

# Meeting of the Technical Advisory Group on Polio Eradication in Pakistan

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Islamabad, Pakistan  
04<sup>th</sup> and 5<sup>th</sup> June 2018

# Acronyms

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AFP	Acute Flaccid Paralysis
bOPV	Bivalent Oral Polio Vaccine
C4E	Communication for Eradication
CBV	Community-Based Vaccination
CDC	Centers for Disease Control and Prevention
cVDPV2	Circulating Vaccine Derived Polio Virus Type 2
DPCR	District Polio Control Room
ES	Environmental Sample
EOC	Emergency Operations Centers
EPI	Expanded Programme on Immunization
EV	Enterovirus
FATA*	Federally Administered Tribal Areas
FCVs	Female Community Vaccinators
FGD	Focus Group Discussion
GB	Gilgit Baltistan
GOP	Government of Pakistan
GPEI	Global Polio Eradication Initiative
HRMP	High-Risk Mobile Populations
IPV	Inactivated Poliovirus Vaccine
KP	Khyber Pakhtunkhwa
KEAP	Karachi Emergency Action Plan
LEAs	Law Enforcing Agents
LPUCs	Low Performing Union Councils
LQAS	Lot Quality Assurance Sampling
mOPV	Monovalent Oral Polio Vaccine
MTAP	Mobile Team Action Plan
NEAP	National Emergency Action Plan
NEOC	National Emergency Operation Center
NID	National Immunization Day
NGO	Non-Governmental Organization
NPAFP	Non-Polio Acute Flaccid Paralysis
NPMT	National Polio Management Team
N-STOP	National Stop Transmission of Poliomyelitis
PC1	Planning Commission form 1
PCM	Post Campaign Monitoring
PEI	Polio Eradication Initiative
PEOC	Provincial Emergency Operation Center
PTF	Provincial Task Force
RADS	Risk Assessment and Decision Support
RI	Routine Immunization
RRT	Rapid Response Team
RSP	Religious Support Persons
SIA	Supplementary Immunization Activity

SMT	Special Mobile Team
SNID	Sub-National Immunization Day
SOP	Standard Operating Procedure
TAG	Technical Advisory Group
TPFM	Third Party Field Monitors
TTSP	Temporary Tehsil Support Person
UC	Union Council
UNICEF	United Nations Children's Fund
VDPV	Vaccine Derived Polio Virus
WHO	World Health Organization
WPV	Wild Polio Virus
VBNFM	Vaccinated but not Finger Marked

*\*With the signing of the 25<sup>th</sup> constitutional amendment bill, the formerly Federally Administered Tribal Areas (FATA) has been merged with Khyber Pakhtunkhwa province. Within this document, the acronym FATA is only used in instances where the provided information refers to time periods before the signing of the merger in to law on 31<sup>st</sup> May 2018.*

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# Executive Summary

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The Technical Advisory Group (TAG) on Polio Eradication in Pakistan met for the first time in 2018, in Islamabad on the 4<sup>th</sup> and 5<sup>th</sup> of June. The objectives of the meeting were to discuss progress and challenges facing the programme, review the epidemiological situation, and provide expert guidance and recommendations to the national and provincial programmes.

Pakistan continues to progress towards interruption of poliovirus transmission, with only 3 Wild Polio Virus (WPV) Type 1 cases reported in 2018, from a single district in Balochistan -- Dukki. The continued commitment and leadership by the government, led by the Prime Minister, has enabled the implementation of high quality synchronised monthly SIAs.

The TAG would like to commend the Pakistan programme, from every frontline worker, the programme leaders and the global partners, for the exceptional level of commitment to the final goal of polio eradication. The programme continues to progress despite difficult conditions and new challenges, especially, the devastating loss of two frontline workers in Quetta in January 2018 and two post-campaign monitors in Mohmand in March 2018. The recent increase in negative propaganda spread via social media (following the incidents during injectable mass campaigns that were wrongly linked to OPV), have resulted in an increase in community resistance and refusals across the country. Despite these setbacks, the TAG believes the programme is still in a strong position to stop transmission of the final clusters of virus but notes the programme must maintain momentum and quality in campaigns, while integrating Communication for Eradication (C4E) in all activities, to reach still and persistently missed children.

Despite the decrease in the overall WPV case count in Pakistan, environmental surveillance (ES) reveals persistent transmission in the core reservoirs of Karachi and Peshawar. Karachi, and the Northern and Southern Corridors (the shared transmission zones between Pakistan and Afghanistan) pose a risk that extends beyond the corridors themselves. Given the economic and cultural significance of Karachi, there are substantial population movements to and from this mega-city from every province in Pakistan and from across the border in Afghanistan. With its history of virus amplification, sustained virus transmission in Karachi remains a major risk for the programme. Close oversight on Tier 2 and Tier 3 districts, particularly along migration routes must be enhanced to identify and address quality problems. The TAG recommends that the programme immediately undertake a review of performance, using all existing operations and social data to identify opportunities to reduce missed children.

The TAG concluded the main reason for the outbreak of 3 WPV cases in Dukki district, lies in historically poor quality of operations, including routine immunisation (RI). To prevent any additional outbreaks, further improvement to basic programme quality in susceptible districts is necessary to reach remaining un- and under-immunised children.

