GLOBAL Polio eradication Initiative

ANNUAL REPORT 2023

Pre-production version, as at May 2024













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ACRONYMS

AFP	Acute Flaccid Paralysis
ARCC	Africa Regional Certification Commission
cVDPV	Circulating vaccine-derived poliovirus
EUL	Emergency Use Listing
ERC	Expert Review Committee for Polio Eradication and Routine Immunization
GCC	Global Commission for the Certification of the Eradication of Poliomyelitis
GPEI	Global Polio Eradication Initiative
GPLN	Global Polio Laboratory Network
ІМВ	Independent Monitoring Board
m0PV	Monovalent oral polio vaccine
n0PV2	Novel oral polio vaccine type 2
NPEAP	National Polio Emergency Action Plan (Nigeria)
PHEIC	Public Health Emegency of International Concern
PCS	Polio Post-Certification Strategy
RI	Routine Immunization
SAGE	Strategic Advisory Group of Experts on Immunization
SIA	Supplementary immunization activity
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WPV	Wild poliovirus



EXECUTIVE SUMMARY

The Polio Eradication Strategy 2022–2026: Delivering on a promise¹ of the Global Polio Eradication Initiative (GPEI) has two goals: to permanently interrupt all wild poliovirus type 1 (WPV1) transmission in the endemic countries, and to stop variant circulating vaccine-derived poliovirus type 2 (cVDPV2) transmission and prevent outbreaks in non-endemic countries. While the programme made important strides towards these goals in 2023, urgent and steadfast efforts must continue into 2024 to secure that progress.

Continuing work in endemic countries

Despite significant geopolitical and environmental challenges in the two remaining WPV1 endemic countries, Pakistan and Afghanistan, the polio programme continued to reach more children than previous years with polio vaccines.

Endemic WPV1 transmission was beaten back to just a handful of districts in eastern Afghanistan and the southern area of Khyber Pakhtunkhwa province in Pakistan. In both countries, efforts were increasingly focused on reaching and vaccinating the last remaining zero-dose children – children who have received no vaccine of any kind. The number of these missed children continued to dwindle owing to the success of improved collaboration with the national immunization programmes, new efforts such as Pakistan's nomad vaccination initiative² and focused vaccination activities at border crossings between the two countries. The genetic biodiversity of WPV1 transmission in both countries was at a historic low in 2023. Coupled with this increasing geographic restriction, the situation resembled the end of wild poliovirus (WPV) eradication efforts in former virus hotspots like Egypt, India and Nigeria.

In addition, after a WPV outbreak was confirmed in south-east Africa in early 2022, neither Malawi nor Mozambique has reported a WPV case since August 2022, thanks to a concerted and coordinated subregional emergency response across five countries, including the United Republic of Tanzania, Zambia and Zimbabwe.

Progress on variant polio outbreaks

Thanks to the novel oral polio vaccine type 2 (nOPV2), strong political commitment and community-based efforts to reach more children with the vaccine, the number of cases of cVDPV2 continued³ to decline, by more than 50% in 2023 compared to 2022.

Nearly 1 billion doses of nOPV2, a comparably safe, effective but more genetically stable version of the existing oral polio vaccine type 2, had been administered in 35 countries by December 2023, protecting millions of children from illness and paralysis since 2021. In December, the vaccine was granted WHO prequalification, marking the end of its rollout under the WHO Emergency Use Listing (EUL) procedure and becoming the first-ever vaccine to graduate from EUL to prequalification.

Emergency response to variant polio outbreaks continued, notably in the most consequential geographies⁴ for the programme, where children are at the highest risk of encountering and spreading poliovirus due to weak essential immunization systems. In north-western Nigeria, for example, variant polio cases have fallen by 90% since a peak in 2021, thanks to concerted commitment from the government, unique community programmes to improve the reach of vaccines and the extensive rollout of nOPV2. Across these consequential geographies, the programme will continue to innovate and focus on increasing access, acceptance and campaign quality.

Finally, in September 2023, after a massive vaccination response, Ukraine officially stopped its outbreak of cVDPV2 that began in 2021. Jerusalem, London and New York, where high-profile outbreaks began in 2022, did not detected the virus in 2023. Still, the emergence of polio in these areas is a reminder that as long as poliovirus exists anywhere, it is a threat to people everywhere.

A global effort

The Independent Monitoring Board conducted a rigorous midterm review⁵ of the GPEI's progress towards its strategic goals. This review is helping to inform and guide the GPEI's own ongoing analysis and strengthen its strategic approaches to achieve a polio-free world. The programme published its initial response⁶ to the midterm review under the guidance of the Polio Oversight Board. The aim remains to ensure global certification of WPV eradication by the end of 2026. The Board will publish a revised and updated multiyear budget and strategy in mid-2024.

Global support to the effort remained strong during the year, with long-standing commitments continued by both public- and private-sector partners, led notably by Rotary International, and new organizations joining the fight, such as the European Investment Bank.

Achieving and sustaining a polio-free world has proven harder – and taken longer – than anyone could have imagined. Making history is never easy, but confidence persists that the world can eradicate a second human disease from this earth, and build stronger, more resilient health systems along the way.

The year 2023 contributed to firmly setting the stage for success. Despite the complexities of today's world, the GPEI still inspires efforts that bring out the best in humanity. Thanks go to all who contributed to this effort during the year and continue to do so. Everyone together can strengthen the commitment to make the dream of a polio-free world a reality.

Polio eradication strategy 2022-2026: Goal one

Permanently interrupt all poliovirus transmission in the endemic countries

Why is the focus on interrupting WPV1 endemic transmission so important?

The key to a lasting world free of all forms of poliovirus lies in rapidly interrupting all remaining endemic transmission of WPV in the endemic areas of Pakistan and Afghanistan. This is the only way to ensure that such strains do not re-emerge globally through international spread. It lays the cornerstone for the eventual cessation of all oral polio vaccine use, in order to eliminate the long-term risks associated with variant poliovirus strains, which is the GPEI's top operational priority. The target for certifying the world free of all WPV remains end-2026.

In 2023, WPV1 continued to be detected in parts of Afghanistan and Pakistan, the last two remaining countries where the virus is endemic. Cases of WPV1 were mainly restricted to endemic areas in both countries, namely Nangarhar province in the eastern region of Afghanistan and seven endemic districts in the southern parts of Khyber Pakhtunkhwa province in Pakistan.

