

POLIO GLOBAL ERADICATION INITIATIVE

Meeting of the Technical Advisory Group (TAG) on Poliomyelitis Eradication in Pakistan

4-6 October 2022

Muscat – Oman



**every
last
child**

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Acronyms

AFP	Acute Flaccid Paralysis	NDMA	National Disaster Management Authority
CBO	Community-Based Organization	NEOC	National Emergency Operations Center
COVID-19	Coronavirus Disease of 2019	NHSRC	National Health Services Regulations and Coordination
cVDPV2	Circulating Vaccine-Derived Poliovirus Type 2	NID	National Immunization Day
EMR	Eastern Mediterranean Region	OPD	Outpatient Department
EOA	Extended Outreach Activity	OPV	Oral Polio Vaccine
EPI	Expanded Programme on Immunization	PCM	Post Campaign Monitoring
ES	Environmental Surveillance	PEI	Polio Eradication Initiative
FFM	Fake Finger Marking	Q	Quarter
FLW	Frontline Worker	RI	Routine Immunization
GPEI	Global Polio Eradication Initiative	SBC	Social Behavioral Change
GPEI Hub	Afghanistan-Pakistan GPEI Hub	SBCC	Social Behavioral Change Communication
H2H	House-to-House	SIA	Supplementary Immunization Activity
HRMP	High-Risk Mobile Population	SNID	Sub-nationwide Immunization Day
HRUC	High-Risk Union Council	SOPs	Standard Operating Procedures
IDM	Institute for Disease Modeling	KP	Khyber Pakhtunkhwa
IPV	Inactivated Polio Vaccine	TAG	Technical Advisory Group
ISD	Integrated Service Delivery	WHO	World Health Organization
LEA	Law Enforcement Agency	WPV	Wild Poliovirus
LQAS	Lot Quality Assurance Sampling	WPV1	Wild Poliovirus Type 1

Executive Summary

Preamble: The Technical Advisory Group (TAG) on polio eradication in Pakistan convened from 4 to 6 October 2022 in Muscat, Oman under the auspices of Dr Ahmed Al-Mandhari, the Regional Director of the World Health Organization's (WHO) Eastern Mediterranean Region (EMR), and in collaboration with the GPEI Afghanistan – Pakistan Hub and National Emergency Operation Center (NEOC) Pakistan. This is the first face to face TAG meeting after three years and happened at a time when the country was conducting a massive flood response.

The objectives of the meeting were to review the status of polio eradication efforts, key challenges, and programmatic gaps and to provide technical guidance on programme priorities and required interventions, which includes the supplementary immunization activity (SIA) calendar for 2023.

Proceedings: The meeting was chaired by Dr. Jean-Marc Olivé, the TAG Chair. The first day focused on national and subnational presentations covering all major provinces. The second day included discussion on questions of the country team to the TAG related to SIAs quality and calendar, surveillance sensitivity and social behavioral change communication. This was followed by a closed session of TAG members and the Secretariat to finalize the recommendations which were presented on the third day. The meeting concluded with a note of thanks to the National Emergency Operations Centre (NEOC) and Provincial Emergency Operations Centres (PEOCs) for their participation, hard work, commitment, and dedicated efforts to respond to the current polio situation.

Conclusions and Recommendations: TAG noted with appreciation the strong '*all-of-government approach*' at all levels in Pakistan, and the programme's close collaboration with law enforcement agencies (LEAs). TAG saluted frontline workers who were martyred in the line of duty.

TAG noted a major shift in the epidemiology of poliovirus in Pakistan and recommended programmatic pivots to respond to this shift. For the first time ever, endemic transmission is restricted to seven districts in southern Khyber Pakhtunkhwa (KP) province. TAG also noted the drastic reduction in the number of genetic clusters that continue to circulate – from 11 in 2020, to just one in 2022.

Following detection of cases and environmental samples in North Waziristan, this genetic lineage is now being detected in two other provinces: Sindh and Punjab. Most immediate parents of the viruses detected outside the polio-endemic districts of southern KP are related to environmental isolates from Bannu and Polio cases in North Waziristan. TAG noted that some of the overarching risks facing the programme include the effects of the unprecedented floods, general elections in 2023, and the challenging security situation.

Epidemiological risks include the persistent circulation in the polio-endemic districts of southern KP and possible spillover and re-establishment of circulation in the historic reservoirs. TAG also underscored the continued risk of cross border spread of the poliovirus to and from Afghanistan and missed transmission.

After detailed discussions and in consultation with the Pakistan team, **TAG suggested a strategic shift to the programme and suggested to introduce new risk categorization as follows:**

- i) *The districts of southern KP,*
- ii) *Outbreak response districts which are districts outside southern KP with any new WPV1 detection from any source,*
- iii) *Risk reduction districts which include historic reservoirs or districts adjacent to outbreak/infected areas, and*
- iv) *Maintenance category which include all other districts.*

The endemic zone of southern KP is an absolute geographical priority: A multi-dimensional south KP plan is being implemented, keeping in view the complex security and social context of the area. Quality implementation of the new enhanced house-to-house (H2H) strategy, based on robust impact measurement, was recommended as the overarching priority to stop the remaining endemic transmission in southern KP. All programme operations, social behavioural change communication, administrative and security approaches should be in support of this strategy. In areas where the programme is unable to deliver SIAs directly, alternate modalities, including independent third-party providers can be considered, based on demonstrable evidence of effectiveness. TAG endorsed the provision of security for polio teams based on micro-plans developed for enhanced H2H SIA implementation.

TAG suggested that south KP Hub should be staffed and empowered to coordinate and convene at all levels. TAG recommended three vaccination rounds in the three remaining months of 2022, followed by a comprehensive evaluation of implementation of the south KP plan in early 2023. Three vaccination rounds in the low season of 2023 were recommended. Social behavioural change communication package of interventions should be refined to support enhanced H2H modality and evaluated to gauge its impact. Investigations to understand reasons for continued WPV1 detections in Bannu should also be conducted.

TAG defined outbreak response category as all districts outside of the polio-endemic districts in southern KP, that have a new detection of WPV1 by acute flaccid paralysis or environmental surveillance after June 2022. The response in this category should be as per the Global Standard Operating Procedures for Responding to a Poliovirus Event or Outbreak (March 2022), adapted for endemic countries.

TAG defined the risk reduction category as districts that were historic polio reservoirs and additional high-risk districts, based on risk assessments by the programme, IDM, and other risk modeling groups. TAG recommended at least four preventive SIAs per year for districts in this category and improvements in surveillance and essential immunization.

The maintenance category includes all other districts and TAG recommended at least two NIDs each year, in addition to high-quality surveillance and essential immunization.

TAG approved three **SIAs, one NID and two SNIDs** for the remaining months of 2022 and six SIAs, two NIDs and four SNIDs for 2023. TAG stressed on maximum synchronization of vaccination campaigns with Afghanistan.

With adoption of the outbreak response approach based on the new risk categorization, **surveillance** must be much more sensitive and nimbler than in the past. Key components of a comprehensive surveillance system exist in the country and are functioning well. TAG recommended continued follow up of recommendations of the external review and granular analysis to understand sub-optimal performance in important areas and address gaps in priority areas.

Social Behavioral Change and Community Engagement needs to be aligned to the shift in programme strategy based on new risk categories. TAG recognised the large volume of communication, social and behaviour change work that had taken place and recommended that community engagement should remain a priority for the programme. TAG also advised that the programme should fully implement dialogue with frontline workers to sustain and maximise their motivation. For fake finger marking, continue efforts to investigate and understand what drives fake finger marking in special contexts.

TAG recommended to continue efforts to **strengthen EPI-PEI synergy** at all levels; intensify **cross border collaboration with Afghanistan** to ensure synchronized vaccination, identify key cross-border populations that may be missed, and fill surveillance gaps and use the framework to track activities;

revamp SIA and surveillance plans in the flood-affected areas and ensure continuation of “all party” neutrality approach ahead of the 2023 elections. The programme should report on the implementation of the accountability framework of performance by all partners and government staff by the end of the year.

TAG concluded with confidence that poliovirus interruption in Pakistan is technically possible within global timelines if the recommendations are rigorously implemented.

Next meeting of the TAG is proposed in last week of April/ first week of May 2023. TAG emphasized instituting a mechanism to systematically track progress of implementation of its recommendations jointly with GPEI Hub.

Introduction

Meeting Overview

The Technical Advisory Group (TAG) on poliomyelitis eradication in Pakistan met from 4-6 October 2022 in Muscat, Oman, under the auspices of the Dr Ahmed Al-Mandhari, the Regional Director of the World Health Organization’s (WHO) Eastern Mediterranean Region (EMR). and in collaboration between the Global Polio Eradication Initiative Afghanistan–Pakistan Hub (GPEI Hub) for polio eradication and National Emergency Operations Center Pakistan (NEOC).

