

JULY 2023

6

Sixth Report

Ambiguities and certainties

Meeting the diverse expectations of polio transition



POLIO TRANSITION
INDEPENDENT MONITORING BOARD

CONTENT



01

Introduction

PAGE 6

02

Developments

PAGE 11

03

Country progress

PAGE 29

04

Analysis

PAGE 58

05

Data insights

PAGE 87

06

Conclusions and
recommended action

PAGE 94



Board Members

**Sir Liam
Donaldson**

Sir Liam Donaldson, Former Chief Medical Officer for England, Professor of Public Health, London School of Hygiene and Tropical Medicine, United Kingdom.

**Professor Sheila
Leatherman**

CBE, Hon RCP, Professor of Global Health Policy, Gillings School of Global Public Health, University of North Carolina, USA.

**Dr Boluwatife
Oluwafunmilola
Lola-Dare**

President, Centre for Health Sciences Training, Research and Development CHESTRAD Global, Nigeria.

**Dr Senjuti
Saha**

Dr Senjuti Saha, Director and Scientist, Child Health Research Foundation (CHRF), Bangladesh.



Origins and independent status

The Transition Independent Monitoring Board (TIMB) was created in 2016 by the Global Polio Eradication Initiative (GPEI) to monitor and guide the process of polio transition planning. It has produced five reports, and this is the sixth. Following the World Health Organization (WHO) taking over the leadership and management of polio transition planning from the GPEI, the TIMB was reconstituted.

**The TIMB's reports are entirely independent.
No drafts are shared with WHO or other
organisations prior to finalisation.**

It is convened under terms of reference matched to the *Strategic Action Plan on Polio Transition 2018–2023* that was received by the 71st World Health Assembly in May of 2018. The TIMB works closely, and has a common chair, with the Independent Monitoring Board (IMB) that has been evaluating the process of polio eradication since 2011 and has published 21 independent reports.



TIMB meeting in April 2023

This is the sixth report of the Polio Transition Independent Monitoring Board (TIMB).

It follows a meeting of the Board with a key range of stakeholders held in Geneva, Switzerland on 27 and 28 April 2023. The discussions at this meeting form an important basis to this report. A wide range of delegations attended the meeting and participated in discussions. They included the WHO Polio Transition Team, donors, polio extended partners, UNICEF (United Nations Children's Fund), Gavi (Global Alliance for Vaccines and Immunisation), CDC (United States Centers for Disease Control and Prevention), Rotary International, the Bill & Melinda Gates Foundation, polio transition

leads from the African, South-East Asia, and Eastern Mediterranean Regional Offices of WHO, and WHO and Ministry of Health immunisation representatives from a selected number of countries.

There have been other valuable inputs.

First, over the last six months, the TIMB Chair and Secretariat have had one-to-one conversations with a wide range of stakeholders and experts, particularly those with knowledge of the situation in polio-priority countries.

Second, the TIMB Chair and Secretariat attended a meeting of the WHO Poliovirus Containment Advisory Group in Geneva, Switzerland on 23 and 24 January 2023. Attending this meeting for presentations and discussion were the chairs of the Advisory and Working Groups supporting polio eradication and containment, representatives of the Global Polio Eradication Initiative's (GPEI) Global Programme Support Groups.

Third, TIMB members and the Secretariat were delegates to a meeting convened by the WHO Polio Transition Team, called *Polio Transition Global Vision Stakeholder Forum* held in Geneva, Switzerland on 25 and 26 April 2023.

01 Introduction

In its first report published in July of 2017, the TIMB focussed on the deliberations at its inaugural Board meeting.

There, Board members heard about the plans of the GPEI leadership to establish a Polio Transition Programme. This was considered necessary to preserve polio assets, many of which had been used for decades to cross-subsidise other public health programmes at country level (notably essential immunisation, surveillance and emergency response), to mitigate risks and to create opportunities for the development of health systems.

This remains the broad intent of polio transition as defined in WHO documentation as recently as 2021:

“Polio transition is the process of repurposing and transferring the network and infrastructure developed by the polio programme to strengthen broader health priorities, especially essential immunization and emergency preparedness and response, under the leadership of national authorities. The goal of transition is to transfer the responsibility to national governments to ensure long term sustainability of essential functions.”

At the time of the first TIMB meeting, in 2017, the Board was told that 16 countries contained over 90% of the polio asset footprint and faced losing GPEI support; in some cases, Gavi

funding was also scheduled to be phased out. These 16 countries, with the addition of four others, that were fragile or conflict-affected, henceforth became the 20 polio transition priority countries for planning and monitoring purposes.

At the outset of the polio transition planning process, the GPEI leadership saw itself managing an orderly, sequential exit strategy. After global interruption of wild poliovirus circulation, the GPEI expected others would take responsibility for: maintaining polio immunity levels through essential immunisation systems; containing the poliovirus in laboratory, research, repository and manufacturing facilities; ensuring adequate surveillance performance to detect any new incidence of



At the outset of the polio transition planning process, the GPEI leadership saw itself managing an orderly, sequential exit strategy.

poliovirus transmission; and for dealing with any residual outbreaks of (mainly) vaccine-derived poliovirus. The term “sunsetting” was repeatedly used by the GPEI leadership at this time to act as a reality check for everyone to realise that GPEI funding really would stop flowing.

At this point, in mid-2017, the GPEI leadership made clear that the prospects of interrupting wild poliovirus circulation were looking good. It positioned itself as the facilitator of the first stage of polio transition planning rather than

becoming accountable for managing and delivering implementation. The GPEI made \$10 million available to fund consultants to assist ministries of health in polio transition priority countries in producing plans for life after special polio eradication funding was removed. The emphasis of these plans was on encouraging as many national governments as possible to demonstrate how they would ensure

that essential polio, and other public health, functions were sustained and funded into the long term.

It was expected that country governments would start to use their own resources to pay for the polio assets in their countries, or to perform advocacy with donors to identify new sources of external funding.

In its first report, *The End of the Beginning*, the TIMB recommended that the Polio Transition Programme should focus on seven tracks of work.

Track 1: Delivering polio functions with the range, scale, quality, and duration necessary to ensure that it is no longer necessary to vaccinate anyone in the world against poliomyelitis.

Track 2: Ensuring that all populations have a level of coverage with routine immunisation necessary to prevent, control, and even eliminate morbidity and mortality from vaccine-preventable illness.

Track 3: Maintaining, coordinating, and further developing the global systems and networks of surveillance and public health laboratories to provide world class support to communicable disease: early recognition, prevention, control, outbreak response, and evaluation of interventions.

Track 4: Ensuring countries continue to commit to achieving the goals incorporated in the Global Vaccination Action Plan, including the introduction of new and underutilised life-saving vaccines and the elimination of measles,

rubella and congenital rubella syndrome.

Track 5: Enabling countries to establish a wider package of basic public health services on an equitable basis for their populations, particularly focusing on areas where they are performing poorly compared to countries with a similar economic and development profile.

Track 6: Creating space for

countries to use the opportunity of polio transition to benchmark their current health provision against the goal of Universal Health Coverage.

Track 7: Exploring synergies and joint work programmes with other essential partners, for example maternal and child health initiatives, non-polio donors, Gavi, global health security groups, and the NGO community.



In its first report, *The End of the Beginning*, the TIMB recommended that the polio transition programme should focus on seven tracks of work.

The TIMB warned that failure or weak performance on the first three tracks would be catastrophic and cause large-scale avoidable harm to populations. The TIMB pointed out that strong performance on the fourth and fifth tracks was highly desirable. It concluded that effective social capital as well as strong and diverse partnerships built through the sixth and seventh tracks would create a dynamic and successful Polio Transition Programme.

Some of this proposed work programme was addressed, but not in the comprehensive and consistent way that the TIMB had hoped for. The response to this first TIMB report was very disappointing.

By the time the TIMB held its second board meeting, towards the end of 2017, the focus of the Polio Transition Programme was on the country planning process. The TIMB felt that the self-assessment of the plans was over-optimistic. This impression was reinforced by confidential information from TIMB sources who reported that few health ministers had been directly involved in the polio transition planning process. Seemingly, there was insufficient governmental-level recognition of the importance and legacy of polio assets and functions to the future of the countries' public health systems. A general mood of complacency and denial prevailed in

polio-funded countries, strengthening a widespread belief that the GPEI and its funding could, or would not truly disappear.

In these earlier TIMB reports, the analysis and recommendations in them did not gain much traction. When the TIMB chair raised concerns about this at the time, he was told by the GPEI leadership that there was no one to implement what was being proposed. The GPEI was in a "caretaker role" starting the polio transition ball rolling, but awaiting the arrival of what were referred to as "future owners" to assume accountability, leadership and funding responsibilities for the emergent workstream.

Within two years, this new ownership fell, understandably, to WHO, via World Health Assembly decisions on managing and funding polio transition. A new strategic plan was agreed by the 71st World Health Assembly that met in May 2018. *The Strategic Action Plan on Polio Transition 2018–2023* has three broad objectives:

- a. sustaining a polio-free world after eradication of poliovirus;
- b. strengthening immunisation systems, including surveillance for vaccine-preventable diseases;
- c. strengthening emergency preparedness, detection and

response capacity in countries in order to fully implement the International Health Regulations (2005).

While the shape and direction of polio transition became better defined by the *Strategic Action Plan on Polio Transition 2018–2023*, the process through which implementation was managed and results assessed was far from clear. This is reflected in the numerous insights contained in a *Mid-term Evaluation of the Strategic Action Plan on Polio Transition 2018–2023* published in April 2022. For example:

"The monitoring and evaluation framework is reasonably detailed, but suffers from inadequate target setting, a lack of concrete milestones for output indicators and a limited number of process indicators against which to assess progress. Furthermore, the evaluation team noted: inadequate disaggregation of indicators by gender/equity; no differential target setting based on context and baseline indicators for the 20 polio transition priority countries; a lack of polio containment indicators; and only self-assessment indicators for tracking progress on objective C of the Action Plan (strengthening emergency preparedness, detection, and response capacity in countries in order to fully implement the International Health Regulations (2005))."

Thinking back to the beginnings of the TIMB's assessment of the Polio Transition Programme, it is now clear the Polio Programme leadership's vision of a simple, linear process for delivering a polio-free world and improved public health systems was an opportunity already behind them, although they did not then know it.

The real future context would emerge from the dark recesses of inaccessible areas of Pakistan and Afghanistan, from the intractable grievances and alienation of poor urban communities, from the serial failures to run high-quality campaigns and from the stubborn inability to recognise that interruption of poliovirus transmission must be followed immediately by building a rock-solid system of resilience to give the poliovirus no way back. As 2019 arrived, the enormity of the deterioration in polio epidemiology – large outbreaks of wild poliovirus in Pakistan and Afghanistan, as well as outbreaks of vaccine-derived poliovirus affecting 20 countries – meant that polio transition could no longer be what was initially envisaged.

In the period 2019–2021, there was an eightfold increase in the number of children paralysed by polio compared to the previous three years. This was exacerbated quickly by the arrival of COVID-19. It became a much more complex programme intertwined with achieving the goal of polio eradication

and reversing the devastating programmatic impact of the pandemic. The last TIMB report, *Building Stronger Resilience: the essential path to a polio-free world* called for the polio transition process to be viewed and judged in three ways:

- a. The strengths and weaknesses in organisation, governance and resource mobilisation;
- b. The countries' political, socioeconomic and conflict context and operating environments;
- c. The current strength and readiness of the public health functions to deliver optimum

levels of immunity, run a high standard of surveillance, and identify outbreaks early and close them down quickly and effectively.

Arguably, the polio transition work has given the largest share of its attention to the first of these and much less to the second and third. Most past transition prioritisation discussions and decisions were based less on the risk of polio or other diseases emerging in a particular country, than on one primary feature: the country's dependency on external support for sustaining polio-essential functions.



Most past transition prioritisation discussions and decisions were based less on the risk of polio or other diseases emerging in a particular country, than on one primary feature: the country's dependency on external support for sustaining polio-essential functions.

Developments

POLIO ERADICATION

The goal of the *Polio Eradication Strategy 2022–2026: Delivering on a promise* is to interrupt transmission of the poliovirus by the end of 2023 with certification by no later than the end of 2026. There are interim milestones in the plan, for example, in 2023, to eliminate the final sporadic chains of transmission. In Pakistan, national and provincial governments are expected to own and be accountable for polio eradication and certification. In Afghanistan, there is a need for continued long-term strengthening of immunisation systems.

A case of wild poliovirus in Malawi in 2021, followed by an outbreak in Mozambique in 2022, was a worrying and unwelcome surprise in the polio eradication journey. These are the only outbreaks of wild poliovirus outside the polio endemic countries in the last five years, but they have not affected the Africa Region's wild



The goal of the *Polio Eradication Strategy 2022–2026: Delivering on a promise* is to interrupt transmission of poliovirus by the end of 2023, with certification by no later than the end of 2026.

polio-free status that was granted in August 2020. Tete Province is where the eight cases of wild poliovirus in Mozambique occurred. There have been no further cases or positive environmental samples since August 2022.

In Afghanistan and Pakistan, the affected areas appear to be shrinking, to eastern Afghanistan and a small number of districts in the south of Khyber Pakhtunkhwa Province of Pakistan (where detections continue to be recorded). However, there have been environmental detections in Peshawar, Lahore, and Kandahar this year. Traditional reservoirs in cities like Karachi have been free of endemic transmission for over 12 months.

Six cases of wild poliovirus have been recorded so far (11 July) in 2023; five have been in Nangarhar, Afghanistan, and one has been in south Khyber Pakhtunkhwa, Pakistan. Environmental isolates have continued to be positive in both countries, concentrating in Nangarhar (28 detections), Kandahar (1 detection), Khyber Pakhtunkhwa (9 detections), Lahore (2 detections) and Sindh (1 detection) (11 July). There has been a significant reduction in genetic clusters and geographical localisation throughout 2022.

There are two remaining chains of transmission in Afghanistan and Pakistan and no wild poliovirus environmental detections in Africa throughout 2022.

In Afghanistan, the political, economic and security context is very important for polio eradication. A decree was issued on 24 December 2022, which prohibited women from working for local and international NGOs. Since then, there have been exemptions for both the United Nations and health programmes. There is a continuing risk that restrictions could be tightened further. Vaccinators have continued to work in the eastern region of the country, but there are rules on dress, office and transport and, generally, the decree is not uniformly operating across all provinces.

There continues to be significant security risks, with the development of resistance movements and opposition to the Taliban authorities. Islamic State has attacked a series of high-

profile locations and has designated the United Nations as a target.

The deteriorating humanitarian and political situation is exacting a terrible toll, with famine beyond the current levels of severe acute malnutrition expected. The United Nations cash transfer barrier, and continuing challenges to the health care system (the basis for delivery of all activities, including polio campaigns) adds to the complexity of managing an effective Polio Programme.

In Pakistan, the polio eradication programme continues to receive a high level of political commitment, but there is political uncertainty looming. Dissolution of some provincial governments, challenges with federal-provincial alignment, and forthcoming elections throughout 2023 in Pakistan,





during the low season is concerning. The absence of authorisation for house-to-house campaigns poses significant risks, and the presence of susceptible children in Kandahar increases the risk of a localised explosive outbreak that could affect neighbouring countries.

In Pakistan, there has been a decrease in detections, particularly in south Khyber Pakhtunkhwa. However, challenges remain in reaching unreached children, and the programme acknowledges that the number of missed children is larger than reported. In south Khyber Pakhtunkhwa, the Polio Programme is very carefully analysing the security dynamics that affect access and bases its approach on targeting those households and union councils where it must succeed.

both at the federal and the provincial level, all pose serious risks and potential loss of continuity in the Polio Programme.

There has been a deteriorating security situation. A suicide attack by Tehreek Taliban Pakistan against police and counter-terrorism at a mosque in Peshawar caused hundreds of casualties and amounts to a significant escalation. There is also a worsening socioeconomic climate. Inflation rates are very high, driving a major cost of living crisis. There is also an acute balance of payments crisis impacting foreign reserves. An International Monetary Fund mission

in February 2023 was not able to re-establish loan financing arrangements. Finally, the ongoing impact of historic floods, mainly concentrated in northern Sindh Province, is another challenge.

Most recently, conflict and civil unrest arising from the arrest of former Prime Minister Khan, if it becomes extended, could add further complexity to the context of delivering the Polio Programme in Pakistan.

In Afghanistan, while there are improvements in campaign quality and population immunity, the increase in wild poliovirus cases and detections

There are 250 key union councils with just over 1.1 million children. There is marked variation in population density between them. The challenges are most persistent in 20% of all the union councils in south Khyber Pakhtunkhwa; they are the least densely populated.

Since October 2022, the Polio Programme has introduced an intensified and broadened range of activities to improve coverage across south Khyber Pakhtunkhwa. This has involved the use of fractional doses of inactivated polio vaccine (IPV), and distribution of community-friendly amenities such as soap, vitamin A and

a range of nutritional products. In eastern Afghanistan, in the provinces of Nangarhar and Kunar, there is evidence of current active circulation and spread. In the southeast, there is an importation risk, given the immediate proximity to south Khyber Pakhtunkhwa. What was the major reservoir in Afghanistan, historically, in the south, has been polio-free for almost two years, until there was an environmental detection in Kandahar city in May 2023.

The continuing restriction on house-to-house campaigns in parts of Afghanistan, largely in the south, with use, instead, of mosque-to-mosque and site-to-site vaccine delivery modalities, has produced a large immunity gap. An estimated half a million children are still to receive vaccination.

In the east, where there is evidence of circulation, there are 22 districts in Nangarhar with an estimated population of just over 750,000 children. In Kunar, a further 15 districts hold over 160,000 children. Nangarhar is critical to success and here population density is high.

In early 2021, and again in mid-2021, frontline workers were killed while carrying out immunisation activities. Such a tragedy makes it mandatory to ensure that there is a safe and secure environment in which Polio Programme staff can operate. In the latter part of 2022, there were still concerns which affected the quality of campaigns. Into 2023, there has been a steady improvement in coverage.

There are more than 120 environmental surveillance sites across Afghanistan and Pakistan. Any detections trigger a very aggressive outbreak response. The areas beyond the endemic zones are not showing embedded circulation, so immunisation activities appear to be effective.

Following the huge multinational outbreaks of vaccine-derived poliovirus that began in 2020, with the epicentre in Nigeria, four out of the six WHO regions became infected. The programme is able to conduct larger campaigns than in the past few years, with novel oral polio vaccine supply disruptions being addressed during 2021 and 2022. However, timeliness of response remains an issue, with only 40% of campaigns meeting timeliness thresholds.

There has been a reduction in cases, but four countries are now in the eye of the storm, accounting for 85% of all the active poliovirus emergencies.

First, although Nigeria is in a much better place now than it was a year ago, transmission is still underway in a limited number of states in the north-west of the country. The estimate is that there are over 3.9 million children across 31,000 settlements facing different forms of accessibility challenges. Nigeria is responsible for infecting around 19 countries. Stopping this at source remains a top priority for the Polio Programme, and it needs a laser-like focus.

Second, Northern Yemen is a highly complex locus of vaccine-derived

poliovirus circulation. The GPEI has been trying to agree access with Houthi negotiators since the outbreak began in April 2022. Permission had been given to work from fixed sites using integrated delivery outreach, but negotiations have needed to continue in order to get this started. Vaccine stocks in Yemen expire by July 2023. This makes the prospect of ending the outbreak very fragile. There has been a growing anti-vax sentiment developing in the country, and that has further complicated the issue.

Third, south-central Somalia is another outbreak area where inaccessibility because of anti-government forces is blocking progress. Over the last year, there has been a reduction in the size of that inaccessible population from an estimated 575,000 down to about 150,000 at the end of 2022. More recently, it is estimated to be in the range 120,000–130,000. If the improved access continues, there are now better prospects for closing this outbreak down.

Fourth, the situation in the Democratic Republic of the Congo is deeply complex and very concerning. Progress is slow and gains are tentative and fragile. The country is dealing with multiple, competing health and other priorities. Over the last year, just over 500 vaccine-derived poliovirus cases (types 1 and 2) have beset the country (data to 17 July 2023). Since 2017, there have been over 800 cases. A game-changing shift in the intensity of the polio operation, both for surveillance and for immunisation, in this country is vital if the outbreak is to finally be stopped.

ESSENTIAL IMMUNISATION

The state of polio transition cannot be dissected without considering the context of the COVID-19 pandemic and its consequent impact on childhood essential immunisation. Indeed, 2023 is widely seen as a year of recovery for essential immunisation, particularly focusing on the 20 priority countries for this programme. They accounted for 78% (over 14.2 million) of all zero-dose children worldwide and include India, Nigeria, Indonesia, Ethiopia, Philippines, Democratic

Republic of the Congo, Brazil, Pakistan, Angola, Myanmar, United Republic of Tanzania, Mozambique, Afghanistan, Somalia, Mexico, Madagascar, Cameroon, Democratic People's Republic of Korea, Chad, and Viet Nam. Twelve of these essential immunisation priority countries overlap with the priority polio transition countries.

Over the years 2020–2022, and to the beginning of 2023, more than 13 billion doses of COVID-19 vaccine

have been given worldwide. Around 65% of the world's population has attained at least the primary dose according to each country's schedule for pandemic vaccines. Of the 13 billion doses, about 1.9 billion were given in the 92 low- and low-middle-income countries that were being supported through the COVAX scheme. This is the vaccines pillar of the *Access to COVID-19 Tools (ACT) Accelerator*, a global collaboration to accelerate the development, production and equitable access

In 2021, 20 priority countries accounted for 78% of all zero-dose children worldwide.



to COVID-19 tests, treatments and vaccines.

The impact of the pandemic on essential immunisation programmes has been devastating. The measure commonly used as a marker of coverage performance, three doses of the Diphtheria, Tetanus and Pertussis combined vaccine (DTP3), dropped from 86% in 2019 to 81% by the end of 2021. This represents 25 million children worldwide who are unvaccinated or under-vaccinated. This is not just a major setback to immunisation programming but an emergency affecting child survival globally.

Analysis of vaccine uptake also shows that 18 million children now fall into the zero-dose category, meaning that they have not received even the first dose of the Diphtheria, Tetanus and Pertussis vaccine (DTP1). This number – 18 million unvaccinated children – was last seen in 2005, a fall in immunisation that is unprecedented. Ten countries account for 62% of those 18 million children. Some countries (Pakistan is an example) appear to have quite high coverage in percentage terms, yet because of their size, it still leaves large numbers unvaccinated. In Pakistan's case, 610,000 children are unvaccinated. India, which is widely recognised for its high childhood immunisation coverage, contributes 2.7 million zero-dose children to the global total.

A key reason that the performance lens focuses on the zero-dose immunisation category is equity. Zero-dose children are the most

vulnerable, the most marginalised, and many often live in urban, remote rural or conflict settings. Also, such children do not have access to other health services, besides just vaccination, such as basic primary health care. They are more vulnerable to outbreaks of communicable disease. After the exceptionally large global outbreaks of measles in 2009, there have been fewer in the past three years, but this is certainly due to reduced population movement and mixing during the pandemic. Lockdowns may have helped slow transmission but have created weaknesses in surveillance and vaccine coverage for many diseases. COVID-19 has been a competing resource priority, especially in repurposing health workers to control the pandemic.

This is highly relevant to the polio eradication context, where immunity

levels against the disease need to be sustained.

The WHO has been tracking the number of vaccination campaigns over the last three years, and distinguishing between those delivered as a single antigen, in an integrated fashion and those postponed entirely. By 2022, most countries had reinstated their vaccination campaigns; the dominant impetus for this was the perceived urgency of resuming polio immunisation.

The programme to deliver essential immunisation, and to strengthen the systems around the world that do so, is driven by a new WHO plan: *Immunization Agenda 2030*. Its overall vision is a world where everyone, everywhere, at every age, fully benefits from vaccines for good health and well-being. Impact goals





to reduce mortality and morbidity aim to leave no one behind by increasing equitable access. The work flowing from *Immunization Agenda 2030* is built on seven strategic priorities: commitment and demand; coverage and equity; life-course and integration; outbreaks and emergencies; supply and sustainability; and research and innovation, all sitting under the umbrella of the linkages to primary health care and the goals to attain universal health coverage.

There had been high hopes, pre-pandemic, that this global strategic

framework would effectively address the chronic underperformance in essential immunisation that blights many countries. Work had been underway to secure political commitment and active political leadership, essential steps in gripping performance. Resource mobilisation was also a vital part of discussions about implementing *Immunization Agenda 2030*, especially how to ensure that money is targeted to the right places at the operational level.

Now attention is on the pandemic-induced fall in coverage. There is a catch-up wave of activity in countries

to identify those children missed, including the cohort of babies born during and since the pandemic (40 million children). Restoring immunisation means moving away from the vertical delivery approach that was necessary to deliver the COVID-19 vaccine, rapidly and at scale. There must be a return to the broader, life-course foundations of essential immunisation programmes. Wherever possible, a high-quality system of primary care at national and subnational levels must be part of the design.

The WHO's Strategic Advisory Group of Experts (SAGE) has issued guiding principles for recovery and resilience. However, many countries do not have clear policies in key areas, for example, reaching children over two years of age. A major challenge for the essential immunisation programme has always been the heterogeneity of data on coverage between countries in the same region and within countries. Having accurate subnational data for each of the programme's 20 priority countries is vital and necessary for identifying the highest-risk areas.

Many countries have money, including unspent COVID-19 response funds. This could be redirected towards essential immunisation systems, and already has in some cases. Similarly,

future COVID-19 investments could be used to simultaneously strengthen essential immunisation programmes.

UNICEF, together with other key partners in global immunisation, has been leading the development of an ambitious strategy for catching up on missed children and restoring immunisation through an essential immunisation recovery plan. The aim is to restore immunisation services by closing the gap between current and 2019 pre-pandemic coverage. It is driven by three core objectives:

Catch-up: Reaching children who missed vaccination during 2019–2022, some of which was due to the pandemic, and provide all missing vaccinations;

Restore: Restoring vaccination coverage rates in 2023 to at least 2019 coverage levels for the current birth cohort;

Strengthen: Strengthening immunisation systems, within primary health care, to improve programme resilience and accelerate the trajectory towards reaching zero-dose children in line with *Immunization Agenda 2030* and Gavi 5.1 goals and targets.

This momentum for catch-up is a unique opportunity to standardise and integrate older children within essential immunisation systems and programmes. Recommendations to vaccinate children beyond two years of age have long existed. A commitment to adjust policy and programming has not. The zero-dose and under-immunised children from 2019–2022 will be 1–5 years old in 2023. National programmes must focus quickly on reaching these children. Also, many children from the 2018 cohort and earlier, are still unvaccinated or under-vaccinated. They continue to be at risk of disease, even as they are six or more years of age; they form an older age immunity gap.

COVID-related heightened public awareness of disease transmission and preventing it, and the attendant controversy, has had a major impact on the acceptability of vaccines in some communities, especially at the beginning of new initiatives and campaigns. Research in West Africa has shown that communities were refusing oral polio vaccine because they believed that it was a new COVID vaccine. They thought they

were being made participants in a trial of COVID vaccine prior to a wider roll-out. Mistrust and misinformation about vaccines, and the polio vaccine in particular, is nothing new, but this comes at a critical time when the polio eradication programme needs to sustain communities' support for repeated visits and multiple doses of the vaccine.

Although there is an urgent need to close immunity gaps, accumulated since 2019, the emphasis must not be solely on short-term solutions. It is critical to build better systems to enable immunisation programmes to reach missed communities and zero-dose children. They must be able to withstand future shocks and interruptions by better tracking of defaulters and by enabling catch-up vaccination, even for older children.

The position of inactivated polio vaccine coverage, post-pandemic, is another key consideration and a part of the essential immunisation programme that is mission-critical for reliably securing a polio-free world.

The goal to introduce the first dose of this vaccine in all 126 countries,

that were using oral polio vaccine at the time, was achieved in 2019. All 194 Member States of WHO are now providing at least one dose of it. Coverage with the first dose of inactivated polio vaccine in the year 2020 (79%) reached near-parity with coverage for the third dose of Diphtheria, Tetanus and Pertussis vaccine (DTP3): 81%. However, global summary coverage figures conceal poor performance in some countries.

Unsurprisingly, inactivated polio vaccine coverage is still low in places with substantial numbers of zero-

dose children. National estimates of inactivated polio vaccine coverage are of limited value in assessing programmatic performance. For example, in Sokoto State, Nigeria, coverage is only 5% and in South Waziristan District, Pakistan, it is the same.

Many countries, mostly those in Africa, have not yet introduced the second dose of inactivated polio vaccine. Most had planned to do so before COVID-19, but progress stalled. There were serious supply difficulties in the period 2016–2018. The Gavi board continues to support

this vaccine and, in December 2022, extended the co-financing waiver. This means that \$750 million of support will continue through 2025 and beyond.

Of the 51 countries that had not introduced the second dose of inactivated polio vaccine by 2022, 32 are Gavi-eligible and four are polio transition priority countries. Most face a long list of non-polio challenges. An increasing number of at-risk countries will be introducing the world's first malaria vaccine in 2023 and 2024. So, essential immunisation programmes at national



and subnational levels in many polio-vulnerable countries will have many priorities confronting them, including polio. Finding synergies in immunisation delivery, including co-introductions, will be important. The introduction of two doses of inactivated polio vaccine will remain a very challenging and daunting task over the next two years.

So far, integrated campaigns, especially in countries that the GPEI has labelled as very high-risk or consequential for polio eradication, have been opportunistic rather than intentional. The teams involved in polio eradication have extensive experience in reaching these missed communities. However, the GPEI no longer has the resources or mandate

to continue to immunise these children through door to door polio campaigns. A catch-up and recovery support initiative has begun operating in the consequential geographies for polio eradication. The aim is to locate and immunise unvaccinated or under-vaccinated children for polio and other vaccine-preventable diseases. It has also been trying to find ways in which to better and more intentionally support countries in their integrated campaigns.

Integrated campaigns do not always work. For example, some attempts to combine delivery of different antigens with tetanus vaccination have met poor community acceptance. A measles–rubella campaign, under Gavi’s specific process, can take 12 to

18 months to apply, review, plan and deliver. For polio, outbreak response campaigns, from beginning to end, are meant to happen within 90 days. Even for preventive campaigns, the polio schedule has to be much faster than Gavi’s campaign timelines. So, there is a need to reconcile schedules, timelines and resource streams.

Around the time of the last IMB meeting, there was increased enthusiasm for integration. A working group was set up, with high-level representation from the WHO polio transition and polio eradication departments, led by Gavi, to begin exploring opportunities and creating integrated key performance indicators.