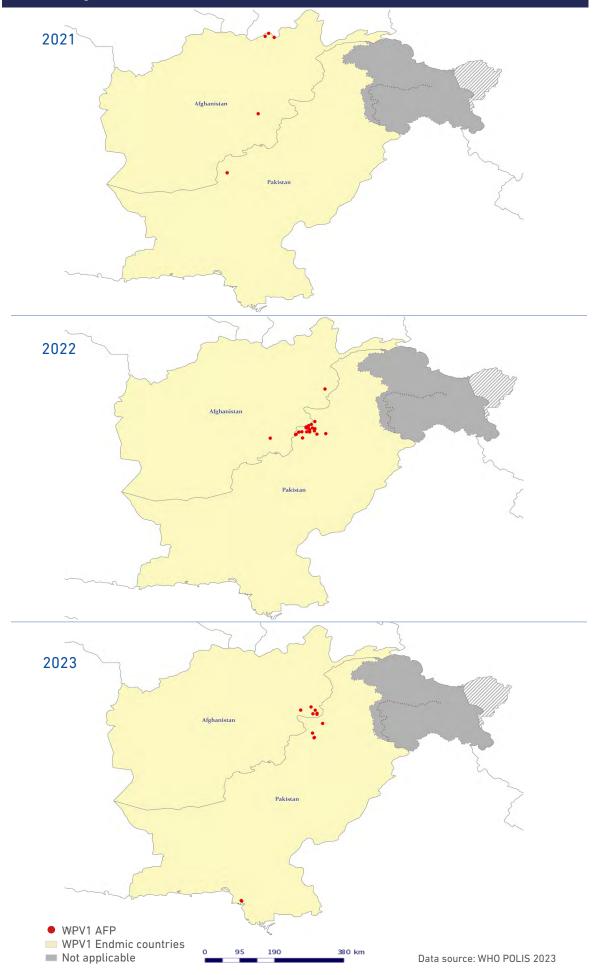
In Afghanistan, six cases of WPV1 were reported in 2023, all from Nangarhar province. Environmental surveillance detected WPV1-positive samples in other areas of the country, all linked to the ongoing endemic transmission in Nangarhar, but transmission was not reestablished in any of these areas. Detection in non-endemic areas, however, pointed to the ongoing risk this virus presents to polio-free areas everywhere.

The genetic diversity of WPV1 transmission in Afghanistan remained at a historic low, with one chain active in 2023.

The focus in the country during the year remained to find and vaccinate remaining zero-dose children, in particular in Nangarhar, namely those children who remain either unvaccinated or under-vaccinated. Despite significant operational and geopolitical challenges, throughout 2023 the quality of supplementary immunization activities (SIAs) continued to improve, reducing the proportion of missed children. This work must continue, including implementing risk-mitigation tactics in the highest-risk areas, taking advantage of access opportunities and expanding the target age group for vaccination in response to older children being paralysed.

Six cases of WPV1 were reported in Pakistan in 2023: four from two districts of the southern area of Khyber Pakhtunkhwa and two from a single district of Karachi, Sindh (belonging to the same genetic lineage as the one circulating in eastern Afghanistan). As in Afghanistan, positive environmental samples continued to be detected in other areas of the country, but the virus did not succeed in re-establishing a foothold in any of these areas.

Afghanistan and Pakistan: WPV 1 situation in 2021, 2022 and 2023



Did you know...?

While Pakistan and Afghanistan are the final two remaining WPV-endemic countries in the world, 99% of both countries are already polio-free. In Afghanistan, only one province remains endemic to WPV while, in Pakistan, only seven districts in the southern area of one province are still considered endemic. This means, quite literally, that more than 99.99% of the human population worldwide now lives in areas free from endemic WPV. It is in these final endemic areas that all efforts must now be redoubled.

As in Afghanistan, the genetic diversity of WPV1 transmission in Pakistan remained at a historic low, with two chains active in 2023.

Both countries continued to coordinate their activities, given they form a joint epidemiological block, as guided by their respective National Emergency Operations Centres, the Technical Advisory Group, and the Regional Subcommittee on Polio Eradication and Outbreaks for the Eastern Mediterranean.

Both countries' programmes have a very real chance of success in 2024, maintaining efforts to reach remaining zero-dose children with a focus on endemic and high-risk zones, particularly in the first half of the year (the low transmission season for polioviruses).



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Is polio eradication in Pakistan and Afghanistan actually feasible?

> The answer to this frequently asked question is: technically and biologically, absolutely! The fact that 99% of the world has succeeded, including some of the most technically challenging places, such as India, is clear proof.

The science is actually quite simple: poliovirus can only be sustained by transmission between humans. So if enough children in a given environment are vaccinated, polio has nowhere to hide. By interrupting the person-to-person spread of the virus, the disease disappears from that area. It gets complicated, though, when enough children do not get vaccinated. The reasons for that vary but are not technical or biological in nature. They are all geopolitical and societal in nature. Medically, everything needed is at hand. What it takes is political and societal will to reach every child. So when will the remaining zero-dose children be reached, meaning those children who have not yet been immunized in those last remaining areas of Afghanistan and Pakistan? That is a question that concerns geopolitics, not technology.

What can be asserted is this: taking Pakistan to symbolize the world, 25 years ago polio paralysed more than 35 000 children in every single district of the country. In 2023, six children were paralysed, in just three districts. The genetic biodiversity of poliovirus transmission – in other words, the individual, separate family lines of poliovirus circulating in the country – was reduced from more than a dozen separate strains in 2022 to just two in 2023. This shows that what is being done is working; it means individual family strains of the virus are being knocked out. Other countries saw similar virological and epidemiological evolution as they were approaching their polio-free status. So just as the world eradicated polio by 99%, so is Pakistan.

Of course, 99% is not the goal. Eradication requires 100%. But the analyses show that Pakistan is on the right track. Its health authorities are identifying why children are not being immunized and then putting in place emergency action plans to overcome those reasons. The main issues really are operational or geopolitical. Take the 2022 floods in the country: one third of Pakistan was literally submerged in water, and a third of its population was on the move as a result. But the polio programme responded, setting up mobile vaccination posts and delivering polio vaccine alongside other health interventions and emergency supplies in camps of internally displaced persons. The primary reason is that not all communities receive immunization services – which can be because they are marginalized or they live in terrain that is hard to reach, or for other operational or social reasons. More thought needs to be put into how the programme can creatively bring the service to those communities. That is what was done during the 2022 floods in Pakistan, when the polio eradicators established mobile vaccination posts and delivered polio vaccine alongside the other health interventions.

Eradicating a disease is not easy. That is why it has only happened once in history, with the eradication of smallpox in 1980. But the benefits of success, especially measured against the consequences of failure, are undeniable. Polio vaccination has ensured that more than 20 million cases of polio paralysis have been averted, and more than 1.5 million lives have been saved, since 1988. Every year, some 600 000 children are protected from paralysis by vaccine. While reaching for zero, each one of these averted cases is a success. Polio eradication strategy 2022-2026: Goal two

O WHO/Yemen/NesmaKh

Stop cVDPV2 transmission and prevent outbreaks in non-endemic countries In 2022, a number of high-profile detections of various forms of poliovirus were reported, including from Canada, Israel, Ukraine, the United Kingdom and the United States of America, in addition to WPV1 importation into south-eastern Africa. Serving as a stark reminder of how easily all forms of poliovirus can spread and re-emerge globally as long as any poliovirus exists anywhere, these detections prompted emergency response measures in all areas to stop the strains.