A renewed focus on the strengths and opportunities of communication activities within Pakistan's polio eradication programme is commended and encouraged. TAG endorses C4E as a strategic direction, but emphasises that C4E activities constitute a support to, not substitute for, high-quality campaign operations, improving community engagement to overcome resistance and reduce the number of refusals. In order to focus efforts and interventions to maximise impact, the programme must strengthen Union Council (UC)-level analysis on current social, communication and

operational data to revise existing tools and evaluate the impact of current activities. Key is to consolidate and optimize the use of existing data streams to guide operational quality, rather than generating large new datasets which are difficult to use efficiently.

Recent negative material circulating on social media has impacted activities in each province. The TAG endorses strengthening the programme's social media strategy and encourages the programme to be proactive rather than reactive.

During the period of the caretaker government and election, the programme must maintain focus and commitment. The caretaker Prime Minister and caretaker Chief Ministers should convene a National Task Force for endorsement of the National Emergency Action Plan (NEAP). The current 'one team' approach is essential to the success of the programme. Coordination, collaboration and communication must extend from each UC to global partners. It is expected that the same high-strength leadership will be maintained under the new administration.'

The transmission corridors across Pakistan and Afghanistan (with transmission extending into each country), underlines the importance of effective programme coordination and collaboration between programme activities. The Northern and Southern Corridor action plans must be fully implemented, and status jointly tracked by the Afghanistan and Pakistan National Emergency Operations Centers (EOCs), through monthly video-conference and face-to-face meetings. Coordinated activities such as geographical mapping, social analysis of risk groups, intervention designs, communication and media, and impact evaluation will be essential to target mobile populations. The TAG commends the continued synchronization of the Pakistan and Afghanistan Supplementary Immunization Activity (SIA) calendars for 2018 and 2019.

# Introduction

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The Technical Advisory Group (TAG) on Polio Eradication in Pakistan met in Islamabad on the 4<sup>th</sup> and 5<sup>th</sup> June, 2018. The meeting was chaired by Dr Jean-Marc Olivé, attended by 5 TAG members and supported by the Pakistan Polio Eradication Team, led by Senator Ayesha Raza Farooq, the Prime Minister's Focal Person for Polio Eradication. The TAG welcomed the Afghanistan polio eradication programme delegates and representatives from local and international partners and donors.<sup>1</sup>

Pakistan has faced several challenges since the last TAG meeting in December 2017, including: i) the devastating loss of two vaccinators in Quetta in January 2018 and two post-campaign monitors in Mohmand Agency, FATA, in March 2018; and ii) an increase in negative propaganda spread via social media, exacerbated by incidents during injectable mass campaigns. These events have resulted in a dramatic increase in community resistance and refusals during SIAs since March 2018. To address these new challenges, the programme has started developing a comprehensive Communication for Eradication (C4E) strategy, focusing on pro-active communication, developing a better understanding of reasons for missed children and contextualized approaches to community engagement, based on local realities.

As per the last TAG recommendations, the Pakistan programme continues to strengthen collaboration with Afghanistan to stop transmission across the shared corridors. This work includes the synchronization of SIA activities, analyses of key population movements across the corridors and implementation of the Southern and Northern Corridors Action Plans.

Pakistan's surveillance system continues to sustain highly sensitive AFP and ES to detect any poliovirus transmission. The National non-polio AFP (NPAFP) rate is 11.77 per 100,000 population <15 years of age for the period of July 2017 – May 2018; an increase from 7 per 100 000 in the period of July 2015 - June 2016. Ongoing sensitization of health care providers at every level (from basic health centers in rural areas to private practices) to actively report any suspected AFP cases will continue to be an ongoing focus. Two of the last three wild poliovirus (WPV) cases reported this year from Dukki district in Balochistan, were missed on their first notification at a health center. As per the TAG recommendation, environmental surveillance (ES) sites for regular sampling have been initiated in South Waziristan and Bajour Agency in the Federally Administered Tribal Areas (FATA).

With the ongoing political transition, the Pakistan programme is actively advocating for sustained political commitment and leadership within the Emergency Operations Centre (EOC) structure to ensure the high quality of programme operations does not change.

The TAG meeting provides a welcome opportunity to discuss progress in each province, share initiatives to strengthen the programme, address challenges and acquire recommendations to guide the programme going forwards.

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<sup>1</sup> Annex 1 – List of Participants

## **Panel 1: Questions put to the TAG by the Government of Pakistan and Polio Eradication partners**

### **Q1. Does the TAG endorse our proposed SIAs calendar in NEAP 2018/19?**

- **Extending interval between SIAs from 4 weeks to 6 weeks?**
- **Reducing the SNIDs scope from 61% to 43%?**

The TAG endorses the proposed SIAs calendar and scope of SIAs and recommends that Pakistan and Afghanistan synchronize their remaining SIAs in 2018.

### **Q2. What additional/innovative approaches we can adopt to clear WPV from persistently ES positive areas e.g. Peshawar and Rawalpindi?**

Following review and consideration of evidence on additional/innovative immunization approaches, including targeted mOPV1, IPV and expanded age groups of bOPV/IPV, the TAG provided recommendations on the implementation of these strategies (see detailed recommendations provided in ‘Immunization strategies to improve impact on mucosal immunity’ on pg. 29)

### **Q3. Should the programme consider doing serology of 7+ OPV dose hot AFP cases in area of concern?**

The TAG determined that conducting additional seroprevalence surveys of 7+dose AFP cases was not required. The extensive seroprevalence surveys in Pakistan have demonstrated high level of serotype-1 population immunity.