So far, integrated campaigns, especially in countries that the GPEI has labelled as very-high risk or “consequential” for polio eradication, have been opportunistic rather than intentional.



INTEGRATED GLOBAL SURVEILLANCE AND HEALTH EMERGENCIES

In its earliest declarations, the TIMB marked out the creation of a global integrated communicable disease surveillance system as one of the global public goods to come out of the Polio Programme, the main one being the eradication of the disease itself.

Since 2017, the TIMB has reported on WHO and partner agencies' visions and plans for such a system. Much good work has been undertaken to

set out how it might be built. WHO and collaborating partners like CDC have been key players. The TIMB has been encouraged by what it has seen. It has been disappointed that the breadth of its recommendation has not been fully embraced. The development work and costings have supported a vision only for a vaccine-preventable disease system.

Teams had done costing exercises in Nepal and Ethiopia. WHO found that governments, on average, provide around half the costs for surveillance, but they are not always aware of this as costs are bundled into broader initiatives. Their

estimate of the cost of all vaccine-preventable surveillance in a given country, including laboratory support, was \$1–\$4 per capita.

The TIMB has argued consistently for a surveillance system to encompass all communicable diseases and pointed out that the advent of the second, and so far most severe pandemic of the 21st century, made a persuasive case for it that would surely be listened to at the highest political levels. Moreover, advances in genetic, digital, analytical, artificial intelligence and communications technologies make such a prospect a realistic goal.

Recently, there have been big steps forward in surveillance that are closely tied into expansion of the WHO Health Emergencies Department.

This Department already had two divisions, one responsible for preparedness and the other for response. A third division, Health Emergency Intelligence and Surveillance Systems, has now been set up. A part of this division is the "Berlin hub" (also referred to as the "Pandemic hub"). The hub has branches in Berlin and in Geneva. In Berlin, the focus is largely on developing tools and predictive models for capturing and analysing data, including harnessing the power of artificial intelligence. In Geneva, the work centres on reinforcing countries'

capacity for surveillance, and developing guidance and strategies for them to follow.

This division, in a previous form, had already been developing a comprehensive global surveillance strategy, pre-pandemic. It was aiming for a much broader scope, including all hazards, not just vaccine-preventable disease. It surveyed over 70 member state surveillance workers to capture their opinions, needs, capacities and perceptions of gaps in surveillance across the three levels of WHO.

Following this, at the 75th World Health Assembly, in 2022, WHO's Director-General announced a new architecture for health emergency preparedness and resilience. He articulated its strategic priorities, one of which was the concept of "collaborative surveillance". This area of work was given to the WHO Emergency Preparedness Division. The surveillance and intelligence division put its own strategy on the back burner and worked with the new collaborative surveillance concept. In 2023, WHO published a document called *Defining Collaborative Surveillance*. It defines

collaborative surveillance as: "The systematic strengthening of capacity and collaboration among diverse stakeholders, both within and beyond the health sector, with the ultimate goal of enhancing public health intelligence and improving evidence for decision-making."

The initiative is not supposed to disrupt or replicate existing surveillance systems, like the African Region's Integrated Disease Surveillance and Response (IDSR) framework or disease-specific systems like those for yellow fever or polio. Rather, it is intended to provide an umbrella to make connections between systems to avoid overlap and fill gaps. The collaborative surveillance initiative will strengthen capabilities, integrate learning, and enhance governance and innovation to enable better decision-making for health leaders in-country.

Different kinds of surveillance systems are operating at country level. For example, Integrated Disease Surveillance and Response is an approach for implementing comprehensive public health surveillance and response systems for priority diseases, conditions, and

events at all levels of health systems adopted by countries in the WHO Africa Regional Office area. It might be used for priority diseases that are causing large outbreaks. Alongside this, a country may be using sentinel surveillance. This method engages a group of clinical staff to report on specific illnesses in people presenting for care. It creates more focus, and more detailed data, than would be possible with universal surveillance. Or, alternatively, surveillance may be based on case-finding by trained surveillance officers operating over a geographical area, as with polio.

Some criticise the way that the Integrated Disease Surveillance and Response framework has been implemented, pointing out that it has evolved into a system that aggregates data, such that case-based data remain out of sight. Therefore, top level data is less actionable beyond picking up an outbreak, where there is less need to link up case-based data.

It will take a big vision to be able to pull together all of the different parallel and vertical surveillance programmes. Bacterial meningitis has been detected through sentinel surveillance, dating back to the



real-life tests came, many countries failed miserably.

COVID-19 has shown the value of linkage to clinical and health system capacity data such as: respiratory disease severity, availability of hospital beds, intensive care facilities, and oxygen supplies. This goes beyond classical communicable disease surveillance and also brings in other dimensions e.g. big data, artificial intelligence, monitoring population movements, and the use of mobile technology for reporting and feedback in real time. Linking, synthesising, and rapidly analysing this information could enable insights gained to be translated into public health action.

year 1999. The Integrated Disease Surveillance and Response started in the African Region 20 years ago. There has been time to work on integrating these systems, but it still has not moved forward sufficiently. A lot of time, attention and thought will have to be given as to how make these systems “talk to each other”. Each system has different requirements.

The experience of the COVID-19

pandemic should be a wake-up call for those taking pride in what has been achieved so far in surveillance. Before the pandemic, the International Health Regulations specified, quite succinctly, the sorts of capacities needed to respond effectively to major outbreaks of communicable diseases. Many countries were confident that they had the necessary capacity in place, because their self-assessments continued to say that their systems were good. When the

Meantime, with the pressure to end circulation of wild and vaccine-derived polioviruses and, thereafter, quickly detect any poliovirus emergence, the focus is on polio surveillance as never before. Its purpose is to ensure that there are no missed populations, no missed transmission, and ultimately to be sufficiently comprehensive to allow the Global Certification Commission to say that polio has, indeed, been eradicated. Then, long-term, it is to detect any poliovirus no matter where in the world it appears and however fleetingly.



The backbone of this system is acute flaccid paralysis surveillance, complemented by environmental surveillance.

In the earlier phases of certifying polio eradication (first, wild poliovirus type 2, and then wild poliovirus type 3), the Global Certification Commission asked every regional certification commission: first, to identify when the last poliovirus of that particular type had been identified in each of the countries in their region; and, second, to say whether, if there were wild polioviruses present, each country's surveillance system would have been strong enough to detect them.

For many countries, in many regions, the quality assessment was the standard of acute flaccid paralysis surveillance. As long as cases that looked like polio were being detected and then shown not to have been polio, by viral specimens tested in a recognised laboratory against quality indicators, that was acceptable "proof" of absence. Many of the higher-income countries did not use acute flaccid paralysis surveillance, because they said that they had interrupted

transmission of polio many years ago and had a broader communicable disease surveillance system in place. The Global Certification Commission accepted this, on the basis that if there were polio cases, then clinical services would recognise them.

The approach is different now. In some of the places that are considered at-risk, acute flaccid paralysis surveillance has a higher acuity. This increases the certainty that children who look like they might have polio are not infected with the poliovirus. On top of this, there is greater use of environmental surveillance; this, added to clinical surveillance, gives ever more confidence that zero is zero.

The Global Certification Commission is now taking the view that if there is good clinical surveillance and good environmental surveillance, the same degree of certainty can be arrived at more quickly. So, the Commission will scrutinise the environmental surveillance quality, and the clinical surveillance quality, and only when it is confident will it then certify.



CONTAINMENT

When smallpox was eradicated, only two facilities worldwide (one in the United States of America, one in Russia) kept stocks of the smallpox virus. This remains the case. The last ever case of smallpox was caused by a containment breach in Birmingham, United Kingdom. A medical photographer, whose office was below a laboratory, caught the disease and died. The laboratory head subsequently committed suicide. It was a terrible tragedy. The last three outbreaks of severe acute respiratory syndrome (SARS) were laboratory-induced. These examples highlight the importance of protecting the world against containment weaknesses.

The latest known breach of poliovirus containment was in November 2022.

An oral poliovirus type 3 escaped from a vaccine manufacturer and was detected in the vicinity of Utrecht in the Netherlands. It was identified by surveillance of the wastewater system near the facility. One member of staff was infected inside the facility and was quarantined. The individual concerned did not live close to the facility. Of even greater concern, he lived in a community with a high concentration of people who refuse vaccination. Luckily, sampling showed that there was no evidence of poliovirus in this residential area.

Had there been no environmental sampling from this facility, it is likely that the laboratory escape of poliovirus would not have come to light. There is no requirement for laboratories or manufacturing

facilities with the live poliovirus to establish an environmental sampling site nearby. The facility in Utrecht was considered a centre of excellence for containment practice.

This is the third poliovirus containment breach in Europe in the past four years. In another example in Belgium, in 2014, a pharmaceutical facility released into the environment 45 litres of a solution containing live poliovirus. Fortunately, no polio cases were detected following the event. A so-called “kill tank”, meant to destroy the poliovirus, before it was dumped, malfunctioned. In this case, environmental surveillance did not initially detect the poliovirus; the tests were all negative. This Polio Essential Facility in Belgium first discovered the fault in the kill tank, and then tracked the virus downstream and eventually found it in an environmental sample.

Environmental surveillance and regular monitoring of staff are two ways to detect containment breaches. It is uncommon for facilities to consistently check their staff for signs of infection.

The beginnings of poliovirus containment go back to the first version of the *Global Action Plan for Containment (GAP I)* in 1996. The Polio Programme, at that time, had a very low appetite for risk. As the years have passed, tolerance for risk seems to have increased. Working



The plan for poliovirus containment relies on countries and facilities to have risk mitigation measures in place, using local risk assessments.

with the poliovirus fell under the regulations for biosafety level four (BSL4) organisms (the highest level), but manufacturers complained that they could not produce the vaccine under such stringency. Subsequent versions of the *Global Action Plan for Containment* were more permissive.

The current central guidance document, for Polio Essential Facilities wishing to retain the poliovirus, is the fourth version of the WHO *Global Action Plan for Poliovirus Containment (GAP IV)*. Any country

retaining stocks of poliovirus was required to implement the guidance by 1 July 2015. However, progress was slow, and a further World Health Assembly resolution was agreed in 2018 to encourage countries to reduce the number of Polio Essential Facilities to an absolute minimum.

Compared to earlier iterations, the fourth version of the *Global Action Plan for Poliovirus Containment* places more risk management responsibilities on countries and facilities. It relies on them to have

risk mitigation measures in place, using local risk assessments. It does not decrease or alter the global or national tolerance for minimum facility-associated risk. It does not, in any way, ease national or global oversight. Nor does it lower the controls to minimise facility-associated risk.

As of 1 June 2023, five countries are still pending completion of their initial poliovirus type 2 inventories (due at the end of 2016) and 28 countries are still pending completion



of their initial poliovirus types 1 and type 3 inventories (due at the end of 2022). There are 64 known Polio Essential Facilities in 22 countries. Approximately one third are manufacturers and the majority of the remaining facilities are laboratories. A large proportion are in the European Region (31 facilities in 11 countries), followed by the Western Pacific Region (13 facilities in four countries), the Americas Region (13 facilities in three countries), the South-East Asia Region (two facilities in two countries), the Eastern Mediterranean Region (four facilities in two countries), and the African Region (one facility in one country).

The central guidance requires countries to establish a body to regulate the process: a National Authority for Containment. Since the last TIMB report, the number of countries that have *not* identified such an authority has reduced from five to two. These remaining two countries have a total of nine

facilities. They are China (seven vaccine manufacturing facilities and one laboratory), and Romania (one laboratory with no active handling at the moment). Not only has China not established a National Authority for Containment, but it is also one of the countries that has not reported on the size of its poliovirus stocks. The TIMB has been told that the WHO Director-General has written to China on several occasions, with limited success.

Although the remaining countries with Polio Essential Facilities have set up National Authorities for Containment, WHO's awareness of every Polio Essential Facility is solely reliant on countries reporting them.

Contrary to the aim of the 2018 World Health Assembly Resolution on containment, the TIMB was told that WHO is anticipating an increase in Polio Essential Facilities, not a reduction. This is because new vaccines and products are in the

pipeline to help the polio eradication programme reach and sustain its target.

The current strategy is risk elimination by destruction. As of 2015, facilities are encouraged to destroy all poliovirus type 2 specimens and potentially infectious materials. If the facility retains poliovirus, then bio-risk management requirements must be implemented. By the end of 2022, countries were asked to complete their reports for wild poliovirus type 1 and type 3 stocks and potentially infected materials.

Three primary facility safeguards in the bio-risk management strategy seek to minimise the likelihood of a poliovirus release. They are: prevention of exposure of an operator to the poliovirus infection; high immunisation coverage in populations surrounding the facility; and reduction of the chance of poliovirus spreading (e.g. by locating

facilities in areas with low population density, good sanitary conditions, and environmental surveillance).

The immunisation requirements are based on recommendations from WHO's Strategic Advisory Group of Experts. Environmental surveillance tends to play a much greater role in detecting poliovirus containment breaches in high-income countries than in lower-income countries. The value of environmental surveillance depends on latency: how many people are infected, the design and flow of sewer systems, the number of other potential contaminants and how often wastewater is sampled.

Environmental surveillance certainly helped in the three detected breaches in Europe in the past decade, but it is not known how many were never detected.

If a containment breach is detected in sampling the facility's wastewater,

it would mean that it is too late to contain that spill. This is because the sampling occurs only once a day. However, what it does provide is evidence of system failure. That is going to be very important, because immunity among communities in the surrounding areas may change in the next 10 to 15 years. However, sampling should not be relied upon, and high population immunity will still be necessary.

Experts recommend high population coverage for the polio vaccine, which is beyond the remit and scope of work that National Authorities for Containment and Polio Essential Facilities can measure or manage.

Unlike the International Health Regulations, the *WHO Laboratory Biosafety Manual* and the *Global Action Plan on Poliovirus Containment* are not legally binding documents for countries to implement biosafety. There are not enough

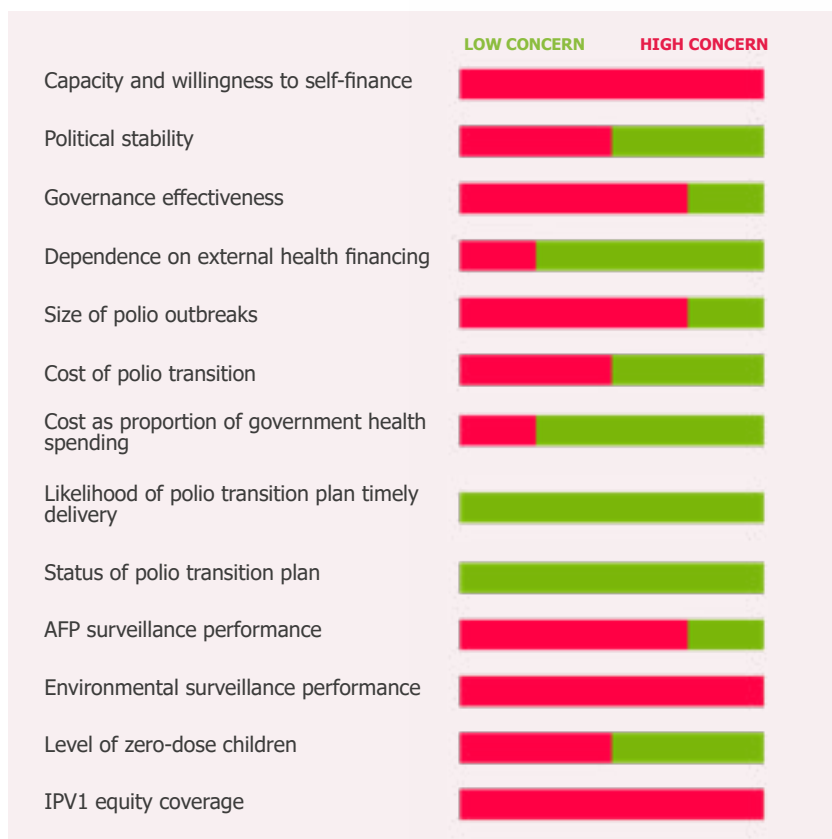
well-trained biosafety certifiers or auditors in most countries and there is no universal qualification. Capacity and funding to calibrate equipment is also problematic because it needs to be sent to one of a small number of expert centres internationally. To maintain the required level of skill, a biosafety cabinet certifier must assess 100 to 200 cabinets per year. There is a huge difficulty for many countries in finding well-trained certifiers to do this job.

There are materials in some facilities that potentially contain poliovirus. They are termed Potentially Infectious Materials (PIMs) but are often not included in the register. Many facilities may not be aware that they are holding materials potentially infected with poliovirus. There is guidance available to countries for Potentially Infectious Materials but no system of accountability for compliance. This creates a further source of risk of an outbreak.

03 Country progress

Note: In preparing these country reports, the occurrence of the pandemic and WHO funding constraints have prevented the TIMB from making the rigorous in-country field visits that it was originally asked to do. Instead, it has consulted widely and accessed many official data sources. It has also cross-checked and triangulated facts. Nevertheless, there will be occasions when such facts are in error or where interpretation of them differs from source to source. If action is planned based on the TIMB's findings, further checks and updates should be sought. The grids within each country narrative are intended to provide a high level comparative snapshot of each country's polio transition status. The methodology is described in an annex to this report but the TIMB regards it as 'work in progress' and welcomes feedback on the approach.

ANGOLA



Over the years, polio investments in Angola have supported “epidemiological antenna teams,” providing the government with technical support in surveillance and immunisation for vaccine-preventable diseases. They have consisted of a surveillance focal point, driver, and administrative support staff across all 18 provinces. These staff worked closely with the provincial government teams. Polio funding has also covered cash for transporting samples and other field activities. These teams were the “boots-on-the-ground”-type support typical of polio investments in many countries. Due to cost constraints, they were reduced in 2017. Angola first lost the administrative support and then logistic support. Soon after, the number of teams was reduced to eight.

Angola reported 141 cases of circulating vaccine-derived poliovirus type 2 for 2019–2020. Genetic analysis showed importation from the Democratic Republic of the Congo. The outbreak was officially closed in August 2022, but the country remains high-risk because of its surveillance performance.

Polio transition planning in Angola has been a slow process. The transition plan was developed during 2016–2018, and external funding for the first two years was identified in 2019. In the four years since, high staff turnover at the Ministry of Health made coordination difficult and painstakingly slow. The government-led Interagency Coordination Committee was not functioning at the time the plan was being developed, and the government was not involved in the process. Also, planning did not involve other parts of government (such as finance), nor collaborators (such as the CDC, USAID and UNICEF).

The polio transition plan for Angola included activities aimed at enhancing health system management, including support for monitoring, laboratory referrals, outbreak preparedness and response plans, and restructuring the supervision system.

Despite funding for the first two years from the World Bank and Gavi, the implementation of the original plan failed. This was partly due to the complexity of the administrative and funding arrangements. Each funding package was designated for each of

the different provinces and covered a variety of administrative costs. The money was provided by WHO, but the staff were recruited by the Ministry of Health. There was also a need to transfer the WHO vehicles to the Ministry of Health. These were unusual arrangements, and a high volume of paperwork was necessary.

The vehicles were not transferred in time for the field teams, so they could not be deployed. After two years, the teams had only been active for three months. So, the country lost almost two years of budget, and had achieved little in the way of maintaining or enhancing polio- or immunisation-essential functions. Most of the former WHO polio staff moved on to work as consultants for WHO in the Mozambique outbreak response or were absorbed by other programmes of the country office.

Following this, there was an initiative to commit new World Bank funding to recruit 18 provincial teams, under the Ministry of Health, to replace the former WHO teams. There was a recruitment process for that in November 2022, but by March 2023 most of the people pre-selected were waiting for a confirmation on when the project would start. Seemingly, none of the former WHO staff applied because of the large salary gap.

Meantime, Angola became one of the 10 countries continuing to receive GPEI funds until 2024. Very recently, World Bank funds from the Regional Disease Surveillance Systems Enhancement Project were

used to re-recruit the 19 national surveillance consultants. This includes a coordination consultant to support surveillance activities in those provinces where WHO does not have provincial teams. The Ministry is waiting for the arrival of 19 new vehicles that are being purchased with those funds to start field operations. The project is also covering all basic field operational costs for two years of implementation.

WHO Angola posted positions for provincial immunisation officers in those provinces that are currently covered with polio funds. This means that there will be a continuation of WHO support when polio funds end.

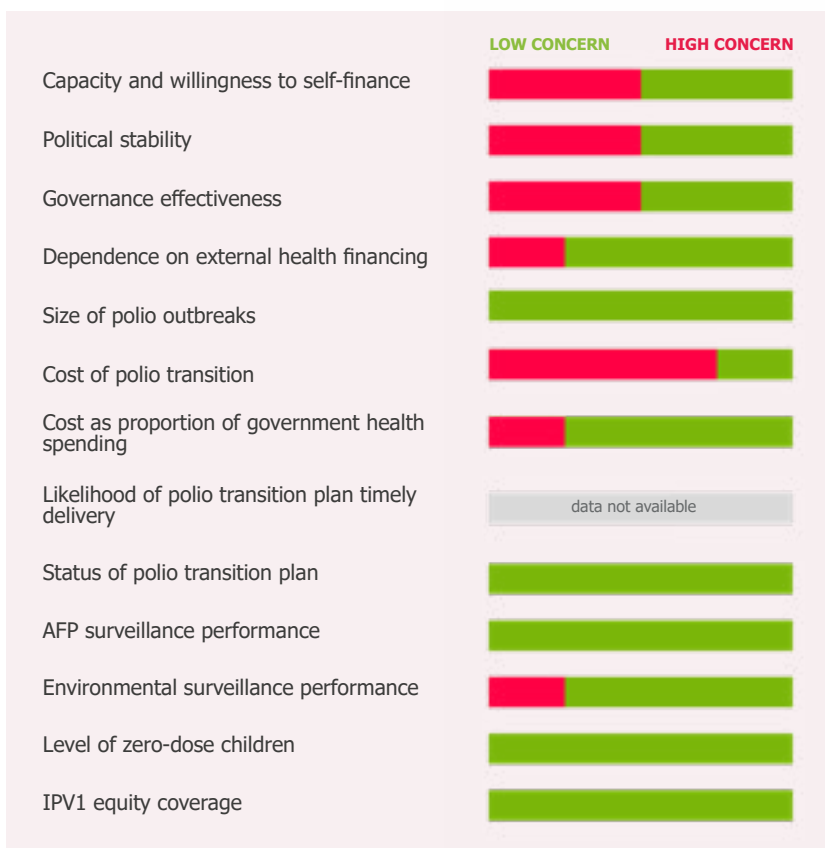
Angola therefore has a polio transition process in place that will ensure enough support to polio and other disease surveillance field activities for at least two years while other more sustainable sources are sought.

The original polio transition plan will be finally delivered despite much time having passed since the original plan failed. The most visible part of the transition process is the replacement of original WHO resources (staff, vehicles, funding) with new funding. There has been a weaker focus on enhancing the national surveillance system so that it can develop enough resilience to maintain surveillance when the extra funds finish. There are hopes that the WHO Africa Regional Office is devising plans to support integrated disease surveillance as a potential means to solve this problem.

There are many barriers to the transfer of WHO polio functions to the Angola Ministry of Health, including: staff turnover reducing the skills-base until training catches up; a new Minister of Health and different priorities following elections; long-term circulation of vaccine-derived poliovirus in the neighbouring Democratic Republic of the Congo; a significant increase in susceptible children with no essential immunisations during the pandemic; and the government-led coordination body (the Interagency Coordination Committee) still being non-functional. There is currently no prospect of domestic funding for polio transition and Angola is also transitioning from Gavi funding.

During the outbreak in 2019–2020, surveillance indicators improved as there was surge capacity support from partner agencies. However, since the outbreak closed, WHO has relied more heavily on the government, and surveillance indicators have seriously deteriorated. Approximately 12 of the 18 provinces failed to reach both surveillance threshold targets between January and June 2023. In 2022, approximately 30% of the under-five-years-old population were un- or under-vaccinated for polio. This is a huge gap. Angola will also need to strengthen surveillance indicators as part of the global effort to achieve a polio-free world.

BANGLADESH



There are approximately 60 positions for polio officers in Bangladesh. Some of these positions are vacant as staff have left. This network is currently being supported by funding from Gavi and the GPEI, and emergency COVID-19 funding. The network costs \$3.4 million per year to maintain.

There are three phases to Bangladesh's polio transition plan. The first phase ran 2016–2019, the

second phase ran 2019–2022 and the third phase will cover 2023–2026. In each phase, the WHO aims to hand over approximately 25 districts to the government.

The network is heavily involved in broader immunisation efforts. A rapid assessment was conducted in Bangladesh to identify zero-dose and under-immunised children in April 2021. The country then conducted a

series of outreach campaigns to bring the immunisation coverage back on track to pre-COVID levels.

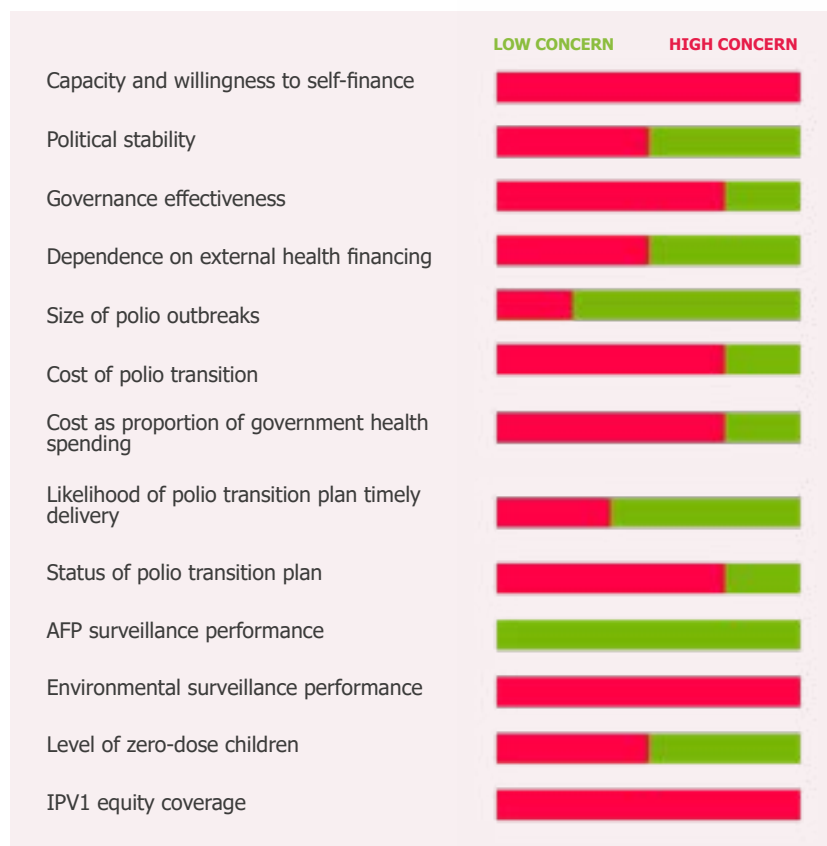
Money for the first and second phase of Bangladesh's polio transition plan never arrived. The government has allocated a budget for the network, but there has been no mechanism set up to channel the money to WHO.

There is already a mechanism for other programmes to transfer money from the Bangladesh Government to WHO, but the programme has found it very difficult to manage this transfer for polio because of other competing priorities in the country. There is a financial crisis, the health budget has been reduced and the cost of living has greatly increased. There has been a high turnover of Ministry staff since polio transition planning began. This has meant further advocacy efforts are required to re-start conversations on polio transition. There are also elections coming in 2024 which could derail progress.

The TIMB Secretariat spoke to its sources in Bangladesh in mid-August 2022. By mid-June 2023, the money still had not been released.

Due to the uncertainty of funding continuation, network staff have begun to look for jobs elsewhere; seemingly 10 have left for this reason and others continue to look for new work. WHO continues to advocate to the government to support polio transition.

CAMEROON



Within the WHO country office in Cameroon, polio eradication functions have long been integrated into the health service delivery department, which also houses routine immunisation and surveillance activities for all vaccine-preventable diseases. When polio transition planning began, there was a small core group of staff at national level. The field staff were on special non-

staff contracts. These staff supported the national system by working closely with the Ministry of Health focal persons for immunisation and surveillance across the country. Now, the core staff have been reduced from 10 to six, and these six are supported by GPEI funding.

Cameroon is affected by multiple complex crises: the Lake Chad basin



conflict (Boko Haram-related), the North-West and South-West crisis (Anglophone crisis), the Central African Republic refugee crisis and a humanitarian crisis, that risks deterioration. It has severely affected the economy and rendered many health centres non-functional.

The polio surveillance system is generally working well, but there are underperforming subnational areas. Outbreaks of vaccine-derived poliovirus type 2 resulted in 13 polio cases for 2020–2022. Despite no cases so far in 2023, the outbreak has not yet been officially closed. Polio transition planning began in 2017. The plan covered five years. A mid-term evaluation in September

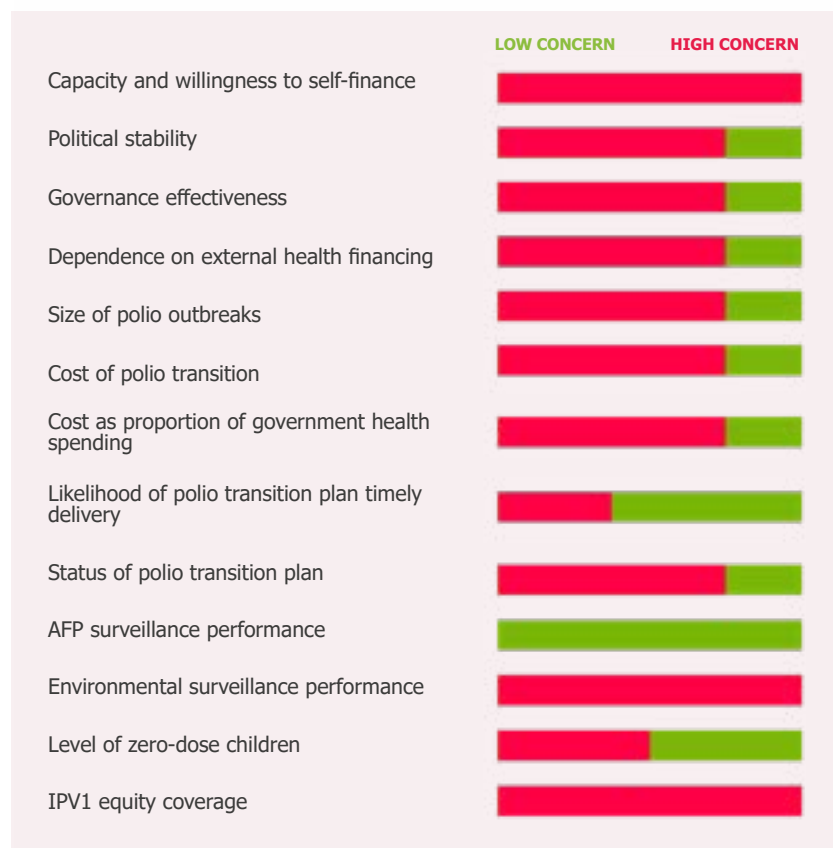
2019 highlighted: the absence of baseline values for some indicators; no data to assess progress on other indicators; and a lack of capacity of WHO staff to gather and provide information required key indicators. Only 37% of planned activities had been implemented. During the period 2017–2019, the government was expected to commit around \$15 million. This funding was never mobilised. The evaluators recommended additional advocacy with the government, as well as a greater efforts to boost routine immunisation coverage.

