IMB Meeting – Source Materials

July 2023

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Dedication

For their invaluable contributions to world health by vaccinating children and delivering other health services to their communities, the Global Polio Eradication Initiative dedicates this review to frontline workers, and particularly those workers who have lost their lives.

The review is also dedicated to children, adolescents, and adults affected by polio and to the polio-affected advocates who have used their voice and experience to play a key role in the eradication effort.

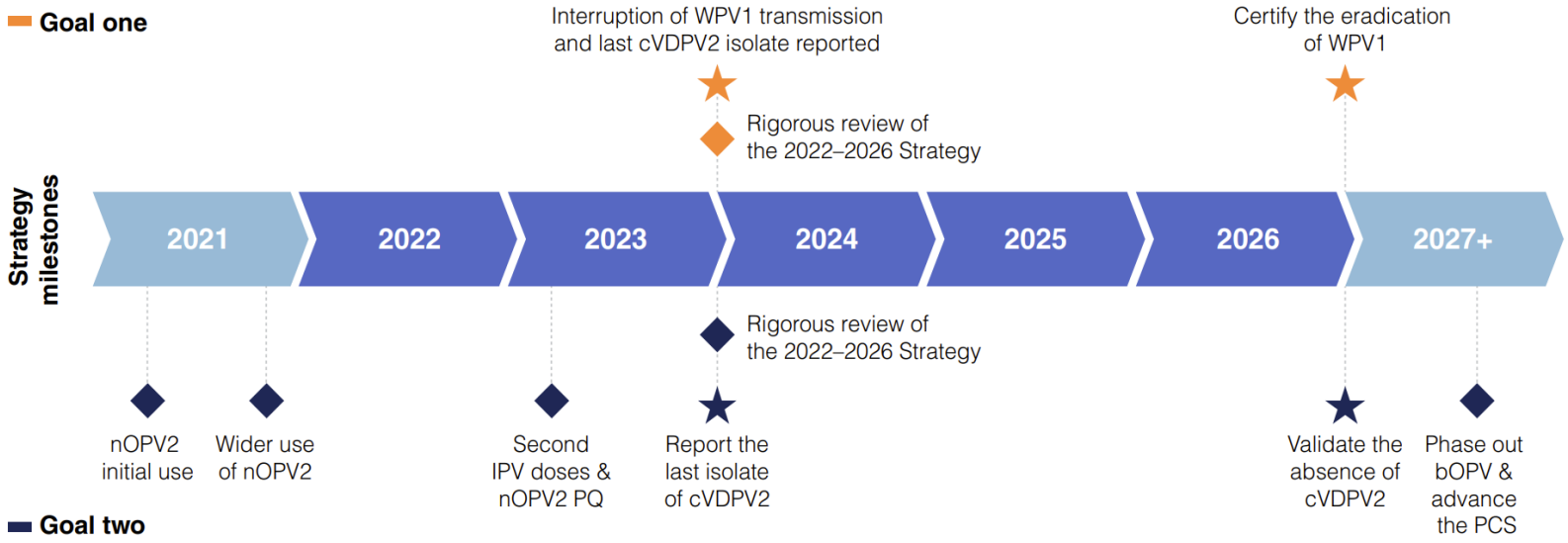
Thank you.

Introduction

Strategic Review

- 2023 is a critical year for the Global Polio Eradication Initiative (GPEI). It is the target year to interrupt all remaining wild poliovirus type 1 (WPV1) and circulating vaccine-derived poliovirus type 2 (cVDPV2) transmission, per the GPEI Polio Eradication Strategy 2022–2026.
- A rigorous independent review will be undertaken by the third quarter of 2023 to assess whether the programme is on track to meeting Goal 1 and Goal 2 of the Strategy:
    - Permanently interrupt all poliovirus transmission in endemic countries
    - Stop transmission of cVDPV2 and prevent outbreaks in non-endemic countries
- This review will be conducted by the Independent Monitoring Board (IMB), an independent group of public health experts established at the request of the World Health Assembly, to monitor and independently verify progress towards the achievement of a lasting polio-free world. The IMB has a long history in evaluating GPEI's cross-cutting work and recommending measures to help strengthen strategic approaches. The independent review will be geared specifically to:
    - Evaluate progress towards Goals 1 and 2 of the Polio Eradication Strategy 2022-2026
    - Assess whether the strategic plan is a) on track, b) at risk, c) off track or d) missed
    - Identify areas where corrective action plans are required and evaluate the quality, implementation, and impact of corrective action plans
- GPEI will work closely with the IMB to ensure that it has all necessary inputs, analytics, and modelling required to inform its deliberations during its July 2023 meetings. The IMB plans to publish its findings and recommendations to the GPEI Polio Oversight Board (POB) in August 2023.
- This document aims to provide a synthesis of the evidence on the current state of progress towards Strategy Goals 1 and 2 and is intended to complement the other sources of information the IMB will review and use, including reports of key polio advisory and oversight bodies (e.g., GCC, IHR EC, TAG) and—importantly—the IMB meeting itself, in which input from a range of stakeholders will be elicited, including in-depth sessions with delegations from Afghanistan, Pakistan, DR Congo, and Nigeria.
- The most recent IMB annual report, *Highs and Lows in the Quest for Zero (April 2022)*, is available here.

GPEI Strategy 2022–2026: Overview



Note:

- The Strategy milestones, set in 2021, assumed that there would have to be a fixed three-year period of non-detection after interruption of transmission to certify eradication.
- In June 2022, the GCC recommended that for WPV1 (Goal 1) the fixed three-year period of non-detection be replaced with a flexible period of **not less than two years** that takes into account the quality of surveillance in endemic countries, the risk in sub-population groups poorly or not reached by surveillance, and other data such as molecular analysis of the last chains of transmission
- The timeline to validate the absence of cVDPV2 (Goal 2) is still under consideration by the GCC. A decision is expected later this year.

Progress towards interrupting polio transmission by end-2023

	Objective	Current state	Overview
Goal 1	Interrupt all wild poliovirus by end of 2023	Endemic transmission is restricted to Southern KP in Pakistan and the Eastern Region of Afghanistan	• One case and ten ES+ detections in Pakistan in 2023. Historic reservoirs no longer endemic • Continuing transmission in eastern Afghanistan (5 cases) and a recent ES positive in Kandahar • Cross-border transmissions detected • No agreement to conduct house-to-house in the south means Afghanistan faces significant risks
	Global eradication of all wild poliovirus certified by 2026	Number of transmission chains is significantly reduced	
		Both remaining WPV1 transmission chains have survived the 2022–2023 low season	
Goal 2	cVDPV2 interruption by end of 2023	Number of AFP cases, transmission chains, and infected districts is reducing	• Successful nOPV2 rollout has seen a reduction in new vaccine-derived emergences • Reducing trend of cVDPV2 cases and environmental detections • Enhanced geographic scope of response but timeliness and quality of response remain a challenge • Effectiveness of intensive response in the MCGs will be key for interruption of transmission
	Absence of cVDPV2 by 2026	Increasing concentration of the virus – 84% of cases in *most consequential geographies* (MCG)	
		Beyond standard responses planned or under implementation in the MCGs of eastern DRC, northern Nigeria, central Somalia, and northern Yemen	

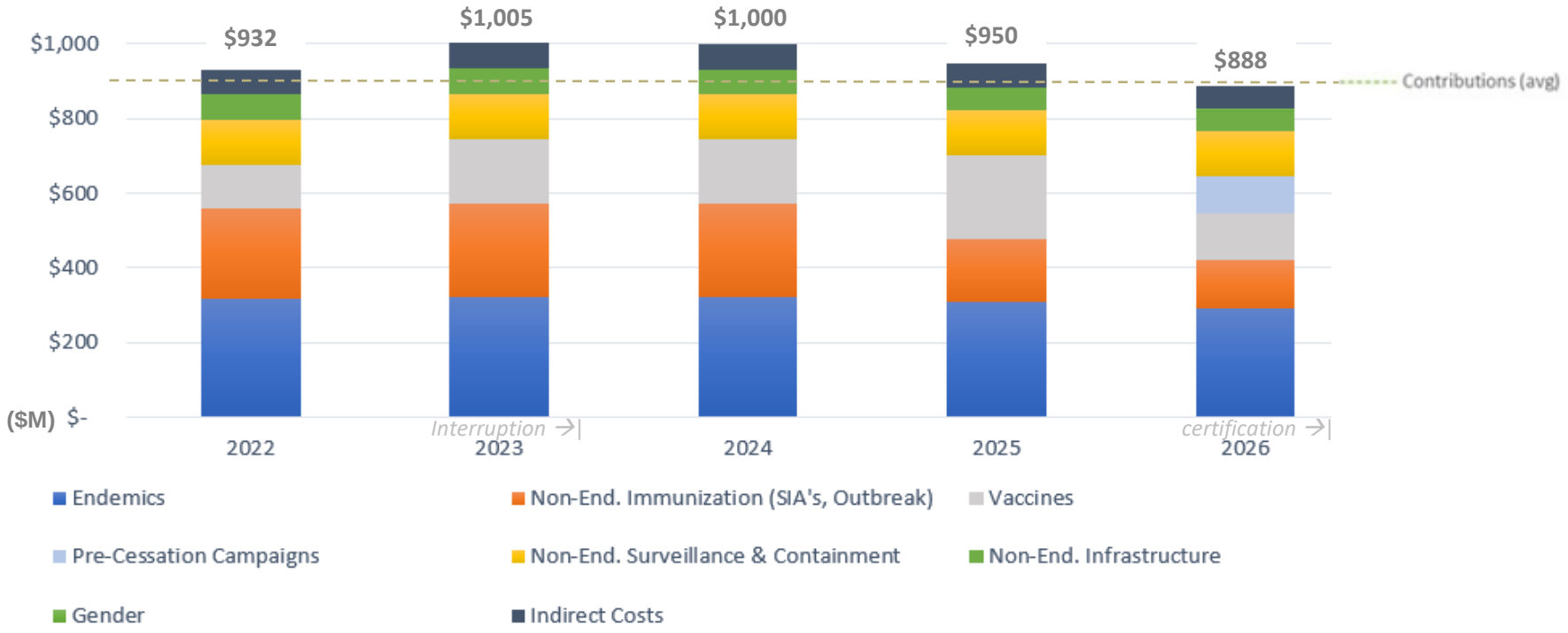
Note on Methodology

- Data presented below reflect various timeframes, depending on the source. Dates are generally noted on the slide.
- Information and recommendations for Goal One were sourced from the Technical Advisory Group (TAG)’s June 2023 report. Recommendations are drawn from the TAG materials.
- Data change almost daily. The editors gratefully acknowledge the efforts of so many to ensure up-to-date information.

Acronyms and Abbreviations

- AFP – Acute flaccid paralysis
- bOPV – Bivalent oral polio vaccine
- CSO – Civil society organization
- cVDPV – Circulating vaccine-derived poliovirus
- cVDPV1 – Circulating vaccine-derived poliovirus type 1
- cVDPV2 – Circulating vaccine-derived poliovirus type 2
- cVDPV3 – Circulating vaccine-derived poliovirus type 3
- EI – Essential immunization
- EOC – Emergency operations centre
- EPI – Expanded Programme on Immunization
- ES – Environmental surveillance
- FFM – Fake finger marking
- EUL – Emergency Use Listing
- GCC – Global Commission for the Certification of the Eradication of Poliomyelitis
- GIS – Geographic information system
- GPEI – Global Polio Eradication Initiative
- GPLN – Global Polio Laboratory Network
- IHR – International Health Regulations
- IMB – Independent Monitoring Board
- IPV – Inactivated polio vaccine
- KPI – Key performance indicator
- LQAS – Lot quality assurance sampling
- M&E – Monitoring and evaluation
- mOPV1 – Monovalent oral polio vaccine type 1
- mOPV2 – Monovalent oral polio vaccine type 2
- mOPV3 – Monovalent oral polio vaccine type 3
- NEAP – National Emergency Action Plan
- NGO – Nongovernmental organization
- nOPV1 – Novel oral polio vaccine type 1
- nOPV2 – Novel oral polio vaccine type 2
- nOPV3 – Novel oral polio vaccine type 3
- NPAFP – Non-polio acute flaccid paralysis
- OPV – Oral polio vaccine
- OPV2 – Oral polio vaccine type 2
- PCS – Post-Certification Strategy
- POB – Polio Oversight Board
- PQ – Prequalification
- SAGE – Strategic Advisory Group of Experts on Immunization
- SC – Strategy Committee
- SIA – Supplementary immunization activity
- SOP – Standard operating procedure
- TAG – Technical Advisory Group
- tOPV – Trivalent oral polio vaccine
- VDPV – Vaccine-derived poliovirus
- VDPV1 – Vaccine-derived poliovirus type 1
- VDPV2 – Vaccine-derived poliovirus type 2
- VPD – Vaccine-preventable disease
- WHE – World Health Organization Health Emergencies Programme
- WPV – Wild poliovirus
- WPV1 – Wild poliovirus type 1
- WPV2 – Wild poliovirus type 2
- WPV3 – Wild poliovirus type 3

Multiyear Budget* Estimated at $4.8B



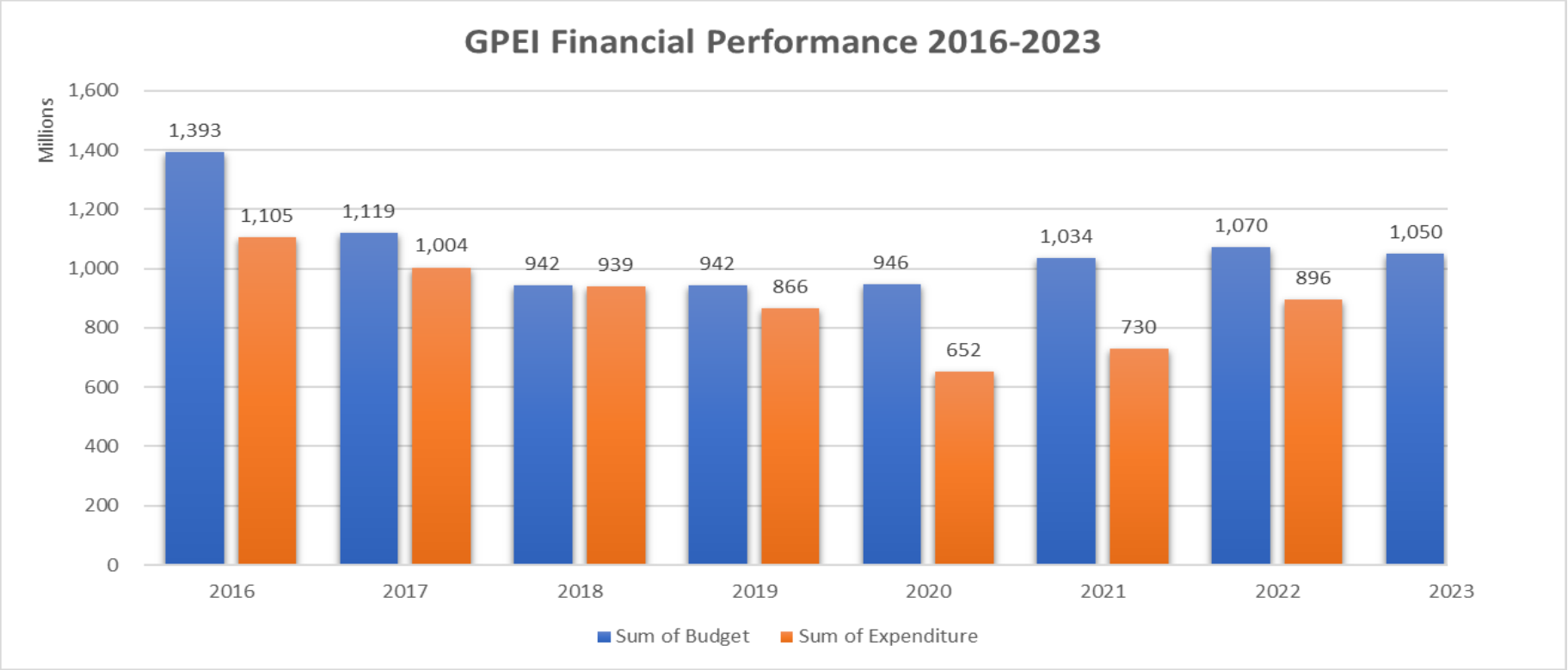
Original Multiyear budget assumptions:

- Continued strong investment in Pakistan and Afghanistan programmes through certification, with a gradual reduction only from 2025 onwards
- The surveillance budget remains constant to maintain the quality standards necessary for certification
- Outbreak response, by nature unpredictable, was a planning challenge. Therefore, GPEI budgeted outbreak response at 2020-2021 levels (US$ 156 million/year) through 2024, before a decline in 2025-2026
- Technical assistance and communications in non-endemics ramps-down 10% per year after interruption
- The vaccine procurement plan supports SIAs to control and stop outbreaks and investments for post-certification vaccine supply in the final year of the strategy
- 1% of GPEI's operational budget dedicated to support gender equality

2022-23 Budgets: Key Takeaways

- The five-year budget for the 2022-2026 Strategy was costed at USD 4.8bn.
- Current funding pledges stand at USD 3.3bn, leaving a current funding gap of USD 1.5bn.
- GPEI´s funding projections estimate that USD 1bn could be raised in additional contributions by 2026.
- The average annual budget for the Strategy is USD 960m, and the programme is spending at a rate of a little under USD 900m per year.
- The WPV1 importation and the cVDPV1 outbreaks in Africa put considerable stress on the outbreak budget which was costed to cover cVDPV2 response and was already over stretched by the scale of the demand.
- The 2022 outbreak budget was increased from USD 156m to USD 360m to cover the additional campaign demands. The campaign budgets achieved an implementation rate of 90%.
- A similar pattern has been seen in 2023 with the USD 238m outbreak budget increased to USD 366m by June of this year with further demand expected.
- Preventative campaigns and vaccine stockpile budgets have been deprioritized to cover these costs, in addition to underspends elsewhere in the programme being re-invested in outbreak response.
- To date the WPV1/cVDPV1 response has taken up 37% of the outbreak budget

Expenditure Trajectory 2016–2023



Key Takeaways:

- Expenditure has never exceeded budget
- Average annual expenditure for the programme is < $900m, but in 2023, with increasing outbreak needs, the programme may return to pre-pandemic spending
- Approved 2022/23 budgets were higher than the original 5yr budget estimate but we will remain within the 4.8bn envelope

*2023 expenditure is projected based on Quarter 1 implementation rates

GPEI Pledges, Available Resources, and Funding Gap

Current GPEI funding status

- The total multiyear requirement is **$4.8 billion**
- The **current pledges** stand at **$3.3 billion***
- The current funding gap stands at **$1.5 billion (31%)** for the 2022-2026 Strategy period

GPEI´s funding projections for the Strategy period (2022-2026)

- If donors maintain **historical levels of funding and lapsed/new donors provide additional funding,** the GPEI estimates that **additional ~ $1 billion** could be raised through 2026. These projections will be updated after the Strategy Review

Key resource mobilization risks and challenges

- The GPEI does not see any scope for additional funding beyond the projected ~ $1 billion that could potentially be raised
- **Highly constrained ODA landscape** (driven by ODA cuts, Ukraine refugee costs and increased humanitarian costs) twinned with growing global public health needs and asks from other initiatives limit available funds for polio
- **Honoring and/or timely monetization of pledges** to ensure the programme remains fully operational
- **Inadequate level of flexible funding** to respond to the evolving epidemiology

*Including the carryforward

Goal One

Permanently interrupt all wild poliovirus transmission in endemic countries

Goal One Progress Summary

- Endemic transmission has been restricted to Southern KP in Pakistan and the Eastern Region of Afghanistan.
- As we enter the high-transmission season, the risk of outbreaks rises; programme must respond rapidly and effectively to outbreaks as they occur.
- Continued low-level transmission in Southern KP and intensified transmission in Nangarhar are a clear threat, especially in Southern shared Pakistan-Afghanistan corridors with significant immunity gaps.
- Recent detection in Kandahar highlights significant risks ahead.
- Programme must consistently reach approximately 350,000 children in Eastern Afghanistan and Southern KP to interrupt transmission.
- WPV1 transmission chains appear significantly reduced (Afghanistan and Pakistan) or interrupted (AFRO importation).

Introduction

- Much of what follows for Goal One is sourced from the Technical Advisory Group (TAG)'s June 2023 report. Recommendations are drawn from the TAG materials.
- The TAG meets regularly to monitor and review progress toward polio eradication; it provides technical advice on strategy, priorities, and programme operations.
- Some highlights from the June TAG report are noted below:

- TAG noted continued progress as a result of sustained commitment by leadership in Pakistan across all levels and agencies, and the resilience, courage, and dedication of frontline workers and programme staff in Afghanistan and Pakistan.

- Both countries' programmes have made progress in endemic zones and successful outbreak response despite significant challenges including political instability, government transitions, economic difficulties, and increasing security and humanitarian concerns.

- Geographically, transmission remained concentrated in endemic zones of Southern KP in Pakistan and the East Region of Afghanistan; the programme has responded effectively to each virus detection, preventing the establishment of transmission outside the endemic zones.

- Transmission chains are decreasing.

Goal One: Epidemiology Overview

Risk Categorization

- Only 2/34 provinces in AFG and 7/160 districts in PAK remain endemic. Large portions of both countries have been polio-free for years.
- Risk categorization established by TAG since the last IMB meeting paved way for focused approach in both countries (Oct 2022).
- TAG suggests continuing the same risk categorization.

1. Endemic interruption

Endemic Districts
Southern KP endemic zone and East Region of Afghanistan

2. Outbreak response

Outbreak Response District
Districts with new detection of WPV1

3. Reduction of risk

Very high risk / Consequential
Historic reservoirs or vulnerable districts adjacent to infected areas

4. Maintenance

All other districts

Epidemiology: One Bloc

- WPV1 transmission has survived in the low season in the two remaining endemic zones in Afghanistan and Pakistan:
  - Continuing outbreak in Nangarhar (Afghanistan)
  - Concentrated circulation in a smaller geographic area within Southern KP
- WPV1 detection in Kandahar is a public health emergency and a major risk of a large outbreak.
- Programme is entering a period of increased risk that coincides with high transmission season.

Table 1. Human WPV1 cases and environmental detections

Country	WPV1 cases			Date of last case onset	ES detections		Date of last detection
	2021	2022	2023		2022	2023	
Pakistan	*1*	*20*	*1*	*20 February 2023*	*37*	*10*	*15 May 2023*
Afghanistan	*4*	*2*	*5*	*18 May 2023*	*22*	*29*	*23 May 2023*
Total	**5**	**22**	**6**	**18 May 2023**	**59**	**39**	**23 May 2023**

Epidemiology: Endemic Zones

- Pakistan
  - 1 WPV1 case (YB3C) from February 2023 in Bannu in Khyber Pakhtunkhwa.
  - Virus detection increased in Southern KP in the second half of 2022; there are 10 national detections as of 24 June (in Punjab, KP, and Sindh).
- Afghanistan
  - Virus detection and cases increased in the East Region of Afghanistan through the 2022/23 low season.
  - An environmental sample detection in Kandahar and continued challenges in house-to-house campaigns in Afghanistan require close scrutiny.

Table 1. Human WPV1 cases

Country	WPV1 Cases		Date of last case onset
	2022	2023	
Afghanistan	**2**	**5**	**18 May 2023**
Paktika	*1*	*0*	*14 January 2022*
Kunar	*1*	*0*	*29 August 2022*
Nangarhar	*0*	*5*	*18 May 2023*
Pakistan	***20***	***1***	**20 February 2023**
Punjab	*0*	*0*	*21 October 2020*
Sindh	*0*	*0*	*14 July 2020*
Khyber Pakhtunkhwa	*20*	*1*	*20 February 2023*
Balochistan	*0*	*0*	*27 January 2021*
AJK/G-Baltistan	*0*	*0*	*13 February 2017*
Islamabad	*0*	*0*	*27 September 2008*
Total cases	**22**	**6**	

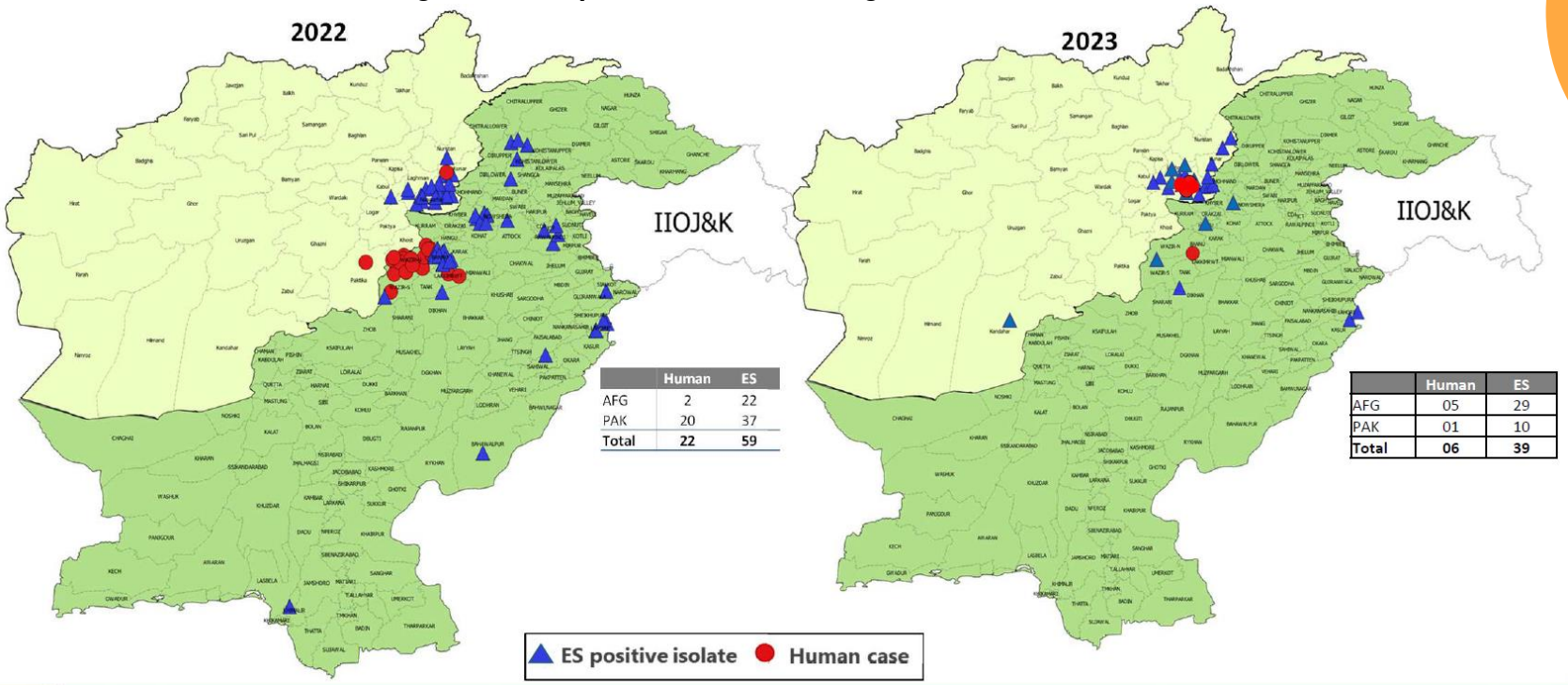
Epidemiology: Outbreaks

- Virus was exported from southern KP to other parts of KP, Punjab, and Sindh during 2022 and again in 2023. Outbreak response appears to have stopped further transmission in 2022.
- In May 2023, an ES positive (WPV1) was collected at environmental site Sohrab Goth in Karachi (a former reservoir).
- Virus was exported from East Region of Afghanistan into Pakistan along the Northern Corridor affecting KP and Punjab.
- Virus exported from East Region to the South Region of Afghanistan (notified 2 June 2023).

Most recent cases:
- **Pakistan:** February 2023 in Bannu
- **Afghanistan:** May 2023 in Nangarhar

Most recent ENV positive:
- **Pakistan:** May 2023 in Karachi (Sindh)
- **Afghanistan:** May 2023 in Nangarhar

Figure 1. Wild poliovirus isolates, Afghanistan and Pakistan

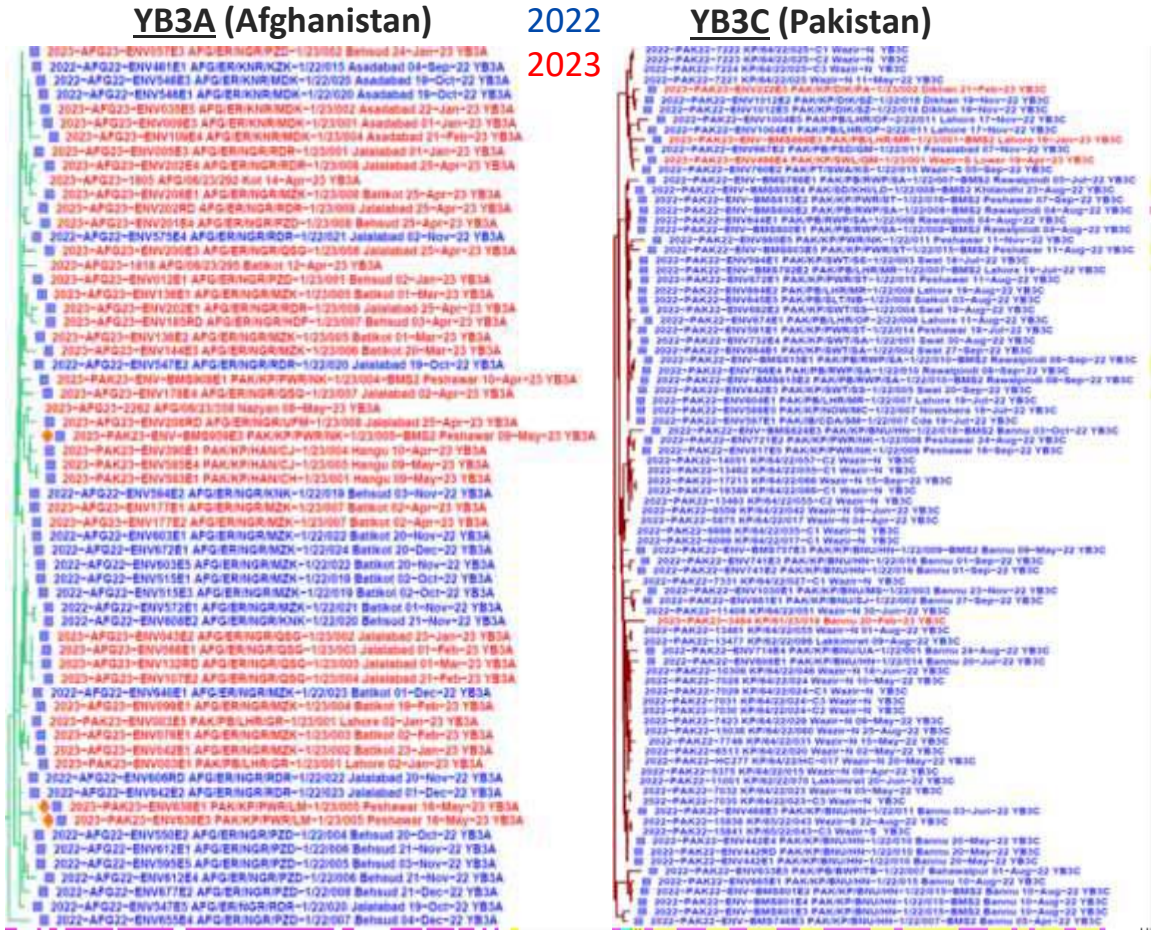


	Human	ES
AFG	2	22
PAK	20	37
Total	22	59

	Human	ES
AFG	05	29
PAK	01	10
Total	06	39

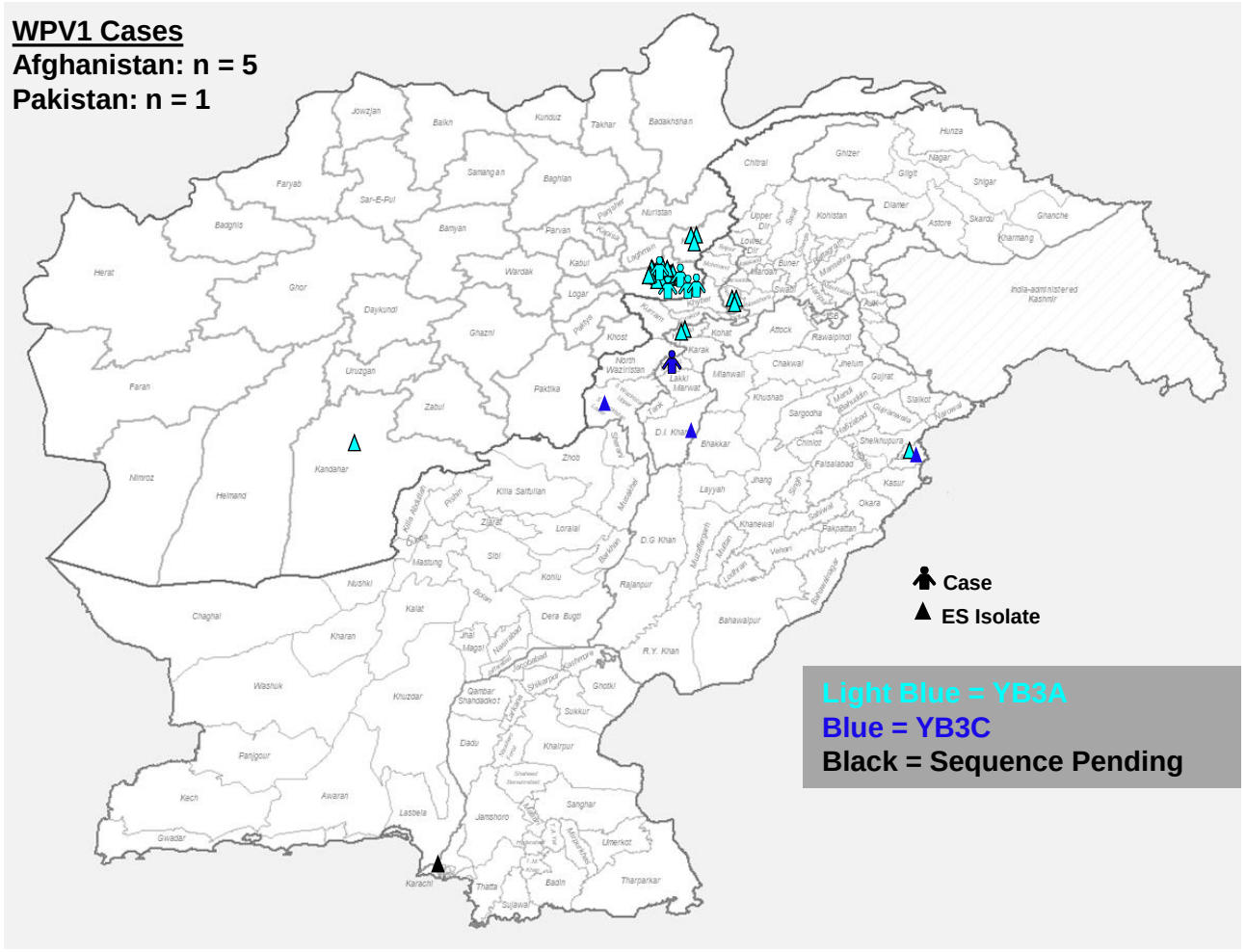
Epidemiology: Molecular Genetics

- Virus characterizations from 2022–2023 confirm previous finding that all previously-suspected WPV1 genetic clusters have been eliminated.
- Absence of significant genetic gaps for most viruses show transmission and exports are effectively detected though there are viruses with large genetic gaps raising concerns about persistently missed populations.
    - Though AFG doesn't have recent orphan viruses, there are cases with linkage to closest relative, indicative of considerable circulation prior to detection.
- Programme has seen transmission chains decline from 11 → 1 in Pakistan and from 8 → 1 in Afghanistan from 2020 to 2023.
- Overall force of transmission has reduced significantly.



Genetics: WPV1 Cases and ES+ by Cluster 2023

WPV1 Cases
Afghanistan: n = 5
Pakistan: n = 1



Light Blue = YB3A
Blue = YB3C
Black = Sequence Pending

Most recent WPV1 isolates for each cluster that was in circulation in 2022:
YB3A → 23 May 2023 (Nangarhar ES)
YB3C → 19 April 2023 (S Waziristan Lower ES)

WPV1 ES+ Isolates in 2023

1. Jalalabad (Nangarhar), YB3A, 1 Jan 2023
2. Asadabad (Kunar), YB3A, 1 Jan 2023
3. Behsud (Nangarhar), YB3A, 2 Jan 2023
4. Lahore (Punjab), YB3A, 2 Jan 2023
5. Lahore (Punjab), YB3C, 16 Jan 2023
6. Asadabad (Kunar), YB3A, 22 Jan 2023
7. Jalalabad (Nangarhar), YB3A, 23 Jan 2023
8. Batikot (Nangarhar), YB3A, 23 Jan 2023
9. Behsud (Nangarhar), YB3A, 24 Jan 2023
10. Jalalabad (Nangarhar), YB3A, 1 Feb 2023
11. Batikot (Nangarhar), YB3A, 2 Feb 2023
12. Batikot (Nangarhar), YB3A, 19 Feb 2023
13. DI Khan (KP), YB3C, 21 Feb 2023
14. Jalalabad (Nangarhar), YB3A, 21 Feb 2023
15. Asadabad (Kunar), YB3A, 21 Feb 2023
16. Jalalabad (Nangarhar), YB3A, 1 Mar 2023
17. Batikot (Nangarhar), YB3A, 1 Mar 2023
18. Batikot (Nangarhar), YB3A, 20 Mar 2023
19. Batikot (Nangarhar), YB3A, 2 Apr 2023
20. Jalalabad (Nangarhar), YB3A, 2 Apr 2023
21. Behsud (Nangarhar), YB3A, 3 Apr 2023
22. Peshawar (KP), YB3A, 10 Apr 2023
23. Hangu (KP), YB3A, 10 Apr 2023
24. S Wazir Lower (KP), YB3C, 19 Apr 2023
25. Jalalabad (Nangarhar), YB3A, 25 Apr 2023
26. Jalalabad (Nangarhar), YB3A, 25 Apr 2023
27. Behsud (Nangarhar), YB3A, 25 Apr 2023
28. Batikot (Nangarhar), YB3A, 25 Apr 2023
29. Jalalabad (Nangarhar), YB3A, 25 Apr 2023
30. Hangu (KP), YB3A, 9 May 2023
31. Peshawar (KP), YB3A, 9 May 2023
32. Karachi (Sindh), 15 May 2023
33. Peshawar (KP), YB3A, 16 May 2023
34. Batikot (Nangarhar), YB3A, 21 May 2023
35. Jalalabad (Nangarhar), YB3A, 21 May 2023
36. Jalalabad (Nangarhar), YB3A, 21 May 2023
37. Jalalabad (Nangarhar), YB3A, 21 May 2023
38. Kandahar (Kandahar), YB3A, 21 May 2023
39. Behsud (Nangarhar), YB3A, 23 May 2023

Genetics: WPV1 Cases & ES+ by Cluster, 2022-2023

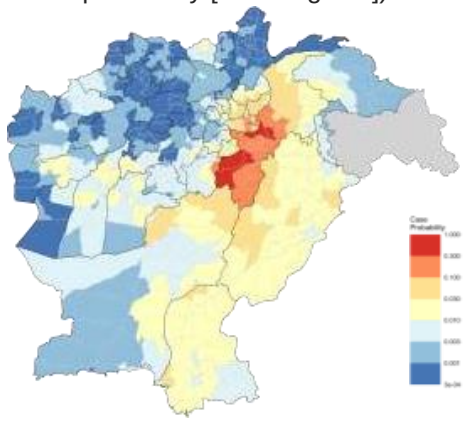
June	July	August	September	October	November	December	January	February	March	April	May	June
		Swat 30 Aug										
		"Kunar, 29 Aug"										
		"N Wazir, 25 Aug"										
		Peshawar 24 Aug										
		Bannu, 24 Aug			Bannu, 23 Nov							
		Karachi, 23 Aug			Nangarhar, 21 Nov					Nangarhar, 25 Apr	Nangarhar, 23 May	
		"S Wazir, 22 Aug"			Nangarhar, 21 Nov					Nangarhar, 25 Apr	Kandahar, 23 May	
		Lahore, 19 Aug			Nangarhar, 20 Nov					Nangarhar, 25 Apr	Nangarhar, 21 May	
		Swat 19 Aug	Swat, 27 Sep		Nangarhar, 20 Nov					Nangarhar, 25 Apr	Nangarhar, 21 May	
		Lahore, 11 Aug	Bannu, 27 Sep		DI Khan, 19 Nov		Nangarhar, 24 Jan			Nangarhar, 25 Apr	Nangarhar, 21 May	
	Kunar, 20 July	Peshawar, 11 Aug	Swat, 20 Sep		Lahore, 17 Nov		Nangarhar, 23 Jan			S Wazir, 19 Apr	Nangarhar, 21 May	
	Bannu, 20 Jul	Bannu, 10 Aug	Peshawar, 16 Sep		Peshawar, 11 Nov		Nangarhar, 23 Jan	DI Khan, 21 Feb		*"Nangarhar, 14 Apr"*	*"Nangarhar, 18 May"*	
	Lahore, 19 Jul	*"N Wazir, 9 Aug"*	*"N Wazir, 15 Sep"*	Nangarhar, 20 Oct	Faisalabad, 7 Nov		Kunar, 22 Jan	Kunar, 21 Feb		*"Nangarhar, 12 Apr"*	*"Nangarhar, 16 May"*	
"N Wazir, 30 June"	Islamabad, 19 Jul	*"L Marwat, 9 Aug"*	Rawalpindi, 8 Sep	Nangarhar, 19 Oct	Nangarhar, 3 Nov	Nangarhar, 21 Dec	Lahore, 16 Jan	Nangarhar, 21 Feb		Hangu, 10 Apr	Peshawar, 16 May	
"L Marwat, 20 June"	Swat 18 Jul	Rawalpindi, 4 Aug	Peshawar, 7 Sep	Kunar, 19 Oct	Nangarhar, 3 Nov	Nangarhar, 20 Dec	Lahore, 2 Jan	*"Bannu, 20 Feb"*		Peshawar, 10 Apr	Karachi, 15 May	
"N Wazir, 18 June"	Peshawar 18 Jul	Sialkot, 3 Aug	S Wazir, 5 Sep	Nangarhar, 19 Oct	Nangarhar, 2 Nov	Nangarhar, 4 Dec	Nangarhar, 2 Jan	Nangarhar, 19 Feb	Nangarhar, 20 Mar	Nangarhar, 3 Apr	Peshawar, 9 May	
"N Wazir, 9 June"	Nowshera, 18 Jul	Bahawalpur, 1 Aug	Kunar, 4 Sep	Bannu, 3 Oct	Nangarhar, 2 Nov	Nangarhar, 1 Dec	Kunar, 1 Jan	Nangarhar, 2 Feb	Nangarhar, 1 Mar	Nangarhar, 2 Apr	Hangu, 9 May	
Bannu, 3 June	Rawalpindi, 5 Jul	*"N Wazir, 1 Aug"*	Bannu, 1 Sep	Nangarhar, 2 Oct	Nangarhar, 1 Nov	Nangarhar, 1 Dec	Nangarhar, 1 Jan	Nangarhar, 1 Feb	Nangarhar, 1 Mar	Nangarhar, 2 Apr	*"Nangarhar, 8 May"*	
2022							2023					

Light Blue = YB3A
Blue = YB3C
No Color = Sequence Pending

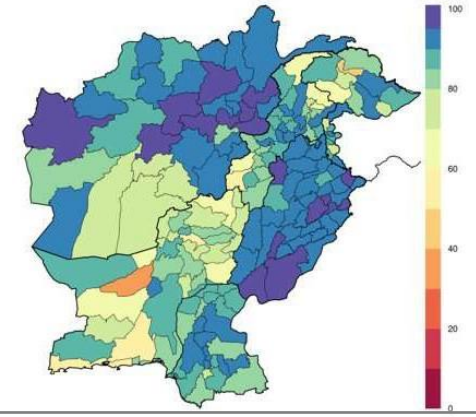
Goal One: Risks Overview

Risks

Afghanistan and Pakistan May–November Case Risk Model (color indicates case probability [red = highest])



Afghanistan and Pakistan Serotype-1 immunity based on non-polio AFP data (<36 months)



Risks remain in Southern KP and East Region of Afghanistan in the coming months. Larger contextual risks include:

- Deterioration of humanitarian and security context in both Pakistan and Afghanistan, including low-intensity conflict in Southern KP.
- Cost of living and risk of floods.
- Lack of access to high-risk populations.
- Elections in Pakistan.
- Challenges staffing women in polio workforce.

Epidemiological risks:

- Persistence of endemic circulation in East Afghanistan and Southern KP.
- Major risk of amplification of virus in Kandahar, Peshawar, KP, and cross border transmission.
- Increased risk of spread to polio-free areas in high transmission season.
- Afghanistan remains highly vulnerable to a significant outbreak based on immunity levels (see map at left).