The detection of WPV1 in 2022 in Malawi and Mozambique was the first WPV1 in the African Region since it was certified as WPV-free in 2020. While it was not linked to endemic (indigenous) transmission, it posed a significant public health risk and threatened to re-establish the transmission of such strains on the African continent. This was further complicated by the presence of strains of circulating vaccine-derived poliovirus type 1 (cVDPV1) and cVDPV2 in the subregion as well. Focus therefore had to be on a concerted, subregional emergency response, coordinated primarily across five countries. Under the leadership of these governments, a strong subregional, multicountry response was implemented, supported by the WHO Regional Office for Africa and the Africa Regional Certification Commission, the body that verifies whether virus has been eradicated. An independent outbreak response assessment in November 2023 concluded that WPV1 transmission had most likely stopped in both countries. The assessment also identified remaining risks and room for improvement to inform further outbreak response in 2024.

The viruses detected in London, New York, Israel, Canada and Ukraine all appeared to have been successfully stopped and, while the risk of spread stayed high, the areas with the most intense force of cVDPV2 are now well-known, namely, north-western Nigeria; eastern Democratic Republic of the Congo (affected by co-circulation of cVDPV1 and cVDPV2); south-central Somalia; and northern Yemen. Additionally, Madagascar continued to be affected by persistent transmission of cVDPV1.

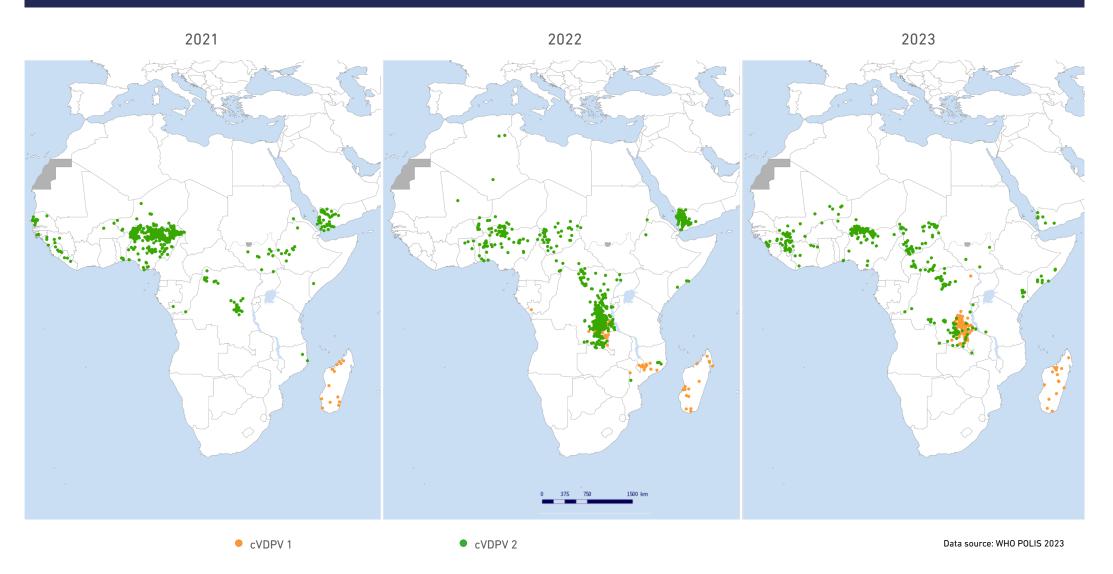
Emergency outbreak response efforts continued in all of these areas; the quality of this response of course remained influenced by the prevailing local geopolitical situation/ broader complex humanitarian emergency. In 2023, outbreak response activities trebled over 2022, with more than 460 million doses (during 76 SIAs) administered for cVDPV2, and 187 million doses (during 22 SIAs) administered for cVDPV1. Planned outbreak response in the first half of 2024 will consist of approximately 280 million doses administered against both serotypes.

To stop transmission of cVDPV2 more sustainably, nOPV2 continued to be administered in countries affected by these outbreaks, with approximately 1 billion doses administered in 35 countries by December 2023. In December, the vaccine was granted WHO prequalification, marking the end of its rollout under the WHO EUL procedure and becoming the first-ever vaccine to graduate from EUL to full prequalification.

Notwithstanding the decline in variant poliovirus cases detected in 2023, the GPEI will continue its intense efforts, with particular focus on the areas with most intense transmission, to achieve the goal of fully stopping outbreaks of such strains in 2025.



Overview of cVDPV cases in Africa, (including Horn of Africa) in 2021, 2022 and 2023



Public health emergency of international concern

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The international spread of poliovirus remained classified as a Public Health Emergency of International Concern, under the International Health Regulations (2005), and is indeed the only global event designated as such. This status indicates both the commitment of WHO Member States to completing eradication and the seriousness of the known risks associated with failure: global resurgence of this highly infectious disease.

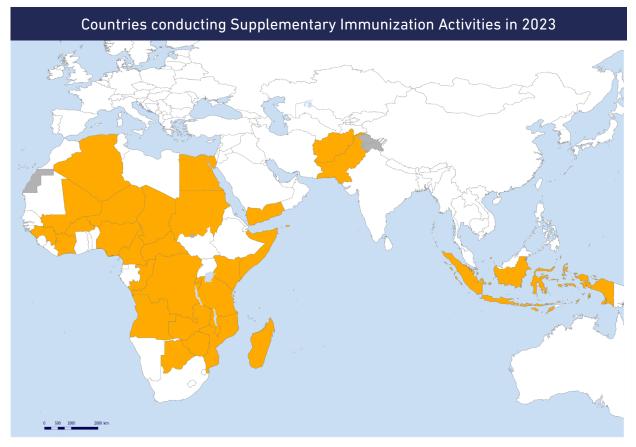
The main engines of poliovirus transmission – whether wild or variant – are now in areas of protracted and complex emergencies, in clearly identified consequential geographies: eastern Afghanistan; the southern area of Khyber Pakhtunkhwa, Pakistan; north-western Nigeria; eastern Democratic Republic of the Congo; south-central Somalia; northern Yemen; and Madagascar.

An independent assessment...

In a September 2023 report, the Independent Monitoring Board of the GPEI concluded that despite ongoing progress towards interruption, in particular with regard to endemic WPV1 transmission, remaining challenges made stopping transmission of this strain unlikely in 2023; while the group noted improvements in combating cVDPV2 outbreaks, ending all outbreaks of such strains will take more time. The Polio Oversight Board, consisting of the heads of the GPEI partner agencies, convened in person in October 2023 to review the assessment and put in place key corrective measures for overcoming the outstanding technical, programmatic and contextual challenges. The goal remains to urgently interrupt WPV1 transmission during 2024 and ensure the certification of its eradication as planned by the end of 2026, while further intensifying the response to cVDPV2 to achieve interruption of these strains in 2025.

Given the highly infectious nature of the disease and the ease with which it can spread internationally, in addition to focusing its efforts on the above-mentioned engines of transmission, the GPEI also continued to concentrate on known areas at highest risk of reinfection, specifically, areas with inadequate health services/infrastructure, with large populations and/or with dense urban links to polio-affected areas. The aim was to continue to boost immunization coverage and overall population immunity levels, to minimize both the risk and consequences of an eventual polio importation or re-emergence in these areas.

As such, the GPEI continued to support the immunization of approximately 450 million children multiple times each year using about 2 billion doses of different polio vaccine formulations, in more than 40 countries, primarily in parts of the African Region, the Eastern Mediterranean Region and the South-East Asia Region.



