World Health Organization

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Poliomyelitis

Polio eradication

Report by the Director-General

INTRODUCTION

1. This report provides an update on the status of polio eradication in accordance with the three key goals of the Global Polio Eradication Initiative's Polio Endgame Strategy 2019–2023[1] and summarizes the remaining challenges to securing a lasting polio-free world. The Executive Board, at its 146th session, noted a previous version of this report[2] and adopted decision EB146(11) (2020), noting, inter alia, the development of the draft Strategy for Control of cVDPV2 2019–2021.[3]

ERADICATION

Wild poliovirus transmission

2. The last reported case of poliomyelitis due to wild poliovirus type 2 was reported in 1999. Wild poliovirus type 3 has not been detected globally since November 2012 and both strains have been certified as globally eradicated (in September 2015 and October 2019, respectively). Since that time, all cases of paralytic poliomyelitis due to wild poliovirus have been caused by wild poliovirus type 1. In 2019, cases of wild poliovirus type 1 continued to be detected in parts of Afghanistan and Pakistan.

3. In Afghanistan and Pakistan, cross-border endemic virus transmission continues primarily in two corridors: the first links eastern Afghanistan with the province of Khyber Pakhtunkhwa (Pakistan), and the second links southern Afghanistan (Kandahar and Hilmand) with the Quetta block, Balochistan province (Pakistan), as well as with Karachi (Pakistan). However, continued isolation of the virus through environmental sampling in other parts of both countries points to widespread geographic transmission.

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[1] Available at http://polioeradication.org/wp-content/uploads/2019/06/english-polio-endgame-strategy.pdf (accessed 27 February 2020).

[2] See document EB146/21 and the summary records of the Executive Board at its 146th session, eleventh meeting.

[3] Available at http://polioeradication.org/polio-today/polio-now/outbreak-preparedness-response/ (accessed 27 February 2020).

4. An increase in the number of newly reported cases in 2019 compared with 2017 and 2018, in particular in Pakistan, highlights the continued geographic spread of the virus, with a concomitant risk of international spread. Gaps in strategic implementation of vaccination activities significantly increase the likelihood that poliovirus transmission will continue throughout 2020, and most likely beyond.

5. In both countries, the focus for the second half of 2019 was to conduct an in-depth analysis of all aspects of the polio programme, and put in place new public health emergency measures to ensure community ownership of polio response activities and improve operations through the transformation of management and governance structures. The key to fully identifying area-specific challenges and implementing the solutions is a high-level commitment to polio eradication on the part of the national Governments of Afghanistan and Pakistan.

6. To support national governments, the Global Polio Eradication Initiative has established a "hub" of experts based in Amman (Jordan) to provide expert, dedicated, rapid and coordinated support to these countries.

7. The polio programme has also strengthened its integration efforts, launching a more systematic collaboration with routine immunization programmes and fostering new collaborations with broader health initiatives. In addition, the Governments of Afghanistan and Pakistan are making plans to launch an integrated service delivery package through a multisectoral approach to target underserved communities in core reservoir areas.

8. In Africa, no wild poliovirus has been detected from any source since it was last detected in north-eastern Nigeria in September 2016. The certification of the eradication of wild poliovirus in the WHO African Region could occur as early as June 2020.

Circulating vaccine-derived polioviruses

9. Since the globally coordinated withdrawal of oral polio vaccine type 2 in 2016, 49 separate outbreaks due to genetically distinct circulating vaccine-derived poliovirus type 2 have been reported in 21 countries in three WHO regions (namely the African, Eastern Mediterranean and Western Pacific Regions). In 2019 and early 2020, the Global Polio Eradication Initiative developed the draft Strategy for Control of cVDPV2 2019–2021 to more effectively address the evolving circulating vaccine-derived poliovirus type 2 epidemiology.