The plan for polio transition has been revised, taking account of the evaluation and the post-COVID

operating environment, but there are no current sources of finance. This leaves the Government of Cameroon unable to implement. It remains highly dependent on WHO for funding, especially for polio surveillance and outbreak response; if funding ended, surveillance and other core polio eradication functions would likely terminate. Under current arrangements, the country will receive GPEI funding until the end of 2023.

Polio transition planning was once discussed regularly with the government, but other priorities have emerged and new staff have arrived. Awareness of the urgency of polio transition seems to have fallen away.

CHAD



Chad's first polio transition plan was developed in 2017, with little government involvement. In 2022, the plan was revised with government input, but with no secure funding. Gavi provides substantial resources for immunisation. The country plans to set up a committee to spearhead resource mobilisation, chaired by the president of the National Certification Committee.

A vaccine-derived poliovirus type 2 outbreak has been ongoing since 2019, imported from Nigeria. Chad

has multiple other disease outbreaks, including measles and yellow fever. Its neighbours include several countries with outbreaks of vaccine-derived poliovirus. Many displaced populations are moving across very porous borders, particularly from the Central African Republic.

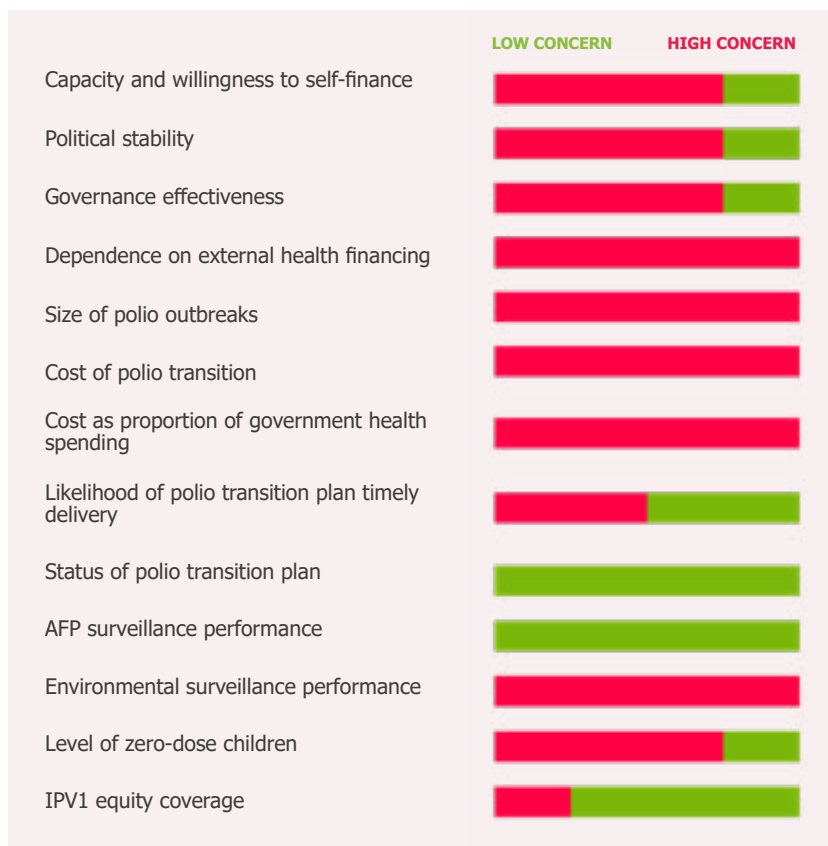
Investigations of confirmed polio cases show that at least half of such children have never had even a single dose of the oral polio vaccine, and very few have received inactivated polio vaccine.

Generally, the surveillance indicators for the country meet international standards, but a few provinces in the extreme north are underperforming. The strong performance of the polio surveillance system, as elsewhere, is due to the extraordinary measures that the polio eradication teams undertake to address gaps. This meticulous approach would almost certainly stop if GPEI funding is withdrawn too soon.

Chad's polio transition plan foresees the government taking over 25% of polio eradication functions by 2026, with the remainder supported by partners. The government will take over the transport of samples in a number of areas using funding from the Bill & Melinda Gates Foundation that is delivered through a civil society organisation, Village Reach. Chad has also begun to implement an integrated disease surveillance system. Polio will be part of it. The country has some available funding that is not being used. The committee to be set up for polio transition will use these funds to help implement the plan.

There are reported to be substantial funds available in the country, through the World Bank, but the government is unable to release them. The Ministry of Health seems very reluctant to take on polio transition costs as required by the plan. It is unclear how it will move forward.

DEMOCRATIC REPUBLIC OF THE CONGO



The Democratic Republic of the Congo's polio programme consists of 46 WHO staff, including 14 field-level surveillance epidemiologists. The polio eradication network has responsibilities beyond polio surveillance and outbreak response, including a greatly valued role in strengthening essential immunisation, integrated disease surveillance, response to COVID-19 and health sector coordination. For example,

its staff monitor essential vaccine availability and improve data quality through data validation meetings.

In 2020, 64% of the WHO in-country workforce was funded by the GPEI. At that time, 100% of the WHO surveillance workforce was funded by polio eradication. In 2022, 63% of the WHO workforce was funded by polio eradication money and so was 93% of the surveillance.

The polio transition plan stipulates that \$815 million for 2022–2024 is required to fulfil the functions and strategies outlined, including raising population immunity to vaccine-preventable diseases. There is already financing available from the WHO expanded programme on immunisation and other partner contributions, but a gap of \$120 million (approximately \$40 million per year) remains.

The Democratic Republic of the Congo's polio transition plan, published in May 2021, covers the period 2022–2024. The original plan, developed before the pandemic, aimed for the government to mobilise funds to cover polio assets and functions. The Minister of Health was meant to present it to the donors and partners operating in the country, but he was replaced and then COVID-19 hit.

The Democratic Republic of the Congo is heavily reliant on external sources to uphold its health system. Each state has its own government health allocation. For most, it is less than 5% of the overall state budget, and insufficient for the country's health needs. International aid is also highly fragmented.

Partners and donors have asked for meetings to discuss the implementation of the polio transition

plan but are still waiting for the government's response. Currently, the plan is unfunded.

The political situation in the Democratic Republic of the Congo is currently calm, but there are upcoming presidential, governor, municipal and legislative elections. Officials are very focused on preparing for them.

The humanitarian situation is linked to insecurity in the east of the country,

in the provinces of North Kivu and South Kivu. There is ongoing conflict between the rebel movement M23 and the Democratic Republic of the Congo Government. As a result, populations are displaced, many to refugee camps. All this means that polio transition is not really seen as a priority by the government.

There is also an ongoing circulating vaccine-derived poliovirus type 2 outbreak that was discovered in May 2017 and had resulted in over 600

cases by the end of 2022. An outbreak of vaccine-derived poliovirus type 1, co-circulating since 2022, produced just over 140 cases in that year. Added to these poliovirus events, the country is also dealing with serious outbreaks of measles, cholera, yellow fever and monkeypox, while maintaining measures to reduce risk from Ebola in neighbouring Uganda.

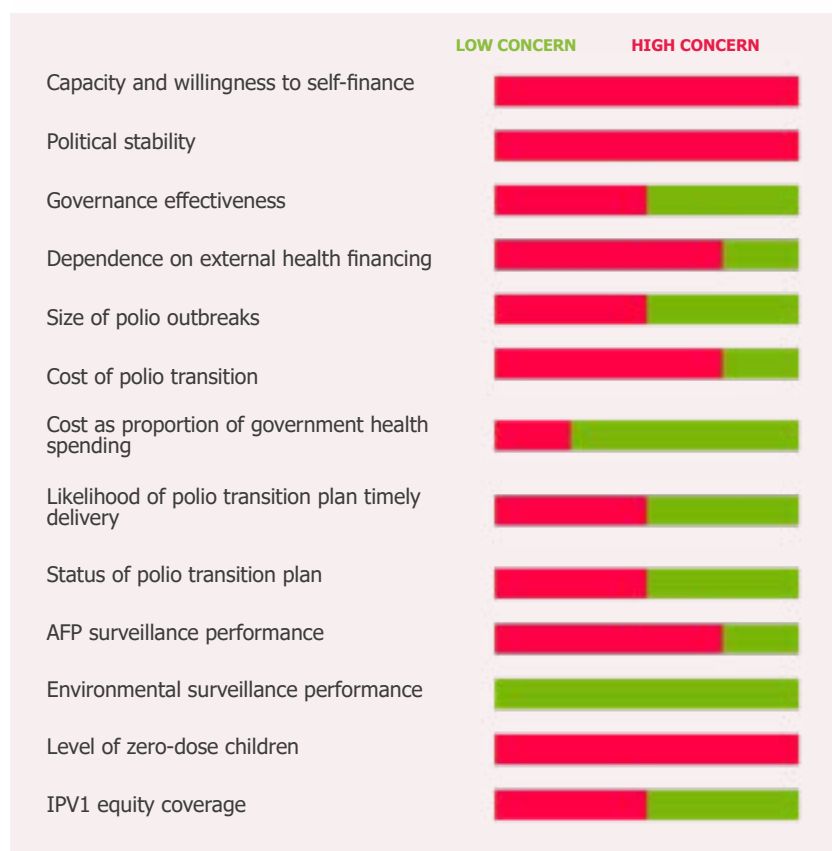
The conflict-affected eastern part of the country is not easily accessible for humanitarian workers, while, in the west, accessibility is constrained by poor infrastructure and heavy floods.

The Democratic Republic of the Congo is a highly decentralised unitary state comprising 26 provinces. Central government has delegated responsibility to each province, which has its own government and minister of health. Health staff are appointed at the provincial level but there are frequent changes in leadership that break continuity and create uncertainty. A core group of health staff who remain at the national government level are the point of contact for the WHO's polio transition work.

Considering the humanitarian, epidemiological and financial situation in the Democratic Republic of the Congo, the TIMB has doubts that the country can raise the remaining \$40 million per year required to sustain polio eradication functions once the GPEI withdraws. Until the circulating vaccine-derived outbreak is closed, it is difficult to drive forward polio transition activities.



ETHIOPIA



and action is underway to revitalise the surveillance network. However, fighting in the Oromia Region, in the west, has blocked surveillance and outbreak response.

For over a decade, Ethiopia has consistently maintained national-level surveillance indicators above minimum thresholds. National indicators have masked important gaps in some districts, especially in the conflict zones.

Polio transition plans created in 2017 covered the period 2018–2022, but there has subsequently been a high turnover of leadership staff at the Ministry of Health and within partner agencies. WHO teams responsible for the polio network are working with newly assigned people. The draft plan for 2023 onwards has been revised and is now with the government Interagency Coordination Committee for revision and approval.

Ethiopia has been experiencing an outbreak of vaccine-derived poliovirus type 2 since mid-2020, linked to one that started in Somalia in 2017. There have been 62 cases so far, but only one case in 2022 and no cases or samples detected so far in 2023. Ethiopia is surrounded by countries with ongoing vaccine-derived poliovirus outbreaks, including Djibouti, Somalia and Eritrea.

The northern part of the country has been conflict-affected for several

years. It was impossible, for two years, to conduct surveillance or outbreak response activities in those areas after the detection of two cases of vaccine-derived poliovirus type 2. Conflict has also meant huge population displacement, exacerbated by drought and famine, requiring humanitarian assistance. Outbreaks of cholera and measles indicate poor essential immunisation coverage rates, and further increase the challenges for polio eradication activities. The situation has improved recently,

The new plan follows the same framework with two phases: the transition phase and the Ministry phase. The first phase, 2022–2023, is geared towards building capacity of Ministry staff in polio eradication functions. From the end of 2024 to the end of 2025, the government is supposed to gradually absorb polio eradication functions.

The implementation of the previous plan, 2018–2022, failed because of the arrival of COVID-19 and other



competing priorities but, particularly, because the expected withdrawal of GPEI funding never happened. The GPEI has warned Ethiopia to expect a funding reduction. The process of reducing staff was started but stopped because the GPEI decided to continue its financial support, fearing the high risk that Ethiopia poses to global polio eradication. The situation was similar in Nigeria, but the difference was Ethiopia never went ahead with a “ramp down”, whereas Nigeria did.

The Ministry of Health in Ethiopia is aware of the value that the high-quality network of polio officers provides. It worries that, if the government takes over the functions, the quality of, and the gains made, by the polio network will not be sustained. This is one reason that the government has not yet fully endorsed the polio transition plan: it does not want to be accountable for weakening performance.

Despite its recognition of the value of the polio eradication infrastructure, the government does not have sufficient financial capacity to take over funding. The WHO staff responsible for polio transition in the country have therefore sought to mobilise resources from international donors.

In Ethiopia, the polio network has supported many other health programmes, including vaccine-preventable disease surveillance and health emergencies. Measles surveillance is completely dependent on polio eradication funding, the polio eradication workforce, and the polio eradication infrastructure. The COVID-19 response was also very reliant on polio eradication resources. These other programmes are chronically underfunded in Ethiopia, so there is virtually no prospect of

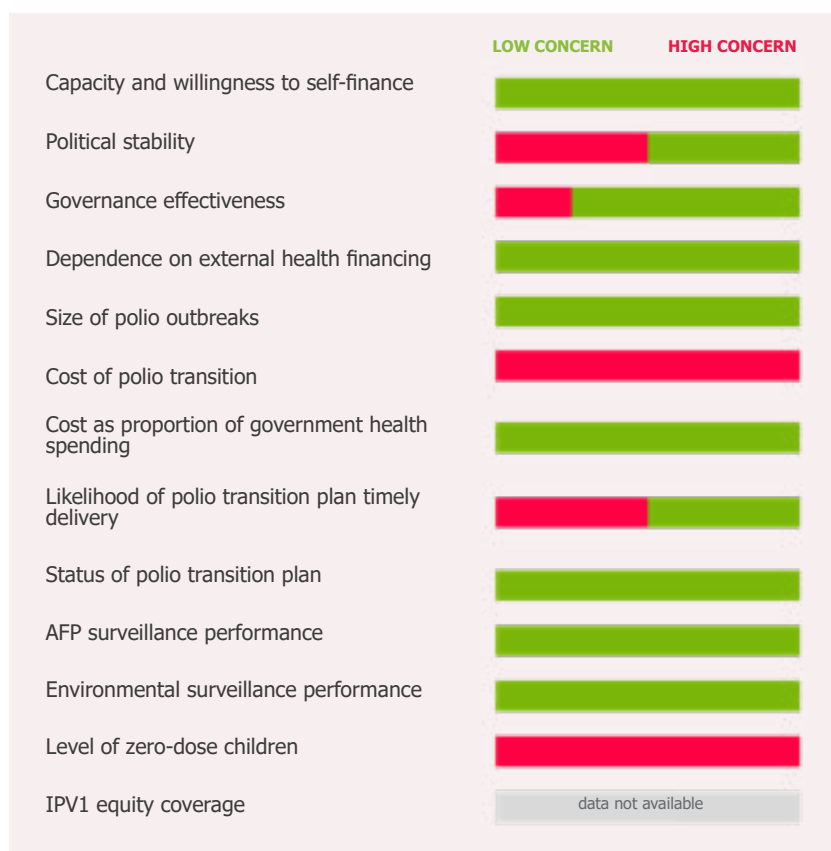
them offering financial contributions to sustain the polio network.

Beyond the financial-related challenges, another key constraint is the high turnover of trained staff. There is a big salary difference between the WHO and Health Ministry staff (10 times higher in some cases).

Frequent rounds of training are required. The polio transition plan places strong emphasis on capacity-building in its first two years.

There are no clear signs of additional funding sources to support polio transition. This poses a serious risk to the country’s ability to maintain adequate indicators for sustaining a polio-free world. If funding for Ethiopia is discontinued soon, the surveillance system for vaccine-preventable diseases could collapse.

INDIA



The India Polio Transition Programme is always cited as a success story. India started polio transition planning in 2005, and polio was already well-integrated into the immunisation programme. The government was also already contributing to polio eradication funding through its health budget. These factors have all enabled India's success.

The ex-polio eradication workforce in India is commonly known as the National Polio Surveillance Project. It is a network of surveillance and medical officers that was set up to conduct polio surveillance and support polio immunisation. Over time, the network took on more functions, including measles and rubella control activities. The

measles surveillance system was built using polio's acute flaccid paralysis surveillance system. The network also assists with new initiatives, such as vaccine introductions, training health personnel, monitoring, and laboratory support. It has helped India surpass the global standard for surveillance for measles and rubella. Many ex-polio officers have been absorbed into other programmes, such as tuberculosis control. These polio eradication officers have also been greatly valued by the Government of India due to their diverse epidemiological skillset.

The estimated contribution of the Government of India is \$72 million during 2020–2023 to cover the costs of the network. In the case of delays, Gavi funding has helped to ensure operations are not interrupted. The government funding, however, does not cover the entirety of desired polio transition activities in newer areas of technical support such as for measles, rubella, neglected tropical diseases, and health emergencies.

The Government of India has shown strong political commitment to financing the network. However, each time a memorandum of understanding is negotiated the timing of funding is delayed by political realities.

The priority for the network now is to catch up on COVID 19-delayed

essential immunisation. National immunisation rates (third dose of the Diphtheria, Tetanus and Pertussis vaccine, DTP3) fell from 91% in 2019 to 85% in 2021. The country has developed essential immunisation catch-up plans down to district and sub-district levels. The government, early in 2022, announced a new package for health which includes deploying district-level epidemiologists. Polio transition activities will contribute to training these staff. Gavi has also offered

India a three-year grant with a goal to achieve a 30% decrease in the number of zero-dose children by 2026.

One of the recommendations from India's mid-term assessment of its polio transition plan in 2020 encouraged capacity development. The government is keen to ensure that when a function is handed over, staff are skilled enough to ensure quality. Another recommendation urged the programme to define key indicators for monitoring. These

indicators were agreed and finalised in 2021.

Most of the southern states in India have fully transitioned. There are no WHO field monitoring staff there. The network only provides technical support to these states as and when it is needed. The country defines full transition as when states no longer require operational support, only technical support. A full transition would see WHO only supporting monitoring at the strategic impact level.

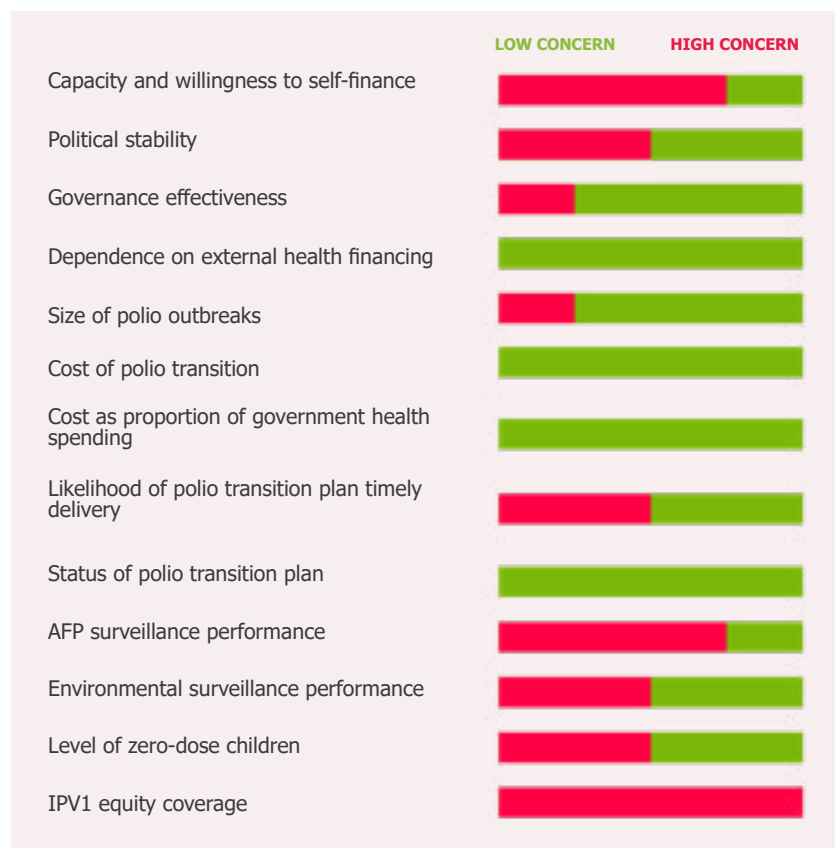
The country is now preparing to implement phase two of the polio transition plan.

There are many remaining health workforce challenges. There is high turnover of government health personnel at all levels. There are many vacant health posts. More training is required to build capacity and reconfigure skill sets. Some experienced WHO staff do not want to be absorbed into the government. Finally, the network is said to dream of contributing to many other disease initiatives where funding gaps persist.

The Government of India is contributing to funding polio eradication functions, but that funding is never guaranteed in the long term, and is always delayed. Due to the huge birth cohort in India (26 million), small slips in performance of just a few per cent can have huge implications.



INDONESIA



Indonesia has long self-financed and managed its immunisation and surveillance system and has fully funded the polio network since 2015. The partners operating in the country provide support to close gaps in quality, capacity-building and monitoring. Therefore, polio transition in Indonesia focuses more on strengthening the quality of polio immunisation and surveillance functions to maintain its long-term polio-free status.

Indonesia is a large country, with 17,000 plus islands. The vaccine challenges relate to logistics, monitoring, and decentralisation. Indonesia had the world's third highest number of zero-dose children (using the proxy indicator: Diphtheria, Tetanus and Pertussis, DTP, coverage); many fewer children received vaccination services during the pandemic. The number of zero-dose children has reduced from 11 million in 2021 to under 112,000 in 2022.

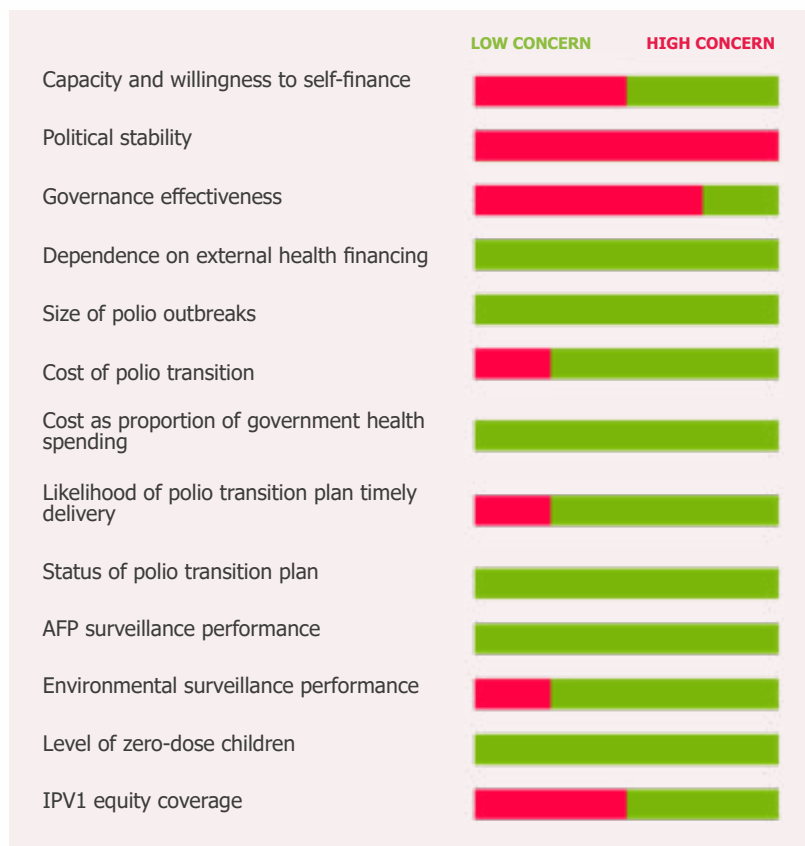
There is currently an outbreak of circulating vaccine-derived poliovirus type 2 in Aceh Province where, in 2021, bivalent oral polio vaccine coverage was 51%, and inactivated polio vaccine coverage was 28%. A total of four confirmed cases of polio paralysis have been reported in Indonesia since November 2022. One of the viruses that was isolated demonstrated divergence from the initial case in Aceh, potentially signifying missed transmission.

There are weaknesses hidden within Indonesia's vast island populations. Administrative data estimates for polio vaccine coverage range from 0.3% to 162% for the inactivated polio vaccine and 2% to 170% for the third dose of the oral polio vaccine. Despite the government's financial investment (\$2 billion towards immunisation), the health system still falls short of the required conditions for achieving a polio-free world. During COVID-19, polio surveillance and immunisation indicators plummeted. There has been some recovery, but the country still does not meet some key standards.

The financial requirements for supporting polio transition in Indonesia amounts to just \$100,000 per year. It would be wise to be cautious with Indonesia and not to withdraw funding too early.



IRAQ



Iraq has already completed many polio transition activities. The extent of polio assets is quite small in Iraq compared to other countries. The country now receives funding from the WHO base budget to support polio eradication activities through the development of integrated public health teams. There are only two WHO staff that work on polio from the immunisation section. WHO polio eradication money funds operational costs in two main areas: acute flaccid paralysis surveillance and laboratories.

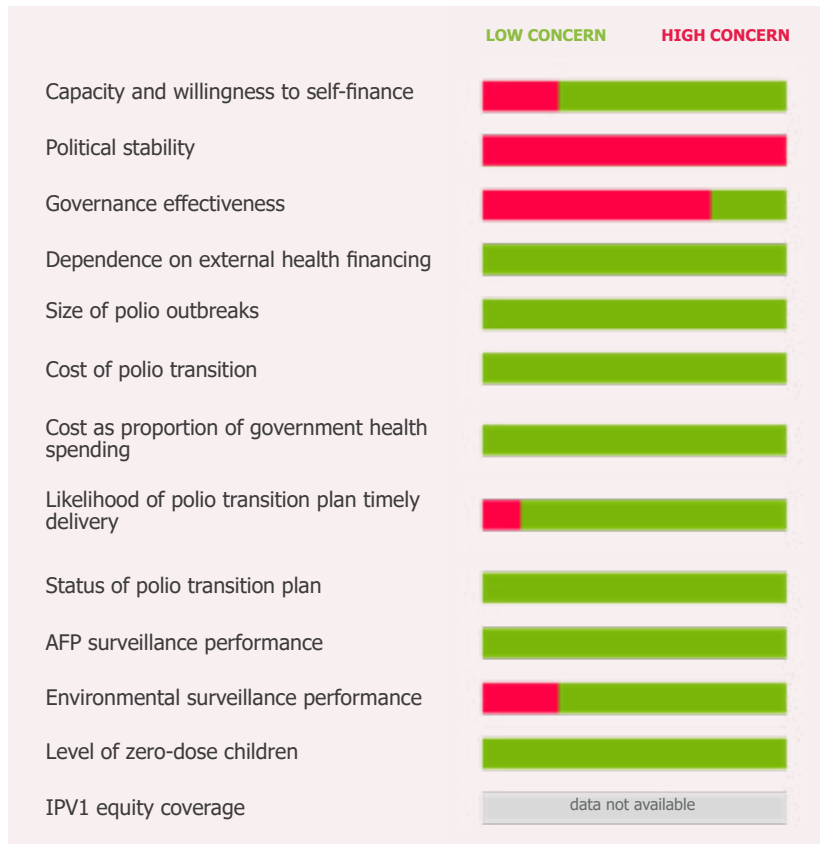
Up until 2022, despite willingness to take over polio essential functions, the caretaker government has been unable to make major budgetary decisions. In 2021–2022, there was no national budgetary plan for all ministries. They are able to pay the salaries of their employees, but not in a position to support any projects.

LIBYA

There was an election in October 2021, but no government took office at the time. That has since been resolved, but there is no assurance that funds will be made available. By the beginning of 2024, if the Ministry of Health is able to release funds, Iraq would have taken over, from WHO, all laboratory and acute flaccid paralysis detection costs, together with the salaries of three staff providing technical assistance. This has not yet been included in the polio transition plan but was based on recommendations from WHO regional missions.

The country currently maintains good surveillance indicators, including multiple sites for environmental poliovirus sampling. Training workshops and a polio outbreak simulation exercise have been carried out.

There is likely to be deterioration in surveillance and laboratory indicators if the handover from WHO to the Iraq Government is completed without first boosting the capacity of government staff. For example, withdrawal of WHO financial support for measles surveillance in 2015 was followed by very poor performance. The immediate success of polio transition in Iraq largely depends on whether funds are released by the government.



Libya has been in a period of prolonged internal conflict, but there have been some small improvements to peace and security since 2021. The protracted crisis has resulted in problems with basic services, infrastructure and personal security, and there are political tensions as well. The country is struggling to delivery basic health services equitably. However, issues relating to payment delays for public salaries

have been resolved. The number of internally displaced persons has decreased by about 70%. The remainder are hosted within the community, so they have the same chance to be vaccinated as the general population.

Transportation is also running smoothly, enabling the country to maintain good indicators for surveillance. There are two parallel

governing authorities wrestling for power, one in the east and one in the west; the latter is recognised by the United Nations as the legitimate authority. Long-awaited elections have been postponed again.