### **Q4. Does the TAG endorse the shift from low-profile media approach to high and visible media approach?**

Recognizing the progress made through a lower-profile strategy in recent years, the TAG encourages appropriate visibility according to local conditions across the programme and thorough risk assessments to be conducted before adopting any higher-visibility strategies (e.g., on OPV safety and the rationale for multiple rounds).

## **Panel 2: Major programmatic milestones since December 2017**

### **December 2017- March 2018**

- Surveillance review in Peshawar in December 2017
- Case response activities in Kohat, Killa Abdullah, Zhob, Killa Saifullah, Shirani, Ziarat, Harnai and Lahore in January 2018
- High Risk Mobile Population (HRMP) assessment conducted in 22 districts across Sindh, Baluchistan and Khyber Pakhtunkhwa (KP) in December 2017 and January 2018
- Expanded Programme on Immunization (EPI)-Polio Eradication Initiative (PEI) synergy two-day workshop in January 2018
- Quarterly surveillance review in January 2018

- National Stop Transmission of Polio (N-STOP) (FELTP) training in February 2018

### **March – June 2018**

- Pakistan/Afghanistan cross-border meeting in March 2018
- National Polio Management Team (NPMT) meetings held in March and June 2018
- Case response in Northern Sindh and Dukki in March/April 2018
- Regional Commission for Certification Committee Meeting held in April 2018
- IPV campaigns held in Peshawar Towns 1-4, Killa Abdullah, Khyber, FR Peshawar and Mohmand in April 2018
- Phase I & II Routine Immunization (RI) survey conducted in all CBV districts between March and May
- Phase III Seroprevalence Survey conducted in Phases throughout April and May. Scope included Karachi Zone 1,2, Sukkur and Larkana Divisions, Peshawar Towns 1 – 4, RY KHAN, Multan, Quetta, Pishin and Killa Abdullah.
- Initiation of environmental surveillance in FATA, with collection of samples from two sites (Bajour and South Waziristan)
- Communication consultation conducted in May 2018
- Case Response activities in Dukki, Rawalpindi, Kambar in June 2018
- NEAP 2018- 2019 finalized June

### **Panel 3: Status of implementations of the last TAG recommendations**

#### **Balochistan**

**Quetta Block, with particular focus on Killa Abdullah, needs to remain the first priority for Balochistan. This should include UC analysis and monitoring of progress in high-risk areas, focusing on SIA performance (i.e., Microplanning, Clusters of missed children and refusal, Accountability for performance)**

- Incident Management Team formed to support Killa Abdullah and Zhob division
- Operationalized 2 Tehsil Polio Control Rooms in Gulistan and Killa Abdullah
- 28 targeted community engagement meetings
- With the help of the district administration and LEA, meeting with community leaders who were regularly disrupting the campaigns in Gulistan
- Recruitment of more female teams and female helpers in Gulistan and Killa Abdullah
- Increase in number of female teams from 10% in December 17 to 59% in Gulistan
- Increase in number of female TTSPs from 1 in Dec 2017 to 12 in May 2018 in Gulistan Tehsil of Killa Abdullah

**Balochistan needs to ensure that the Provincial Task Force chaired by Chief Minister and/or the Chief Secretary meets monthly to address the remaining challenges in the Quetta Block, particularly Killa Abdullah. This should include identifying the interventions to address these challenges, documenting their impact, and taking corrective action.**

- One PTF held in February 2018

**While the focus remains on Quetta Block, Interior Balochistan and areas with security problems should be prioritized**

- Ensure a near 100% team deployments in all districts (from 45% in Shirani and 54% in Zhob

districts)

- Resource Plan review of Sibi and Zhob divisions done, with increase in teams
- Increased UCPOs (18) and TTSPs (23) in targeted areas that are geographically hard to reach and with security challenges
- Increase in federal and provincial monitors to Zhob, Sibi and Naseerabad divisions for long term support

**Balochistan should ensure proper monitoring (jointly with Afghanistan) of the southern corridor plan, using standardized indicators to measure performance.**

- Standardized indicators developed.

**To better understand reasons for missed children, select very high risk clusters in Karachi, Killa Abdullah and Peshawar to conduct Focus Group Discussions over the next three rounds, analyze findings to formulate strategies to respond, and measure effectiveness in terms of reduced missed children including 'not available' and refusal - Break down "misperceptions" as a reason for response for targeted communication response**

- FGDs done. Findings to be shared on July 10<sup>th</sup>.