10. In decision EB146(11), the Executive Board noted the development of the draft Strategy and also requested the Director-General, inter alia, to accelerate the assessment and roll-out of a novel oral polio vaccine type 2, including through the WHO Emergency Use Listing procedure. The decision also urges Member States, among other things, to implement an expedited process for national approval of the importation and use of vaccines to respond to polio outbreaks, including novel oral polio vaccine type 2; as well as to mobilize domestic financial resources to complement international financial and political commitments.

Africa

11. In 2019 and early 2020, several outbreaks due to genetically distinct strains of circulating vaccine-derived poliovirus type 2 continued to spread across different subregions and areas. Although a number of circulating vaccine-derived poliovirus type 2 outbreaks in Africa have been stopped, an outbreak which originated in Jigawa State (Nigeria) continues to spread both nationally and internationally, as the strain has been identified across several countries in west Africa. In central Africa, several strains

continue to spread and affect a number of countries, including Angola, the Central African Republic, the Democratic Republic of the Congo and Zambia. In the Horn of Africa, a circulating vaccine-derived poliovirus type 2, initially detected in Somalia in 2017, continues to also affect neighbouring Ethiopia.

12. In all instances, the continued spread of existing outbreaks as well as the emergence of new circulating vaccine-derived polioviruses type 2 point to gaps in routine immunization coverage in addition to insufficient quality of outbreak response with monovalent oral polio vaccine type 2. The risk of further spread of such strains, or emergence of new strains, is magnified by an ever-increasing mucosal-immunity gap to type 2 poliovirus in the African continent, following the switch from trivalent to bivalent oral polio vaccine in 2016.

13. Monovalent oral polio vaccine type 2 is currently the best available tool to respond to outbreaks of vaccine-derived polioviruses type 2. It is the only vaccine currently available that can induce the mucosal immunity necessary to interrupt virus circulation. However, if outbreak response with this vaccine is not of high quality, and coverage targets are not met or vaccine management is substandard, there is an increased risk of both ongoing transmission and emergence of future vaccine-derived polioviruses type 2. A novel oral polio vaccine type 2 currently being developed (see paragraph 9) and it is anticipated to have a substantially lower risk of seeding new vaccine-derived polioviruses type 2.

WHO South-East Asia and Western Pacific regions

14. In both Indonesia and Papua New Guinea, coordinated, cross-regional, cross-border outbreak response activities were conducted in 2018 and 2019 to address two separate outbreaks due to genetically distinct strains of circulating vaccine-derived poliovirus type 1 that affected their respective border areas. No new viruses have been detected since November 2018 in Papua New Guinea and February 2019 in Indonesia, and both outbreaks have been successfully stopped. An independent outbreak response assessment in Papua New Guinea in June 2019 noted the strong coordination between the Government, WHO, UNICEF and Gavi, the Vaccine Alliance (Gavi), in using the outbreak response as an opportunity to reinvigorate routine immunization in a sustainable manner. This experience is helping to inform similar activities in other outbreak settings.

15. In Myanmar, the response to an outbreak due to circulating vaccine-derived poliovirus type 1 is ongoing, following detection of the strain in Kayin state in July 2019. In China, the Government is responding to a circulating vaccine-derived poliovirus type 2 isolate confirmed in July 2019. In the Philippines, in September 2019, a circulating vaccine-derived poliovirus type 1 was confirmed, followed by a vaccine-derived poliovirus type 2. Both these strains were subsequently also detected in the Sabah state of Malaysia, which has maritime borders with the Philippines. Multiple genetically linked new emergences of circulating vaccine-derived poliovirus type 2 have also been reported in north-west Pakistan, with recent spread to Afghanistan. There is a high risk of further spread of this virus both within these countries and to neighbouring countries. The ongoing transmission of wild poliovirus type 1 together with the outbreaks of circulating vaccine-derived poliovirus type 2 in Pakistan represents a serious programmatic challenge to the country's management of vaccination campaigns and communications.

INTEGRATION

16. Integration is the second key goal of the Global Polio Eradication Initiative's new Polio Endgame Strategy 2019–2023, highlighting the importance that the Global Polio Eradication Initiative is placing on working together with other public health actors in a systematic and sustained manner.