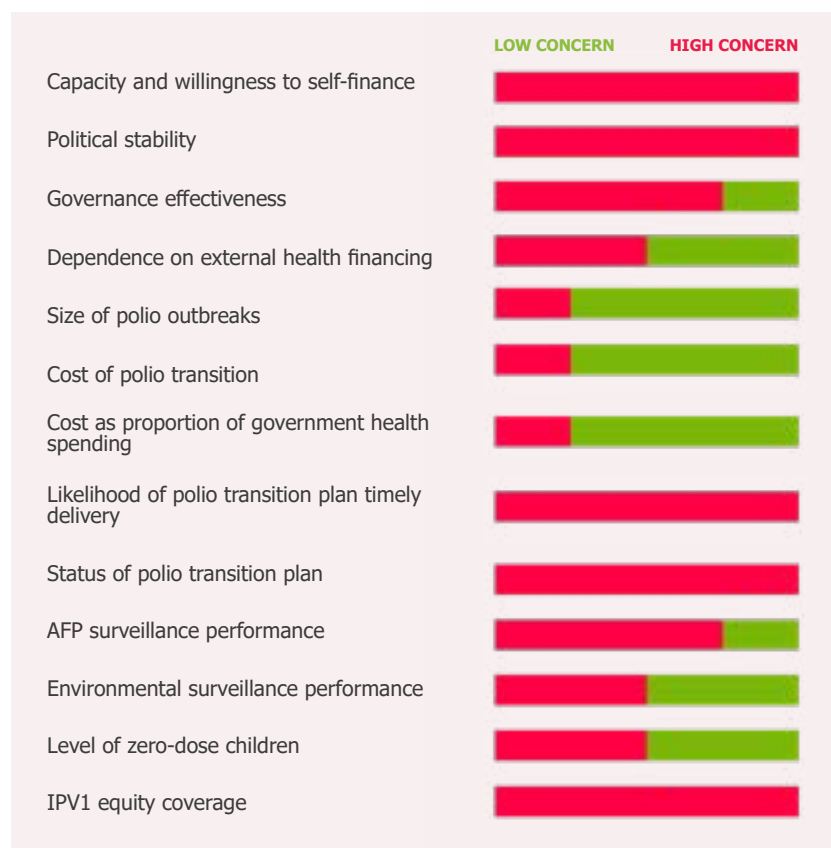
Estimated Diphtheria, Tetanus and Pertussis vaccine third dose (DTP3) coverage is 72%, with missed pockets of undocumented migrants in the deep south of Libya likely to be 30,000–40,000 people.

The essential immunisation system is fully funded and delivered by the government, without Gavi or WHO support. If there were to be an outbreak, the government would deal with it. The WHO country office provides very limited support to the government for essential immunisation as the latter fully finances and manages this system too.

Historically, WHO has provided no polio assets or functions in Libya. It did step-in, during 2016, to support polio core functions – specifically, the transportation of samples from Libya to a laboratory in Tunisia – and has provided training for polio surveillance. WHO has reached an agreement with the government for the latter to take over these functions by the end of 2023.

This is a verbal agreement. There is no formal agreement; these functions have yet to be transitioned and a clear path forward has not been established. The negotiation is ongoing but there is no certainty yet.

MYANMAR



Since February 2021, Myanmar's health system has been badly affected by political unrest and COVID-19. Out of 13,000 health facilities, only 1,200 were functional during the military coup. Many health staff joined a civil disobedience movement in protest. Approximately half of the health system's staff have now returned to work. Surveillance and immunisation activities have come to a halt in

non-government controlled areas. A case of vaccine-derived poliovirus type 2 was identified in 2019, but that outbreak has now been closed.

Myanmar had one of the largest drops in vaccine coverage during the pandemic years. The vaccine coverage dropped from 90% in 2019 to 37% in 2021 for the third dose of the Diphtheria, Tetanus and Pertussis

(DTP3) vaccine. Oral polio vaccine coverage hovered at around 90% pre-pandemic, and now it has slipped down to 43%. Outbreaks of diphtheria have begun.

Polio surveillance activities have also been severely affected due to the lack of trained staff, and repurposing of the polio workforce for the COVID-19 response. Two out of three surveillance sites closed in 2022. TIMB sources report that the surveillance system was “really in a shambles.” Revitalisation of essential immunisation and surveillance systems in 2023 have led to some improvements in the core indicators.

The polio network in Myanmar is staffed by employees temporarily seconded from the Ministry of Health. This means that skills and expertise gained remain within the Ministry once their term is over. Over time, the polio network has expanded its field duties to cover many other communicable disease control functions, including strengthening surveillance, essential immunisation, and new vaccine introduction.

Myanmar’s polio transition plan was finalised in 2018. At that time, 18 polio-funded surveillance and medical officers, seconded from the Ministry, were operating in 18 locations. The

plan was to transition all the officers to the government payroll by 2023, with the government providing funds for salaries, operations, transportation and management of the network.

Due to the military coup, only a few nominations for seconding ministry staff were processed before the new de facto government took over. In 2020, WHO had been provided with just four network officers. In 2021 and 2022 there were none. This meant that the budget was reduced from \$1 million to \$430,000 in 2022. It was covered by GPEI and Gavi contributions. For 2023, the country expects regional field officers to be appointed from July 2023, again using Gavi and GPEI funds.

United Nations restrictions on engaging with the de facto authorities have constrained key WHO projects and activities.

The military authority’s stated position is that it will not handle the polio-related surveillance and immunisation-support activities independently, as envisaged in the original transition plan. The situation is very unlikely to change in the next few years. From 2024, the WHO country office aims to raise resources from international donors to sustain the network.



NEPAL

Nepal is going through political uncertainty and an economic crisis. The health budget for 2023–2024 has been reduced by 35%. Nepal is moving from low-income to lower-middle-income country official status which, over time, will mean less donor funding.

The latest immunisation estimates (2022 report) show coverage for all basic antigens at 80%, while 4% of children are in the zero-dose category.

The polio network continues to operate across Nepal, based in WHO's vaccine-preventable disease department. There are 22 staff at national level, plus 40 field staff, including drivers and administrative support. Each province has at least two officers conducting surveillance, supporting immunisation activities, and coordinating responses to emergencies.

WHO-led polio transition planning began in 2016. The Nepal Government's Ministry of Health engaged from 2017. The aim was that WHO would manage the polio network until the Ministry was ready to take over.

	LOW CONCERN	HIGH CONCERN
Capacity and willingness to self-finance		
Political stability		
Governance effectiveness		
Dependence on external health financing		
Size of polio outbreaks		
Cost of polio transition		
Cost as proportion of government health spending		
Likelihood of polio transition plan timely delivery		
Status of polio transition plan		
AFP surveillance performance		
Environmental surveillance performance		
Level of zero-dose children		
IPV1 equity coverage		

A broad range of partners and donors was involved. The intention was to use the Gavi health system and immunisation strengthening grant to co-finance the cost of the surveillance network between 2017 and 2019. Thereafter, the government would mobilise additional funding.

At this time, the Ministry of Health added a line for polio transition in its budget, but funding never materialised, mainly because of the loss of continuity of leadership. Federalisation produced a high turnover of senior government staff whilst, since 2019, six different health ministers held office. Incoming staff



were not briefed about the polio transition agreements and there was little documentation available from past work.

When COVID-19 hit, in 2020, the entire polio network was repurposed for pandemic surveillance, overseeing quarantine measures and vaccination. Towards the end of 2020, WHO shared a new polio transition plan and asked the Ministry of Health to prioritise work on it. Despite high-level advocacy by the WHO country office, TIMB sources say that the government did not fully appreciate the risks of inaction on polio transition and believed that other agencies or donors would continue support indefinitely.

After a series of recent consultations, the government has agreed, in principle, to work towards a polio transition plan with a new phased timeline. By 2030, the government has agreed to fully fund, own and deliver the polio essential functions and assets, but endorsement from the Ministry of Finance, the National Planning Commission, and the Cabinet is still awaited. A costed implementation plan is being

developed through which to seek donor support up until 2030.

Local government may contribute in the coming years, but this will need persistent advocacy. There are 753 municipalities that operate as independent units responsible for implementing immunisation and surveillance activities.

Despite agreements being accepted in principle, TIMB sources say that key figures in the Government of Nepal still do not understand the seriousness of the networks collapsing after the funding runs out at the end of 2023. WHO leaders have even been sending daily reports of activities undertaken by the network to emphasise the importance of the work. The WHO staff have also conducted advocacy missions with parliament and with donors such as USAID.

For a long time, the polio surveillance and immunisation network was perceived by the Nepal Government as a WHO mandate and not its responsibility. They believed it should remain independent of government, and if it were to be handed over, the

quality of the work would decline.

Currently, the government is dependent on WHO and its partners to manage vaccine-preventable diseases and it lacks sufficient oversight for comprehensive disease surveillance across the country. Few people are working on surveillance at Ministry level. Also, they are paid much lower salaries than those working for WHO. There is no dedicated vehicle, essential to conduct case-based investigations. There is a political dimension. National government is reluctant to disempower local government, which could lead to outbreaks not being detected.

WHO staff say that, without government support, the network could be lost by the end of 2024. This is when the support money from Gavi, USAID and COVID-19 response sources will run out. Even though there has been an agreement in principle, and Nepal seems further advanced in planning than some other countries, the probability of the polio transition plan being delivered, as designed, is low.

NIGERIA

A large number of states in Nigeria are now insecure. The country's economy has faltered in recent years. The country's health system was badly affected by COVID-19, and an election in 2023, alongside other communicable disease outbreaks, scattered attention.

Polio transition planning in Nigeria started over five years ago, and a finalised plan was available by July 2021. Nigeria's polio transition plan was built around three priority areas: primary health care revitalisation; integrated disease surveillance and outbreak response; and essential immunisation strengthening. Primary health care strengthening is a central goal of the country's health strategy, as 80% of the population live in rural areas and are highly dependent on it for their health needs.

The country also aims to integrate its disease surveillance and outbreak response systems, so that the polio response will now also cover diseases such as measles, yellow fever and Lassa fever. The country's weak essential immunisation system was responsible for many of its disease outbreaks, hence it remains the third top priority for the polio transition agenda.

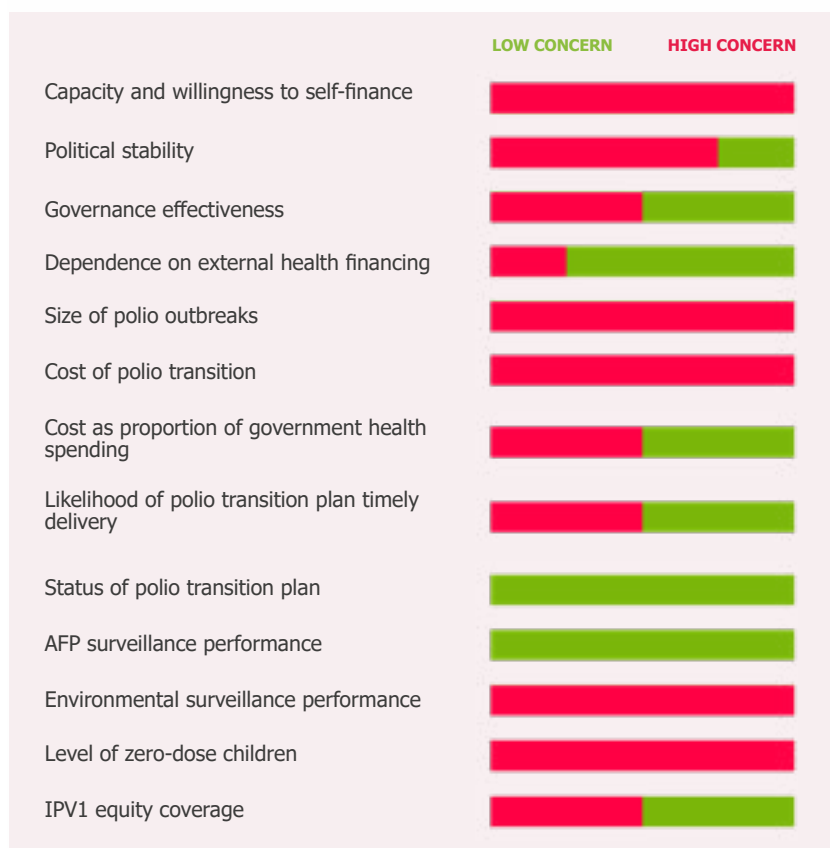
Implementation of the plan had barely started when, in May 2021, WHO polio eradication staff were told that their contracts would be terminated. Many skilled staff left the Polio Programme.

The results were catastrophic. Nigeria had not fully closed the vaccine-derived poliovirus outbreak from 2019, yet it still went ahead with the reduction of staff. One particular poliovirus strain from Nigeria spread to 18 countries resulting in 656 paralytic polio cases. In 2021 alone, 415 children were paralysed in Nigeria. The resulting inability of the country to mount an adequate response to the explosive outbreak necessitated going back to the drawing board.

Activities to raise awareness with state ministers and other key partners were conducted throughout the second half of 2021. Polio transition planning

was paused to enable the country to get its explosive vaccine-derived poliovirus outbreak under control. By June 2023, staffing numbers were ramped back up again, to about 98% of the 2012 level.

A WHO mentorship programme to build the capacity of staff at the subnational levels has been piloted. This was a lesson learned following the ramp down. The country had discovered that, for the period that most of the partners had been in the country, they had not aimed to build the capacity of government public health officers at state level and local level.



The ramp down led to inadequate numbers of skilled staff for the country to detect, report and respond to the poliovirus. That is why the outbreak in Nigeria was so large. Now, in 2023, the response has produced over a 90% reduction in polio cases compared to 2021, but the outbreak is not yet officially closed.

The country is currently in an

accelerated transition phase of Gavi support and will be graduated by 2028. It will be very challenging for the government to find the necessary resources. Therefore, it aims to raise funds for polio transition planning externally. The polio transition plan stipulates that the government should take over funding for all assets by the end of 2025, but these timelines are being revised.

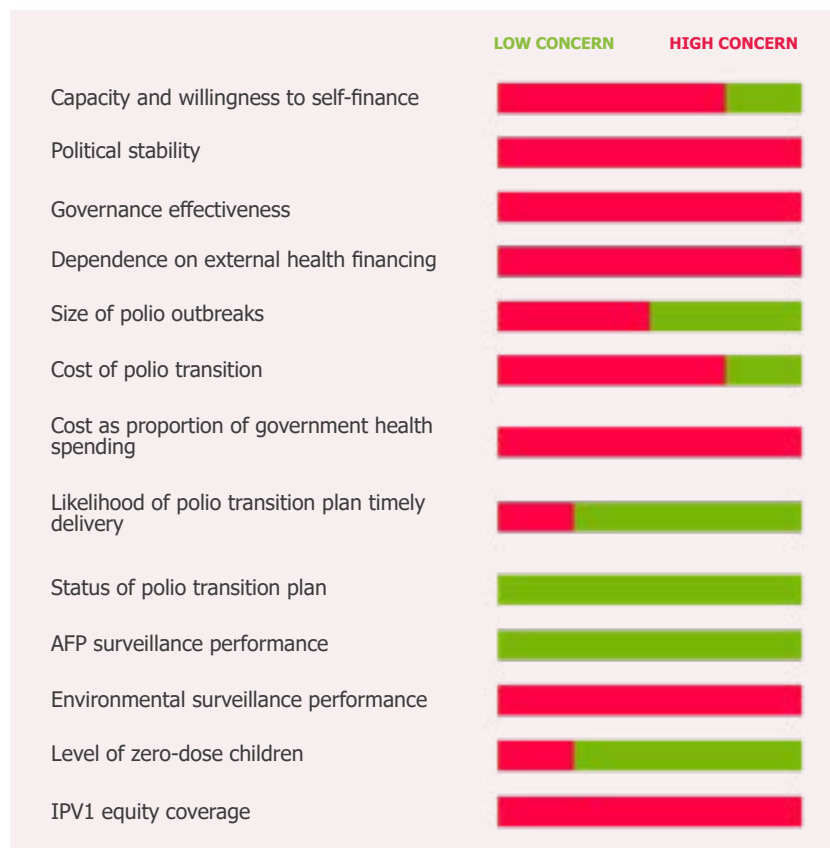
In 2021, Nigeria ranked second in the world for the number of zero-dose children (2.2 million) for the Diphtheria, Tetanus and Pertussis vaccine (DPT1), and first in the world for the number of children that did not receive three doses (DPT3) of this vaccine (4.3 million). Despite administrative estimates scoring over 100% coverage in some areas, surveys from partners have shown coverage is as low as 5% for all basic antigens in states such as Sokoto. This poor performance pre-dates the COVID-19 pandemic. Gavi has exceptionally extended its support to Nigeria until 2028, way beyond the original graduation date of 2021.

The country has an extremely ambitious primary health care revitalisation plan, but not all funding has yet been secured. This plan aims to create at least one functional primary health care facility in every community, with adequate staffing, supplies, and infrastructure. The government only commits 1% of all consolidated revenue to health. There is strong political commitment to increase that to 2% in the future. The 36 governors at subnational level have also committed to providing 15% of their state budgets to health care, but this has not yet happened.

The greatest challenge in moving forward with polio transition in Nigeria, as in many other countries, is resource mobilisation. This country's experience in trying to reduce its dependence on polio eradication funding shows how complex judgements on timing can be and how catastrophic it is to get them wrong.



SOMALIA



The security situation in Somalia is extremely volatile. The frequency of attacks has increased, often targeting government facilities or government individuals. Drought is affecting half the population.

Somalia is home to the longest-standing outbreak of circulating vaccine-derived poliovirus. The vaccine-derived poliovirus type 1 has been circulating since 2017, although

case numbers are relatively low. Most of the cases are in inaccessible areas. The number of inaccessible children has decreased from over 500,000 in January 2021 to approximately 150,000 in June 2023. There are also large outbreaks of measles and cholera. In 2022, the country identified and recovered more than 84,000 zero-dose children (for the Diphtheria, Tetanus and Pertussis vaccine, DTP). The number of

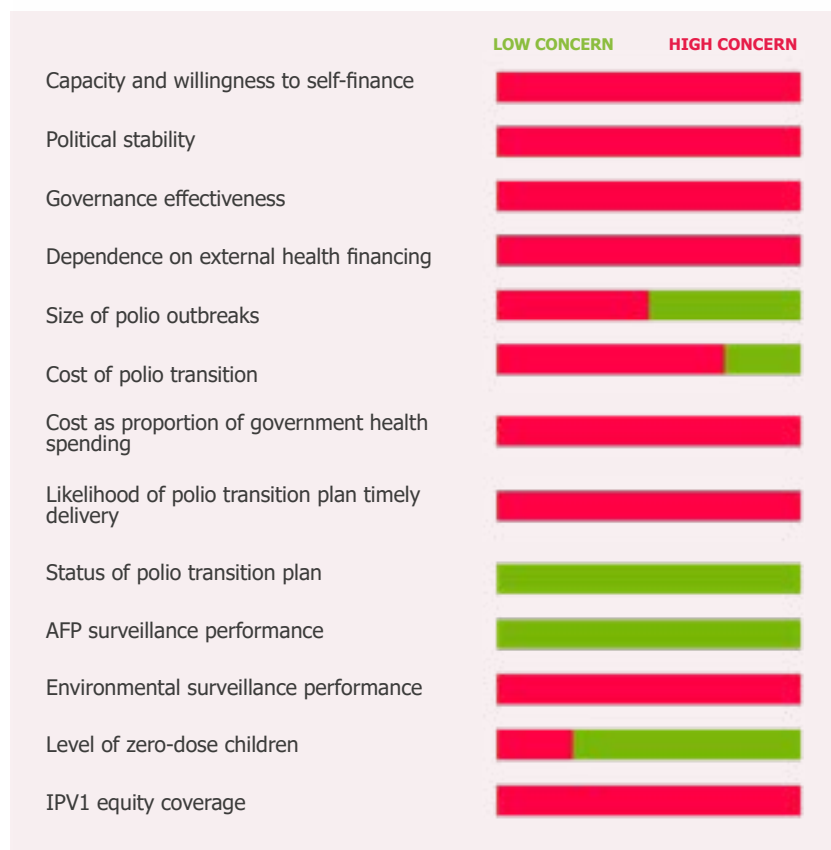
remaining zero-dose children in 2022 was 26,000.

Somalia has a large, vertical polio eradication structure. The polio transition plan was revised and approved in 2021. At that time, there were approximately 235 WHO staff positions across the country, which have now been reduced to 218.

In 2022 a third-party recruitment company assessed the WHO polio officers and new applicants under new terms of reference in line with its integrated public health teams approach. They are still housed within WHO, and are still funded by the GPEI, but they will report to both WHO and the government's Ministry of Health.

The GPEI will continue to support Somalia until the end of 2025. The government itself has insufficient capacity and budget to take over polio assets and functions thereafter. There is a high turnover of Ministry of health staff. Somalia is highly dependent on external financing for health, including from the World Bank, the Bill & Melinda Gates Foundation, Gavi and WHO. The government often struggles to initiate action to mobilise resources, but there is a high probability that resources can be mobilised as so many donors are already involved in health in Somalia.

SOUTH SUDAN



In South Sudan, polio transition planning began in 2017. By 2018, a plan had been endorsed that covered the period 2018–2022. A draft addendum, in 2021, provided additional guiding principles. At this time, a large-scale humanitarian and political crisis was evolving, as well as communal violence, soaring inflation rates and unprecedented flooding. Following the endorsement of the draft addendum, there was a change of government. It became very difficult to re-start discussions on polio

transition with the new administration. Polio eradication staff have long supported broader essential public health functions, including spending their time on essential immunisation, on integrated disease surveillance and response and on essential health services (the Boma Health Initiative). These activities are all currently at risk of being lost when the GPEI shuts down.

The Boma Health Initiative is a nationwide strategy to improve access

to essential health service launched in 2017. It has not taken off as expected because the country's government has been unable to raise enough money. The Ministry of Health's budget is under 2% of the country's consolidated revenue. The spend is even less.

Despite its obvious unaffordability, the polio transition plan requires the government to absorb 70% of polio field staff into the Boma Health Initiative. The salary differences alone seem insurmountable. The GPEI has not specified the length of its funding commitment to South Sudan. The WHO country office will not be able to raise the large sums required for polio transition in the foreseeable future, as most donor agencies in the country are more focused on emergencies than on developmental programmes.

The government operates approximately 20% of health facilities in the country. The remaining 80% is managed by partners. The country is also heavily reliant on external oversight and coordination. Therefore, asking the government to assume a leadership role for polio transition is also unrealistic.

South Sudan had an outbreak of vaccine-derived poliovirus type 2 that was closed in 2021. It initially spread extremely quickly, highlighting yawning gaps in immunisation coverage. Administrative estimates show that coverage, in the worst

performing districts, is as low as 8% for the first dose of the inactivated polio vaccine and 14% for three doses of the oral poliovirus vaccine. However, the first cases were detected rapidly, and a response using the type 2 monovalent oral polio vaccine (mOPV2) was mounted quickly. Initially, 50% of counties failed to meet the coverage targets in post-campaign evaluations, but over time, catch-up activities closed this gap.

Four out of six of South Sudan's neighbouring countries had outbreaks of vaccine-derived poliovirus in 2022. The borders are highly porous, showing the vulnerability of this

country to sustaining polio-free status. There are also ongoing outbreaks of cholera, hepatitis, pertussis, measles, and meningitis in the country, another clear demonstration of the inadequacy of the essential immunisation system. The denominators used by the country's immunisation programme are based on a census from 2008. This seriously miscalculates the target population for campaigns, and leads to absurd statistics such as some districts scoring 340% coverage for the third dose of oral polio vaccine.

Essential immunisation coverage has improved since the pandemic, particularly through additional

Gavi funds, but there are still big disparities within and between states. The government has tried to set up a vaccine-preventable disease surveillance system, but it was not functional. The country is still heavily reliant on the polio eradication infrastructure for surveillance of other communicable diseases.

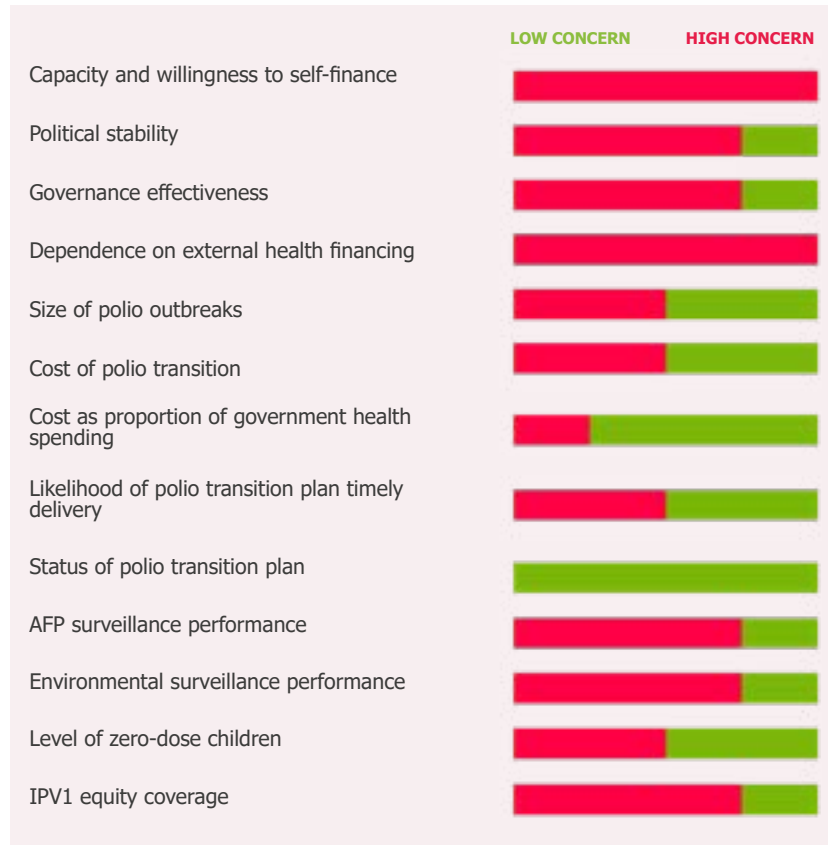
When GPEI funding eventually stops, indicators for polio, essential immunisation, outbreak response, and surveillance, are almost certain to weaken significantly. The risk of a polio outbreak will then be very high.

According to the plan, many of the roles and responsibilities for funding and leading polio transition rest with the government. Yet, the government has not expressed any willingness to negotiate a gradual takeover.

More profound and complex factors affect South Sudan's prospects of establishing a functioning public health system. It is already one of the poorest countries of the world, almost totally reliant on humanitarian assistance to meet even the most basic needs of its citizens. The war in Sudan risks plunging South Sudan even deeper into extreme poverty. Its main source of revenue is oil but to export it requires passage through Sudan. Catastrophe looms as these routes could be cut off by the intensity and violence of the conflict.



SUDAN



The situation in Sudan has fluctuated since 2019. A major political transition has been coupled with an economic downturn. On 15 April 2023 tensions escalated, resulting in armed conflict across the country.

A vaccine-derived poliovirus type 2 outbreak was circulating during 2020–2022. Multiple disease outbreaks (including cholera and measles) have been unfolding, as well as devastating

floods. Prior to this and the COVID-19 pandemic, the health system of Sudan was struggling to provide health services that matched the needs of its population. When the COVID-19 pandemic came, it was close to total collapse.

Polio transition planning in Sudan began in 2017, and was affected by the pandemic, a vaccine-derived poliovirus outbreak and serious

insecurity. The GPEI funded the country until January 2022, and then the \$2.9 million biannual budget was absorbed into the WHO base budget for 2023–2024.

WHO Eastern Mediterranean Region's concept of integrated public health teams means that polio, immunisation and health emergencies staff work together. This integrated function is led by the polio team in the country, although the polio team leader is not the "boss" of the emergencies or immunisation staff, and therefore has little to no authority over them. The teams do not come together easily. The approach only works with the issuing of instructions to all technical officers of the country office and the regional office from the highest levels of the organisation (including written orders).

Early in 2023, the Sudan Government agreed, in principle, to gradually take over functions from 2024. However, in April 2023 violent conflict broke out and the transfer of polio functions came to a halt.

In total, there are 36 GPEI-funded polio staff across Sudan. In addition, there are salary subsidies for 59 staff from health facilities to incentivise case-based surveillance. The salary difference between the WHO and government staff is enormous. If they are transferred to the governmental payroll, many are likely to look for jobs elsewhere.

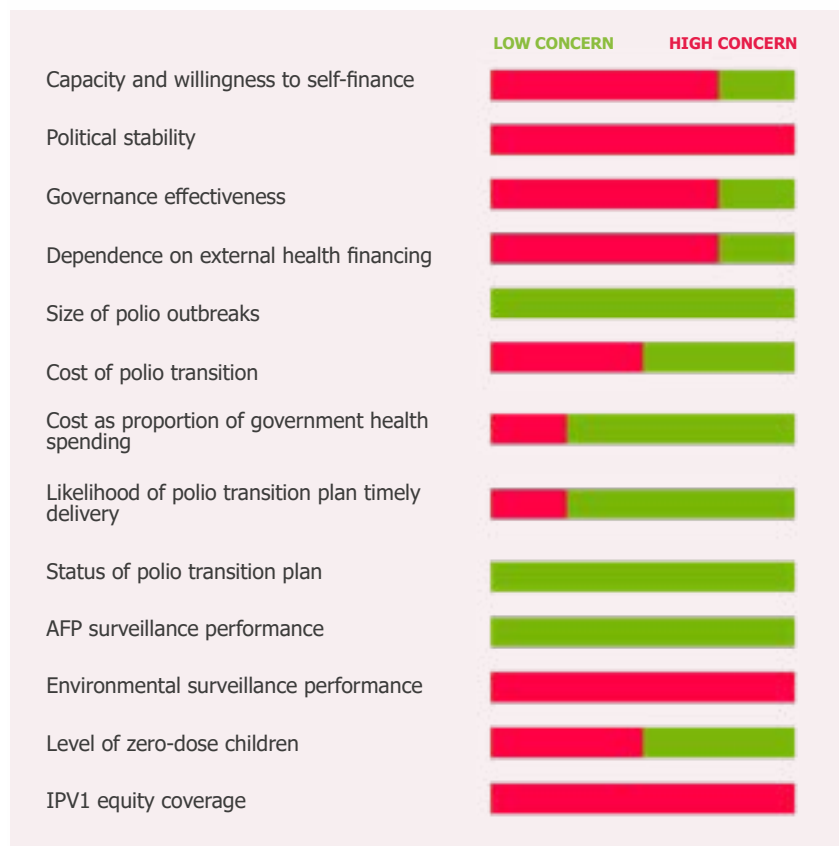


Prior to the pandemic, Diphtheria, Tetanus, Pertussis vaccine, third dose (DTP3) coverage was about 93%, but the annual occurrence of measles outbreaks casts grave doubt on the accuracy of the coverage data. Essential immunisation coverage has begun to recover from its post-COVID 20% fall.