TAG Chair, Dr Jean-Marc Olivé, led the three-day deliberations, with the attendance of one virtual and six in-person TAG members. Polio Eradication Team was led by Dr Shahzad Baig, NEOC Coordinator. Dr Rana Safdar, Technical Advisor, represented the Ministry of National Health Services Regulations and Coordination (NHSR&C). Participants included representatives of partner and donor organizations. The national team included six NEOC core members, National Certification Committee Chair (NCC), National Immunization Technical Advisory Group (NITAG) Chair and four provincial EOC coordinators. The extended national and provincial teams joined virtually and remained online throughout the meeting days. Three core members of the Afghanistan NEOC attended as observers (see **Annex A** for names of participants).

The TAG was convened at a critical juncture for the GPEI and the Pakistan polio programme. The main objectives of the meeting were to review the status of polio eradication efforts, key challenges, and programmatic gaps in the country and to provide technical guidance on programme priorities. The TAG delivered recommendation for required interventions to be considered for the final quarter of 2022 and the first half of 2023, including guidance on SIA calendar.

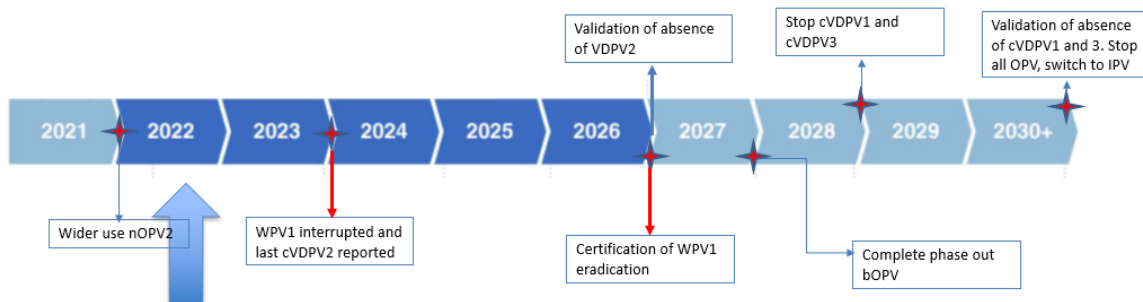
The agenda was structured to enable country updates (the national and provincial presentations) on the first day, followed by the risk assessment, programme plans for 2023, and thematic discussions associated with the questions asked by the country team (see **Annex B** for agenda). The sessions on thematic areas of work were moderated by assigned TAG members. The third day was dedicated to recommendations. All three days included TAG closed sessions to formulate the recommendations. The meeting was followed by the TAG on poliomyelitis eradication in Afghanistan in the same venue, and similarly members of the Pakistan NEOC attended the Afghanistan TAG as observers.

Preamble

This is the first face-to-face TAG meeting on polio eradication in Pakistan since August 2019 due to travel restrictions imposed by the COVID-19 pandemic. This constitutes the longest ever gap between in-person TAG meetings, even though virtual TAG meetings were held in June 2020 and February 2021, and technical consultations on Type-2 and on revision of SIA calendar took place on April and July 2022, respectively.

The meeting occurred two weeks before the GPEI Pledging Event that was to take place on the 18th of October in Germany, allowing the programme to identify and align its 2023 priorities with the broader 2022-2026 GPEI Strategy for Polio Eradication. As the only two remaining polio endemic countries, Afghanistan and Pakistan account for one third of the total financial resource requirements of the global programme to be able to accomplish its **Goal 1** of permanent interruption of all wild poliovirus (WPV) transmission by the end of 2023, signifying the important timing of the meeting (*see below graph for the 2022-2026 Strategy Milestones*).

2022-2026 GPEI Strategy for Polio Eradication Milestones



Since the last in-person TAG, a number of important developments have taken place in Pakistan, including the change in government, unprecedented floods, and the prolonged impact of the COVID-19 pandemic that further increased socioeconomic difficulties. These circumstances were incorporated in the discussions and considered in the recommendations of the TAG to the country programme.

Context

Global and Regional Contexts

Activities by the GPEI programme were disrupted by the COVID-19 pandemic with the suspension of more than 60 polio campaigns in 28 countries throughout 2020, leading to a growing risk of polio outbreaks in 38 countries and extending beyond the EMR. The pandemic demanded a heightened resilience of the polio programme to fit in a new global environment, whereby the programme had to resume polio campaigns in all countries infected by poliovirus, alongside ensuring safety and protection of frontline workers. Furthermore, the polio eradication network contributed vastly to the COVID-19 pandemic preparedness and response.

Today, six consequential geographies remain as areas of concern globally and regionally. Namely, northern Nigeria as the largest exporter of the virus, eastern Democratic Republic of Congo with seven unique cVDPV2 emergences across three provinces, South Central Somalia as the longest duration of cVDPV2 transmission, northern Yemen with the recent high intensity cVDPV2 transmission and

exportation from inaccessible areas, and WPV1 endemic Eastern Afghanistan and districts in southern Khyber Pakhtunkhwa, Pakistan with cross-border transmission and an exportation of WPV1 to southern Africa in approximately 2019.

National Context

In Pakistan, there is unprecedented political commitment at the highest level and a strong, all-of-government approach to eradicate polio, despite ongoing challenges. Prime Minister, the federal cabinet, and the law enforcement agencies are fully committed to the goal of a polio-free Pakistan.



Figure 1: Prime Minister of Pakistan Shahbaz Sharif and Federal Minister for Health Abdul Qadir Patel appearing in public to support polio vaccination. Picture on right shows support of local community elders. Source: Pakistan NEOC Presentation in the TAG, 4/11

The polio programme also supports the overall health care infrastructure and health advancements, as needed. In response to the unprecedented floods which left one third of the country under water, the polio teams assisted in conducting timely assessments, established shelters and ad-hoc medical centres, provided surveillance for other infectious diseases and trauma care, together with the NEOC and the National Disaster Management Authority (NDMA).

Moreover, the country team has recently revitalized and strengthened the cross-border coordination with Afghanistan at the national and sub-national levels in coordination. In September 2022, the GPEI Hub organized a meeting between the two NEOCs – the first one since the August 2021 political transition in Afghanistan. Both programmes recognize the importance of cross-border collaboration at this crucial juncture for polio eradication efforts.

“Success of eradicating polio in Afghanistan and Pakistan are mutually dependent on each other”

TAG Chair, Dr. Jean-Marc Olivé

Epidemiology and Risk Assessment

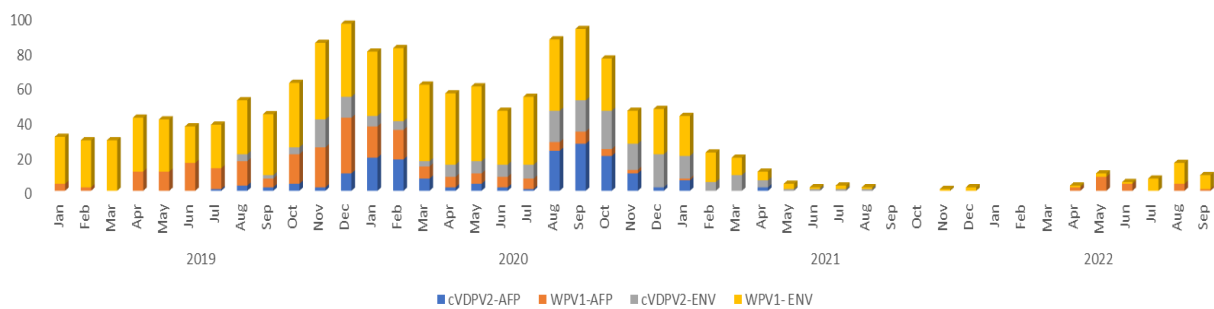
Epidemiology of poliomyelitis in Pakistan witnessed a major shift in the recent past. The TAG noted an unprecedented reduction in WPV1 circulation as the endemic transmission has been restricted to the polio-endemic districts in southern KP, with a single WPV1 genetic cluster in circulation. However, the TAG noted a missed opportunity for interruption of transmission between January 2021 to April 2022.

As of 2nd October 2022, a total of 20 WPV1 cases have been reported from three districts. No case has been reported outside of the southern districts in KP for more than a year. Out of these, 13% of the

districts had no case for the last three-four years, and 57% had not reported a case for the last five years. A total of 29 environmental samples positive for WPV1 were detected in 11 districts across three provinces (as shown in the table below). cVDPV2 has not been detected in Pakistan for more than one year. The graph below shows the poliovirus epidemiology between 2019 and 2022 to date.