Cross-border Challenges

Cross-border transmission risks	• Ongoing transmission in northern and central corridor; evidence of expansion in northern corridor ahead of the high season. • Concerning immunity gap in southern corridor; high risk of an extensive outbreak. • Challenges synchronizing SIAs.
Improved cross-border communication	• Subnational cross-border coordination meeting in March 2023 after 5 years. • Subnational level action trackers updated and activated, with regular follow-up virtual meetings between corridor teams. • May 2023 SNID synchronized in bordering areas (except Southern KP). • Joint risk assessments and briefings need to be conducted.

Goal One: Endemics: Afghanistan & Pakistan

Priorities

1. Interrupt transmission in endemic zones of Southern KP and East Afghanistan with urgency.

2. Mount a robust and effective response to WPV1 in Kandahar, which now represents a public health emergency.

3. Maintain rapid and effective outbreak response, with strong focus on Peshawar and Karachi.
   - Given recent SIA challenges and potential transmission within and beyond Pakistan

4. Reduce risk in historic reservoirs.
   - Quetta Block has accumulated a large susceptible population.

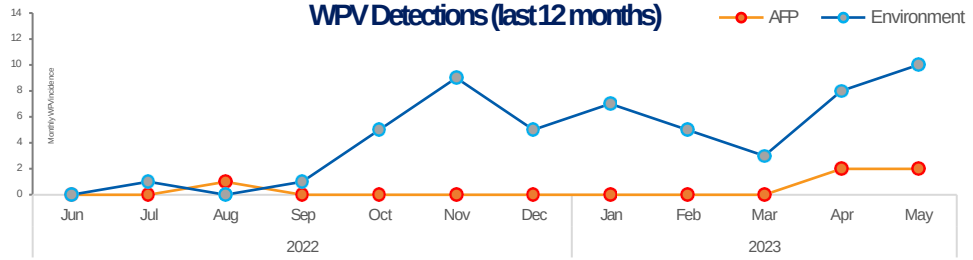
Afghanistan

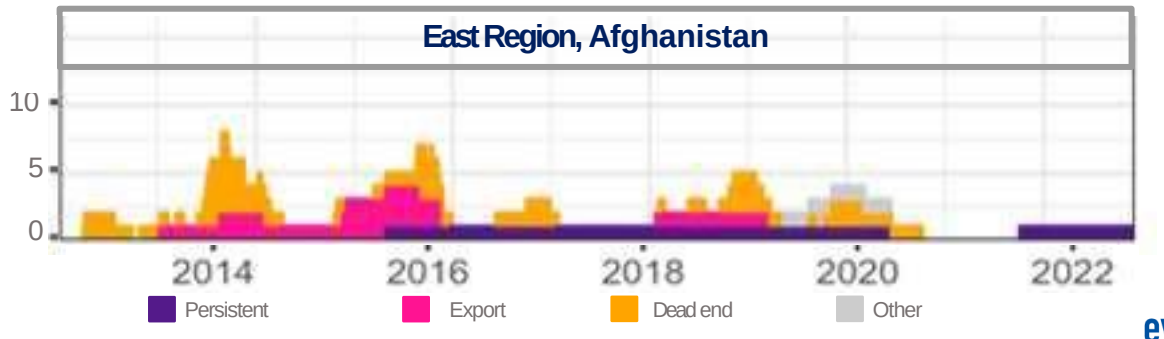
Findings: East Region of Afghanistan Epidemiology

- **Increase** in WPV1 cases and detections through low transmission season compared to 2021 and 2022.
- Historic interruption has required **sustained high-quality SIAs.**
  - Recent improvements in quality must continue and be sustained to interrupt transmission.
  - Consistently in the 90%+ category for quality but need to get into 95%+ threshold.
    - A high population density creates a higher force of infection in Afghanistan, e.g., there are over 700,000 children in Nangarhar.

Latest WPV1 detection:
Case: 18 May 2023
ES+: 23 May 2023

There is a genetic gap (1.22% divergence) of the isolate from most recent case (Door Baba)





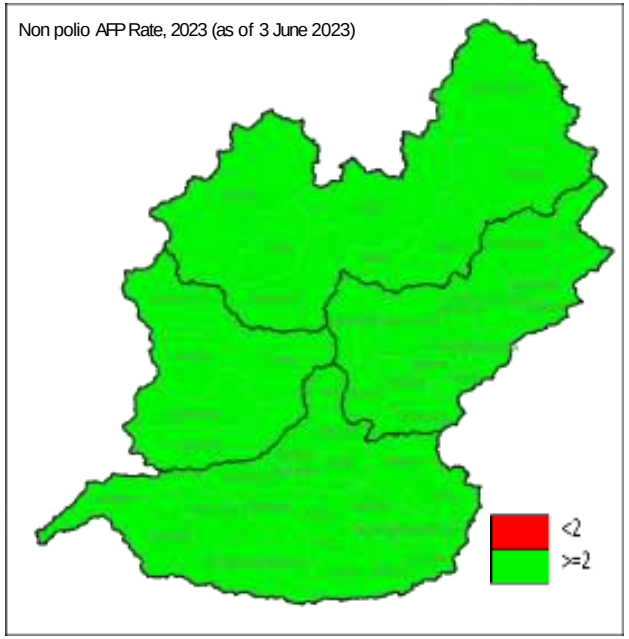
Findings: East Region of Afghanistan Surveillance

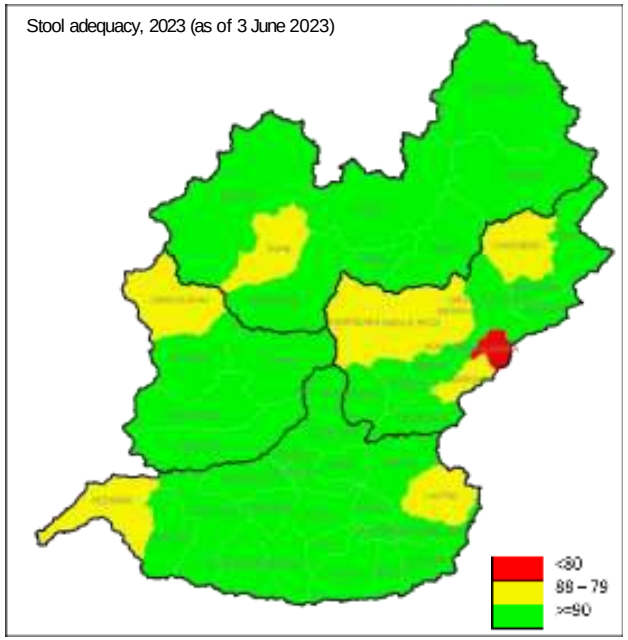
AFP surveillance gaps:

- Pockets of low stool adequacy.
- There is an overall reduction in the detection of NPEV across Pakistan and Afghanistan which happens with enteroviruses. Reductions in SL likely represent improving immunity.

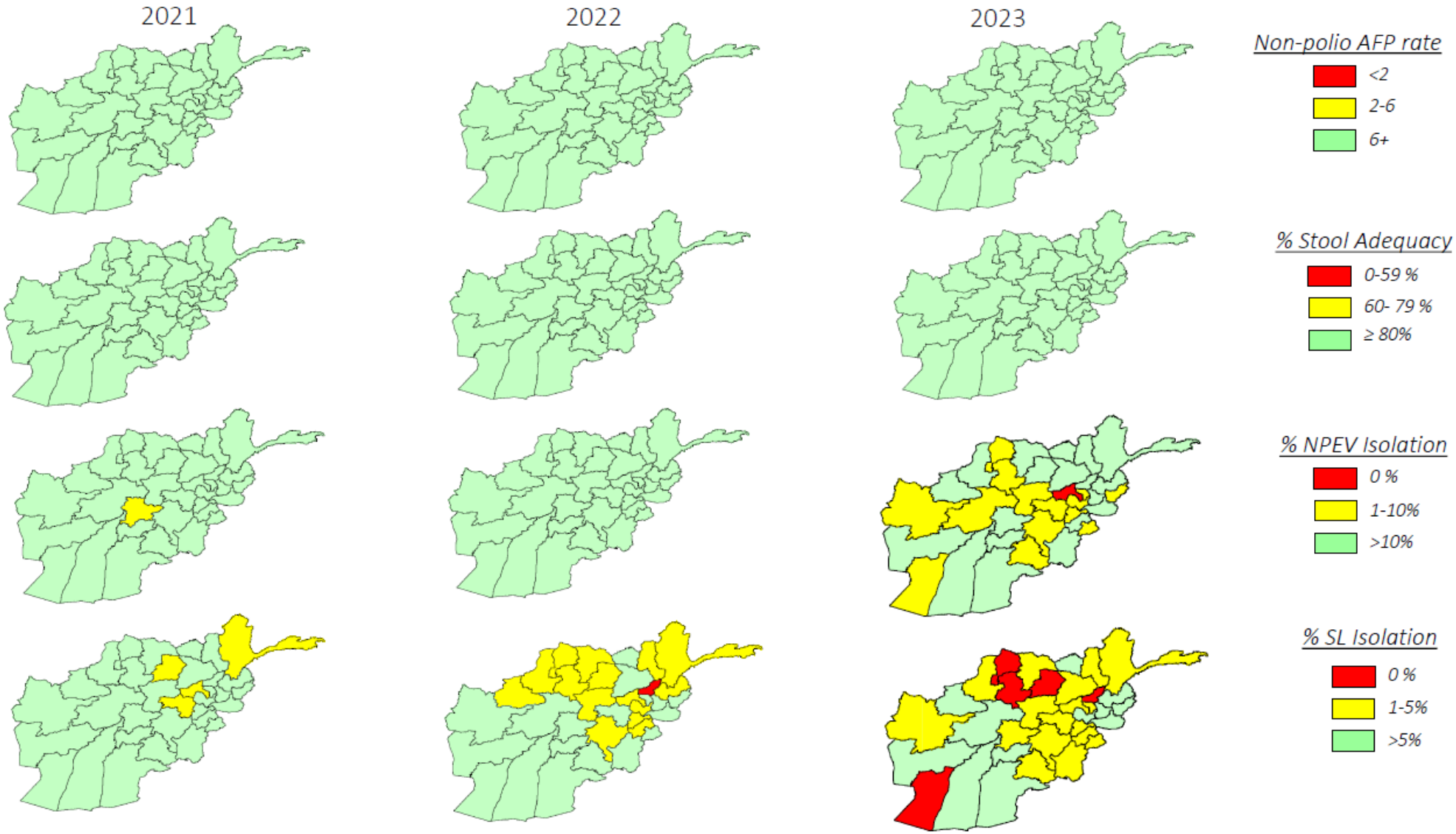
AFP surveillance system is functional (external review findings):

- Active surveillance visits and zero reporting regular.
- Sites geographically well distributed.
- Records well maintained, and data used for further improvement.
- Reporting network:
  - District AFP focal points well trained, linked to community-based reporting volunteers.
  - Good coverage of population through community networks, active surveillance and zero-reporting.
- Private health sector supportive and important health facilities included.
- Specimen collection and transport: no significant gap in verified sample.
- AFP surveillance well coordinated with Pakistan programme.





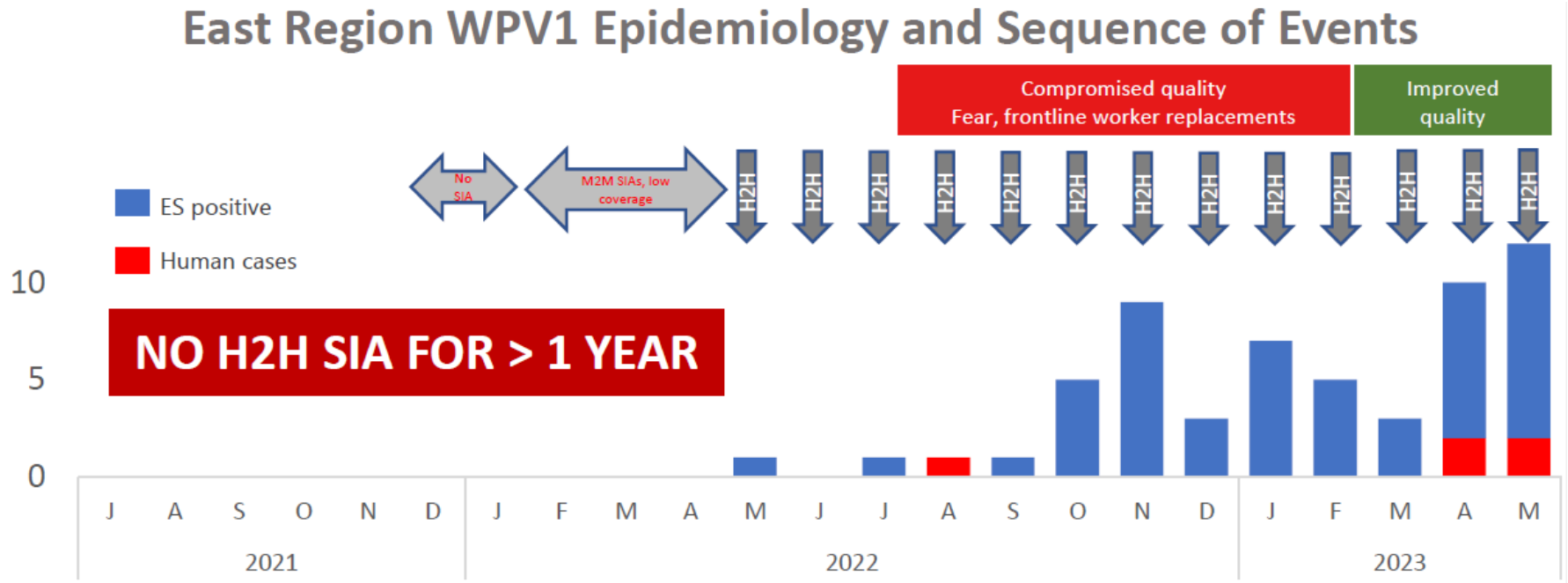
Afghanistan AFP Surveillance by Province



Findings: East Region of Afghanistan Immunization

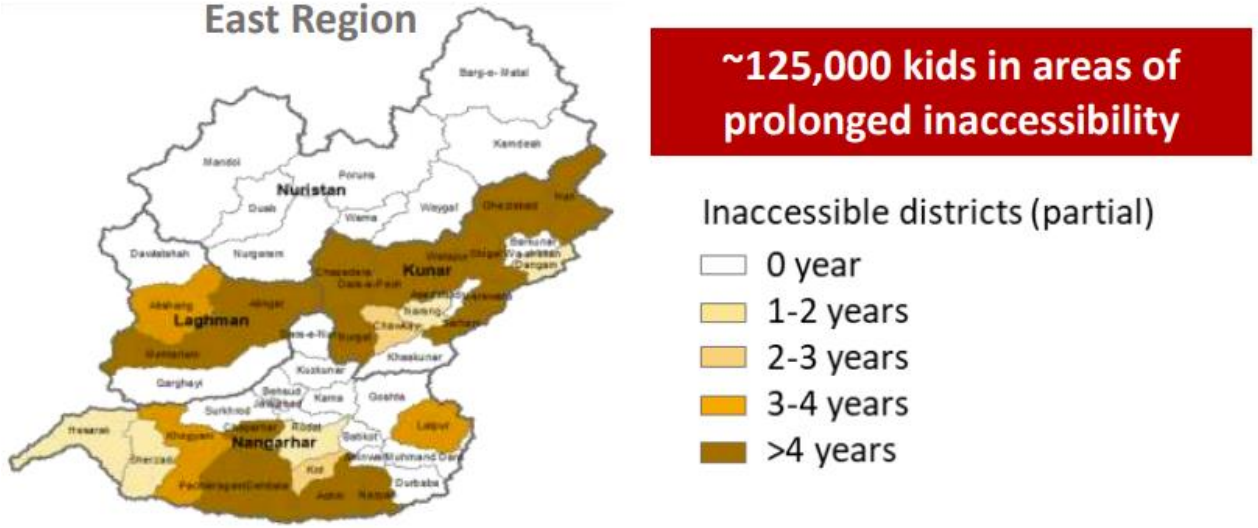
Contributors to decreased immunity in East Region:

- Significant disruption in campaigns 2021–22.
- Clusters of chronic refusal families.
- Potential pockets of susceptibility in children 5-10 years old due to history of inaccessibility.



Findings: East Region of Afghanistan Immunization

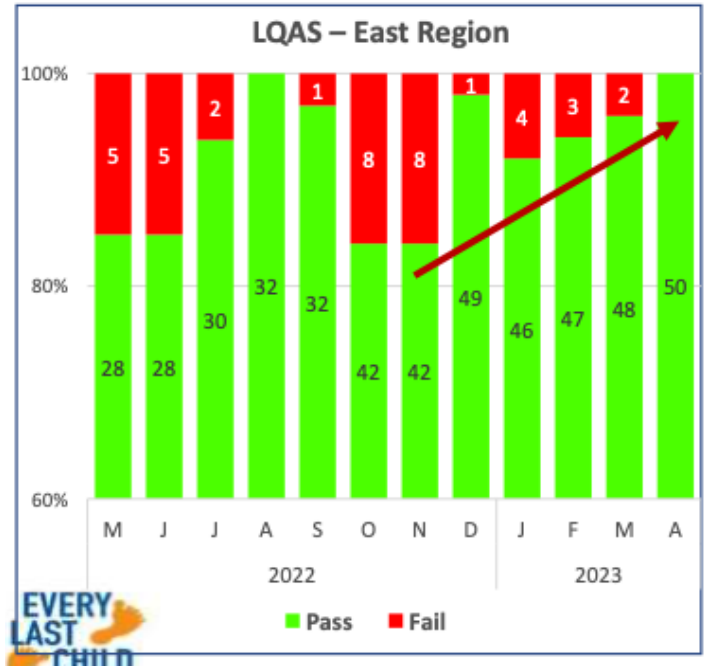
- Areas under Taliban control were inaccessible until late 2021/early 2022.
- Resumption of house-to-house campaigns is very recent.
- Increasing access, but prior history of distrust and programme is now addressing significant backlog.

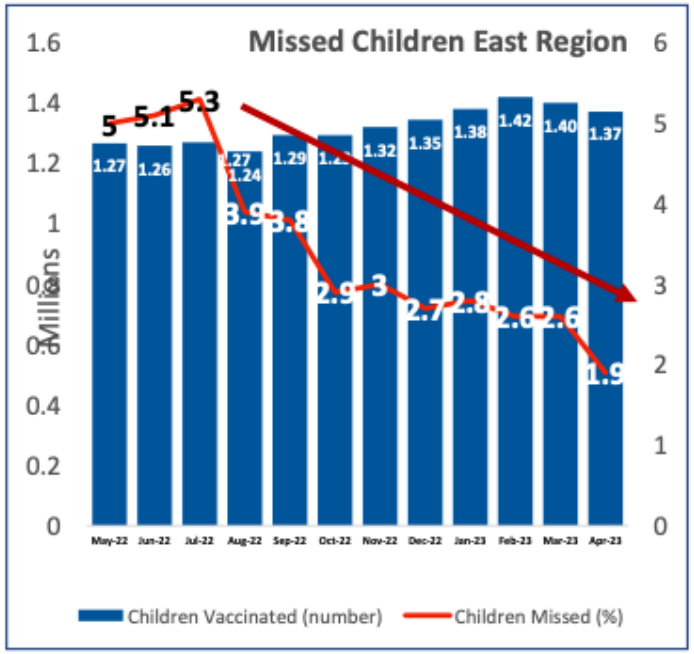


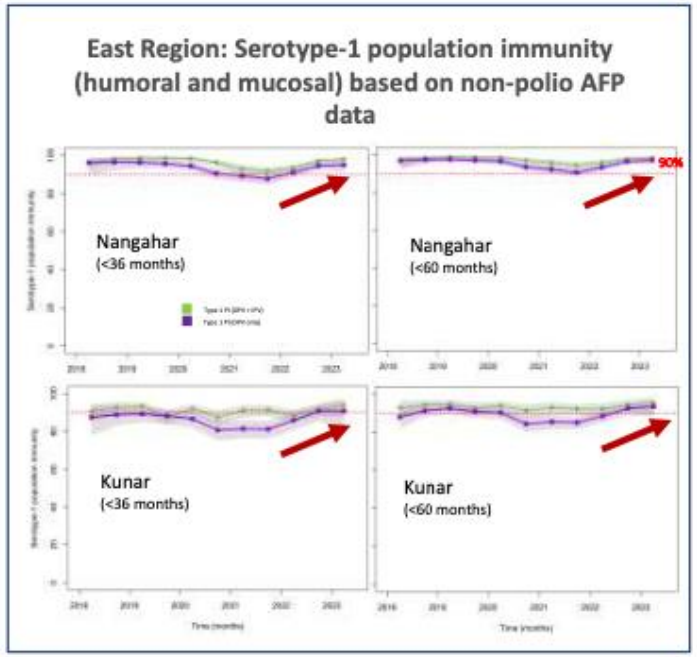
East Region WPV1 Epidemiology and Sequence of Events

Findings: East Region of Afghanistan Immunization

- Recent improvements in campaign quality are encouraging.
- Quality assurance is improving, missed children are decreasing, and population immunity is improving.
- TAG recognizes efforts: reducing persistent missed children, improving frontline worker capacity, use of APMIS, floating teams, shadow monitoring, validation of locked houses.







Endemic Zones: East Region of Afghanistan: Recommendations: Surveillance

AFP surveillance

- Optimize networks for timeliness:
    - Identify causes and improve on delay in specimen dispatch.
    - Improve early notification through first contact (under-reported AFP).
- Improve Record Keeping (CIF):
    - Modify Case investigation form to include information on IPV1 and IPV2. National surveillance team to review.

Environmental surveillance

- Monitoring and evaluation of ES quality in the East.
- Assess potential expansion in ES in areas with associated geographies within the East Region.

Endemic Zones: East Region of Afghanistan: Recommendations: Immunization

Full access + H2H + increasing campaign quality = opportunity to interrupt endemic transmission in East Region.

TAG recommends:

Implement high-quality SIAs:

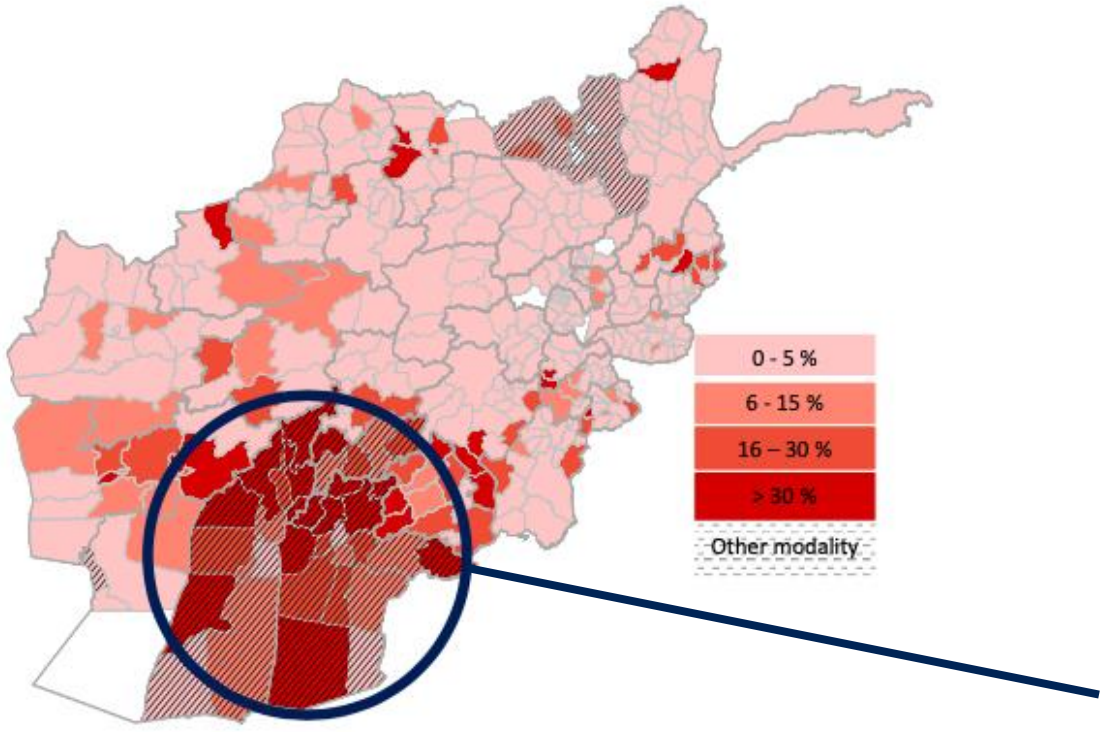
- 4-6 weeks apart starting in July.
- Finalize analysis of pockets with prolonged inaccessibility. Immunize 0-10yrs with bOPV in those areas (conduct one round and assess).
- No need for fIPV at this time. Re-evaluate in Q3. mOPV1 not available or needed.
- No need for sero-survey at this time. Focus on response.

- Use social mapping and social listening to ensure that all communities, including mobile populations, are identified, understood and effectively engaged in each SIA.

- Trial and systematically evaluate use of different pluses to optimise campaign quality in high-risk communities.

- Continue surge of intense programme monitoring.

Outbreak Response: South Region, Afghanistan: Findings and Recommendations: Epidemiology



- National authorities in Afghanistan should declare the outbreak a public health emergency in the South Region and urgently respond. The extent of the public health emergency and response should be expanded if additional regions detect poliovirus.
- Given the risk of paralysis in hundreds of children in Kandahar, there is an immediate need for high level advocacy for H2H campaign modality.

- **High risk of an explosive outbreak with many paralyzed children in Kandahar and Southern Afghanistan.**

Outbreak Response: South Region, Afghanistan: Recommendations: Immunization

Keeping in view the significant immunity gaps, the following response is recommended as per the GPEI outbreak response guidelines:

- **Field investigation and risk analysis:** within 72 hours of notification.
- **Outbreak response scope:** Historic transmission patterns and large immunity gaps suggest a wide scope is needed. Conduct joint corridor risk assessment with Pakistan considering South Region, Quetta bloc, and other linked areas.
- **Three high quality H2H vaccination response campaigns:**
  - Round 1: within 2 weeks.
  - Rounds 2 and 3: within 4 weeks.
  - Immunize 0-10 years at minimum in pockets of South Region that had protracted inaccessibility.
  - Maximize implementation of Plan B until H2H vaccination is permitted.
- **A dedicated outbreak response team with surge support** should be provided to South Region for at least next 6 months.
- **Maximize the GPEI humanitarian engagement** to support the outbreak response.

Pakistan

Pakistan Epidemiology

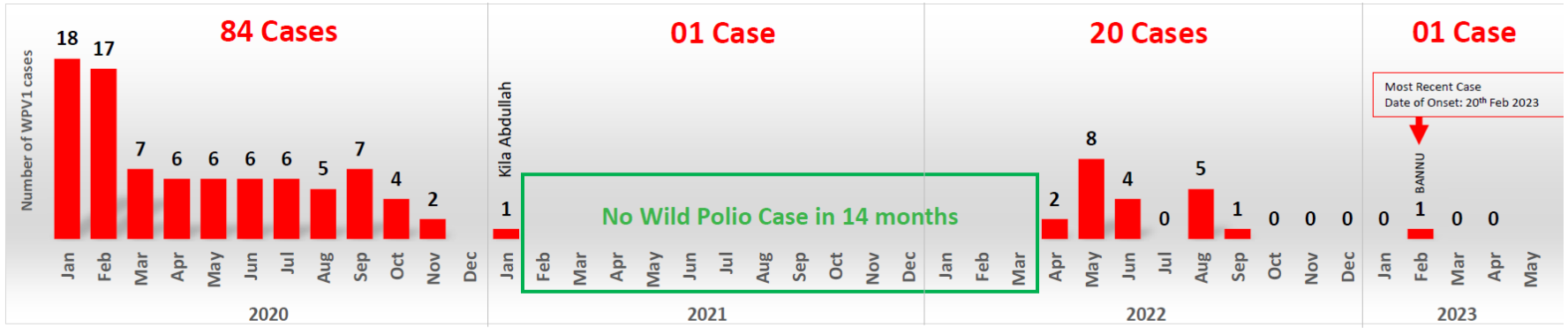
In 2023, 1 WPV1 human case:

- Bannu, onset 20 February 2023

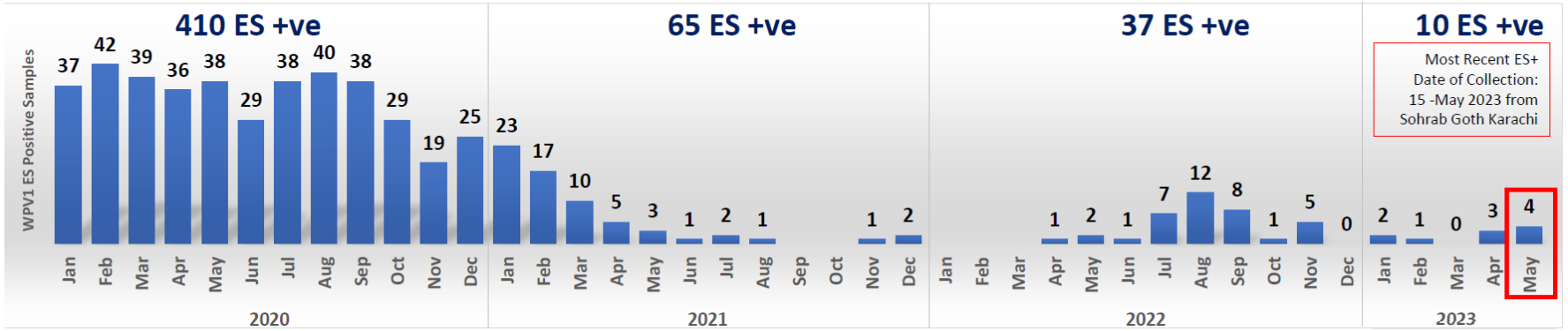
In 2023, 10 WPV1 ES detections:

- Detections from 6 districts (Lahore, DIK, Wazir-S, Hangu, Peshawar, KHI East)
- Most recent isolated from Karachi ES site (Sohrab Goth), collected 15 May 2023, awaiting sequencing

Human Polio cases in Pakistan, 2020-2023



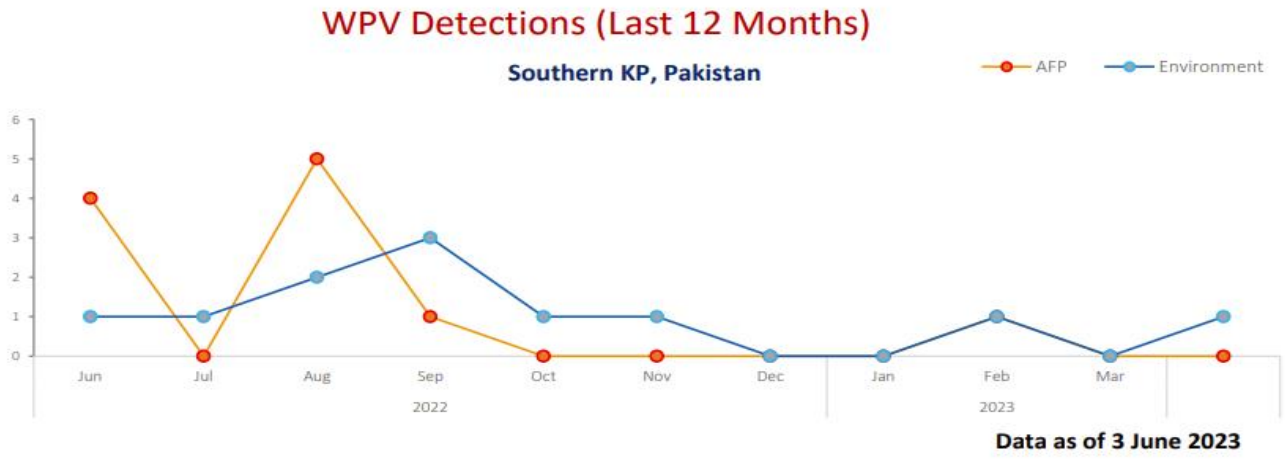
Positive Environmental Samples

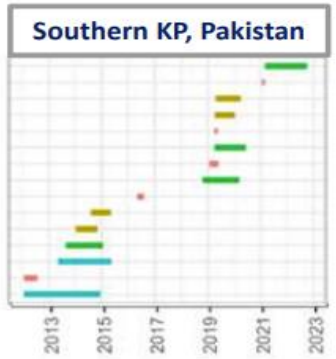


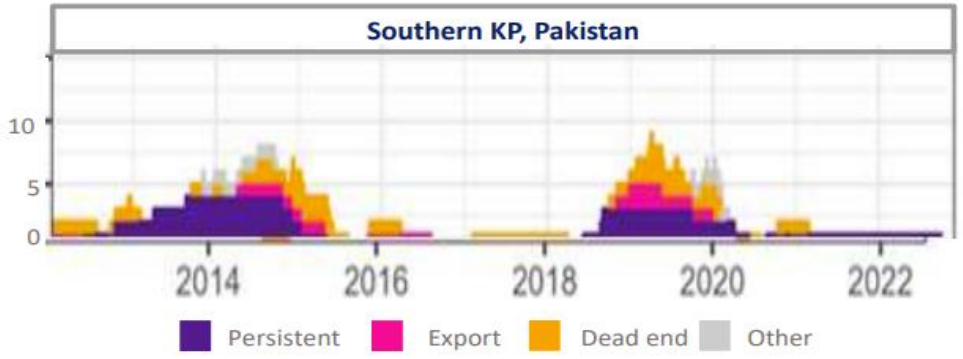
Endemic Zones: Southern KP, Pakistan: Findings: Epidemiology

- **Decreased** WPV1 cases and detections through low transmission season.
- Southern KP has interrupted **multiple WPV1 lineages** in the past

Region/ Province	Polio Cases						
	No. of cases			No. of districts			Most recent polio case
	2021	2022	2023	2021	2022	2023	
Punjab	0	0	0	0	0	0	21-Oct-20
Sindh	0	0	0	0	0	0	14-Jul-20
Khyber Pakhtunkhwa	0	20	01	0	03	01	20-Feb-23
Balochistan	01	0	0	01	0	0	27-Jan-21
AJK / G-Baltistan	0	0	0	0	0	0	13-Feb-17
Islamabad	0	0	0	0	0	0	27-Sep-08
Pakistan	01	20	01	01	03	01	20-Feb-23





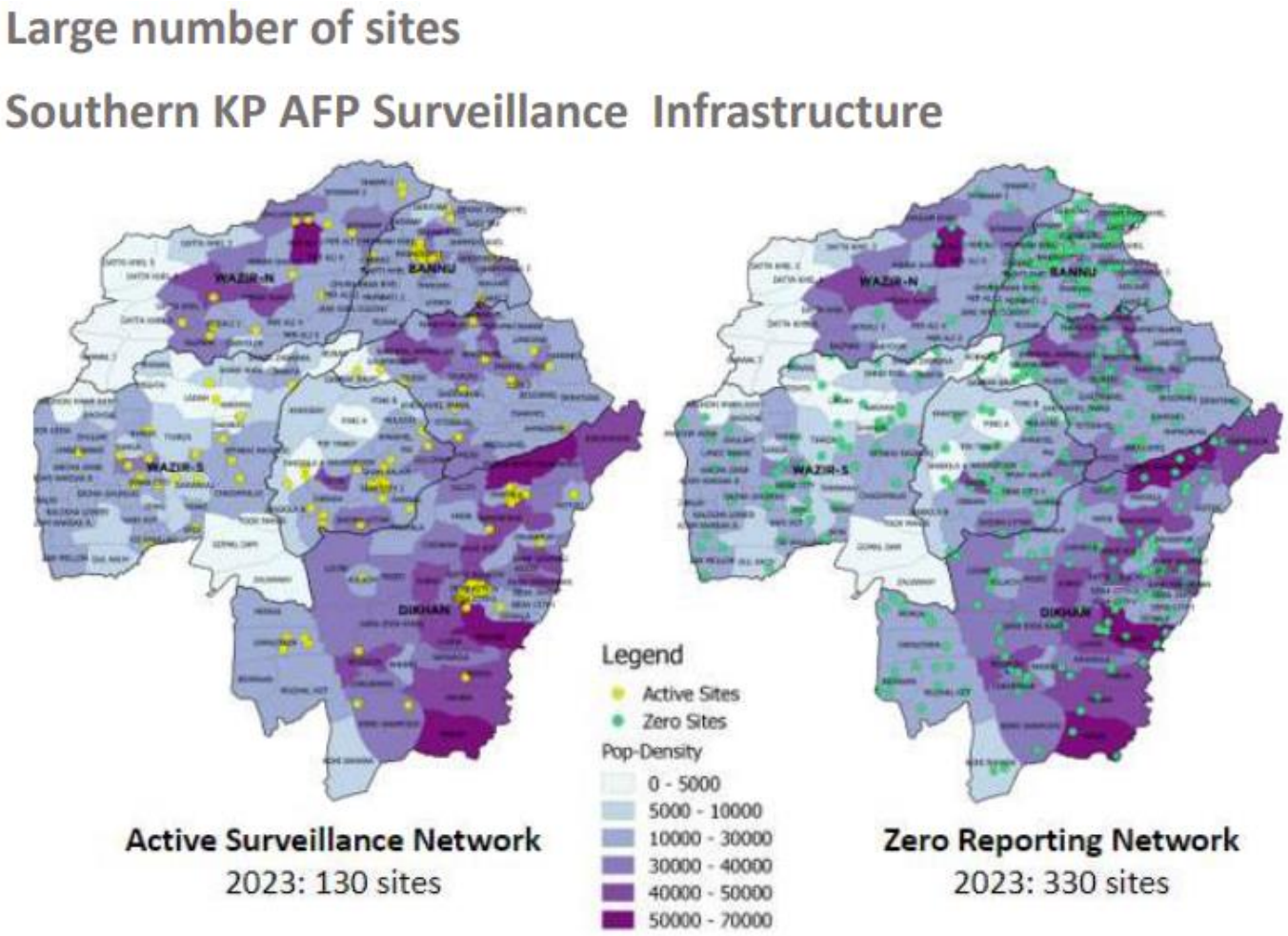


Endemic Zones: Southern KP, Pakistan: Findings: Surveillance

AFP surveillance

Gaps in AFP surveillance indicators

- Meeting NPAFP Rates: all districts.
- Not meeting the % Stool Adequacy target of 80%: Bannu and Tank.
  - It is not clear what component(s) of case identification, notification, investigation and stool collection drives inadequacy.
  - Late notification in Bannu, Tank, North Waziristan and DI Khan.

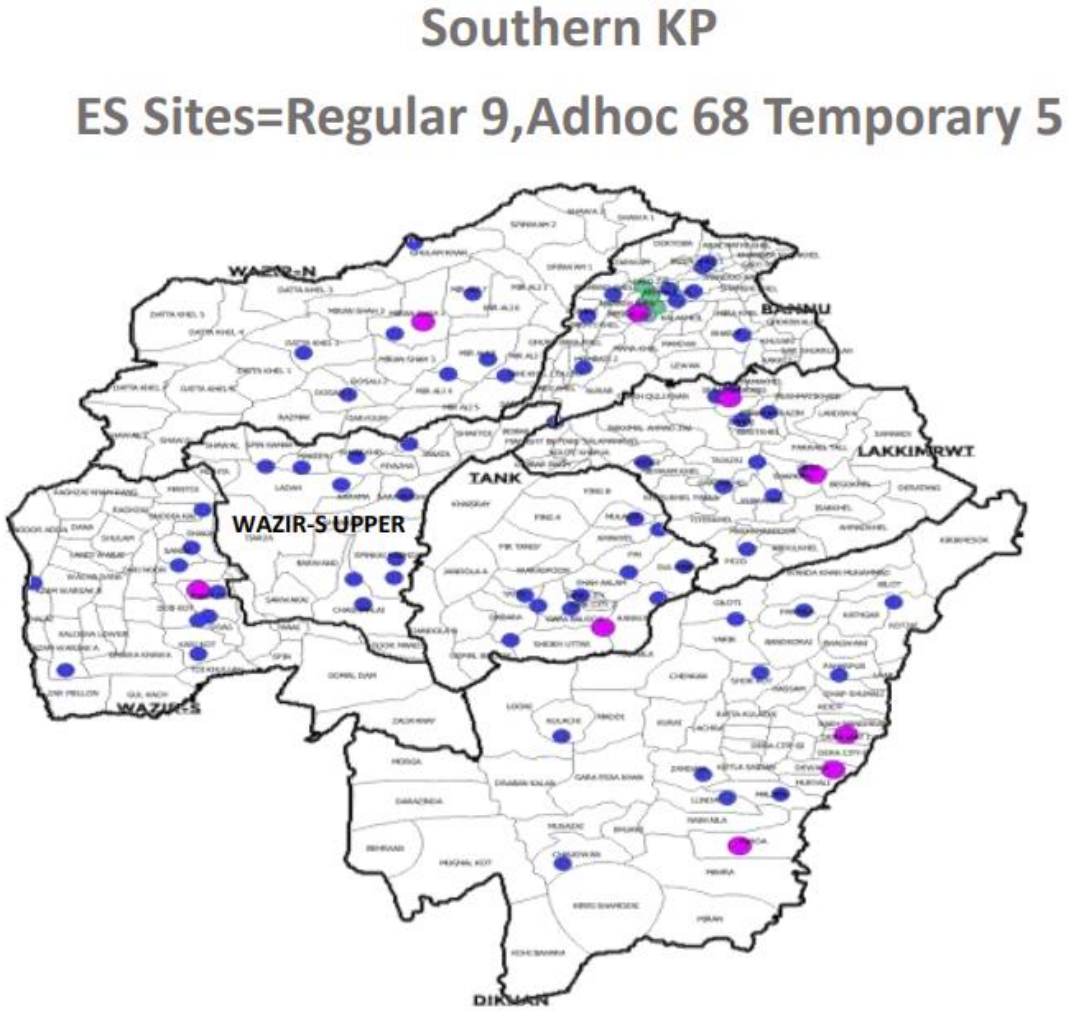


Endemic Zones: Southern KP, Pakistan: Findings: Surveillance

ES reach and quality

Gaps in ES characterization and coverage

- South Waziristan Upper has no permanent site (rest have at least 1).
- Need for systematic monitoring and evaluation of ad hoc ES sites.
- Characterize ES coverage specifically for 69 HRUCs compared to total Southern KP.



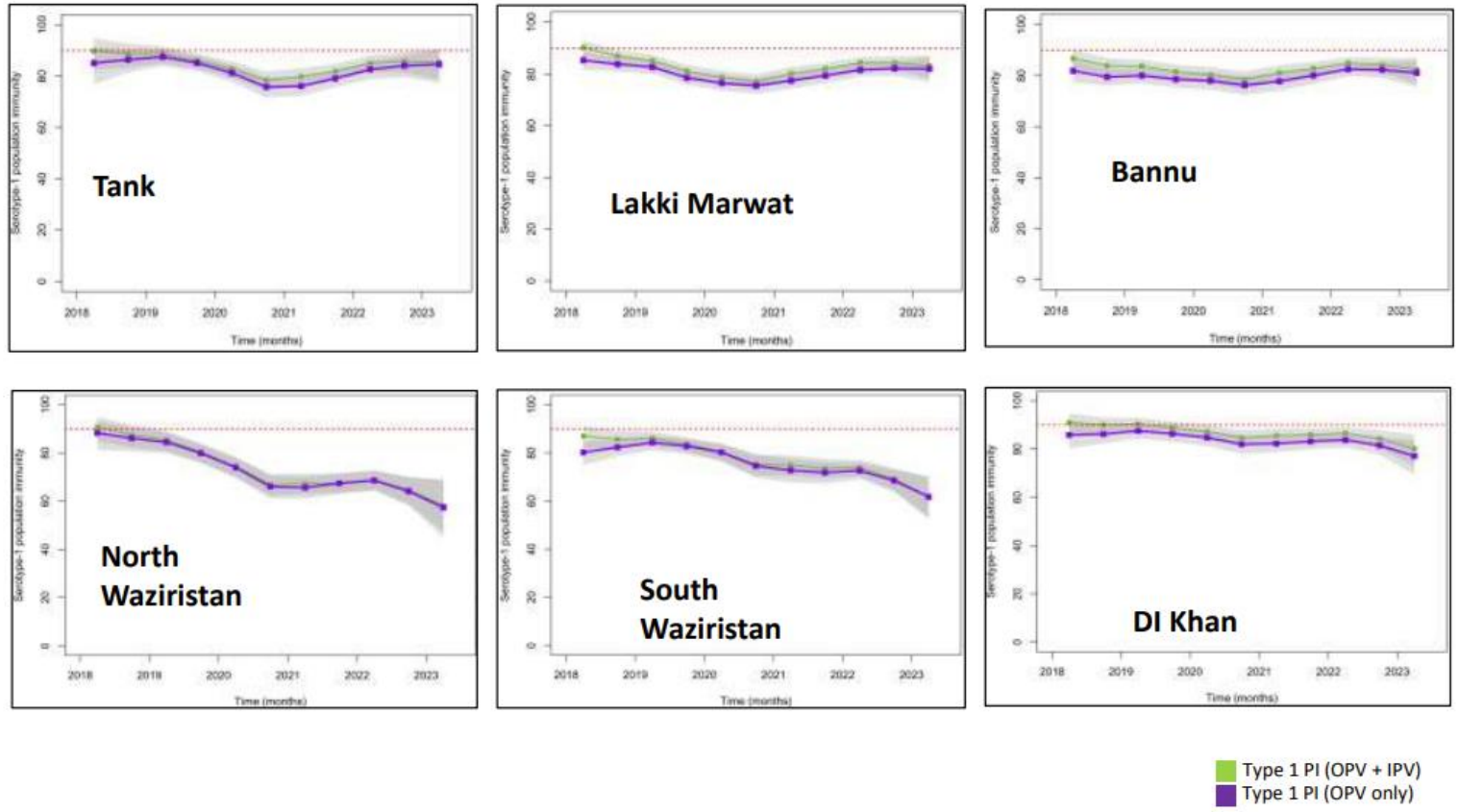
Endemic Zones: Southern KP, Pakistan: Findings: Immunization

Immunity improved since 2021, needs further improvement (3 districts)

Immunity decreasing (3 districts)

Caveat: This measure will change more slowly over time.

