



POLIO GLOBAL
ERADICATION
INITIATIVE

Global Overview – Status of Polio Eradication

INFORMATION NOTE FOR THE SPECIAL FOCUS SESSION ON POLIO

2021 Annual Session of the UNICEF Executive Board
1 to 4 June 2021



Abbreviations

| | | | |
|--------|---|-------|--|
| AFP | acute flaccid paralysis (cases of paralysis detected in children caused by the polio virus) | nOPV | novel oral polio vaccine |
| bOPV | bivalent oral polio vaccine (used against polio virus type 1 and type 3) | nOPV2 | novel oral polio vaccine type 2 for vaccination against circulating vaccine derived polio virus type 2 |
| CDC | Centers for Disease Control and Prevention (United States) | OPV | oral polio vaccine |
| cVDPV | circulating vaccine-derived polio virus | SAGE | Strategic Advisory Group of Experts on Immunization |
| cVDPV1 | circulating vaccine-derived polio virus type 1 | SIA | supplementary immunization activities |
| cVDPV2 | circulating vaccine-derived polio virus type 2 | tOPV | trivalent oral polio vaccine (used against polio virus type 1, 2 and 3) |
| cVDPV3 | circulating vaccine-derived polio virus type 3 | WPV | wild polio virus |
| GPEI | Global Polio Eradication Initiative | WPV1 | wild polio virus type 1 |
| IMB | Independent Monitoring Board | WPV2 | wild polio virus type 2 |
| IPV | inactivated polio vaccine | WPV3 | wild polio virus type 3 |
| mOPV2 | monovalent oral polio vaccine (used against polio virus type 2) | | |

Key polio milestones

Polio cases **reduced by 99.9 per cent** between 1988 and 2021.

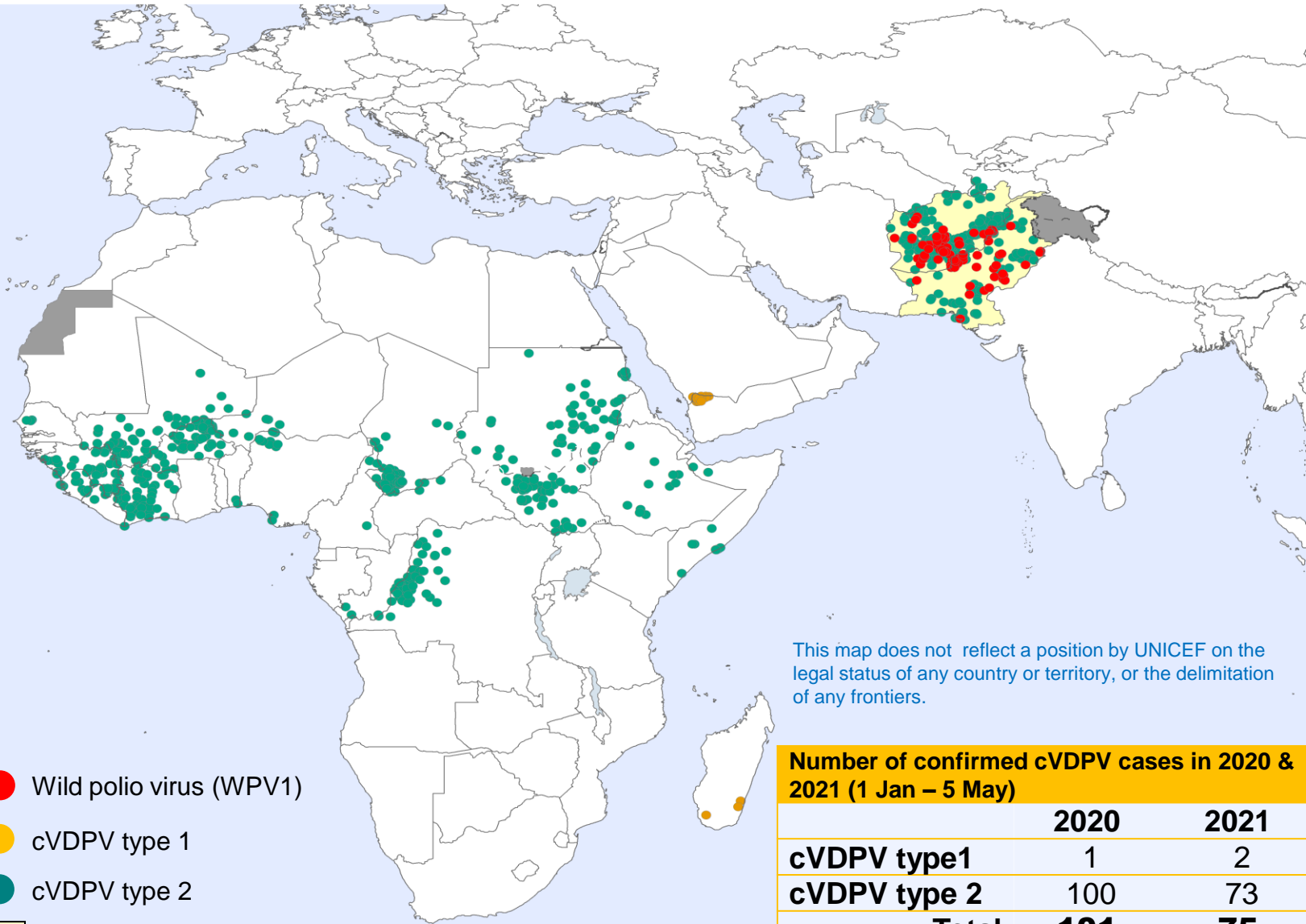
Two out of three* types of wild polio virus have been **eradicated**.