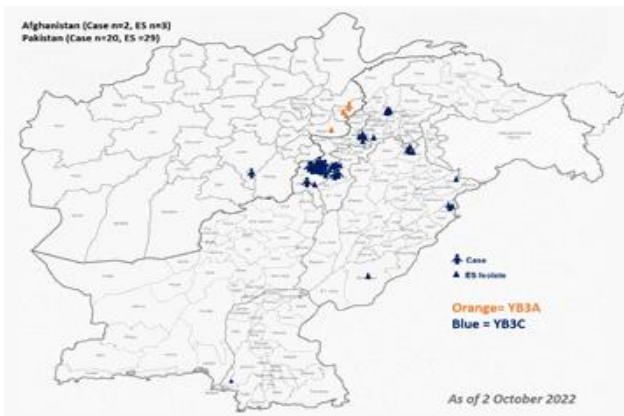
Province	Khyber Pakhtunkhwa							Islamabad	Punjab				Sindh	Total
	District	N-Wazir	Lakki Marwat	S-Wazir	Bannu	Swat	Peshawar	Nowshera	Islamabad	Lahore	Rawalpindi	Bahawalpur	Sialkot	
Case	17	2	1	-	-	-	-	-	-	-	-	-	-	20
ES+	-	-	1	9	5	5	1	1	3	3	1	1	1	29

Poliovirus Isolates (AFP and ES) from Pakistan, 2019-2022



Pakistan has witnessed the lowest ever genetic diversity during the low seasons in 2021 and 2022, from 11 WPV1 clusters in 2020, to four in 2021, to only one (YB3C) in 2022. The virus in circulation is monophyletic and all viruses in 2022 have a common parent. Some viruses in this lineage also continued to be detected in other parts of KP. However, one virus of YB3C cluster, although not closely related to strains in Pakistan, was observed in Afghanistan in January 2022 (as shown in the graph below). All WPV1 seen outside of KP are monophyletic as well, implying a common source that is equivalent to a super spreader event. The most immediate parent viruses are environmental isolates from Bannu from May through December 2021. Isolates in Bannu continued to be detected as part of this outbreak from April through September 2022.

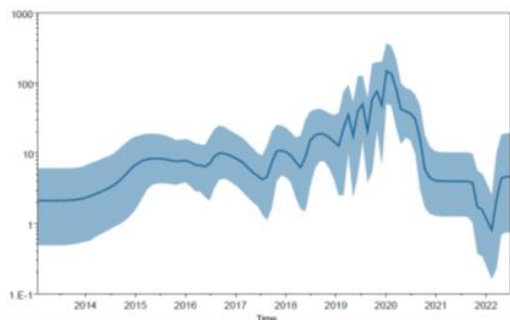
Afghanistan and Pakistan WPV1 Cases and ES+, by Cluster, 2022



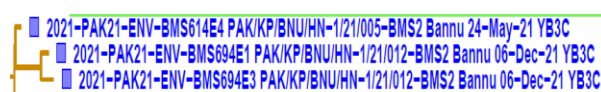
Phylogenetic Tree, Pakistan Isolates belonging to Single Cluster (YB3C) (Cases and ES+)



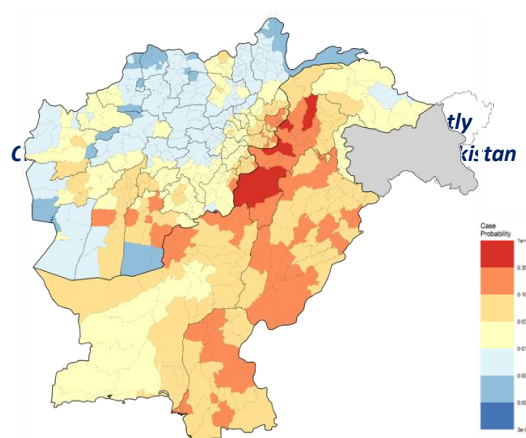
Genetic diversity of isolates circulating in the country are at lowest level ever in 2022



Most Immediate Parent Virus to Currently Circulating Polioviruses Outside South KP, Pakistan (2022)



Case Risk Afghanistan and Pakistan September 2022 – February 2023



The most recent risk assessment model by the Institute for Disease Modeling (IDM) highlights the continuation of endemic circulation in the southern districts of KP and detections in environmental samples beyond southern KP, the endemic districts over the next 6 months. Even though there is low risk of re-establishment of circulation in historic reservoirs such as Karachi and the Quetta Block in the short and medium term, the risk assessment model draws attention to a broader geographic risk, whereby previously 23% of the population contained 75% of the risk, but with the recent detections, this figure has risen to include 49% of the population.

With the persistence of endemic circulation in southern KP there is always the epidemiological risk of virus spreading to Karachi and other historic reservoirs with potential for virus amplification, as well as risk of cross-border transmission. Other factors such as the floods, the upcoming general elections in 2023 and deteriorating security remain **overarching risks** and cause of concern.

These developments in epidemiology, combined with the risk assessment and overall context requires the programme to re-adjust and respond in a rapid and robust way. The TAG noted that with urgent actions to interrupt the remaining endemic transmission in southern KP and rapid and effective responses to any WPV1 outside the endemic zone, the opportunity to eradicate polio remains possible in Pakistan.

Key Programme Priorities for the Remainder of 2022

The key priorities for Pakistan's polio eradication programme presented for the last quarter of 2022 were:

- (1) Full implementation of the response plan for southern KP plan where there is persistent virus transmission, with robust monitoring and reporting,
- (2) Implementation of the planned SIAs calendar for the remainder of the year (*October SNID, November NID, and December SNID*),

- (3) Building population immunity in districts and union councils (UCs) with low population immunity and a high risk of polio through enhanced EPI synergy, intensification of routine immunization (RI) and extended outreach activities (EOAs),
- (4) Strengthening AFP surveillance among nomads and migratory populations and expanding ES sites to priority districts,
- (5) Revising the risk assessment for the remainder of 2022 and 2023,
- (6) Adjusting the programme in flood-affected areas based on the flood action plan for central Pakistan by revising the micro-plans, reviewing the SIA dates and modality based on local needs, and fixing the cold chain and surveillance infrastructures,
- (7) Strengthening cross-border coordination at the corridor level, and
- (8) Conducting the frontline workers survey in high-risk districts to capture the views of female personnel in reaching all children and the support needed from the polio programme.

Findings and Recommendations

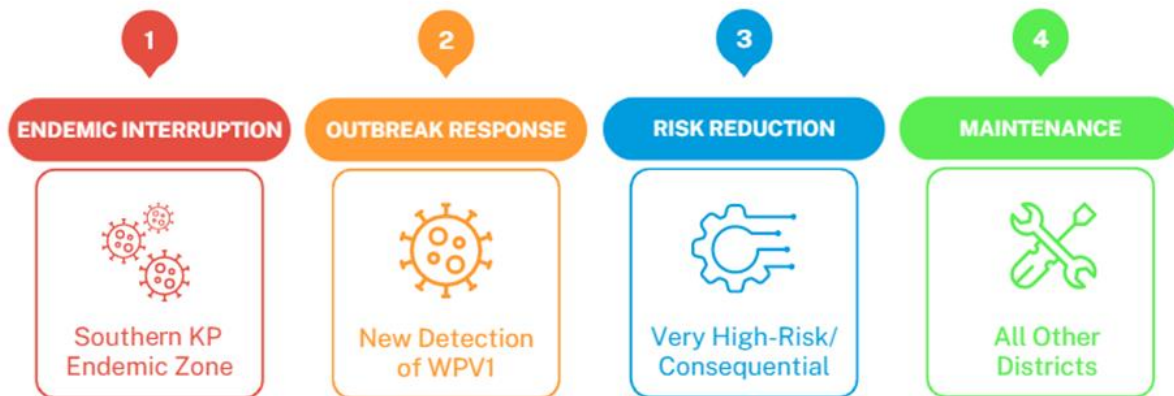
The TAG acknowledges with appreciation the National and Provincial EOCs, south KP Hub, and FLW's efforts and ongoing efforts to strengthen the polio programme, provide oversight and coordination, and respond to various health emergencies such as COVID-19 and the floods. The TAG also appreciates the strong *all-of-government approach* at all levels in Pakistan and the programme's close programme collaboration with the law enforcement agencies.

Considering the major epidemiological changes associated with significant restriction in WPV1 transmission, TAG recommends a major shift in the programme approach with the proposition of a **new risk categorization** and underscores the need for rethinking the programme's priorities, attention and resource allocation going forward.

The New Risk Categorization

The TAG suggests demarcating risk based on a new categorization scheme that distinguishes the only zone in Pakistan with remaining endemic WPV transmission, from the other districts across the country which are subject to varying degrees of threats and risks. The new risk categorization includes four main categories (*as shown in the graph below*) and aims to provide a more proactive, flexible, and aggressive approach to interrupt the ongoing virus transmission while maintaining the rest of the country polio-free. The scope and response to each category is summarized in the graph below.

New Risk Categorization



ENDEMIC INTERRUPTION

1

Scope: Southern districts of KP, the endemic zone.