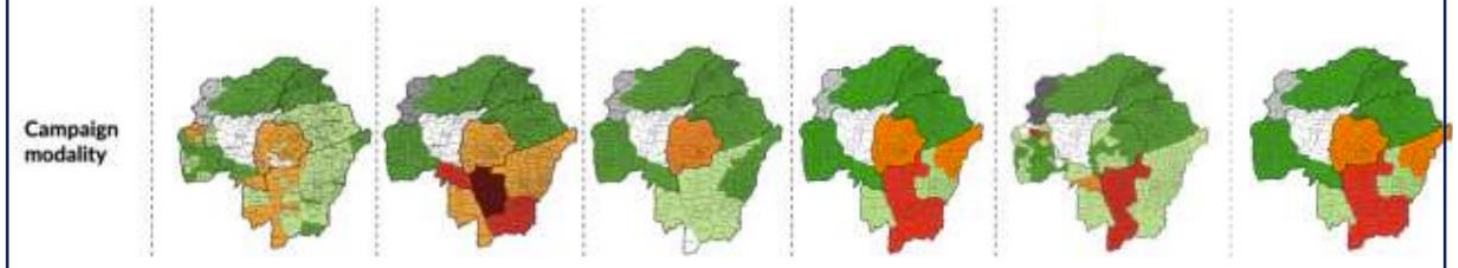
Southern KP, Serotype-1 population immunity (humoral and mucosal) based on non-polio AFP data (<36 months)



Endemic Zones: Southern KP, Pakistan: Findings: Immunization

- Most direct path to interrupting endemic transmission **= multiple high quality '3 [NIDs] + 2 [sub-NIDs]' (enhanced H2H) campaigns**
  - Security circumstances are dictating modalities
- Complex operating environment
  - Insecurity, lack of health services, heavy security presence, fake finger marking, boycotts, etc.
- When proven strategy could not be implemented, alternate approaches have been developed
- TAG applauds Pakistan team for creativity and resilience
- TAG emphasizes the need to systematically evaluate the <u>effectiveness of new approaches</u>

Summary of campaign modality in Southern KP (Oct 22 – May 23)



District	SNID Oct 22	SNID Nov 22	NID Jan 23	SNID Feb 23	SNID Mar 23	SNID May 23
Bannu	3+2 (100%)	3+2 (100%)	3+2 (100%)	3+2 (100%)	3+2 (100%)	3+1 (100%)
Lakki Marwat	3+1 (100%)	3+2 (100%)	3+2 (100%)	3+2 (100%)	3+2 (100%)	3+1 (100%)
Wazir N	3+2 (100%)	3+2 (100%)	3+2 (100%)	3+2 (100%)	3+2 (100%)	3+1 (100%)
DI Khan	3+2 3+1 2+1	2+1 1 1+1	3+2 3+1	3+1 2+1 1+1	3+1 1+1	3+1 1+1
	7% 77% 16%	72% 16% 12%	46% 54%	47% 21% 32%	81% 19%	77% 23%
Tank	3+1 2+1	2+1	2+1	3+1 2+1 1+1	3+2 3+1	3 Days in 3 Blocs
	5% 95%	100%	100%	47% 21% 32%	64% 36%	100%
Wazir S Lower	3+2 3+1 2+1	3+2 1+1	3+2	3+2	3+2 3+1 2+1 1+1	3+1
	53% 31% 13%	94% 6%	100%	100%	45% 36% 6% 3%	100%
Wazir S Upper	No Campaign					

1 Day
2 Days
3 Days
4 Days
5 Days
No Campaig

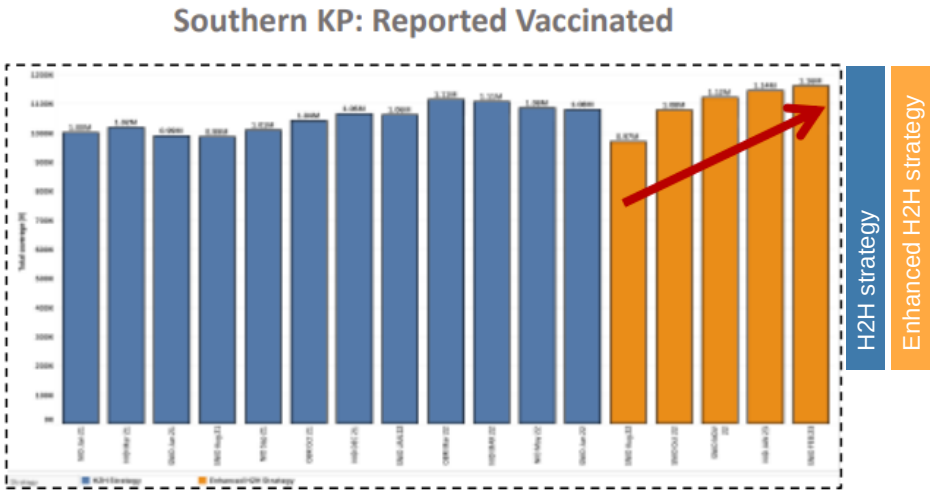
Endemic Zones: Southern KP, Pakistan: Findings: Immunization

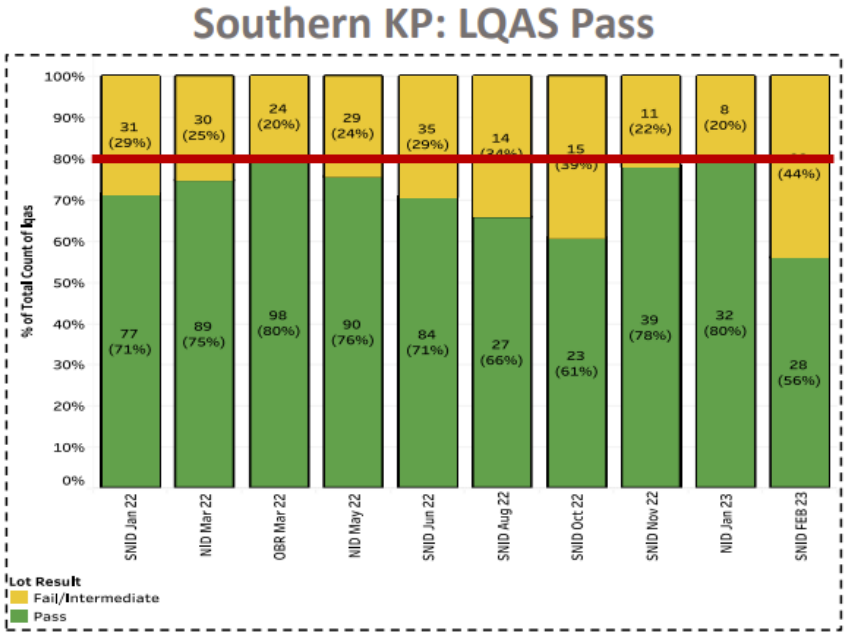
1. What are the current alternate approaches?

- Site to site, Directly observed vaccination (DOV)
  - Pluses (soap)
  - Social behavioral change (ulema advocacy against FFM, committees, etc.)
- Targeted additional immunization efforts
  - Strengthening essential immunization and EOAs
  - Birth dose
  - Biker vaccination for migrant vaccination
  - Enhanced transit strategy
- Boycott anticipation and conversion

2. Are they working?

- Some encouraging evidence (e.g., Reported vaccinated)
- Bannu and Lakki appear better than other districts (data not shown)
- Other measures unchanged (e.g., LQAS)
- Multiple inconclusive evaluations (TAG reviewed)
- Worrying decline in monitoring since August 2022 (data not shown)

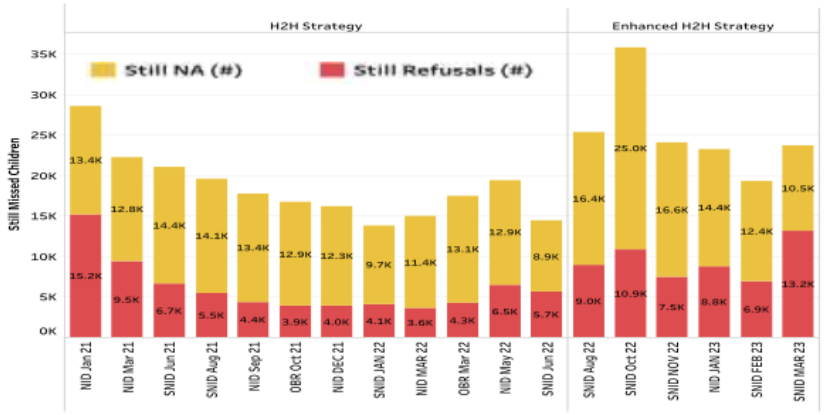




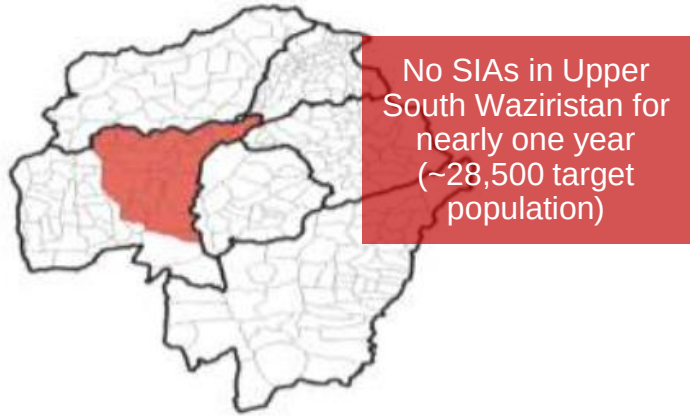
Endemic Zones: Southern KP, Pakistan: Findings: Immunization

- Approximately more than 160,000 children are being vaccinated compared with last year.
- However, the programme continues to miss a large number of children, likely more than indicated by administrative data; as many as 60K–70K are being missed and possibly 2x that number
- Monitoring data show clustering of operational gaps; teams missing areas and children.

Southern KP, Missed children due to NA and Refusal 20-25,000 /round

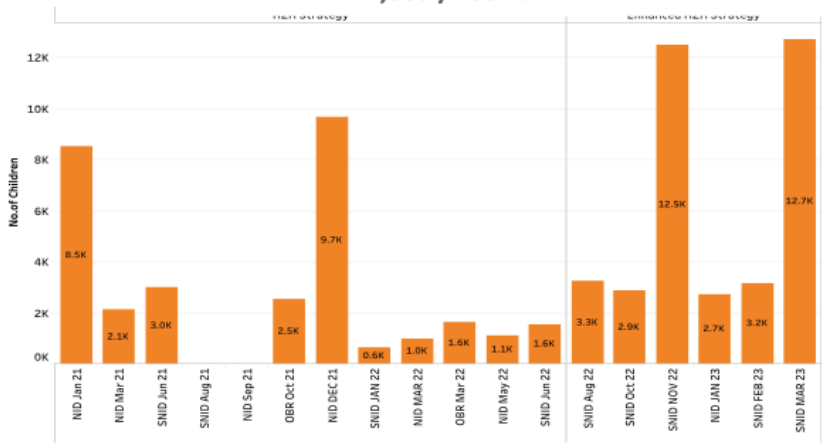


South Waziristan Upper
Total UCs: 32

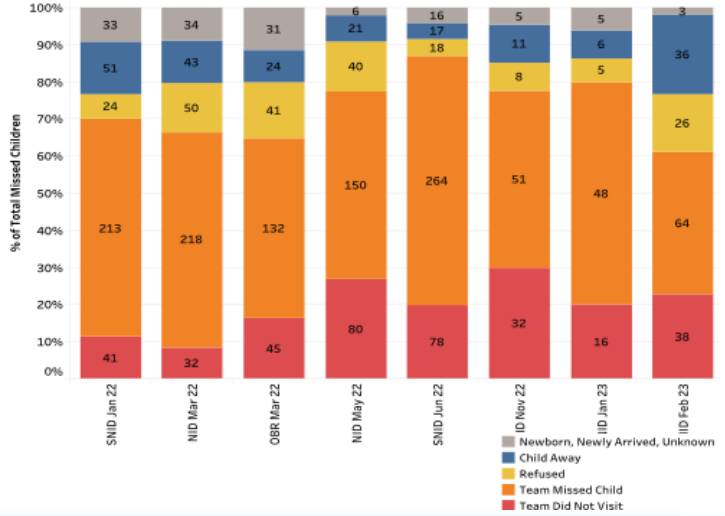


No SIAs in Upper South Waziristan for nearly one year (~28,500 target population)

Southern KP, Missed children due to Boycott and Security 2 – 12,000 / round



Southern KP, Reason for Missed Children in LQAS



Endemic Zones: Southern KP, Pakistan: Findings: Immunization

1. **Southern KP is an extremely challenging context** – that's why it's one of the last endemic reservoirs of wild poliovirus in Pakistan.
2. **TAG strongly commends** the Pakistan team, the KP team, the South KP Hub, the LEAs, the frontline workers and all involved **for bravery, resilience, and creativity in the face of these intense challenges.**
3. **Is there a recommended path to interrupting transmission?** Yes. Multiple high quality enhanced H2H SIAs. If circumstances can be created to do this consistently everywhere within next 6 months, they should be vigorously pursued.
4. **Are there alternate paths to interrupting transmission?** Yes, but they are less clear and certain and require strong planning, implementation and evaluation.
5. **Has southern KP found clearly effective alternate approaches?** Not yet, but ***you have to keep refining approaches and evaluating impact*** *(e.g., analysis of missed kids by 3+2 (enhanced H2H) modality, and 1+1)**.***

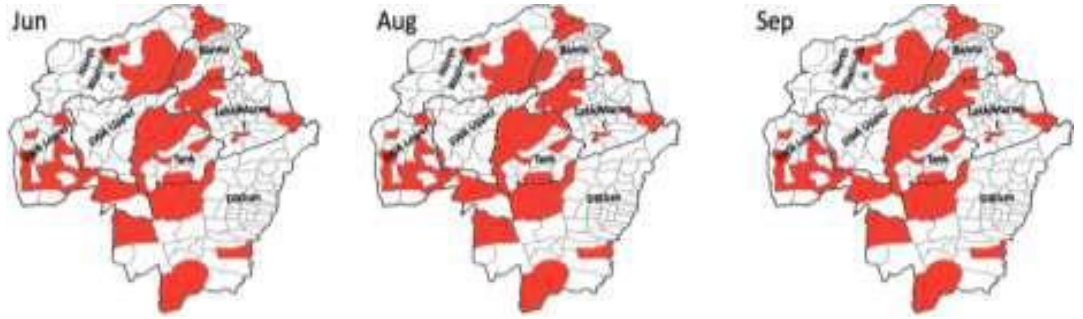
A learning and iterative mindset across the programme culture is paramount

Endemic Zones: Southern KP, Pakistan

- Southern KP has a strategy going forward
  - Prioritization analysis (excellent)
  - 69 UCs with ~75% of missed children (good)
  - “Reaching the unreached” plan: three rounds of enhanced EOA with RI and OPV (good)
  - Restart mass immunization and health camps in Upper South Waziristan (good)
  - Operational flexibility to security

- Continuous improvement and evaluation
  - Monitoring how it’s working
  - Implement, learn, apply lessons, and innovate

Way Forward; reaching the unreached (Southern KP – 69 most vulnerable UCs)



Accessing Mehsud belt
- Robust plan is being developed. – Continuation of all age vaccinations through ring fencing of Mehsud belt in Southern KP

Addressing Low performing Zones/High number of missed children
- Area In-Charge capacity building on the frontline worker Co-design model
- Enhance ICM and Post campaign assessments
- Area/problem specific community engagement plan

Addressing potential blind spots
- Enhance ICM and priority selection in post campaign assessment

Addressing boycotts
- Addressing in social behavioral change session

Addressing security challenges
- Contingent micro-plans for flexible campaign days (2+1 minimum benchmark for campaign)
- Continues support by LEAs

Bridging immunity gaps
- bOPV OPV SIAs, fIPV SIAs and big catchup in prioritized UCs
- Continuation of nomad immunization team initiative
- Strengthening of transit vaccination strategy
- Convergence of ISD services in the most vulnerable UCs

Endemic Zones: Southern KP, Pakistan: TAG October 2022 Recommendations

TAG recommendation October 2022	TAG Assessment and Comments
Entire southern KP should be considered as one polio endemic bloc.	Done.
TAG recommends three vaccination campaigns – one each in October, November, and December 2022.	Done.
Focus on optimizing the new enhanced H2H modalities and flexibility in intervals.	Partial. Work in progress.
Package of interventions tailored to specific communities and defined vaccination obstacles.	Done.
In areas where this approach is not feasible (e.g., in Upper S Wazir) decision should be made about alternate modalities in time for October round.	Uncertain. Upper South Waziristan approach not adopted by October. Not sure if deliberate decision.
It is critical to assess the effectiveness of this new enhanced H2H strategy after each round with clear evidence of reduction in missed children including gains in directly observed vaccination after each round and make every effort to assess quality and impact of alternate modalities where direct access is not possible.	Done.
Conduct an evaluation of enhanced H2H modality of Q4 2022, no later than in January 2023. Continue to optimize the enhanced H2H modality where it works (feasible and effective). If enhanced modality is not feasible in certain areas, consider alternate vaccine delivery approaches including CBOs; planning for this contingency should start now.	Partial. TAG reviewed. There were analyses, but no conclusions. Unclear when and how it was reviewed, who was involved in evaluating and deciding. TAG has seen multiple evaluations.
The programme should identify areas where additional intensified vaccination approaches (zero dose follow up, defaulter vaccination) will be necessary to cover missed children in Q1 of 2023 (February).	Done.
TAG endorses the approach of provision of security based on the micro plans developed by the programme for enhanced H2H SIA implementation.	Not Done. Security still defines modality instead of programme needs defining security.

Endemic Zones: Southern KP, Pakistan: TAG June 2023 Recommendations

TAG recommendation June 2023 (see appendix for full details)
Implement Southern KP Action Plan: Continue monitoring and evaluation of ES site quality, particularly the 'ad hoc' sites; Rapidly implement recommendations of the surveillance review to address the gaps identified; Continue to collect and analyze data on IPV in CIFs (dose 1 and 2); Ensure adequate laboratory capacity before considering ES expansion.
Vigorously pursue core strategy – multiple H2H (3+2) SIAs.
Implement SIAs as scheduled in Southern KP (except in the 69 UCs) in July, October, November 2023.
TAG endorses, until end 2023, priority focus on 69 UCs, “Reaching the Unreached” plan, and accompanying recommendations.
69 ‘Most Vulnerable UCs’ identified in Southern KP represent an important strategic focus for the programme to rapidly reach persistently missed children during the next six months.
Upper South Waziristan: Urgent issuance of NOC to implement planned vaccination activities. Restart mass immunization. Conduct a structured evaluation of options and impact and decide way forward as a partnership.
Monitoring: TAG is concerned about reduction in monitoring (especially LQAS and PCM). Programme must resume robust monitoring from July SIA/reaching the unreached, especially in the 69 UCs.
Clustered refusals and boycotts: TAG is concerned about stagnating or rising clusters, particularly North Waziristan. These are likely symptoms of larger social and operational issues that are not understood. The programme should identify appropriate expertise to understand these issues and provide a report and recommendation to the TAG by end of August.
Evaluate pluses and integrated services based on community input including nutrition options (e.g., high energy biscuits).
Boycotts: Continue developing social listening to inform boycott resolution. Develop and test boycott prevention interventions through targeted exploration of integrated services. Identify success criteria, measure, and conduct 3 level review at South KP hub.
South KP Hub and programme management: • Ensure implementation of previous recommendations and fully staff the Southern KP Hub. • Review the current coordination mechanisms for the program in Southern KP. • Coordination structures at all three levels must enable effective and efficient action in the field.

Goal One: Risk Reduction and Preparedness

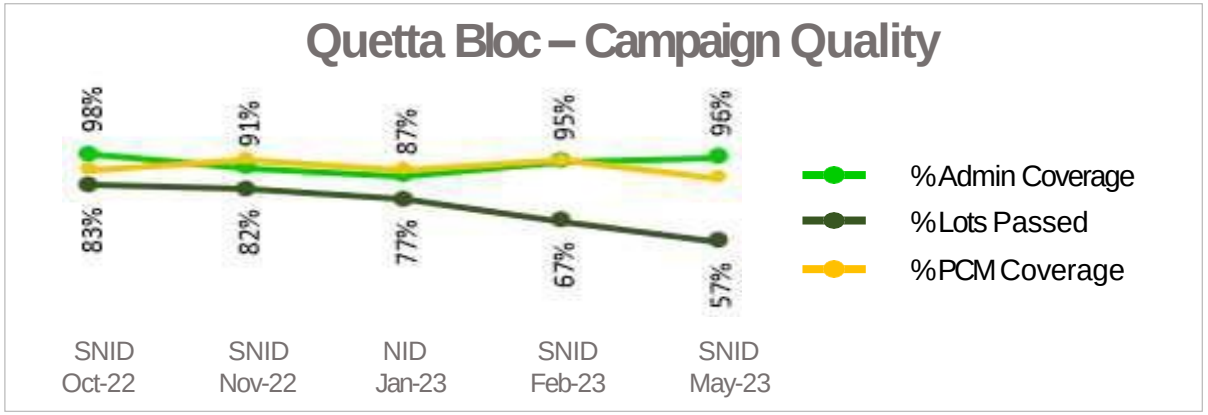
Risk Reduction: Findings: Immunization

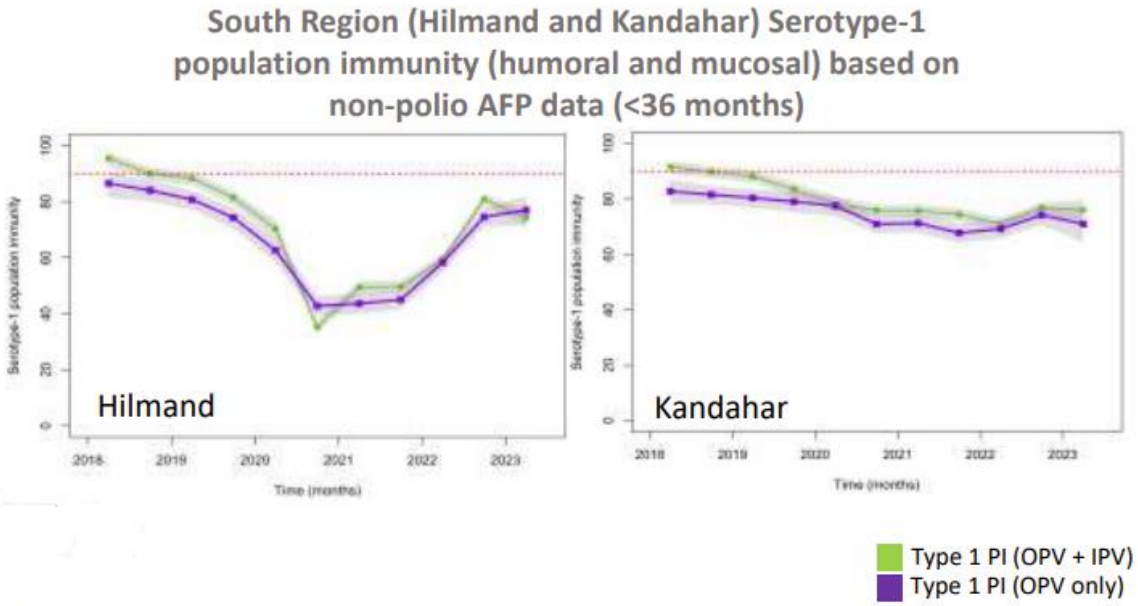
- Critical risk reduction activities as recommended by TAG across both countries remain to be fully achieved, for example:
- Ensure high-quality campaign operations in risk reduction areas
- Intense campaign monitoring for each round
- Highly trained, supervised and motivated frontline workers (local, female)

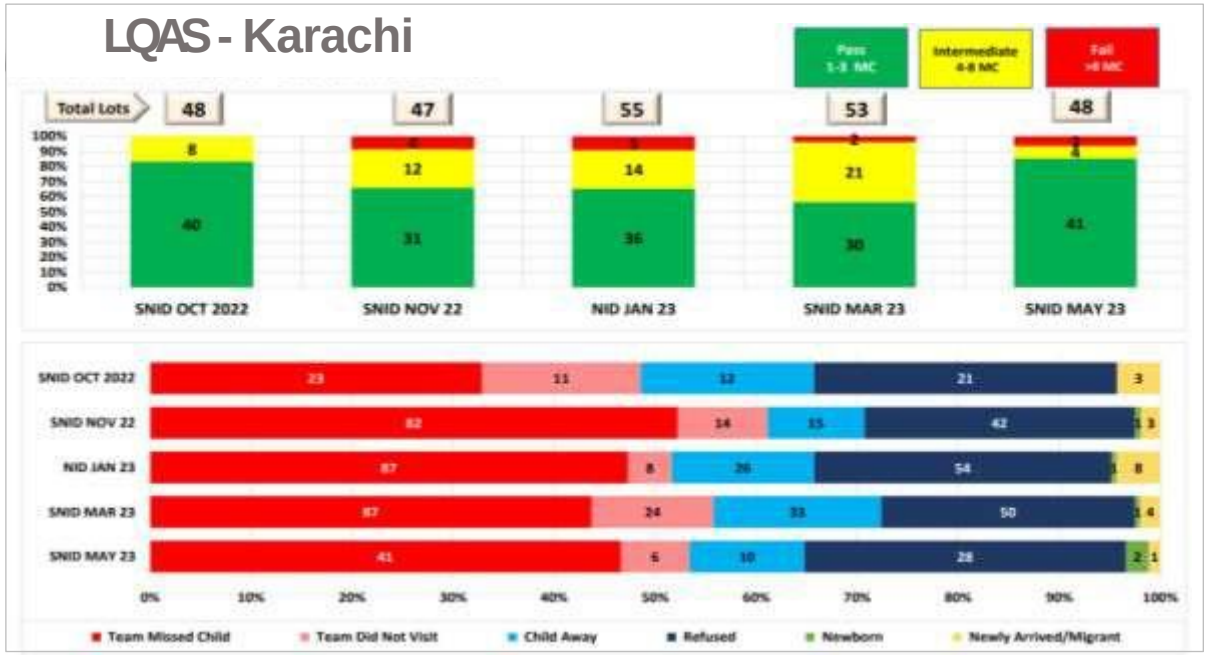
Programmatic Area	Activities
SIAs	• At least 4 preventive campaigns per year • Ensure high quality microplans and campaign operations • Intense campaign monitoring for each round (LQAS and PCM) • Highly trained, supervised, and motivated frontline workers (local, female) • Scope of each SNID round in 2023 to be assessed and modified on the basis of changing epidemiology in both Afghanistan and Pakistan
Social Behavioral Change	• Social behavioral evaluation and identification of required activities as per the global SOPs • Validate need for health camps or other community engagement approaches where justified
Surveillance	• Evaluate surveillance sensitivity and community health seeking behaviors and identify required improvements
Essential Immunization	• Determine areas Extended Outreach Activities • Root cause analysis and EPI improvement plan to address gaps in EPI service delivery sites, vaccinator vacancies, attendance, training, microplanning, and other issues

Risk Reduction: Findings: Immunization

- Overall, risk in the “risk reduction” areas has remained static since the last TAG.
- However, risk has increased in Quetta bloc, Karachi, southern Afghanistan.





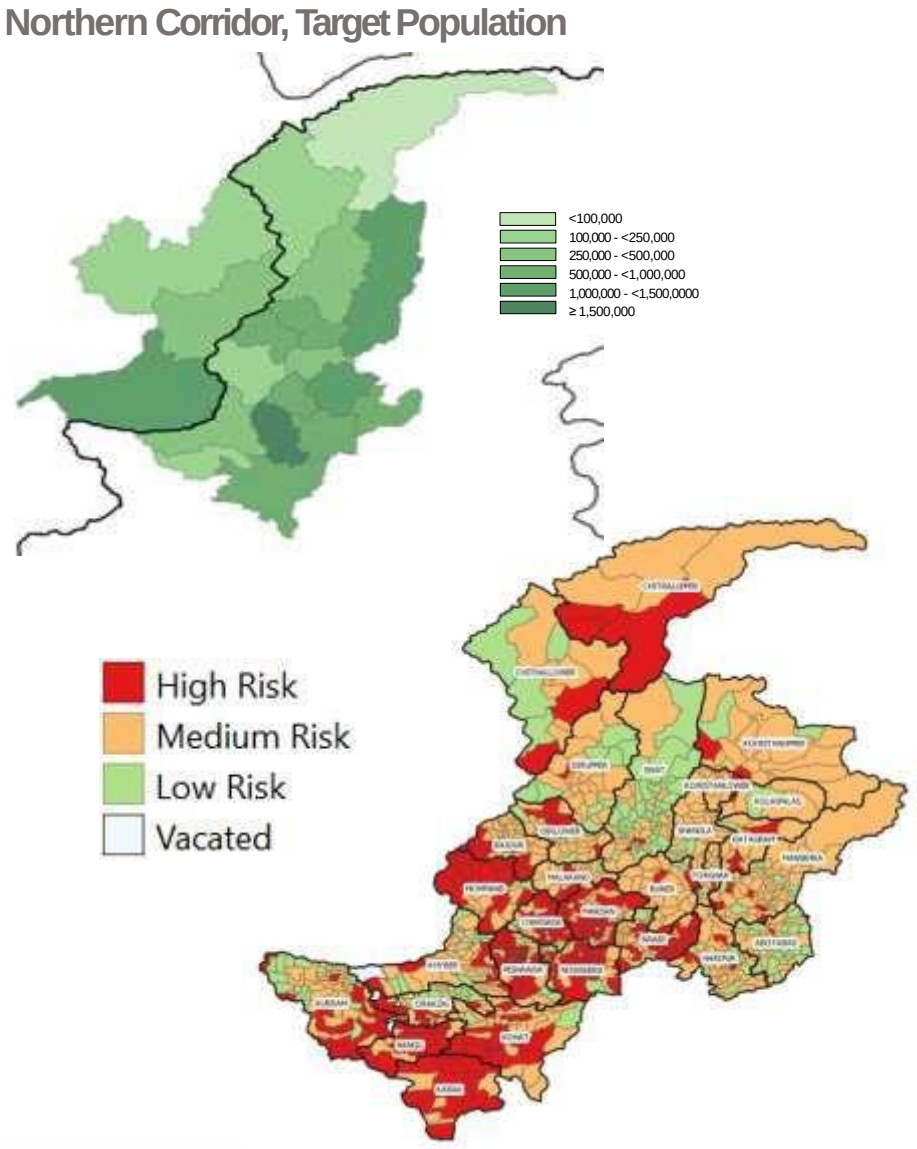


Risk Reduction: Recommendations: Immunization

- Programmes ensure there is management capacity dedicated to risk reduction areas, including improving basic SIA quality:
  - Pre-position IEC materials and messages in appropriate language for rapid deployment in cases of outbreak.
  - Train social behavioral change staff in outbreak response communication.
- Improving Routine EPI
  - Enhanced activities in selected high-risk UC.
- Surveillance
  - Fully implement and continue to monitor recommendations of the recent surveillance reviews.
    - Special focus on Quetta Bloc and Karachi.

Northern Corridor: Recommendations

- Additional WPV1 detections should be anticipated in the northern corridor; position for aggressive and extensive outbreak responses.
- Revitalize the Divisional Task Force in Peshawar to address the risks.
- A large number of UCs (35% of all UCs) were identified as high-risk in KP. Additional risk analyses are needed to identify a smaller number of UCs that are at highest risk of transmission (population movement, historical pattern) and take preventive actions in these areas (enhanced surveillance, SNIDs, targeted SIAs, improved EPI etc.).



Central Corridor: Recommendations

Surveillance

- Improve surveillance in bordering districts.

Environmental surveillance

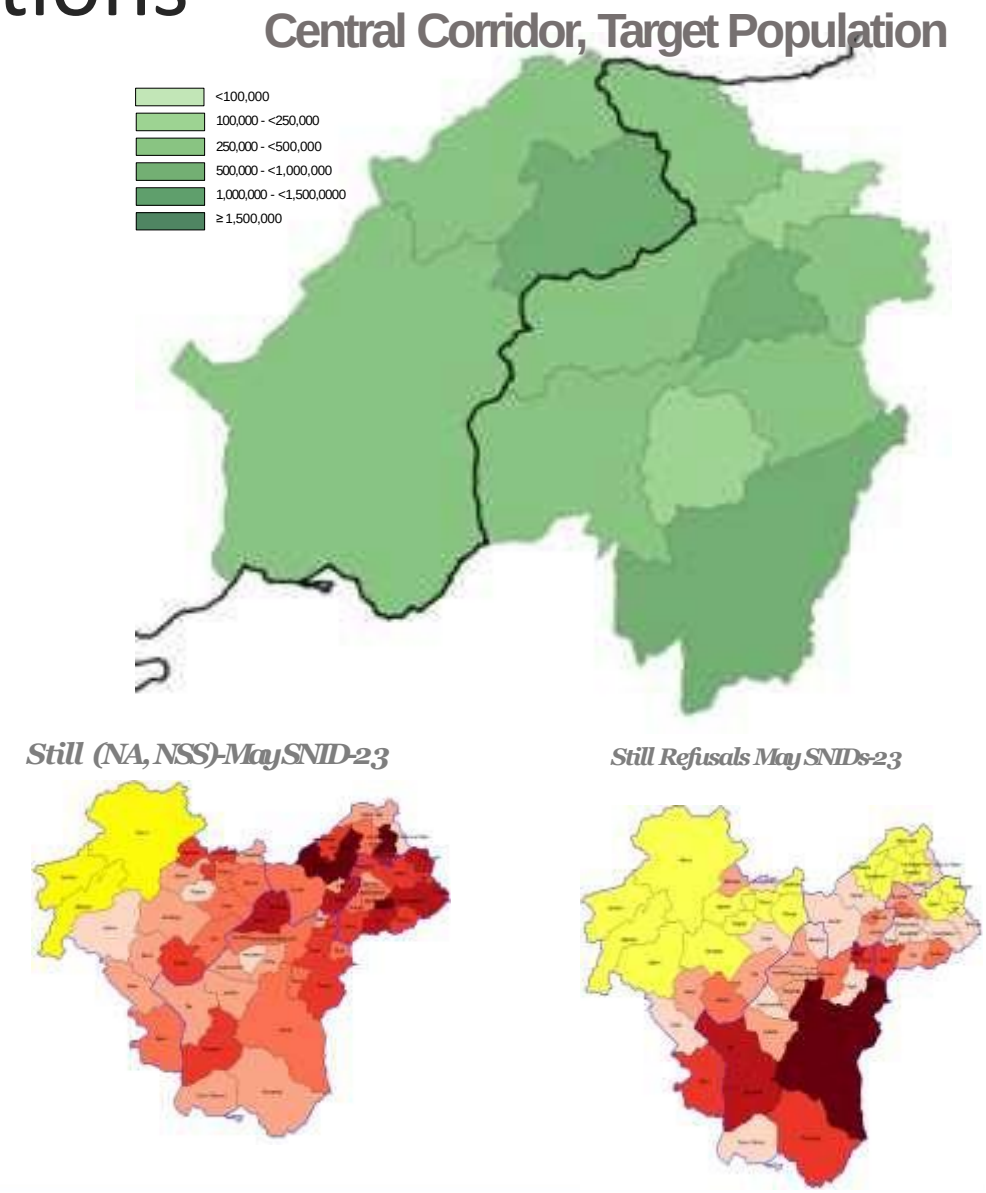
- Explore expansion of environmental surveillance, accounting for proximity to southern KP and population movement from southern KP including ad hoc sites (such as in Barmal).

Missed children

- Missed children contribute to a significant immunity gap. Therefore, continue efforts to reduce the number of missed children.

Team composition

- Continue to assure adequate team compositions.



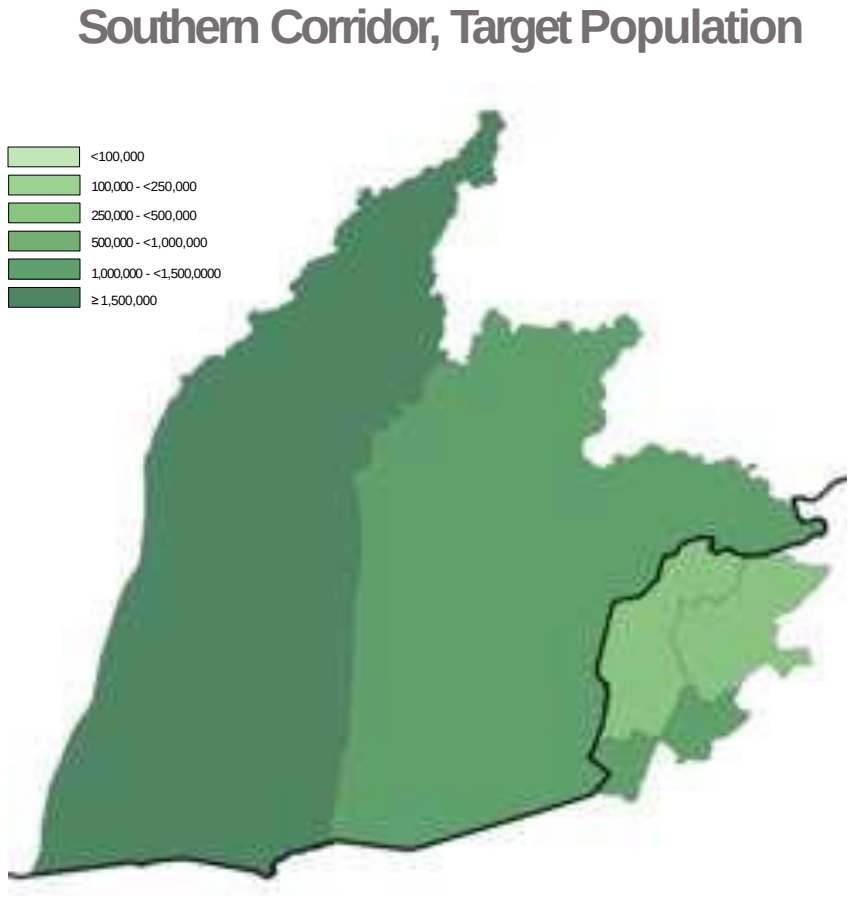
Southern Corridor: Recommendations

Outbreak Response Preparedness

- Detections should be expected in Quetta Bloc and Karachi; programme needs to be fully prepared to deliver rapid outbreak responses at highest quality

SIA Quality and EPI

- Quetta Bloc: analyze causes of deteriorating SIA quality (LQAS) and paucity of SIA activity in Quetta City; develop clear strategy to reverse this trend. Develop plan to increase EI coverage.



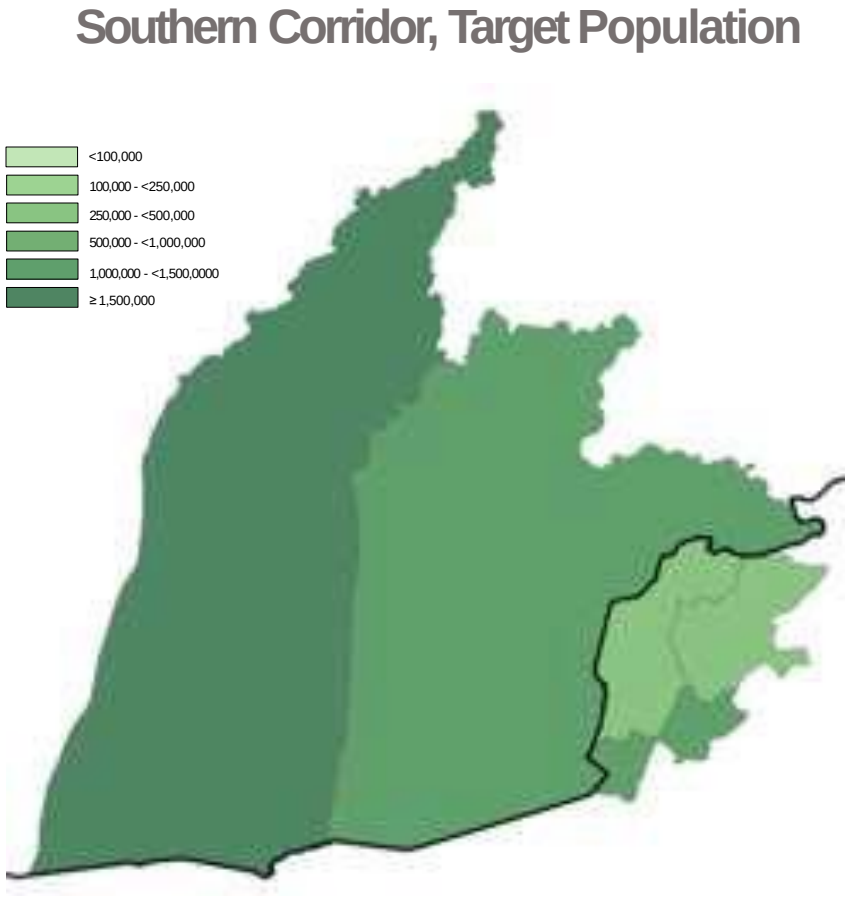
Southern Corridor: Recommendations

SIA Quality and EPI

- Karachi: Sustain consistently high-quality SIAs; continue to cover the whole of Karachi for risk reduction activities but concentrate on enhanced engagement to maximize vaccine uptake in slum areas. Continue to focus on reducing SMC in HRUCs. A concerted effort on increasing EI is needed.

AFP Surveillance

- Quetta Bloc: Improve on declining AFP reporting
- Karachi: Aggressive plan to improve low stool adequacy, low notification by HCPs, and overall review recommendations



Cross Border: Findings

- Current epidemiology demonstrates critical significance of cross-border coordination, focusing on corridors:
  - Ongoing transmission in northern and central corridor; evidence of expansion in northern corridor ahead of the high season.
  - Concerning immunity gap in southern corridor; high risk of an extensive outbreak.

- There is new momentum towards better cross-border coordination:
  - Subnational cross-border coordination meeting in March 2023 after 5 years.
  - Subnational level action trackers updated and activated, with regular follow-up virtual meetings between corridor teams.
  - May 2023 SNID synchronized in bordering areas (except southern KP).
  - Joint risk assessments and briefings being conducted.