Africa region certified wild polio free in August 2020.



* There are three types of wild polio virus: wild polio virus type 1 (WPV1); wild polio virus type 2 (WPV2) and wild polio virus type 3 (WPV3). WPV2 was eradicated in 2015 and WPV3 in 2019. [Click here for more information.](#)

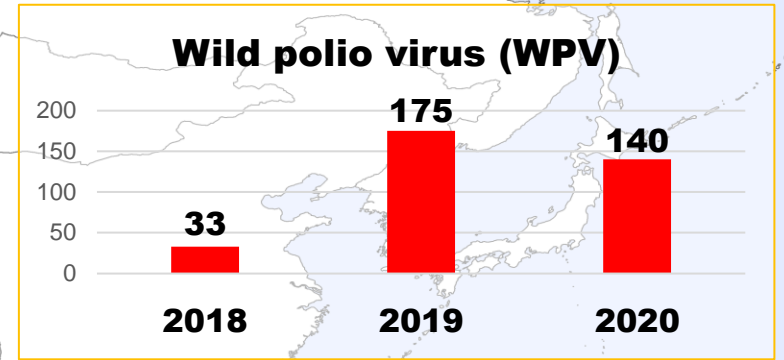
Children paralysed by polio: 2018–2021 (as at 5 May 2021)



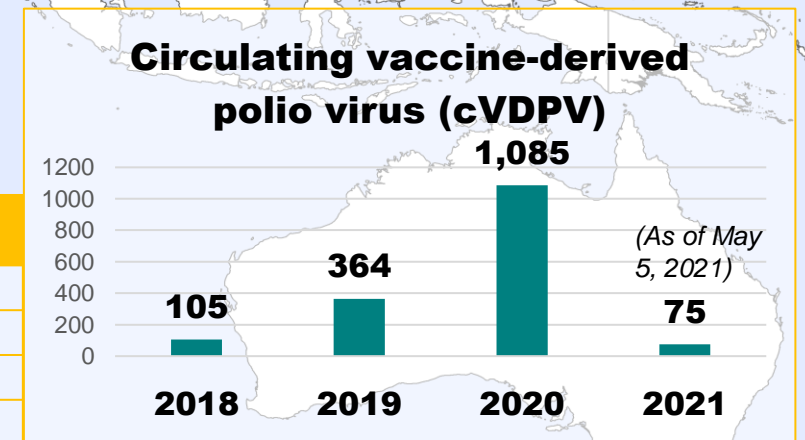
- Wild polio virus (WPV1)
- cVDPV type 1
- cVDPV type 2
- Endemic country (WPV1)