Response:

Highest level oversight and management (Southern KP EOC)

- Full implementation of southern KP plan
- Reassess status by end of Q1-2023 (Virus; Missed Children; Surveillance)

OUTBREAK RESPONSE

2

Scope: WPV1+ districts outside southern KP (ES or Human positive).

Response:

Aligned, coherent, coordinated outbreak response to a new detection

- **Faster;** within 2 weeks
- **Wider;** at least 2M, within district and surrounding adjacent
- **Better;** focused quality

Social behavioural activities to address and mitigate local causes of missed children

RISK REDUCTION

3

Scope: Risk assessment based on links to category 1 or 2, historic core reservoir, and/or other underlying program risks.

Response:

At least 4 SIAs per year

SIA operations improvements

Social behavioural activities to address and mitigate local causes of missed children

Essential immunization

MAINTENANCE

4

Scope: All other districts.

Response:

At least 2 NIDs per year

Maintenance of high-quality surveillance and essential immunization

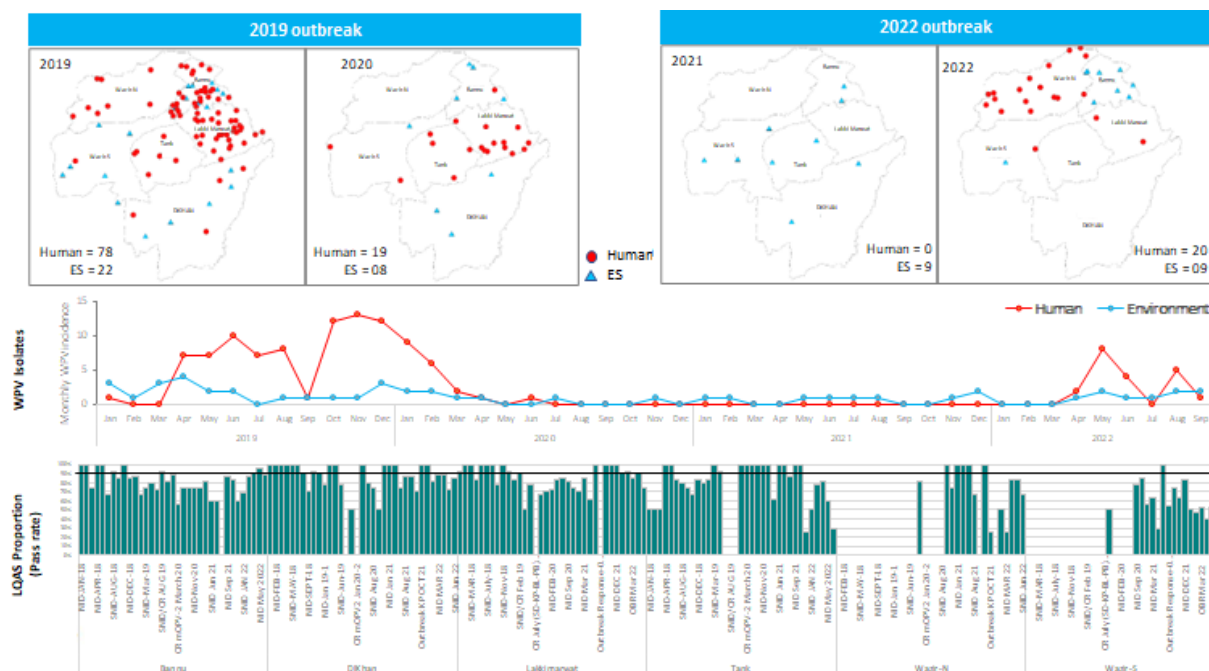
Category 1 – Endemic zone of southern Khyber Pakhtunkhwa

Epidemiology of WPV1 and genetic analysis of isolated viruses indicate persistent transmission in seven districts in southern KP. This points toward pockets of missed children despite the ongoing efforts and the many activities that had been carried out under a well-articulated action plan.

As of Week 39, (week of September 26th, 2022), 20 WPV1 cases and nine positive ES samples had been detected southern KP. In comparison to the WPV outbreak in 2019, the current outbreak in southern KP is more focal, comprised of a single surviving lineage, has affected more males, 80% (16:4) in 2022 compared with 59% (57:40) in 2019 and 2020.

The multi-dimensional plan for southern KP has a range of technical, communication, administrative, managerial, and security components. The core elements of the plan implemented in the first half of 2022 included the establishment and strengthening of the south KP Hub with surge in staffing at management, coordination, technical assistance and field levels; changing the operational modality for SIAs by shifting to enhanced H2H polio vaccination, including direct observed vaccination at fixed sites during the first three days of a six-day campaign, incentivization of FLWs, and staggering campaigns in southern KP from the rest of the country to intensify monitoring, with two rounds of fIPV plus OPV, enhancement of SBC and communications strategies to address refusals and FFM, revision and alignment of micro-plans with recent local government system, development of a mobile population immunization strategy, implementation of health camps after each campaign and transit vaccinations to reach persistently missed children, and strengthening surveillance.

Southern KP: Comparison of WPV Outbreak, 2019 and 2022



Dated as of Week 39, 2022

The TAG also noted the strong oversight of the district administration and the special initiatives to reach missed children and appreciated the programme coordination with security forces and tremendous support from law enforcement agencies. The TAG acknowledged the complexity of diverse security and

social challenges in southern KP that are impeding implementation of optimal vaccination activities, such as, limited community acceptance and demand, refusals due to a range of reasons, mistrust, FFM, volatile security in some pockets, boycotts, operational difficulties, and more recently, the unprecedented rains and floods.

The TAG was particularly concerned about **Bannu** district due to the continuation of WPV1 detections despite minimal security challenges, virus persistence since April of 2021, and the inconsistency between virological and SIAs performance data.

Regarding the SBCC component of the plan, the TAG reiterated its emphasis to address the interplay across the complex political, social, community, and household barriers impeding high-quality standard-model SIA delivery. Even though some progress in establishing new community engagement and vaccine delivery modalities in southern KP across the seven districts was noted, significant challenges remain like FFM and concentrated refusals, and continued access and social barriers to OPV delivery in specific areas such as Mehsud Belt. Therefore, there is uncertainty that the programme has fully reached all stakeholders particularly at community level (e.g., the Mashar – the community *elders*).



Recommendations for Category 1 – Endemic zone of southern KP:

- TAG endorses the approach of provision of security based on the micro-plans developed by the programme for enhanced H2H SIA implementation.

Immediate Recommendations for southern KP:

- The entire southern KP (all seven districts) should be considered as one polio endemic bloc.
- In the three upcoming vaccination campaigns (one each in October, November, and December 2022), the TAG recommends focusing on optimizing the new enhanced H2H modalities and flexibility in intervals and tailoring the package of ‘plus’ interventions to specific communities and defined vaccination obstacles. In areas where this approach is not feasible such as in Mehsud belt, decision should be made about alternate modalities before end of 2022.
- 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 a clear, structured analysis of reasons for being missed) and 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.

Recommendations for southern KP for the first quarter of 2023:

- An evaluation of enhanced H2H modality for campaigns in the last quarter of 2022 should be conducted no later than January 2023. This will enable the programme to continue to optimize enhanced H2H modality where it is feasible and effective. If enhanced modality is not feasible in certain areas, the programme should pivot to alternate vaccine delivery approaches including independent third-party providers like community-based organizations (CBOs) and plan for this contingency. This should be opted based on demonstrable evidence of effectiveness.
- In February 2023, the programme should identify areas where additional intensified vaccination approaches such as zero dose follow up and defaulter vaccination will be necessary to cover missed children in the first quarter of 2023.

Recommendations for Bannu:

- Given the concerns around Bannu, there is a need for further investigation. A deep dive is necessary to identify communities which are sustaining transmission. In addition, active search for cases and missed transmission across southern KP should be conducted to identify any potential source of virus that is being detected in Bannu ES.

Recommendations for southern KP Social Behavioral Change Communications:

- Rapidly collect and confirm social evidence for different contexts in districts in southern KP to guide the design and implementation of relevant SIA and SBC strategies.
- Refine community engagement plans that are informed by social evidence to support the enhanced H2H modality, as per different contexts of southern KP and increase community acceptance.
- Utilize different available social assets and opportunities to engage with local females e.g., health workers such as traditional birth attendants and lady health workers, to maximize reach of persistently missed children.
- In specific circumstances, where the programme chooses alternative options fully delinked from GPEI, such as provision of vaccination by a third-party e.g., Pakistan Red Crescent Society, ensure inclusion of SBC engagement interventions, as part of the operations plans which should be based on documented segmentation of community concerns.
 - This can be done using existing data on missed children, households, segment communities into predominant categories (intermittently missed, refusal due to OPV/trust concerns, refusal due to 'other demands'), to tailor SBC activities for special local challenges and evaluate impact by segmented categories.