Cross Border: Recommendations

- Ensure that social behavioral change strategies and messages/materials on both sides of the border are unified, and available in local languages
- Harmonize the cross-border vaccination strategy (including synchronization of SIAs)
- Conduct quarterly in-person meetings in addition to the ongoing virtual interactions

Regional Coordination: Recommendations: GPEI Hub and NEOCs

- Continue existing regular collaboration between GPEI Hub and NEOCs
- Cross-border collaboration:
  - GPEI Hub to support continued cross-border coordination and NEOCs to ensure collaboration between Afghanistan and Pakistan polio programmes at the subnational levels.
    - Continue to update the national and provincial/regional framework
  - GPEI Hub to facilitate cross-border coordination upon new epidemiological developments.
- GPEI Hub to facilitate follow up of TAG recommendations timely and effectively
  - GPEI Hub to coordinate TAG virtual consultation in November 2023, and next in-person TAG in February 2024
  - Support international / external surveillance reviews
  - Coordinate Humanitarian sector engagement in Afghanistan
- Coordination with global bodies:
  - GPEI Hub to continue to coordinate with global bodies (TAG, SC, FMG, IMB, M&E, and POB)

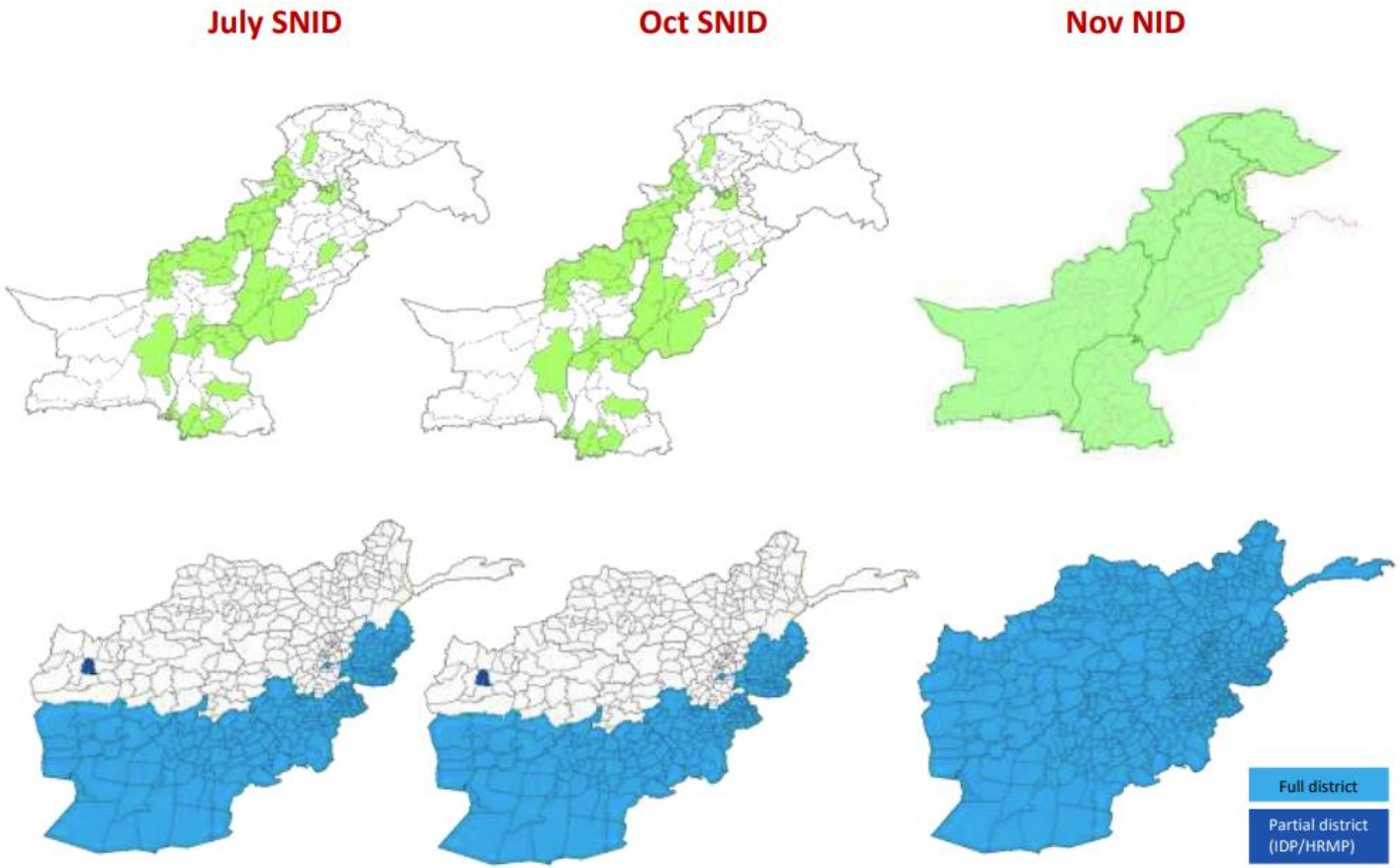
Goal One: Campaigns

SIA Principles

Category	SIA implications
1. Endemic zones	**East Afghanistan**: SIA at least every six weeks until interruption **Southern KP**: implement “reaching the unreached” and three additional doses by end of year (vaccination opportunity at least every six weeks)
2. Outbreak response	At least three rounds, 2M–4M target, four weeks apart
3. Risk reduction	At least four vaccination campaigns per year (Northeast Afghanistan should be included)
4. Maintenance	Covered by NIDs

SIAs for 2023

- **TAG endorses SIA calendar**
- **Endemic zones**: follow their own schedule
- **Outbreak zones**: follow outbreak SOPs
- **Scheduled SIAs** are primarily for risk reduction and maintenance areas (Northeastern Afghanistan should be added to SNIDs)



Goal One: Cross-Cutting Programme Areas

Program Integration: Recommendations: Microplanning

- Tag commends strengthened linkage between operations and social behavior change
- TAG recommends further integration in microplanning:
  - Create one microplan for operations and social behavior change
  - Incorporate social data analysis in the microplanning process
  - Coordinate microplanning across borders, ensuring uniformity in messaging
- When creating microplans, link social behavior change and programmatic operations throughout, based on local needs. For example:
  - Link community engagement to areas with programmatic issues
  - Provide NA lists to social mobilizers for engagement

Program Integration: Recommendations: SBC

Refusals

- Focus on addressing all forms of missed children, moving beyond the current social behavioral change concentration on refusal.
- The amount of time and effort spent by social behavioral change staff on refusals vs missed children should be proportional to the numbers of children in each category.
- Moving from an extensive refusal focus to the broader 'missed children' focus will likely channel resources to high-impact activities.
- Ensure that all social behavioral change activities are used to promote Essential Immunization among households.
- Continue to build trust in PEI through partnerships with other organizations to provide services.

Campaign Planning

- Operations and social behavioral change staff should work together in an integrated way before and during the campaign at all levels (from NEOC to household).
- Solicit frontline worker input—operations and social behavioral change—to determine optimal local campaign integration between social behavioral change and operations frontline workers.
- Use frontline worker listening initiatives to enhance campaign design and determine frontline worker responsibilities, strengthening motivation and performance of social behavioral change and operations frontline workers.
- Solicit community input on campaign delivery preferences to optimize accessibility and quality.
- In areas with M2M/S2S modality, utilize social behavioral change community dialogues to design fixed site delivery at times and places convenient to the community.

Program Integration: Humanitarian Efforts in Afghanistan

Objective: Contribute to lifesaving humanitarian assistance while identifying ways to expand reach of polio vaccination and routine immunization in polio priority areas of Afghanistan – i.e., underserved areas

Expected outputs

- Expanded humanitarian response in underserved areas in Afghanistan.
- Increased polio vaccination coverage among children in underserved areas of Afghanistan.

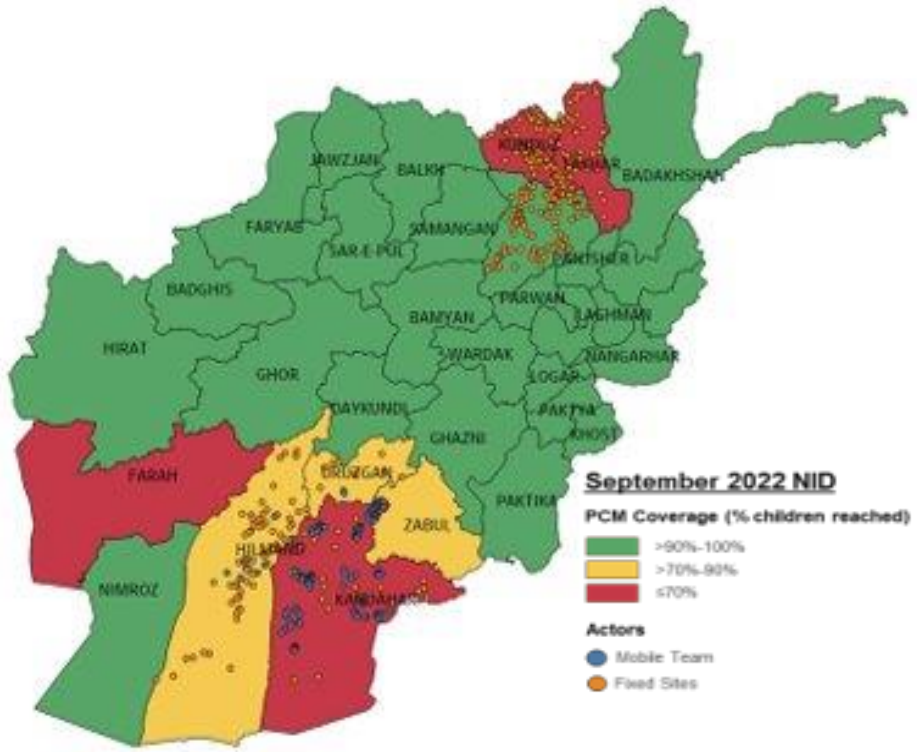
Steps to bring polio and humanitarian response together

- Identification where the polio program was missing kids
- Identification of where humanitarian partners were working, and where the two intersected.
- Identification of high-risk districts by the polio program, priority was given to the districts with most missed.
- Mapped areas within polio high-risk districts, where a humanitarian action could improve coverage, and where there are no other basic health services being provided.
- A consensus was achieved to move forward with 10 international humanitarian organizations with known strong standards for service delivery in Afghanistan.

Program Integration: Humanitarian Efforts in Afghanistan

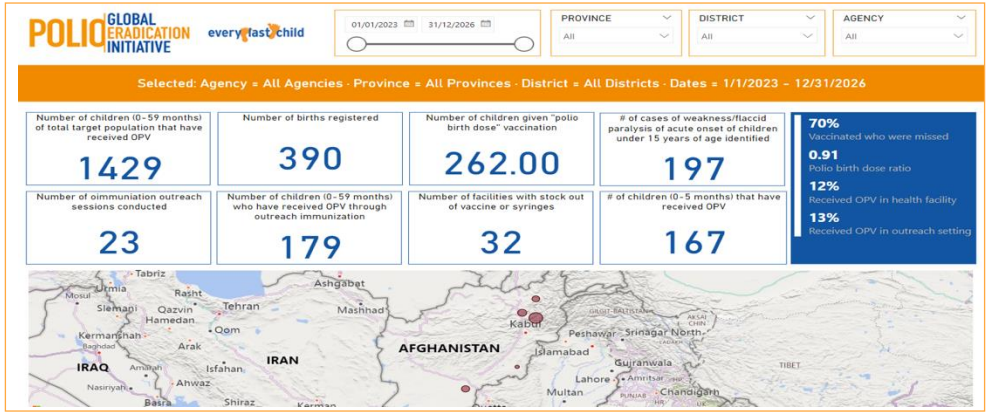
Geographic Focus

The South is the focus of this intervention, but some actors will implement activities also in the Northeast and East, where we still are seeing an outbreak that continues to pose a significant threat to interrupting wild poliovirus transmission.



Track progress of the intervention

- There will be tracking of 9 polio-specific indicators
- Additional humanitarian indicators are to be reported on a quarterly basis.



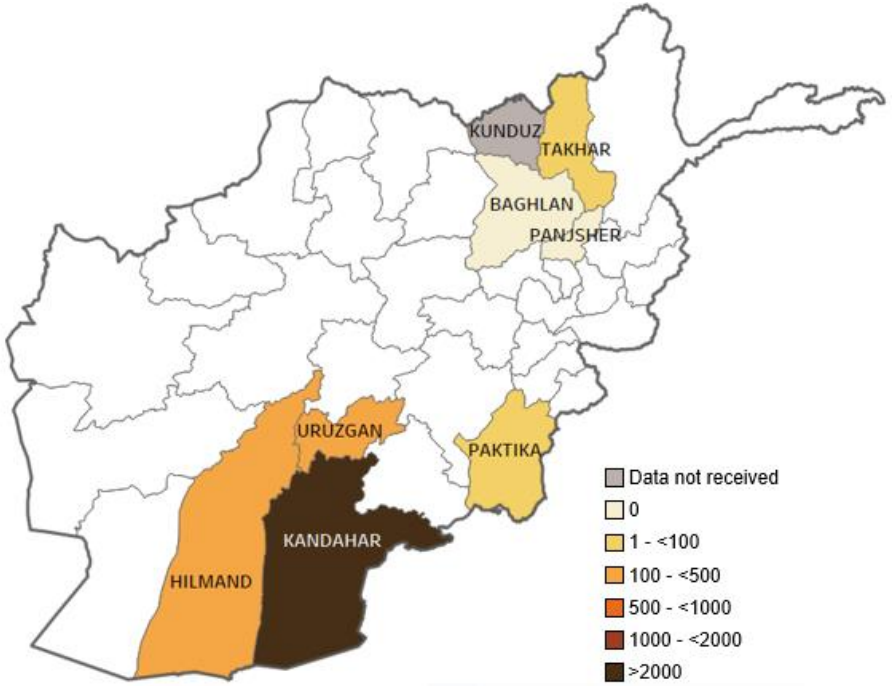
Screen shot of the Kobo platform

- Granular, village-by-village data from the polio program on estimated numbers of missed children to set the targets for the humanitarian actors.

Program Integration: Humanitarian Results March to May 2023

- Humanitarian actors have vaccinated 15,370 children considered missed by the programme. Most of these are in Kandahar and Helmand since the start of the engagement in March 2023.
- A total of 467,649 polio vaccines were administered by humanitarian actors.

Concentration of vaccinated children



Women in the Polio Workforce

- Some progress in recruitment and retention of female frontline workers.
- A well supported, safe workforce is essential to optimizing programme efficacy and impact.
- Review and approve agreed solutions proposed through the Pakistan Female Frontline Worker Co-Design initiative by end of June 2023, and roll out implementation by end of September 2023.
- Monitor and report on key performance indicators for gender and take action.
    - Proportion of female staff at all levels of the programme (from frontline worker to NEOC to TAG).

GMG

- Designation of additional gender focal points/specialists and alternates from GPS/RO to help with systematic identification and address of gender barriers.
- Edited ToR's, developed workplan and Country Office workplans, and held capacity building initiatives (retreat, webinars, trainings, meetings.)
- Strengthening Gender Responsive MEAL (monitoring, evaluation, accountability and learning.)
- Commitment of over 70% of GMG's budget and GMG Accountability Framework.

Outbreak response

- Working to ensure gender is mainstreamed throughout the different levels of the outbreak response (from the onset, during and after).

EPI-PEI Synergy: Findings and Recommendations

Findings

- Increasing collaboration between EPI and PEI is encouraging, but there remains room to increase collaboration effectiveness
- Excellent example of using polio SIAs to cover zero dose children
- TAG appreciated the detailed analysis presented, particularly on southern KP, Punjab, Karachi, and Peshawar, as well as improvements in southern Afghanistan
- RI data shows a positive trajectory, however, Balochistan remains the biggest risk due to local health infrastructure challenges
- The constant proportion and age breakdown of zero-dose children over the years is concerning

Recommendations

- Ensure EPI staff are present and accountable for delivering services
- Explore the possibility of integrating EPI vaccinators into the polio workforce
- EPI to prepare an emergency plan to address the systematic gaps in Quetta and Karachi
- EPI and PEI communications teams to develop a joint strategy for all levels:
  - Polio social behavioral change staff should include EPI messaging in their communications
  - Communications team should document successes of PEI-EPI synergy
  - NEOC Coordinator and FDI Director General to publish a joint paper on Pakistan's experience of EPI and PEI synergy
- Strengthen vaccination posts (fixed and temporary); more and qualified staff
- Recruit social behavioral change officers for EPI
- Create regular reports on IPV coverage
- Accelerate RI of HRMPs, with recruitment of vaccinators who are linguistically and culturally aligned with these groups

Goal One: Conclusions and High-level Recommendations

Goal One: Conclusions and Recommendations

Interrupt transmission in endemic zones

- Endemic poliovirus transmission remains concentrated to Southern KP and East Region of Afghanistan
- Start of the current high transmission season has increased the risk of spread
- The topmost priority is to stop endemic transmission. Success depends on vaccinating children that have been repeatedly missed and this requires:
  - Continued improvement in SIA quality in the East region
  - Innovative new strategies to reach all children in Southern KP for example, in the 69 UCs with the most missed children
  - Resumption of SIAs in South Waziristan Upper
- Interrupt transmission – quality response

Outbreak response

- Timely and vigorous outbreak response to any virus detection is the next level of priority to prevent transmission in any other area, however, this **must not** disrupt activities in the endemic zones
- The detection of wild poliovirus in the South Region of Afghanistan is a public health emergency that requires an urgent response with adequate strategies to prevent a large outbreak of polio that could paralyze hundreds of children
- Preparation for outbreaks should be prioritized in cross-border corridors and historic endemic reservoirs – particularly Quetta bloc, Peshawar, Karachi, Southeast and Northeast regions of Afghanistan
- Attaining and maintaining eradication-level AFP surveillance and using ES as supplementary approach will be critical; quality of poliovirus surveillance (AFP, ES, and lab) should be assured for timely detection and response

Recommendations

- Both Pakistan and Afghanistan programmes should ensure procedures are consistent with global guidelines:
- Breakthrough / additional detection in an outbreak area: continue immunization SIA at 4-week intervals until 3 high quality rounds and 6 months since last detection. If not stopped within 1 year, it becomes re-established transmission.
- Closing outbreaks:
  - For each outbreak event, when six months have passed without poliovirus detection, the programme should conduct an outbreak response assessment evaluating:
    - Management, field investigation, risk assessment, social behavioral change integration into operational plans, quality of immunization response, sensitivity of surveillance, essential immunization
  - The assessment should include lessons learned for future outbreak response and recommendations for post-outbreak period
  - Closed outbreaks revert to pre-outbreak categorization

Priority tasks in endemic countries

1.	**Interrupt transmission in endemic zones**	• Pakistan 99% success method: “Multiple high quality ‘3+2’ (enhanced H2H) campaigns are the most direct path to interrupting endemic transmission” • Reach 69 Union Councils in Southern KP with the most missed children • Resume SIAs in upper South Waziristan • Continue to improve Eastern Region SIAs
2.	**Outbreak response**	• E.g., robust and effective response to WPV1 in Kandahar, which now represents a public health emergency • Strong focus on Peshawar, Karachi, and Quetta Bloc in Pakistan and southeast and northeast Afghanistan
3.	**Reduce risk in historic reservoirs**	• Quetta Bloc has accumulated a large susceptible population

Conclusions: Outbreak Zones

- Timely and vigorous outbreak response to any virus detection is the next level of priority to prevent transmission in any other area, however, this **must not** disrupt activities in the endemic zones.
- The detection of wild poliovirus in the South Region of Afghanistan is a public health emergency that requires an urgent response with adequate strategies to prevent a large outbreak of polio that could paralyze hundreds of children.
- Preparation for outbreaks should be prioritized in cross-border corridors and historic endemic reservoirs – particularly Quetta bloc, Peshawar, Karachi, Southeast and Northeast regions of Afghanistan.
- Quality of poliovirus surveillance (AFP, ES, and lab) should be assured for timely detection and response.

Outbreak Response: Recommendations: Immunization

Both Pakistan and Afghanistan programmes should ensure procedures are consistent with global guidelines:

- **Breakthrough / additional detection in an outbreak area:** continue immunization SIA at 4-week intervals until 3 high quality rounds and 6 month since last detection. If not stopped within 1 year, it becomes re-established transmission.
- **Closing outbreaks:**
  - For each outbreak event, when six months have passed without poliovirus detection, the programme should conduct an outbreak response assessment evaluating:
    - Management
    - Field investigation
    - Risk assessment
    - Social behavioral change integration into operational plans
    - Quality of immunization response
    - Sensitivity of surveillance
    - Essential immunization
  - The assessment should include lessons learned for future outbreak response and recommendations for post-outbreak period.
  - Closed outbreaks revert to pre-outbreak categorization.

Conclusions

- Continued low-level transmission in Southern KP and intensified transmission in Nangarhar remain significant risks, especially in the southern shared Pakistan-Afghanistan corridors with important immunity gaps.
- As the high-transmission season progresses, the risk of outbreaks is rising both within the country and across the border; the programme must respond rapidly and effectively to outbreaks as they occur.
- The recent detection in Kandahar in particular underlines a major risk of re-established transmission and an explosive outbreak if not effectively addressed.
- Both programmes have the capacity to stop remaining endemic transmission
- The programme in Pakistan has shown it has the leadership support, tools, knowledge, and resources to stop outbreaks efficiently.
- **Key risks:**
  - Continued transmission in the endemic zones
  - Exportation of the virus outside the endemic zones, with the potential to reinfect and re-establish transmission within the historical reservoirs
  - High number of susceptible children due to use of site to site rather than house to house response in the South
- **Across the endemics, there is a need to:**
  - Double down on reaching 300,000+ persistently missed children with regular and integrated SIAs in East Afghanistan and South KP
  - Ensure aggressive high-quality response to rapidly stop any outbreak
  - Enhance the current data-driven approach
  - Better integrate SBC activities

Goal One: AFRO WPV1 Importation

WPV1 importation in AFRO

- In February 2022, GPEI confirmed the presence of WPV1 in a child in Malawi by a virus genetically linked to WPV1 that was detected in Pakistan in 2019.
- In March 2022, a child in Mozambique experienced onset of paralysis by WPV1 linked to the imported case in Malawi, leading to a further eight cases.
- Since the detection of WPV1 in AFRO, an effective coordinated response across Malawi, Mozambique, Tanzania, Zambia and Zimbabwe has been implemented.
- 21 rounds of campaigns have been conducted across this block, and the response has seen SIA quality improve with each round across Malawi, Mozambique, Tanzania, and Zambia.

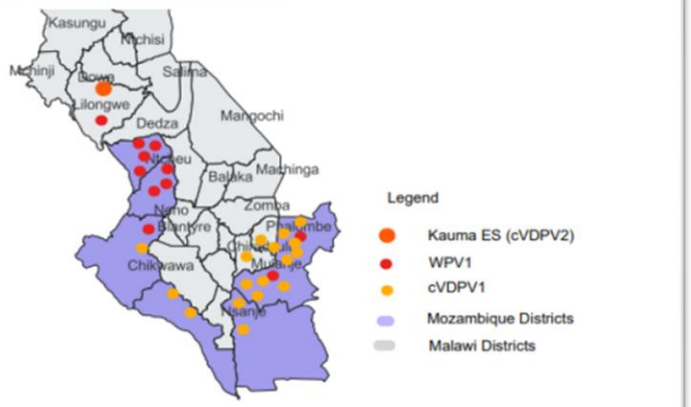
- AFRO has had ten months without detected transmission (last case: Mozambique, 10 August 2022)
- Outbreaks in Malawi and Mozambique will be reviewed by the Africa Regional Certification Commission in July
- A further round of OBRAs is planned for Q3 2023 when it is hoped these outbreaks can be declared closed

Malawi	Mozambique	Tanzania	Zambia	Zimbabwe
17M doses administered in 2022-2023	**44M doses administered** in 2022-2023	**45M doses administered** in 2022-2023	**17M doses administered** in 2022-2023	**7M doses administered** in 2022-2023
2.9M, 3.5M, and 3.6M children vaccinated Rounds 2-4	3.5M, 7.5M, and 8.6M children vaccinated Rounds 2-4	12.4M, 15M and 17.8M children vaccinated Rounds 2-4	4M, 5M and 17.8M children vaccinated Rounds 2-4	2M, 2M and 2M children vaccinated Rounds 1-3
4 bOPV rounds completed, 1 planned (Aug 2023)	6 bOPV rounds completed, 1 planned (Aug 2023)	4 bOPV rounds completed	4 bOPV rounds completed	3 bOPV rounds completed, 1 planned (Sept 2023)
Percent of LQAS lots passed increased from **17%** in round 1 to **72%** in round 4	Percent of LQAS lots passed increased from **54%** in round 2 to **92%** in round 4	Percent of LQAS lots passed increased from **64%** in round 2 to **98%** in round 4	Percent of LQAS lots passed increased from 32% in round 1 to 83% in round 4	Percent of LQAS lots passed increased from 57% in round 1 to 67% in round 2 and declined to 51% in round 3

Malawi

- A WPV1 outbreak was confirmed in February 2022 following a case in Lilongwe.
- Contextual challenges include a stretched health system and an increasingly large population of internally displaced persons coupled with no recent experience in outbreak response campaigns.
- However, strong political will and improving surveillance systems suggest a positive outlook for cVDPV outbreaks in country.

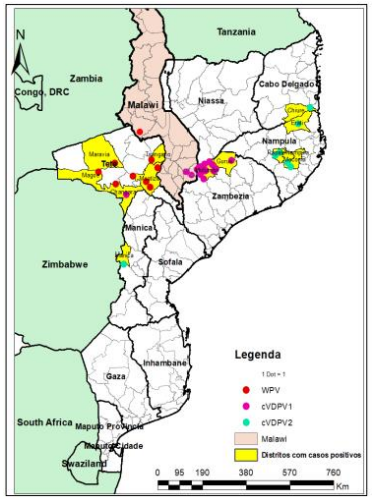
Figure 1. Cases and Isolates in Malawi



Epi	Surveillance	Campaigns	Activities/Success	Risks
A WPV1 outbreak was confirmed 17 Feb. 2022 from case paralyzing a 3-year-old child in Lilongwe in November 2021 This is the first Malawi WPV1 case since 1992 This case was the same YC2 cluster that then broke in Mozambique from May-August 2022. The patient had had 1 bOPV dose	There is a clear presence of a surveillance system and a general understanding of AFP reporting processes However, the surveillance system is not yet sensitive enough to demonstrate absence of poliovirus transmission in Malawi Surveillance is improving, with stool adequacy at 86% and 27 out of 29 districts reported AFP cases in 2023 10 ES sites are operational in 6 districts (80% of those have EV detection rate above 50%)	2,923,372 <5 yr. vaccinated with bOPV during an integrated MR/TCV/bOPV campaign from 15-21 May 2023 (mop up 23-25 May 2023) Partners are planning two bOPV NIDs targeting <15 year olds scheduled in congruence with Mozambique (29 June-2 July 2023) (10.4 million bOPV doses) Future proposed timelines: bOPV NID June-July 2023; bOPV NID 3-6 Aug 2023; nOPV2 NID October 2023; nOPV2 November 2023	Government and partners have demonstrated strong political will for outbreak response despite challenges VillageReach, a non-profit partner, is working on improved stool transport systems	The government health system capacity is stretched dealing with other priorities like flooding, cholera, COVID-19, Malaria, HIV/AIDS, and malnutrition Cross-border movement between Malawi and Mozambique, especially to access services in Malawi, drives transmission risk There are at least 134,694 internally displaced persons (IDPs) in 160 camps in 9 districts from Cyclone Freddy

Mozambique

- Following the Malawi case, there was the subsequent confirmation of a WPV1 outbreak in Mozambique in May 2022, leading to a further eight cases in Tete province.
- Despite challenges, the Government of Mozambique and partners have responded quickly to the outbreaks.
- Although there remain problems of coordination and distribution of resources, in general there is close cooperation between staff of the Government and partner agencies working together on outbreak response.

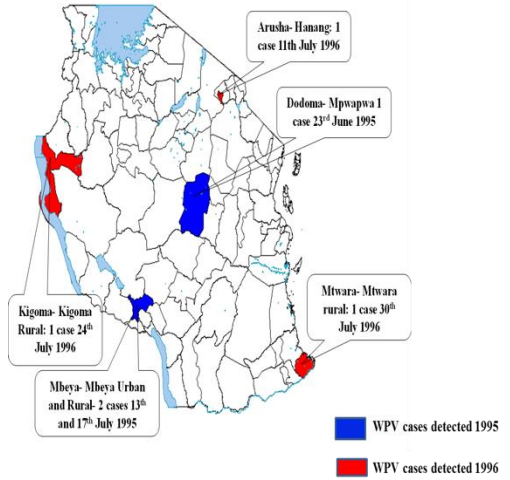


Cases in Mozambique

Epi	Surveillance	Campaigns	Activities/Success	Risks
There have been 8 WPV1 (AFP cases) in Mozambique in 2022 (centered in Tete province; first onset March 2022) The cases are genetically linked to a strain from 2019 in Pakistan and the Malawi case There are three outbreaks, including two poliovirus types circulating: type 1 (WPV & cVDPV1) and type 2 (cVDPV)	AFP detection rates have risen significantly, and the ES system was revised in 2022 – this is not yet benefiting the outbreak response Adequate specimen collection rates are still below targets Overall timeliness is inadequate to provide up-to-date information for the response Plans for strengthening surveillance continued only to the end of 2022	There is evidence that the quality of SIA rounds improved since 2022 However, the outbreaks are occurring because of significant immunity gaps especially in the central and northern provinces and these gaps are not yet closed Children over the age of 5 years may be contributing to the ongoing transmission Partners planned two bOPV NIDs targeting <15 yr.; one has taken place and one will be in Q3	There is good evidence of coordinated and successful efforts to engage communities and effectively communicate about the outbreaks and the need for the response	It is a challenge to explain to communities and key figures why many rounds of immunization are necessary Stretched government health system, including response to measles, cyclone response Unless the target population challenge is addressed for RI, there will continue to be pockets of un-immunized/missed children

Tanzania

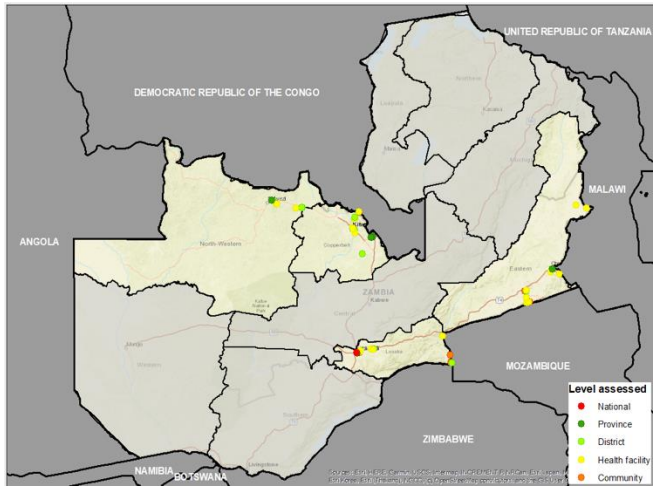
- The last indigenous WPV was detected in Tanzania in 1996 and the country was certified polio-free by Africa Region Certification Commission (ARCC) in December 2015.
- The country has achieved and maintained key AFP surveillance performance indicators for past 6 years, but there is an ongoing risk of outbreaks due to immunity gaps, population movement, and other major public health emergencies and priorities.



Epi	Surveillance	Campaigns	Activities/Success	Risks
The last WPV1 case in Tanzania was reported in 1996 in Mtwara Tanzania does not have any WPV1, cVDPV1, or cVDPV2 cases, but circulating polioviruses in the sub-region create a high risk to Tanzania	There is a well established and functioning AFP surveillance system with dedicated staff at all levels Key surveillance indicators are meeting international GPEI standards, but some sub-national gaps remain The AFP surveillance system is complemented by well functioning environmental surveillance network Stool transport is a primary contributor to timeliness delays	Government leadership is fully engaged in campaigns, and working closely with GPEI surge consultants Some campaign dates have been delayed due to concerns about technical rationale/other priorities There is a dramatic improvement in SIA quality over time by multiple metrics High coverage of bOPV, IPV maintains polio immunity despite challenges in 2020-2021	There is high level government commitment, support and advocacy There is a functioning NEOC with management structures supported by the Ministry of Health (MoH) and President's Office Regional Administration and Local Government (PORALG) There is strong leadership and engagement of government and coordination with GPEI partners	cVDPV2 outbreak in neighboring DRC and Burundi remains a threat to northwest Tanzania There are immunity gaps due to a decline in routine immunization during Covid-19 outbreak Population movement internally and between neighboring countries remains a risk Other major public health emergencies and priorities – Marburg, Covid-19, Measles outbreaks, other disease outbreaks

Zambia

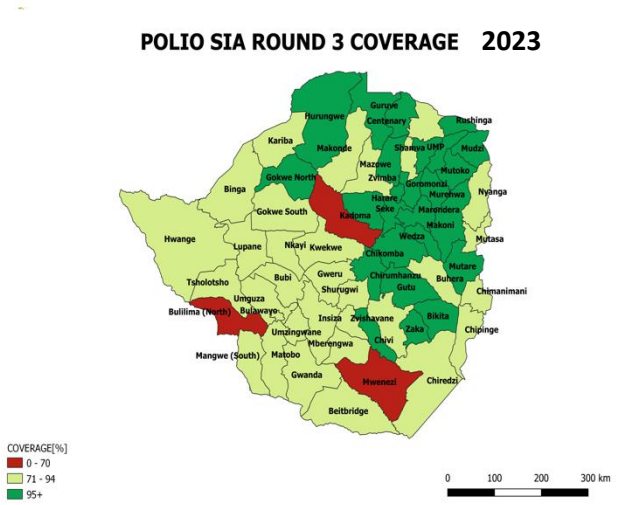
- The last indigenous WPV was detected in Zambia in 1995.
- WPV1 outbreaks in Mozambique and Malawi, as well as environmental detections of cVDPV2 genetically related to DRC circulation present complex, serious risks in the country.
- Following an extensive response, Zambia has not detected any spillover transmission from the outbreaks in neighboring countries.
- The Government of Zambia and partners have responded quickly and appropriately. A gender assessment of the outbreak response was completed, highlighting successes and opportunity areas.



Epi	Surveillance	Campaigns	Activities/Success	Risks
The last WPV1 case in Zambia was reported in 1995 cVDPV2 related to DRC circulation was detected in environmental samples in late 2022	Surveillance quality, though improving, must be stronger to ensure early detection Surveillance sensitivity has improved in 2022 & 2023, however, adequate specimen collection rates are below targets The national laboratory is performing extremely well but is coping with significant increases in workload with rising AFP rates and possible ES expansion	There is evidence that the quality of SIA rounds improved during 2022, with later rounds achieving much higher quality than earlier rounds There remain significant issues with denominators for both SIAs and RI Routine coverage may be over-estimated	Considerable effort has gone into working with border districts on coordination with neighboring districts There are coordinated and successful efforts to engage communities and communicate about the need for the response There is high awareness and vaccine acceptance among the communities and a low number of missed children The national programme has sufficient capacity to manage SIAs	More attention needs to be placed on mobile and migrant populations who do not settle in border districts Communication challenges remain as the outbreak response continues into 2023, particularly the need to identify and reach special populations There are still issues of vaccine stock management, recording, and documentation, especially for nOPV2 The expertise Gender Focal Points is not utilized

Zimbabwe

- Zimbabwe's last polio case was recorded in 1989.
- The country achieved eradication by 2005 and received ARCC WPV-free certification in August 2020.
- A national OBR response plan has been developed to maintain the country's polio-free status. However, ongoing risks remain including population movement, immunity gaps, and outstanding operational challenges key for implementation of prevention and OBR activities.
- In addition, the country's overall budget allocates only 11% to health, with the country's health system already burdened with multiple competing priorities (i.e., cholera, measles, Covid-19).



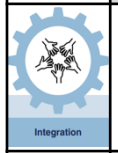
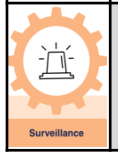
Epi	Surveillance	Campaigns	Activities/Success	Risks
The last polio case was recorded in 1989. Eradication was achieved in 2005. Zimbabwe does not have any WPV1, cVDPV1, or cVDPV2 cases, but circulating polioviruses in the sub-region create a high risk to Zimbabwe	Environmental surveillance has been initiated to complement ongoing AFP surveillance; Scale up in more districts and large cities planned Surveillance strengthening is one of the three components of Zimbabwe's 3-pronged OBR plan	2022: 2 polio campaigns conducted 2023: Third round of SIAs conducted, with subsequent mop-up campaign activities implemented Recent bOPV SIA coverage has been inconsistent, with the 95% coverage targets met only intermittently across districts in 2023. Further, a significant number of districts continue to fail LQAS Zimbabwe's OBR plan includes conducting four rounds of polio SIAs as part of its 3-pronged approach	Preparation for nOPV2 introduction is underway and national guidelines for SIA have been developed Since 2022, major improvements have been seen in NP-AFP & stool adequacy rates, as well as for OPV3, IPV1 & 2 coverage Enhanced coordination between partners has led to success in collaboration and activities A national response plan has been developed to maintain the country's polio-free status	A Polio Command Center not yet established Operational and logistical challenges related to vaccination teams and implementation of key activities remain Vaccine objectors and hesitancy may lead to increasing vaccine-preventable diseases outbreaks The country has not yet progressed with readiness verification for the use of nOPV2 to respond to possible cVDPV2s

Lessons Learned

- While risks remain, the level of immunization that has taken place has significantly mitigated them
- The program must assist the country to maintain improvements in essential immunization and surveillance systems
- The WPV1 cases in transition countries in AFRO reaffirm the importance of routine immunization, integrating with primary healthcare, and building and maintaining strong surveillance systems
- The ongoing cVDPV1 outbreak in Malawi and Mozambique underscores the ongoing type 1 immunity gaps in southern Africa and highlights the ongoing risks, especially with continued cancelation of preventive bOPV campaigns
- Looking forward, the program should consider how to sustain the important gains made during outbreak responses and avoid losing the work done to date

Goal One: Strategic Objectives

Goal One: Strategic Objectives, Key Activities, and Status

	Strategic objective	Key activities (as outlined in GPEI strategy)	Notes / examples / updates
	**Political advocacy**	• Gain and maintain access in Afghanistan through systematic advocacy • Intensify advocacy with provincial govts in Pakistan	• Ongoing work in Afghanistan, but continued resistance to H2H modality in endemic and outbreak areas • Top Pakistan federal, provincial and military levels have increased engagement leading to greater access • Low intensity insurgency in South KP has led to disrupted political advocacy
	**Community engagement**	• Conduct multidisciplinary research into vaccine hesitancy and community mistrust • Foster alliances with priority communities for co-design, ownership and delivery of gender-responsive program innovations	• Low level insurgency in Eastern Afghanistan's former home of Islamic State led to challenges with community engagement • Important sensitivities to consider when interacting with communities • Continued issues with acceptance, confidence and trust
	**Campaigns**	• Recruit, train, and appropriately support a motivated workforce that meets community needs • Introduce monitoring innovations to enable faster data feedback loops and improve quality • Facilitate strengthening of essential immunization	• A large number (300k) of children missed in endemic zones because of insufficient campaigns • 350,000 children remain inaccessible in endemic and outbreak zones
	**Integration**	• Deliver vaccines alongside basic public services to increase reach of essential and supplementary immunization, with focus on high-risk areas • Partner with govts, communities, and health programs to support access and reduce missed communities and zero-dose children	• WASH strategies and interventions • COVID response focused in high-burden areas led to increased investment in SHRUCs • Partnering with humanitarian groups to reach ZDC • Co-delivery with other antigens (e.g., measles, COVID) • More work with other actors needs to be done
	**Surveillance**	• Improve timelines for detection from case onset to final results • Establish pathway towards a sustainable integrated surveillance system	• External review findings: Afghanistan AFP surveillance system is functional • Gaps in AFP surveillance indicators remain in Afghanistan • While more ES site have been established, gaps in AFP surveillance indicators remain in Pakistan

Political Advocacy

Gain and maintain access in Afghanistan through systematic advocacy with all

A sample of activities underway by GPEI includes:

- Meeting with senior Shura of refugee population from eastern region and southeastern region, facilitated through CSO, HD (Humanitarian Dialogue)
- Advocacy and dialogue regarding house-to-house modality negotiated by UN partners

Key challenges:

- As of Q4 2022, H2H access remains at 75%, an increase from under 50% at the beginning of the year; the target is 80%
- No meetings of the national task force on polio eradication chaired by head of state as of Q4 2022, but the program team is negotiating with the counterpart at the highest level of the government

Intensify advocacy with provincial governments in Pakistan

A sample of activities underway by GPEI includes:

- To address boycotts, advocacy with district and political administration was conducted leading to 100% of boycott negotiations supported by administration
- POB visits at national and sub-national level to sustain political will, particularly following political changes in government
- Focus on regional advocacy approaches and solidarity
- EMRO Regional Committee meetings focused on polio eradication and transition (including POB, Ministers of Health, etc.)