This map does not reflect a position by UNICEF on the legal status of any country or territory, or the delimitation of any frontiers.

| Number of confirmed cVDPV cases in 2020 & 2021 (1 Jan – 5 May) | | |
|--|------------|-----------|
| | 2020 | 2021 |
| cVDPV type1 | 1 | 2 |
| cVDPV type 2 | 100 | 73 |
| Total | 101 | 75 |



| Number of confirmed WPV cases in 2020 & 2021 in the same time period (1 Jan – 5 May) | | |
|--|-----------|----------|
| | 2020 | 2021 |
| Afghanistan | 5 | 1 |
| Pakistan | 41 | 1 |
| Total | 46 | 2 |



What is circulating-vaccine derived polio virus?

Circulating vaccine-derived polio virus (cVDPV) could emerge if the weakened live virus contained in oral polio vaccine (OPV), shed by vaccinated children, is allowed to circulate in under-immunized populations for long enough to genetically mutate to a form that causes paralysis.

While one child with polio is one too many, more than 10 billion doses of OPV have been given to nearly 3 billion children worldwide since the year 2000, and just over 2,299 cases of cVDPV paralysis have been registered during that period.

Why do cVDPV2 outbreaks continue to occur?

Low immunity to type 2 cVDPV due to:



- **Insufficient routine immunization coverage** due to weak health infrastructure in affected countries and global vaccine supply constraints.



- **Declining mucosal immunity levels to the type 2 virus** among young children born after the [switch from trivalent oral polio vaccine to bivalent oral polio vaccine](#).



- **Regional migration patterns** leading to missed children in vaccination campaigns.



- **Low-quality outbreak response campaigns.**



- **Risk of seeding new outbreaks through the use of mOPV2 in areas with low immunization coverage following the ‘switch’**, which makes the need for a vaccine with increased genetic stability critical for eradication.

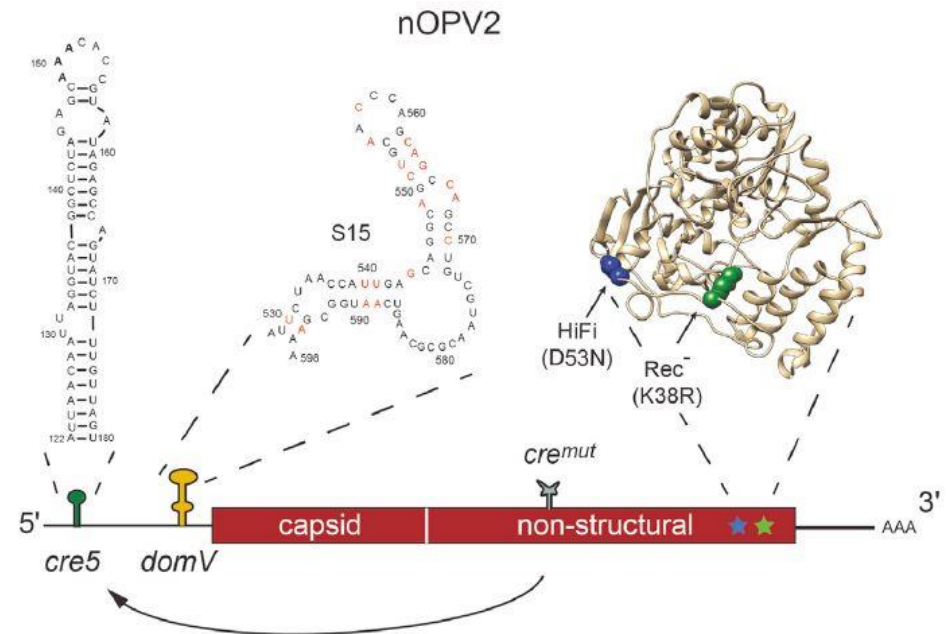
nOPV2: A new tool to stop cVDPV2 outbreaks

WHAT IS nOPV2?