Examples:

- ➔ For those who do not accept OPV every campaign, consider Plus Polio/ISD.
- ➔ For those who have vaccine safety or other trust concerns, consider more intensive, female mobilization and targeted communication.
- ➔ For those who have other priorities beyond polio, consider alternate delivery strategies, influencers, and/or Plus Polio/ISD).

Recommendations for southern KP Management:

- TAG welcomes the emphasis on management and coordination of southern KP plan.
- The south KP Hub should be staffed and empowered to coordinate and convene all 3 levels (district, provincial, and federal levels).
- Management structure should ensure alignment and coherence at all levels of the programme by meeting after every campaign round to assess what worked, what did not work and how intra-campaign issues are resolved and follow-up on remedial actions, as well as ensuring engagement and inputs from the staff on the ground.

Category 2 – Outbreak Response

Category 2 is defined as those districts outside of southern KP that have a new detection of WPV1 in a case of AFP or environmental sample after June 2022. The rationale for this category is that all districts outside of southern KP appear to have eliminated all previous endemic virus strains for more than one year now. Therefore, the apparent 'polio-free' characteristics of these districts implies that any detection of poliovirus represents an 'outbreak event' in a polio-free area. These events are treated according to the existing Global Outbreak Response Guidelines. Thus, representing an important adjustment to reflect the significant changes in the epidemiology of poliovirus transmission in Pakistan.

Recommendations for Category 2 – Outbreak Response:

- Programme should respond to any WPV detection in a polio-free district outside southern KP according to the existing global standard operating procedures for responding to a poliovirus event or outbreak (see link to **Outbreak Response Guidelines** for full details). The detection of WPV should trigger:
 - (1) Rapid Risk Assessment
 - Evaluation of underlying factors of vaccine coverage (history and quality)
 - Potential surveillance gaps and virus history
 - Travel patterns
 - (2) Identification of “Outbreak Zone” (at least 2 million children <5 years old):
 - (3) Planning and Implementation of Outbreak Response
 - Immunization response: Minimum of 3 rounds
 - Round 1: Rapid response round (within 2 weeks) focused on area of detection, at a scale of 2-4 million targets.
 - Round 2 and 3: 4 weeks apart on the same or larger scale.
 - Further 3 rounds IF WPV1 is detected 28 days after round 3.
 - Previously planned SNIDs can be part of this response if scheduled within the recommended guidelines above.
 - (4) Rapid Social Behavioral Evaluation and Activities
 - (5) Surveillance Strengthening
 - (6) Once risk assessment has concluded that the circulation of WPV1 has been stopped, the districts in the outbreak zone should be assigned to Category 3 or 4 depending on their risk status.

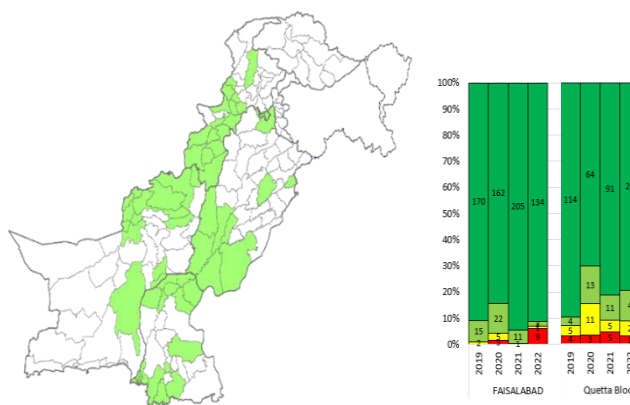


Reference: Outbreak Response Guidelines (March 2022)

Category 3 – Risk Reduction

The programme has existing risk categorization and plans that provide a basis for determining category 3 districts, which would comprise historical core reservoirs and other districts that represent a significant risk of a large outbreak and re-establishment of transmission, if virus is introduced. For areas in this category, a package of immunization, social behavior change, and surveillance activities are needed to address the risks. Moreover, essential immunization strengthening is critical to move from category 3 to 4 (*see next section*).

Risk Reduction Category



Recommendations for Category 3 – Risk Reduction:

- Programme should update its overall risk assessment and identify districts that should be included in category 3 by the end of October 2022 taking into consideration the existing risk assessments (IDM and other modelling). Following criteria should be considered in selecting districts for category 3:
 - (1) part of historical core reservoirs,
 - (2) any district with significant links to southern KP or category 2 outbreak area **and**
 - (3) significant underlying immunity or programme risks (immunity, events, communities, migration, etc.) and high risk of widespread transmission in case of WPV re-introduction.
- Develop a programme of work for these areas to address underlying risk issues.

Recommendations Per Programmatic Area:

SIA:

- At least four preventive campaigns should be implemented each year.
- Ensure high quality micro plans and campaign operations alongside continuing to aggressively identify any gaps in quality of SIA delivery and weakness in community demand and responding quickly to ensure optimal performance to protect traditional risk areas from reinfection.
- Implement intense campaign monitoring for each round (LQAS and PCM).
- Ensure frontline workers are well-trained, well-supervised, motivated, and include local females.

Social Behavioral Change:

- Conduct social behavioral evaluation and ensure community engagement acceptance of the programme.
- Validate need for health camps or other community engagement approaches where justified.

Surveillance:

- Evaluate surveillance sensitivity and community health seeking behaviors and optimize the surveillance system accordingly.

Essential Immunization:

- Determine areas for extended outreach activities.
- Conduct root cause analysis of low coverage and support EPI improvement plan to address gaps in EPI service delivery sites, vaccinator vacancies, attendance, training, microplanning, and other gaps.

Category 4 – Maintenance

Maintenance of immunity and sensitive surveillance is required in districts that do not meet the criteria for category 1, 2, or 3.



Recommendations for Category 4 - Maintenance:

- Implement at least two good quality NIDs per year.
- Maintain high-quality poliovirus surveillance and essential immunization.

Supplementary Immunization Activities (SIAs)

Pakistan Polio Programme implemented an intense SIA schedule in 2022 to date, with two NIDs, three SNIDs, two fIPV rounds, and three case responses. Remaining are one joint Typhoid Conjugate Vaccine/OPV campaign, two SNIDs and one NID planned for the last quarter of 2022 (*see below table*).

2022:		Implemented SIAs, Q1-Q3									Planned SIAs, Q4			
Type	SNID	NID	OBR	OBR	NID	fIPV+ OPV Bannu & NW	SNID	Phase 1 fIPV + OPV southern KP	SNID Phase 2	Phase 3	TCV+ OPV	SNID	NID	SNID
Month	Jan	Feb	Mar	Apr	May	Jun	Jun	Aug	Aug	Sep	Oct	Oct	Nov	Dec
Target	22.8m	43.3m	2.98m	0.166m	43.3m	0.323m	12.6m	0.595m	32.9m	1.7m	1.8m (OPV)	25.1m	43.3m	12.6m

Moreover, through ISD, complementary immunization activities were conducted across the year. After each SIA, a total of 2,156 health camps were held from the period of June 2021 to August 2022, and as part of the flood-response, additional 1,200 health camps were conducted. Overall, 886,707 patients were provided health services, 42% were priority children, including refusal and zero-dose children, who were covered with OPV.

In addition to the above, the programme has adopted approaches to address chronically missed children and refusals, including extensive vaccination of children in transit to cover high-risk mobile populations, creating a supportive environment by strategic mass media interventions with specific focus on southern KP; strengthening advocacy with special focus on gender by partnering with government and other organizations (such as Pharm EVO, PAGE, PTCL, PPA, and PMA) and local influencers with tribal, religious, and political affiliations, partnering with community-based and non-governmental organizations for ISD in high-risk union councils (HRUCs).

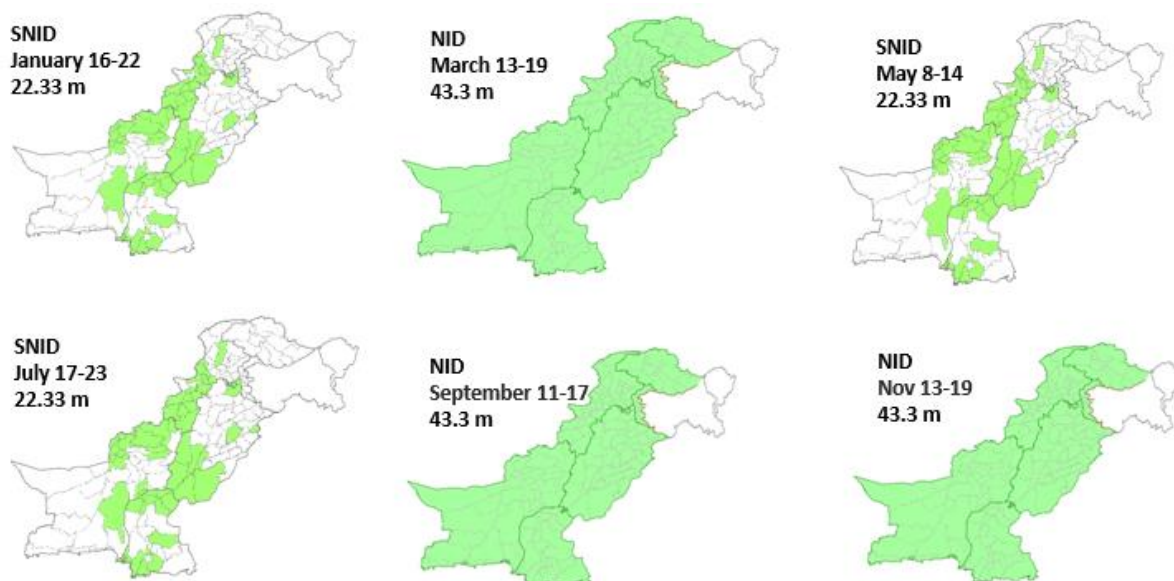
With these key strategies, since March 2022, the national trends of missed children and still refusals improved. However, some 4,25,800 children were not available and 50,433 still refused to take the vaccine during the August campaign round.