Key challenges:

- As of Q4 2022, there remains incomplete access in the Mehsud belt

Political advocacy

Community Engagement

Conduct multidisciplinary research into vaccine hesitancy and community mistrust

- A sample of activities underway by GPEI includes:
  - Engagement of influential CSO for dialogue with refugee refusal community leaders (Swati/Bajauri)
  - Situation analysis completed for Sep 2022 – April 2023 to identify locations and root causes for missed children and refusals in Afghanistan East Region and social status of refusals
  - After positive ES in Gulshan-e-Ravi, Rapid Response Communication team conducted social investigation: desk review of HRMP, focus groups, surveys, and semi-structured interviews

Foster alliances with priority communities for co-design, ownership and delivery of gender-responsive programme innovations

- A sample of activities underway by GPEI includes:
  - 2022 Pakistan Frontline Worker Co-Design Initiative used input from female FLW to learn how to reach missed children, improve their work experience, plan for future transition, and develop knowledge products capturing best practices to multiply impact
  - Gender strategy was decentralized with a focus on identifying training and mobilizing gender champions at NEOC and PEOC levels
  - Community-led Health Camps in Mehsud belt

Campaigns

Recruit, train, and appropriately support a motivated workforce that meets the needs of the community

- A sample of activities underway by GPEI includes:
  - PEI staff conducting joint training for District Coordinators and Cluster Supervisors in East Afghanistan and implementing monitor's feedback
  - Training now focuses on applications of skills through roleplays and increased from 3 to 7 days
  - Mentoring of new staff by experienced staff in field

Introduce monitoring innovations to enable faster data feedback loops and improve quality

- A sample of activities underway by GPEI includes:
  - Implementing APMIS to yield real-time data for action
  - Joint monitoring plan
  - Monitoring participation in evening meetings
  - Systematically addressing issues through Action Plan

Facilitate strengthening of essential immunization

- A sample of activities underway by GPEI includes:
  - In Afghanistan, essential immunization is being strengthened through monitoring and supervision
    - NEPI M&E performance management ensured supervision of remote health facilities (HFs)
    - Vaccine availability at HFs improved from Q4 2022 to Q1 2023
    - Vaccinators were trained to use an app to report data on outreach activities
    - The new digital tools monitoring outreach in 3 polio-endemic provinces have enabled managers to increase children vaccinated for Penta 1 in outreach sessions by 89%

Integration

Deliver polio vaccines alongside basic public services to increase the reach of both essential and supplementary immunization, with a focus on high-risk areas

- A sample of activities underway by GPEI includes:
  - WASH strategies and interventions in Pakistan
    - Over 600,000 reached with improved water, over 800,000 with hygiene, and 300,000 with sanitation
    - Improved WASH in 37 HGs and 32 schools in 15 SHRUCs
    - No WPV in ES in Peshawar in one year and Sindh since July 2021
    - Rotary supported 32 current and 31 planned water projects
    - Rotary and Coca-Cola Pakistan launch Zindagi, a project focused on innovative approaches to community engagement with strategies to facilitate polio eradication
  - COVID response and Afghan response focused in high-burden areas – resulted in increased investment in SHRUCs

Partner with governments, communities, and adjacent health programmes to support access and reduce missed communities and zero dose children (ZDC)

- A sample of activities underway by GPEI includes:
  - In Kandahar and Helmand, actors vaccinated 111,125 children considered missed by the program since March 2023
  - Humanitarian groups are partnering to reach ZDC through outreach - 340,069 children were vaccinated between March and April
  - In Pakistan, the Federal Directorate of Immunization and NEOC launched a zero-dose line list in Nov 2022 SIA to bridge the gap between data recording and vaccination; immunization coverage improved by 11% over prior years
  - Health camps (including pluses) and transit vaccinations in south KP (8.2M)

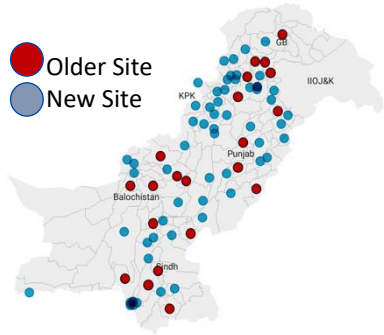
Surveillance

Improve timeliness for detection — from case onset to final result

- A sample of activities underway by GPEI includes:
  - In Pakistan, historical core reservoirs and Central Pakistan districts did not achieve notification within 7 days from May 2022 to May 2023

Establish pathway towards a sustainable integrated surveillance system

- A sample of activities underway by GPEI includes:
  - More ES sites have been established, now at 113 sites in 80 districts
  - In Pakistan, the AFP surveillance network was re-prioritized and expanded:
    - AFP FP increased 36% from 795 in 2019 to 1,079 in 2023
    - Reporting sites increased 17% from 4,321 in 2019 to 5,057 in 2023
    - Reporting volunteers increased 41% from 35,356 in 2019 to 49,903 in 2023



Surveillance

Goal Two

Stop cVDPV transmission and prevent outbreaks in non-endemic countries

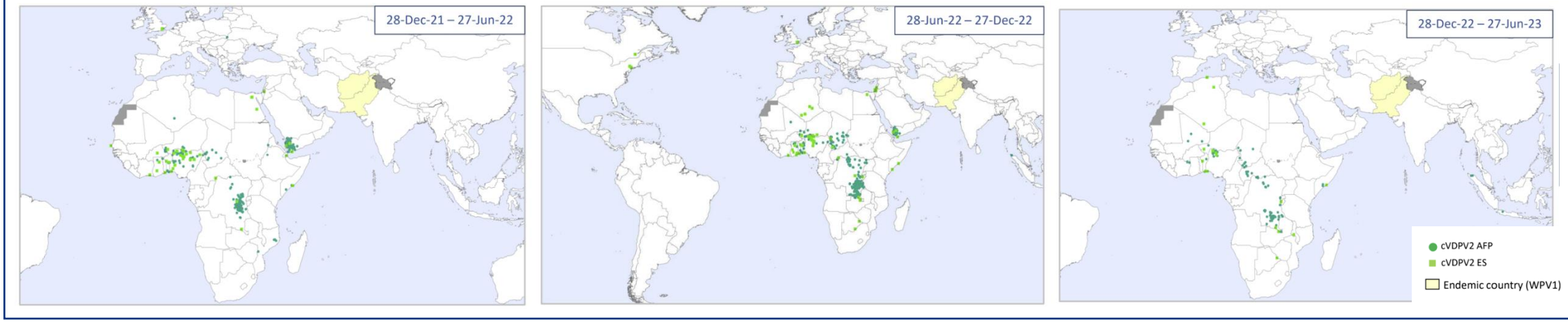
Goal Two Progress Summary

- New cVDPV2 cases and emergences **appear to be declining**, and cases are increasingly geographically concentrated
- Ongoing inaccessibility, security risks, political instability, logistics and other challenges **fuel transmission in the most consequential geographies**
- **Improved nOPV2 supply** since Q2 2023 has enabled a more comprehensive response but the situation remains fragile due to reliance on a single supplier
- **Growing susceptibility** to type 1 and type 2 poses a major risk
- The **response to cVDPV1 outbreak** is not part of goal two, but is being managed through existing strategy and budget

Goal Two: Epidemiology

Global Status of cVDPV2 Outbreaks

Figure 1. Global cVDPV2 isolates*, December 2021-June 2023



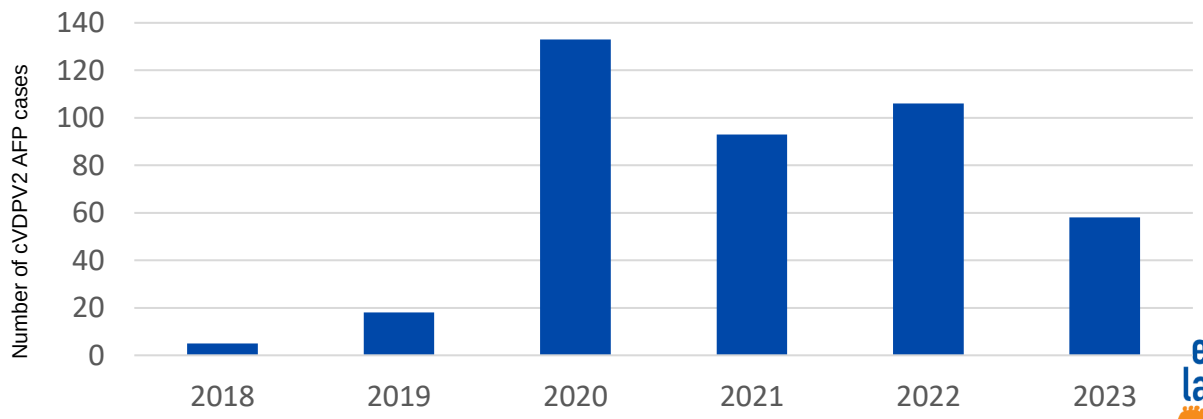
Data current as of 27 June 2023

- Year-to-date comparisons show that 2023 case notification numbers are **slightly over 50% of the case numbers from this time period last year**

- Recent trends in case numbers show a decline, even when significant surveillance delays are taken into account
    - As of end 2022, a median 78 days from date of onset/collection to date notification to HQ

- Although cases appear to be falling, any new outbreak and response requires substantial resource investment

Figure 2. cVDPV2 AFP cases notified to HQ between 1 Jan - 31 May, 2018-2023



Data current as of May 2023

*by onset date/collection date

cVDPV2 Case Curve and Key Events

Events Impacting Operations During the Strategy Period

2020

- *Paused 60 campaigns as result of the pandemic*
- *AFRO decision on Sabin OPV2*
- *Planned ramp down of Polio staff in AFRO created instability within polio staff in country*
- *Extended surveillance lags + 6 month pause in SIAs allowed for higher force of infection*

2021

- *First nOPV2 use in Nigeria*
- *Insufficient scope or delayed campaigns due to countries not yet being verified for nOPV2 and the overall supply situation*
- *Ramp down of Polio staff in AFRO completed*

Strategy period

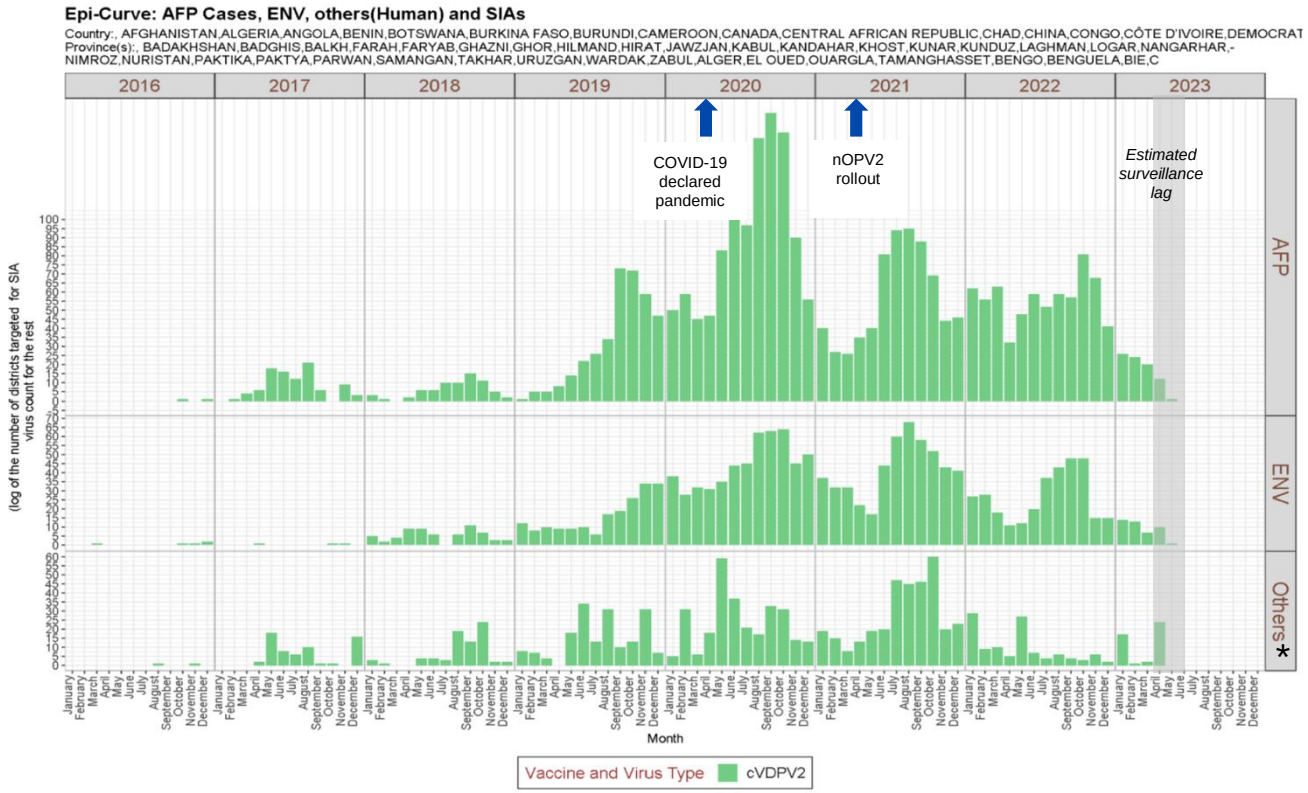
2022

- Insufficient speed, quality, and scope of campaigns due to multiple factors including nOPV2 supply disruption
- Co-circulation of cVDPV1, WPV1 (DRC cVDPV1 index case on June 16, 2022)

2023

- Upcoming elections in DRC, Zimbabwe, Madagascar
- Last use of Sabin (Sudan)
- nOPV2 vaccine shortage Oct 2022-April 2023 contributes to delayed campaigns

Figure 1. Global, post switch cVDPV2 trend between 2016-2023

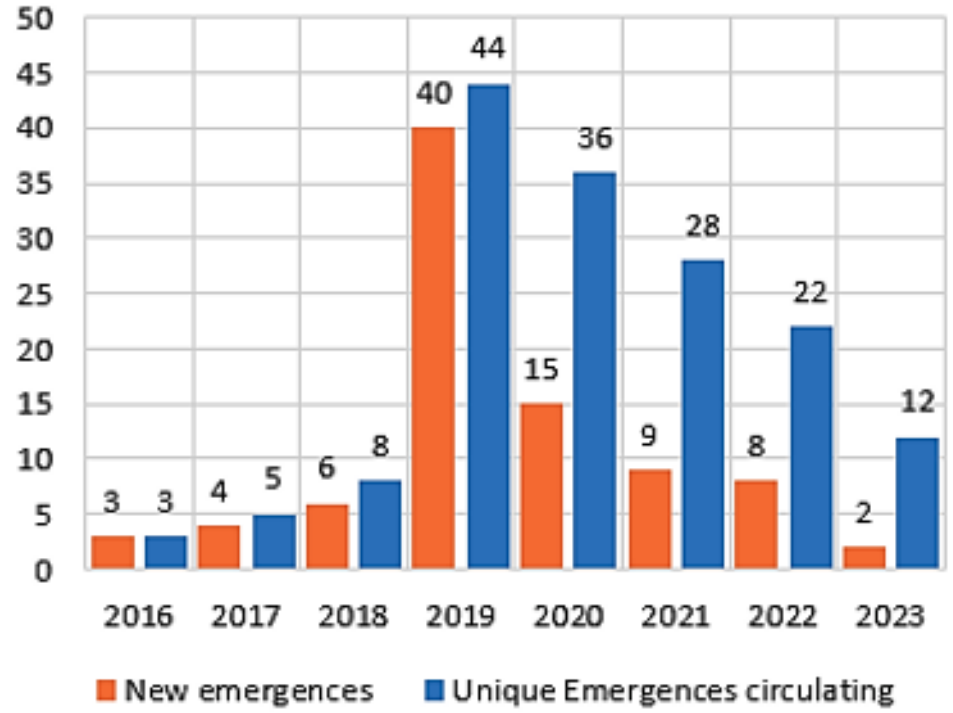


**Others represent contact samples*

cVDPV2 Emergence Overview

- Nine lineages were new in 2022-2023, while 14 continued from prior years
- 15 of 23 lineages reported in 2022-23 are from four (4) most consequential geographies (9 from East DRC, 3 from North Nigeria, 2 from Yemen and 1 S.C Somalia)
- There have been five cVDPV2 emergences derived from nOPV2
- Other new emergences reported from CAR, Mozambique, Indonesia and ISR-UK-US-CAN

Figure 1. New emergences and unique emergences circulating, 2016-2023



Geographic Concentration of the Virus

The number of countries affected has remained about steady from 2020-2022

The number of cVDPV2 infected districts is reducing year over year and we are seeing an increasing geographical concentration of the virus

Figure 1. Number of Countries with cVDPV2, by Year

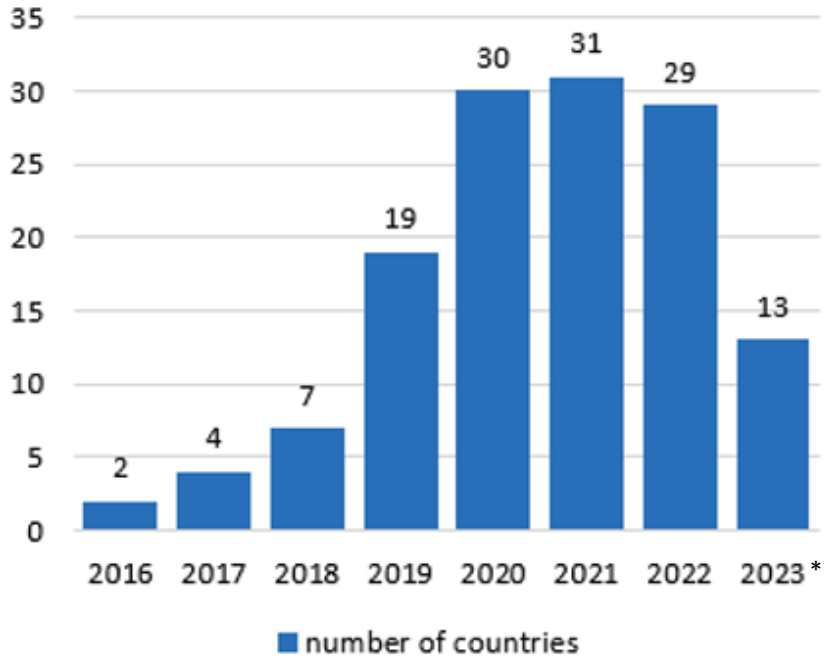
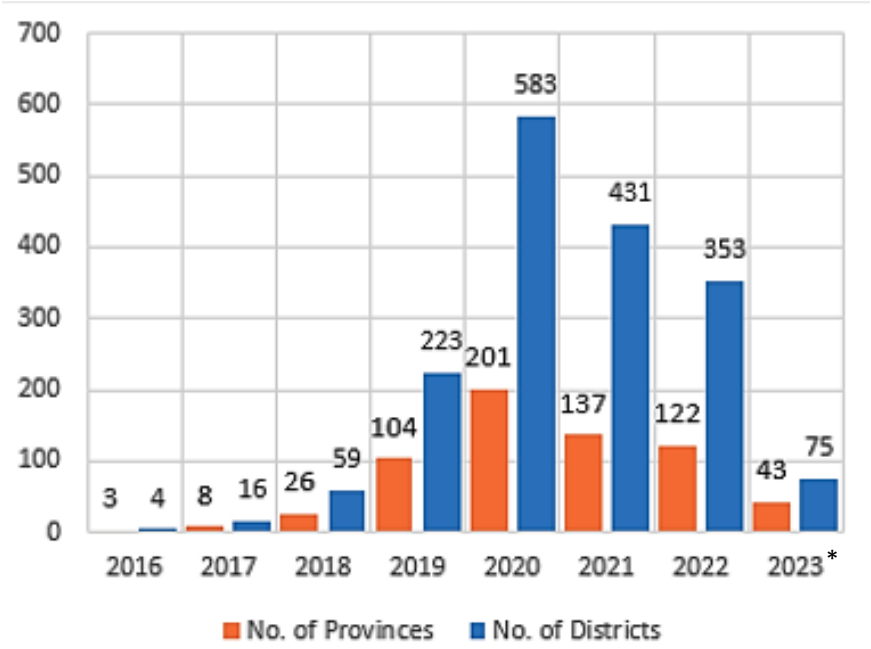


Figure 2. Number of Provinces and Districts with cVDPV2, by Year

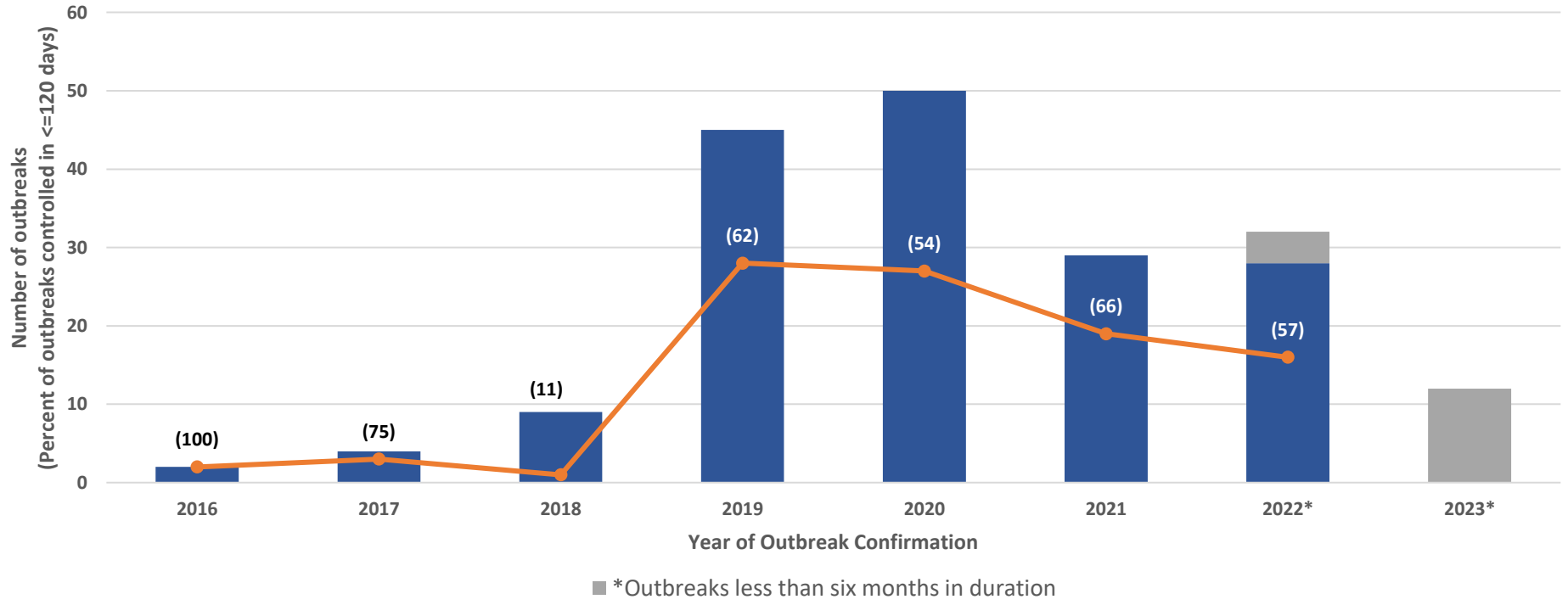


*YTD, Data current as of 13 June 2023

Status of Outbreak Interruption

- Of the 172 cVDPV outbreaks reported since 2016, 121 (70%) have been interrupted*. As of February 14, 2023, 19 of 29 (66%) outbreaks confirmed in 2021 had no virus detected after 120 days, compared with 28 (62%) of 45 outbreaks in 2019 and 27 (54%) of 50 in 2020.

Figure 1. Outbreaks Controlled within 120 days



*A current critical measure of outbreak response performance for the Global Polio Eradication Initiative (GPEI) is the interruption of virus transmission in outbreaks (i.e., the latest detection) within 120 days of the outbreak notification date

International Spread of cVDPV2

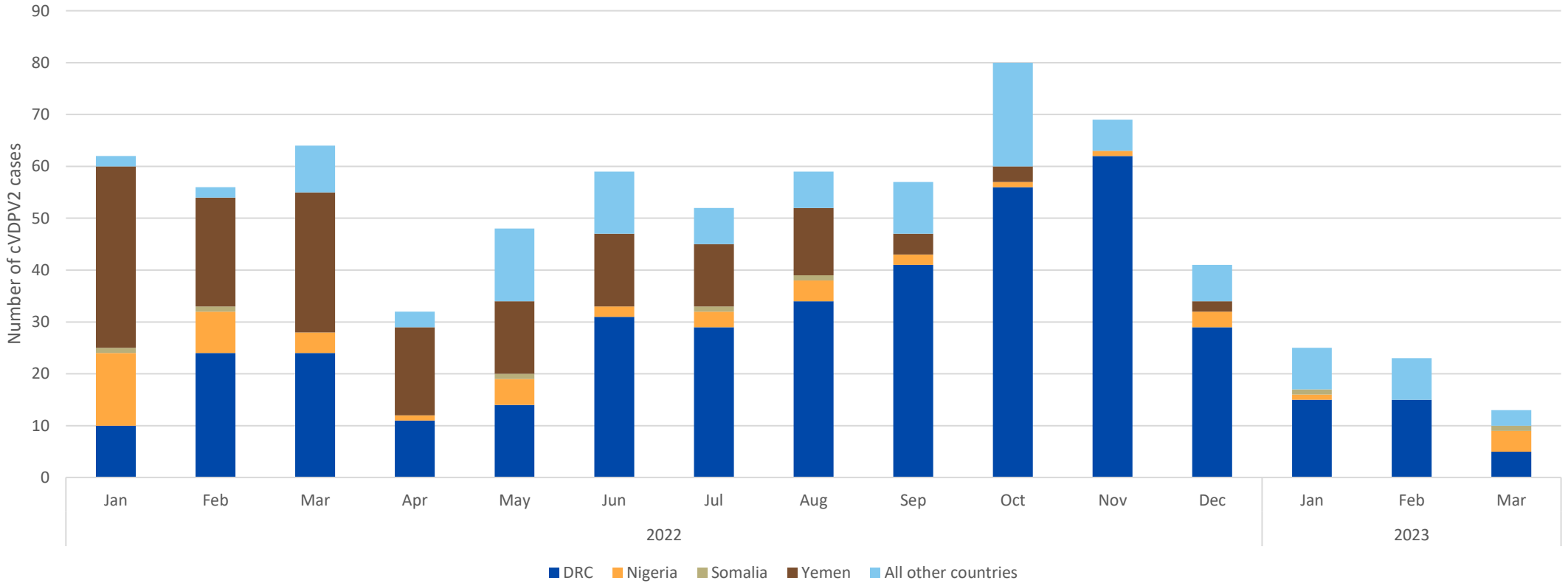
- Despite the ongoing decline in both the number of cVDPV2 cases and the number of emergences circulating, the risk of international spread of cVDPV2 remains high
- This is evidenced by high transmission in Nigeria and DRC
  - For example, there has been international spread of cVDPV2 from DRC to Burundi, Malawi, Zambia, Botswana, and CAR
- The long-distance international spread of VDPV2 to Jerusalem, London, New York and Montreal has also revealed a new risk phenomenon
  - i.e., evolution of vaccine derived polioviruses in under-immunized pockets of populations who lack intestinal mucosal immunity in IPV-using countries
  - These locations can be classified as “low risk” due to strong health systems and swift responses, which will contain the risk of spread

Figure 1. International Spread of cVDPV2 from DRC

Global cVDPV2 Cases by Country

- Since January 2022, cVDPV2 cases in DRC, Nigeria, Yemen, and Somalia have accounted for over 84% of global cases

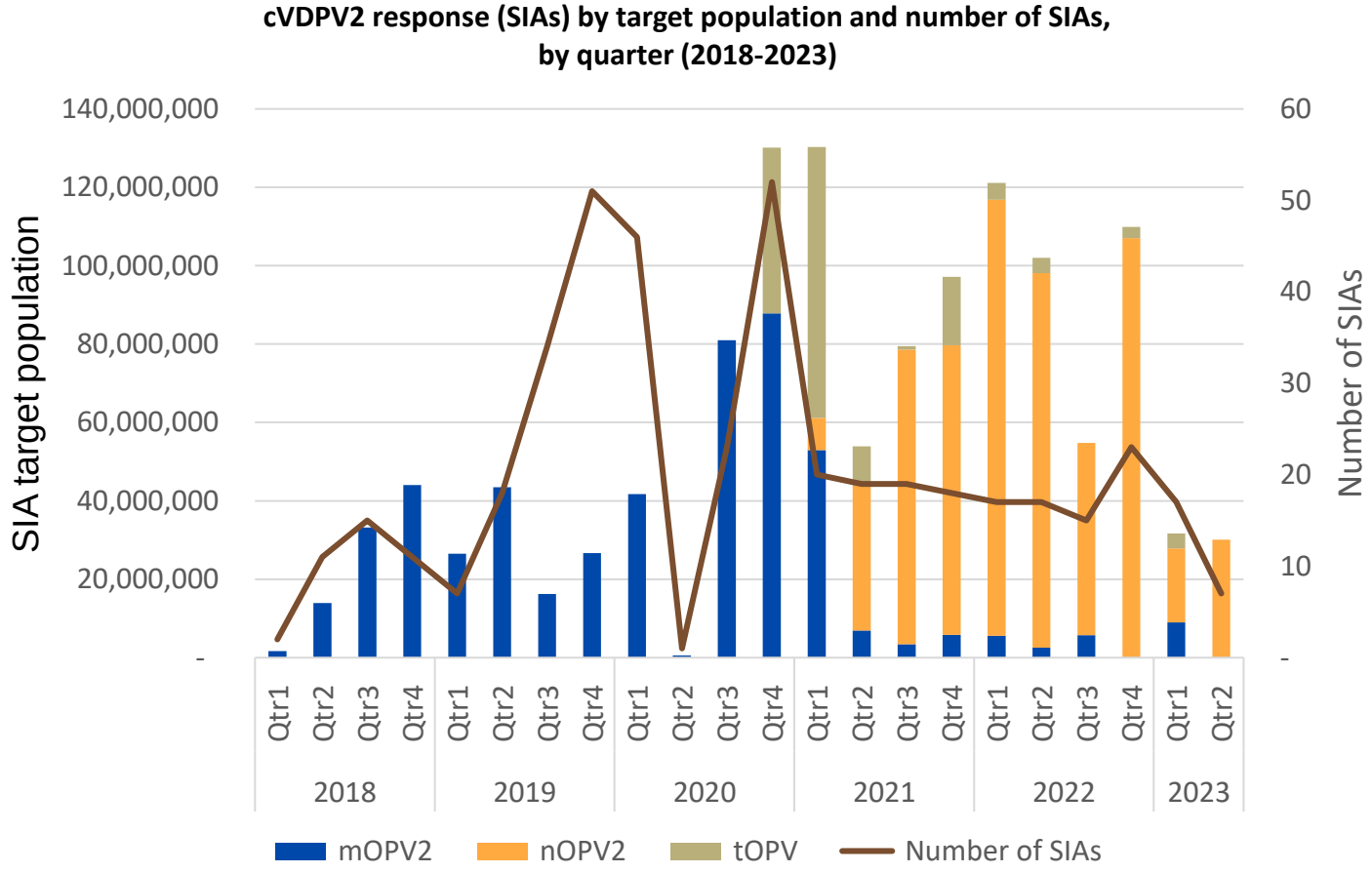
Figure 1. cVDPV2 cases January 2023-March 2023



Goal Two: Campaigns

Campaign Response Over Time

- **2019** - The program conducted a large number of relatively small campaigns due to limited vaccine supply and large number of outbreaks
- **2020** – The POB decided to pause campaign activity to reduce risk of transmitting COVID-19 virus
- **2021 and 2022** – There was a major increase in campaign scope with the trend of bigger campaigns starting in 2021 continued. Target populations covered by these campaigns increased by a factor of three compared to 2019
- **2023** - The OPV supply disruption contributed to a reduction in campaign activity in the first half of this year, but a big increase is planned for the second half of the year



Campaign Planning in 2023

In 2023, there was a reduction in campaign activity in the first half of the year due to several factors, including planning challenges and the OPV supply disruption

A large increase is planned for the second half of the year, and it is expected that the number of campaigns and the target population will be similar to that seen in 2022

Figure 1. Campaigns by month 2021-2023

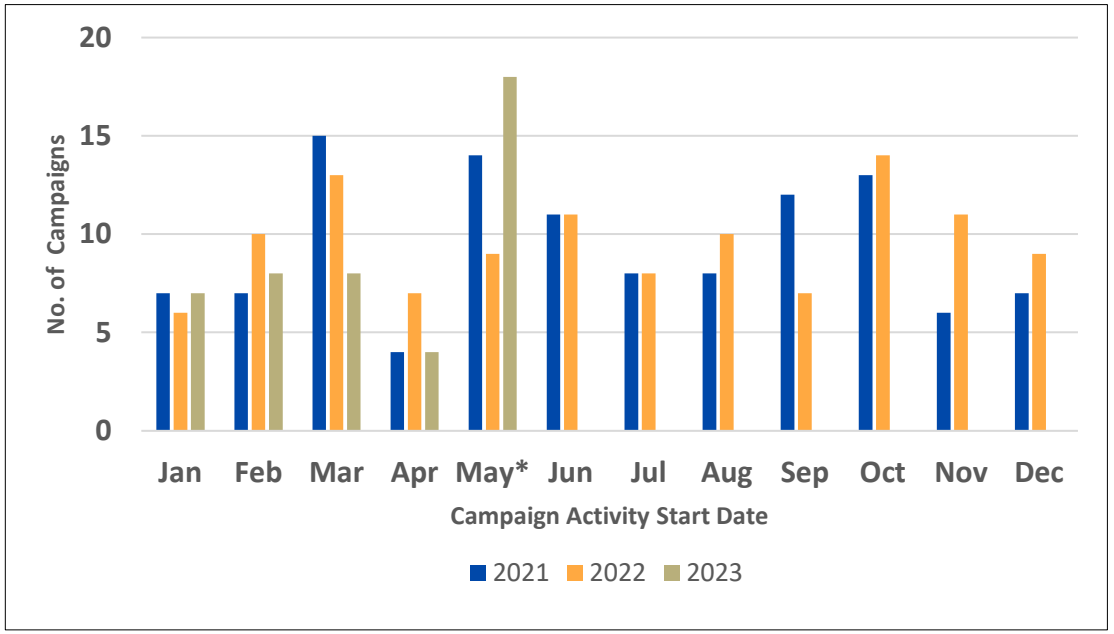


Figure 2. Approved 2023 campaigns through September

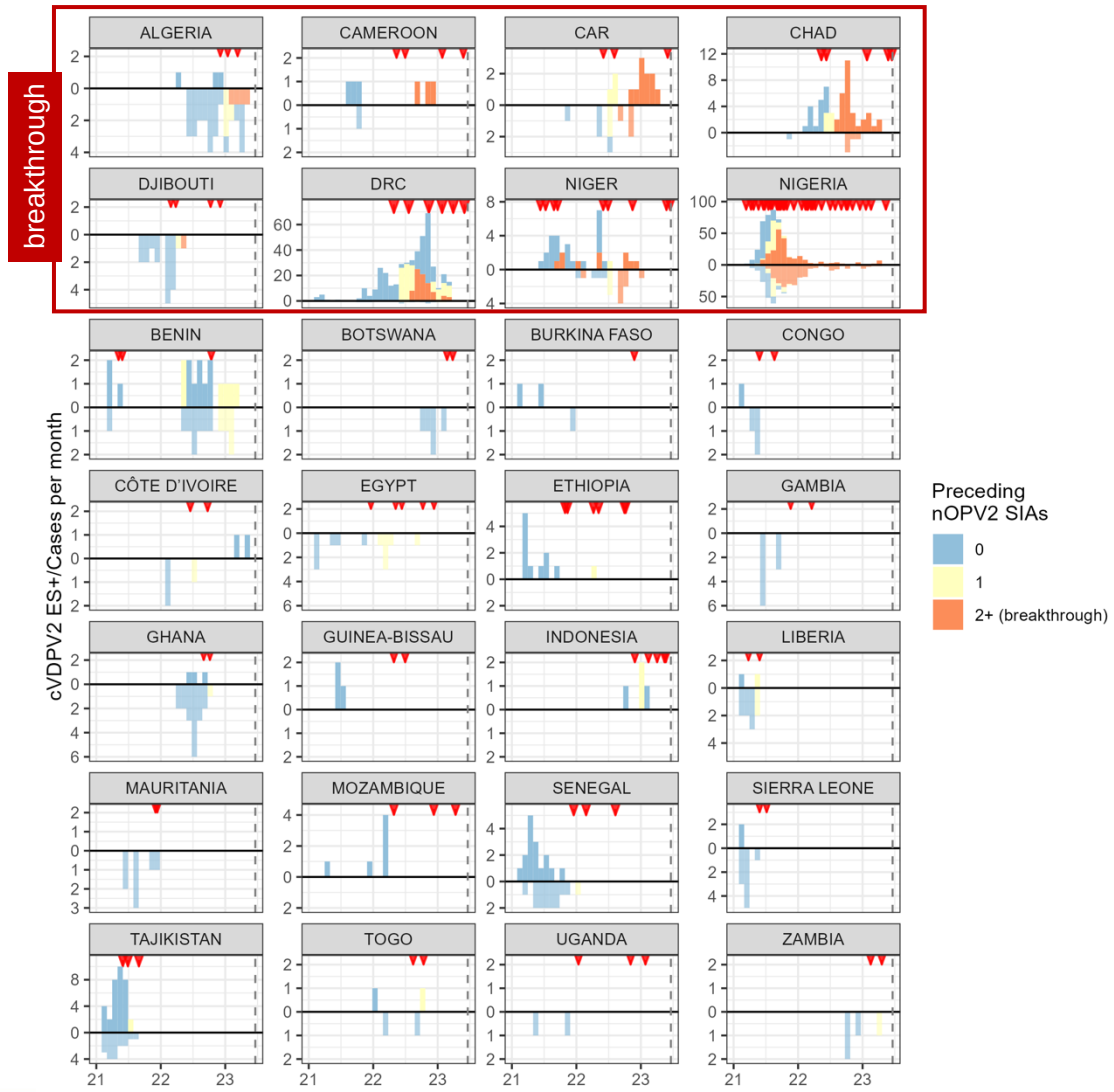
Country	Scope	Planned date	Vaccine (million doses)
Nigeria	NID	August	71.5
Burundi	2 NIDs	July-August	7.5
Rwanda	2 NIDs	July-August	7.1
TNZ	SNID-R2	August	2.1
Mali	NID	August	11.5
CIV	NID	Sept	6.9
Somalia	NID + 1 SNID	August	5.1

planning for Oct-Dec campaigns are underway

Quality of the Campaign Response

- Campaign timeliness and quality remain important constraints to an effective response, notwithstanding the reduction in case numbers
- In outbreaks responded to with nOPV2, there has been no breakthrough transmission in 20/28 countries (Figure 1)
- Others, *most consequential geographies* and countries with regular importation from MCGs, have experienced prolonged transmission requiring additional responses and intensified efforts
- 7 of 39 campaigns met the timeliness standard of 28 days from confirmation to first round response
- Responses need to be faster, better, and bigger

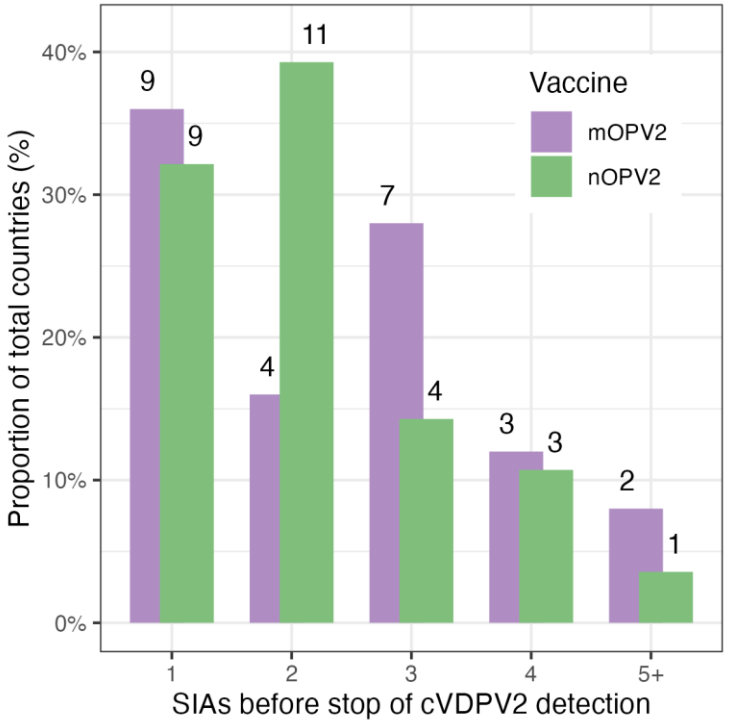
Figure 1. cVDPV2 ES+/Cases per Month and Preceding nOPV2 SIAs



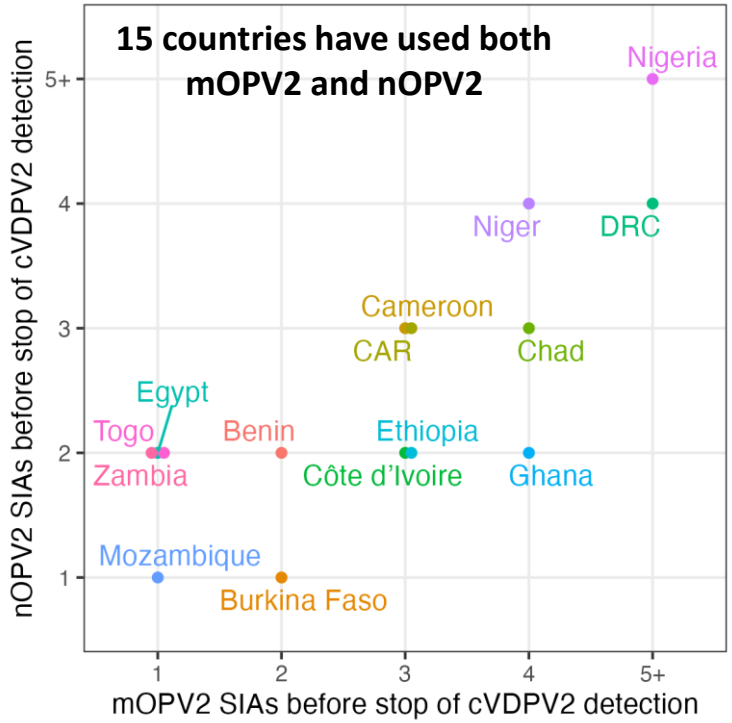
Majority of cVDPV2 Outbreaks Stopped After 2 nOPV2 SIAs: Comparable Field Effectiveness with Sabin mOPV2

- Depending on the country and the outbreak context, it can take 1–5+ campaigns to interrupt cVDPV2 transmission
- Most cVDPV2 outbreaks (20/28 countries) have been stopped after ≤ 2 nOPV2 campaigns
- The distribution of # of campaigns required for interruption is similar for nOPV2 vs. mOPV2
- Data suggest that nOPV2 is performing comparably to mOPV2 for field effectiveness in stopping outbreaks

Similar frequency of breakthrough for mOPV2 and nOPV2 Supplementary Immunization Activities (SIAs)**



Over 70% of outbreak countries stopped detecting cVDPV2 after ≤2 nOPV2 vaccination campaigns (SIAs)

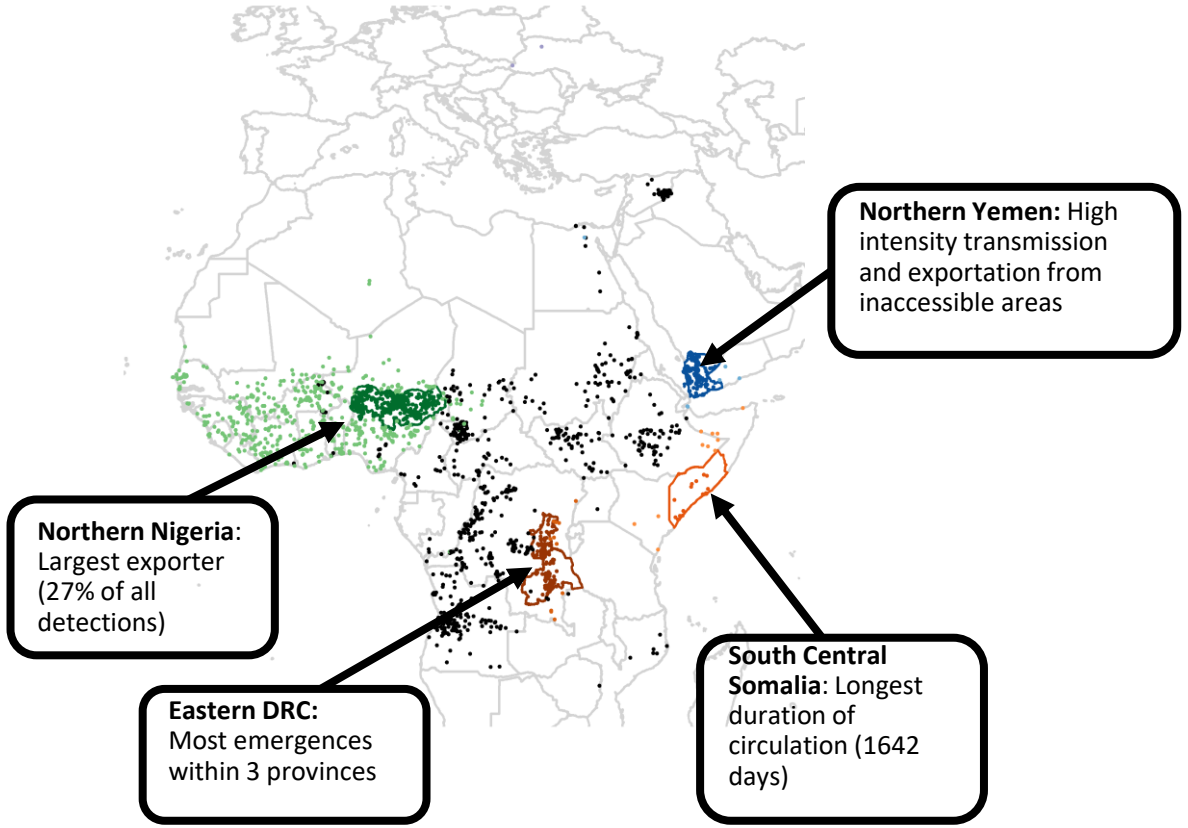


All countries with nOPV2 breakthrough (detection 28 days post-2nd SIA) also had mOPV2 breakthrough: Nigeria, Niger, DRC, Chad, Cameroon, CAR

Goal Two: Consequential Geographies

Consequential Geographies

- In 2022, a GPEI analysis of transmission patterns determined that four sub-national geographies are driving the continued spread of cVDPV2
- These most consequential geographies feature some of the highest proportions of zero-dose children (children who are either un- or under-vaccinated). They are also affected by broader complex humanitarian emergencies, including ongoing security and access concerns
- To bring an end to transmission from these “most consequential geographies” requires an intense vaccine response designed to resolve the specific reasons campaigns persistently miss vaccinating children in these areas, as well as integration to address broader community needs in marginalized populations and increase vaccine acceptance



DRC: Epidemiolocal Outlook

- Case count is down in 2023, but with a high number of samples still pending for Jan, Feb, and March 2023
  - The cVDPV2 outbreak affected 14 states
  - Exportation to 5 countries (CAR, Burundi, Malawi, Zambia, Botswana)
- A key reason for the explosive outbreak in 2022 in DRC is that no campaigns were conducted between 2019-2021 in eastern DRC which led to a buildup of susceptibles
- nOPV2 supply challenges in early 2023 contributed to campaign delays

Figure 1. cVDPV2 cases, DRC

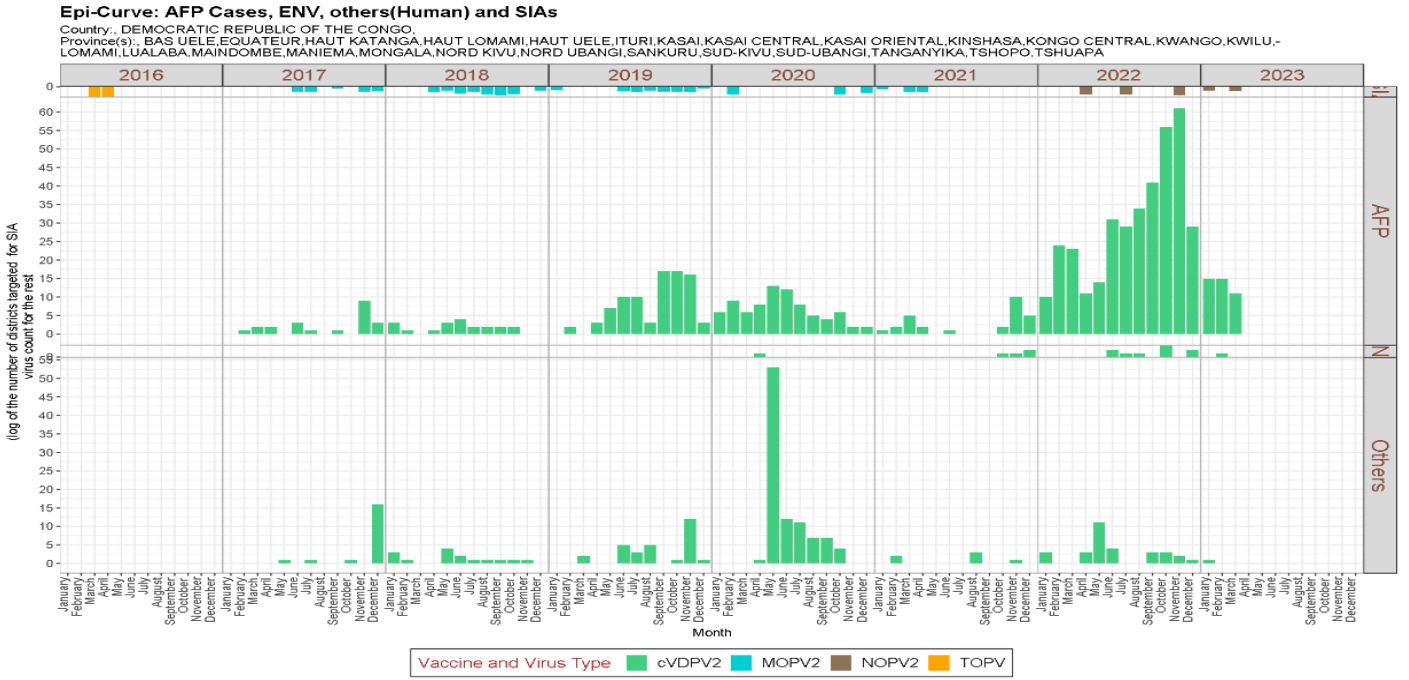
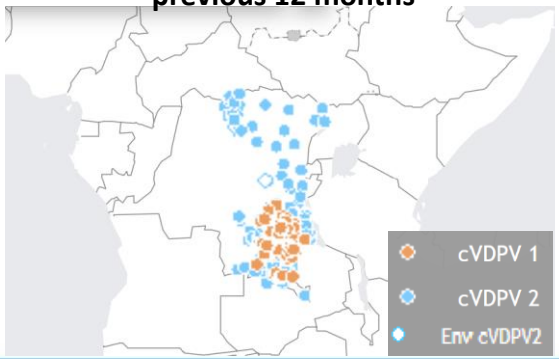