- nOPV2 is a modified version of mOPV2. Like mOPV2, it will be used in outbreak response
- Studies to date have shown that nOPV2 is **more genetically stable and therefore less likely to revert to a form that can cause paralysis**

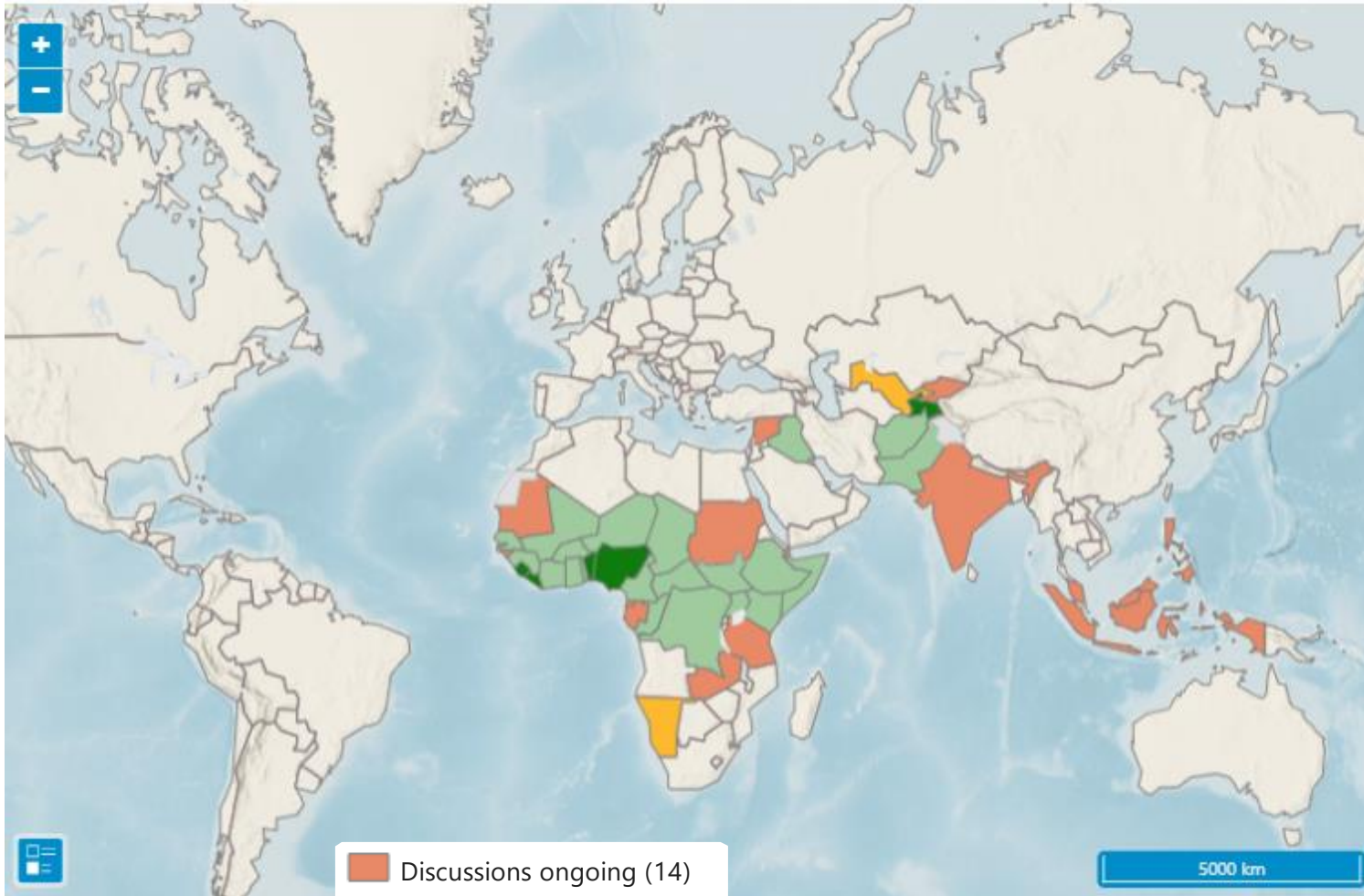
Several countries began rolling out nOPV2 in late March 2021 under emergency use listing thanks to the support, commitment and leadership of the Bill & Melinda Gates Foundation in particular, in addition to partners of the Global Polio Eradication Initiative.