At the same time, nationwide routine immunization coverage remained relatively low, with no major improvement observed between 2020 and 2022 figures, whereby 63% of the population were found to be fully vaccinated, 23% partially, and a considerable 14% have not received any dose. A reduction in RI was particularly evident in KP.

Triangulation of SIAs and RI data showed serious performance gaps especially in outbreak areas of North and South Waziristan, and in districts of concern including Chaman, Killa Abdullah, Quetta, and Tank.

For 2023, the tentative SIA calendar proposed by the country Programme includes three NIDs and three SNIDs (as shown in the graph below).

Tentative SIA Calendar for the Year 2023

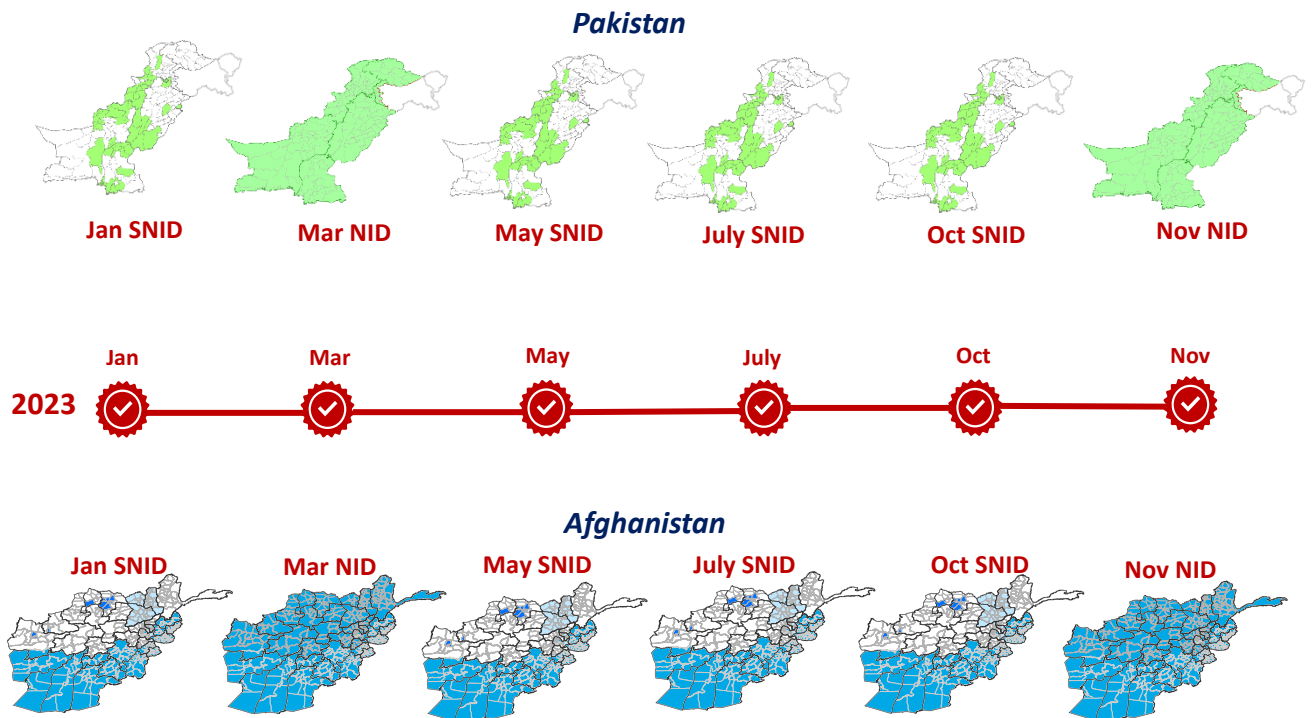


Recommendations for SIAs:

- Planning of SIAs should be based on the new risk categorization. Following are the recommended principles for SIAs:
 - (1) For category 1, southern KP endemic zone follows the south KP plan (from previous section).
 - (2) For category 2, outbreak response areas conduct at least three rounds four weeks apart with a target of 2-4 million (this could be included in a planned SNID or NID).
 - (3) For category 3, risk reduction areas conduct at least four vaccination campaigns (SNIDs/NIDs).
 - (4) For category 4, maintenance areas included only in NIDs.
- For 2023 SIA calendar, TAG endorsed the following schedule:
 - ❖ **January SNID** → as proposed.
 - ❖ **March NID** → as proposed.
 - ❖ **May SNID** → as proposed.
 - ❖ **July SNID** → as proposed.
 - ❖ **September NID** → Converted into **October SNID** taking into consideration the monsoon season and potentially disrupting floods.
 - ❖ **November NID** → As proposed with maintaining **flexibility** of holding it in either **November** or **December**.

The endorsed SIA calendar for Pakistan was synchronized with subsequently endorsed SIA calendar for Afghanistan (as shown in the graph below). This was made possible by the back-to-back TAG meetings for Pakistan and Afghanistan with participation of core NEOC members of both countries in each meeting.

Pakistan and Afghanistan Endorsed and Synchronized SIA Calendars for 2023



Surveillance

A thorough surveillance system with well-functioning key components (field, ES, and lab) exists in Pakistan, as reflected by nationwide surveillance indicators. Moreover, TAG reiterated the comprehensive and full implementation of the external surveillance review recommendations, that was conducted in two phases: a nationwide review in October 2021, and another in February 2022 focused on southern KP. The latter included expansion of ES sites in KP which led to the addition of four sites in May and two sites in August 2022.

Nonetheless, surveillance quality issues and variation in performance appeared at the district level in certain key areas, such as in Bannu, Peshawar, Quetta and Kila Abdullah. This included barriers for access to medical records in large private hospitals in major cities. Also, the depth of analyses of surveillance data needs improvement. For example, the epidemiological assessment did not clearly reflect the predominance of males amongst polio cases and underlying risk factors, or inconsistent use of health facility contact analysis and health seeking behavior of AFP cases to optimize reporting sites on an ongoing basis.

Given the low level of poliovirus transmission and the adoption of the outbreak response approach, surveillance must be much more sensitive and nimbler than in the past. From January 2023 onwards, the Regional and Global Certification Commission will begin to review surveillance performance in greater detail.



Recommendations for Surveillance:

- The TAG reiterates recommendations of the surveillance reviews and emphasizes their prioritization for implementation based on the current epidemiology and programme focus.
- Adjust focus to the new categorization of districts.
- Regarding analytics:
 - Identify reasons for inadequate specimen collection rates in strategically important areas, particularly Bannu, Kila Abdullah and Peshawar, and address identified gaps.
 - Conduct routine surveillance data analysis at each level of the programme to identify gaps in surveillance and deeper understating of epidemiology and share findings systematically.
 - Provide assurance that HRMP are being systematically tracked and included in the reporting network.
 - Incorporate information from field investigation and social behavioral assessment into programmatic actions.

Social Behavioural Change and Community Engagement

TAG recognised the large volume of communication, social and behavioural change work ongoing in the programme and appreciated the attempts that have been developed to measure the impact of SBC and community engagement efforts. FLWs remain key to programme success but their engagement in problem solving remains suboptimal. SBCC strategies will need to be aligned with the shift in programme strategy based on the new risk analysis.



Recommendations for SBC and Community Engagement:

- Consider external support to adapt SBCC strategies to the new risk environment, including:
 - Intensifying strategy, implementation, and evaluation in 'Endemic Interruption' and 'Outbreak Control' areas, including tailored support to the enhanced H2H modality, and to alternate, including 3rd party modalities, staff surge capacity, crisis communications/vaccine safety, etc.
 - Optimising existing strategy in 'Reduction of Risk' areas, e.g., extending community engagement.
- Specify community engagement strategies and activities according to risk category and local analysis of barriers to vaccine delivery, including complementary vaccination activities, health camps and ISD.
 - All community engagement interventions should be regularly evaluated against area performance data on coverage and missed/persistently missed children.
 - Resource implications of all community engagement activities should be evaluated against prioritization, availability, and potential impact.
- Fully implement plans to dialogue with FLWs to understand their working experiences and motivations and consider their suggested solutions as basis for FLW engagement strategy.
- Continue to promote RI as an integral part of the SBC strategy at all levels.