Figure 2. cVDPV1/2 cases and ES, previous 12 months



DRC: Surveillance and Campaigns

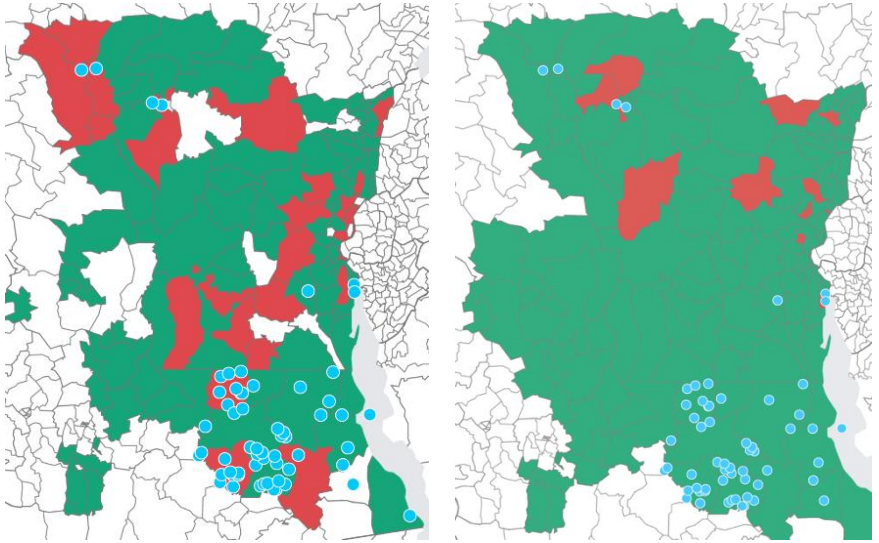
Surveillance

	2021	2022
Timeliness: Median number of days from onset to results (target <=35 days)	52	70
Sensitivity*: Districts >= 100,000 U15 with NPAFP >=2 (target >=90%)	86.7%	84.5%
Sensitivity*: Active ES sites with >=50% EV detection (target >= 90%)	(5/20) 25%	(3/17) 17.6%

Campaigns

- 8 planned activities between 1 Jan 2022 - 9 May 2023 (6 done, 1 cancelled, 1 delayed [no reasons given])
- Overall LQAS pass rate 83.2% (target >= 90%)
- 65% of districts met LQAS target in the last 2 rounds (target >= 90%)

Campaign quality and breakthrough detection for the last two SIAs with LQAS data available



28 Apr - 30 Apr 2022

21 Jul - 23 Jul 2022

For both activities for which LQAS was submitted, breakthrough virus was detected in areas that passed LQAS

DRC: Overview and Programmatic Response

Overview	Programmatic Response and Activities
• Country was classified for an IASC grade 3 humanitarian emergency response due to the worsening situation in eastern DRC on 20 June 2023 • Insecurity and armed conflict in eastern DRC has led to large numbers of internally displaced people • Presidential, parliamentary and provincial elections are scheduled for 20 December 2023 • Quality of campaigns seriously hampered by this complex environment in addition to weak logistics and inaccessibility • Limited implementation capacity further weakened by the cVDPV1 co-circulation and the need to do nOPV and bOPV campaigns at least four weeks apart	• nOPV2 and bOPV campaigns completed in January, March, and June 2023 • Two planned bOPV NIDs in late July/August and September ahead of the elections • Recently approved activities in the consequential geographies of Maniema, Tanganyika, and Haut Lomami • The 3rd Democratic Republic of Congo National Forum on Immunization and Polio Eradication took place in Kinshasa June 27-28, attended by the POB chair • In 2022: 3 nOPV2 activities completed; 22M total doses administered; between 7M and 7.5M children vaccinated each round

Nigeria: Epidemiological Outlook

- Nigeria accounted for two-thirds of all global cases in 2021 (which has sharply reduced though 2022-23)
- No campaigns were conducted between 2018-2020 in Northern Nigeria which led to a build up of susceptibles and an explosive outbreak in 2021
- Nigeria viruses have infected 19+ countries in the subregion – a single emergence now remains
- Transmission persists in the NW States (Zamfara/Sokoto), notwithstanding 8-9 SIAs conducted

Figure 1. cVDPV2 cases, Nigeria

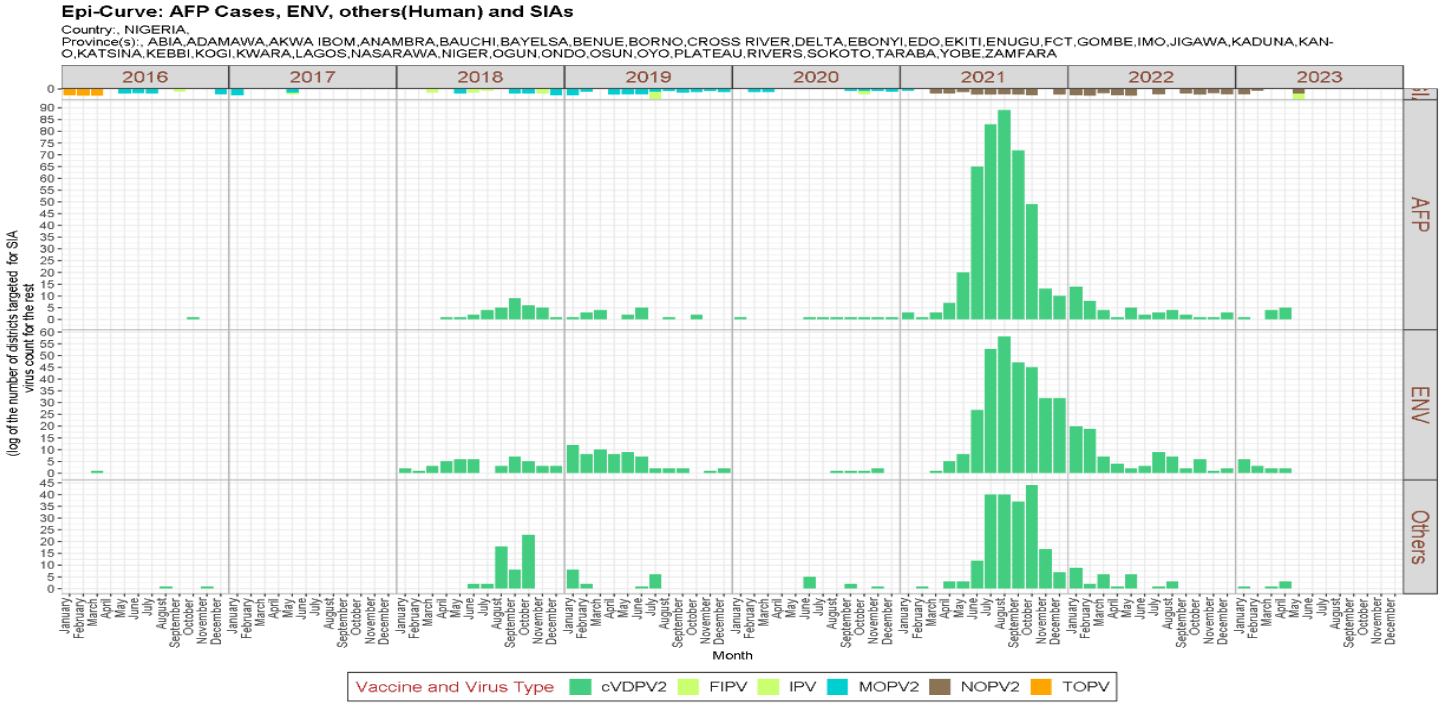
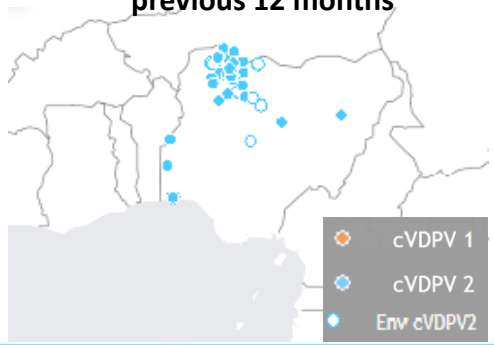


Figure 2. cVDPV1/2 cases and ES, previous 12 months



Nigeria: Surveillance and Campaigns

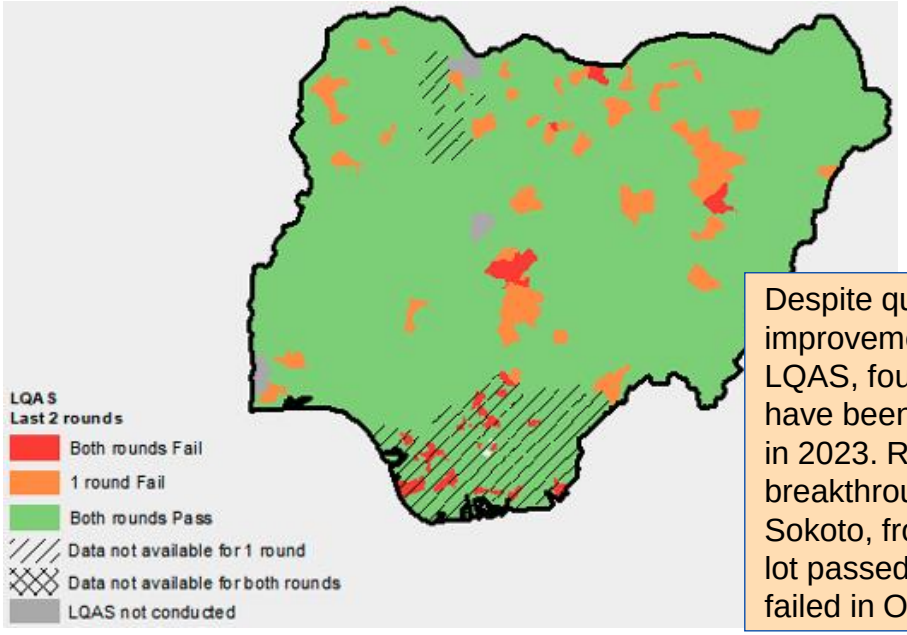
Surveillance

	2021	2022
Timeliness: Median number of days from onset to results (target <=35 days)	54	71
Sensitivity*: Districts >= 100,000 U15 with NPAFP >=2 (target >= 90%)	95.2%	98.5%
Sensitivity*: Active ES sites with >=50% EV detection (target >= 90%)	(22/139) 15.8%	(57/134) 42.5%

Campaigns

- 14 planned activities between 1 Jan 2022 - 28 July 2023 (11 done, 1 cancelled, 1 planned, 1 delayed [vaccine supply])
- Overall LQAS pass rate 93.8% (target >= 90%)
- 90.3% of districts met LQAS target in the last 2 rounds (target >= 90%)

LQAS results for the last two SIAs for which LQAS data are available



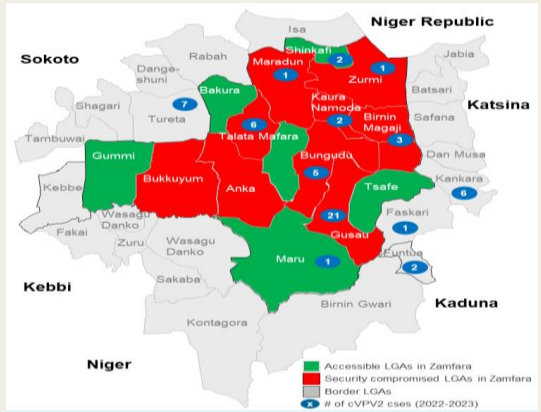
Despite quality improvements indicated by LQAS, four breakthroughs have been detected so far in 2023. Recent cVDPV2 breakthroughs detected in Sokoto, from an area where lot passed in Sept 2022 and failed in Oct 2022

Nigeria: Overview and Programmatic Response

Overview

- Case numbers have seen significant improvements over the past 18 months
- The program has seen important improvements in the quality of campaigns
- Continued detections from ES in Zamfara and Sokoto indicate pockets of persistent transmission
- Access issues remain a key risk, as inaccessibility is expanding in the Northwest
  - >3.9M children in 31,000 settlements are not reachable
  - Insecurity and migration mix during this period would widen immunity gaps in the country

Figure 1. Accessibility status and cVDPV2 cases in Zamfara



Map showing accessibility status and # of cVDPV2 cases across LGAs in Zamfara state and border LGAs

- Insurgency, banditry, and kidnapping attacks in both Zamfara and Sokoto states are unique, and require specialized strategies to reach settlements and children

Programmatic Response and Activities

- Two sub-national campaign conducted this year
- Recently approved campaigns in Sokoto, Zamfara and Kebbi
- RI intensification combined with in between round activities, including integration with CMAM
- Repeated SIAs with nOPV2 drove cases and ES detections down following the 2021 peak
  - 353M of 595M nOPV2 doses administered globally since March 2021 have been in Nigeria
- fIPV/nOPV2/Polio plus activities were conducted in NW Nigeria in May 2023, and an additional NID with nOPV2 is planned
- Supplemental activities continue: DOPV scale up, VTS tracking of teams in insecure areas, female supervisors in areas with FFM, and deployment of community informants in inaccessible areas
- Operational challenges are being addressed head on through strong local partnerships
  - CHIGARI & Sultan Foundations: traditional leaders engagement support
  - eHealth Africa: GTS tracking support
  - SCIDaR: planning, coordination, and implementation support
  - WHO: data management support
- In 2022: 12 nOPV2 activities completed; 228M total doses administered; up to 36M children vaccinated each round (range of 1M to 36M)

Somalia: Epidemiological Outlook

- There are two recorded cVDPV2 cases in 2023
- Somalia has recorded uninterrupted cVDPV2 transmission since 2017
- Transmission has been low level concentrated in south-central areas under control of Al-Shabab

Figure 1. cVDPV2 cases, Somalia

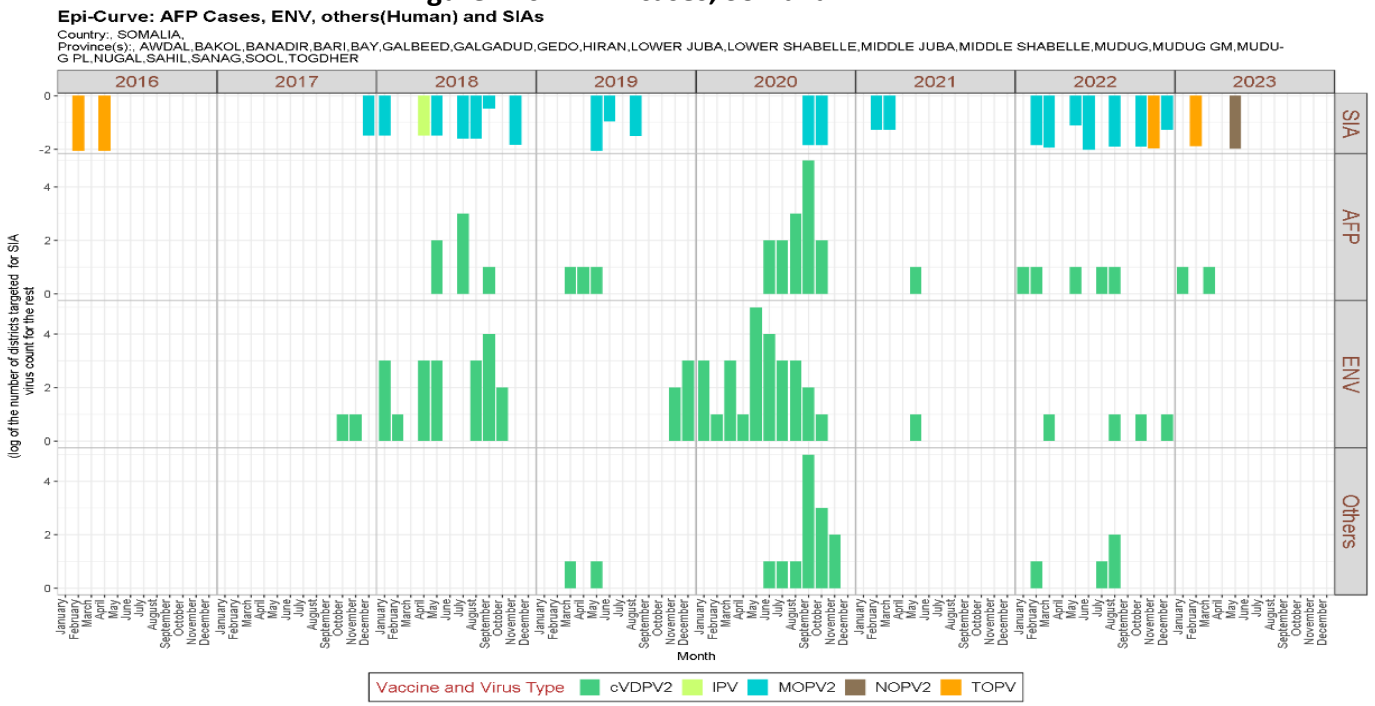
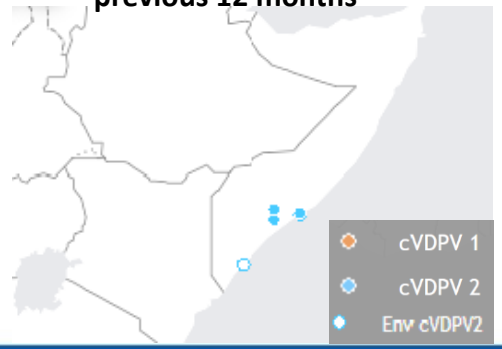


Figure 2. cVDPV1/2 cases and ES, previous 12 months



Somalia: Surveillance and Campaigns

Surveillance indicators per EMRO*

	2021	2022
Timeliness: Median number of days from onset to results (target 35 days)	34	25.5
Sensitivity: Districts >= 100,000 U15 with NPAFP >=2 (target 90%)	74%	85%
Sensitivity: Active ES sites with >=50% EV detection (target 90%)	55%	31%

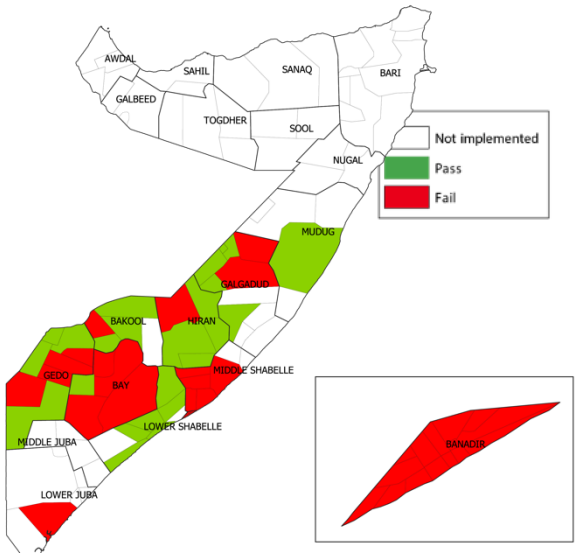
Campaigns

Campaign quality is highly variable, indicated by LQAS and breakthrough virus detection

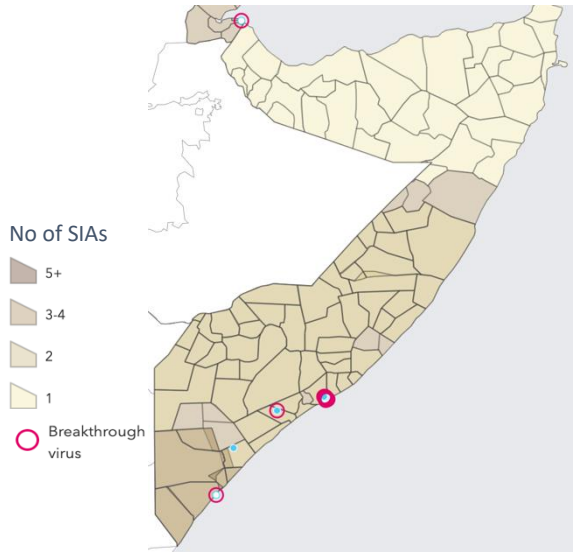
- May 2022 - 77/89 lots passed (87%)
- Aug 2022 - 55/61 lots passed (90%)
- Mar 2023 - (shown below) 25/57 lots passed (44%) (*note that the 3rd party agency conducting LQAS was changed due to past overly "green" results*)

Accessibility has shown important improvements between 2021 and 2023

LQAS results (March 2023)



Number of SIAs & breakthrough virus



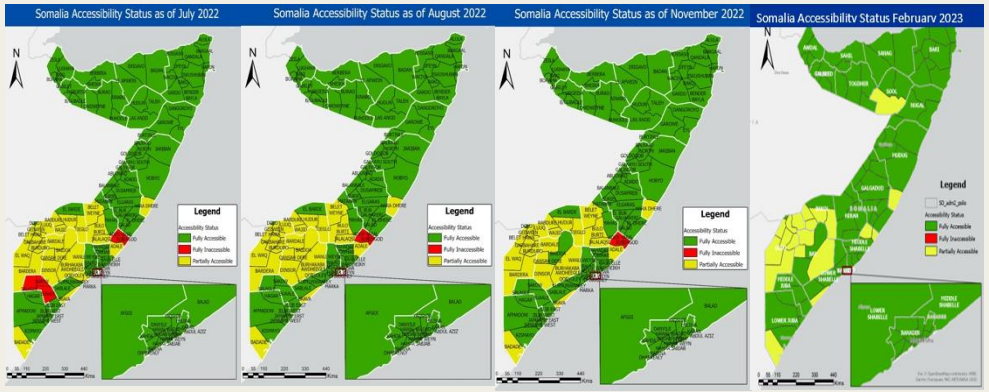
* Note use of EMRO data rather than POLIS due to discrepancies between datasets

Somalia: Overview and Programmatic Response

Overview

- Country was classified for an IASC grade 3 humanitarian emergency response due to the drought and famine on 11 August 2022
- For the first time, there are no fully inaccessible districts
  - There are around 90K expected children remaining inaccessible (reduced to 90K in March 2023 from 364K in Jan 2022)
  - Trends are moving in the right direction for numbers of under 5 children in inaccessible districts

Figure 1. Accessibility status, 2022-2023



- There are ongoing challenges related to famine, insecurity, infrastructure, and weak health systems

Programmatic Response and Activities

- Recently concluded SNID in SC Somalia with nOPV2
- Focus on consequential geography of south central now that access has improved
- Operations in Somaliland resuming after the government there lifted its opposition to campaigns
- Establishment of the Somalia Support Unit
- Several systems strengthening activities are underway in 2023:
  - Somalia Emergency Action Plan and tracking systems
  - SIA Cascaded Quality Improvement Workshops, remote monitoring, and contingency plans
  - AFP and reporting network validation by National team
  - Intensive field support from GPEI partner delegation for operational support and advocacy, and in-country field movement of international staff being augmented
- In 2022: 6 mOPV2/tOPV activities completed; 14M total doses administered; between 1.9M to 4.3M children vaccinated each round

Yemen: Epidemiological Outlook

North

- Seven in 10 Yemeni children under age 10 live in the country's northern governorates, and 87% of cases are in the north
- North Yemen did not conduct campaigns when the outbreak began, and recorded an explosive outbreak of cVDPV2 in late 2021 and through 2022
- Cases have steadily declined since September 2022
- It is positive that the epi curve is declining, and 93% of samples from the north (Jan-April) have results (May-June samples pending)

South

- Three rounds of polio campaigns were implemented in the southern governorates in 2022 (Feb, March, and June) and one round conducted in March 2023
- Transmission stopped in southern governorates

Figure 1. cVDPV2 cases, Yemen

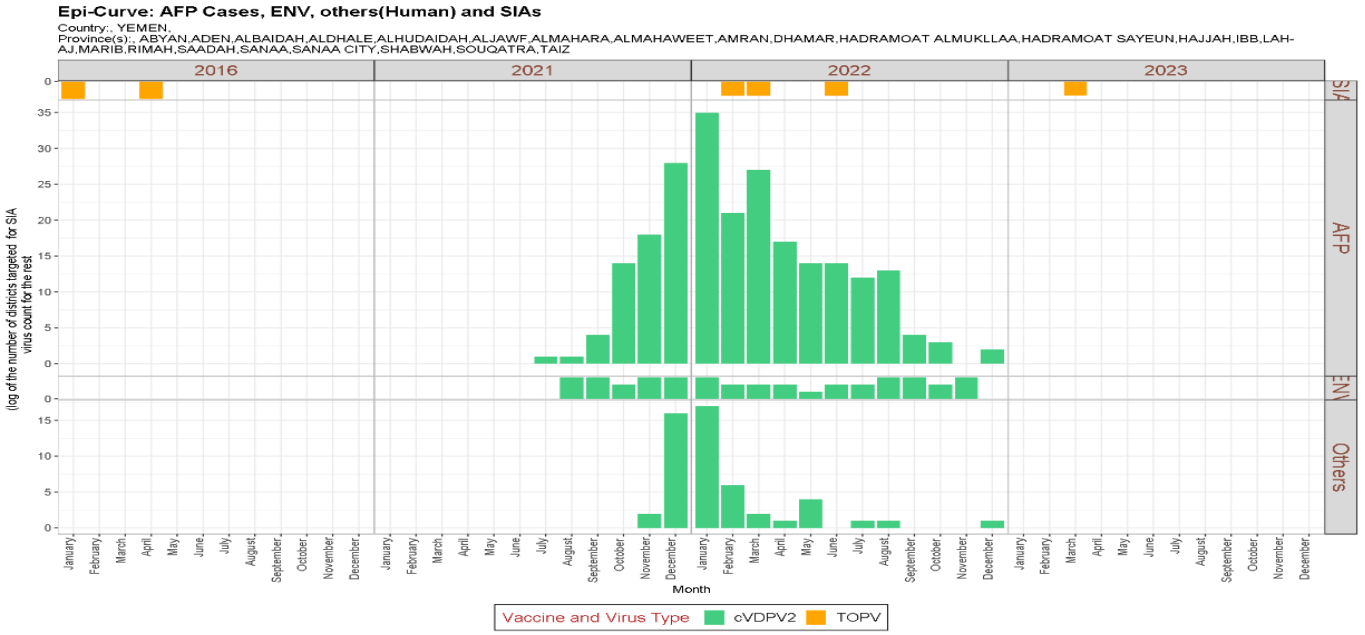
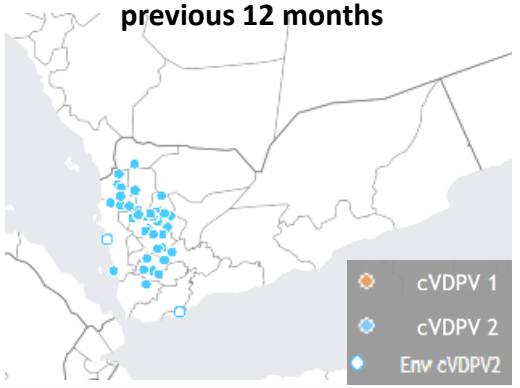


Figure 2. cVDPV1/2 cases and ES, previous 12 months



Yemen: Surveillance and Campaigns

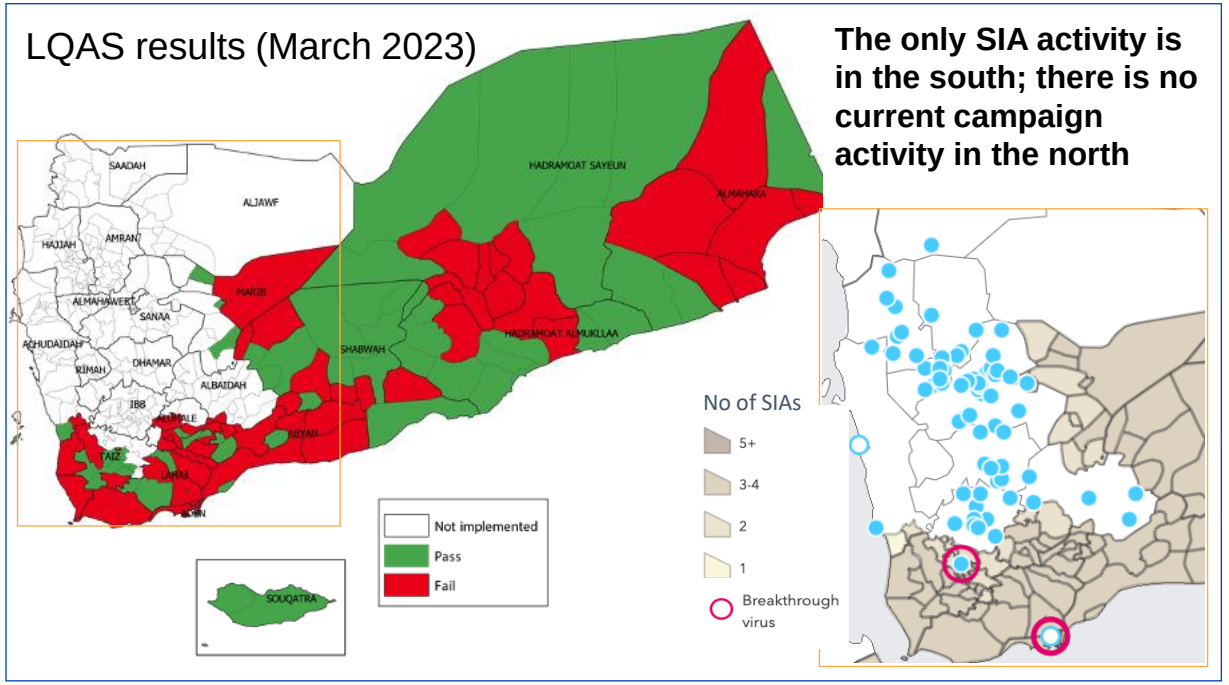
Surveillance

	2021	2022
Timeliness: Median number of days from onset to results (target <=35 days)	121	110
Sensitivity*: Districts >= 100,000 U15 with NPAFP >=2 (target >= 90%)	91.7%	100%
Sensitivity*: Active ES sites with >=50% EV detection (target >= 90%)	(0/2) 0%	(3/3) 100%

Campaigns

Campaigns are currently on hold

- Mar 2022 - 74/120 lots passed (62%)
- June 2022 - 0/12 lots passed (0%)
- Mar 2023 - (shown below) 60/119 lots passed (50%)



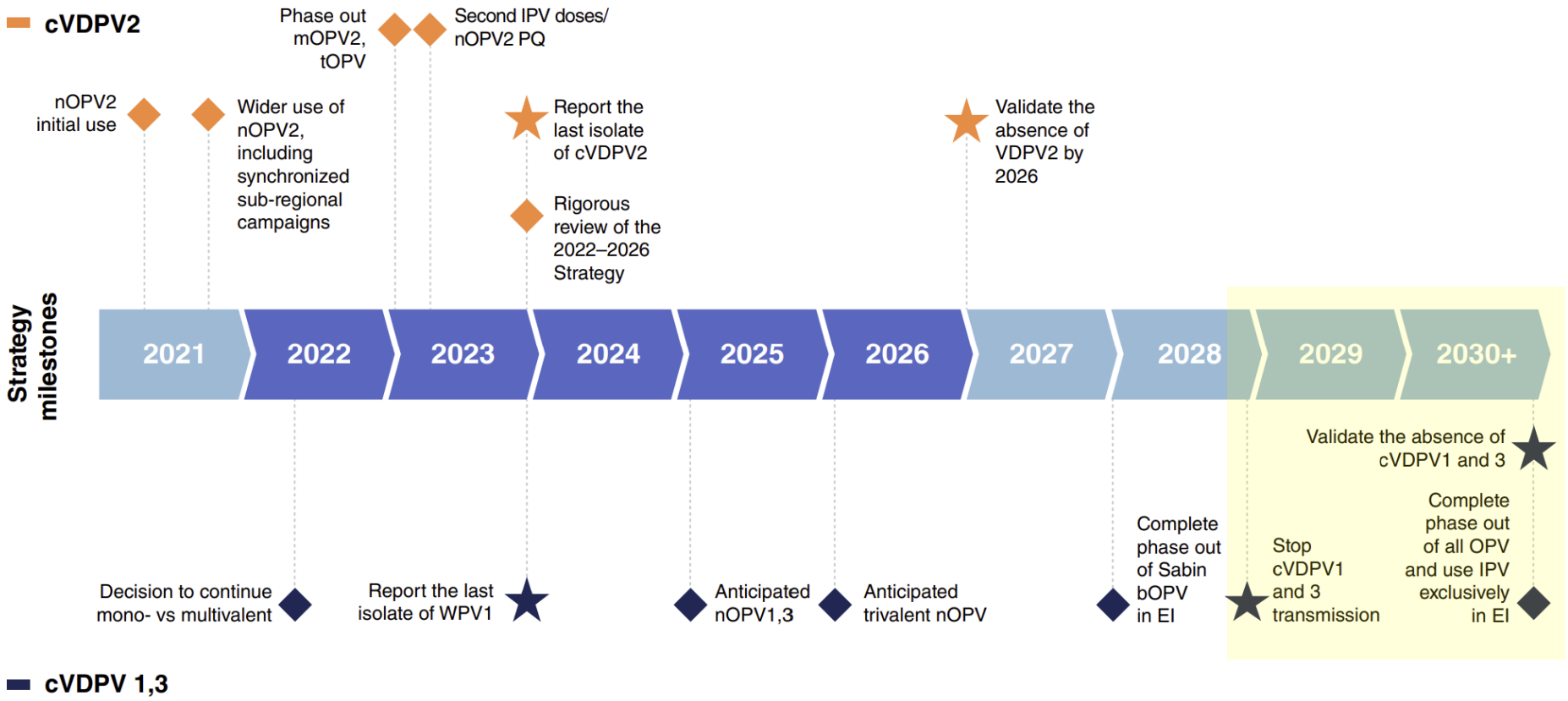
Yemen: Overview and Programmatic Response

- Yemen is listed as a grade 3 health emergency
- Prevention of polio outbreaks and transmission is one of the five of objectives of the emergency health plan
- Yemen is progressing well with its nOPV2 readiness, with a regional target to have all requirements completed by the end of July

	Overview	Programmatic Response and Activities
North	• On 22 January 2023, the Ministry of Health Sana'a notified WHO and UNICEF that the campaign modality was changed to health facility only, without social mobilization • No campaign activities have occurred in the North since the outbreak began • There is ongoing anti-vaccine propaganda from authorities in North Yemen • Despite advocacy, authorities did not agree to campaigns until Q4 2022, and reversed the decision in early 2023	• An integrated polio-child health response in 2023 that includes service packages of vaccination, tools for management of childhood illnesses, nutrition services, and reproductive health services was planned but is currently paused after not being permitted by authorities • Advocacy efforts, through multiple channels, to convince authorities in Northern Yemen for conducting vaccination response • An SBC/comms group was developed a plan to address anti-vaccine narrative • When the north opens for campaigns, the country will be ready to respond with nOPV2
South	• There is continued risk of spillover from northern to southern governorates if no SIAs are conducted in the north • High number of population movements from northern governorates to Aden and regular international flights from Aden • The Ministry of Health in Aden is concerned about ongoing anti-vaccine propaganda in North	• The Ministry of Health in Aden conducted a seminar on importance of vaccine to encounter the anti-vaccine propaganda in Yemen • Quality improvement plan was developed to ensure quality SIAs are implemented • Regular Integrated Outreach is planned to enhance routine immunization coverage • In 2022: 3 tOPV activities completed; 8M total doses administered; between 1.9M to 3.9M children vaccinated each round

Goal Two: cVDPV1

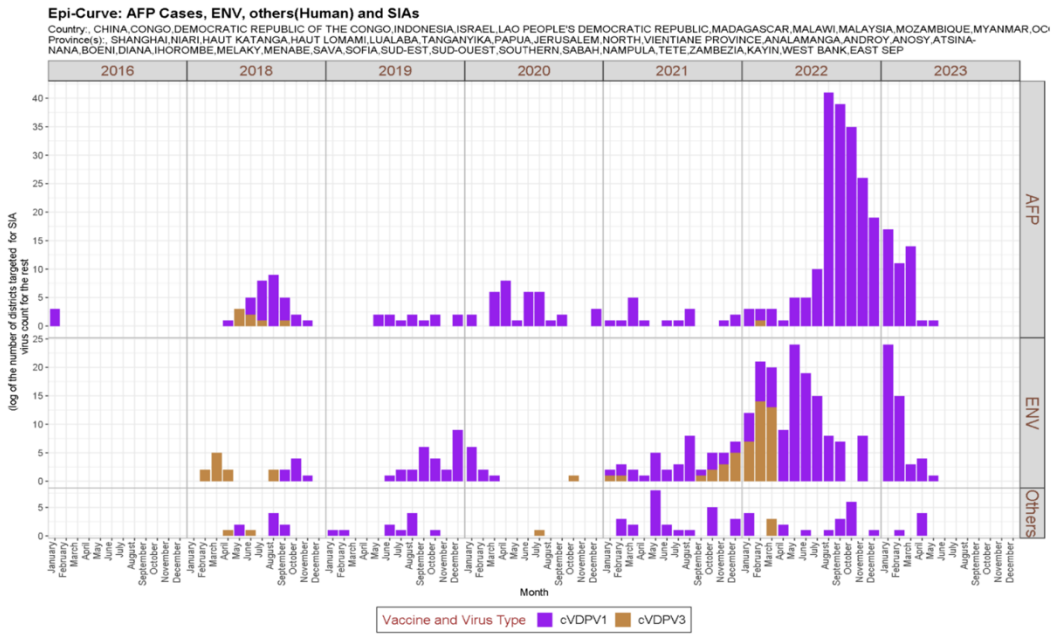
Milestones for interrupting cVDPV1 transmission



cVDPV1 Epidemiological Outlook

- Since 2016, 14 cVDPV1 outbreaks from 12 emergences have been reported across 10 countries
  - Nine of these 14 outbreaks were active in five countries (Democratic Republic of the Congo [DRC], Madagascar, Malawi, Mozambique, and Yemen) during 2021–2022, including five new cVDPV1 outbreaks detected in four countries (DRC, Madagascar, Malawi, and Mozambique).
  - An additional emergence (MAD-ANO-2) was confirmed in February 2022. DRC detected two cVDPV1 outbreaks in 2022 (RDC-TAN-1 in September and RDC-HLO-3 in November), totaling 91 cases by December and accounting for 72% of the global cVDPV1 cases in 2022. DRC also has concurrent cVDPV2 outbreaks
- In **2023**, three countries have reported cVDPV1 cases: **DRC** (n=28), **Madagascar** (n=18) and **Mozambique** (n=3)

Figure 1. Global cVDPV1&3 cases between 2016-2023

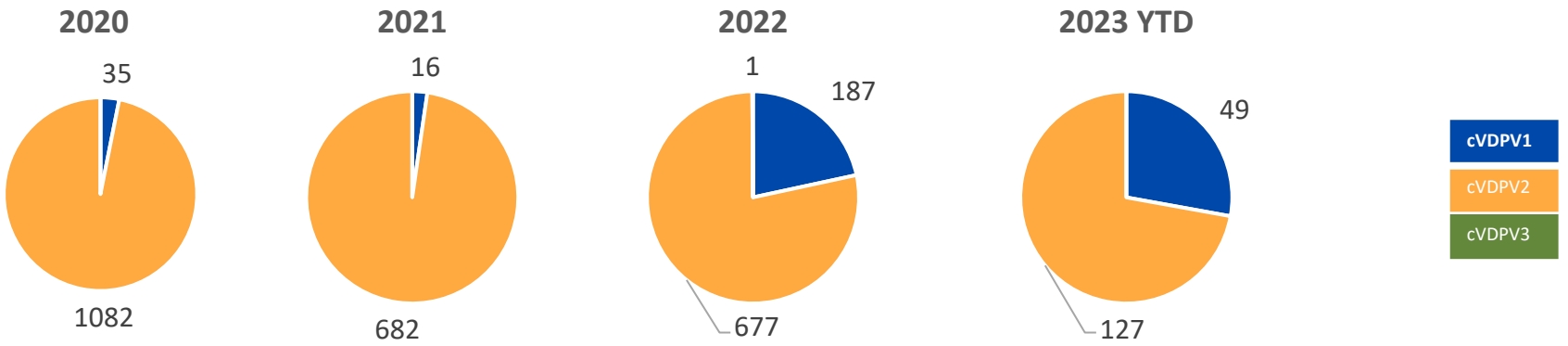


The cVDPV1 outbreak in Eastern and Central Africa was not anticipated, but **is being managed through the programme's response** and covered by existing budget

cVDPV1 Cases as a Proportion of All cVDPV Cases

- While the total number of paralytic cVDPV cases during 2020–2022 decreased by 36%; the proportion of all cVDPV cases that were caused by cVDPV1 increased from 3% in 2020 to 18% in 2022, including the occurrence of cocirculating cVDPV1, cVDPV2 and WPV1 outbreaks in some countries.

Figure 1. Total cVDPV Cases by Type and Year



- The increase in cVDPV1 cases primarily affected countries in sub-Saharan Africa. Drivers of increased cVDPV1 cases are:
  1. Decreased routine immunization coverage after the start of the COVID-19 pandemic in subnational areas of outbreak countries with already low coverage, and
  2. The suspension of preventive bOPV SIAs resulting in an environment with increased susceptibility to the emergence of cVDPV1 outbreaks

Low RI Coverage (bOPV and IPV) Presents Challenges

Continued Challenge: DRC

Delayed response in **DRC** has now resulted in very high transmission in **Eastern DRC**; transmission now likely across multiple provinces across the nation; exportation to neighboring country (**Republic of Congo**) and **Northern DRC** already confirmed

Table 1. Inactivated polio-containing vaccine, 1st dose coverage

	2018	2019	2020	2021	2022
Admin	92.3%	95%	93.33%	86.05%	96.21%
Official	67%	74%	76%	68%	
WUENIC	67%	74%	76%	68%	

Continued Challenge: Madagascar

cVDPV1 persistently circulating in **Madagascar** for more than 5 years; epidemiological data suggests adults substantially contributing to transmission; country team and regional office considers extended age group response a public health emergency. In the past two years, only three bOPV campaigns have been conducted: all outbreak response.

Table 2. Inactivated polio-containing vaccine, 1st dose coverage

	2018	2019	2020	2021	2022
Admin	86%	92.75%	90.33%	81.81%	78.92%
Official	86%	92.75%	90.33%	81.81%	
WUENIC	61%	68%	65%	57%	

Evidence of Progress: Mozambique

Mozambique facing cVDPV1 outbreak, conducted a robust bOPV response (due to WPV1) underway; no additional response measures needed

Note: Malawi also conducted robust response due to WPV1 however, they have not reported a cVDPV1 in 2023

Table 3. Inactivated polio-containing vaccine, 1st dose coverage

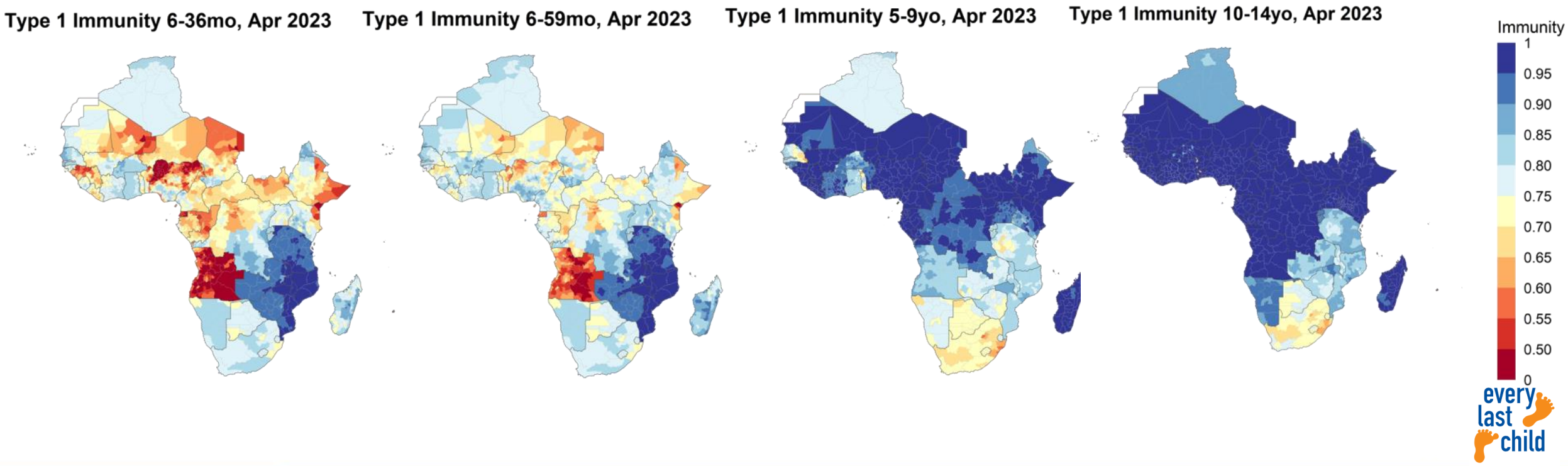
	2018	2019	2020	2021	2022
Admin	96%	114%	107.5%	99.37%	
Official	90%				
WUENIC	64%	85%	78%	70%	

Additional context: the pandemic saw essential immunization levels decrease in over 100 countries, leading to rising outbreaks of measles, diphtheria, polio and yellow fever. In 2023, global partners announced a new effort – "The Big Catch-up" – to vaccinate millions of children and restore immunization progress lost during the pandemic.