Countries with SIA

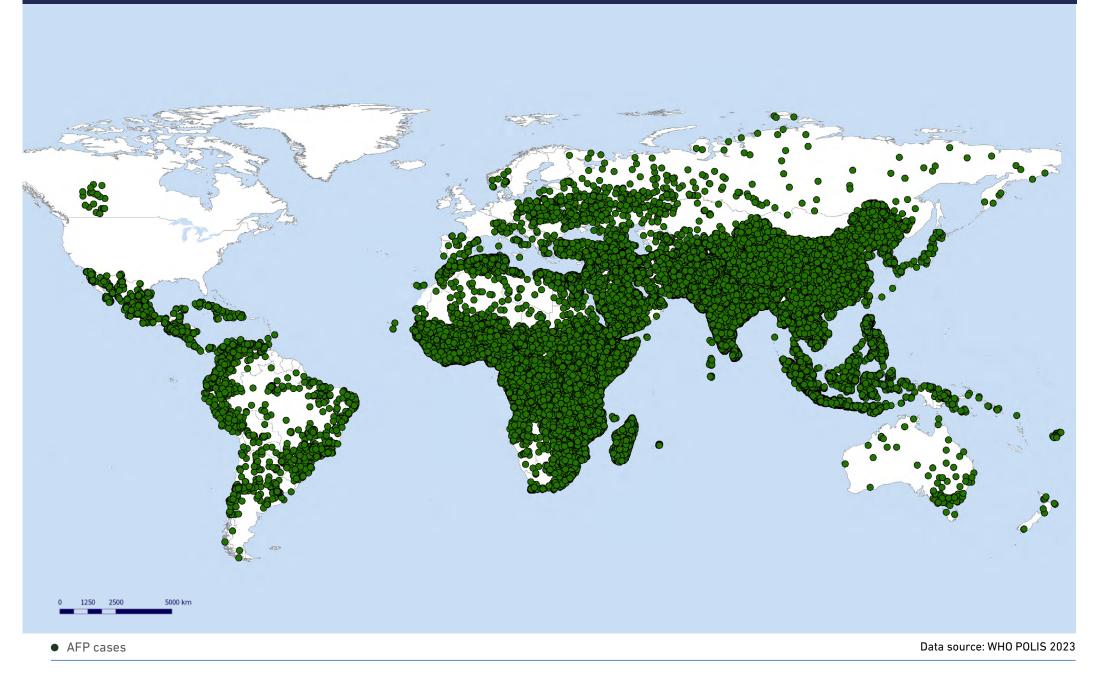
Data source: WHO POLIS 2023

This system is supported by a truly unique global and active surveillance network, to detect and investigate any polio case, anywhere in the world, within 14 days. It is the "eyes and ears" of global eradication, identifying where poliovirus is, how it is behaving and what it might do next. This information allows epidemiologists to rapidly respond to any detected poliovirus in order to prevent large-scale epidemics, and to ensure that vaccination teams can reach children with vaccine before the virus does.

Did you know...?

As one of the largest operational health programmes in the world, polio eradication takes its environmental impact seriously. The main risks, identified by an environmental impact analysis and monitored annually, are particularly related to health care waste management and laboratory chemicals. In terms of climate impact, in 2023, the GPEI undertook a life cycle analysis to identify those points where polio eradication operations are vulnerable to climate change impacts, for example through extreme weather events, and to identify key areas, such as procurement, where the programme could reduce its overall carbon footprint.

This massive network detects and investigates more than 100 000 "suspected" polio cases – those in which children display polio-like symptoms (acute flaccid paralysis) – collecting two stool specimens from each of these suspected cases and ensuring their analysis in one of 146 WHO-accredited laboratories that form part of the Global Polio Laboratory Network. This work is supported by ever-increasing use of environmental surveillance (testing of sewage water for the presence/absence of poliovirus) in known infected, densely populated, urban or transit areas, to yield additional epidemiological information on polioviruses. More than 1 100 sampling sites have been established by the Global Polio Laboratory Network and partners worldwide, including 122 permanent sites in Pakistan, with > 16 000 samples collected and investigated globally. Subsequent genetic sequencing of all isolated polioviruses, from any source, provide further critical epidemiological and virologic information, which helps strengthen and sensitize strategic eradication approaches.





This network is used to help detect other diseases of public health importance, including COVID-19, measles, yellow fever and neonatal tetanus. As an illustration of its importance and broader value, during the 2014 Ebola outbreak in west Africa, a person with Ebola travelled by plane from Sierra Leone to Lagos, Nigeria. This person's symptoms began when they arrived and were identified by the PolioPlus Surveillance Officer in Lagos, who took the necessary steps to isolate the person, to organize contact tracing and to begin treatment. Essentially, this prevented Ebola from establishing a foothold in Nigeria. Because Nigeria is Africa's most populous country and a major international travel hub, Ebola's establishment there would have caused the epidemic to be far worse than it already was.

Together, these large-scale SIAs and global surveillance activities represent the two primary cost-drivers of the GPEI global budget, which must be maintained to secure the progress achieved thus far.

Preparing for a lasting polio-free world For future generations, it is critical to ensure that the essential functions needed to keep the world polio-free are sustained and that the tools, knowledge and infrastructure established through the eradication effort contribute to helping build strong, resilient and equitable health systems. Throughout 2023, the GPEI accelerated its efforts to prepare for a lasting polio-free world, including through work pertaining to (a) preventing the reintroduction of poliovirus; (b) bolstering the long-term immunization policy; and (c) transitioning polio critical functions to country programmes to build strong, resilient and equitable health systems.

Preventing the reintroduction of poliovirus

One area of action focused on preventing the reintroduction of poliovirus after eradication. Primary threats include outbreaks of variant polioviruses stemming from the continued use of oral polio vaccines (OPVs) in routine immunization programmes, and the inadvertent release of poliovirus from a research/diagnostic laboratory or vaccine manufacturing facility. A theoretical third risk is associated with immunodeficient excretion of vaccine-derived polioviruses (iVDPVs).

The GPEI and its partners continued their work to mitigate these risks, including through planning for the cessation of OPV use from all routine immunization programmes based upon the lessons learned from the switch from trivalent OPV to bivalent OPV; engaging in a comprehensive Member-State-led laboratory containment effort aimed at limiting the number of facilities holding poliovirus and ensuring remaining facilities hold it under appropriate biosafety conditions; and participating in a global iVDPV surveillance and tracking project, combined with research to evaluate new tools (such as antivirals and monoclonal antibodies) to help address iVDPVs.

Bolstering the long-term immunization policy

The long-term immunization policy in the post-eradication era continued to be fine-tuned and strengthened, as new vaccine solutions, products and formulations became available. This work was closely aligned with global vaccine manufacturing partners, to ensure an appropriate supply and demand forecast. Research focused on developing, evaluating and using new vaccines, such as novel OPV types 1 and 3; introducing inactivated-poliovaccine-containing combination vaccine formulations for both developed and developing countries; and developing safer and more affordable production processes for inactivated polio vaccine. Innovation and research also progressed regarding antivirals and monochromal antibodies to address iVDPVs, and on the use of virus-like particles for the production of polio vaccines post-certification.