Fake Finger Marking

Fake finger-marking is a significant concern within the programme and manifests deeper challenges - both operationally and in SBCC - between, the programme, FLWs and households. Progress has been made in gathering information that has provided new perspectives to understand what drives FFM.



Recommendations for Fake Finger Marking:

- Continue efforts to investigate and understand what drives FFM on both FLW and household sides and the approach of the programme towards households and communities that refuse vaccination.
- Where causes are identified, ensure flexibility of integrated vaccination and SBC approaches to address them effectively.

IPV/fIPV

TAG consultation on type two polio in April 2022 provided guidance to the country team on the rational use of inactivated polio vaccine (IPV). fIPV was effective in bringing out communities, however, available data and epidemiological data are found to be inconclusive and further analysis is required to understand the additive effect on the number of children vaccinated.



Recommendations for IPV/fIPV:

- TAG recommends doing further assessment of the impact of fIPV in improving access to children by the first quarter of 2023.
- Rational use of IPV in newly accessible areas or areas of low RI, as recommended previously.

Programme Management and Accountability



Recommendations for Programme Management and Accountability:

- TAG emphasizes stability in the programme leadership and management and encourages retention of the leadership (e.g., EOC Coordinators) and well-trained and motivated frontline workers.
- TAG reiterates adherence to the accountability framework and requests a report on implementation by the end of the year 2022, including for national and partner staff and contractors.
- The “one team approach” mindset cannot be overemphasized at this critical juncture for the programme.

Addressing Context Risks – 2023



Recommendations for Addressing Context Risks:

Flood-Affected Areas:

- Provincial governments need to:
 - (1) Ensure displaced children are covered for any missed rounds.
 - (2) Review and revamp SIA and surveillance operations and make necessary adjustments.

2023 Elections:

- Prepare for programme continuation:
 - Continue to ensure “all party” neutrality and support for the programme.
 - Advocate to government officials to continue to prioritize the programme.
 - Prepare briefings in advance for any new officials or transitions.

Cross-Cutting Areas of Work



Recommendations for Cross-border Coordination:

- Continue to intensify cross-border coordination with Afghanistan, especially local level coordination and information exchange across key corridors.
 - Implement the framework for cross-border activities agreed between two programmes.
- GPEI Hub to ensure cross-border coordination through:
 - Synchronization of campaign dates to ensure highest quality for next three rounds amongst cross-border populations.
 - Development of joint analysis and plan for corridors including:
 - Programme data (missed children, LQAS results, refusals).
 - Surveillance data (cross notified cases, travel history).
 - Social Behavioral (rumors and messaging), leaders with cross-border influence.
 - Tracking HRMP and nomads.
 - All age group vaccination at crossing points; address informal crossing points.
 - Continue to update micro-plans to include nomads and HRMP in programme activities.
- Implement harmonized SBC activities using an agreed list of influencers and religious leaders.
- Ensure meeting of corridor-specific teams to be held face-to-face in November 2022.



Recommendations for Gender:

- Prevention of sexual exploitation, abuse, and harassment (PRSEAH) should be fully implemented at all levels of the programme.
- As the recommendations from TAG 2021 remain valid:
 - Prioritize the integration of women into all levels of the programme, ensuring a safe environment – starting with frontline teams and working towards senior female roles.
 - Actively ensure male and female participation in community engagement processes (jirgas, etc.), including ‘spaces’ for dialogue in household visits for women when not possible at community level.
 - Focus on bottom-up community engagement with men and women for planning and assessing SIA delivery, routine immunization, and other integrated services (not just ‘leaders/influencers’).
 - Build alliances with women’s organizations and community-based organizations at local level.
 - Introduce gender awareness and training for programme staff at all levels (men and women)
 - Integrate gender sensitivity into communication strategies and materials.



Recommendations on EPI-PEI and FLWs:

EPI-PEI:

- Continue efforts to strengthen EPI-PEI synergy at all levels.
- Add OPV for all non-polio vaccination campaigns.

FLWs:

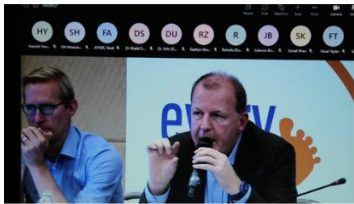
- Review opportunities and incentives for retaining high-quality FLWs.

Conclusions

There is a remarkable improvement in epidemiology despite the sobering number of polio cases, as one single lineage of one cluster remains circulating in a small geographical area of southern KP. Given this progress, the TAG is confident that poliovirus interruption in Pakistan is technically possible within global timelines if its recommendations are rigorously implemented. Nonetheless, the window of opportunity to avoid a reinfection of all reservoirs in Pakistan is finite.

TAG advised a significant programme shift based on the remarkable change in epidemiology, leading to a new categorization of risk with responses tailored to the risk category. This new strategic approach and operational tactics will enable the programme to get ahead of the virus and get into a position to finally finish polio. Emphasizing the importance of instituting a systematic mechanism to track the implementation of TAG recommendations by the NEOC and GPEI Hub, the next meeting of the TAG has been scheduled in six months' time (late April or early May 2023) so that the TAG can provide timely advice based on the progress achieved.





Annex A – List of Participants

Meeting of the Technical Advisory Group (TAG) on Poliomyelitis Eradication in Pakistan

4th- 6th October 2022

Muscat, Oman

List of Participants

TAG Chair and Members

Dr. Jean Marc Olivé, TAG Chair
 Dr. Chris Wolff, TAG Member
 Dr. Fatima Mir, TAG Member
 Dr. Mark Pallansch, TAG Member
 Dr. Mohammad-Mehdi Gouya, TAG Member
 Dr. Muhammad Khalid Shafi, TAG Member
 Dr. Sebastian Taylor, TAG Member

TAG Secretariat

Dr. Fazal Ather, Team Leader WHO EMRO
 Ms. Sireen Hamdan, Administrative Assistant WHO EMRO
 Mrs. Mais Ghawi, Programme Assistant WHO EMRO

National Emergency Operations Centre Pakistan

Dr. Rana Safdar, Technical Advisor – CDC, NEOC
 Dr Shahzad Baig, National Coordinator - NEOC
 Mr. Hamish Young, Team Leader Polio - UNICEF
 Dr Zainul Abedin, Team Leader Polio - WHO
 Dr Muhammad Ahmed Kazi - Director General FDI - NEOC
 Mr. Brig (R) Abul Hassan, National Security Advisor - NEOC
 Mr. Muhammad Hasnat Malik, Operations Officer WHO – NEOC
 Dr Altaf Bosan, Technical Focal Point BMGF – NEOC
 Dr Tariq Bhutta, Chairman, National Immunization Technical Advisory Group (NITAG)
 Prof. Dr Shahnaz Ibrahim, Chairman - National Certification Commission

Provincial Emergency Operations Centres Pakistan

Ms. Syedah Ramallah Ali, Provincial Coordinator – Punjab
 Mr. Fayaz Abbasi, Provincial Coordinator – Sindh
 Mr. Muhammad Asif Rahim, Provincial Coordinator – Khyber Pakhtunkhwa
 Mr. Hameedullah Nasar, Provincial Coordinator – Balochistan

National Emergency Operations Centre Afghanistan

Dr. Nek Wali Shah Momin, National Coordinator
 Dr. Asad Ullah Safi, Senior Technical Advisor

WHO Afghanistan Country Office

Dr. Mandeep Rathee, Deputy Team Leader

UNICEF Afghanistan Country Office

Dr. Shamsheer Khan, Polio Team Leader

GPEI Hub

Dr. Ana Maria Guzman, Team Leader - BMGF

Mr. Richard Duncan, Team Leader - UNICEF ROSA

Dr. Hashim Elmoussaad, Team Leader - CDC

Dr. Sahar Hegazi, Senior Social and Behavior Change Specialist - UNICEF

Dr. Muhammad Obaid-ul Islam Butt, Technical Officer - CDC

Dr. Alakyaz Assadorian, Technical Officer – WHO EMRO

WHO Eastern Mediterranean Regional Office for Polio Eradication

Dr. Hamid Jafari, Director Polio Eradication

Dr. Ashraf Wahdan, Medical Officer Surveillance

Mr. Fadi Touma, Gender Specialist

Mrs. Sara Al-Naqshabandi, Programme Support Officer

Mrs. Areej Al-Omari, ICT Assistant

WHO Headquarters

Mr. Aidan O'Leary, Director, Polio Eradication

US CDC

Mr. Maureen Martinez, Team Leader for EM Region

Dr. Richard Franka, Team Leader Pakistan

Bill and Melinda Gates Foundation

Mr. Michael Galway, Deputy Director, Polio for Afghanistan and Pakistan

Virtual Participants**TAG Members**

Ms. Sherine Guirguis, TAG Member

WHO Pakistan Country Office

Summer Aimees, Epidemiologist

Abid Zehra, Communications

National Emergency Operations Centre Pakistan

Saleem Raza, Chief Minister House Sindh Karachi

Mumtaz Ali Laghari, Deputy Team Lead – National STOP Transmission of Polio in Pakistan