**Generate increased social data around HRMPs to ensure targeted communication strategies to complement Northern/Southern Corridor Action Plans**

- HRMP survey planned for the current high season

**Strengthen coordination with Afghanistan as part of Southern Corridor Action Plan and track from national level using standardized quality indicators**

- 2 joint meetings between Pakistan and Afghanistan
- Standardized indicators developed for each of the corridors

## **FATA**

**FATA should remain vigilant against the backdrop of transmission in Northern and Central corridors.**

**Close focus needs to remain on Khyber and North & South Waziristan**

- Northern and Central corridor action plan developed and reviewed
- Border villages monitoring enhanced
- Coordination with Afghanistan strengthened
- Population movement thoroughly tracked and covered
- Community based Surveillance system augmented
- CBVs network expanded
- Access for campaign monitoring expanded

**Additional focus should be on bordering areas with Afghanistan, including Mohmand and Bajour as part of the Northern corridor plan, and on 'vacated areas' within the agencies.**

- Vacated areas verification completed in the Northern Corridor
- Border fencing on Mohmand and Bajour Agencies is in progress

**FATA should conduct assessment in Q1 of 2018 to identify potential ES sites with the aim of opening appropriate sites**

- Environmental sites assessment completed
- Environmental sampling in Bajour and SWA started
- Establishment of environmental site in Khyber in the pipeline

**TAG recommends zero dose data identified by PEI be systematically shared with EPI, and EPI to take actions to cover these children through the routine vaccination network**

- Tracking of Zero dose intensified during March 42,606 identified out of which 12,646 covered.
- Enhanced coordination between PEI/EPI

**TAG recommends provincial routine programs to prioritise use of PC1 to establish functional EPI centres and allocate newly recruited staff, locally acceptable, trained and managed in core reservoirs**

- EPI centers expanded from 254 to 332
- RED consultants deployed to support EPI team
- Health staff mandated for fixed sites vaccination; EPI Technicians deployed for outreach (482)

### **Khyber Pakhtunkhwa**

**Peshawar should be the first priority for KP. Remaining quality challenges in Peshawar should be urgently addressed. Granular and focused analysis in Tier 1 districts critical to identify remaining gaps and guide programme development.**

- Commissioner chaired 8/9 monthly DTF meetings attended by Coordinator and TLs
- 79 monitors from Province and 14 National monitors supported activities in last 7 SIAs
- Six OPV and one IPV SIAs conducted in five months (Jan to May 2018)
- Analysis conducted at all levels (including team level)

**Efforts should be made to ensuring high quality of activities (micro-plans, missed children, etc.), oversight and strengthening support to northern and southern KP (Bannu, Lakki Marwat, Tank)**

- Micro-plan LQAS conducted in all three districts, repeated in Bannu – overall result above 60% (Bannu 64% to 89%)
- LQAS results since Jan 2018: 95% lots pass in Bannu, 93% in Lakki and 75% in Tank
- PCM showed progressive improvement-all 3 districts above 95% in May18
- Still missed children are below 0.75% of target in Bannu and Lakki – 2% in Tank in April (seasonal migration)

**Develop a Northern corridor action plan with Afghanistan including analysis of security-challenged areas and analysis of HRMP**

- Plan developed in consultation and collaboration of FATA and Afghanistan
- Action tracker developed and followed up
- 5 monthly meetings held between KP & FATA since January 2018
- Two Video Conferences held between two countries
- One face-to-face meeting held between two countries

**Continue focus on HRMP and on trying to identify any remaining unreached populations**

- 19 thousand HRMP children assessed in 262 UCs of 13 northern districts - Overall coverage was 93-100%
- 2,125 HRMP children assessed in 5 central districts (coverage 74-90%)
- 2,680 HRMP children assessed in 7 southern districts (coverage 80-92%)

**TAG recommends zero dose data identified by PEI be systematically shared with EPI, and EPI to take actions to cover these children through the routine vaccination network**

- 144,056 zero dose children identified between Sep to Dec 2017 – 62,038 covered (43%)
- 150,655 zero dose children identified between Jan to May 2018 – 66,483 of these covered (44%)

**TAG recommends provincial routine programs to prioritise use of PC1 to establish functional EPI**

**centres and allocate newly recruited staff, locally acceptable, trained and managed in core reservoirs**

- 114 sites prioritized for establishing new EPI centers
- New centers will be established in 3<sup>rd</sup> quarter of 2018

**Deputy Commissioner Reviews should focus on acknowledgement of good work and transparency in reporting: ‘problems are good’**

- Rs11.5 million allocated as monetary incentive for rewarding best performers

### **Sindh – Karachi:**

**Review and update the existing Karachi Action Plan to address the operational gaps and clusters of chronically missed children including community resistance (Conduct an investigation of catchment zones from positive ESs, continue to update risk analyses at UC level, disaggregate missed /refusal children data geographically and culturally)**

- KEAP approved and being implemented, CBV expansion in progress. UC level staff pending.
- RRT / district teams conducted the investigations
- NEOC RADs team assisted Sindh team in conducting risk analysis of 25 UCs
- Initial mapping has been done (requires regular updating)

**Align duration of campaigns in Karachi across various SIA modalities (CHW, FCV, MTAP, mobile teams).**

SMT strategy implemented in MT areas. Like CBV, 5+2 Campaign days in MT areas

**Determine the impact of initiatives implemented in Tier 1 districts, specifically in the known high-risk areas (work load rationalization, hiring government-accountable persons and UCMOs).**

Rationalization of workload in FCVs & SMTs, Hiring government accountable persons and UCMOs in SMTs and communication initiatives

- Morning shows with notables
- Videos on risk perception, vaccine safety
- >500 students sensitized via seminars
- Government logos on media products
- IEC materials from private hospitals including AKU as well as PPA and PMA