Type 1 Population Immunity

In countries experiencing cVDPV1 outbreaks, the poor coverage of bOPV and IPV from routine immunization and the deprioritization of bOPV preventative campaigns have negatively affected population immunity

Figure 1. Population mucosal immunity estimates for type 1



cVDPV1 Campaign Overview

- Overview
  - Between 2020-2022, most campaigns (26/29,~90%) have been subnationally targeted
  - Of campaigns reported as outbreak response,10 have used bOPV; only one preventative bOPV campaign has been conducted (2021 in DRC)
  - Campaigns targeting children <15 years of age have taken place in Mozambique and Malawi

- 2023 Campaigns
  - In 2023 alone (to 28 June 2023), 44M doses (bOPV, nOPV2) have been administered during 9 SIA activities in Madagascar, DRC, and Mozambique
  - Approved 2023 campaign activities:
    - **Madagascar**: Campaigns targeting <15 planned
    - **DRC:** bOPV NID, August 2023, 27.5 million doses
    - **Mozambique:** bOPV NID, August 2023, 21 million doses

Ongoing Challenges

- A major challenge is that preventive bOPV SIAs are no longer being conducted and coupled with poor coverage from routine immunization this has led to a large type 1 immunity gap across much of Africa with high risks for increased cVDPV1 outbreaks and importation of WPV1
- The co-circulation of cVDPV2 and cVDPV1 complicates outbreak response. There must be a break of four (4) weeks between campaign use of nOPV2 and other OPV campaigns. Use of bOPV in the national immunization schedule does not affect nOPV2 use
  - SAGE guidance to ensure a 4-week break between nOPV2 use and bOPV campaign use is in place to (a) reduce risk of recombination and new emergences and (b) in line with findings from a CDC study which showed an important decrease in nOPV2 immunogenicity when given concurrently with bOPV
  - For Mozambique and DRC, the requirements of nOPV2 impacts the countries' abilities to respond to both cVDPV1 and cVDPV2 outbreaks
- Additionally, several SIAs conducted since the start of 2022 have been identified as too slow of response or small of scope resulting in the virus "escaping" outside the response zone:
  - **DRC:** Three nOPV2 campaigns and one bOPV had at least one round determined to be too small or slow
  - **Mozambique:** Four bOPV campaigns had at least one round determined to be too small or slow

Goal Two: Surveillance

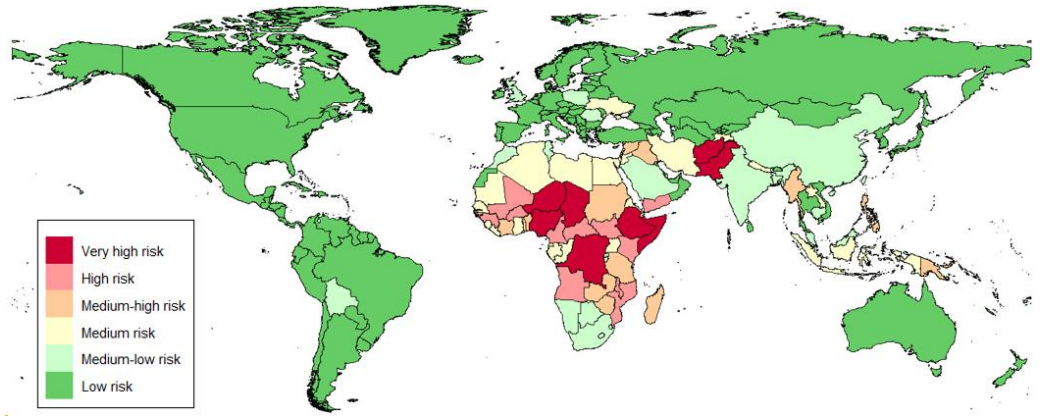
Global Polio Surveillance Action Plan 2022-2024

The new Global Polio Surveillance Action Plan (GPSAP) 2022–2024 was developed to deliver on the vision of the GPEI Strategy. It aims to translate strategy into action through a focus on increasing the speed of poliovirus detection, improving surveillance quality at the subnational level, and fostering the integration of polio surveillance with surveillance for other epidemic-prone vaccine preventable diseases (VPDs).

The GPSAP 2022–2024 is organized into six mutually supportive objectives:

1. Enhance and sustain AFP surveillance sensitivity and timeliness
2. Optimize the ES network to contribute to the timely detection of polioviruses
3. Establish iVDPV surveillance to sustain polio eradication
4. Maintain and strengthen the capacity and capability of the GPLN
5. Increase efficiency in collecting, managing, and using data for actions
6. Enhance surveillance management and accountability

The GPSAP 2022–2024 focuses on select countries that have been identified as “priority countries” due to persistent gaps in surveillance and chronic vulnerability to poliovirus transmission; however, all countries are encouraged to adopt proposed actions and recommendations

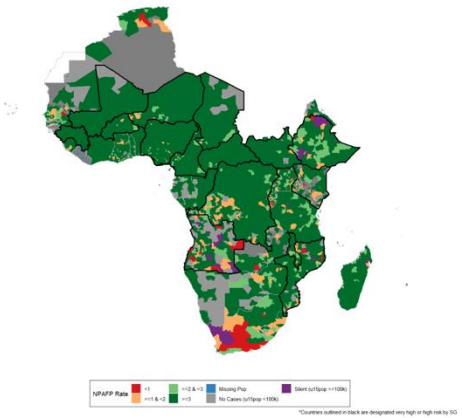


AFP Surveillance Performance Based on Non-Polio AFP Rates 2022

Subnational AFP surveillance gaps exist across AFRO and EMRO

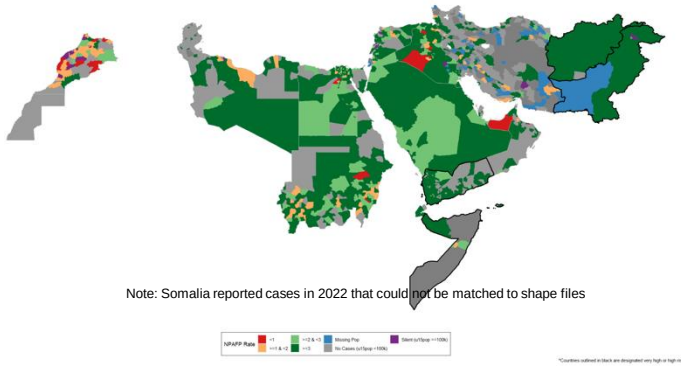
- NPAFP rates <2 were observed across Southern Africa in 2021, but after the detection of the WPV1 outbreak, NPAFP rates improved in 2022 with exceptions for South Africa and Angola

Figure 1. District level NPAFP rate, AFRO, 2022



- Similarly, this map shows the NPAFP rate at the district level for EMRO countries

Figure 2. District level NPAFP rate, EMRO, 2022



Note: Somalia reported cases in 2022 that could not be matched to shape files

Progress against GPSAP's five key activities for AFP surveillance:

Activity	Status
Attain and maintain sensitive AFP surveillance, with targeted efforts to identify and address subnational gaps	Ongoing
Improve timeliness for case detection, investigation, and specimen transport ***Key Focus***	Ongoing
Facilitate building and sustaining a skilled workforce	Ongoing
Implement focused M&E activities, including critical review of surveillance processes and data for action	Ongoing
Integrate AFP surveillance with other health programs	On Hold*

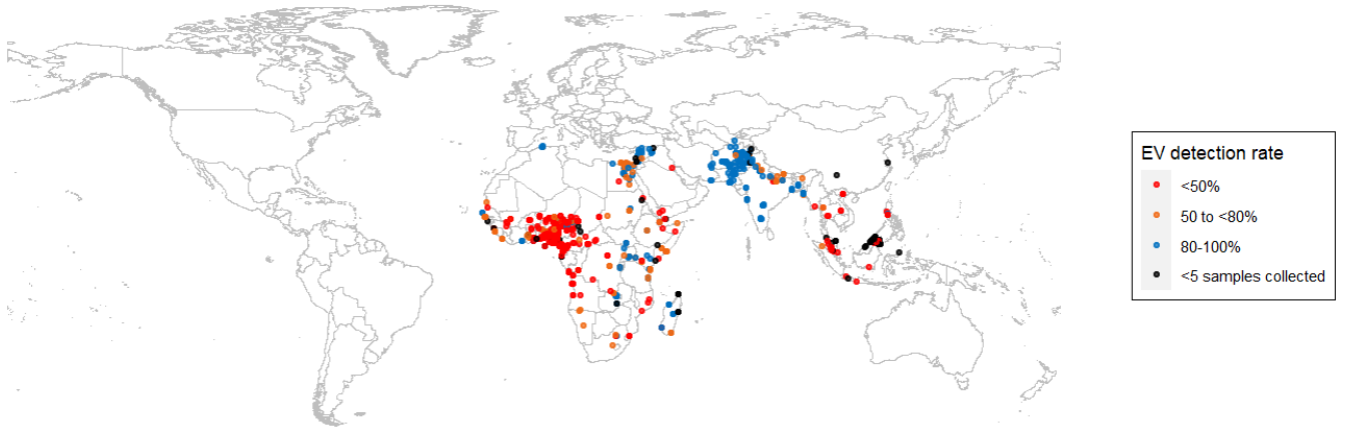
Key AFP tasks completed during year one:

- ✓ Global AFP Surveillance Guidelines: review completed, undergoing final edits
- ✓ Material for both AFP and ES training material developed and available online
- ✓ Surveillance cascade training modules updated to reflect GPSAP 2022–24
- ✓ Desk reviews and field review completed in support of regions and nOPV2 working group

ES Site Performance

- The map shows the location and performance of ES sites across the globe in 2021
- There is a high concentration of poor performing ES sites in AFRO
- Programmatic focus is to optimize ES performance across sites

Figure 1. Enterovirus isolation rate, by environmental site, 2021



Progress against GPSAP's five key activities for environmental surveillance:

Activity	Status
Improve and maintain the quality of environmental sites	Ongoing
Improve the timeliness of ES collection and shipment	Ongoing
Expand and **optimize** ES in high-risk, geographically diverse areas *__Key Focus__*	Ongoing
Facilitate a skilled workforce and promote integration	Ongoing
Expand the use of electronic data collection tools	Ongoing

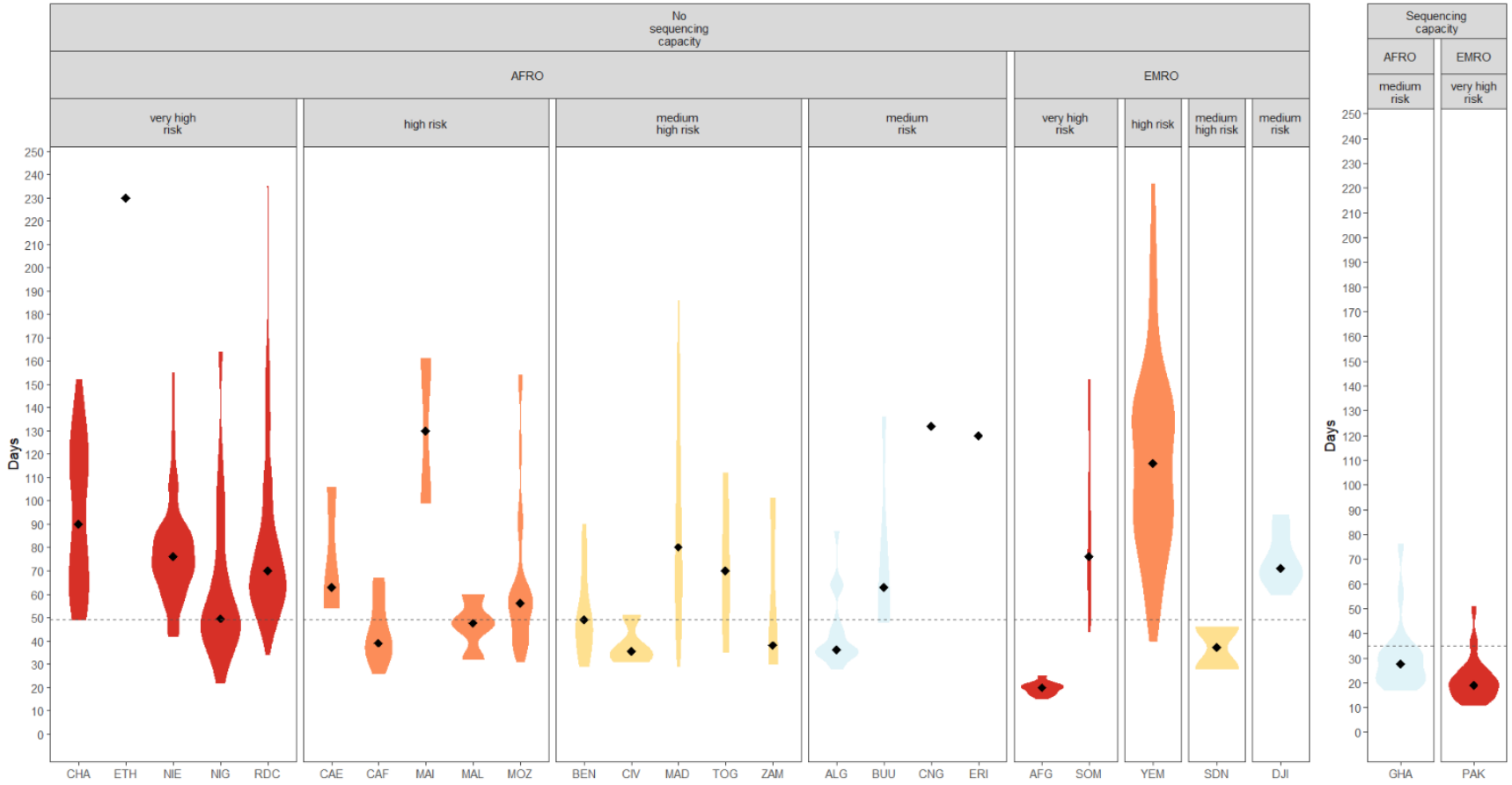
Key ES tasks completed during year one:

- ✓ Global ES Field Implementation Guidance published
- ✓ ES Training Materials under development based on updated guidance
- ✓ ES desk reviews completed for all high priority countries every six months and shared with regions

Timeliness of Detection by Country

- This figure shows programmatic performance on the KPI stratified by country
- It shows that there is high variability in performance by country
- Notably, our endemics have met the target in 2022, but no country in the Africa region did

Figure 1. Timeliness of detection for VDPV and WPV cases/ES samples, 2022
Target: 35/49 days from onset to report for countries w and w/o sequencing labs



Data current as of May 2023
Violin plots show distribution, black dot indicates median; data source: POLIS; AFP case/ES sample-level analysis

Sequencing Labs and Timeliness

🎯 Target: 11 days from onset to stool 2, 80% of cases

- Across Africa, 11/24 high priority countries met the target (with all countries having medians below 11 days)

🎯 Target: 3 days from collection to arrival at WHO-accredited lab, 80% of specimens

- In AFRO there is a clear difference in timeliness of shipment between countries with and without WHO-accredited labs for stool culture and ITD
- In countries with in-country testing, the majority of samples met the 3-day target whereas few samples do in countries with international testing

🎯 Target: 14 days from arrival at lab until culture results available

- AFRO labs are generally able to have culture results available with 14 days of sample arrival
- 8/15 labs met 14-day target for ≥80% of samples from priority countries

- For some countries, samples that go on to sequencing need to be shipped internationally twice – first to the culture/ITD lab and then to another lab for sequencing. The shipment subinterval alone often takes >14 days and delays the overall timeliness of results.

Key takeaway: expanding the number of sequencing labs serving high risk countries is the fastest way to improve the timeliness of detection by addressing transportation delays

Laboratory Approaches to Improve Timeliness of Detection

- Improving timeliness of detection will require 1) context-specific solutions to the logistics challenges faced by countries and 2) increased sequencing capacity
- **Activities are underway** to implement new technologies, including the Direct Detection Demonstration Project and Direct Detection Nanopore Sequencing, which will complement the two critical strategies but alone will not solve the problem

Supporting **expansion of sequencing capacity in key laboratories** covering high-risk areas	Fast tracking validation process and implementation of the **new direct detection methodology** for AFP specimens	**Build additional surge capacity** to support AFP surveillance strengthening and ES expansion across priority countries
Status	Status	Status
• Progress: Alignment of workstreams, trainings conducted, selection of sequencing methodology • Challenges: Laboratory capacity, training and procurement delays, incorporating technologies	• Progress: Improved PV isolate rate, additional laboratories starting testing, improvements in data quality • Challenges: Unexpected operational hurdles, procurement challenges, DDNS Pilot project technical review and decision on full implementation delayed until Q3-Q4 2023	• Key activities: Assisting with logistical issues, determining workload capacity for laboratories, identifying resource needs for timelier specimen referrals

Goal Two: Vaccines

Vaccine Usage and SAGE Recommendations, 2020-2023

*Usage**

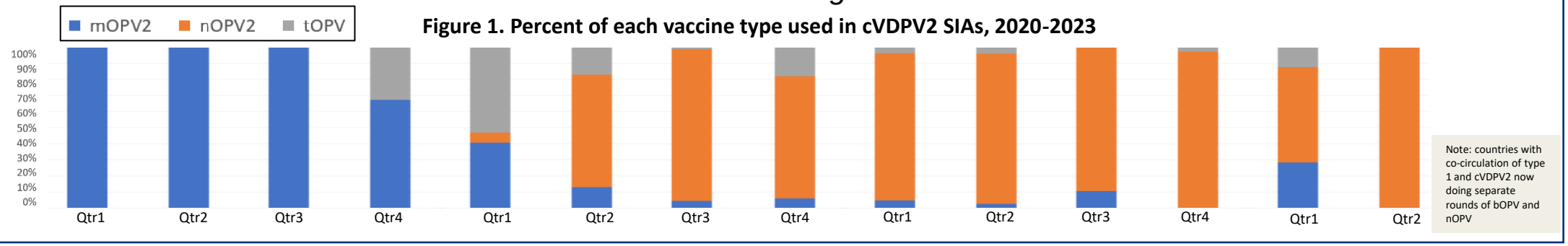


Figure 1. Percent of each vaccine type used in cVDPV2 SIAs, 2020-2023

2020 2021 2022 2023

Recommendations

- Endorsement of nOPV2 becoming the vaccine of choice for response to cVDPV2 outbreaks after the interim recommendation for EUL is issued.
- IPV should not be used for outbreak response because evidence demonstrates that IPV campaigns are unlikely to reach children not reached with OPV campaigns, have limited impact on stopping transmission and have a high programmatic cost.
- SAGE recommended that all countries introduce IPV second dose.

- sIPV may be used interchangeably with wIPV for routine immunization or for campaign use.
- bOPV and nOPV2 should not be co administered in a single campaign during the entire EUL period.
- Countries facing cVDPV2 outbreaks should avoid delay and prioritize rapid, high-quality cVDPV2 outbreak response with whichever oral polio vaccine is available to them.

- Countries with exclusive IPV vaccination and a high level of sanitation and hygiene may opt to conduct a timely initial outbreak response with IPV only.
- Transmission confined to a subpopulation or geographical area allows an IPV-only response. Widespread transmission in the general population warrants an OPV response.

- Outbreak responses should be conducted without delay. For response using oral vaccines, nOPV2 should be preferred. However, Sabin OPV2 could be used under exceptional conditions.
- Recommendation to use IPV in areas with persistent circulation despite multiple rounds of OPV.
- The recommended interval for nOPV2 vaccination is 4 weeks; however, in specific settings, campaigns using shorter intervals have programmatic advantages.

Data current as of May 2023

* Note that graph does not include limited usage of fIPV / IPV in outbreak response.

nOPV2 Rollout, Safety, and Genetic Stability

- ✓ **First vaccine to receive a WHO EUL approval in November 2020**
- ✓ First used for outbreak response in March 2021 – since then **approximately 670M doses of nOPV2 have been administered across 31 countries** – *92% of which have been in Africa*

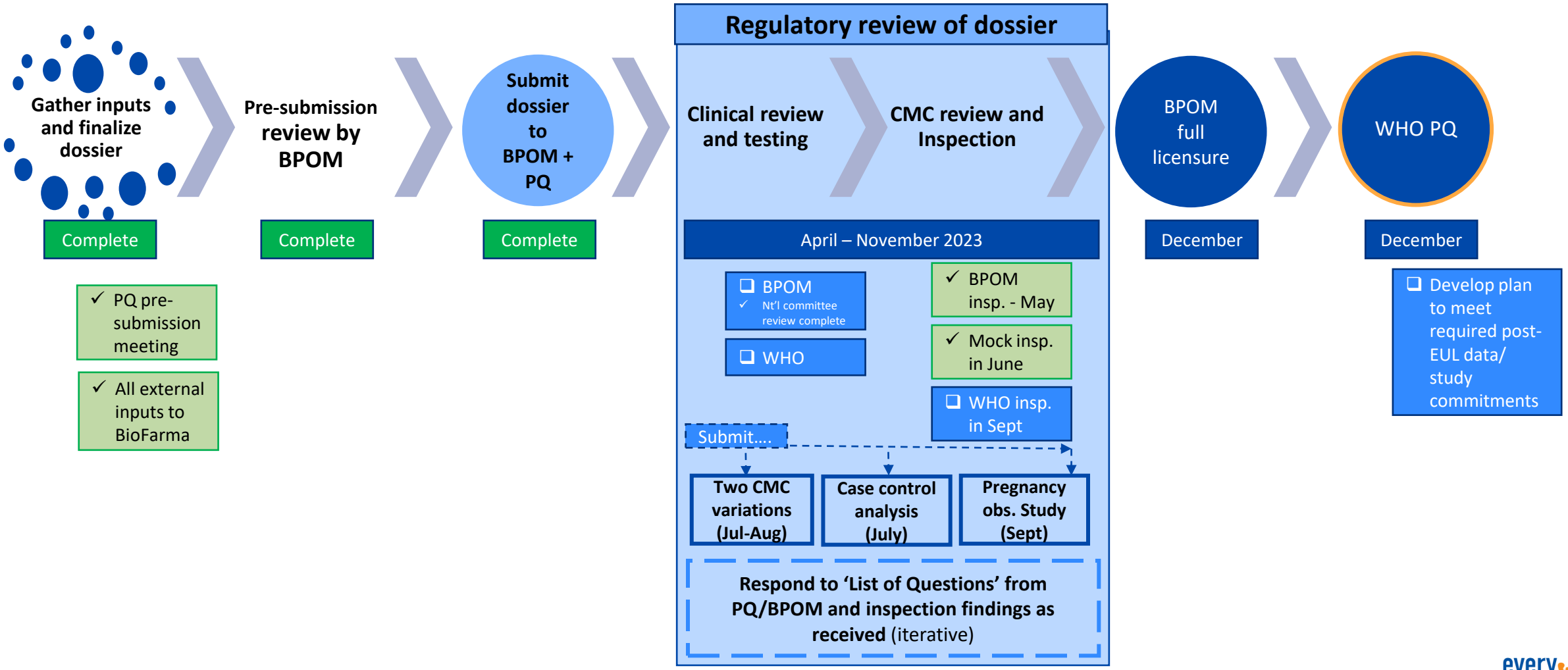
Safety overview

- In January 2023, GACVS reviewed data on administration of over 370 million doses of nOPV2 across 21 countries and concluded that there was no evidence of any red flags or safety concerns
- Clinical trials and research (observational) studies generating nOPV2 safety data included approximately 12,000 subjects/participants reporting data on safety from seven countries
  - Evaluation by Data and Safety Monitoring Board (DSMB) from these clinical studies suggest no concerning safety signals related to nOPV2 across all age groups and settings

Genetic stability

- Overall: Most isolates analyzed through whole genome sequencing indicate no or minimal changes in genetic structure of nOPV2
- Less than 2% of all whole genome sequenced isolates reported have shown evidence of losing key genetic modifications of nOPV2 due to recombination (vs. expected 75% for mOPV2)
- Emergence: Five cVDPV2 emergences have been detected that are derived from nOPV2 to-date in DRC, Burundi, Nigeria, CAR, and Zambia
- Context: An estimated ~57 cDPV2 emergences would have been seeded by end June 2023 if Sabin OPV2 had been used at this scale instead of nOPV2, approximately 38 of which would have been detected

Bio Farma nOPV2 Full Licensure and PQ Target Timeline



Bio Farma Production Challenges and Corrective Actions

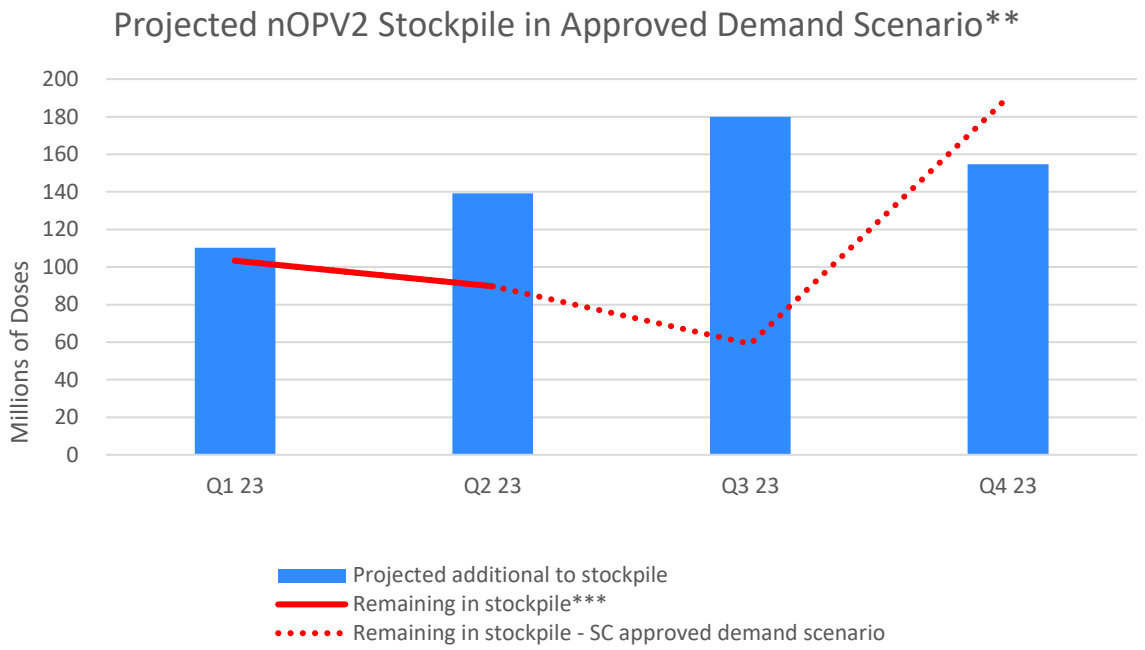
- In late 2022, Bio Farma halted product releases to the stockpile for all OPV products (including bOPV bulk to Indian fillers) due to an issue with quality method testing
- Bio Farma identified the root cause, implemented corrective actions and reinitiated release testing by early 2023
  - In parallel, GPEI coordinated across BPOM QC Lab and Belgian national control lab as temporary testing release sites to accelerate product releases
- nOPV2 and bOPV bulk supply re-established in March 2023

There have been delays in outbreak response because countries postponed responses until nOPV2 vaccine became available rather than using immediately available vaccines (mOPV2 or tOPV)

2023 nOPV2 Supply

- Anticipated 2023 released doses from Bio Farma expected to be 550-600* million nOPV2 doses, which should be sufficient for remaining program needs in 2023

- Depending on regulatory timelines, releases to the stockpile from a second manufacturer could begin in 2024 in the best-case scenario



*Data as-of June 26, 2023 – best case supply scenario has been adjusted to account for typical supply disruptions
**Vaccine demand for outbreak response will continue to evolve
***Q1-Q2 reflects actual usage which was adjusted in response to supply disruption

Goal Two: Conclusions

Conclusions

- Countries responding to cVDPV outbreaks face multiple challenges in implementing effective outbreak responses.
- cVDPV2 burden may be declining and is increasingly geographically concentrated.
- The majority of outbreaks are stopped after two quality campaigns, but timeliness and campaign quality remain important challenges.
- Recent years have seen the implementation of large-scale campaigns with large target populations, but better and faster responses are still needed.
- Surveillance performance and sensitivity are mostly restored to pre-pandemic levels; focus now on targeted subnational strengthening and improved timeliness of detection.
- Successful nOPV2 rollout has enabled a more comprehensive response but the supply situation remains fragile; nOPV2 appears as safe and effective as mOPV2, but more genetically stable.
- The *most consequential geographies* of eastern DR Congo, northern Nigeria, central Somalia and North Yemen drive continued transmission; there are additional outbreaks not being responded to (e.g., Yemen, Eritrea), and these pose a risk to the programme.
- Growing susceptibility to type 1 and type 2 poses a major risk.

Goal Two: Strategic Objectives, Key Activities and Status

	Strategic objective	Key activities (as outlined in GPEI strategy)	Notes / examples / updates
	**Political advocacy**	• Engage government and political stakeholders via integrated health advocacy to ensure emergency posture, resourcing and joint accountability for timely and effective outbreak response	• Rotarians acknowledged strong political will from the African Union after their public declaration • Rotary National Polio Plus coordinators wrote to their respective African Heads of State following the AU summit declaration on immunization • Areas of inaccessibility and insecurity; Northern Yemen and Somalia continue to be challenging • In Nigeria and DRC, political engagement has improved • In Eritrea, political advocacy efforts have been unsuccessful • In Zimbabwe and in other outbreak countries, considerable efforts have been needed
	**Surveillance**	• Implement technical innovations in surveillance and sample analysis to more rapidly detect, sequence and initiate response activities	• Surveillance sensitivity restored to pre-pandemic level • Specific challenges in certain sub-national areas related to sensitivity • Timeliness of detection was more protracted than preferred
	**Campaigns**	• Deploy nOPV2 and improve campaign planning and execution through optimized response scope, mobile money payments, campaign digitization and other innovations	• 650 million doses of nOPV2 have been administered
	**Community engagement**	• Engage nomadic and settled communities both before and during outbreak campaigns	• Continue to struggle to make inroads in certain countries • In Northwestern Nigeria there remains conflict between the Hausa farmers and Fulani herders • Despite ongoing community engagement efforts, continue to struggle gaining traction with Al-Shabaab
	**Integration**	• Ensure success of the Gavi zero-dose strategy and leverage multi-antigen campaigns • Support global health emergencies with a near-term focus on COVID-19	• Multi-antigen campaigns are in nascent stages in Nigeria, Somalia, Malawi and Mozambique • Not currently at a point to add extra antigens as the program struggles to manage both bOVP and nOPV2 in single antigen campaigns

Political Advocacy

Engage government and political stakeholders via integrated health advocacy to ensure emergency posture, resourcing and joint accountability for timely and effective outbreak response

A sample of activities underway by GPEI includes:

WPV1 and cVDPV commitment

- Political commitment and action in Malawi, which responded immediately in declaring an emergency
- WHO Director-General met with president of Malawi days after outbreak
- African summit declaration on immunization and recovery, including polio (Q1 2023)
- Meetings at WHA and AFRO RC to secure political commitment and response to WPV1 and CVDPV outbreaks
- Tanzania launched a national campaign by the Minister of Health, which was critical for success in outbreak response
- Mozambique developed a strong political commitment at national level, well-functioning EOC accompanied by support from a strong GPEI coordination team in country
- Advocacy with Governments of Egypt and Sudan resulted in robust outbreak response with significant domestic resource contribution
- Advocacy with Northern and Southern Yemen Governments lead to a successful response in South, but no results in North
- Secured strong political commitment in securing nOPV2 readiness and use under EUL
- At end of 2021, 40% of newly affected outbreak countries declared a national public health emergency upon outbreak confirmation and by 31 Dec 2021, the percentage of countries rose to 80%; the target is 80%*

*Countries in Africa declared public health emergencies upon WPV1 outbreak confirmation

Surveillance

Implement technical innovations in surveillance and sample analysis to more rapidly detect, sequence and initiate response activities

- A sample of activities underway by GPEI includes:
  - The direct detection demonstration project
    - Improved the PV isolation rate from 3% to 4%
    - Continuously increasing the number of laboratories trained and testing
    - Currently troubleshooting through data quality issues and improving specimen collection
  - Direct detection nanopore sequencing
    - Collected significant prospective data from a DRC project
    - Initial assessments relative to evaluation guidelines show promise
    - A technical review and decision on full implementation is expected in Q3-Q4 2023
- Improvements to logistics and increasing sequencing capacity remain topmost priorities to improve surveillance generally
- Likewise, improving the sensitivity and capabilities of ES network broadly

Campaigns

Deploy nOPV2 and improve campaign planning and execution through optimized response scope, mobile money payments, campaign digitization and other innovations

- A sample of activities underway by GPEI includes:

Nigeria

- Special activities in Consequential Geographies (CGs) in accessible areas include, vaccinations at: a) weekly markets, b) IDP camps, c) Community Meeting of Acute Malnutrition sites (CMAM), d) borders, and e) naming ceremonies; inaccessible areas using military or vigilantes; as well as offering attractive incentives
- Special activities in CGs in inaccessible areas include, include deployment of an independent female supervisor in settlements with fake finger marking, DOPV scale up, compulsory use of ODK for supportive supervision, and use of COMMCARE app to ensure team members are paid logistics support funds and stipends promptly

Mozambique

- All key OBR indicators were completed in a timely manner
- The Government and partners have responded quickly and appropriately to the outbreaks, particularly considering the context of the COVID-19 pandemic and other priorities
  - Although problems of coordination and distribution of resources remain, the review team observed close cooperation between the Government and partner agencies

Zambia

- Generally, the security of vaccine storage and shipment is good, trained personnel with knowledge of cold chain principles are present
- The national programme has sufficient capacity to manage SIAs and despite the challenges faced has overcome many obstacles
- There are still issues of vaccine stock management, recording, and documentation, especially for nOPV2

Tanzania

- Conducted high quality campaigns as part of the overall sub-regional multi-country response to the WPV1 threat against a backdrop of competing priorities

Community Engagement

Engage nomadic and settled communities both before and during outbreak campaigns

- A sample of activities underway by GPEI includes:

  Nigeria

  - Vaccination teams plan to deploy community informants in inaccessible areas (CIIAs) in Zamfara, Sokoto, Niger, Katsina, and Imams will be engaged to preach on ethics during training

  Zambia

  - Advocacy, community engagement, and social mobilization plans are in place and activities conducted at all levels
  - Local networks (CBVs, traditional leaderships, and groups) mobilized and engaged in campaigns
  - Meaningful participation of females observed at national, provincial, district, and field levels
  - High awareness and vaccine acceptance among the communities and a low number of missed children
- Leveraging existing UNICEF community engagement initiatives in WASH, nutrition and wider health in polio high risk communities including Cote d'Ivoire, Niger, Mauritania, and Kenya

Integration

Ensure success of the Gavi zero-dose strategy and leverage multi-antigen campaigns

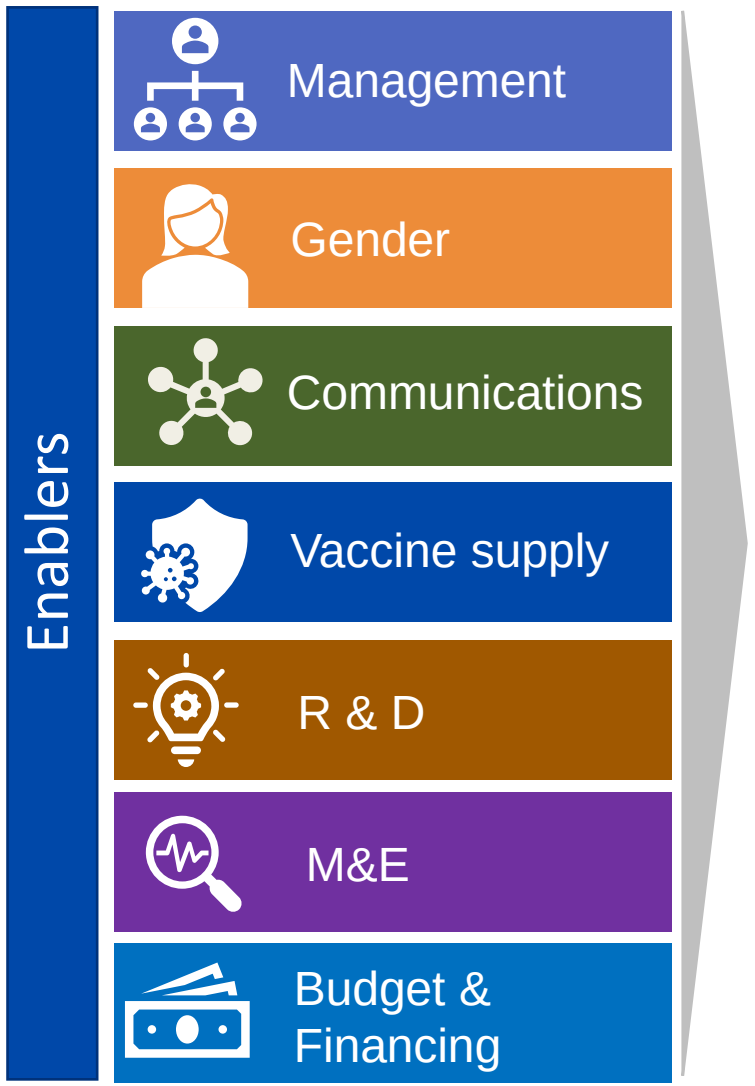
- A sample of activities underway by GPEI includes:
  - A nationwide integrated TCV/MR/bOPV campaign was held 15-21 May, 2023 in Malawi
    - 90 National supervisors, 540 district supervisors, 350 rapid convenient monitors (RCM) and 58 partners have been deployed for intra campaign monitoring of the campaign
  - North Yemen's integrated packages of services is currently paused after not being permitted by authorities; the package includes:
    - Vaccination (polio and other routine vaccines)
    - Integrated management of childhood illnesses services (diarrhea, pneumonia, malaria, etc.)
    - Nutrition services (micronutrient sachet, Vit A supplementation, deworming)
    - Reproductive health services (ANC and iron folate distribution)
  - A nationwide fIPV/nOPV2 campaign combined with routine immunization intensification in Nigeria

Support global health emergencies with a near-term focus on COVID-19

- A sample of activities underway by GPEI include:
  - POB determined that GPEI programmatic and operational assets and human resources were to be made available to enable a strong response to COVID-19, including:
    - Coordination mechanisms such as emergency operations centers
    - Physical assets such as transportation or IT hardware
    - Evidence informed guidance in line with WHO recommendations
    - Training on COVID-19 case detection, contact tracing, lab testing and data management

Enabling Factors

Enabling Environment



Key activities

- Optimizing GPEI management structures to promote role clarity and speed decision-making
- Applying a gender equality lens to the implementation of programme activities
- Develop a communication strategy that utilizes social and behavioral data to increase vaccine acceptance
- Ensuring vaccine supply mechanisms are resilient and remain uninterrupted
- Investing in research and development of new innovations that support eradication
- Preparing for and responding to risks through a monitoring framework
- Resourcing the programme through appropriate costing and financing

Management

Efficient operational structures

- The revised Governance and Management structure has been operational for more than a year
- The Governance and Management bodies are meeting regularly: POB & FAC quarterly, SC every two weeks
- The Regional Operations groups (Africa Regional Response Team, Easter Mediterranean Incident Management Support Team & Endemics Hub) are functioning and regularly report progress to SC
- Global Programme Support groups develop annual work plans against which progress is reviewed by SC
- The programme has defined a set of KPIs, and a Risk and Performance framework which are reported to and reviewed by the governance bodies
- EMU provides cross-group coordination between SC, GPS and RO groups, and leads crosscutting (Gender, Risk, Performance & Integration) and strategic (e.g. OPV supply disruption) initiatives
- Supply disruption group quick assembled and coordinated across multiple parties to address nOPV vaccine supply disruption
- Outbreak budget process has been streamlined
- Elements of the new structure are more mature than others and efforts are ongoing to identify and improve key processes (e.g. the outbreak budget prioritization and integration processes)

Gender Equality is a Journey: Where is GPEI in the Change Process?

1. Analyze: Where do we want to be & why?

2. Design: What is the best route to get there?

3. Implement: How do we keep moving in the right direction?

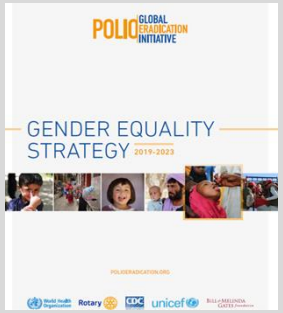
4. Review: How are we traveling? Lessons learned from mid-term review

5. Refinement: How do we continually improve?

Gender equality diagnostic conducted 2017-2018

- GPEI, with support from gender specialists, conducted a 12-month review of the program, assessing for gender-responsiveness and gender-sensitivity

Gender equality strategy developed 2018-2019

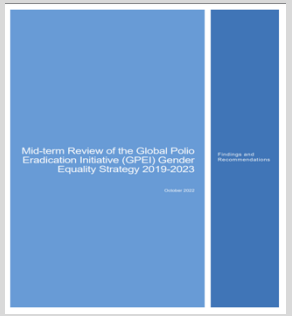


- Using findings from the gender equality diagnostic, GPEI designed a gender strategy

Gender equality action plans 2020-2021

- Since its adoption, the Gender Strategy has served to inform the development of the new Eradication Strategy as well as other key strategies not only for the GPEI but also across global immunization efforts

Gender equality action plans 2020-2021



- A mid-term review was conducted in 2022 by an independent gender specialist overseen by WHO with the support from partner agencies through the GPEI Gender Mainstreaming Group (GMG)

Continuous improvement Q1-Q2 2023

- As part of the continual review process, GPEI's gender efforts have been discussed by the IMB in 2020, 2021 and 2022.

