will be published soon.

23. Among the major highlights over the past year is the initiation of the global Containment Certification Scheme, following the granting of a Global Certification Commission-endorsed certificate recognizing a vaccine manufacturing facility in Sweden as the first suitable candidate to become a poliovirus-essential facility. Indonesia, South Africa, and the United States of America have also submitted applications for this type of facility recognition. These applications being considered by the Global Commission for the Certification of Poliomyelitis Eradication.

24. The adoption by the Seventy-first World Health Assembly of resolution WHA71.16 (2018), in which the Health Assembly urges Member States to intensify efforts to accelerate poliovirus containment progress, was another major milestone. Signalling international commitment to the cause, the resolution includes recommended actions for all Member States, in particular those with facilities planning to retain poliovirus materials post-eradication. Among the requirements set out in the resolution, Member States are requested to complete inventories for type 2 polioviruses, begin inventories for types 1 and 3 wild polioviruses, and reduce to a minimum the number of facilities designated for the retention of polioviruses. Member States opting to retain polioviruses were to appoint, by the end of 2018, a competent and resourced national authority for containment and request their designated facilities to formally engage in the GAPIII Containment Certification Scheme by the end of 2019.

25. By January 2019, 26 Member States had reported to WHO their designation of 76 facilities performing critical functions requiring the retention of type 2 poliovirus materials. All but two of the 26 Member States required to establish competent national authorities for containment by the deadline of end of 2018, in line with resolution WHA71.16, have complied. Lack of national legislation has been reported as a reason for delays in the establishment of these national bodies and in containment implementation. In Member States without such legislation, advocacy and dialogue to explain the risks and responsibilities associated with poliovirus retention and resource requirements have proven effective.

26. The Secretariat's main focus over the coming months will be to help national authorities build the necessary capacities to perform GAPIII audits by providing training and qualification activities for GAPIII auditors. The Secretariat is also committed to working with Member States to foster collaboration and information exchange among national authorities responsible for containment. Given that poliovirus transmission levels are currently at their lowest in history and that eradication in the short-term is feasible, all stakeholders need to intensify containment activities as a matter of urgency.

27. Throughout 2018, the Global Commission for the Certification of Poliomyelitis Eradication continued to review the criteria for achieving global certification of wild poliovirus eradication. The Commission has made a series of recommendations, including on the process of sequential certification of wild poliovirus eradication and confirmation of the absence of vaccine-derived polioviruses, following global cessation of use of oral polio vaccines. With no wild poliovirus type 3 reported anywhere in the world since November 2012, the global eradication of this strain could be certified in 2019. The assessment that all wild poliovirus transmission has been interrupted globally will be the key

to launching preparations for cessation of all oral polio vaccine use, and this will be followed by the validation of the absence of vaccine-derived polioviruses.¹

FINANCING THE GLOBAL POLIO ERADICATION INITIATIVE

28. Thanks to the generous continuing support of the international development community, including Member States (those where the poliovirus remains endemic and those that are donors to the Global Polio Eradication Initiative), multilateral and bilateral organizations, development banks, foundations and Rotary International, the budget for planned activities for 2018 was fully financed. Public and private sector partners continue to fulfil pledges made at the Rotary International Convention in June 2017, which will ensure that the programme is financed through 2019. The Polio Oversight Board adopted new financial scenarios at its meeting in September 2018.² The global budget for implementing the Strategic Plan 2019–2023 is projected to be US\$ 4.2 billion, of which US\$ 3.27 billion still needs to be mobilized. Continued support will therefore be needed from longstanding partners, along with ministers and leaders of the G7, Commonwealth and G20 countries, to ensure the uninterrupted programme operations necessary to achieve eradication by 2023. The Global Polio Eradication Initiative continues to demonstrate value for money, and its sound financial management practices have been confirmed in positive programme reviews and audits.

ACTION BY THE HEALTH ASSEMBLY

29. The Health Assembly is invited to note the report. In particular, it may wish to focus its deliberations on the importance of ensuring that the strategy covering the period 2019–2023 is fully financed and implemented at all levels, to achieve certification of a world free of all polioviruses on a lasting basis.

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¹ Statement on attaining and sustaining a world free from all polioviruses, issued after the Nineteenth meeting of the Global Commission for the Certification of Poliomyelitis Eradication, Amman, Jordan, 29–31 October 2018. Available at <http://polioeradication.org/wp-content/uploads/2018/11/GCC-Statement-26-November-2018.pdf> (accessed 7 March 2019).

² Summary available at www.polioeradication.org/financing/ (accessed 7 March 2019).