nOPV2 Genome with modifications



Ming Te Yeh, Erika Bujaki, Patrick T. Dolan, Matthew Smith, Rahnuma Wahid, John Konz, Amy J. Weiner, Ananda S. Bandyopadhyay, Pierre Van Damme, Ilse De Coster, Hilde Revets, Andrew Macadam, and Raul Andino, 'Engineering the Live-Attenuated Polio Vaccine to Prevent Reversion to Virulence', *Cell Host and Microbe*, 2020.

nOPV2 readiness update



- Discussions ongoing (14)
- Preparations launched (2)
- Verification in progress (22)
- Verified (5)

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27 countries across three regions have submitted documents in support of their readiness to introduce nOPV2:

- Africa (22 countries)
- Europe (1 country)
- Middle East (4 countries)

5 countries have been verified as ready to use nOPV2:

- Benin
- Liberia
- Nigeria
- Sierra Leone
- Tajikistan

nOPV2 roll out has begun

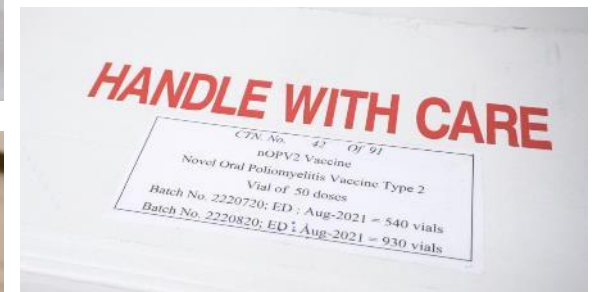
First two countries to roll out nOPV2

| Country | <u>Vaccination campaign date</u> | Target population (Children aged 0 to 59 months) |
|--|--|---|
| Nigeria (Delta, FCT, Sokoto, Zamfara, Niger, Bayelsa staet) | Round 1 (R1): COMPLETED Round 2 (R2): Ongoing | 7,208,970 |
| Liberia | R1: COMPLETED R2: 28-31 May 2021 | 938,000 |

CURRENTLY PLANNED nOPV2 responses*

| Country | <u>Planned campaign dates</u> | Target population (Children aged 0 to 59 months) |
|-----------------------|-------------------------------|---|
| Benin | R1: COMPLETED | 1,805,538 |
| Sierra Leone | Last Week of May 2021 | 1,472,813 |
| Nigeria (Kebbe state) | Last Week of May 2021 | 1,688,246 |
| Tajikistan | Last week of May 2021 | 1,271,566 |

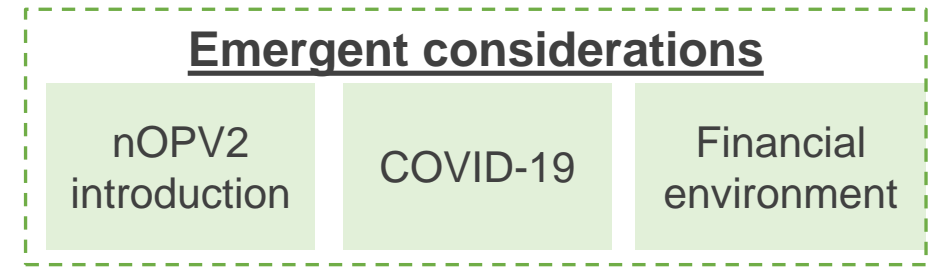
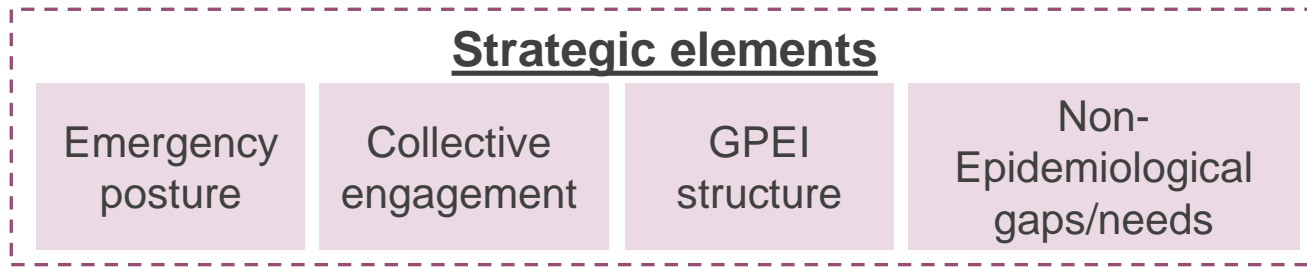
*Campaign dates are dependent on national contexts (i.e., elections, other vaccine-preventable disease emergencies/campaigns), as well as COVID-19 situations in-country along with COVAX vaccine roll-out.