### **Sindh - Interior Sindh:**

**Enhance government oversight in Central Sindh.**

- Shahid Benazir Abad, Mirpur khas, Hyderabad divisional task force functioning

**Continue focusing on improving campaign quality and reaching HRMP and persistently missed children**

- NSTOPs now focal points for HR&MP
- Better recording and coverage (223,328 in Apr 18?)
- Strengthening of PTPS
- Inside train vaccination (24,758 covered from Sep – Apr NIDs)
- Seasonal activities / festivals (total 336,932 vaccinated, Sep 17 – Apr 18)
- HR&MP survey in whole province
- ODK based monitoring of PTPs and HR&MP
- HR&MP ICM clusters

## **Punjab**

**Improve and maintain high quality of SIA campaigns, especially in south Punjab and Rawalpindi.**

- Implemented 9 SIAs since last TAG with more than 95% overall admin coverage

**Urgently conduct a Provincial Task Force meeting and meet regularly during the low transmission season (at least quarterly)**

- PTF meeting held on 25 Jan 2018

**Continue investigating catchment zones from positive ES to determine potential sources of positive isolates.**

All +ES Investigated & responded

- Lahore (Dec 2017)
- Rawalpindi (Jan 2018)
- DG Khan (Feb 2018, 3 CRs were conducted but 2/3 were not timely)

**Continue to ensure that HRMP populations are included and updated in micro plans.**

- Implemented and validated by Micro-Plan Quality Assessment(MPQA) in last 4 NIDs

# Progress

## Pakistan Programme

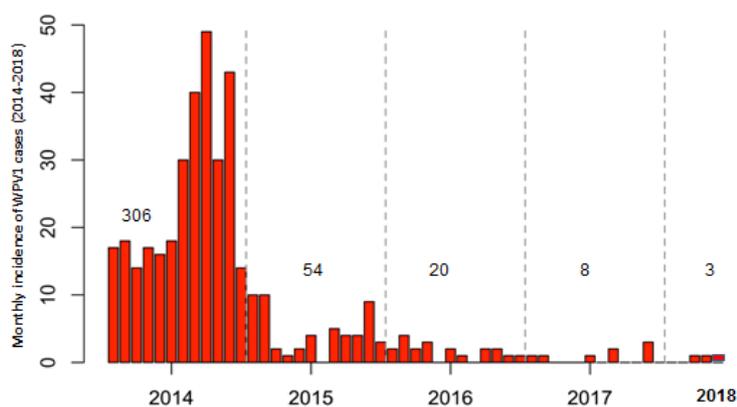
Pakistan has continued to progress throughout the first half of 2018 despite a range of new challenges including some evidence of increasing trends of community resistance and refusals. At the date of the TAG, only 2 WPV1 cases had been reported, however, a third WPV1 case has since been reported—all from a single district in Balochistan. In comparison, the same period in 2017, 3 cases had been reported from 3 districts in Balochistan, Punjab and Gilgit-Baltistan.

All 3 WPV1 cases in 2018 are from the same outbreak in Dukki district, Balochistan with date of paralysis onset of the first case 8<sup>th</sup> March, the second 15<sup>th</sup> April and the third 18<sup>th</sup> May. All 3 case investigations reported that the children had been reached by at least 3 SIAs;

however, all 3 children had a very limited or no RI history.

No cases have been reported in the core reservoirs or highest-risk districts in 2018. The most recent case from Pakistan's southern corridor was from Killa Abdullah in November 2017, the most recent case in Karachi was reported in November 2017, and the most recent case in Pakistan's Northern corridor was

Figure 1: Distribution of Wild Polio Virus Type 1 (WPV1) cases, 2014 – June 2018)



reported in February 2016.

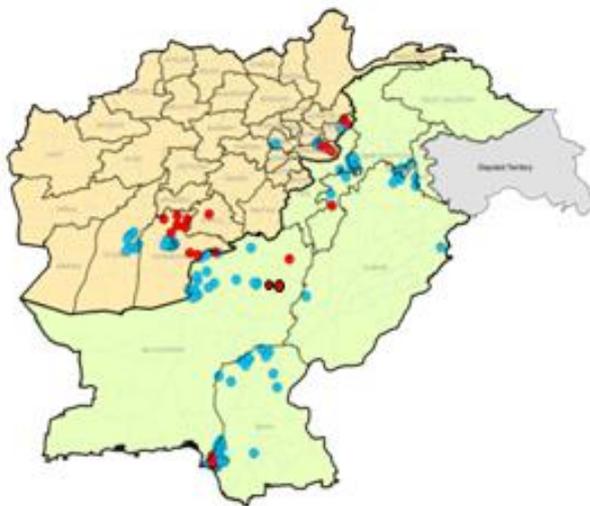
The proportion of positive ESs in Pakistan has reduced from 18% this time last year<sup>2</sup> to 13% and genetic diversity of the virus in the Afghanistan/Pakistan epidemiological block continues to be reduced. However, despite the sustained progress with no WPV1 cases, ES reveals transmission persists in the core reservoirs and across the shared corridors (see Figure 2).

- In Karachi, positive ESs have been reported in five different sites in 2018. Machhar colony, Gadap continues to be an area of high concern and focus for the programme, with positive ESs reported each month since June 2017, except January 2018.
- In the Northern corridor, Peshawar has reported positive ESs from October 2017 to July 2018. In Afghanistan, positive ESs were reported in Nangarhar each month between November 2017 and June 2018. Genetic analysis indicates the same virus is circulating at both ends of the corridor and extends to the Twin Cities of Rawalpindi and Islamabad (positive ES in Rawalpindi in May, June and July 2018; Islamabad in June and July) and Lahore (positive ES in June and July 2018).