17. The polio programme has a long history of collaborating with other health initiatives. Every year, on average, 82 million doses of vitamin A, 64 million doses of measles vaccine, 34 million deworming tablets, 7 million doses of yellow fever vaccine, 5 million doses of tetanus toxoid vaccine and 4 million insecticide-treated bed-nets are delivered alongside oral polio vaccine during polio activities. In 2019, integrated measles/polio supplementary immunization activities were successfully implemented in 12 countries, reaching more than 43 million children under 5 years of age. In 2020, integrated measles/polio supplementary immunization activities are planned in eight countries, targeting an estimated 66 million children.

18. Polio staff on the ground spend approximately 50% of their time working on other disease intervention areas, such as surveillance for other diseases, monitoring/supervision of essential immunization activities and supporting response to outbreaks and other health emergencies. Additionally, the infrastructure and planning capacity of the polio eradication programme are frequently used to implement and monitor supplementary immunization activities with other antigens (notably measles). The new Polio Endgame Strategy 2019–2023 calls on the polio programme to ensure a systematic approach to integration, and closer collaboration with other health programmes, such as supporting interventions aimed at responding to broader community health needs and fostering strengthened engagement for polio and broader vaccination uptake.

19. The new focus on integration will leverage the Global Polio Eradication Initiative's human and physical assets, systems and expertise to protect populations through strengthened immunization services and enhanced emergency response. Collaboration with routine immunization, surveillance and emergencies groups ensures that core capacities are maintained and strengthened, and helps to mitigate risks of new outbreaks in areas of weak routine immunization.

20. In order to support the implementation of the integration goal of the Polio Endgame Strategy 2019–2023, WHO's Immunization, Vaccines and Biologicals department is coordinating the development of a programme of work for integration. This is being done jointly with other immunization partners, including Gavi, the Vaccine Alliance, which joined the Global Polio Eradication Initiative as a core partner in 2019. This work will help to enhance alignment and coordination among key partners with interrelated strategies on immunization such as the Immunization Agenda 2030: a global strategy to leave no-one behind and the Gavi 5.0: the Alliance's 2021–2025 strategy. The programme of work will help to effectively deliver integrated strategies that are mutually beneficial for polio eradication and essential immunization efforts and a mechanism to promote accountability for their implementation.

21. The 2018–2019 outbreak of poliomyelitis due to circulating vaccine-derived poliovirus type 1 in Papua New Guinea is a strong example of the results that systematic and early collaboration with other partners can bring about, in terms of both stopping outbreaks and preventing future ones from occurring. In addition to implementing internationally agreed outbreak response, the polio programme worked with partners such as Gavi and the immunization teams of WHO, UNICEF and the United States of America's Centers for Disease Control and Prevention to tackle the root cause of the outbreak, namely inadequate routine immunization coverage rates in marginalized areas. Improving routine immunization must be seen as a key part of the emergency response to stop outbreaks and eradicate polio. The approach adopted in Papua New Guinea enabled other public health interventions to be delivered alongside polio vaccine, such as vitamin A and other vaccinations, while enabling the infrastructure built up to stop the outbreak to be sustained in the longer term. The programme is committed to following this model for all other outbreaks due to circulating vaccine-derived poliovirus in the future.

22. The current polio surveillance infrastructure continues to play an important role in expanding and strengthening vaccine-preventable disease surveillance beyond polio. This infrastructure enhances current surveillance for measles, rubella and congenital rubella syndrome and other vaccine-preventable diseases, or emerging and re-emerging diseases. The new Polio Endgame Strategy 2019–2023 supports the integration of polio field and laboratory surveillance with other surveillance systems.

CERTIFICATION AND CONTAINMENT

23. In 2019, the Global Commission for the Certification of the Eradication of Poliomyelitis continued to intensify its work on the criteria that will need to be met to achieve the global certification of wild poliovirus eradication. Within this context, the Commission recommended a process of sequential certification of wild poliovirus eradication (following the global certification of wild poliovirus type 2 eradication in 2015), and verification of the absence of vaccine-derived polioviruses, which would occur after the global certification of wild polioviruses and subsequent to the global withdrawal of bivalent oral polio vaccine.