GPEI Strategy 2022–2026

Insufficient progress towards eradication has triggered a strategy revision to address the strategic and emergent challenges.

The GPEI Polio Endgame Strategy 2019-2023 did not adequately address:



To ensure a comprehensive understanding of challenges and potential solutions, the GPEI engaged with over 300+ stakeholders for an extensive and inclusive strategy development process that included:



*Independent Monitoring Board **Strategic Advisory Group of Experts on Immunization

The resulting strategy seeks to drive a shift in two key ways across both endemic and outbreak countries

Emergency focus



In this strategy, GPEI commits to:

- Re-establishing polio eradication as a **public health emergency** and priority of the highest order.
- Holding the partner Governments, agencies and others who support the strategy **accountable** for rapid progress, as a means of cementing the emergency nature of the programme.

Collective engagement



In this strategy, GPEI commits to:

- Better reflect the needs, voices, and capabilities of the **broad spectrum of stakeholders** on whom eradication depends.
- Shift the balance of **capacity and decision-making** away from HQ-level **towards regional and country teams.**

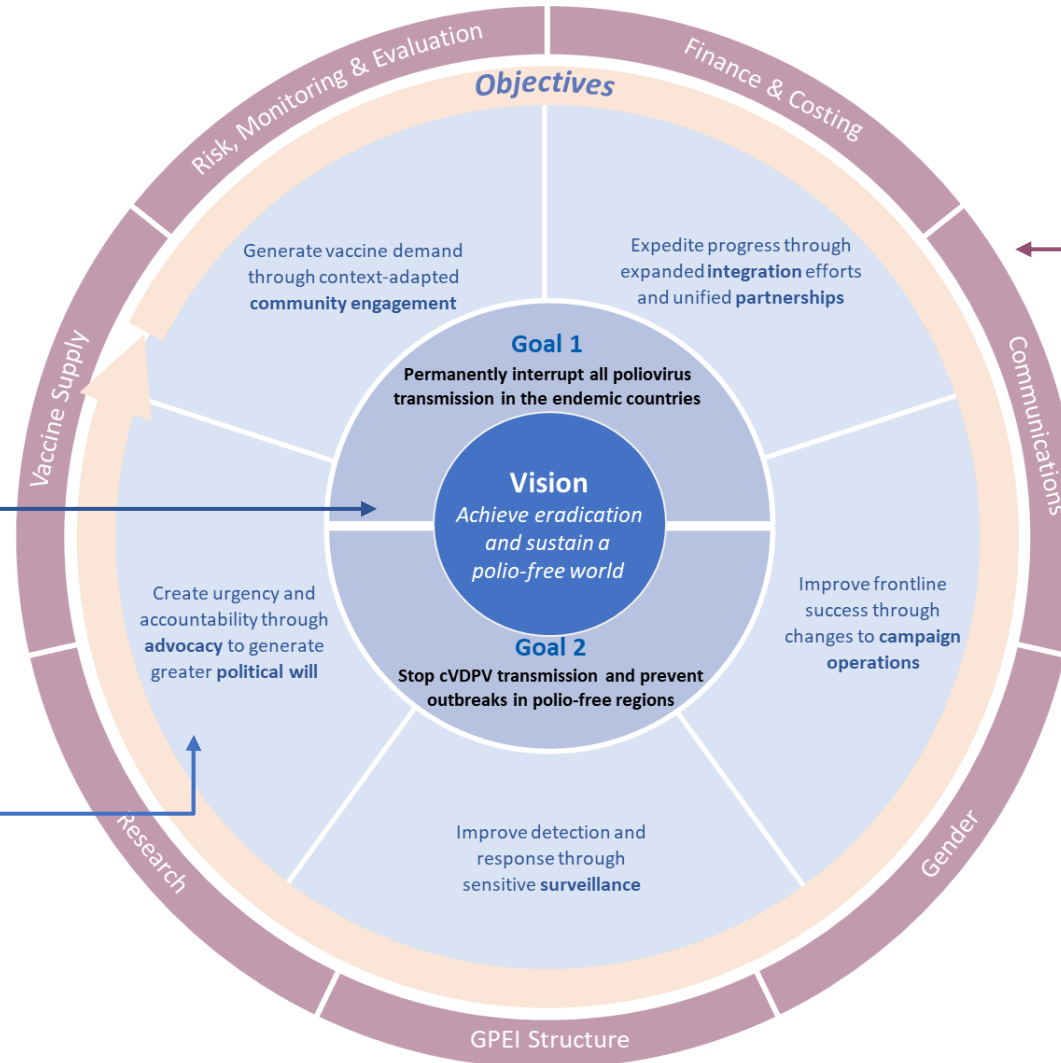
These overarching strategic shifts reflect the collective will of the six partner agencies (including country and regional staff), donors, governments and external experts engaged throughout the GPEI most extensive strategy process to-date