The timing of making savings in the GPEI budget is crucial. Money for campaigns and supporting essential immunisation amounting to \$1.5–\$2 million was stopped in 2021. Moreover, the GPEI refused a \$1 million campaign for the high-risk populations. Once the vaccine-derived poliovirus outbreak came, GPEI had to pay out \$22 million to mount a comprehensive response.

Progress will depend greatly on the duration of the serious armed conflict that is causing a major humanitarian crisis and disintegration of governance.

SYRIAN ARAB REPUBLIC



The Syrian Arab Republic has no GPEI-funded polio presence in the country. From the inception of the Polio Programme in the Syrian Arab Republic, the government has been fully engaged in the staffing, financing salaries of vaccinators and surveillance officers, and purchasing the polio vaccines. WHO has committed funding from its WHO base budget to support certain key polio functions until the

end of 2023. No funding source, post-2024, has yet been identified. The country does receive Gavi support.

Historically, the Government of the Syrian Arab Republic has managed and financed all vaccination programmes and the disease surveillance. When the war began, in 2011, the government no longer purchased vaccines nor provided

operational costs for campaigns. The Syrian Arab Republic became Gavi-eligible and routine vaccines were procured under Gavi health system-strengthening grants. This does not cover the oral polio vaccine, just the inactivated polio vaccine. UNICEF has purchased oral polio vaccine for the country.

All the polio eradication human resources and functions in the Syrian Arab Republic, once supported by GPEI, are now funded by Gavi. This includes a country manager for essential polio eradication activities. These activities include: overseeing and monitoring campaigns; capacity-building workshops; coordination meetings and expert review committees; yearly support for the central laboratories (including the polio laboratory); broader disease surveillance; and negotiation activities in the north-east area (not under control of the Government of the Syrian Arab Republic). The surveillance staff will soon be part of the WHO integrated public health teams.

Gavi support is meant to end in 2023, but there are plans to ask for a two-year extension. Due to high inflation, the Gavi money is not enough to cover all the funds required, so the WHO regional office will meet the difference. There is funding uncertainty from 2024 onwards.

UNICEF procures all vaccines, and then they are distributed from Damascus, throughout the country. In the north-east, vaccines are transported by air. Essential immunisation services, including polio, are provided through static health





centres, of which about 50% are functional. Administrative coverage for the first dose of the inactivated polio vaccine in this area is estimated at 1% and the third dose of the oral polio vaccine at 2%. There are rapidly rising prices for essential supplies. For example, it used to cost a surveillance officer \$10 to drop off a sample, now it costs \$62.

There are 16 surveillance sites in the Syrian Arab Republic, plus one in the Kurdish controlled area. The performance of the sites is questionable as, on average, they only detect 18% of enteroviruses. The acute flaccid paralysis surveillance indicators are all above threshold, except in Idlib Governorate (there was an exceptionally low non-polio acute flaccid paralysis rate in 2022). All zero-dose cases are investigated in a timely manner and action is always taken.

The humanitarian situation in the Syrian Arab Republic is getting worse,

with over 90% of the population living under the poverty line. Half of the health facilities that provide immunisation services are not functional, many of which are in the north of the country, but there are restoration plans scheduled.

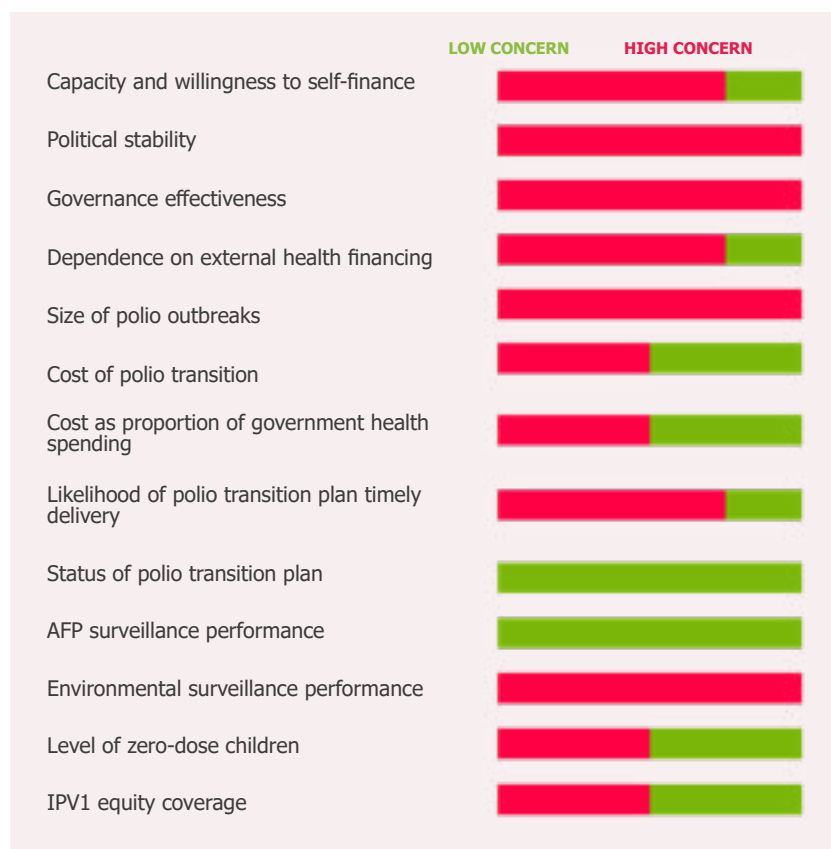
Coverage for essential immunisation fell dramatically during the pandemic. There are now many zero-dose, or under-vaccinated, susceptible children. In the areas that are not under full government control there has been no routine immunisation and no intensification activities through campaigns except in two areas.

The importation of polio is always a risk in the Syrian Arab Republic. WHO has provided operational costs for one nationwide polio campaign whilst UNICEF supplied the required 3.2 million doses of oral polio vaccine. Gavi supported an integrated polio, measles, and vitamin A vaccination campaign in October 2022. There

are no more polio-only campaigns planned. Instead, there are multi-antigen intensification activities for essential immunisation, using the inactivated polio vaccine.

The WHO country team believes that polio transition has been accomplished in the Syrian Arab Republic because polio-essential functions and assets are already mainstreamed. Indeed, most of the polio eradication activities were under the government from the very beginning. WHO's and UNICEF's roles have been to provide technical support, to help in the capacity-building, to monitor, and to ensure proper distribution of supplies and funds at district level. However, under the current sanctions, the economic and humanitarian situation in the country is deteriorating. The Syrian Arab Republic has the staff and technical capacity, but not the ability to pay for operations and vaccines. Maintaining these functions is dependent on WHO and UNICEF.

YEMEN



Since 2021, there have been no GPEI-funded staff or assets in Yemen, although consultants on short-term contracts have been brought in to tackle the explosive polio outbreak centred in the north. There are 48 government staff, whose salaries were subsidised by the GPEI, to conduct acute flaccid paralysis surveillance. The WHO polio transition base budget now covers these additional costs. The 48 staff are critical to safeguard polio surveillance in the country. Authorities in the north and south of the country approved broadened terms of

reference for surveillance of other vaccine-preventable diseases. Training is pending.

An explosive outbreak of vaccine-derived poliovirus type 2 began in Yemen in November 2021. It has now paralysed 228 children, nearly all in the north of the country. No satisfactory outbreak response has been mounted because the GPEI has not been able to negotiate access with the Houthis. Seventy per cent of the population lives in the north of the country. Several rounds of outbreak

response have been conducted in the south, with 61% (73) of districts passing the 90% coverage standard. The country has also exported the vaccine-derived poliovirus type 2 to Djibouti, Egypt and Somalia. This makes Yemen a prime consequential geography for polio eradication.

Essential immunisation is also suffering badly. After 10 children died allegedly due to the illegal importation of unsafe cancer drugs, the government requires every medical product, including WHO pre-qualified (already tested) vaccines, to be quality assured. This has greatly slowed down the distribution of essential vaccines. The country is also losing financial support from international donors. The funding that they do have is often earmarked, and cannot be used flexibly to deal with emergencies. There are many different disease outbreaks, including diphtheria, which is a tell-tale sign that the essential immunisation system is in very bad shape. In the north, COVID-19 vaccinations are also banned. The WHO country team has tried to use the influence of the WHO Director-General, the WHO Regional Director, and the health ministers of Oman, Iran, and the Syrian Arab Republic, but so far to no avail.

Until the outbreak has been closed and there is stable government across the country, it is extremely unlikely that the remaining WHO-funded functions and assets will be taken over by the government.



04 ANALYSIS

A recurring theme throughout the TIMB's meetings over the last seven years, with a wide range of global health leaders, polio and other public health staff at country level, donors, NGOs, experts and many others, is how much is yet to be clarified. And how many questions cannot yet be definitively answered, for example:

- Overall, where are the dysfunctions in interagency collaboration on polio transition and what needs to change or be improved?
- What high-level opportunities have been missed to establish synergies with other global health programmes to further the goals of polio transition, and polio eradication/certification?
- Within the context of campaign integration in consequential geographies, what are the opportunities that need to be taken, and what are the barriers to raising population immunity to polio?
- What are the strengths and weaknesses of the global coordination of planning and delivery for increased essential immunisation coverage?
- How does the role of Gavi fit with the overall aims of polio transition?
- What polio core functions and assets are required to certify the world as polio-free that the GPEI is imminently at risk of losing?

This section of the report dives deeper into key areas of polio transition.



“Everyone knows what they know about polio transition,

but there doesn’t seem to be a ‘collective knowing’.”

COLLECTIVE RESPONSIBILITY NEEDS COLLECTIVE UNDERSTANDING

One attendee at the April 2023 TIMB meeting observed:

“Everyone knows what they know about polio transition, but there doesn’t seem to be a ‘collective knowing’.”

A clear consensus emerged, during discussion at the April 2023 TIMB meeting, that the current concepts and descriptors underpinning polio transition are no longer fit for purpose. Indeed, the TIMB found that the term “polio transition” is widely disliked.

Polio transition has been an established policy for seven years, but its purpose is still regarded as unclear and imprecise, with no end in sight, albeit that a “zero draft” of a Global Vision for Polio Transition was circulated for consultation in May 2023.

At the TIMB meeting in April 2023, there was a widespread feeling that the language and terminology of polio transition needed to be changed. This would make clearer the purpose and end-points of the different elements

rolled up in the current concept of polio transition. It would also eliminate the dissonance created when the everyday meaning of “transition” suggests a time-limited process, while the programmatic usage of the term embraces seemingly endless activities such as maintaining a polio-free world and using polio assets to build systems of primary care and universal health coverage.

There are other reasons why the implied universality of polio transition



is confusing and misleading.

First, there are no measurable goals and milestones for polio transition; this leads to different perceptions when partners discuss progress. Strengthening the functions needed to a performance level that will secure eradication and a permanently polio-free world, inclusive of the non-wild polioviruses, is something that needs clearer accountability and a set of performance metrics. It is not sufficient to have improvements in a trajectory. Actual performance measures must be formulated and then achieved.

Second, it is widely understood that a strong polio transition process is now essential to the polio eradication initiative, given that the latter has repeatedly failed to meet deadlines to interrupt wild poliovirus transmission globally. Outbreaks have brought polio transition plans to a grinding halt wherever they have occurred.

Seen through this lens of supporting interruption of poliovirus transmission, the word “transition” implies moving *towards* the Polio Programme, not away from it. However, the two

polio programmes do not sit easily together; eradication is still heavily vertically oriented while transition drives forward based on a strong philosophy of integration.

Third, the term “polio transition” itself suggests a move from one state to another, within the context of polio, with the end-point not well-defined, nor understood. It now has negative connotations. In many countries, it is almost synonymous with disinvestment. Also, this polio “branding” conveys a narrow focus on the needs and circumstances of polio eradication that is neither consistent with wider opportunities for strengthening public health systems, nor appealing to potentially valuable partners and donors outside the “polio bubble”.

Fourth, in reality, there are two transitions. One is transition from GPEI to WHO. The other is from WHO to the countries. A very different set of judgements is required for each. The GPEI-to-WHO transition is essentially technical, whereby the GPEI has to judge whether the WHO programmes, receiving former GPEI responsibilities, are capable of delivering a polio-



free world. The WHO-to-countries transition involves much more complex judgements on: capacity; capability; political ownership and leadership; self-sufficiency and the sustainability of funding; and the strength of health systems. It could be said that there is a third transition in which countries receiving polio assets use them to build systems or primary care and universal health coverage.

While the factors to be taken into consideration in making the two transitions are very different, both involve judgements about the timing and capability of the recipients of transferred responsibility.

Another reason for the dissatisfaction about the terminology in polio transition is that the two processes (GPEI-WHO, WHO-countries) are really “handovers” or “transfers” of functions and responsibilities rather than “transitions”.

All this points to the complexity of

polio transition, but the TIMB has heard, frequently expressed, the wish for simplification, particularly when it comes to helping countries navigate the processes.

It is still valuable to consider the polio transition process against its original strategic positioning i.e. coming into existence in a world where wild poliovirus eradication would have been officially certified (now planned to occur in 2026).

The goal from then onwards is to sustain that achievement into the long term by: building high polio immunity levels, especially in countries that are considered vulnerable or have poor resilience; establishing a comprehensive integrated communicable disease surveillance system that includes high acuity for poliovirus detection, and rapid access to high-quality laboratories (including those with advanced scientific capability); maintaining a field force that can respond immediately,

appropriately and decisively to any poliovirus detection so as to curtail transmission; and having robust oversight systems for facilities holding or working with polioviruses.

The mechanisms for doing so will represent a complete break with vertical Polio Programme management. The idea is that responsibility for sustaining polio eradication, through the functions described in the previous paragraph, will be fully integrated into the health systems of the countries. In that way, countries will have full ownership of, and accountability for, each of the component programmes that have been involved in polio transition planning: essential immunisation, integrated surveillance, health emergencies and poliovirus containment. The countries will use former Polio Programme assets and other infrastructure to deliver them to a high standard.

Given this process of delegation to



Given the process of delegation to countries, the precise longer-term role of global leadership and oversight, function-by-function is not yet clear.

countries, the precise longer-term role of global leadership and oversight, function-by-function, is not yet clear.

From this current standpoint of polio transition, a number of key questions arise:

- Is a particular country's self-sufficiency in maintaining public health infrastructure realistic any time soon?
- Can countries be depended on: to raise polio immunity levels to resilient levels, so that poliovirus outbreaks are prevented; to quickly detect the presence of poliovirus in children and circulating in the environment; to deal with outbreaks quickly and effectively if they do occur; and to ensure that polioviruses do not escape from Polio Essential Facilities?
- Given that wild poliovirus is still circulating in two endemic countries, what precise polio transition activities are needed to get polio eradication over the line?
- The original intention for the GPEI

to be phased out after global interruption of wild poliovirus transmission did not foresee the large outbreaks of paralyzing vaccine-derived poliovirus; does this change its planned exit strategy?

- What global accountability mechanisms are in place for delivery of polio transition?
- If a country cannot be financially self-sufficient, and receives help from external donors, will accountability and oversight for progression be to the payer or to global health governance structures?
- Which countries will be able to use polio assets for transformative steps towards universal health coverage and is this the job of polio transition?

What answers does the current leadership of polio transition have to questions like this and how will so doing reshape the narrative that has been used hitherto?



THE POWER OF ONE: STRONGER GLOBAL MANAGEMENT, COORDINATION AND INCLUSIVITY

In its earliest days, the TIMB drew attention to the difficulty of delivering a complex and multi-dimensional programme of change with no senior management team driving it day-to-day, and no obvious system of accountability.

The TIMB floated the idea of a “GPEI-lite” partnership model of delivery for a time-limited period (say three to five years). There was a very negative reaction to this on the grounds that the main donors (governments and philanthropy) were clear that they had signed up for polio eradication not something long-term and diffuse. They feared what was referred to as the “Hotel California effect” (“You can check out any time you like, but you can never leave”).

Reflecting on the uncertainty about how polio transition could be driven

forward in a way that is clear to all, progressive and measurable, one attendee at the April 2023 TIMB meeting said:

“In some ways, since 2018, polio transition has been in this ‘dead zone’. That sounds really negative. Yes, there are opportunities in terms of common language around reaching missed communities and zero-dose children and consequential geographies; those are the opportunities where we’re speaking the same language, across the two programmes. But then there are other risks

where there’s this ‘dead zone’ in terms of leadership, governance, accountability, financing. What is that future looking like? How will we get there? There’s not a clear understanding; maybe there is within a tight circle, but outside of that, there isn’t. Delivering on transition is still a giant question mark. We don’t know.”

The Polio Transition Programme and the Polio Eradication Programme are managed in entirely different ways. Indeed, some argue forcefully that polio transition is not a “programme” at all and should not be referred to as such.

The polio eradication programme has been managed by a unified partnership entity in which the partners have pooled their “sovereignty” and resources. At times,



it has benefited from a command-and-control style and, through this, there is no doubt that it has been able to hold countries accountable for their performance in a way that is almost unique in global health.

Polio transition has been managed by a high-level committee within WHO headquarters and by WHO regional and country offices. Given that the regional and country offices are relating to their Member States to which *they* are accountable in governance terms, they cannot enforce accountability, they cannot manage performance, and they cannot sanction for non-delivery. They can encourage, advocate, advise and facilitate, all of which are useful, if traditional, “slow burn” tools in global health management.

Arguably, if a formal project management process had been set up seven years ago to deliver polio transition, it would be further forward than it is now, there would have been greater clarity on the timing of achieved outcomes, and the necessary integration of polio within broader essential immunisation programmes would have been much further advanced. Progress would have been monitored by a transition oversight board which would have held the global senior management team to account.

Within the last few months, a change to the WHO headquarters management structure has brought polio transition under its Director of

Polio. It is not too late to consider, under this unified polio department, high-level project management to operationalise polio transition more thoroughly and manage the necessary changes more robustly and on a day-to-day basis. In particular, under this unified polio management function, it will be important to address the steps necessary to deliver the two transitions referred to earlier in this report.

Countries have told the TIMB that their work is made more difficult by weak or inconsistent interagency coordination. While there may be global agreement on a plan, it appears to them that donors and partners each have their own priorities, and these can even be conflicting. A country can be engaged with one party on an activity, and another will come in and indicate that they are not willing to join in with the same policy or action. If alignment of, and common agreement between, partners and donors could be achieved more often, this would be transformative for many countries.

One participant at the April 2023 TIMB meeting remarked:

“It is as if long-standing friends behave as strangers once they are in the same room discussing these things.”

Another weakness of the partnership is its low level of consistent engagement of Civil Society Organisations (CSOs). They are closer

to the people, they understand the local communities and their often complex physical, social and economic environments. It is said that they know every nook and cranny. Often, they are better able to work in insecure areas. Civil society could be given a much greater role, extended responsibilities, and more resources.

There are many initiatives in the humanitarian sector. Here, too, the links and synergies with polio transition have not been strongly and sustainably built.

It is crucial to success to get the relationship right between those WHO programmes that will be taking over responsibilities from the GPEI, their other programmatic partners, and the countries’ governments.

One participant at the April 2023 TIMB meeting expressed their concern about the uncertainty caused by funding withdrawal:

“We are losing valuable resources through polio transition. And, in the coming months and years, as we transition further, there will be less and less funding until it comes to zero. It should be compensated with an increased domestic financing, but that is not really possible. I believe the partners, the funding agencies, need to look at a different perspective. I say this because we have weakening surveillance systems. So instead of investing in the system, we are investing more in the response. It is damage control, rather than

building and strengthening, which I find very sad.”

A high priority candidate to achieve partnership cohesiveness early is the essential immunisation programme. This is especially so, given the serious setbacks caused by COVID-19.

The global essential immunisation programme is not a command-and-control organisation with a budget. It is a collection of national immunisation programmes, partner priorities and plans (with budgets attached to their work), as well as donors with budgets. All have to be able to focus enough so that, collectively, they deliver outcomes such as: mortality reductions, coverage increases, and fewer zero-dose children.

The success of *Immunization Agenda 2030* will be through the collective work of individual Member States’ immunisation programmes, ranging from the best ones imaginable to the most challenging and dysfunctional. The key global immunisation partners need to come together and do a hard prioritisation exercise, especially to define precisely what cannot be allowed to fail and therefore has to have direct investment. It must not lapse into diffuse work that does not deliver against the targets that have been set in *Immunization Agenda 2030*.

In some polio-affected or polio-vulnerable countries, vaccination has begun to take a back seat, as political commitment has drained away into

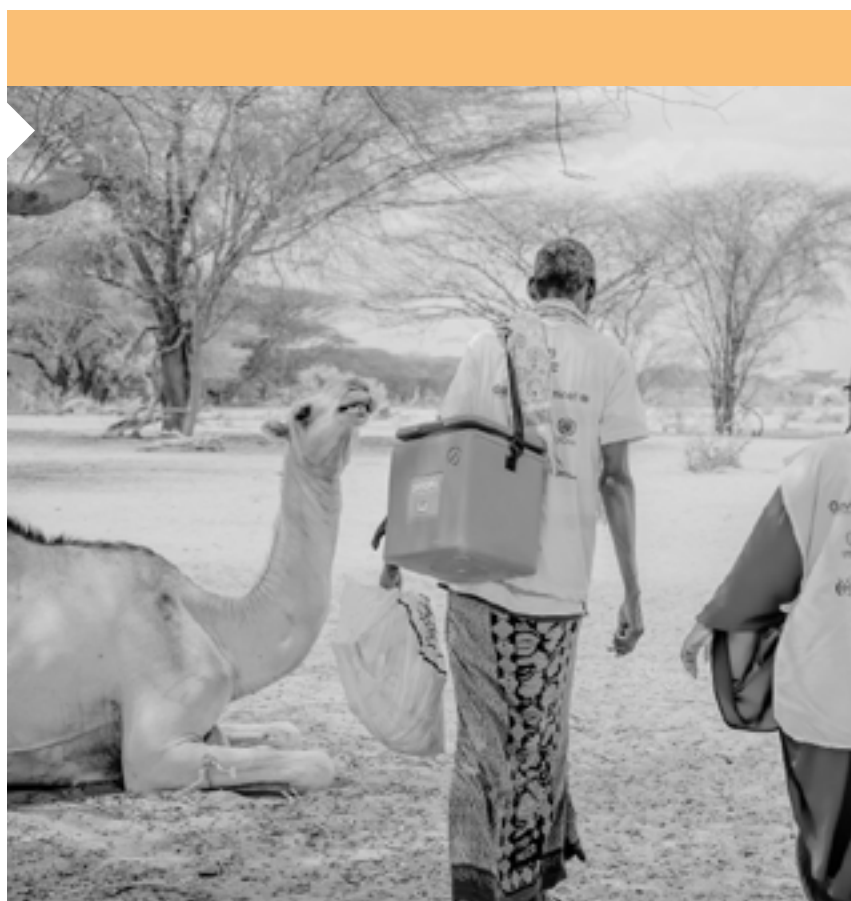
other priorities such as COVID-19 or malaria. Advocacy to governments, to keep up the pressure, is vitally important.

Last year, Somalia tried to improve essential immunisation with the funds available for COVID-19 vaccination. By the end of the year, 84,000 zero-dose children were identified and covered, but the whole cohort of such children is 107,000, while the entire birth cohort in the country is 650,000. Overall, 68% of the districts have no funding.

Nepal is another example of the realities on the ground. Funding has gone down, over time, but the country is expected to deliver more. Since 2020, two new antigens have been introduced (rotavirus and typhoid conjugate vaccines). As part of co-financing, the Nepalese government is paying more to Gavi. There has been a high turnover of skilled and experienced staff because they cannot be given a long-term contract or long-term job security.

The global partners, including WHO, UNICEF, Gavi are often together talking about *Immunization Agenda 2030*, or HIV, TB, and, of course, polio, but it is almost always a meeting discussing one disease or topic at a time. This is not really consistent with the concept of integration. The funding streams are usually designed as policy-specific money (e.g. TB-specific money, HIV-specific money).

Gavi does fund inactivated polio vaccine. It also funds the global





stockpiles of vaccines for cholera, meningitis, yellow fever, and even measles, with operational support. In that sense it is one of the contributors to emergency response. There has been no formal discussion about Gavi funding a stockpile of polio vaccines. That might happen in future.

At country level, engagement with global programmes is seldom with government ministries of finance and ministries of planning. This should happen consistently to secure countries' buy-in. There is a need to talk with multiple members of the governments. International agencies should devise and coordinate a mechanism to do this.

Some TIMB sources within countries think that the essential immunisation programme is drifting towards making the Polio Programme's mistake of operating from a silo without really establishing the link with either the ongoing primary health care development process or the priority to establish universal health coverage. This may not be a fair comment on the essential immunisation programme, but it is a perception that will need to be addressed through communication.

A very important component of the targets of the essential immunisation programme is inaccurate, out-of-date population data. For example, the TIMB was told that, among the Eastern Mediterranean Region's polio transition priority countries, only Yemen, Libya and the Syrian Arab

Republic have conducted censuses in the 21st century. Even then, the situation has changed dramatically with the emergence of major conflict. Without such population data, there can be no denominators, so immunisation performance data are unreliable. For example, in many countries there are districts reporting *negative* numbers of zero-dose children. The Polio Programme in Madagascar discovered that the target population was underestimated by almost 50%. The Polio Programme has always scrutinised the quality of data when conducting a field investigation, but the essential immunisation programmes have yet to fully embrace these methods.

A great deal of investment is needed to get accurate information. Vaccine-preventable disease outbreaks are a helpful proxy measure in the absence of coverage rates based upon accurate denominators. For example, if an area has a big measles outbreak, coverage is too low, whatever the official data are showing. Similarly, the occurrence of a diphtheria outbreak means that the true immunisation coverage rate will definitely be under 40%. These are all factors that need to be taken into account in prioritising action in countries. From donors' and international partners' support perspective, it makes sense to seek to invest in countries where the governments are not capable of reaching their communities.

On specific, country-level investments, the Global Fund's eight investment

areas, within the resilient sustainable systems for health work, could be better connected to polio transition. So too, could pandemic preparedness and response, pandemic funds, and the national action plans for health security.

Another opportunity for more active joint work is with the World Bank. It invests in strengthening primary health care systems to improve universal health coverage.

Many of these synergies can only be incubated at country level, but there is also a need to drive awareness of the linkages between mandates at all levels through strong global coordination. It is not clear what synergies are currently operating and where they could be further developed. For example, how many national action plans for health security include immunisation infrastructure and mention polio? It seems that there are many undelivered synergies.

The global governance architecture needs to be harnessed to drive forward polio transition to successful end-points; actions must include: clarifying and strengthening partners' existing roles and relationships towards more cohesive collaboration; bringing in new partners who may have found the intense polio branding off-putting; and working out how best to coordinate partners' multifaceted interests in a way that is most helpful to countries trying to achieve their goals.



FUNDING, DONORS, AND THE BUDGETARY CLIFF

It is clear that the decade ahead will be very tough economically. World Bank projections for income classifications, show that, by 2028, a substantial number of countries will be poorer than they are now. This will certainly have an impact on the polio transition countries. The donor landscape, too, looks bleaker with the overseas aid budgets of most donor countries flatlining or decreasing.

The TIMB feels that a clear-eyed view on the difficulties of financing the programme is a vital necessity in all strategic thinking. Decision-making on prioritisation will be the greatest challenge, particularly to agree what is absolutely essential, versus what would be highly desirable with more resources. This will mean stating, unambiguously and without fear of controversy, what the priority functions should be in the priority countries.

Large sums of money are needed to maintain public health (including polio) essential functions and to use them effectively enough to keep the world polio-free. Up until now, donors to polio eradication have been prepared to pool their resources through a centralised body, the GPEI. It is not clear whether it is going to be possible to have any degree of pooled funding to support the essential functions coming out of polio that need to continue, and to help

strengthen and develop countries' public health systems.

Which donors will be investors in sustaining core essential functions? What are the prospects for utilising other health programmes that could take on the polio functions and assets, and fund them, until the point at which countries are able to be self-sufficient? These are questions currently without answers and which have not been discussed with the depth and frankness required.

Finance is a tense subject to discuss. The premise for the polio transition concept is that countries will eventually have secure, predictable, long-term, sustainable financing. The reality will be very different. A lesson from other global health programmes (e.g. Gavi, the Global Fund) is that, as countries transition away from



external support, having some guaranteed continuity of external support, even at relatively low levels, can be very important. It is not just the quantity of money, but the lack of predictability of money that can be the destabilising factor. A long tail of support can be quite catalytic.

It is not realistic to believe that some of the polio transition countries are going to be able to assume their responsibilities even in the medium term of (say) five years. They will have to continue to rely on external support, and it is not clear where that will come from. At the beginning of the polio transition, it was recognised that there would be a requirement to get the resources needed to continue to fund what the Polio Programme has built up through the years. This was so that its contribution to vital broader public health infrastructure and all the capacities built up over decades do not disappear with the phasing out of the GPEI. For the moment, this is being addressed through the WHO base budget, but the scale and duration of support needed and whether it can be met is uncertain.

Proper scrutiny is also needed on what countries are already doing with their own resources. Even in low-income countries, some funding for health does come from domestic budgets. However, in a small group of countries, it is unrealistic to believe that externally funded

public health staff and assets will be incorporated into a government-funded infrastructure. Dedicated, focused discussions need to take place in these countries so that experience, expertise and reach are not lost. In these situations, it will boil down to answering the questions: Who is going to make the case for funding? and Who is going to raise the resources?

It is important not to regard donors as a homogenous group. They come to the polio eradication and polio transition programmes with a variety of histories in donating for polio eradication and for the range of non-polio programmes which they support.

Rotary International has been a primary polio eradication donor since the beginning of the global initiative. The Bill & Melinda Gates Foundation has had polio eradication as its top priority for many years, amongst all the many global health programmes funded by the organisation. The sovereign donors, involved in funding the polio eradication programme, have a major and wider role in developing health systems and capacity-building. They also have a responsibility to meet their taxpayers' expectations and must demonstrate this accountability. Their positioning in donating to the Polio Programme is thus very different to philanthropic organisations and individuals.

Most of the polio eradication donors

have provided long-term support and, in the IMB's experience, have been very patient and tolerant towards poor programme performance and the numerous failures to meet deadlines set out in formally agreed strategic plans. Value for money discussions are infrequent and seldom have a hard edge when they do occur.