24. With no wild poliovirus type 3 detected from any source since 2012, the Commission concluded at its meeting in October 2019 that this strain has been globally eradicated. The declaration triggered the initiation of containment requirements for type 3 poliovirus materials with an initial focus on the inventory, destruction or transfer of type 3 wild poliovirus material.

25. Efforts to contain type 2 poliovirus were intensified in 2019. As at the end of December 2019, 26 countries plan to retain type 2 and/or type 3 wild poliovirus materials in 72 designated poliovirus-essential facilities. Efforts are 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),[1] and by WHO guidance on minimizing risks for facilities collecting, handling or storing materials potentially infectious for polioviruses. GAPIII is undergoing revision in 2020 to ensure alignment with current practice and extended WHO technical guidance documents and series. The Containment Advisory Group continues to provide advice on issues related to the interpretation and implementation of GAPIII and will monitor and review the updated document.

26. Following the initiation of the global Containment Certification Scheme (GAPIII-CCS) in 2018, Global Certification Commission-endorsed certificates have been granted to laboratories and vaccine manufacturing facilities in Indonesia, Japan, the Netherlands, the Republic of Korea, Sweden, South Africa and the United States of America, recognizing them as suitable candidates to become poliovirus-essential facilities. Additional applications from laboratories and vaccine manufacturing facilities in Belarus, Belgium, Brazil, Canada, Cuba, Hungary, India, the Islamic Republic of Iran and the Russian Federation are under review by the Commission.

27. In resolution WHA71.16 (2018), the Health Assembly urged all Member States to, inter alia, intensify efforts to accelerate progress towards poliovirus containment certification. National authorities responsible for containment have been established in 25 of 26 countries hosting facilities that are planning to retain type 2 and/or type 3 wild poliovirus materials. However, some countries, including China, Mexico, Romania and the United Kingdom of Great Britain and Northern Ireland have not yet delegated legal responsibility to their national authorities for containment. The deadline for poliovirus-

[1] 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 27 February 2020).

essential facilities holding type 2 poliovirus to enter into GAPIII-CCS by submitting applications for participation in the scheme to their national authorities for containment was 31 December 2019.

28. The Global Polio Eradication Initiative partners continue to advocate for the reduction in number of facilities planning to retain eradicated poliovirus. Training sessions and webinars on GAPIII and the risks and costs associated with poliovirus type 2 material retention have been conducted for 27 facilities in the WHO Region of the Americas and European Region. As a result, two designated poliovirus-essential facilities have opted to destroy or transfer their type 2 poliovirus materials rather than retain them. Additional in-country visits and training sessions are scheduled.

29. WHO has developed a multi-year plan to build capacity for GAPIII auditing in countries with facilities planning to retain type 2 and/or type 3 wild and vaccine-derived poliovirus materials. To date, 14 GAPIII auditor training sessions have been provided by WHO, with five taking place in 2019. Over 250 international professionals have attended a basic five-day GAPIII-CCS auditor course, which is the first requirement to becoming a qualified GAPIII auditor.

30. National efforts to complete inventories for types 1 and 3 wild poliovirus materials continued in 2019. In the light of the Commission's certification of the eradication of wild poliovirus type 3 in October 2019, type 3 inventories have been prioritized. Similarly to type 2 poliovirus, countries planning to retain type 3 wild and/or vaccine-derived materials within a poliovirus-essential facility must have established a national authority for containment and should enrol all facilities in GAPIII-CCS.

STRENGTHENING PARTNERSHIPS AND NEW ENABLING FACTORS

31. The Global Polio Eradication Initiative continues to strengthen its governance and management structures. Coordination with Gavi, the Vaccine Alliance has been formalized, with Gavi officially joining the initiative as its sixth partner. Gavi became a full member of the Polio Oversight Board in early 2019, and a member of the Global Polio Eradication Initiative Finance and Accountability Committee. This enhanced collaboration will be at the centre of the implementation of the integration goal of the new Polio Endgame Strategy 2019–2023, as was seen in the joint effort in Papua New Guinea.