These areas of work were guided by global, regional and national independent experts and scientific advisory groups. The Global Commission for the Certification of the Eradication of Poliomyelitis is the overarching body responsible for defining requirements to both achieve eradication and verify this achievement. The Strategic Advisory Group of Experts on immunization and its specific working group on polio eradication continues to advise

and evaluate the most relevant and appropriate vaccination strategies for the short, medium and long terms. In 2023, the work of both groups was informed by a dedicated lessons-learned analysis of the 2016 global switch from trivalent OPV to bivalent OPV. These lessons will help inform planning for the cessation of bivalent OPV and will ensure that the eventual cessation of all OPV use can be implemented efficiently and effectively.



Transitioning polio critical functions to country programmes to build strong, resilient and equitable health systems

Preparation for a polio-free world must also focus on sustaining the essential functions needed to keep the world polio-free once eradication is achieved and on using the infrastructure, tools and knowledge established through the eradication effort to build strong, resilient and equitable health systems. Over the past years, important lessons have been learned in transitions that are now being applied through a country-specific approach. Success will be a double dividend: protecting a polio-free world and helping countries possess strong, resilient and equitable health systems. The new strategic framework for polio transition fleshed out during 2023, through extensive consultations with countries, partners and civil society organizations, lays the foundations for this success. The post-2023 strategic framework envisions a world in which polio investments are sustained and used to help build stronger health systems, and all countries remain polio-free, minimize the burden of and eliminate vaccine-preventable diseases, and rapidly detect and control disease outbreaks. To maximize impact, action is being taken at the country level, guided by tailored regional strategic plans. Results will be measured through a complementary set of outcome indicators and milestones, intended to monitor country resilience and transition readiness respectively.

The new approach to transition recognizes that countries with weak and fragile health systems will need continued support from partners, even after polio is eradicated. The Transition Independent Monitoring Board, in its sixth report published in July 2023, acknowledged these challenges at the country level, calling for clarity on the accountability arrangements that will be set in place to prepare for the sunset of the GPEI. In response, the programme is coordinating closely with partners working on essential immunization and health emergencies to guarantee the strong accountability of performance to prevent a backsliding of progress, as well as the necessary arrangements to ensure that the essential functions of immunization, surveillance, containment and outbreak response are sustained once eradication is achieved. This is directly linked to the implementation of the polio Post-Certification Strategy.

The Post-Certification Strategy, which defines the technical standards that countries and partners will be accountable for to safeguard a polio-free world, is being revised to reflect the programmatic innovations and contextual changes that have occurred since 2017. Work on these interrelated work streams will continue through 2024, which will set the stage for success beyond eradication. The integration of polio work streams into existing health systems supports a successful transition, which remains a top priority for the programme. In 2023, a dedicated function was put in place to systematically coordinate this area of work. At a policy level, guidance on integration priorities in outbreak settings has been developed and rolled out to operational teams. The priority for integration efforts remains at the country level, with a thematic and geographic focus, including to implement multi-antigen SIAs and support the strengthening of routine immunization and initial service delivery, in the endemic zones of Afghanistan and Pakistan and the consequential geographies of north-western Nigeria, eastern Democratic Republic of the Congo, south-central Somalia and northern Yemen. In other areas, integration will take advantage of appropriate opportunities, based on the local context. A programme of work has been initiated that will help to better facilitate, document and report on the integration actions of supported teams in the field, including a guarterly fact sheet (see the annex), to help track implementation and identify opportunities.

Gender in polio eradication

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The GPEI's *Gender Equality Strategy 2019–2023*⁷ outlined ways to implement gender-responsive measures in programming, institutional frameworks and operational contexts. Notably, the standard operating procedures for outbreak response now incorporate a dedicated section on gender considerations, encompassing a gender checklist as a systematic tool for use during outbreak interventions.

Throughout 2023, concerted efforts were made to advance the implementation of the gender strategy and the integration of the gender checklist across all operational tiers. Gender analysis remains a fundamental practice, facilitating the identification of gender norms and the formulation of tailored, gender-responsive plans and interventions in both endemic and outbreak settings, thereby bolstering the effectiveness of poliovirus eradication endeavours.

Efforts to enhance gender balance within polio response teams yielded positive outcomes, including greater representation of female personnel in frontline and decision-making roles. This diversification ensures the integration of balanced perspectives in strategic planning and execution. Moreover, in certain subnational areas characterized by sensitive gender norms, female health workers played a crucial role in facilitating access to households and raising awareness among female caregivers of the significance of polio vaccination.

Tailored capacity-building initiatives, aimed at fostering a conducive work environment particularly for female team members, are being implemented. To ensure effective coordination, knowledge exchange and best practice dissemination, a Gender Mainstreaming Group comprising GPEI partners was established. This collaborative mechanism not only promotes the integration of gender-responsive approaches into all facets of the programme but also aligns closely with broader global immunization agendas and the gender policies of key stakeholders, such as Gavi, the Vaccine Alliance.

International support for the global eradication effort The global political will to eradicate polio and the financial support from partners and donors remained strong throughout 2023, bringing the GPEI closer to achieving and sustaining a polio-free world. Leaders from across the globe expressed their support for polio eradication, including heads of state and ministers of health of G7 and G20 countries, Rotarians, the World Health Assembly and the Regional Subcommittee on Polio Eradication and Outbreaks for the Eastern Mediterranean.

In the Hiroshima Leaders' Communiqué, G7 health ministers stated they "recognise the value-added contribution of the global polio eradication infrastructure and workforce towards global surveillance capacity, national pandemic preparedness and response capacity, and the wider global health architecture", calling for "continued support to the Global Polio Eradication Initiative (GPEI) to fully leverage this vital resource for public health emergencies and to stay on track for polio eradication by 2026". This call was subsequently echoed by the G7 heads of state, who called for "continued support to the GPEI to stay on track for polio eradication by 2026".

In the G20 New Delhi Leaders' Declaration, G20 heads of state highlighted the need to continue to progress towards polio eradication to strengthen the global health architecture and build more resilient health systems. The G7 and G20 forum and leaders have a long history of supporting the global effort to eradicate polio, and this reiterated validation served as further testimony to their commitment to the GPEI.

Rotarians leveraged their influence with donor governments and governments of polio-affected countries to secure political and financial support for polio eradication. Rotary International, a spearheading partner of the GPEI, continued to be the programme's second largest private-sector donor, pledging US\$ 750 million for the Polio Eradication Strategy 2022–2026⁸, including funding from the Bill & Melinda Gates Foundation's two-to-one match.

Significant pledges made by partners and donors resulted in US\$ 3.6 billion, including prior commitments from previous years, against the budgetary requirements of US\$ 4.8 billion for the Polio Eradication Strategy 2022–2026. A revised multiyear budget is expected to be published in mid-2024. The US\$ 3.6 billion mobilized includes US\$ 2.6 billion pledged by donors in October 2022 at the Berlin pledging event, co-hosted by Germany's Federal Ministry for Economic Cooperation and Development, and an additional US\$ 1 billion secured since the pledging event. Of the \$3.6 billion in pledges, \$2.4 billion (66%) has been monetized. The GPEI is working with partners to convert the remaining pledges into agreements and cash disbursements and to secure the remaining US\$ 1.2 billion needed to fully fund the strategy period.