The strategy aims to achieve the vision of eradicating polio and sustaining a polio-free world

Two goals will deliver on the vision of a polio-free world

Seven enabling factors are critical to the success of the strategic objectives

Five strategic objectives provide the means by which to achieve Goals 1 and 2



GOAL 1: Permanently interrupt all poliovirus transmission in the endemic countries

Key challenges

- Lack of **ACCESS** to areas controlled by anti-government elements in Afghanistan, resulting in 2.6 million children missed by campaigns since 2018.
- **Partnership** with Pashto communities, which represent 15% of population but 85% of cases.
- Sub-optimal **SIA performance**, especially in key reservoir areas
- **Government ownership**, particularly at the sub-national level.
- **“Polio fatigue”** from polio-only campaigns.

Strategic objectives



Political advocacy - including more proactive and strategic approach to partnering with governmental stakeholders from all levels in Afghanistan and Pakistan to build trust and advocate for polio eradication priorities, listening and responding to input and concerns through two-way ongoing dialogue.



Community engagement to foster greater co-ownership and vaccine receptivity in focus populations, including evolving the composition, notably through an **increase in female community mobilizers & vaccinators to help overcome current issues in gaining access to homes.**



Campaigns reach all children through **SIAs that directly address and resolve current government ownership and community resistance challenges.**



Integration ensures mutual reinforcement of polio and other health/development programs, so as to **engender partnership with governments, communities, and adjacent health programs** and ensure vaccines reach more children.



Surveillance evolves towards monitoring for **polio and other vaccine preventable disease.**

GOAL 2: Stop cVDPV transmission and prevent outbreaks in polio-free regions

Key challenges

- **nOPV rollout** and monitoring
- Lack of **emergency posture** and operations from in Afghanistan and Pakistan experiencing outbreaks and the GPEI
- **Declining immunity** levels to all types, especially type 2 among children born after the switch tOPV to bOPV in 2016
- Reach and quality of **surveillance** do not support the urgency of stopping cVDPV outbreaks. For example, sample collection and notification to the World Health Organization takes about 55 days in many geographies

Strategic objectives



Surveillance capacity improves to more **rapidly detect, sequence and initiate response activities** across current outbreaks as well as at-risk countries



Political advocacy ensures emergency posture and resourcing to **accelerate outbreak response**, as well as support the transition of GPEI resources to governments



Campaigns cover a large enough area with the right **tools to ensure interruption of transmission**, while providing operational guidance and processes to manage potential scenarios and decisions related to nOPV use