<sup>2</sup> As of 5th of June 2017

- In the Southern corridor, the ES sites in Pakistan have reported intermittent positive ESs in 2018, with WPV1 reported in Killa Abdullah in January and Quetta in February, April and May. In Afghanistan, ES sites in Kandahar have consistently reported positive results between March and July, 2018.
- In January 2018, Kohat in Khyber Pakhtunkhwa (KP) reported a positive ES sample, the first positive sample in the central corridor since July 2016. This was followed by positive ES samples in March and June 2018 in Kohat. Afghanistan has not reported any positive samples in this corridor since 2015.

Figure 2: WPV1 cases and environmental sample positives, Pakistan and Afghanistan July 2017 – 5<sup>th</sup>



The programme continues to rapidly investigate any WPV case or positive ES sample reported, and aggressively responds with SIAs, according to the assessed risk.

The surveillance system in Pakistan continues to be enhanced through the “Surveillance for Eradication” work plan. Sustaining these efforts, the sensitivity of the system and ensuring timely detection and investigation will continue to be a primary objective of the programme throughout 2018 and onwards. The NPAFP rate in the period of July 2017 to May 2018 has remained above 6 per 100 000 in almost the entire country, with no districts reporting less than 3 per 100 000 (see Figure 3). Stool adequacy over

the same period has not seen the same improvements, with gaps of less than 80% stool adequacy in Balochistan, KPK and GB (see Figure 4).

Figure 3: Non-polio AFP rates, 2015 – 2018

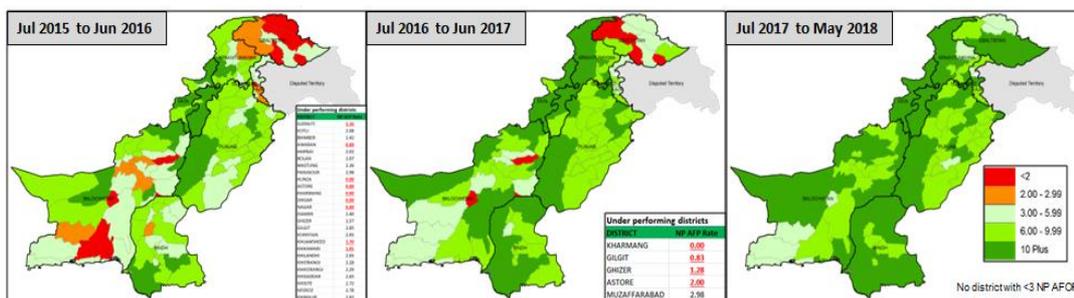
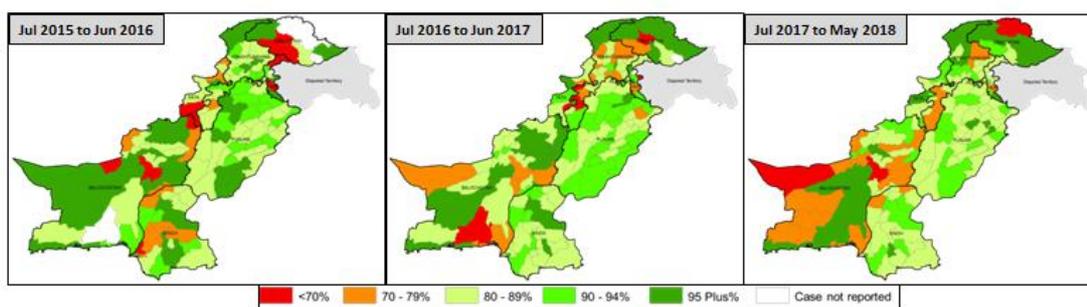
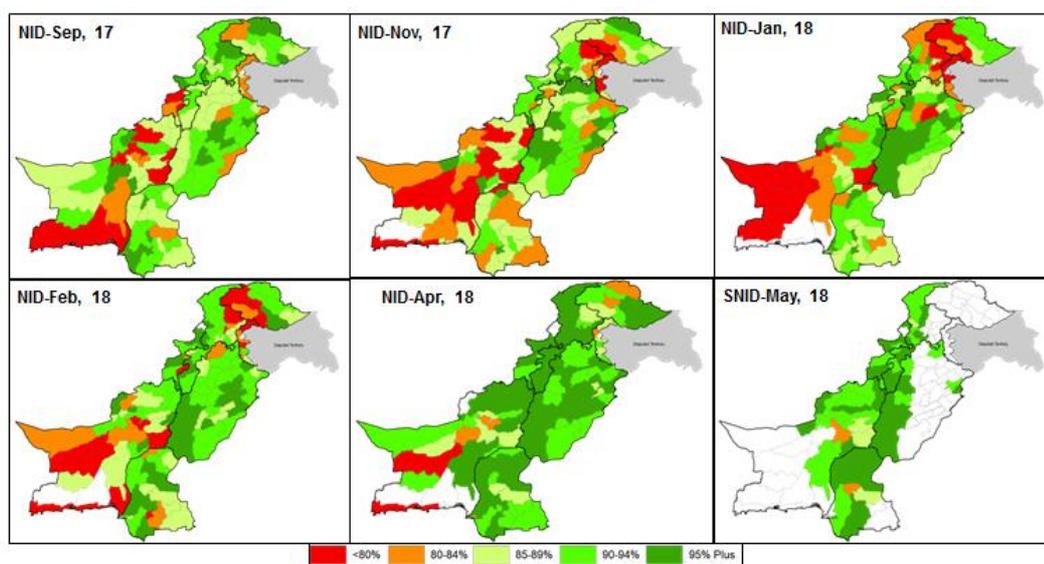