In 2023, three new innovative funding commitments to the GPEI were announced. In October, the European Investment Bank joined the global eradication effort and announced a €500 million investment, in the form of a loan backed by the Bill & Melinda Gates Foundation and the European Commission, in support of the GPEI. The novel feature of this arrangement will be performance-based payment triggers to be assessed annually starting in 2024.



High-level political support to stop poliomyelitis, boost immunity to other vaccine-preventable diseases and strengthen health systems in Somalia has been renewed and reinforced, October 2023, Somalia

In December, the Islamic Development Bank, together with the Government of Pakistan, announced a US\$ 100 million loan to support Pakistan's polio eradication efforts in collaboration with UNICEF at the Reaching the Last Mile Forum 2023 held under the patronage of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the United Arab Emirates. The forum took place during the COP28 in Dubai and convened global, frontline and community leaders in support of advancing resilient health systems that leave no one behind. This loan builds on previous support from the Islamic Development Bank and includes a US\$ 35 million principal buy-down from the Bill & Melinda Gates Foundation.

The French Development Agency and the Bill & Melinda Gates Foundation also announced a new partnership to fund polio eradication efforts and support climate-resilient health systems in Pakistan. This includes a new loan of up to €55 million from the Agency to Pakistan – with a principal buy-down of €20 million from the Foundation – to support WHO's polio operations in the country. This new partnership builds on France's US\$ 100 million commitment in 2022.

This funding will enable the programme to reach millions of vulnerable children with vaccines and deliver important health interventions alongside polio vaccines. Achieving the goal of a polio-free world requires continued support from partners and donors and a fully financed GPEI.

Contributions in 2023

The GPEI thanks all donors and partners for their generous contributions in 2023, which helped to immunize more than 320 million children worldwide against polio, build preparedness and response capacities, and strengthen health systems.

DONORS	AMOUNT
G7 COUNTRIES & EUROPEAN COMMIS	SION
USA ¹	US\$ 116 995 000
Canada	US\$ 64 312 000
Germany	US\$ 42 328 000
United Kingdom	US\$ 18 293 000
France	US\$ 5 363 000
Japan	US\$ 3 492 000
Sub-total:	US\$ 250 783 000
NON-G7 OECD COUNTRIES	
Australia	US\$ 7 262 000
Republic of Korea	US\$ 3 493 000
Luxembourg	US\$ 754 000
Spain	US\$ 162 000
Türkiye	US\$ 20 000
Sub-total:	US\$ 11 691 000
OTHER DONOR COUNTRIES	
United Arab Emirates	US\$ 7 677 000
Monaco	US\$ 110 000
Sub-total:	US\$ 7 787 000
PRIVATE SECTOR / NON-GOVERNMENTA	L DONORS
Bill & Melinda Gates Foundation ²	US\$ 471 802 000
Rotary International ²	US\$ 150 472 000
His Highness Sheikh Mohamed Bin Zayed Al Nahyan	US\$ 24 000 000
Gates Philantropy Partners (High Networth individuals)	US\$ 28 000 000
United Nations Foundation	US\$ 1 742 000
Al Abdulla Family	US\$ 330 000
Kasta Technologies	US\$ 9000
Sub-total	US\$ 576 355 000
MULTILATERAL SECTOR	
Islamic Development Bank Loan / Government of Pakistan ³	US\$ 60 000 000
UNICEF regular and other resources	US\$ 223 000
Sub-total:	US\$ 60 223 000
DOMESTIC RESOURCES	
Democratic Republic of the Congo ⁴	US\$ 1 578 000
Egypt ⁴	US\$ 1 143 000
Indonesia ⁴	US\$ 472 000
Nigeria ⁴	US\$ 742 000
Sub-total:	US\$ 3 935 000
GRAND - TOTAL	US\$ 910 774 000

^{1.} For Fiscal Year 2023, Congress appropriated US\$ 180 million for the polio eradication activities of the CDC and US\$ 85 million for USAID. For more information, please see https://polioeradication.org/financing/donors/historical-contributions/.

The Bill & Melinda Gates Foundation has provided challenge grants to Rotary International since 2008. Every dollar raised by Rotary
International is matched with two additional dollars from the Bill & Melinda Gates Foundation. These amounts are included in totals for both
Rotary International and the Bill & Melinda Gates Foundation, but are not included in the subtotals nor in the bottom-line grand total.
 The Government of Pakistan has taken out a \$100 million loan from the Included matched by a statement of the addition of the subtotals.

^{3.} The Government of Pakistan has taken out a \$100 million loan from the Islamic Development Bank in support of its polio eradication efforts in collaboration with UNICEF. This loan builds on previous support from the Islamic Development Bank and includes a US\$35 million principal buy-down from the Bill & Melinda Gates Foundation. These funds are Pakistan's domestic contribution toward the GPEI budget for 2022-2026.

⁴ These domestic contributions are outside of the core GPEI Financial Resource Requirement (FRR) funding. However, this non-FRR funding supplements eradication activities funded through the FRR, and is both encouraged and appreciated. In 2023, approximately 36% (10) of countries have contributed or self-financed their SIA campaigns in response to poliovirus detections. In the WHO African Region: Algeria, Angola, Cameroon, Cote d'Ivoire, Democratic Republic of the Congo, Malawi, Niger, Nigeria and Zambia contributed to portions of the campaigns completed in 2023. Outside of the WHO African Region, Egypt and Indonesia contributed or self-financed their SIA campaigns.

References & Annexes



References

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- 8 Polio Eradication Strategy 2022–2026: Delivering on a promise. Geneva: World Health Organization; 2021 (https://apps.who.int/iris/bitstream/hand le/10665/345967/9789240031937-eng.pdf, accessed 9 July 2021)