32. In 2019, continued political will for polio eradication was demonstrated by the Group of Seven (G7) and the Group of Twenty (G20), through the G7 Health Ministers' meeting in May in Paris, France, during which they followed up on previous G7 commitments on polio eradication, and through the G20 Heads of State declaring at their Summit in June in Osaka, Japan: "we reaffirm our commitment to eradicate polio …", as well as through the G20 Health Ministers' meeting in October in Osaka, Japan, at which they echoed the declaration of the Heads of State, noted the leadership role of WHO and expressed support ahead of the Global Polio Eradication Initiative pledging event, hosted by the United Arab Emirates in November 2019. The G7 and G20 global health commitments focus on the future implementation of the Immunization Agenda 2030, and on making progress towards achieving universal health coverage. Similar political support was displayed by other key multilateral organizations, notably the Organization of Islamic Cooperation. The Global Polio Eradication Initiative is working to further key universal health coverage priorities by improving the delivery of health services, developing and scaling health infrastructure, and effectively mobilizing domestic resources to confront key health issues.

33. In November 2019, the Reaching the Last Mile Forum in Abu Dhabi, United Arab Emirates, focused international attention on tackling infectious diseases, and provided an opportunity for world leaders and civil society organizations, notably Rotary International which is at the origin of this effort, to contribute to the "last mile" of polio eradication, pledging a total of US$ 2.6 billion out of a total requirement of US$ 3.27 billion. The Global Polio Eradication Initiative 2019–2023 Investment Case defines the impact of investing in polio eradication. Besides the savings of more than US$ 27 billion in health costs that has resulted from eradication efforts since 1988, a sustained polio-free world will generate US$ 14 billion in expected cumulative cost savings by 2050, when compared with the cost that countries will incur for controlling the virus indefinitely. Work will continue in order to enable the programme to be fully funded.

34. Following a decision of the Gavi board in November 2018, support for inactivated polio vaccine will form an integral part of Gavi's strategic cycle and replenishment for 2021–2025.

35. As a recognized enabling factor in polio eradication, the Global Polio Eradication Initiative's work on gender aims to ensure that all children are immunized and that the engagement of women is improved in line with the Global Polio Eradication Initiative's Gender Equality Strategy 2019–2023.[1] While there is much work still to be done to fully implement that strategy, progress is evident, both in data and anecdotally. In Afghanistan, women now make up 28% of social mobilizers and 40% of frontline health workers in urban areas. In Nigeria, over 87.5% of frontline health workers are women. However, a recent study by WHO on the gender dimensions of polio surveillance has highlighted that that there are fewer women than men in senior positions such as disease surveillance and notification officers.[2] The polio programme has recognized the need to intervene and work with the Government of Nigeria to address this problem. Three years have now passed without a case of wild poliovirus in the country, with the effort led by female vaccinators and community health workers. Overall, there has been marked progress in increasing the number of women in the polio health workforce in the last few years. In Pakistan, 70% of mothers prefer to have their children vaccinated by women. The polio programme is continually increasing the number of female vaccinators and supervisors. Where there were once no female polio religious support persons in the country, there are now three. In Pakistan, for example, women currently make up more than 63% of frontline health workers and account for 78% of vaccinators in the country's highest-risk areas.

ACTION BY THE HEALTH ASSEMBLY

36. The Health Assembly is invited to note the report.

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[1] Available at http://polioeradication.org/wp-content/uploads/2019/08/20190829_Gender_Strategy_V14_web.pdf (accessed 27 February 2020).

[2] Hamisu A, Onyemelukwe G, Gerald S, Hassan I, Braka F, Banda R et al. Gender Dimensions of Acute Flaccid Paralysis Surveillance in Nigeria. Int J Gend Wom Stud. 2017; December, Vol. 5, No. 2, pp. 80-87.