Figure 4: Stool Adequacy (Target 80%), 2015 – 2018



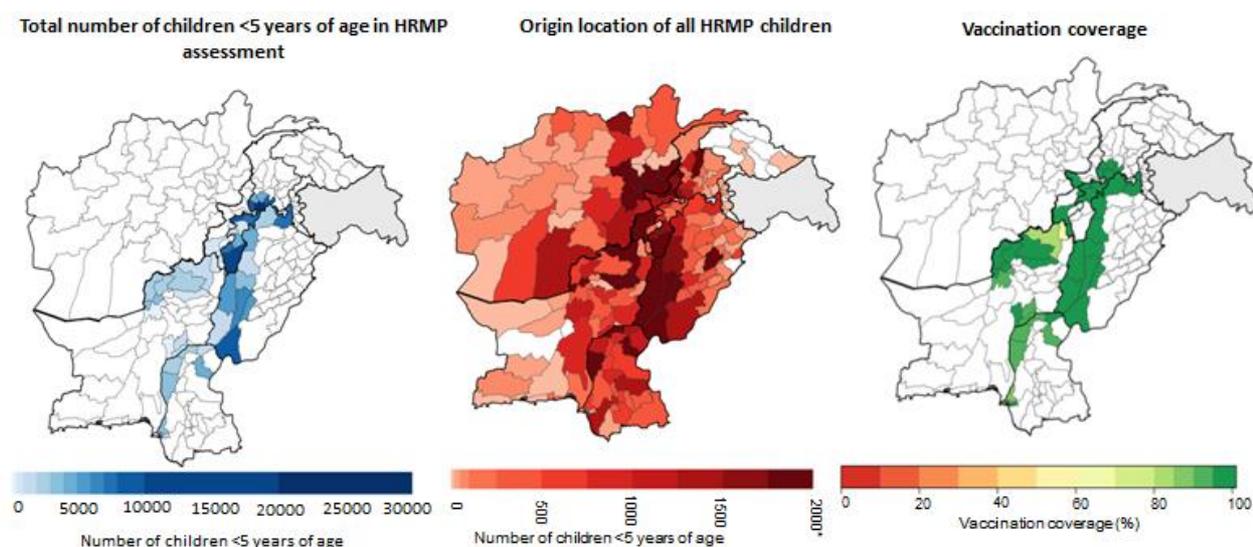
Since the last TAG meeting all SIAs were implemented as per the NEAP with monthly SIAs conducted in Tier 1, 2, and 3 districts, and at least 3 campaigns conducted in Tier 4 districts. Third party Post-Campaign Monitoring (PCM) data indicates inconsistent performance in North KP, Central Sindh and Balochistan (see Figure 5). According to PCM data, the most recent NID in April, saw improvements in performance with almost all districts achieving coverage >90%. This is encouraging, but should be interpreted cautiously insofar as district-level results can mask significant UC and sub-UC variation, including areas of poor performance which create vulnerabilities in the programme’s defences.

Figure 5: Third-Party Post-Campaign Monitoring (PCM), September 2017 – May 2018



Consistently reaching all High Risk Mobile Populations (HRMP) for vaccination and increasing understating of the HRMP movement patterns continues to be a focus for the programme. Approximately, 200,000 children less than 5 years of age were surveyed in 60 districts in two phases between July and October, and December to January. The results indicate that vaccination coverage was between 90 – 100% in almost all districts (see Map 3, Figure 6).

Figure 6: Map 1: Number of Children < 5 years, Map 2: Origin Location of all HRMP children and Map 3: Vaccination Coverage. (Phase 1: July – October 2017, Phase 2: December – January 2018)



Reaching all missed children continues to be the primary objective of the programme. Since the last TAG and with the emerging communication challenges, there has been a key shift from just tracking and vaccinating still missed children, to understanding who the still missed children are and what values motivate their communities to vaccinate or refuse. A comprehensive C4E strategy has been developed with a shift from a promotional approach to a more interactive and proactive community approach. This will include: continued focus group discussions on reasons for refusals, strengthening the programme’s social media strategy, improving UC level planning for community engagement, and conducting rapid social investigations following the notification of any event, outbreak or other incident that may impact on the programme. Impact of C4D strategy should be rigorously assessed against rates of missed/still missed and persistently missed children, including but not limited to refusals, in key areas of intervention.