Annex 1: Key Performance Indicators of the Polio Eradication Strategy

Interface Other Other Other Other Other Other 1. Create Interface Int	OBJECTIVE		KEY PERFORMANCE INDICATORS	2023 RESULTS				
Percentage of newly affected outbrack countries that declare a national public health emergency upon outbrack confirmation OP OP 11.2 Percentage of polic priority subnational areas accessible for H2H campaigns in Aghanistan OP				Q1	Q2	Q3	Q4	
Image: Proceedings of policy priority subnational areas accessible for H2H campaigns in Pakistan (1)	1. Create	e urgency	and accountability through advocacy to generate greater political will					
1.12 Percentage of polio priority subnational areas accessible for H2H campaigns in Afghanistan 000		1.1.1		62%	100%	75%	67%	
Needings of the task force on polic eradication chaired by the Prime Minister in Pakistan and by the Ministry of Health in Afghanistan convened each year to review progress and address challenges Image: Imag		1.1.2	Percentage of polio priority subnational areas accessible for H2H campaigns in Pakistan	100%	87%	100%	80%	
1.1.3 Ministry of Health in Afghanistan convened each year to review progress and address challenges 1 0 <		1.1.2	Percentage of polio priority subnational areas accessible for H2H campaigns in Afghanistan	100%	80%	100%	100%	
1.2.2 after each SIAs and ensure corrective actions - Afghanistan 1000 <td< td=""><td>iieved</td><td>1.1.3</td><td>Ministry of Health in Afghanistan convened each year to review progress and address challenges</td><td>1</td><td>0</td><td>2</td><td>4</td></td<>	iieved	1.1.3	Ministry of Health in Afghanistan convened each year to review progress and address challenges	1	0	2	4	
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1.2.3 women - Pakistan 24% </td <td>Asses</td> <td>1.2.2</td> <td>The provincial / regional task forces review the number of missed children and quality of operations after each SIAs and ensure corrective actions - Afghanistan</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td>	Asses	1.2.2	The provincial / regional task forces review the number of missed children and quality of operations after each SIAs and ensure corrective actions - Afghanistan	100%	100%	100%	100%	
1.2.3women - Afghanistan0%<		1.2.3		24%	24%	18%	22%	
2. Generate vacine acceptance through context-adapted community engagement 2.1.1 Average proportion of caregivers aware of polio SIAs in Pakistan 0 26% 6% 6% 2.1.1 Average proportion of caregivers aware of polio SIAs in Afghanistan 6% 6% 6% 6% 2.1.1 Average proportion of caregivers aware of polio SIAs in Afghanistan 6% 6% 6% 6% 2.1.1 Average proportion of caregivers aware of polio SIAs in outbreak countries 0 6% 6% 6% 2.1.1 Average proportion of caregivers aware of polio SIAs in outbreak countries 0 6% 6% 6% 2.1.1 Average proportion of caregivers aware of polio Piority subnational areas - Pakistan 6% 6% 5% 2.1.1 Percentage of female workers at the forefront in polio priority subnational areas - Pakistan 6% 6% 5% 2.2.2 Percentage of missed children in priority subnational areas in endemic countries (disaggregated by sex as available) - Pakistan 2%		1.2.3		0%	0%	0%	20%	
2.1.1 Average proportion of caregivers aware of polio SIAs in Pakistan 		1.3.1	Percentage of outbreak countries making financial contribution to outbreak response.	55%	31%	20%	36%	
Part of the properties of the properties of the properties aware of polic SIAs in AfghanistanImage of the properties aware of polic SIAs in AfghanistanImage of the properties aware of polic SIAs in outbreak countries2.1.1Average proportion of caregivers aware of polic SIAs in outbreak countriesImage of the properties aware of polic SIAs in outbreak countriesImage of the properties aware of polic SIAs in outbreak countries2.1.1Average proportion of caregivers aware of polic SIAs in outbreak countriesImage of the properties aware of polic SIAs in outbreak countriesImage of the properties aware of polic SIAs in outbreak countries2.1.1Average proportion of caregivers aware of polic SIAs in outbreak countriesImage of the properties aware of polic SIAs in outbreak countriesImage of the properties aware of polic SIAs in outbreak countries2.1.1Average proportion of caregivers aware of polic SIAs in outbreak countriesImage of the properties aware of polic SIAs in outbreak countriesImage of the properties aware of polic SIAs in outbreak countries2.1.1Percentage of female workers at the forefront in polic priority subnational areas - AfghanistanImage of properties aware of polic SIAs in advected aware as awailable) - PakistanImage of properties aware of polic SIAs in advected aware are as awailable) - PakistanImage of the polic size aware average of missed children in priority subnational areas in endemic countries (disaggregated by sex as available) - AfghanistanImage of the polic size aware average of the polic size are used for community sessionsImage of polic size average of polic size average of the polic size are used for community sessionsImage of polic size average of polic size average of polic size average of polic size av	2. Genera	ate vacin	e acceptance through context-adapted community engagement					
2.3.1 Innovative local approaches are used for community sessions		2.1.1	Average proportion of caregivers aware of polio SIAs in Pakistan		26%	42%	45%	
2.3.1 Innovative local approaches are used for community sessions	hieved	2.1.1	Average proportion of caregivers aware of polio SIAs in Afghanistan	46%	45%	37%	44%	
2.3.1 Innovative local approaches are used for community sessions	rel: partially ach	2.1.1	Average proportion of caregivers aware of polio SIAs in outbreak countries		94%	93%	94%	
2.3.1 Innovative local approaches are used for community sessions		2.2.1	Percentage of female workers at the forefront in polio priority subnational areas - Pakistan	46%	45%	46%	55%	
2.3.1 Innovative local approaches are used for community sessions	ective le	2.2.1	Percentage of female workers at the forefront in polio priority subnational areas - Afghanistan	19%	19%	19%	23%	
2.3.1 Innovative local approaches are used for community sessions	ent at obj	2.2.2		2.2%	3.1%	3.6%	3.6%	
	Assessm	2.2.2		2.6%	2.3%	2.3%	1.5%	
		2.3.1	Innovative local approaches are used for community sessions					
No Results Off track Partially achieved / at risk On track			No Results Off track Partially achieved / at risk					

Annex 1: Key Performance Indicators of the Polio Eradication Strategy

OBJECTIVE			2023 RESULTS				
		KEY PERFORMANCE INDICATORS		Q2	Q3	Q4	
3. Expedi	ite progress tov	vards eradicating polio and reducing zero dose children through expanded integration efforts and	l unified pa	rtnerships			
	3.1.1	Percentage of zero dose children in priority subnational areas of endemic countries and in consequential geographies in Pakistan			11%		
L: at risk	3.1.1	Percentage of zero dose children in priority subnational areas of endemic countries and in consequential geographies in Afghanistan					
Assessment at objective level: <mark>at risk</mark>	3.2.1	Percentage of polio priority subnational geographies where joint or collaborative investment is taking place by Gavi and GPEI					
	3.2.2	Percentage of planned SIAs that co-deliver another antigen and/or one of the Polio Plusses. Plusses include notably: Vitamine A, Sprinkles, Soap bar, Hygiene kit - Pakistan	100%		100%	100%	
	3.2.2	Percentage of planned SIAs that co-deliver another antigen and/or one of the Polio Plusses. Plusses include notably: Vitamine A, Sprinkles, Soap bar, Hygiene kit - Afghanistan	50%		100%	0%	
	3.2.2	Percentage of planned SIAs that co-deliver another antigen and/or one of the Polio Plusses. Plusses include notably: Vitamine A, Sprinkles, Soap bar, Hygiene kit - AFRO			55%		
4. Improv	ve frontline suc	cess through changes to campaign operations					
jective :hieved	4.1.3	Percentage of SIAs which show coverage of greater than 90% (disaggregated by sex)	64%	83%	90%	91%	
Assessment at objective level: partially achieved	4.1.4	Percentage of outbreaks stopped within 120 days of outbreak confirmation	62%	100%	100%	94%	
	4.2.1	Percentage of R1 implemented within 28 days of OB confirmation or breakthrough virus confirmation	27%	21%	29%	23%	
5. Improv	ve detection an	d response through sensitive surveillance and containment					
achieved	5.1.1	Percentage of districts with population under 15y >=100,000 in priority countries achieving npAFP rate of >=2/100,000	84%	89%	89%	85%	
	5.1.2	Percentage of ES sites meeting sensitivity threshold of at least 50% samples positive for enterovirus in priority countries	33%	59%	59%	68%	
Assessment at objective level: partially	5.2.1	Percentage of priority countries achieving stool adequacy targets overall and disaggregated by sex- Female	87%	82%	79%	79%	
	5.2.1	Percentage of priority countries achieving stool adequacy targets overall and disaggregated by sex- Male	84%	79%	86%	86%	
	5.2.2	Percentage of AFP cases and ES samples in priority countries with positive results reported within 35 days of onset for AFP cases or ES sample collection- WPV	86%	88%	97%	99%	
	5.2.2	Percentage of AFP cases and ES samples in priority countries with positive results reported within 35 days of onset for AFP cases or ES sample collection- cVDPV	1.3%	1.9%	1.9%	1.7%	