One participant at the April 2023 TIMB meeting spoke of her apprehension when the funding necessary to do polio transition properly was considered:

“There is a culture shock between managing a polio eradication programme with a world of plenty, where there’s a lot of funds, and moving on to polio transition. In the transition programme, you have to manage on a shoestring.”

The Polio Programme is funded through the GPEI at a current level of \$1 billion a year. The two implementers are WHO and UNICEF. About 40% of that \$1 billion goes on immunisation, in particular the oral polio vaccine campaigns. That cost will reduce after the interruption of poliovirus transmission. About a third of the current costs are for programmatic areas and assets that must outlast the task of interrupting poliovirus transmission; they include surveillance, laboratories and immunisation capacity. The cost of continuing to do what the Polio



Programme does now as post-polio functions is estimated at between \$300–\$500 million a year. Is this feasible with the present economic outlook? Are there potential investors? The GPEI strategy runs through to 2026, still costed at about \$1 billion a year. Thus, that continued high level of investment will go all the way until the end. There will be no major reduction in the number of immunisation rounds in the endemic countries. The financial “wild card” is outbreaks. Their number and size cannot be reliably predicted, but they are expensive to deal with when they occur.

If the Polio Programme succeeds in interrupting global poliovirus transmission by the end of 2023 and achieving global certification by 2026, the GPEI leadership has said it will put itself out of business. That will be the end, from that source, of the \$1

billion flowing into health systems in many countries. Some see this as a “budgetary cliff”.

Looking at this timeline, there is no way that budgets would not be required beyond 2026 to respond to polio emergencies and to get ready for the world to withdraw the bivalent oral polio vaccine.

A big difficulty for donors is when countries are not clear enough about their needs so that the funding request is ill-defined. Is the request for a range of components like surveillance, outbreak response, and immunisation? Or is it something else? Some country plans are now out-of-date and require revision. For example, Iraq has agreed, in principle, to take over polio transition assets but neither this, nor how WHO will monitor the quality of the functions, are yet in the plan. Other plans do not

have costings or defined time periods. Some are highly ambitious and unrealistic, and others are narrower. If the discussion with potential donors continues to be about funding “transition”, in a broad and poorly specified sense, it is unlikely that many will be lining up ready to enrol as funders.

There are countries that have been quite specific, but they are also very ambitious and want polio transition to help meet health targets that have little hope of being funded because they are so substantial. The need for clarification also encompasses the precise amounts of money that countries have estimated that they need. For example, the Democratic Republic of the Congo’s polio transition plan states all functions relating to polio and polio transition (including health system-strengthening and integration) at a cost of \$270 million



“It is time to face the music – immunisation is siloed, polio transition is siloed, and polio eradication is siloed.”

per year. As it is already receiving funds from various sources (including GPEI), the budget gap is \$40 million per year 2022–2024. The estimated costs are much lower in some of the other polio transition countries, such as the \$1–\$2 million needed in Nepal, Chad and Cameroon.

The need for a simple understanding and explanation of the various funding streams that countries have available to them was raised repeatedly by participants in the April 2023 TIMB meeting. Not only that, but there were calls for greater clarity on what the budget horizon looks like. Countries need this in order to plan for the future.

One participant at the April 2023 TIMB meeting thought that there was a big danger in failing to link budget to the delivery of results:

“I think we need to be really clear that the people and financial issues are a bit of a smokescreen; the real issue is lack of accountability and performance management.”

There is certainly widespread commitment among polio partners, donors, and governments to boosting

essential immunisation; however, it is currently funded in a way that is reactive rather than proactive. Donors will wish to see a return on their investment.

WHO does not have predictable or sustainable financing for immunisation or surveillance. Their immunisation and surveillance staff are stretched very thinly. The WHO and UNICEF teams proclaim that immunisation and surveillance is now very integrated in their organisations, with integrated public health teams at regional and country level. Others complain that the current WHO and UNICEF integrated response is very watered-down.

A participant in the April 2023 TIMB meeting observed:

“It is time to face the music – immunisation is siloed, polio transition is siloed, and polio eradication is siloed.”

Ideally, every fragile country would have one UNICEF and one WHO staff member working to boost immunisation. Preferably, these positions should not be linked with one intervention. The financing



models for the way that key positions are resourced in the long term is problematic. They often rely on one or two years of funding, with vertical initiatives.

Resourcing these key programmatic functions needs to be looked at more strategically. For example, if the WHO Essential Programme on Immunization were able to define which key positions need to be financed in the long term, linking them to projected outcomes, it may be easier to convince donors to fund them. As part of *Immunization Agenda 2030*, is there a costed and budgeted plan, per country (particularly in the large polio transition countries), for delivering increased vaccination in hard-to-reach places?

The complex way that resources relate to global and country polio transition and polio eradication goals demands close, open, and trusting relationships between WHO and other partners, the governments of polio-affected and polio-vulnerable countries and donors. In particular, both current and potential future donors need to be at the top tables of policy-makers and planners and not parties on the end of a telephone to whom decisions are communicated after the event.

WHO's funding has increased from around \$4–\$5 billion per year pre-pandemic to \$6.72 billion for 2022/2023, largely due to the need for global leadership and planning in the response to the COVID-19 pandemic.

WHO has worked to gradually incorporate polio budgets from just under 50 countries into its base budget since 2021.

WHO consulted with countries and its regional offices to understand their plans, define the technical components, and cost them. Those items were then brought over into the WHO base budget. WHO has given a guarantee that, whatever polio assets and functions are transitioned, WHO will cover the cost of them. However, the amount of this “guaranteed”, predictable income covers only 15% of the need estimated, and the remainder is highly uncertain, donor-dependent, and is earmarked funding.

This increase in earmarked funding has several implications.

First, WHO has become extremely vulnerable to big donors making a change of direction. Temporary earmarked money has deepened the risk of financial turbulence within WHO.

Second, WHO, now more than ever, has appreciated the value of polio assets in-country and the extent to which its other programmes have been piggy-backing off GPEI. They realise that this can no longer continue.

Third, donors want WHO to maintain these essential functions using the base budget, and not as a special separate initiative. Yet, donor money in the base budget is mostly earmarked and usually will not cover

the costs of surveillance staff salaries, for example.

In the short term, the WHO knows that it must sustain and maintain these capacities at any cost. In the long term, more reliable funding mechanisms will have to be found.

As a participant in the discussions at the April 2023 TIMB meeting said:

“That’s our situation right now. The US, the UK, and others are demanding WHO to guarantee that these people are funded. The Africa Regional Office is saying that headquarters needs to find the money otherwise we’re going to fire them. WHO headquarters are just scratching trying to find[...] the commitment is there, the understanding is there, but the situation is not sustainable”.

At the World Health Assembly in 2022, there was a historic decision to increase the “predictable” funding (known as assessed contributions) to cover 50% of the WHO base budget by 2030. However, it is not yet assured in any form. A WHO sustainable financing working group has been set up to fix the issue.

The new budget from 2023/2024 could see a potential increase of 20% from unearmarked sources. However, there is already stiff competition for the base budget. There is no guarantee that this money will continue to be set aside for polio transition in the future. Much depends on how the programme performs and demonstrates its value.



LOOKING INTO THE SUNSET: IMPLICATIONS OF GPEI LETTING GO

It is often said that polio eradication has had a “laser focus”: to find every last poliovirus and to find every last unvaccinated child. The aims of the GPEI are broadly to interrupt the transmission of wild poliovirus, to close all outbreaks of vaccine-derived polio and to ensure the world is fit for certification.

In the initial phase of polio transition, seven years ago, not all those aims were intended to be delivered by an ongoing GPEI. Indeed, the original intention was for the GPEI to eliminate, globally, transmission of wild poliovirus, wait for a year to validate, then hand over responsibility to, what the Polio Programme began calling “new owners”, for “mopping-up” vaccine-derived poliovirus, building immunity and squashing (what were expected to be) sporadic poliovirus outbreaks on the way to a polio-free world.

It was with this outlook on the purpose of the GPEI that its leadership began to prepare the ground for the phasing out of this long-standing and powerful entity, with the metaphor of “sunsetting” to the fore in all communications on the subject.

The hopes of long-term funders of the GPEI were badly dashed by a number of major occurrences from 2019 onwards: the resurgence of wild poliovirus in Afghanistan and Pakistan (foreshadowed by the results of the IMB’s earlier field visit review); the scale and geographical reach of the

outbreak of vaccine-derived paralytic polio (fuelled by the failure of Nigeria to listen to advice to build its resilience following celebrations as it came off the endemic list); and the arrival of the COVID-19 pandemic (with consequent weakening of surveillance and immunisation coverage).

This changed context led to an extension of the GPEI’s lifespan to try again to eliminate transmission of the wild poliovirus, to take responsibility for reducing the outbreaks of vaccine-derived poliovirus (no longer perceived as simple mopping-up), and to join in temporarily with the Polio Transition Programme in furthering the latter’s objectives.

The GPEI’s goals and responsibilities are set out more formally in *Polio Eradication Strategy 2022–2026: Delivering on a promise*. The strategy

also includes broader-based activities such as:

- The GPEI will have multiple roles in implementing integration activities, and a decision-making framework will guide the evaluation and selection of integration opportunities
- Targeted and coordinated political advocacy in outbreak countries to link polio outbreak preparedness and response to broader country health priorities
- Pandemic response including support to COVID-19 delivery wherever the GPEI is needed

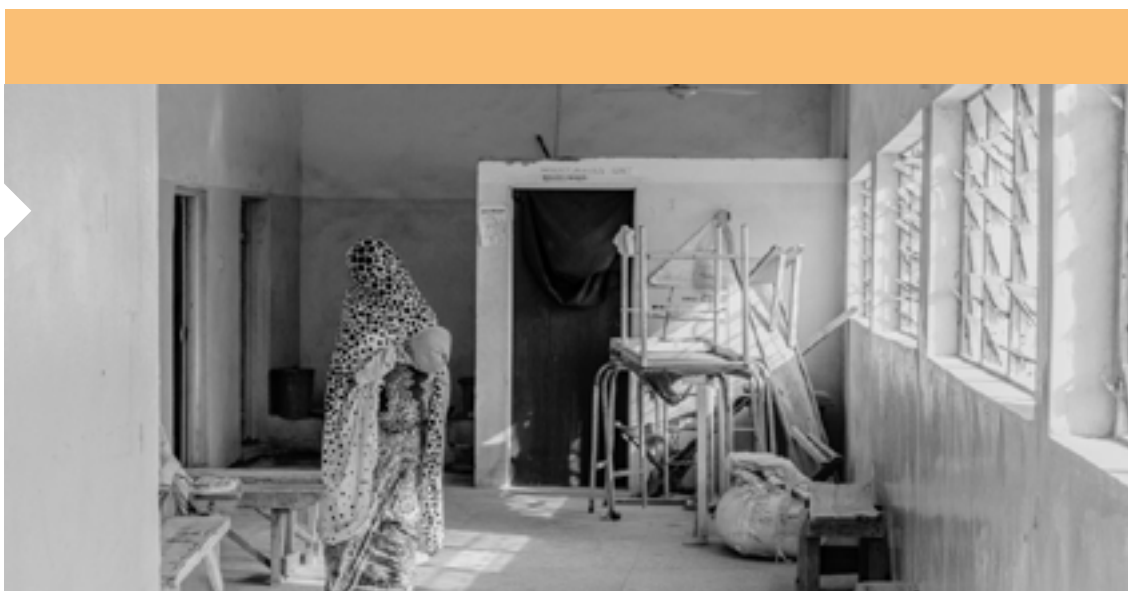
As a result, there has been a subtle shift in the GPEI's perceived identity. Talk of: "multiple roles in implementing integration" "political advocacy linked to broader health priorities", and "pandemic response" suggest an expanding role, one that is in the ascendant. It is certainly a far cry from "sunsetting".

It is laudable that the GPEI should want to be part of activities to strengthen surveillance and immunity levels in the polio non-endemic countries. It must be clear, though, that this is work that will sit firmly in the hands of the polio transition process and the WHO's essential immunisation and health emergencies teams and other partners, such as UNICEF and Gavi.

The GPEI's continuing existence in this broader role could mean that polio transition under so-called "future owners" does not start to build momentum either at global or at country level, and, instead, that it creates a mood of disempowerment for these groups. Or, alternatively, it fosters a belief that the "comfort blanket" of the GPEI will always be around and is bound to be extended again. Moreover, the GPEI is still funded to the tune of \$1 billion per year whereas the essential immunisation programme does not have much dedicated funding for starting the development process.

Ironically, given the prominence of these sweeping statements in the strategy document, placed inconspicuously towards the end is the blunt statement: "The GPEI partnership will dissolve at certification." As things stand, that will be in 2026, approximately 30 months away. This wording does not give a very inspiring impression of the value of *partnership* for the future work required to get to a polio-free world.

While this is not exactly mixed messages, it shows again the weak coordination and communication when the need is for stepwise, rather than sudden, actions when it comes to changes in the continuity of any aspect of polio programmatic responsibilities or funding flows.



IF IT MOVES, FIND IT: THE VITAL ROLE OF STRONG INTEGRATED SURVEILLANCE

One of the participants in the April 2023 TIMB meeting remarked:

“So, the idea that the day after certification we have a grand and celebratory ceremony to sign the document, and the day after that we relax on surveillance, absolutely not. We will have to maintain high, high-quality surveillance, for the long run. We cannot wind it down. We have to have the same scrupulous attention to detail that we had during the fight to eradicate.”

Another person in the conversation responded:

“Isn’t that exactly what happened in Nigeria after they interrupted transmission of the wild poliovirus? They slipped from eradication-standard surveillance to a level that allowed hundreds of

children to be paralysed.”

Looking across countries, there are many examples of surveillance indicators being met at national level but where great subnational variability prevails. This means that a lot of districts are below the thresholds needed for good poliovirus detection. There is a great need for a truer picture of whether poliovirus transmission is being missed.

When Africa was approaching certification as wild poliovirus-free, the geographies in question had real limitations to access. Borno State, in Nigeria, was a high-risk area. So, too, were other places that were inaccessible because of security problems and, as a result, there were lower levels of certainty from the results of surveillance. There was a huge interagency effort to work with national governments on additional

assessments to establish sources of risk, so that a strong case could be made to the Global Certification Commission.

Posing and answering difficult questions is helpful in guarding against complacency. For example, what level of quality of surveillance was operating when the Africa Regional Certification Commission certified the region polio-free? This is an important question considering the wild poliovirus was found two years after certification was announced, and the circulating strain was undetected for two years in locations unknown. Where does the quality of surveillance in African countries stand now compared to when the continent was certified polio-free? Has there been further improvement or deterioration?

It is clear, though, that the Global Certification Commission will not compromise on quality. So, when there is transition from all the internationally supervised and supported surveillance programmes,

the responsibility will lie with national programmes to maintain that quality.

One participant at the April 2023 TIMB meeting remarked:

“To make the forthright statement ‘The world has stopped transmission’ fills me with trepidation. Given the silent transmission and how difficult it is to identify polio, especially in very young children, I think we could declare the world polio-free but yet see it pop up later because we missed things. So, I think there’s still a long way to go.”

It is not clear to the TIMB whether it is generally understood that successful polio certification is totally dependent

on surveillance. Over the years, the IMB repeatedly made the point that the polio eradication programme treated surveillance as the “poor cousin” of vaccination. The IMB’s entreaties seemed too often to fall upon deaf ears.

The strength and dependability of surveillance relies upon the context of each country: its geography; its governance; its leadership; the size and skill mix of its public health workforce; its burden of disease and the pressures and priorities arising from that; and the availability and adequacy of funding.

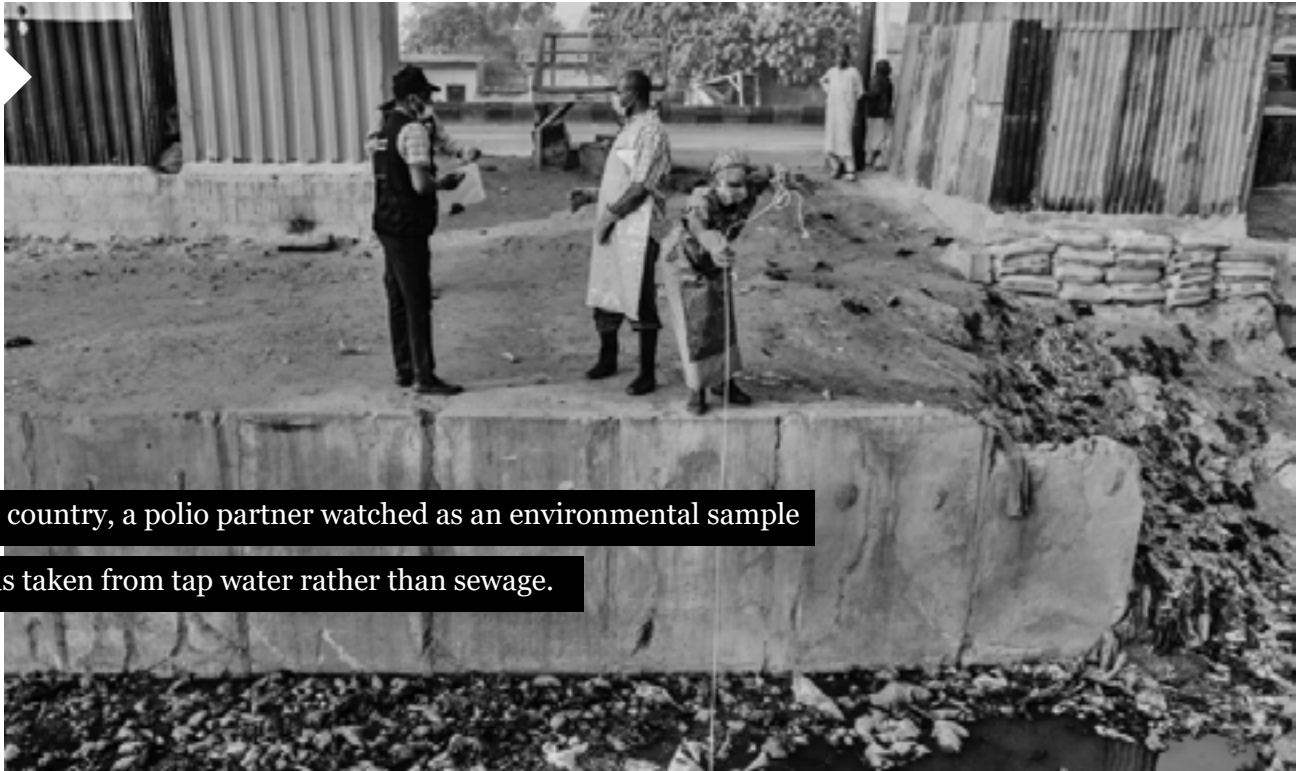
The greatest challenges to maintaining high-quality surveillance are in the

increasing number, frequency and intensity of armed conflicts and insecure areas within countries. It is not an issue that is going to go away. Shifting and deteriorating geopolitical factors add danger, uncertainty and complexity to the operating environment for polio eradication and other public health programmes. The partners involved in polio transition need to have this front and centre in their thinking and planning.

The call for a much more systematic approach to community-based surveillance in the most polio-vulnerable countries has been repeatedly made to the TIMB. Indeed, community-based surveillance is an absolute necessity in the parts of the world where access to communities is threatened by conflict, remoteness, and where there are extensive mobile, migrant, and displaced populations. Particularly driven by the barriers to access, by insecurity, and by population resistance, community-based surveillance was developed in (what were then called) the Federally Administered Tribal Areas of Pakistan, in northern Nigeria and in other insecure polio-vulnerable parts of the world.

In community-based surveillance systems, linkages are developed with community health services, and community focal points are set up to enable expanded surveillance. There is a big role for civil society in this form of surveillance. In some parts of the world, technology has been used to assist surveillance, but in Afghanistan and Pakistan it has been much more difficult to do so because of mistrust of the technology’s purpose. However, there is no doubt about the major benefits from the use of electronic data tools for data collection





In one country, a polio partner watched as an environmental sample was taken from tap water rather than sewage.

throughout the whole system, and less reliance on pen and paper.

In some countries there are not enough surveillance officers at the district level. The development of polio surveillance has relied heavily on this part of the workforce to enable case-finding and information-gathering. The Polio Programme ensured that officers were fully trained in the fundamentals of surveillance. Where the government was unable to do this, WHO stepped in.

Simple things like equipment problems can have an adverse impact on surveillance quality. For example, the TIMB was told recently that, in one country, there was no reverse cold chain process for stool samples. Vaccine carriers were being used, a situation that risks cross-contamination in the laboratories.

In another country, a polio partner watched as an environmental sample was taken from tap water rather than sewage. In neither case was there supervision to make sure things were being done properly. It is not known how widespread such basic logistic and practical problems are.

The laboratories have played a fundamental role in providing human resource and technical capacity, such that all the samples collected, whether from environmental sites, from the community or from acute flaccid paralysis detection, end up in the right place for diagnosis and scientific characterisation of the poliovirus (and other infective agents). There has been substantial polio investment in building this capacity, with its emphasis on providing basic and advanced diagnostic capability throughout. Vaccine-preventable

disease surveillance has also benefited from the creation of a polio sample transportation network and, more generally, from the laboratory capacity that the Polio Programme generated.

The GPEI focuses on timeliness of detection to ensure that, once it is able to isolate or find a potential case, the laboratory result is received as quickly as possible. The problem that has been plaguing the polio surveillance system in recent months, in some key geographies, has been the lack of timeliness in moving specimens to appropriate laboratories for testing.

The laboratories built up during the decades of the Polio Programme (many serving multiple disease purposes) must be preserved at all costs.

At board level, Gavi has never agreed that the organisation should be involved in funding surveillance activities. More recently, it agreed to support diagnostics, which contribute to surveillance. This entails market-shaping-type activities related to rapid diagnostic tests for different vaccine-preventable diseases.

The TIMB understands that, in Africa, a recent discussion highlighted that there was a \$7 million shortfall in funds needed for the 37 so-called “low risk” countries in the region. Countries that are not receiving funding from the GPEI, or from WHO base budgets, are a matter of concern, particularly in respect of sustaining strong surveillance. Malawi was a low-priority country and then a wild poliovirus was detected there in February 2022.

Unless there is initial donor support for surveillance, with governments later absorbing the costs, then the global community is taking on a risk that is going to be very hard to mitigate. If the high-quality standard for surveillance is not maintained, polio outbreaks will be detected later in their trajectory and the necessary intervention will be behind the curve. Over the last 30 years, 70% of USAID contributions to polio eradication have been to surveillance. Donors agree that surveillance is important, but are very concerned about WHO

support for surveillance being reduced prematurely.

The process of moving from active high-risk, or known, poliovirus transmission areas to the other regions that have not had polio for a long time reveals variability in surveillance quality. This will need to be assessed as part of the process for certification, in addition to confirming the absence of poliovirus.

Part of the action plan on surveillance is to help countries identify gaps and then assign the necessary funding. The priority countries in Africa, plus Somalia, as well as the polio endemic countries get this funding from the GPEI.

At the global level, a GPEI surveillance group is monitoring key performance indicators that have been established, looking across all of the standard surveillance indicators and trying to identify gaps at the country level. There has also been a focus on scaling up environmental surveillance. There are many environmental surveillance sites, particularly in African countries, that have not found anything. So, it is costing money without providing results to help the programme. Certainly, the Eastern Mediterranean Region’s countries are doing much better when it comes to environmental surveillance.

There are many countries that do not get resources (or receive only a limited amount) from the WHO base budget; their needs were met by the GPEI until 2022. While many of these countries would be considered to be lower priority, they are now on the cusp of not being able to implement their work plans. Thus, as more time passes, problems are likely to surface in some so-called lower priority countries. Their funding will dry up, and gaps in their resilience will open up.

The GPEI has had a rather insular approach to surveillance, concentrating on the very focused needs of polio eradication and paying little attention to creating a wider, more integrated global surveillance plan.

At country level, integrative approaches have been taken to training but the global action plan is focused primarily on polio surveillance (acute flaccid paralysis, environmental testing, laboratory strengthening). However, there have been global- and regional-level discussions about bringing together the different programmes’ laboratory techniques and testing.

When considering integrating communicable disease surveillance systems, the differences in

The WHO transition team, and countries dependent on external funding for polio surveillance, have a huge task on their hands for advocating to donors to help bridge the surveillance gaps and provide sustainable and predictable financing for polio surveillance in the long term.



provenance and programmatic traditions are striking. Polio surveillance stands out as very different from most of the surveillance systems for other diseases throughout the world, with their different funding streams.

Polio surveillance has been a vertical, very standardised, unique system which functions globally. A major problem in some key geographies has been poor data quality: for example, wrong sample-taking, shipping delays, dysfunctional reference centres at country level, and variable laboratory standards. More integrated, comprehensive “horizontal” surveillance must be strongly standards-driven if the impacts of the diseases that it targets are to be reduced.

Within the polio eradication programme, there has been some fearfulness of integrating too much and losing the focus that has to be maintained through to global polio certification. Discussions on wider surveillance integration have

been undertaken where they are perceived as not posing risks to polio eradication. Recent studies of the COVID-19 pandemic have explored the capability of environmental surveillance to detect other pathogens and thus become a bigger part of a comprehensive integrated communicable disease surveillance system for the future.

Another reason for strong surveillance is to be able to detect those individuals who have been infected by the poliovirus and continue to excrete the virus for a significant period. Some stop after a year but it is possible for this to continue over the longer term. In several countries there is no real monitoring to identify cases. So, the true number of chronic excretors is not known. Although this problem is rare, a resilient country would have it on its radar. The market for drugs to help chronic excretors is extremely limited. There are a few new drugs in the early development stages that are designed to help stop chronic excretion. While it is not yet clear if they will be effective, or available

soon, the problem of chronic excretion threatens the chances of eradication.

At the end of smallpox eradication the funding dried up. Modelling work had said that monkeypox is not a concern. Today it is a concern. It is acting very much like smallpox did and transmitting very easily from person to person. There have been 8,000 reported probable cases in the past year. There is a parallel. Are the tools and the diagnostic capabilities, in the period after polio certification, going to be in place to stop outbreaks before they spread widely?

The WHO polio transition team, and countries dependent on external funding for polio surveillance, have a huge task on their hands for advocating to donors to help bridge the surveillance gaps and provide sustainable and predictable financing for polio surveillance in the long term. The WHO base budget has absorbed some of these costs for the non-priority polio eradication countries, but this is seen as an interim step.



COUNTRIES: SAFE STEWARDSHIP OF A PRECIOUS ASSET

During a discussion at the April 2023 TIMB meeting, one participant asked:

“Do we know whether these countries are capable of delivering what they are supposed to do?”

A second participant responded to this with another question:

“Do we know, and do they know, what they are supposed to do?”

The official version of polio transition is quite clear. A successful polio transition, looked at from the country perspective, is that a government sustains its essential polio functions within international standards, fully independently, without any external financial support. Fuller descriptions of countries’ responsibilities are given throughout this report.

The efforts on polio transition began with country transition plans being

developed in 2017. This is now regarded as an unsuccessful phase of the work. In most countries, junior consultants, funded from the GPEI budget, were responsible for writing the plans. They talked with governments but seldom with the most senior people, such as members of ministries of health or ministries of finance. The plans often looked good on paper, but many were not seen as implementable. COVID-19 hit soon after and indicators for surveillance quality and vaccine coverage fell.

The 20 polio transition countries are very diverse in their operating environments. Some are facing war, economic embargos, polio outbreaks, and political instability. Others are heavily reliant on external actors, or health expenditure is far too low to ever be able to take over polio functions and assets. In particular, some countries’ governments have made it clear that they do not have

the technical or financial capacity to take over polio assets, without substantial external support. They want WHO to continue managing the polio network. Bangladesh has officially included polio transition in its national budget, but due to economic constraints and competing priorities, funds have not been allocated. India, widely regarded as the most advanced in polio transition planning is providing funds being used for polio and other integrated activities, but, even there, the actual funding has been heavily delayed.

Also, the approach to the different eradication and transition processes, and the rate at which milestones can be reached varies greatly from country to country. For example, one might have the: capability; capacity; funding; political and public health leadership; and organisational efficiency to deal with an outbreak of poliovirus immediately. Another country may have none of these features and, as a result, be putting at grave risk their own population, surrounding nations and the chances of a polio-free world.

The weaknesses in some countries are not only, or even, down to poorly managed programmes but to an adverse and increasingly complex operating environment. In Somalia efforts are being made to improve essential immunisation coverage, but they are beset by problems and competing priorities: some communities cannot be reached because of insecurity; multiple outbreaks of communicable disease (especially cholera and measles) are in train, vaccine-derived poliovirus cases are occurring; severe drought is manifesting itself; and numbers of internally displaced persons (many living in camps) are increasing. This country, like some others, is also struggling to build subnational managerial and technical capacities. There are also quite granular, but mission-critical, factors having an adverse effect, such as staff not getting an adequate monthly salary.

Out of a thousand health facilities in Somalia, 63% are run by NGOs. NGO operations are donor-dependent, and donor-driven. Sometimes they provide services for two months, depending on the availability of funds, then there may be no services for a period of time.

Somalia's problems are not unique among priority countries and emphasise the need for an in-depth and shared understanding of the operating environment when discussions on polio transition are taking place. A different, deeper approach to polio transition involves understanding the fine detail of each of the countries' individual contexts. The public health system capacities that countries have, their levels of fragility, and the type of external technical and financial support already in place will be vital in working out the way forward.

This was an approach that the TIMB recommended in its last report. It felt that the polio transition team placed too much emphasis on producing the transition plans themselves and not enough on the countries' operating environments and capabilities to perform polio-essential functions to a high standard.

In some countries that have supposedly transitioned, the terms of reference for field staff have already broadened so much that they have less time for polio. Within WHO, the responsibilities have been defined across the essential immunisation

and health emergencies teams, but how, and when, they will be taken on remains hazy.

Just under 50 so-called non-priority GPEI countries have already transferred to the WHO base budget. This includes: most countries in the African Region except for the 10 GPEI-funded priority countries; most countries in the Eastern Mediterranean Region except for Somalia (a GPEI-funded priority country); and the five priority polio transition countries in the South-East Asia Region.

The designation of priority and non-priority attached to polio transition countries attracted a great deal of attention at the April 2023 TIMB meeting; one delegate commented:

“Look at Mozambique. I know it quite well. As far as I know, its status as a ‘non-priority’ country hasn’t changed. I’m uncertain what will be the category once the outbreak is closed. There have been three outbreaks. This in a country that was almost 30 years polio-free and then was confronted with having the second highest circulation last year. Going forward what happens next? Does it stay on the non-priority list?”