Enabling factors

Gender Equality Progress and Challenges

Examples of progress

- Strengthened Gender Mainstreaming Group (GMG)
  - Examples: revamped and strengthened GMG ToR, 2023 Workplan in place, improved interactions with GPS groups
- Capacity building
  - Examples: trainings and webinars art various levels within GPEI
- Rigorous accountability framework in place.
- Successful disbursement of gender mainstreaming budget towards country proposals for GM related activities.
- Successful implementation of the Female Frontline Worker (FFLW) Co-Design Initiative in Pakistan
- All POB members are Gender Champions
- Gender focal points from GPS/RO to identify/address gender barriers
- Outbreak response gender tools (e.g., gender insights within OBRA)

COUNTRY PROPOSALS

Pakistan: Community-based Vaccinators Evaluation

Afghanistan: Safe Spaces for women

DRC & Nigeria: gender analysis

Examples of challenges

- Gender mainstreaming still often considered a 'back burner' priority
- Lack of understanding on why gender mainstreaming is a priority for the Polio Programme now
- Gender mainstreaming not prioritized (groups occupied with their own priorities/ areas of accountability)
- No agreed upon gender indicators even after 2 years
- Access & security
- Gender in outbreak response:
  - Limited gender expertise included in the OBRAs
  - Less than 5 countries have conducted a gender analysis for outbreak response
  - Ensure the Gender Checklist does not become a check box exercise but ensures key components of it are applied in full (*Gender Analysis & findings woven throughout the OB response*)

What Gender Mainstreaming Success Would Look Like

- Gender mainstreamed within outbreak response - from onset to finish
- Gender expert added to Outbreak Response team (ORPG) & gender mainstreaming included in surge activities
- Usage of the Gender Checklist within the outbreak response, specifically conducting a gender analysis within the outbreak response to inform different stages of the response

- Co-design initiative in Pakistan amplified & replicated in other countries
- Gender mainstreaming component highlighted in all GPEI publications, when appropriate
- Collection & analysis of sex and age disaggregated data systematically

- Gender mainstreaming becomes everyone's responsibility
- GPEI staff job descriptions include gender mainstreaming components (i.e., participating in GM trainings) and appraisals so staff & managers held accountable
- Clear leadership commitment, speaking out when gender mainstreaming issues sidelined

Communications

Mobilizing key influencers

- Influencer network mapping
- Trained/deployed social mobilizers to conduct door-to-door engagement
- Hired and trained facility-based female mobilizer vaccinators
- Institutional engagement with female Madrassas to enroll female teams
- Advocacy with religious leaders for mobilization against FFM
- Jirga with community elders

Leveraging multiple media channels

- Media partnerships and engagement activities trained journalists and other media influencers
- Infotainment strategy roll out in Afghanistan to reach communities hesitant to vaccination via radio
- Establishment of Misinformation Management & Digital Engagement

Addressing vaccine hesitancy and refusals

- Parental engagement and counselling
- Roll out of Refusal Conversion Committees (RCC) to gather social intelligence and conduct refusal conversion
- Building team's confidence to report refusals and special deployment of female teams in areas with zero female involvement
- Backdoor negotiations with boycott initiators

Vaccine Supply

Global stockpile strategy

- SC approved global stockpile strategy, which includes 4 components:
  - Establishing a stockpile of Type 1 OPV and Type 3 OPV in preparation for bOPV cessation
  - Supply of OPV2 doses required to stop cVDPV2 transmission and establish a stockpile for the period following global certification of wild poliovirus eradication
  - Preparedness for potential contingencies
  - Normative work

Vaccine production and prioritization

- SC identified bOPV for endemic countries as the top supply priority. Given this prioritization and other factors including necessary manufacturing tradeoffs, they further requested that an existing tOPV order be cancelled.
- SC proposed additional engagement with Sanofi to further extend the storage agreement for mOPV2 supplies, and proposed facilitation of high-level advocacy if required. Timing of the PQ decision on nOPV2 will help inform the decision on destruction of Sanofi stocks.
- SAGE recommends that nOPV2 be the preferred vaccine of choice for response to cVDPV2

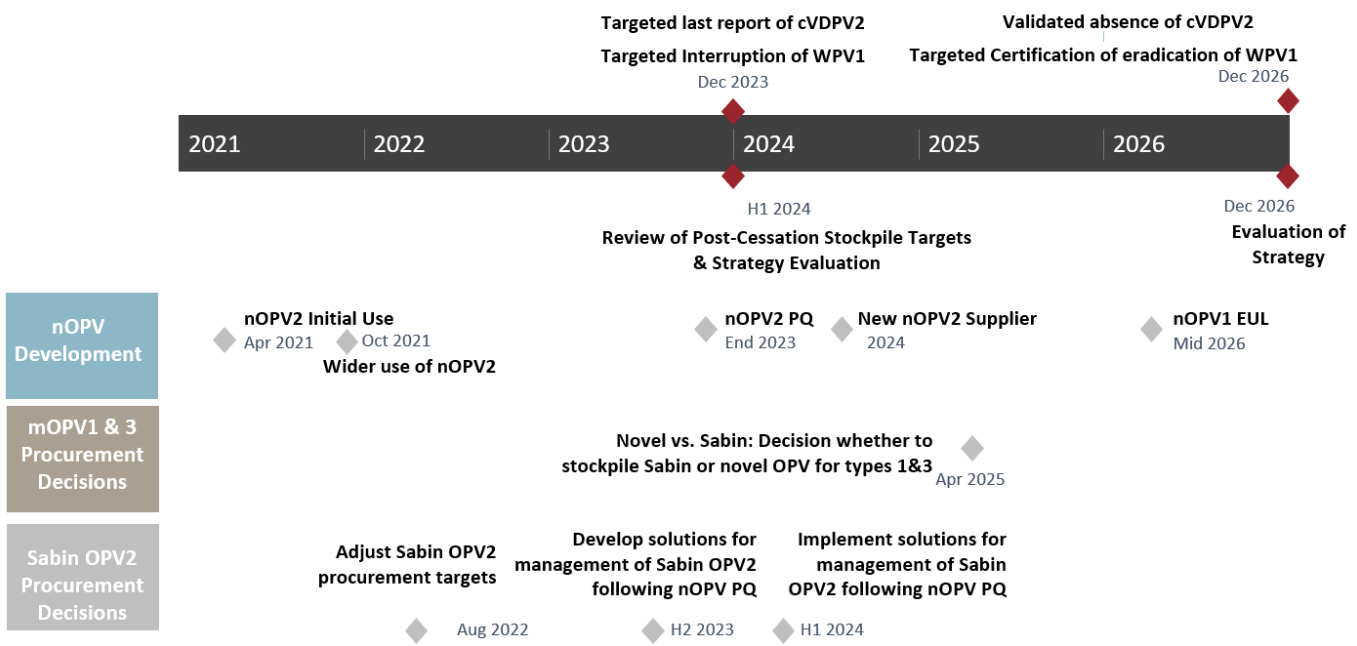
Mitigation actions in response to OPV supply disruption

- In response to the OPV supply disruption in June 2022, the OPV Supply Disruption Working Group successfully supported the manufacturer in determining the root cause, systemically addressed the issue and averted a more dire supply disruption crisis by carrying out critical mitigation actions
  - Obtained better information and prioritized release testing
  - Facilitated alternative release testing procedures
  - Provided technical support to Bio Farma to re-establish in-house release testing capacity

Broader Supply Issues and Future Priorities

- The uninterrupted polio vaccine supply is one of the key enabling factors of the GPEI strategy, and insufficient supply of vaccine to meet approved requirements, campaign and routine, remains a **key risk** to the programme. Contributing risk factors include:
  - Insensitive demand-supply forecast
  - Over-reliance on a small number of vaccine suppliers, exacerbated by recent and expected exits by current manufacturers
  - Lack of visibility of supply issues at manufacturers
  - Vaccine pricing including potential price increases driven by manufacturer exits
- Future priorities for ensuring long-term vaccine security include coordination with research, successful product development, and containment. Key milestones are highlighted in Figure 1.

Figure 1. Vaccine timeline and key milestones, 2021-2026



R&D

Future nOPV development

- Clinical trials ongoing for nOPV1 and nOPV3: phase I studies complete
- Formulation/preclinical work for tnOPV in progress
- Current availability projections are:
    - nOPV1 may be available mid-2026 if EUL granted, or 2028 / early 2029 under PQ
    - nOPV3 available early 2027 if EUL granted, or mid-2029 under PQ
    - tnOPV vaccine being developed, with earliest possible EUL in Q23 2027 and PQ in Q3 2029

Co-administration of nOPV2 and bOPV study findings

- Important study completed to guide coadministration policy
- Study confirms co-administration of nOPV2 and bOPV interferes with immunogenicity for PV2, but not for types 1 and 3

Sage guidance is regularly updated based on research

- SAGE recommends that nOPV2 be the preferred vaccine of choice for response to cVDPV2

Supplementing current surveillance methods

- Direct detection of poliovirus using recombinant poliovirus receptor

Monitoring & Evaluation

Strategy objectives and KPIs

- To assess progress against major milestones/targets, GPEI developed M&E framework with specific desired outcomes and KPIs for each strategic objective

Risk management

- Risk & Performance Management Framework and dashboard developed
- Six-month periodic assessment process to take stock of risks through a self-assessment process

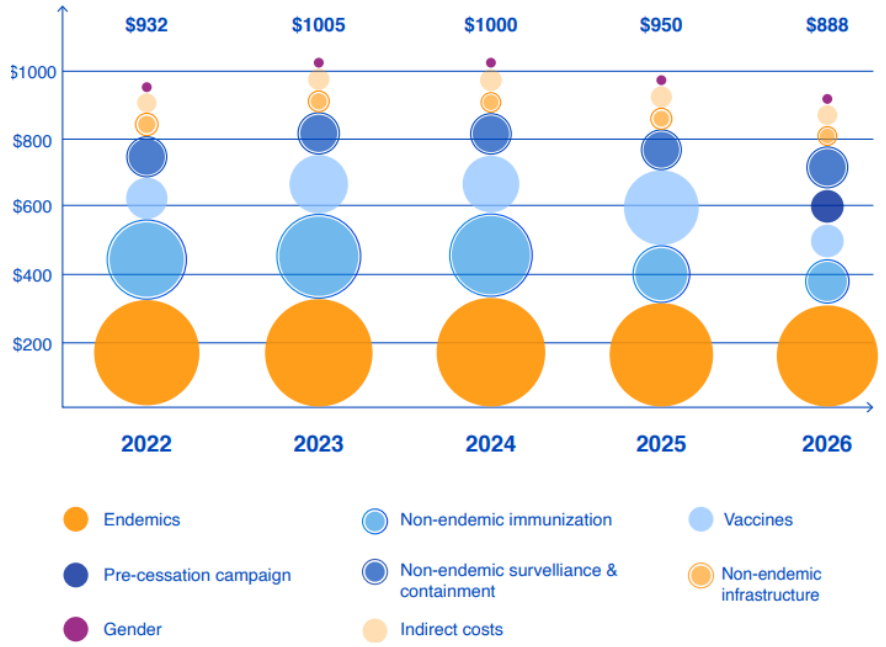
Systematized review activities and practices

- IMB assesses progress towards attainment of detection and interruption of polio overall
- TAGs review progress toward polio eradication at country or sub-regional level and provide technical advice on local strategy, priorities and program operations
- OBRAs assess whether vaccination and surveillance response is robust enough to detect and stop transmission, and what is needed to address gaps

Budget & Financing

Budget allocation

- Funding available for Q1 and Q2 2023
  - Budget for 2023 ($1,050m) ~86% funded assuming midpoint of projected resources ($898m)
- Outbreak Response
  - Budget increases to be addressed through dynamic budgeting
  - Flexible funding allows timely allocation of funds
  - Funding will be reviewed on case-by-case with donors
- 2022-2026 Investment Case developed (see chart)
  - The five-year cost for the new strategy is US$4.8B
- GPEI 2022 budget and Expenditure Report
- Non-FRR contributions



Thank you.

Annexes

Table X: Summary and current status of active cVDPV outbreaks, Global, January 2022–May 2023

								No. of detections (source)[1]		
WHO Region	Country	cVDPV emergence designation[2]	New outbreak[3]	Years detected	Outbreak confirmation date	Most recent positive sample[4]	Outbreak current status[5]	AFP cases	Other human sources (non-AFP)[6]	ES
serotype: 1.0										
AFRO	CONGO	RDC-TAN-1	*	22	Feb 27, 23	Oct 15, 22	Monitor	1	0	0
	DRC	RDC-HLO-4	*	22	Feb 27, 23	Sep 24, 22	Monitor	2	0	0
		RDC-HLO-3		22	Nov 14, 22	Sep 30, 22	Monitor	3	0	0
		RDC-TAN-1		22–23	Sep 12, 22	Mar 06, 23	Active	156	5	0
	MADAGASCAR	MAD-ANO-1		21–22	Aug 02, 21	May 23, 22	Monitor	3	2	15
		MAD-SUE-1		20–22	Apr 26, 21	Dec 26, 22	Active	17	24	57
		MAD-ANO-2		21–23	Feb 28, 22	Mar 01, 23	Active	17	9	114
	MALAWI	MOZ-NPL-2		22	Sep 19, 22	Dec 01, 22	Active	4	1	0
	MOZAMBIQUE	MOZ-NPL-2		20–23	Jul 25, 22	Feb 27, 23	Active	26	1	0
serotype: 2.0										
AFRO	ALGERIA	NIE-ZAS-1		22–23	Jul 11, 22	Apr 11, 23	Active	3	5	31
	BENIN	NIE-ZAS-1		22–23	Jun 27, 22	Feb 23, 23	Active	13	1	11
	BOTSWANA	RDC-MAN-5		22–23	Oct 31, 22	Feb 16, 23	Active	0	0	5
	BURUNDI	RDC-SKV-1	*	22–23	Mar 13, 23	Mar 07, 23	Active	1	2	12
	CAMEROON	NIE-ZAS-1		21–22	Oct 25, 21	Dec 22, 22	Active	6	3	1
	CENTRAL AFRICAN REPUBLIC	RDC-BUE-1	*	22	Jan 02, 23	Nov 20, 22	Monitor	1	0	0
		CAF-BNG-2		22	Aug 22, 22	Nov 23, 22	Active	3	0	8
		CAF-MOZ-1	*	23	Mar 27, 23	Feb 19, 23	Active	3	1	0
	CHAD	NIE-ZAS-1		21–23	Nov 29, 21	Apr 18, 23	Active	5	10	2
	COTE D IVOIRE	NIE-ZAS-1		21–23	Jan 31, 22	Mar 10, 23	Active	50	7	6
	DRC	NIE-ZAS-1		22–23	Mar 07, 22	Mar 22, 23	Active	1	0	3
		RDC-MAN-2		21–22	Nov 01, 21	Jul 05, 22	Monitor	5	3	3
		RDC-MAN-4		21–22	Jan 31, 22	Sep 20, 22	Monitor	11	4	1
		RDC-TAN-2	*	22	Mar 13, 23	Nov 23, 22	Active	2	0	0
		RDC-MAN-5		21–23	Mar 14, 22	Jan 19, 23	Active	25	5	4

WHO Region	Country	cVDPV emergence designation[2]	New outbreak[3]	Years detected	Outbreak confirmation date	Most recent positive sample[4]	Outbreak current status[5]	No. of detections (source)[1] AFP cases	Other human sources (non-AFP)[6]	ES
		RDC-BUE-1		22–23	Sep 05, 22	Jan 29, 23	Active	17	10	0
		RDC-KOR-1	*	23	Apr 10, 23	Feb 09, 23	Active	6	0	0
		RDC-TSH-1		22–23	Oct 03, 22	Feb 15, 23	Active	10	0	0
		RDC-SKV-1	*	22–23	Feb 06, 23	Mar 04, 23	Active	11	0	0
		RDC-MAN-3		21–23	Dec 20, 21	Mar 05, 23	Active	326	13	8
	ERITREA	CHA-NDJ-1		21–22	Jun 06, 22	Mar 02, 22	Closed	2	0	0
	ETHIOPIA	ETH-SOU-3		20–22	Nov 21, 22	Apr 01, 22	Closed	2	0	0
	GHANA	NIE-ZAS-1		22	May 23, 22	Oct 04, 22	Monitor	3	4	20
	MALAWI	RDC-MAN-5	*	23	Feb 27, 23	Jan 02, 23	Active	0	0	1
	MALI	NIE-ZAS-1	*	22	Feb 06, 23	Oct 26, 22	Monitor	2	0	0
	MOZAMBIQUE	MOZ-NPL-1		21–22	Feb 14, 22	Mar 26, 22	Closed	6	0	0
	NIGER	NIE-ZAS-1		21–23	Nov 01, 21	Jan 23, 23	Active	30	4	15
	NIGERIA	NIE-SOS-7		19–22	May 02, 20	Jan 29, 22	Closed	31	13	14
		NIE-ZAS-1		20–23	Sep 18, 20	Apr 10, 23	Active	420	218	417
	SENEGAL	NIE-JIS-1		20–22	Mar 16, 21	Jan 17, 22	Closed	17	34	16
	TOGO	NIE-JIS-1		19–22	Oct 17, 19	Mar 22, 22	Closed	12	8	1
		NIE-ZAS-1		22	May 16, 22	Sep 30, 22	Monitor	2	0	1
	ZAMBIA	RDC-MAN-5		22	Nov 07, 22	Dec 06, 22	Active	0	0	3
AMRO	CANADA	IUUC-2022	*	22	Jan 09, 23	Aug 30, 22	Monitor	0	0	2
	UNITED STATES OF AMERICA	IUUC-2022		22	Sep 12, 22	Sep 22, 22	Monitor	1	0	14
	DJIBOUTI	YEM-TAI-1		21–22	Jan 31, 22	May 22, 22	Monitor	0	0	19
	EGYPT	EGY-QEN-1		21–22	Mar 28, 22	Mar 09, 22	Closed	0	0	3
EMRO		YEM-TAI-1		21–22	Dec 20, 21	Mar 30, 22	Closed	0	0	3
		NIE-ZAS-1		22	Jun 06, 22	Aug 29, 22	Monitor	0	0	2
	SOMALIA	YEM-TAI-1		22	Aug 22, 22	May 19, 22	Monitor	0	0	1
		SOM-BAN-1		17–23	Feb 12, 18	Mar 02, 23	Active	30	15	63

								No. of detections (source)[1]		
WHO Region	Country	cVDPV emergence designation[2]	New outbreak[3]	Years detected	Outbreak confirmation date	Most recent positive sample[4]	Outbreak current status[5]	AFP cases	Other human sources (non-AFP)[6]	ES
	SUDAN	NIE-ZAS-1	*	22	Dec 19, 22	Nov 28, 22	Active	1	0	1
	YEMEN	YEM-SAN-1		21–22	Apr 18, 22	May 13, 22	Monitor	7	1	1
		YEM-TAI-1		21–22	Nov 22, 21	Dec 14, 22	Active	221	50	38
	ISRAEL	IUUC-2022	*	22–23	Mar 06, 23	Feb 13, 23	Active	1	0	55
EURO	THE UNITED KINGDOM	IUUC-2022		22	Sep 05, 22	Nov 08, 22	Monitor	0	0	6
SEARO	INDONESIA	INO-ACE-1	*	22–23	Nov 28, 22	Feb 20, 23	Active	4	10	0
serotype: 3.0										
EMRO	PALESTINE	cVDPV3		21–22	Mar 07, 22	Mar 12, 22	Closed	0	0	16
EURO	ISRAEL	cVDPV3-ISR		20–22	Dec 13, 21	Mar 24, 22	Closed	1	3	31

[1] For AFP cases, the number with a VDPV-positive specimen or for which a direct contact of the patient had a VDPV-positive specimen when the patient did not. For other human sources, the number of contacts of the patient or healthy children in the community with a VDPV-positive specimen. For detections from ES, the total number of samples with VDPVs detected from environmental (sewage) collections.

[2] Emergences indicate detection of cVDPV strains that have unique genetic reversion compared with other VDPVs, and the names of emergences generally designate the country and geographic subnational region of the emergence's first detection and the number of emergences in each subnational region. The emergence designation for cVPDV2 outbreaks in Israel, UK, and United States is the same (IUUC-2022), because of shared circulation in each of a unique Sabin-like virus.

[3] Outbreak confirmed in the last six months.

[4] For AFP cases, dates refer to the date of paralysis onset. For contacts, healthy children, and environmental (sewage) samples, dates refer to the date of collection.

[5] Active equals outbreaks with a detection within the last six months. Monitor equals outbreaks with a last poliovirus detection between six and 13 months and should be evaluated for closure. Closed outbreak equal outbreaks with a last poliovirus detection after 13 months.

[6] Specimens from contacts of polio patients and from healthy children in the community.

Data as of 2023-05-19

Abbreviations: AFP = acute flaccid paralysis; AFR = African Region; AMR = Region of the Americas; cVDPV = circulating vaccine-derived poliovirus; DRC = Democratic Republic of the Congo; EMR = Eastern Mediterranean Region; ES = environmental surveillance; EUR = European Region; SEAR = South-East Asian Region; WHO = World Health Organization

Endemic Zones: Southern KP, Pakistan: Recommendations: Surveillance

1. **Implement Southern KP Action Plan** (ensure updating based on Surveillance Review North and South Waziristan and Bannu with support of federal team):
    - Continue monitoring and evaluation of ES site quality, particularly the 'ad hoc' sites.
    - Rapidly implement recommendations of the surveillance review to address the gaps identified (missed AFP cases, inadequate active surveillance visits, suboptimal reporting network).
    - Continue to collect and analyze data on IPV in CIFs (dose 1 and 2).
    - Ensure adequate laboratory capacity before considering ES expansion.

Endemic Zones: Southern KP, Pakistan: Recommendations: Immunization

2. **Vigorously pursue core strategy –** multiple H2H (3+2) SIAs. The quality of existing SIAs is not sufficient to stop transmission. Therefore, vigorously pursue higher quality SIAs to address persistently missed children across the seven endemic districts.
3. **Implement SIAs as scheduled in Southern KP** (except in the 69 UCs) in July, October and November 2023. The 69 UCs will require a separate schedule for all immunization opportunities (see next slide)

Endemic Zones: Southern KP, Pakistan: Recommendations: Immunization – 69 Highest Risk UCs

4. **TAG endorses, until end 2023, priority focus on 69 UCs, "Reaching the Unreached" plan and recommends.**
    - Do not start "reaching the unreached strategy" in June and use the time for planning. Implement the reaching the unreached in July, August and September. Implement SIAs in the 69 UCs in October, November and December 2023. October and November rounds as part of all Southern KP SIAs.
    - Ensure robust planning for "reaching the unreached strategy". Establish minimum "go/no-go" preparedness criteria.
    - Design a social behavioral change package to support optimal implementation of the 'Reaching the unreached' strategy.
    - In advance, articulate "success measures", agree how these will be measured, who will measure, and who will compile the analyses. South KP Hub should convene a 3-level partner review after each round. Instill a learning mindset.
    - Evaluate potential "pluses" based on community interest match with operational, financial, and timely feasibility. Be creative.
    - If evaluation of the reaching the unreached identifies significant gaps in implementation, Reassess whether the corrective measures can lead to higher quality, or a modified immunization strategy needs to be considered that can reach all children.
    - Use experience of "reach the unreached" approach to inform what aspects need to be taken forward for higher quality SIAs in remainder of 2023.

Endemic Zones: Southern KP, Pakistan: Recommendations: Immunization

5. **The 69 'Most Vulnerable UCs' identified in Southern KP represent an important strategic focus for the programme to rapidly reach persistently missed children during the next 6 months. This will require:**

   - Dedicated strong leadership and management.
   - Allocation of necessary human and material resources, pluses.
   - High quality operations integrated with social mobilization.
   - More intense independent and high-quality monitoring.

Endemic Zones: Southern KP, Pakistan: Recommendations: Immunization

6. **Upper South Waziristan**: Urgent issuance of NOC to implement planned vaccination activities. Restart mass immunization. Conduct a structured evaluation of options and impact and decide way forward as a partnership.
7. **Monitoring:** TAG is concerned about reduction in monitoring (especially LQAS and PCM). Programme must resume robust monitoring from July SIA/reaching the unreached, especially in the 69 UCs.
8. **Clustered refusals and boycotts**: TAG is concerned about stagnating or rising clusters, particularly North Waziristan. These are likely symptoms of larger social and operational issues that are not understood. The programme should identify appropriate expertise to understand these issues and provide a report and recommendation to the TAG by end of August.
9. **Evaluate pluses and integrated services** based on community input including nutrition options (e.g., high energy biscuits).
10. **Boycotts**: Continue developing social listening to inform boycott resolution. Develop and test boycott prevention interventions through targeted exploration of integrated services. Identify success criteria, measure, and conduct 3 level review at South KP hub.

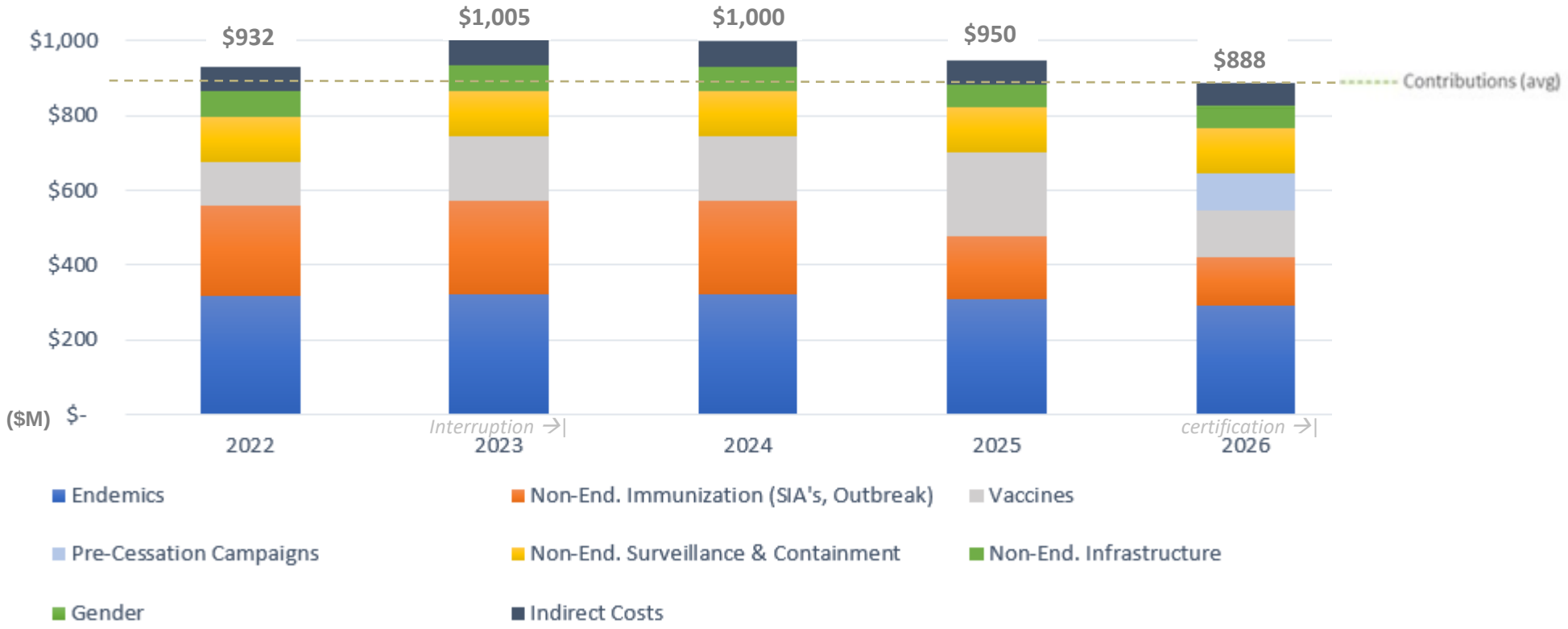
Endemic Zones: Southern KP, Pakistan: Recommendations: Management

11. South KP Hub and programme management

- In the volatile situation of southern KP with high level of uncertainty and unpredictability, TAG strongly recommends:
  - Ensure implementation of previous recommendations and fully staff the southern KP Hub – consider additional social science and data analytic expertise and ensure full support.
  - Review the current coordination mechanisms for the program in southern KP. Convene experienced leaders within the programme, for example all EOC Coordinators, to help articulate a coordination and decision architecture - what needs to be decided, how it will be decided, who inputs and who decides, and when.
  - Coordination structures at all three levels (South KP hub, provincial and national) must enable effective and efficient action in the field.

Multiyear Budget* Estimated at $4.8B

- Key Takeaway: $4.8b budget space projected to be sufficient

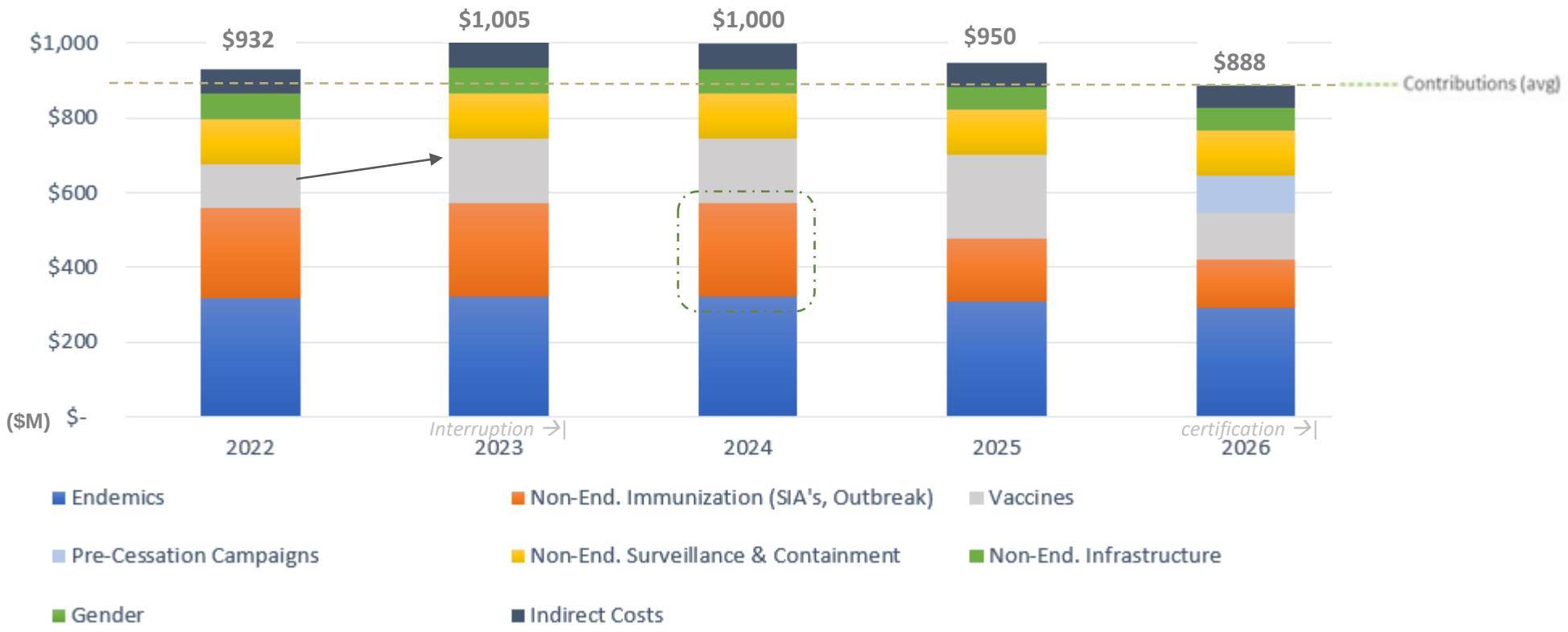


Key Takeaways:

- 2022 budget was adjusted from $932m to $1,070m (on 12 Sep 2022), but actual expenditure was $896m
- 2023 budget was adjusted from $1,005m to $1,050m (on 12 Sep 2022), but projected max expenditure (based on Q1 spend) is $825m
- Based on above, we would have $216m unspent budget from 2022-23 that could be applied to 2024-26
  - Adding $216m to 2024-26 would result in total available budget for those three years of $3,054m (~$1b/year)
- $4.8b is projected to be sufficient budget space for five years

*Please note this slide is about Budget space not Resources

Multiyear Budget Estimated at $4.8B [1]



Key Takeaways:

- 2023 and 2024: ***slight uptick YoY in vaccine procurement;*** continued strong investment in the endemics; high levels of outbreak response, preserving SIAs and infrastructure in the non-endemics
- 2025 and 2026: ***ramp-down by ~5% YoY in the final two years*** due to a forecasted reduction in outbreaks, with annual variation driven by declining outbreaks and variable vaccine volumes.
- In the final year of the strategy, the programme anticipates ~$100M in pre-cessation campaigns, in addition to the pre-cessation stockpiles included in the vaccine procurement plan.

[1] 2022-2026, +$0.4B vs 1/19 MYB due to: OB (+$0.15B), preserving infrastructure (+$0.15B), PCS (+$0.1B), ISD (+$0.05B) and IDC (+$0.03B), partially offset by vaccine procurement & endemic SIA's (-$0.1B)

Afghanistan WPV1 Cases 2021-2023

Year: 2021

S.No	EPID	Province	District	Onset	Sex	Age (m)	NO. OPV Doses		DT. Last OPV Dose	DT. Stool	Genetics	
							RI	SIAs			Cluster	Linkage
1	AFG/07/21/001	Ghazni	Andar	01-01-21	M	18	2	1	-	03-01-21	YB3C	99.33% with PAK/BN/QTA/RP-1/20/007 QUETTA 99.23% with PAK/BN/QTA/JT-1/20/006 QUETTA
2	AFG/01/21/325	Kunduz	Emamsaheb	20-10-21	M	25	0	1	16-06-21	02-11-21	YB3A	98.89% with AFG/NE/KDZ/NML-1/20/009 KUNDUZ 98.89% with PAK/KP/DIK/BM-1/20/011 DI KHAN
3	AFG/01/21/327	Kunduz	Emamsaheb	29-10-21	F	10	0	1	-	02-11-21	YB3A	97.57% with AFG/NE/KDZ/NML-1/20/009 KUNDUZ 97.57% with PAK/KP/DIK/BM-1/20/011 DI KHAN
4	AFG/01/21/349	Kunduz	Emamsaheb	11-11-21	M	24	0	1	10-11-21	21-11-21	YB3A	99.89% with AFG/01/21/327 KUNDUZ 97.46% with AFG/NE/KDZ/NML-1/20/009 KUNDUZ

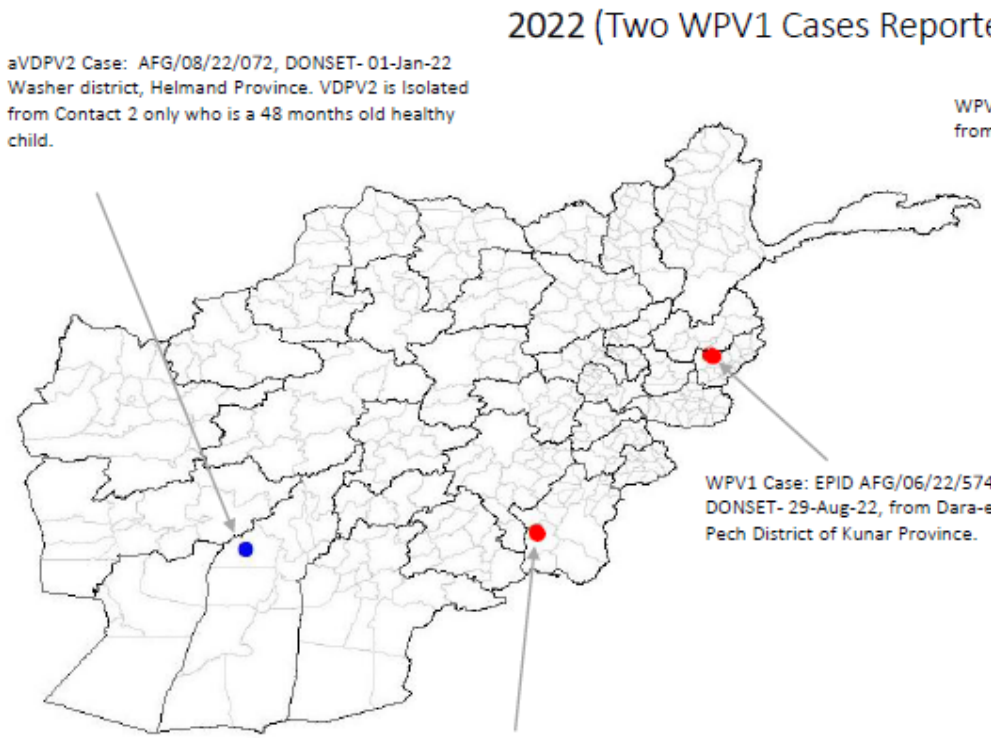
Year: 2022

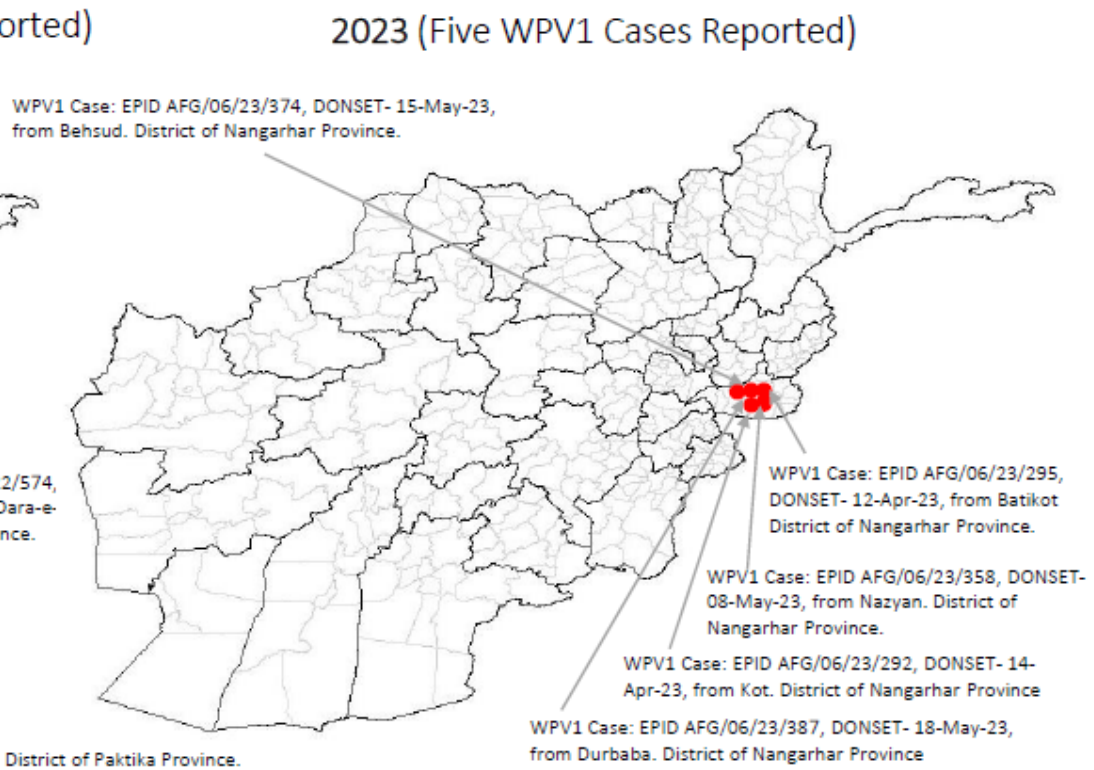
1	AFG/07/22/026	Paktika	Dila	14-01-22	F	24	0	0	-	23-01-22	YB3C	99.22% with PAK/BN/QTA/TA-1/20/009 QUETTA 99.11% with PAK/BN/QTA/TA-1/20/010 QUETTA
2	AFG/06/22/574	Kunar	Dara-e-Pech	29-08-22	M	39	4	7	27-08-22	04-09-22	YB3A	99.22% with AFG/01/21/327 EMAMSAHEB 99.11% with AFG/01/21/349 EMAMSAHEB

Year: 2023

1	AFG/06/23/295	Nangarhar	Batikot	12-04-23	F	48	3	7+	04-04-23	18-04-23	YB3A	99.22% with AFG/ER/NGR/RDR-1/22/021 JALALABAD 99.11% with AFG/ER/NGR/PZD-1/23/001 BEHSUD
2	AFG/06/23/292	Nangarhar	Kot	14-04-23	F	132	3	7+	-	17-04-23	YB3A	99.55% with AFG/ER/NGR/RDR-1/23/008 JALALABAD 99.44% with AFG/ER/NGR/RDR-1/23/001 JALALABAD
3	AFG/06/23/358	Nangarhar	Nazyan	08-05-23	M	30	3	7+	04-04-23	15-05-23	YB3A	99.33% with AFG/ER/NGR/PZD-1/23/002 BEHSUD 99.22% with AFG/ER/NGR/MZK-1/23/005 BATIKOT
4	AFG/06/23/374	Nangarhar	Behsud	15-05-23	M	48	1	7+	15-05-23	17-05-23	YB3A	98.89% with AFG/ER/NGR/PZD-1/23/002 BEHSUD 98.78% with AFG/ER/NGR/MZK-1/23/005 BATIKOT
5	AFG/06/23/387	Nangarhar	Durbaba	18-05-23	F	72	3	7+	-	22-05-23	YB3A	98.78% with AFG/ER/NGR/KNK-1/22/019 BEHSUD

Afghanistan WPV1 Cases 2022-2023





WPV1
aVDPV2

2022

WPV1 - 02

aVDPV2 - 01

Province	2022		2023		Date of onset of Last polio case
	No. WPV1 Cases	No. infected districts	No. WPV1 Cases	No. infected districts	
Paktika	1	1	0	0	14-Jan-22
Kunar	1	1	0	0	29-Aug-22
Nangarhar	0	0	5	5	18-May-23
Total	2	2	5	5	

WPV1

2023

WPV1 - 05

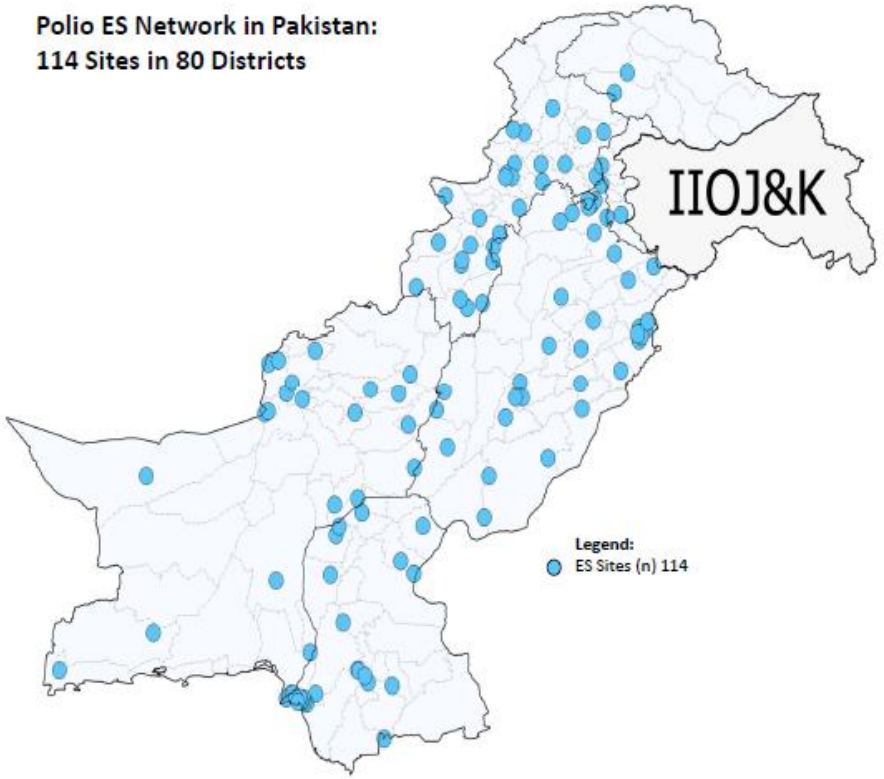
Data up to 24 Jun 2023

*Data current as of 24 June 2023

Pakistan Environmental Surveillance Update

ENV detections by province

Province	Last ES+ for WPV1
PUNJAB	16 Jan 2023
KP	16 May 2023
SINDH	15 May 2022*
ISB	19 July 2022
BN	12 April 2021
AJK/GB	12 May 2020

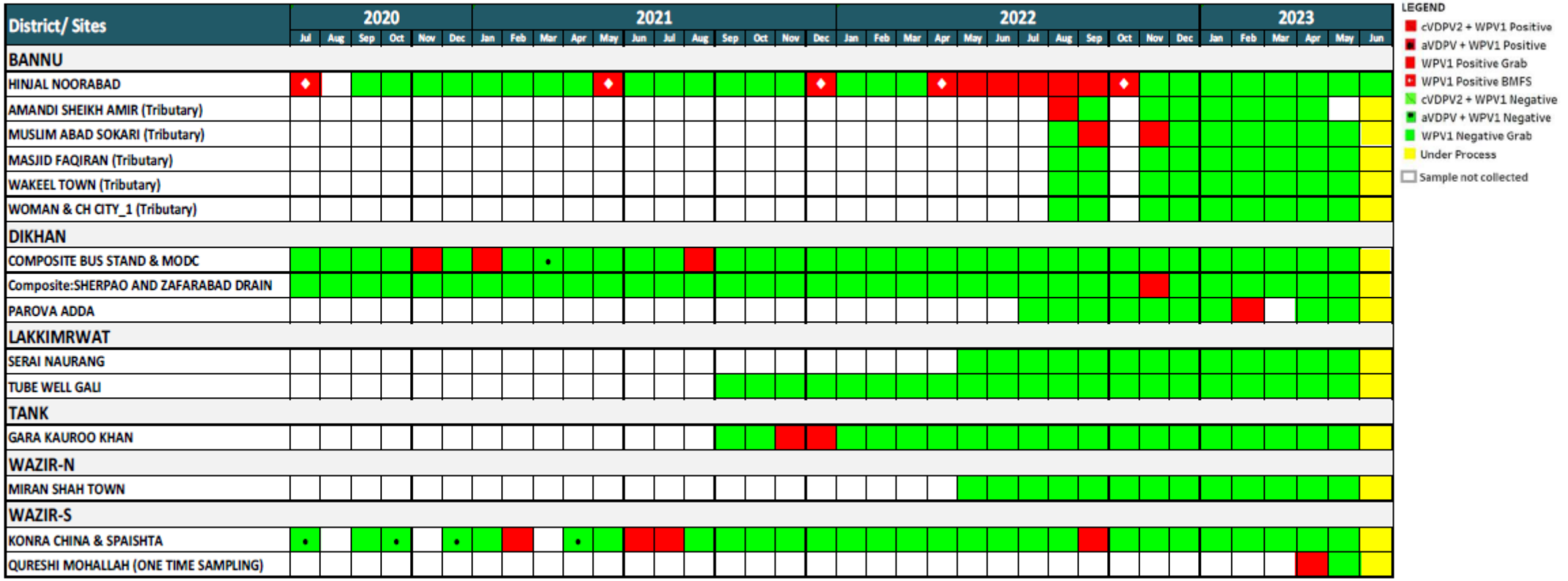


- 2021: 65 positive for WPV1 out of 846 total (8%)
- 2022: 37 positive for WPV1 out of 1024 total (4%)
- 2023: 10 positive for WPV1 out of 1102** total (1%)

* Most recent WPV1 isolation from ES Karachi
** Grab 677, BMFS 152, Others 273

Pakistan Environmental Surveillance 2020-2023

ES detections in endemic districts of Pakistan



Note: Does NOT include outbreak districts (KHI Malir, KHI east, Nowshera, Peshawar, Swat, Hangu, Bahawalpur, Faisalabad, Lahore, Sialkot, Rawalpindi, Islamabad) or rest of Pakistan