WHO Eastern Mediterranean Regional Office for Polio Eradication

Dr. Humayun Asghar, Coordinator - Polio SLD Unit

Lubna Hashmat, Gender Consultant

Emma Sykes, Communication Officer

Meaza Tadesse, Finance and Administrative Officer

Suneel Raja, STOP Programme Consultant – GPEI Hub

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Dr. Zubair Wadood, Technical Officer – Polio

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Luke Myers - Global Affairs Canada

Tracie Henriksen - Global Affairs Canada

Agnes Warren - Global Affairs Canada

Berenice Guimont Fitz - Global Affairs Canada

Genevieve Frizzell - Global Affairs Canada

M. Saeed Shamsi - Rotary

Masood Bhalli - Rotary

Rauf Rohaila - Rotary

Saleem Raza - Rotary

Ellyn Ogden – USAID

Ahmed Attieg – USAID

Rushna Ravji – USAID

Mohammad Virk – USAID

Kayt Erdahl – USAID

Annex B – Meeting Agenda

Meeting of the Technical Advisory Group (TAG) on Poliomyelitis Eradication in Pakistan

4th- 6th October 2022

Muscat, Oman

Agenda

Meeting Objectives:

- Review status of polio eradication efforts, key challenges, and programmatic gaps in Pakistan
- Provide technical guidance on programme priorities and required interventions for 2023 including guidance on SIA calendar for 2023

Day 1 – October 4, 2022 Ball Room No 3 National and sub-national polio eradication programme review		
Time (GMT+4)	Session	Presenter/Facilitator
Opening Session		
8:45-9:00	Registration/ joining of virtual participants	
9:00-9:25	Introductions and opening remarks	
9:00-9:05	<i>Recitation of Holy Quran</i>	Dr Jean Yaacoub Jabbour, WHO Representative, Oman Dr. Jean-Marc Olivé, TAG Chair Dr Rana Muhammad Safdar Dr. Hamid Jafari, Regional Director, WHO EMRO
9:05-9:10	<i>Welcome Note by WR Oman</i>	
9:10-9:15	<i>Opening Remarks by TAG Chair</i>	
9:15-9:20	<i>Remarks on behalf of Minister of Health Pakistan</i>	
9:20-9:25	<i>Remarks by EMRO Polio Eradication</i>	
9:25-10:00	Global Update on Polio Eradication: Progress, Challenges and What Would it Take to Finish Polio <i>(20' Presentation, 15' Discussion)</i>	
10:00-10:15	<i>Tea Break</i>	
National Presentation		
10:15-11:15	“Interrupting Polio Circulation in Pakistan: Progress, Remaining Challenges and Strategic Priorities for 2023” <i>(25' Presentation, 35' Discussion)</i>	Dr Shahzad Baig, EOC Coordinator, Pakistan
Provincial Presentations		
11:15-13:00	“Polio Eradication Programme Provincial Overview: Khyber Pakhtunkhwa” <i>(25' Presentation, 25' Discussion)</i> “Deep dive into southern KP Outbreak” <i>(25' Presentation, 30' Discussion)</i>	PEOC Coordinator, Khyber Pakhtunkhwa
13:00-14:00	<i>Lunch Break</i>	
14:00-14:55	“Polio Eradication Programme Provincial Overview: Sindh” <i>(25' Presentation, 30' Discussion)</i>	PEOC Coordinator, Sindh
14:55-15:10	<i>Tea Break</i>	
15:10-16:05	“Polio Eradication Programme Provincial Overview: Punjab”	PEOC Coordinator, Punjab

	<i>(25' Presentation, 30' Discussion)</i>	
16:05-17:00	“Polio Eradication Programme Provincial Overview: Balochistan” <i>(25' Presentation, 35' Discussion)</i>	PEOC Coordinator, Balochistan
17:00-17:15	Wrap-Up Session	Dr. Jean-Marc Olivé, TAG Chair
Closed Session		
18:00-21:00	TAG members	TAG Members and Secretariat Salalah Meeting Room
Day 2 – October 5, 2022 Ball Room No 3 Thematic Area Discussions focus on Country questions		
<i>Time (GMT+4)</i>	<i>Item</i>	<i>Presenter/Facilitator</i>
Opening Session		
9:00-9:40	Risk Assessment <i>(20' Presentation, 20' Discussion)</i>	Arie Voorman, Hil Lyons, IDM, BMGF
9:40-10:10	Strategic overview of epidemiological data (Field and Molecular)	Mark Pallansch
10:10-10:30	Programme priorities Pakistan Q4, 2022 <i>(20' Presentation)</i>	Dr Shahzad Baig, EOC Coordinator
10:30-10:45	<i>Tea Break</i>	
Thematic Area Discussions		
10:45-11:30	<p>Question 1: Stopping Ongoing WPV1 Transmission in southern KP</p> <p>Objective:</p> <ul style="list-style-type: none"> To reach unreached pockets’ population which is driving the WPV1 transmission <p>Areas for guidance:</p> <ul style="list-style-type: none"> Ability to reach all set of populations Reaching younger age groups (under 2 years children) Additional interventions outside of polio delivery to help address community refusals Impact of fIPV/IPV use on outbreak in southern KP Given the competing priorities at national level (current damages due to unprecedented floods and upcoming elections in 2023), what should be done to ensure continued political commitment to polio eradication? Given the vast number of engagements/ activities taking place on the ground, how can the team best prioritize the different interventions and initiatives being undertaken in southern KP? How can the team balance enhancing visibility while avoiding fatigue of the population? 	Moderator: Sebastian Taylor
11:30-12:15	<p>Question 2: Surveillance</p> <p>Objectives:</p> <ul style="list-style-type: none"> To identify geographic areas or populations missed both in SIAs and surveillance To stop continuous introduction of new lineages in southern KP. <p>Areas for guidance:</p> <ul style="list-style-type: none"> How to identify surveillance blind spots which are harboring long chain / orphan WPV1s. Systematic methodology to identify blind spots despite comprehensive surveillance network 	Moderator: Mark Pallansch

	<ul style="list-style-type: none"> Focused/nuanced recommendations on strengthening surveillance Additional measures to reach all HRMP subgroups consistently and effectively 	
12:15-13:00	<p>Question 3: SIA Quality and 2023 Calendar</p> <p>Objective:</p> <ul style="list-style-type: none"> To plan effectively for 2023 taking into consideration the current outbreak, external factors impacting the programme and the GPEI targets. <p>Areas for guidance:</p> <ul style="list-style-type: none"> Distribution/scope of campaigns between high/low seasons (best mix of campaigns in the coming year) Key strategies/ activities that should be prioritized Vaccine of choice in case of appearance either of cVDPV2 or WPV1 or both in an area Guidance to the programme on the strategic and rational use of IPV (when and where). 	Moderators: Chris Wolff, Sebastian Taylor
13:00-14:00	<i>Lunch Break</i>	
14:00-14:45	<p>Question 4: Social and Behaviour Change Communication and Social Mobilization Strategies</p> <p>Objective: Enhance community acceptance and trust of the poliovirus vaccine</p> <p>Areas for guidance:</p> <ul style="list-style-type: none"> Request for advice on building trust, community engagement and social mobilization strategies in areas that are harboring active transmission across PAK and AFG. Maintain morale and motivation of frontline workers Community ownership 	Moderators: Fatima Mir, Sherine Guirguis
14:45-15:00	Wrap Up Session	Dr. Jean-Marc Olivé, TAG Chair
Closed Session		
15:00-16:00	Closed Session	By invitation Salala Meeting room
17:00-22:00	Closed Session TAG	TAG members and Secretariat Salala Meeting room
Day 3 – October 6, 2022 Recommendations by TAG		
Time (GMT+4)	Item	Presenter/Facilitator
Closed Session		
10:30-13:00	Closed Session	TAG Members, Secretariat and NEOC Core group
13:00-14:00	<i>Lunch Break</i>	
Recommendations by TAG		
14:00-16:00	Recommendations	TAG Chair/ TAG Secretariat
Closing Session		
16:00-17:00	Closing Remarks	
	Remarks from donors/partners	Donors Representatives
	Remarks on behalf of Minister of Health Pakistan	
	Remarks from Director Polio EMRO	Dr Hamid Jafari
	Closing remarks and adjournment	Dr. Jean-Marc Olivé