Who decides or does it depend on availability of WHO/GPEI funding rather than the need to control polio risks?”

While another comment was:

“I cannot see how the Central African Republic is regarded as a low-priority country. I have worked there. They have no system. Who are the planners making a decision like that?”

These two countries historically have not received that much GPEI funding, but they perform badly for essential immunisation coverage, meaning their populations are very susceptible to a polio outbreak. The fragile countries in the Eastern Mediterranean Region, also did not receive much GPEI funding, but they were designated as priorities for polio transition.

A wild poliovirus type 1 case was found in Malawi in 2022 and had been circulating undetected for two years. A wild poliovirus type 1 case was detected in Mozambique in May 2022. It was linked genetically to a strain detected in Pakistan in 2019. The last indigenous case of wild poliovirus in Mozambique was in 1993. Following these events, WHO stated that it

considers that there is a continuous high risk of international spread of wild poliovirus type 1, particularly across the south-east subregion of Africa, due to persisting suboptimal national immunity and surveillance gaps, and large-scale population movements.

This situation does not inspire confidence: non-priority countries with no polio occurrences for many years would be expected to be resilient, yet are infected by wild poliovirus, whilst other countries, considered by experienced polio staff to be vulnerable, are nevertheless classified as non-priority. The original classification does not seem to have been based on risk of polio or other diseases but determined largely by the country’s dependency on GPEI support to maintain polio-essential functions.

After certification of wild poliovirus-free status globally, following interruption of its circulation in the two final polio endemic countries (Afghanistan and Pakistan), and closure of all vaccine-derived poliovirus outbreaks, the GPEI will dissolve. Interruption of transmission is planned for the end of 2023 and certification for 2026, although many

deadlines have been missed before. Overall leadership and coordination of the next steps at global level will be undertaken by WHO’s essential immunisation and health emergencies teams (working with partners). The likely future role of the WHO polio department (where accountability for polio transition has recently been placed) in the global leadership function is currently unclear.

Notwithstanding leadership and other management functions (such as coordination and oversight) at global level, delivery of the steps after polio certification will be largely in the hands of country programmes. Their primary job is to stop polio coming back. There has to be doubt about their capacity and capability to do this. The ongoing presence of the GPEI, and the comfort its funding has provided, seems to have inhibited progress in countries building the necessary resilience. Aside from that, the many complexities and vulnerabilities of the priority countries highlighted in the country progress section of this report are very worrying.

Two events give some insight into the risks ahead.



It is doubtful if the current “safety net” of polio immunity and polio surveillance is sufficient even with GPEI and WHO base budget funding.

The first was the planned withdrawal of the bivalent oral polio vaccine in 2016. Following this, there were surges of vaccine-derived poliovirus, with the estimated cumulative total cases since the “switch” standing at more than 2,500 today. Looked at in retrospect, it is now clear that the timing of vaccine withdrawal was premature, much higher levels of immunity were necessary to achieve the intended purpose, and not enough of the right replacement vaccines were in place.

The second event was what happened in Nigeria after it had achieved wild poliovirus-free status.

The whole polio landscape was plunged into confusion by the sudden and poorly communicated decision in 2020 to start to withdraw GPEI funding from Nigeria, which again appeared to signal to everyone the transience of the GPEI as an organisational entity.

There was heated discussion at the April 2023 TIMB meeting about this “ramp down”. Typical was a comment made by one delegate:

“Let’s just make clear what happened. GPEI basically told us that they are not funding polio

anymore. They’re concentrating on the two endemic countries and the outbreaks. There had been a lot of speculation on timing but this was pretty much overnight. There was very little time for us to prepare, so that was the first step. Then the second step was that they said, ‘Ah, wait, wait, there are 10 countries’, then later they said, ‘Actually, there’s 11 countries where there’s too big a risk, so while there is transition we keep on funding. But we want to hold the reins.’ So, on one hand the message from GPEI was like: okay, transition without any preparations overnight. Second, in these countries we don’t transition, we just push the problem down the road, and we keep on funding these people and they will stay as GPEI staff.”

The Polio Programme in Nigeria, and wider Africa, through inadequate or poorly leveraged polio-essential functions, failed to build resilience. There was a resurgence of paralytic polio across Africa, not in focal points, not in high-risk zones where traditional outbreak response mechanisms may achieve rapid control, but the spread was intercontinental. It was a disaster with over 800 children in 25 countries left paralysed.

What will it take to stop the same thing happening after poliovirus circulation is interrupted globally?

It is doubtful if the current “safety net” of polio immunity and polio surveillance is sufficient even with GPEI and WHO base budget funding. The Polio Programme has begun to build the investment case to strengthen the quality of polio surveillance outside the endemic countries.

Many countries that have interrupted wild poliovirus transmission and are dealing with vaccine-derived poliovirus outbreaks do not always need continuous reactive nationwide campaigns. Instead they need better identification of where children have incomplete immunisation schedules in the current birth cohort. Then the last two or three cohorts need to be caught-up, in a more strategic and systematic way. This highlights the tension between GPEI’s siloed, vertical, reactive approach, and the need for more long-term sustained financing and outlook.

Polio-priority and non-priority countries need to ensure that they are prepared for polio outbreaks. Some argue that the world’s susceptibility to polio outbreaks is at an all-time

high and that the Polio Programme does not have the funding to cover all that is required to stop them. In some countries, there has been a total inability to shut down outbreaks according to standard operating procedures. Polio outbreak preparedness is an integral part of broader epidemic disease outbreak preparedness.

In considering risks to polio eradication, there are seven so-called “consequential geographies”. These are defined as large reservoirs for poliovirus, posing a major risk to international spread. Eradication will not be achieved without focused efforts in these places. Gavi has its own list of key geographies, determined by countries’ national income.

Ideally, donors need to be shown one

strategic plan for a country and be invited to align around it, leaving no room for agencies to come in with their own priorities. However, many countries have national health plans. Some also have national immunisation plans. Where multiple plans exist, countries should ensure that polio transition planning takes account of them.

If all the partners and donors on the ground in a country were involved in a discussion about all relevant plans, helped to put them together, agreed what activities were necessary for good implementation and who is going to do what, the polio transition process would be much improved. Where there is a strong ministry of health and robust government functioning, it should be entirely achievable for the country to convene the different partners, set out its

priorities and ask them to get behind the plans. In some of the priority countries, this is difficult. There is high political turnover. There are fragile states. Too often governance is weak.

At a fundamental level, a comment by a participant at the April 2023 TIMB meeting, highlights the apparent lack of appreciation among Polio Transition Programme leaders of the relevance of the granular and practical barriers at country government level:

“I work in a government. For us to establish a full-time position takes two or three years. Here you want to absorb dozens of people. It will take much longer than you seem to have appreciated. If you want governments to pick up any domestic funding, you have to establish a budget line. To even get a line item in, it can take five or six years. In order to do that, you probably need a year or two of lobbying and deep discussion with your ministry of health, planning and finance departments before the process even starts.”

The task of national governments is inherently complex, with the need to take account of: their other health objectives; competing priorities; political and governance developments; security problems; and socioeconomic challenges. Also, in the many non-endemic – yet polio-vulnerable – countries, if there have been no recent outbreaks, polio can become “out of sight, out of mind” with infrastructure, expertise and performance levels falling off. The most difficult work for countries is just beginning.





CONTAINMENT: THE POTENTIAL ACHILLES' HEEL OF SUCCESSFUL TRANSITION TO A POLIO-FREE WORLD

The goal of the Polio Programme is eradication of the poliovirus, not its extinction. As with other areas of polio transition, the Polio Programme is reliant on “future owners” to take forward the safe handling of poliovirus stocks in Polio Essential Facilities to prevent poliovirus reintroduction once the virus has been eradicated.

Containment has taken a backseat, so far, in the polio transition process. It has not been viewed as a top priority by senior management. The Polio Programme is only now starting to realise that a lack of progress on containment could be the number one reason preventing the certification of the world as polio-free beyond interrupting transmission in the endemic countries.

There are two sides to containment: country ownership of the process for complying with requirements, and then the global standard-setting, guidance and oversight. The poliovirus containment team at WHO is in a separate department to the WHO laboratory biosafety team that deals with all other pathogens. The teams do not seem to work closely. WHO will need to designate a permanent home

for poliovirus (and other antigens) containment beyond certification of eradication. Closer working should start now.

The TIMB acknowledges that some progress has been made on containment. More is known about poliovirus holdings and the establishment of national authorities. Also, more poliovirus stocks are being destroyed, rather than retained.

The future development of vaccines using poliovirus-like particles offers possibilities for avoiding the use of wild polioviruses for inactivated polio vaccine production, with implications for risk reduction from containment breaches.

Lessons from containment breaches in high-income settings show they do occur quite frequently, despite heavily regulated environments. The



situation in low- and middle-income countries is likely to be much worse. It is not within the current remit of WHO to verify that all the risks have been considered and to check that preventive measures have been put in place. There is no overarching body that standardises the approach to containment. Each country has its own rules and governing bodies. At present, WHO rubber-stamps its approval of facilities, without direct verification of risk reduction. This perhaps creates a false sense of security.

There is no such thing as “zero” risk, unless all poliovirus samples in all facilities were to be destroyed. Although guidance has been issued to countries on containment, the standard of “acceptable” risk has not yet been defined. Without this, countries’ approaches may differ markedly.

Relying solely on national authorities to determine strategies for the geographical extent of protection from a poliovirus containment breach is risky. Some countries have no accurate district-level data. Others have refused to even set up a National Authority for Containment. Furthermore, if there is no agreed evidence-based minimum target, how can WHO fairly provide compliance feedback to the national authority? However, the problem with global criteria is that each country’s ability to stop transmission with the inactivated polio vaccine differs. The WHO programme must come up with an appropriate determination and

continue to monitor the situation closely.

TIMB sources have indicated there is a good chance countries may never achieve the 90% coverage target for polio vaccines. Through a containment lens, is it then an acceptable situation that countries that are currently considering keeping their Polio Essential Facilities are not currently achieving 90% coverage of two doses of inactivated polio vaccine in areas surrounding the Polio Essential Facility? What happens if countries do not hit this standard, yet continue to operate their Polio Essential Facilities?

There is no deadline for when countries would need to achieve this target. What happens if the assurances laid out by the National Authority for Containment are insufficient, or based on inaccurate data, and WHO stamps its approval on it? What will happen to WHO’s reputation?

Over the next few years, as novel oral polio vaccines and other polio products are developed, the global number of Polio Essential Facilities is expected to rise. If the Polio Programme meets its goal to certify the world free of poliovirus in 2026, there is a good chance that this will not be accompanied by robust assurance that containment measures will be enough to prevent the poliovirus escaping from facilities.

With the eradication deadline on the horizon, the containment programme is looking at only a few years to ensure appropriate measures are in

place that are capable of preventing the poliovirus from escaping into a seemingly polio-free world. What will happen if the necessary standard of containment is not satisfactorily demonstrated by the time the Polio Programme is ready to declare eradication? Would that have a detrimental effect on the timing of the declaration of eradication?

This is the reality. There are two core processes, eradication and containment, and they are not proceeding at the same pace. The more that can be done to minimise the time between achieving certification of eradication of transmission and containment, the better.

The Polio Programme was able to certify the eradication of wild poliovirus type 2 and type 3. At the time, the programme acknowledged that it was a long way from completing the containment process. Nevertheless, the Global Certification Commission felt it right to certify the interruption of transmission. It is very important that there is good collaboration between the containment process and the certification of interruption of transmission process.

In vaccine supply, the GPEI is working on a noticeably short planning horizon, sometimes limited to one or two years. That too creates pressure for the manufacturing industry and for the GPEI itself. The Polio Programme should aim to plan for one or two decades, because the manufacturers need clarity.



In 2020, the GPEI did not fully appreciate the necessary speed of uptake of the novel oral polio vaccine. Production could not keep up.

In 2020, the GPEI did not fully appreciate the necessary speed of uptake of the novel oral polio vaccine. Production could not keep up. There is now a large overstock of the Sabin oral polio vaccine. There will be risks, there will be redundancies, there will be waste, but the GPEI needs to work out the time limits for their preparedness and keep the containment system secure.

The polio vaccine supply spans well beyond the current framework of the polio eradication strategy. For the inactivated polio vaccine, the supply needed is for 10 years or more after global certification. The GPEI is planning to terminate the bivalent oral polio vaccine by 2027. The novel oral polio vaccine type 2 is still under Emergency Use Listing and is still being tested in the field. Novel oral polio vaccines types 1 and 3 are expected to be ready by 2025 or 2026.

The inactivated polio vaccine has limited ability to stop transmission in some countries. It usually prevents individual paralysis. In countries that only use the inactivated polio vaccine,

when there has been an outbreak, there have been few paralytic cases of polio due to the outbreak, despite there being evidence of subclinical circulation.

The role of environmental surveillance is also limited. While it is probably a good idea to set up a site near all Polio Essential Facilities, it may not always be sufficient to detect breaches.

There is also a need to consider the impact of a breach of containment in countries without Polio Essential Facilities, as the result of an importation. The current guidance for containment really only extends to national boundaries.

There are planning horizons for different vaccines, but those are tentative and depend on a policy that is ever-changing, on the types of new products that are coming into the pipeline, plus many other elements. This is ongoing work that needs collaboration between the polio containment group, the WHO Laboratory Biosafety Team, researchers, and others involved in

the production and distribution of polio vaccines.

Promoting new technologies will create concern and may affect the market overall. WHO's remedy to risk mitigation will firstly be to keep the communication and opportunities for involvement in the production of new types of vaccines open to all potential suppliers.

Also, WHO will need to ensure that its projections, and expectations for standards, regulations, and containment criteria is as transparent as possible. That way, suppliers can plan based on the long-term evolution of the programme and predicted polio vaccine demand.

For containment, many questions remain. How can the polio eradication, certification, vaccine supply and containment teams align timelines and reduce associated risks? GPEI's perspective is supposed to be addressed in the revision of the post-certification strategy. Are the funders ready to accept that once wild poliovirus is eradicated, they will still have to pay out?

05

DATA
INSIGHTS

1. POLIO ERADICATION AND TRANSITION 2022/23 BUDGET AND FUNDING

	Total Budget	Total Funding	Gap	Source	Activities
AFRO	\$212,428,000	\$179,428,000	\$33,000,000		
10 GPEI high-risk countries	Angola	\$7,622,000	\$7,622,000	-	GPEI 2.2.4
	Cameroon	\$2,886,000	\$2,886,000	-	GPEI 2.2.4
	Chad	\$6,406,000	\$6,406,000	-	GPEI 2.2.4
	DRC	\$13,026,000	\$13,026,000	-	GPEI 2.2.4
	Ethiopia	\$7,934,000	\$7,934,000	-	GPEI 2.2.4
	Guinea	\$1,438,000	\$1,438,000	-	GPEI 2.2.4
	Kenya	\$3,244,000	\$3,244,000	-	GPEI 2.2.4
	Niger	\$4,186,000	\$4,186,000	-	GPEI 2.2.4
	Nigeria	\$66,542,000	\$66,542,000	-	GPEI 2.2.4
	South Sudan	\$8,144,000	\$8,144,000	-	GPEI 2.2.4
	GPEI low risk countries	\$29,000,000	\$26,000,000	\$7,000,000	WHO 1.1.3, 2.3.1,
	Regional Office	\$62,000,000	\$36,000,000	\$26,000,000	WHO + GPEI 1.1.3, 2.3.1, 2.3.2, 10
EMRO	\$391,639,106	\$233,950,000	\$157,689,106		
	Iraq	\$4,042,500	\$1,000,000	\$3,042,000	WHO 1.1.3, 2.3.1, 2.3.2
	Libya	\$2,609,214	\$419,000	\$2,190,214	WHO 1.1.3, 2.3.1, 2.3.2
	Somalia	\$10,970,000	\$10,970,000	-	GPEI + WHO 2.2.4, 1.1.3, 2.3.1, 2.3.2
	Sudan	\$2,893,192	\$2,000,000	\$893,192	WHO 1.1.3, 2.3.1, 2.3.2
	Syrian Arab Republic	\$4,063,000	\$1,450,000	\$3,918,000	WHO 1.1.3, 2.3.1, 2.3.2
	Yemen	\$3,391,200	\$971,000	\$2,420,200	WHO 1.1.3, 2.3.1, 2.3.2
	Afghanistan	\$98,870,000	\$47,870,000	\$51,000,000	GPEI 10
	Pakistan	\$225,800,000	\$145,270,000	\$80,530,000	GPEI 10
	Regional Office	\$39,000,000	\$24,000,000	\$15,000,000	WHO + GPEI 1.1.3, 2.3.1, 2.3.2, 10

	Total Budget	Total Funding	Gap	Source	Activities
SEARO	\$73,120,000	\$39,263,600	\$33,856,400		
Bangladesh	\$3,870,000	\$2,245,600	\$1,624,000	WHO	1.1.3
India	\$60,400,000	\$29,091,600	\$31,308,400	WHO	1.1.3
Indonesia	\$1,260,000	\$1,260,000	-	WHO	1.1.3
Myanmar	\$1,120,000	\$410,000	\$710,000	WHO	1.1.3
Nepal	\$2,650,000	\$2,435,000	\$214,000	WHO	1.1.3
Regional Office	\$3,820,000	\$3,820,000	-	WHO + GPEI	1.1.3
AMRO	\$1,000,000	\$1,000,000	-	WHO + GPEI	1.1.3
EURO	\$2,500,000	\$2,500,000	-	WHO + GPEI	1.1.3
WPRO	\$3,100,000	\$3,100,000	-	WHO + GPEI	1.1.3
HQ	\$100,000,000	\$100,000,000	-	GPEI + WHO	2.2.4, 10, 1.1.3
TOTAL	\$486,187,106	\$261,641,600	\$224,545,506		

* GPEI continues to support the Global Polio Lab Network in all WHO Regions and non-endemic countries.

* In the WHO Regional Office for the Americas, the WHO Regional Office for Europe and the WHO Regional Office for the Western Pacific, there is no country presence. Support is provided through the Regional Offices.

* In the WHO Regional Office for South-East Asia, GPEI continues to provide limited support to surveillance and lab activities.

* WHO Headquarters portion covers the polio department and the polio transition team. The \$4 million kept as “placeholder” in headquarters for polio outbreaks & vaccines is not included in this analysis.

Activities:

Outcome 1.1.3 (polio functions integrated into broader surveillance and immunisation)

- Strengthening surveillance capacity for high-risk vaccine-preventable diseases and other epidemic prone diseases
- Implementation, planning and supervision for high and equitable coverage of all vaccines, including community engagement and risk communication
- Oversight and coordination of polio transition activities

Outcome 2.3.1 (polio functions integrated into broader emergency preparedness)

- Strengthening capacities to prepare for outbreaks and other health emergencies

Outcome 2.3.2 (polio functions integrated into broader outbreak and emergency response)

- Rapid response to outbreaks and other health emergencies, health emergency coordination

Outcome 2.2.4 (WHO BASE)

- Implementing polio eradication activities in coordination with GPEI (core functions, surveillance and laboratories)

Outcome 10 (WHO NON-BASE)

- Implementing polio eradication activities in coordination with GPEI (all support to Afghanistan and Pakistan, all supplementary immunisation activities and vaccine-derived poliovirus outbreak response activities)

Source: WHO (data as of November 2022)

2. LARGE VARIATION IN COVERAGE FOR INACTIVATED POLIO VACCINE ACROSS VULNERABLE COUNTRIES

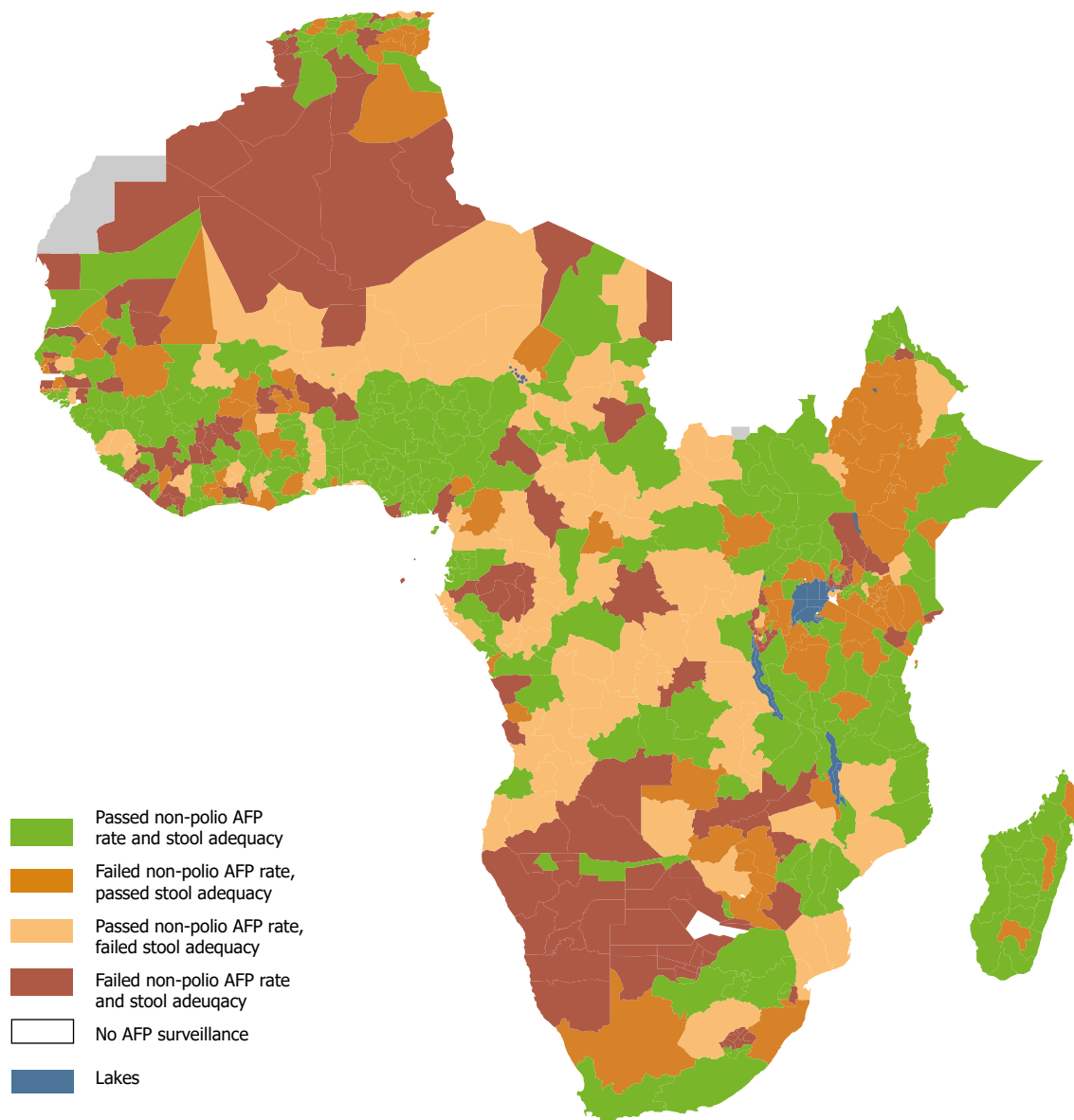
	IPV1 Coverage		IPV2 Coverage		Additional information
	2016	2021	2016	2021**	
Angola	0%	37%	0%	0%	IPV2 introduced in March 2022
Bangladesh	33%	96%	0%	96%	Fractional-dose only
Cameroon	70%	69%	0%	0%	IPV2 introduced in January 2023
Chad	41%	59%	0%	0%	IPV2 introduced in April 2022
Democratic Republic of the Congo	54%	68%	0%	0%	IPV2 introduced end 2022 (selected provinces); rest of country Q1 2023
Ethiopia	0%	65%	0%	0%	IPV2 not yet introduced
India	47%	82%	0%	0%	Fractional-dose only.
Indonesia	2%	61%	0%	0%	IPV2 introduced in December 2022
Iraq	0%	81%	0%	<i>Not available</i>	IPV2 introduced in 2016
Libya	98%	74%	0%	<i>Not available</i>	IPV2 introduced in 2014 (as Hexavalent)
Myanmar	72%	46%	0%	0%	IPV2 not yet introduced
Nepal	77%	86%	0%	<i>Not available</i>	Fractional-dose only
Nigeria	52%	62%	0%	12%	IPV2 introduced in July 2021
Somalia	0%	42%	0%	2%	IPV2 introduced in November 2021
South Sudan	34%	64%	0%	5%	IPV2 introduced in July 2021
Sudan	64%	94%	0%	72%	IPV2 introduced in July 2021
Syrian Arab Republic	58%	65%	0%	62%	IPV2 introduced in 2008
Yemen	61%	68%	0%	0%	IPV2 introduced in 2021
Countries transitioned from GPEI to WHO base budget	71%*	83%	0%	<i>Not available</i>	
*based on data for 44 countries only					
**IPV2 Coverage estimated by taking the ratio for IPV2 compared to IPV1, and applying this to IPV1 coverage from the official WHO/UNICEF Estimates for National Immunization Coverage.					

Source: WHO/UNICEF Estimates for National Immunization Coverage. IPV introduction and fractional-dose data provided by WHO. IPV2 Coverage estimates calculated and provided by GAVI.

3. MOST POLIO TRANSITION COUNTRIES HAVE MORE ZERO DOSE CHILDREN FOR 1ST DOSE OF DIPHTHERIA-TETANUS-PERTUSSIS VACCINE (DTP1) SINCE TRANSITION BEGAN

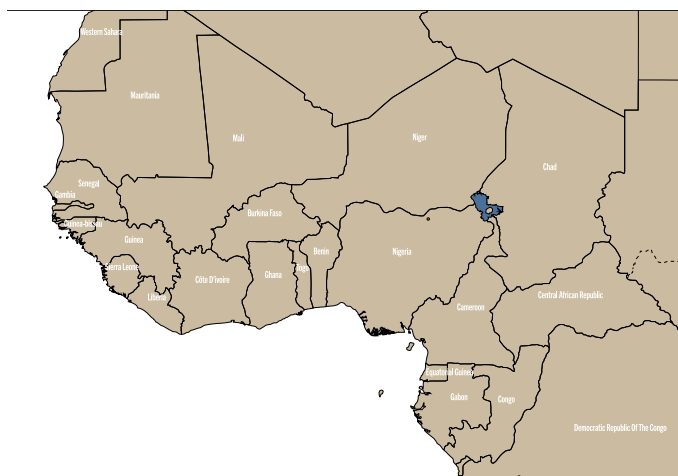
	Number of zero dose children for DTP1	
	2016	2021
Angola	299,000	553,000
Bangladesh	30,000	30,000
Cameroon	145,000	219,000
Chad	281,000	191,000
Democratic Republic of the Congo	640,000	734,000
Ethiopia	846,000	1,134,000
India	2,167,000	2,711,000
Indonesia	462,000	1,150,000
Iraq	332,000	129,000
Libya	2,560	31,000
Myanmar	55,000	492,000
Nepal	30,000	48,000
Nigeria	2,642,000	2,247,000
Somalia	297,000	338,000
South Sudan	160,000	146,000
Sudan	41,000	89,000
Syrian Arab Republic	137,000	147,000
Yemen	226,000	175,000
Countries transitioned from GPEI to WHO base budget	3,188,000	3,748,000

4. SURVEILLANCE STANDARDS AT THE TIME AFRICA WAS CERTIFIED POLIO-FREE

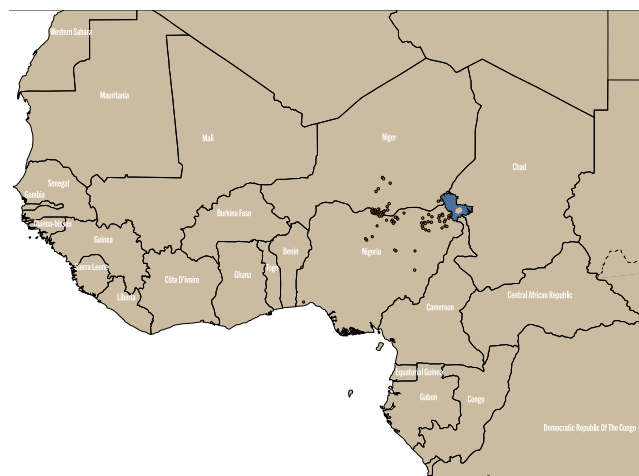


Source: POLIS (data 18 June 2023)

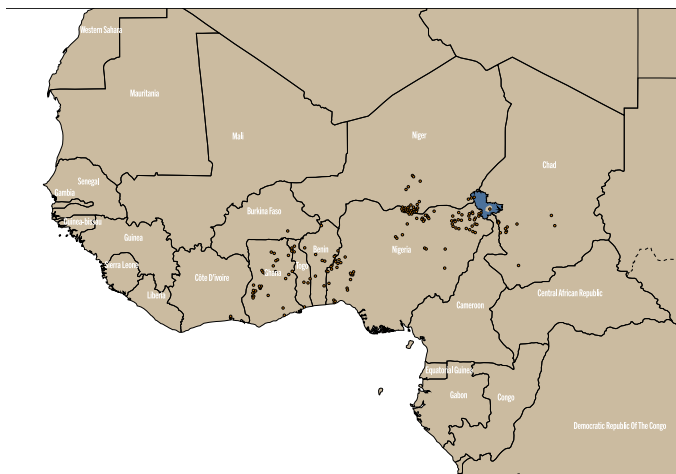
5. FAILURE TO BUILD RESILIENCE FOLLOWING CERTIFICATION OF WILD POLIOVIRUS-FREE STATUS



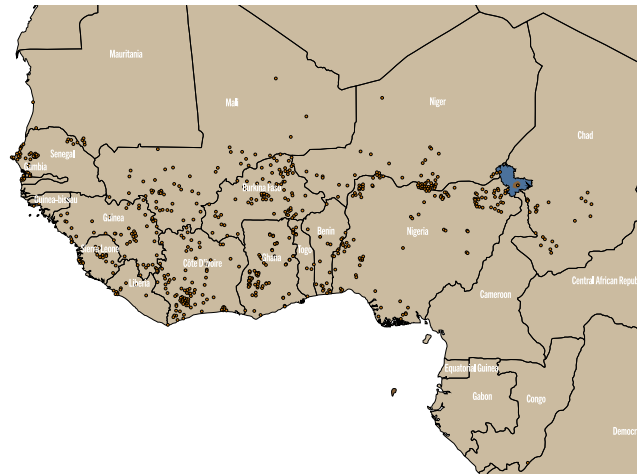
INDEX CASE - 10 JAN 2018



12 MONTHS LATER



24 MONTHS LATER



48 MONTHS LATER

Source: POLIS (data 18 June 2023)

• vaccine derived cases,
NIE-JIS-1 strain

**6. CHINA AND ROMANIA HAVE NOT ESTABLISHED A
NATIONAL AUTHORITY FOR CONTAINMENT:
THE DEADLINE WAS IN 2018**

COUNTRY	NUMBER OF FACILITIES	NATIONAL AUTHORITY FOR CONTAINMENT
Australia	1	Yes
Belarus	1	Yes
Belgium	3	Yes
Canada	2	Yes
China	8	No
Cuba	1	Yes
Denmark	1	Yes
France	8	Yes
Hungary	1	Yes
India	4	Yes
Indonesia	1	Yes
Iran	1	Yes
Japan	3	Yes
Netherlands	5	Yes
Pakistan	1	Yes
Republic of Korea	1	Yes
Romania	1	No
Russian Federation	7	Yes
Serbia	1	Yes
Sweden	1	Yes
UK	2	Yes
USA	10	Yes

Source: WHO (data as of 30 April 2023)

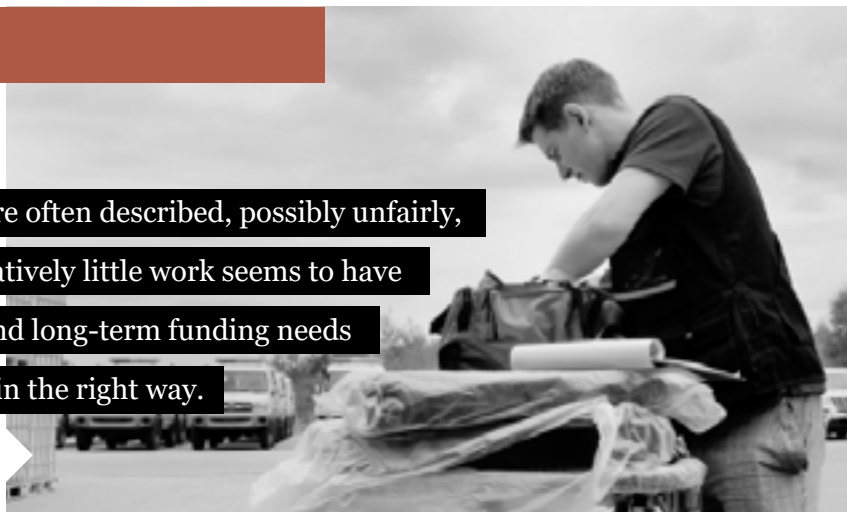


CONCLUSIONS

- AND RECOMMENDED ACTION -

The expectations of what could, should and will be achieved through the process of polio transition are broad-ranging and views differ very markedly between policy-makers, programme leaders, donors and wider stakeholders. Indeed, polio transition has many voices, expressing many opinions about its priorities, direction of travel and ultimate destination. This report has aimed to scope and explore the different perspectives and point to areas where clarity of thinking and common purpose is urgently required.