Partially achieved / at risk

Annex 2: Integration: Polio Resources Responding to Community Needs & Strengthening Health Systems



Overview

To help end all polio transmission and meet the broader health needs of communities now, the Global Polio Eradication Initiative (GPEI) works with a range of partners to integrate polio services with other health programs. Integration involves using polio tools, staff, expertise and other resources to deliver important health interventions alongside polio vaccines – from measles vaccines and other essential immunizations to birth registration, counselling on breastfeeding, hand soap and more. It also includes incorporating polio vaccines into other planned health interventions, delivering more services with fewer resources.

Integration continues to be an important part of the GPEI's approach, including in its current 2022-2026 Strategy. Integration is critical to not only stopping polio transmission and building stronger, more resilient health systems, but also to laying the path for successful transition to sustain polio eradication once it is achieved. In most polio-affected places, the program works closely with national health authorities to increase the number of children who receive routine vaccines from health centers, including for polio, in addition to the program's house-tohouse immunization campaigns. In Afghanistan and Pakistan, the last two remaining endemic countries for wild poliovirus type 1 (WPV1) many of the program's integration efforts occur through integrated service delivery channels. In close collaboration with broader health partners, polio vaccines are often delivered alongside other primary health care interventions. In countries affected by variant poliovirus outbreaks, integration activities are largely campaign-based, with polio vaccines delivered alongside vaccines and products that protect against other diseases too.

As of July 2023, the GPEI has strengthened its global integration function, undertaking a renewed effort to support integration activities and better document these efforts. The program will provide enhanced program management and coordination support to regions and countries carrying out these activities, as well as greater transparency around the opportunities for integration at all levels of the GPEI.

Integration as a Path to Eradication

There is no one-size-fitsall approach to integration. Activities must be countrydriven and adapted to fit the unique challenges and needs of different communities.

To date. integration efforts have often been opportunistic with a focus on improving campaign quality and efficiency, and thus the percentage of children who receive the polio vaccine. These activities occur particularly in the most difficult and critical areas to end polio – the remaining endemic countries and consequential geographies (areas within countries¹ where children are at the highest risk of encountering and spreading variant poliovirus).

Campaign-based activities

Plusses: Products provided to communities as part of polio campaigns to address a basic need, build trust, and incentivize vaccination. This includes providing hand soap, clean water or insecticidetreated bed nets. Interventions. are tailored based on each context and community needs.



Co-delivery & Multiantigen Campaigns: The co-delivery of other vaccines and supplements alongside polio campaigns to protect against other diseases, and, when feasible, incorporating polio vaccines into campaigns for other health needs. This includes interventions for measles, typhoid, vitamin A deficiency, deworming and more.

Coordinated health system strengthening activities

Routine Immunization Strengthening:

Activities that help ensure all children, especially those who have not received any vaccinations (zero-dose children), are reached with polio and other essential vaccines. This includes advocating for routine immunizations during polio campaigns, referring missed households to health centers and helping improve monitoring of these activities. Social and Behavior Change (SBC) activities, like deploying trained social mobilizers and engaging trusted community leaders, also help address vaccine hesitancy to strengthen uptake of all vaccines. This requires close collaboration with immunization counterparts, including global partners at vaccine acceptance by Gavi and national Expanded Programmes addressing basic needs. on Immunization (EPI).



Integrated Service Delivery (ISD):

Collaboration with civil society organizations and humanitarian aid groups to provide polio vaccines as part of primary healthcare services to otherwise inaccessible communities. These activities are focused on places experiencing complex humanitarian emergencies to provide much-needed services for health, while encouraging

¹Northern Nigeria, south-central Somalia, eastern Democratic Republic of Congo, and northern Yemen.

As interruption of the virus gets closer, this focus will shift to efforts that prepare for a transition to sustain a polio-free world, including greater surveillance system strengthening and emergency response capacity building. In the immediate term, the GPEI's Integration efforts focus on four main areas:

Snapshot of Integration Around the World

In Pakistan, during the first two phases of the new Reaching the Unreached (RUR) initiative in July and September 2023, almost 27 000 children received missed routine vaccinations across 69 highrisk areas of southern Khyber Pakhtunkhwa (KP), while 269 000 children received the oral polio vaccine (OPV) at the same time. **Protection against** other vaccinepreventable diseases also received a boost – from a 17% increase in coverage for the antituberculosis BCG vaccine to a 55% rise for the second dose of the measlesrubella vaccine. At the end of March 2024, the third phase children have of the initiative began and has already reached over otherwise remained 223 000 children with OPV, over 6 000 of whom received a vaccine for the first time. Over 12 000 were given the measles-rubella vaccine.

In Afghanistan, as part of a strategic engagement with ten humanitarian aid groups, efforts are underway to integrate polio vaccination into their efforts. Depending on the partner. this can include delivering polio vaccines to children under five years of age while providing reproductive healthcare, screening for and treating malnutrition, and promoting good hygiene practices (e.g., hand washing). Close to 2 million polio vaccines have been delivered through this engagement between January 2023 and February 2024, and it's estimated that almost 70 000 been vaccinated who would have inaccessible to the polio program during its standard campaigns.

Source: GPEI Integration Inventory.*

In Nigeria, in August

2023, the polio program and the Government of Nigeria decided to intensify routine immunization efforts through a mass vaccination campaign in the northern state of Niger. Alongside polio vaccines, nearly 43 000 zero-dose children were reached for the first time with the pentavalent vaccine, which protects children from five lifethreatening diseases - Diphtheria, Pertussis, Tetanus, Hepatitis B and Hib. The program's volunteer community mobilizers also promote the importance of routine immunization and other healthcare to each household they visit.

Source: WHO AFRO news.

between March 2023 and March 2024, Far-Reaching Integrated Delivery (FARID) partners delivered a range of services through health camps to 20 districts. Through this effort, the program and its partners vaccinated more than 150 000 children with OPV and over 280 000 with routine immunizations. including the inactivated polio vaccine (IPV), antituberculosis BCG vaccine, pentavalent vaccine, and meningitis C vaccine. Partners have also conducted more than 123 000 maternal health consultations. more than 136 000 nutrition consultations, and more than 236 000 general medicine consultations.

In Somalia.

Source: GPEI Integration Inventory.*

Source: GPEI Integration Inventory.*

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