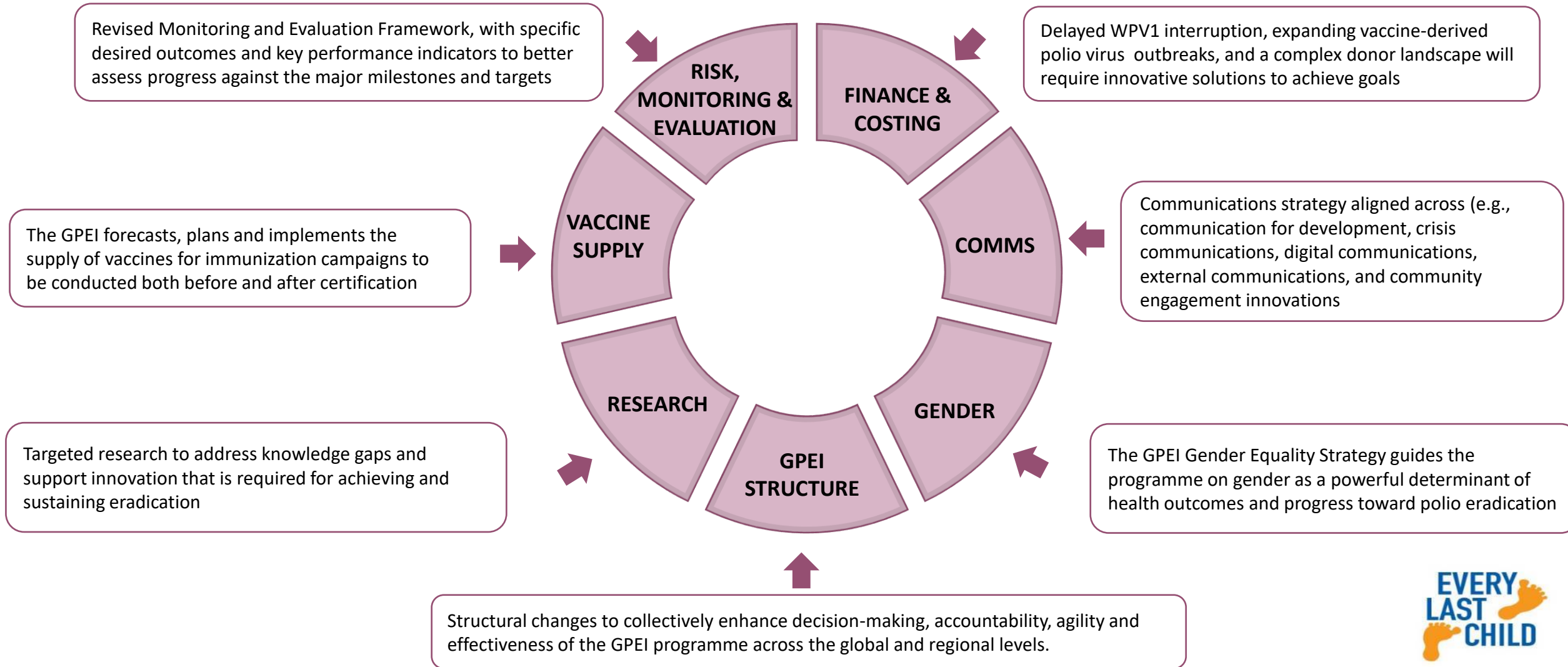


Integration drives coordination and co-delivery with parallel routine immunization activities to **support population immunity to polio between polio SIAs**



Community engagement is sustained through community-based surveillance and communication activities **that continue even in the absence of polio**, to detect outbreaks and combat vaccine misinformation

Seven enabling factors that are critical to achieving both goals of the new GPEI strategy





GPEI Partners

Rotary



POLIO GLOBAL ERADICATION INITIATIVE



BILL & MELINDA GATES foundation



UNICEF continues playing a spearheading role in global polio eradication efforts

Managing supply & safe delivery of vaccines to countries

UNICEF procures and distributes over **one billion doses** of the polio vaccine every year

Building trust in vaccines among parents and caregivers and encouraging vaccination

The first critical step towards achieving high polio vaccination coverage