While countries' polio transition plans are often described, possibly unfairly, as "resource mobilisation" plans, relatively little work seems to have progressed in assessing medium- and long-term funding needs and engaging donors in the right way.



SLOW PROGRESS AND GROWING COMPLEXITY

Judging progress of polio transition after nearly seven years of TIMB meetings and reports, a number of things stand out.

First, it is striking that almost all the recommendations in the second TIMB report, *One Door Closes Another Opens* (published in late 2017), are still relevant today and very limited action has been taken on any of them. This emphasises the point that the TIMB has made earlier in the present report that, unlike polio eradication, polio transition has lacked: overall global management, day-to-day leadership and a binding partnership to drive it forward. Implementation has been patchy, and time has been lost.

Second, the interlinking context of a more adverse global economic climate, than in 2017, the deteriorating operating environment in many priority countries, and the negative impact of the pandemic on public health essential functions

has meant that the planned transfer of funding responsibility and polio eradication infrastructure to governments has been much more difficult to achieve in reality than on paper.

Third, the failure of the Polio Programme to meet eradication deadlines has meant that the planned linear progression in which polio transition sparks into life only when wild poliovirus circulation has been interrupted no longer applies. The polio transition cart is running alongside the polio eradication horse rather than being pulled by it as was originally envisioned. This has had profound implications.

At a concrete level, this has meant that the integrated delivery methods of polio transition have had to play their part, in support of the vertically designed eradication programme, in stopping the circulation of the poliovirus. At a more subtle level, the difficulty of eliminating wild poliovirus, and the alarming scale of vaccine-derived poliovirus outbreaks, has created a nervousness about the capability of polio transition actions to reliably deliver the post-certification agenda. As a result, discussions

about polio transition have become more eradication-centric. This has not pleased those who still see the power of polio transition as a Trojan Horse to strengthen primary care and to advance the prospect of universal health coverage.

Fourth, there has been no substantial expansion in the number and range of non-polio partners involved in polio transition. This means that additional expertise, insights and collaborations have not been available to strengthen the advancement of polio transition in areas such as: delivering services in fragile and conflict-affected areas, the ability to access government leaders in complex political settings, and widening the pool of donors. The reasons for this dearth of new opportunities are not clear, but anecdotal evidence suggests that the strong polio branding of transition is off-putting to those outside the "polio bubble".

Fifth, while countries' polio transition plans are often described, possibly unfairly, as "resource mobilisation" plans, relatively little work seems to have progressed in assessing medium- and long-term funding needs and engaging donors in the right way.



The GPEI partnership will dissolve at certification. If that happens in 2026, as promised in the current strategic plan, the long journey to a polio-free world will begin in 30 months' time and be made without the GPEI.

CLEARER PURPOSE, GREATER ACCOUNTABILITY AND STRONGER IMPLEMENTATION CAPABILITY

Bearing in mind these five points, different views of polio transition are held by those who take a disease control perspective (immunity, surveillance, containment) compared to those who have a development and capacity-building perspective (primary health care, universal health coverage).

There is still tension between the explicit, single-minded focus on polio eradication and the system-strengthening work necessary to help get there through integrated means. This does not necessarily mean losing the focus, rather it means broadening it out.

Currently, poliovirus epidemiology is driving both polio programmes. The polio eradication programme is

pushing hard to break the circulation of wild poliovirus and reduce the geographical distribution and size of vaccine-derived poliovirus outbreaks. The polio transition programme has been drawn into helping to achieve both of these objectives through integrated models, while continuing to plan the transfer of polio assets to countries.

This change of perspective needs to be both embraced by the GPEI for the remainder of its lifespan and paired with the confidence that essential immunisation programmes, surveillance systems, and health emergency preparedness and response have the capability to deliver. For example, strengthening essential immunisation is not just something that must keep the world polio-free

once it gets there, it is something that needs to be strengthened now, in order to get to a polio-free world.

Looking forward five years, two contrasting end states can be envisaged. The best-case scenario would see wild poliovirus type 1 circulation having been interrupted and certified while the absence of vaccine-derived poliovirus type 2 would have been validated. Under this scenario, oral polio vaccine use would be stopping and eventually being withdrawn globally from the routine immunisation systems where it has still remained.

In the worst-case scenario, wild poliovirus circulation would still be happening five years on, at a cost of \$1 billion per annum, and vaccine-derived poliovirus outbreaks would still be occurring. Oral polio vaccine would still be in use. To many cleaving to the hope of interrupting wild poliovirus circulation globally by the end of 2023, such a scenario is unthinkable.

Currently, there is no plan to change the policy that the GPEI partnership will dissolve at certification. If that happens in 2026, as promised in the current strategic plan, the long journey to a polio-free world will begin in 30 months' time and be made without the GPEI.

The many potential risks that the GPEI sought to block or mitigate during its 40-year tenure will still be in play, even after global certification.

In anticipation of the death of this behemoth, the doubts and concerns are beginning to flow:

- How badly could things go wrong?
- Will silent transmission be missed somewhere or in many places?
- Will there be outbreaks on the scale that started after the oral polio vaccine switch in 2016?
- Will Afghanistan and/or Pakistan be post-certification epicentres for an intercontinental outbreak surge as Nigeria was?
- Will there be a containment breach in a laboratory or vaccine manufacturing facility?
- Will someone genetically engineer and release a virus?
- Will essential immunisation programmes leave too many pockets of low polio immunity?
- Will surveillance systems across all countries be good enough to find any problems early?
- Will there still be a strong enough global and national capability to mount a rapid and effective response to a poliovirus detection?
- Will vaccine strategy in all its dimensions be well-managed and coordinated?
- Will there be enough money to

keep the world permanently safe from polio and where will that funding come from?

In theory, all the GPEI's old responsibilities will be devolved to country level with the global essential immunisation and health emergencies teams at WHO taking charge (with partners) of overall leadership, coordination, oversight, and management of the quality of the performance of the polio-essential functions.

The GPEI, as a partnership, has been able to speak with one voice on policy, action and distribution of funds. Mainly, it has moved quickly without getting bogged down in bureaucracy. It has had one large pot of money. Countries have largely followed its plans and instructions. Its style of operation has engendered a culture of accountability, judgement, and performance management in its dealing with countries. It has had a very large field force.

The new arrangements will have few of these helpful implementation features. There will be no single, multilateral "go-to" place. In some ways, it will be like many other global health programmes – where all countries have committed to a plan, but then exercise choice in the priority they accord to it. Ironically, given the command and control-style dominance of polio over many decades, advocacy may be now be a major part of the change required.

The first challenge will be establishing the right range and level of polio-essential functions (surveillance, essential immunisation, outbreak management, and containment)

in each polio-affected and polio-vulnerable country, and ultimately in non-priority countries. Experience shows that countries can throw up unwelcome surprises.

The second will be to ensure that these functions perform to a high standard to make sure that the poliovirus does not become re-established.

The third challenge will be to enable the infrastructure in each country to be properly funded and, if this cannot be done entirely from domestic resources, that external donor help is mobilised.

The fourth challenge is the non-polio side of the transition job: ensuring that wider public health functions are strengthened (for example, that coverage levels for essential immunisation rise rapidly) and that strong foundations are laid for primary care and universal health coverage.

The decision to move polio transition into the WHO polio eradication department creates clarity while the GPEI is still being led from there. After it is dissolved, the challenges will be formidable; the WHO departments will not be able to address them alone and the management tools will be weaker. As a comparison, the measles and rubella programme comes under the umbrella of the *Immunization Agenda 2030* coordination group. It is a softer framework based on advocacy and resource mobilisation, rather than hard accountability and performance management. These methods of achieving change will be the polio transition's post-GPEI management toolkit.

FULL DONOR ENGAGEMENT AND BETTER FUNDING SOLUTIONS

Donors need to be fully engaged to sustain the tempo of polio transition both pre- and post-certification, and in the more complex developmental work to build strong systems of primary care, as well as in designing a version of universal health coverage appropriate to the circumstances and traditions of each priority country.

Neither the polio eradication programme nor the polio transition activities have been particularly good at fully involving the non-philanthropic donors in their planning and policy-making over the years. While the current group of donors is likely to stay firmly with the Polio Programme until certification, after that some uncertainty will arise with both philanthropic and sovereign donors, as they begin to reflect on what they are signed up to.

The journey to a polio-free world will be taken without the GPEI. This, of course, is mainly where the donors have given their polio money over several decades. If, as would be hoped, the polio donors wish to play a part in funding this journey, the approach will be more complex in the absence of the centralised budgetary needs assessment and control functions that were housed in the GPEI.

The default position will be that the work to achieve and sustain a polio-free world will be carried out by key

functions (surveillance, essential immunisation, outbreak management, and containment) transferred to countries. It is obvious that countries will take time to self-finance these functions and responsibilities and some will be unable to do so for the foreseeable future. Funding needs will be bridged by the WHO base budget. However, given the size and duration of the funding gap, other donations will be required.

The choice will then be whether donors wish to deal directly with countries or give their money to WHO and allow it to allocate the funds and monitor their use. This is far from straightforward. If, for example, strengthening essential immunisation is required in particular geographical areas, this would mean funding a broader-based programme than polio vaccination alone. Would polio donors want to be drawn in to more holistic strengthening of essential

immunisation systems in order to deal with polio weaknesses?

If, alternatively, the WHO polio department was charged with handling donor money, and approached it by targeting essential polio functions exclusively, this would effectively be re-inventing a vertical programme.

There are no easy answers to these questions. Big sums of money will be involved and the time they are needed for will stretch into years not months. It requires a proper strategic analysis with full donor involvement.

The future scenario, particularly as it also involves aspirations for broader public health system-strengthening in some of the poorest countries of the world, makes the case even more strongly for attracting non-polio donors and coordinating the whole approach on a new canvas.





CONTINUING TO PURSUE A BOLD VISION FOR GLOBAL, COMPREHENSIVE INTEGRATED COMMUNICABLE DISEASE SURVEILLANCE

It has been over five years since the polio transition team reassured the TIMB that it was following the latter's recommendation to not only secure the future of polio surveillance within an overall system of vaccine-preventable disease surveillance, but to go further.

The TIMB's vision was to deliver a global public good, as the Polio Programme's legacy, by creating a global comprehensive, integrated disease surveillance system that allows the tracking of a wide range of diseases, bringing all the disease-specific, silo-based surveillance systems under one umbrella.

Modern advanced digital methods, leading edge analytics, artificial

intelligence, and genetics make this possible if the technical work is commissioned from the world's best experts in these scientific fields. The beauty of such interconnectedness is that real-time information could be disaggregated to country and subnational levels for disease prevention and control work, as well as evaluating vaccination programmes. These modern technologies could also enable data to be aggregated to regional and global levels so as to track new and emerging diseases, unusual clusters of symptoms, and enable early warnings and interventions. The capability for scaling data up and scaling it down would add enormous power to the task of tackling the challenges and threats that communicable diseases

pose to humankind.

Some of this work has been initiated by WHO and other partners. For example, in May 2023, WHO launched the *International Pathogen Surveillance Network (IPSN)*, a public health network to detect and prevent infectious disease threats before they become epidemics or pandemics. Other work is progressing.

Amid all the bigger picture work on surveillance, it is important to be clear what is precisely required for ongoing polio surveillance once the GPEI is dissolved. Many countries will be unable to afford the total costs of polio surveillance, and collaborative platforms are not designed to bridge this type of gap. Certainly, polio eradication teams must be part of the work to develop and strengthen collaborative, integrated surveillance; a focus is essential on how polio surveillance is going to be funded, integrated, and managed, in countries that do not have enough domestic resources to do it alone.



LOOKING BEYOND THE PLAN TO FULLY UNDERSTAND THE COUNTRIES' CAPACITIES, CAPABILITIES AND ASPIRATIONS

The TIMB's review of progress in the polio transition countries, during the post-pandemic period, shows a very complex picture. It emphasises the importance of using the three interlinked, evaluative lenses conceptualised in the last TIMB report:

- a. the strengths and weaknesses in organisation, governance and resource mobilisation;
- b. the countries' political, socioeconomic and conflict context and operating environments;
- c. the current strength and readiness of the public health

functions to achieve optimum levels of immunity, run a high standard of surveillance, and identify outbreaks early and close them down quickly and effectively.

Put even more simply, in judging a country's polio transition status, it is vital to make the distinction between a coherent written plan, plus or minus statements of political commitment to it, and the country's ability (potential or proven) to use its acquired infrastructure and people to deliver polio-essential functions to the highest possible standard. In addition, the robustness of the written plan (with the necessary political will

to implement it) and the capability of country-owned polio-essential functions should both have credibility when measured against a complex operating environment. Finally, that credibility test should be applied to any claim or promise of domestic financial self-sufficiency made by a government.

In all these respects, there is great variation among the polio transition countries.

For example, Iraq and Libya are selling billions of dollars' worth of oil each month so should not be dependent on external funds to sustain polio-essential functions. In contrast, Somalia and South Sudan are among the poorest countries in the world and will never be able to deliver what is required without heavy and sustained external funding and technical support.

Many of the polio transition countries are afflicted by conflict in varying degrees of severity. In several countries violent anti-government elements are restricting access to health services, including polio vaccination. Surveillance is also difficult in such situations. In some cases, tragically, polio and other health workers have been murdered and some are regularly threatened and intimidated as they go about their work.



Myanmar is a country that illustrates how quickly the operating environment in polio transition countries can change and deteriorate. Plans that seemed viable one day can seem unrealistic the next.

Civil unrest also affects programmatic reach and penetration. This has been the case in Myanmar. It is also a country that illustrates how quickly the operating environment in polio transition countries can change and deteriorate. Plans that seemed viable one day can seem unrealistic the next.

Polio transition countries have many health priorities and often serious outbreaks of vaccine-preventable diseases, such as measles and meningitis. If they have had no recent cases of polio, the government may not see why polio eradication activities should be prioritised over problems that seem to put their population at greater risk.

There are other reasons that governments' political leaders may be hesitant about fully engaging with polio transition. They see the tenure of the GPEI having been extended and do not want to "rock the boat" where there is continuing funding flowing

into their country. In its discussions, the TIMB found that some governments did not feel confident to run the polio-essential functions to a high enough standard. They asked why WHO could not continue to operate, often describing its staff as "more independent".

In one of the priority countries, polio was integrated into a broader disease surveillance system. Then, this year, it is facing an in-country budget reduction of 35%. Past performance was good in creating an effective integrated surveillance system, but a sudden reduction in the support reverses several years of gains. Moreover, it creates a loss of confidence that the government will take on more and more of the responsibility. It is another example both of the complexity of implementing polio transition at country level and the instability of funding solutions. An evaluation of national plans that ticks the box:

"transition achieved" could lead down the track to the box being unticked.

Many polio-priority countries have had large outbreaks of vaccine-derived poliovirus. The pattern has been of a slow or delayed response due to a variety of factors, including some governments' refusal or reluctance to take action. Some of this is tied into policy in the choice and use of oral polio vaccines to combat the outbreaks. Against the advice of the Strategic Advisory Group of Experts, who have been concerned about vaccine availability and the risks of delayed responses, such governments have had clear preferences for using only the novel oral polio vaccine as against the traditional alternatives which can seed further circulations of the vaccine-derived poliovirus. Countries must be fully prepared for poliovirus outbreaks. If an outbreak happens in a country, its government must be ready to respond in given specified timelines.



ENVOI

In all the TIMB's meetings, discussions, and private conversations, one issue attracted a level of concern above any other. That was accountability. There is a broad consensus that without clear accountability for implementation (including coordination of all stakeholders, analysis of progress, oversight and assurance, funding and close liaison with regional and country offices, as well as national governments) polio transition will falter or even fail. This would put at risk the achievement of a polio-free world. It would squander the

opportunity to greatly strengthen essential immunisation coverage, particularly in the poorest and most underserved parts of the world. It would stifle the growth of integrated modes of service delivery. It would not deliver the benefits of a new, stronger and more innovative global communicable disease surveillance system. It would block the route for countries to build lasting foundations for primary care and universal health coverage. It would waste a great deal of money. For all these reasons, and many more, polio transition cannot be allowed to fail.



RECOMMENDED ACTION

01

WHO, with its partners and donors, should review and change the description, terminology and branding of the Polio Transition Programme so that its polio- and non-polio-related purposes and intended outcomes are clearly defined.

The current umbrella term “polio transition” is not well-understood and is frequently criticised for not conveying clear meaning. As a result, this confusion wastes time in meetings that should be progressing plans and action by generating extended and repetitive discussions about purpose. This unsatisfactory situation is almost certainly off-putting to a wider group of potential partners and donors who look at the labelling of the programme and assume that it is “polio business” only; this lack of appeal and disinterest is compounded by the vertical programme tradition that is implied.

02

WHO and its partners should set up a multi-partnership global organisation to be responsible for delivering the revised arrangements for polio transition. It should have heavy representation from donors and potential donors. It should be accountable for coordination, analysis of progress, oversight and assurance and work closely with regional and country offices, as well as national governments. It should have a “task and finish” philosophy and timeline (estimated at five years). It should be a management team, not a committee, and use modern project management methods. Its management and secretariat functions should be based in, and led from, WHO’s polio department.

Polio transition has been in existence for nearly seven years. It is described as a “programme” but has not been managed in a progressive fashion. It has made only limited progress despite the very committed work of regional and country offices. Given the very strong importance that the World Health Assembly has placed on delivering polio transition, and also the risks of the post-eradication journey (minus the GPEI) being beset by frequent costly outbreaks, a more active and inclusive management approach is required. The proposed organisation should provide a vehicle for engaging donors in a way that enables them to share in decision-making and provide them with an assured basis for investment.



03

WHO should lead work on producing a formal workforce plan that would set standards for the levels and skill mix of the workforce necessary to deliver the range and quality of public health essential functions including those necessary to secure and maintain a polio-free world. The plan should address training needs (including leadership training) and have a plan to deliver them. A solution should be put forward to solve the large discrepancy between United Nations salaries and many ministries of health salaries (this is seriously inhibiting agreement on transferring functions to the governments of priority countries).

Given the variability in country context, capacity and capability, in respect of human resources, it is surprising that many of the workforce themes are generic. Thus, there would be great benefit in a centrally coordinated approach to workforce management.

04

The GPEI Polio Oversight Board should order a phased transfer of responsibility for coordinating and managing, within countries, the vaccine-derived poliovirus outbreak response to the WHO Health Emergencies Team to begin from the start of 2024, whether wild poliovirus transmission has been eliminated or not. The transfer should start with the non-consequential geographies.

It was always envisaged that the health emergencies function would take over from the GPEI in handling outbreaks once wild poliovirus was stopped. The wild poliovirus eradication programme is in danger of losing focus, with the task of dealing with widely dispersed outbreaks of the vaccine-derived poliovirus absorbing leadership time and attention. In all other outbreak areas, the emergency teams work with content and technical experts in the disease concerned. Thus, the Polio Programme would not be abandoning this function and would still be involved at a technical level. Moreover, the GPEI maintaining the outbreak control function for the consequential geographies should allay any fears that a complete transfer would carry risk.



05

WHO, working with CDC and others, should ensure that the governments of polio transition priority countries and polio-vulnerable countries are able to meet and sustain the required standard of data management and analytical capability. Also, it is imperative that accurate population data are established to enable accurate denominators to be available for use in performance metrics.

The Polio Programme has developed an unrivalled range of sophisticated monitoring data, enabling its performance to be continuously assessed and allowing targeted action when weaknesses are identified. This capability includes, but goes beyond, surveillance. It is a core component of the GPEI's operation and will need special, careful attention in advance of its dissolution. As part of countries' programmatic capability, accurate denominator data is currently too often so bad as to render coverage figures meaningless. Correcting this situation is very urgent.

06

The WHO polio department should publish a monitoring and accountability framework for consultation as soon as possible, taking account of other recommendations in this report to change terminology, reframe polio transition, and strengthen global strategic management arrangements.

The zero draft of the Global Vision for Polio Transition recently circulated for consultation by WHO commits to developing a "Monitoring and Evaluation Framework" for polio transition. Our recommendation proposes replacing "Evaluation" with "Accountability" to send a clear signal about the ethos of the programme, especially as accountability mechanisms will not be as strong as what has gone before. The emphasis should be on measures of process compliance and outcomes. Action should be taken to ensure that data systems can meet the needs of formal measurement.

07

The GPEI, together with the WHO Polio Department (now accountable for polio transition), and working closely with donors, should comprehensively map the polio financial landscape for the next decade, focusing on a wide range of perspectives and factors including: the timing of likely country self-sufficiency for high-quality polio-essential functions, and previously GPEI cross-subsidised wider public health functions; the current level of funding in national health systems; the level of funding required to maintain polio-essential functions at the standard necessary to secure and sustain a polio-free world; further strengthening of previously polio-funded non-polio services – in particular, essential immunisation to enable these services to progress to higher performance levels; costs and the duration of funding necessary to maintain basic health services in countries (mainly managed by partners) that have no other means of sustaining them; the scope and sustainability of WHO base budget funding streams. Once mapped, the totality of external funding to each country should be listed and donors and potential donors engaged in a frank discussion on their part in the future.

This resource mapping task with donor involvement is one of the absolutely mission-critical needs of polio transition planning. Given the complexity of the challenges, the relatively short-term horizons of financial decision-making, and the uncertain economic climate, it has proved to be difficult so far to engage with it in the depth and inclusiveness required. If done well, this piece of work could be transformational.

08

The WHO, and its global immunisation partners, should review whether the essential (usually called “routine”) immunisation programmatic goals and functions in the *Immunization Agenda 2030* will be able to deliver the outcomes required by the Polio Eradication and Polio Transition Programmes on the timescales and to the standards necessary without additional targeted and sustained financial support.

This is another vital question because the success or failure of the entire Polio Programme will depend on its vaccination (oral and inactivated polio vaccines) reach, coverage and immunity levels in the most difficult and underserved places in the world.



09

WHO should initiate high-level discussions with governments not complying with the requirements of the *Global Action Plan for Poliovirus Containment* that deal with risk elimination by destruction. By 2015, facilities were to destroy all poliovirus type 2 specimens and “potentially infectious materials” (if the facility retains poliovirus, then specified bio-risk management steps must be taken); by the end of 2022, countries were asked to complete their reports for wild poliovirus type 1 and type 3 stocks and “potentially infectious materials”.

Potentially infectious materials could be the source of an outbreak that no one is really expecting. They are a weak point in the containment agenda and must be addressed.

10

WHO should develop a roadmap for aligning the containment with eradication timelines, so that containment does not pose a risk when the world is ready to certify itself polio-free. This roadmap should take into consideration new vaccines and technologies and also propose an investment case or analysis of business rationale.

Containment has been a low-profile part of the work and regarded as technical and thus has had less attention in high-level discussions. In fact, it is mission-critical because an escape of a poliovirus through any means, in a situation with suboptimal population immunity, could have devastating effects.

ANNEX

COUNTRY CHARTS DESCRIPTOR

INDICATORS	THRESHOLDS	SOURCE
Capacity and willingness to self-finance	5. Very high concern: Focal person indicated there is zero chance of domestic financing 4. High concern: Focal person indicated there is very low chance of domestic financing, but there is a better chance for external funding from current donor base 3. Moderate concern: Focal person indicated there is a chance of domestic financing, but it is challenging due to economic recession 2. Low concern: Focal person indicated the country is willing to self-finance, but no funds released 1. Very low concern: Country has already released funds	WHO polio transition focal point judgement, 2022-2023.
Political stability	5. Very high concern: -3 to -2.1 4. High concern: -2 to -1.1 3. Moderate concern: -1 to -0.1 2. Low concern: 0 to 0.9 1. Very low concern: 1 to 1.9	Political Stability and Absence of Violence/Terrorism indicator, World Governance Indicators, World Bank, Natural Resource Governance Institute, and the Brookings Institution, 2021.
Government effectiveness	5. Very high concern: -3 to -2.1 4. High concern: -2 to -1.1 3. Moderate concern: -1 to -0.1 2. Low concern: 0 to 0.9 1. Very low concern: 1 to 1.9	Governance effectiveness indicator, World Governance Indicators, World Bank, Natural Resource Governance Institute, and the Brookings Institution, 2021.
Dependence on external financing	5. Very high concern: 41-100% 4. High concern: 21-40% 3. Moderate concern: 11-20% 2. Low concern: 6-10% 1. Very low concern: 0-5%	All-cause, development assistance for health, 2022, as % of total health spending, Institute for Health Metrics and Evaluation, 2020.
Polio outbreak size	5. Very high concern: 201+ cases 4. High concern: 101-200 cases 3. Moderate concern: 51-100 cases 2. Low concern: 0-50 cases 1. Very low concern: No outbreak	Total number of polio cases, all serotypes, between 2018-2022, GPEI, 2022.
Polio infrastructure cost	5. Very high concern: >\$10 million 4. High concern: >\$2 million - ≤ \$10 million 3. Moderate concern: >\$1 million - ≤ \$2 million 2. Low concern: >\$100,000 - ≤ \$1 million 1. Very low concern: ≤ \$100,000	Total cost to implement polio transition per year, WHO, 2022.

INDICATORS	THRESHOLDS	SOURCE
Likelihood of polio transition plan timely delivery	5. Very high concern 4. High concern 3. Moderate concern 2. Low concern 1. Very low concern	WHO polio transition focal point judgement, 2022-2023.
Polio infrastructure as proportion of government health spending	5. Very high concern: >10% 4. High concern: > 6-≤10% 3. Moderate concern: >1-≤5% 2. Low concern: >0.1%-≤ 1% 1. Very low concern: ≤ 0.1%	Source: All cause development assistance for health, Government contributions, Institute for Health Metrics and Evaluation, 2020.
Status of polio transition plan	5. Very high concern: Revision is required/planning has paused 4. High concern: Plan is under revision 3. Moderate concern: Not applicable 2. Low concern: Plan is revised and pending approval 1. Very low concern: Plan is valid for 2023	WHO, 2023 (up until 6 June).
AFP surveillance performance	5. Very high concern: Failed both of the composite surveillance indicators (non-polio acute flaccid paralysis rate and stool adequacy) 4. High concern: Failed one of the composite surveillance indicators 3. Moderate concern: Not applicable 2. Low concern: Not applicable 1. Very low concern: Pass both of the composite surveillance indicators.	WHO, 2023 (up until 6 June).
Environnemental site(s) surveillance performance	5. Very high concern: Less than 50% detection of enteroviruses 4. High concern: 51-60% detection of enteroviruses: 3. Moderate concern: 61%-70% 2. Low concern: 71%-80% 1. Very low concern: 81%+	Average detection of enteroviruses across environmental sites, WHO, 2022. <i>Note: this metric only judges' performance of sites. It does not judge overall adequacy and scope of environmental surveillance.</i>
Level of zero-dose children	5. Very high concern: >1 million children 4. High concern: >500,000 - ≤ 1 million children 3. Moderate concern: >100,000- ≤ 500,000 2. Low concern: >10,000 - ≤ 100,000 children 1. Very low concern: ≤ 10,000 children	Number of children that received no dose of DTP1 in 2022, WHO. Administrative estimates used where WHO/UNICEF Estimates were unavailable.
IPV1 coverage at district level	5. Very high concern: 20% or less 4. High concern: 21-40% 3. Moderate concern: 41-60% 2. Low concern: 61-80% 1. Very low concern: >81%	Administrative data, provided by WHO, 2022.

POLIO TRANSITION
INDEPENDENT MONITORING
BOARD