## Balochistan

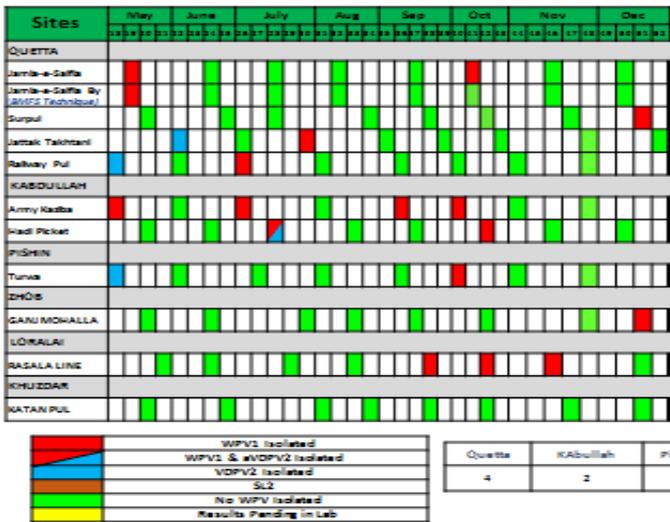
From 2014 to 2017, there has been a 90% reduction of polio cases in Balochistan. Quetta district has not reported a case in >2 years; however, neighbouring Killa Abdullah district, remains a challenge with the last positive WPV1 case reported in November 2017.

Three WPV1 cases have been reported from Dukki, a Tier-3 district, in the first half of 2018. Prior to this outbreak, the last case reported from this district was in 2015. Investigation revealed gaps in microplanning, team capacity, weak SIA quality and inadequate RI were all likely contributing factors. Outbreak response activities, including additional immunization are planned with federal and provincial colleagues supporting UC level staff to interrupt virus transmission.

The last cVDPV2 case reported in Pakistan was from UC Baleli in Quetta, Balochistan 2016.

Despite no cases in Quetta, ESs were positive in February and April, and ESs from Killa Abdullah and Loralai were also positive in January and March, respectively (see Figure 7).

Figure 7: Polio Virus Isolates - Environmental Surveillance Balochistan, May 2017 – May 2018

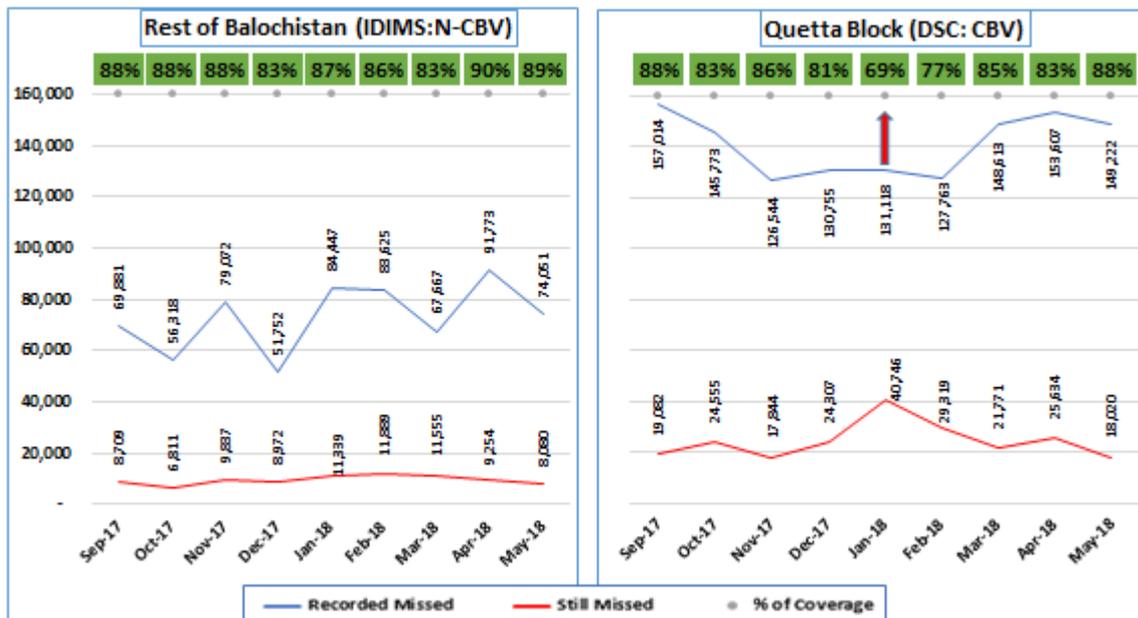


When comparing surveillance indicators from the 2016/2017 NEAP period to 2017/2018 they reveal both progress and areas that require further action. The NPAFP rate has increased to 14.3 per 100,000 in 2017-2018, compared to 9.8 per 100,000 in 2016-17. Sabin-like isolation remains at 8% in both periods, and silent tehsils (i.e., not reporting AFP cases) have decreased from 12 to 10. Improving stool adequacy and early case detection by improving sensitization to report AFP cases, is a priority for Balochistan. Surveillance indicators for districts of Quetta block (i.e., Quetta, Killa Abdullah and Pishin districts) from the 2016/2017 NEAP period to 2017/2018 indicate mixed performance, the NPAFP rate in Killa Abdulah has remained constant at 7.3 per 100,000 and increased in Pishin and Quetta from 5.6 to 9.0 per 100,000 and from 6.3 to 7.0 per

Figure 8: Balochistan Surveillance Indicators 2016 -

Indicators	2016/17	2017/18
Non-Polio AFP Rate (Target ≥ 6/100,000)	9.8	14.3
Notification within 7 days (Target ≥80%)	79%	77%
Stool Adequacy (Target ≥ 80%)	87%	83%
Sabin Like -polio virus Isolation rate (%)	8%	8%
Non-Polio Enterovirus (EV) Isolation Rate (Target ≥10%)	21%	18%
Silent Tehsils	12	10

Figure 9: SIAs performance and Missed Children (Sept 2017, 2018)

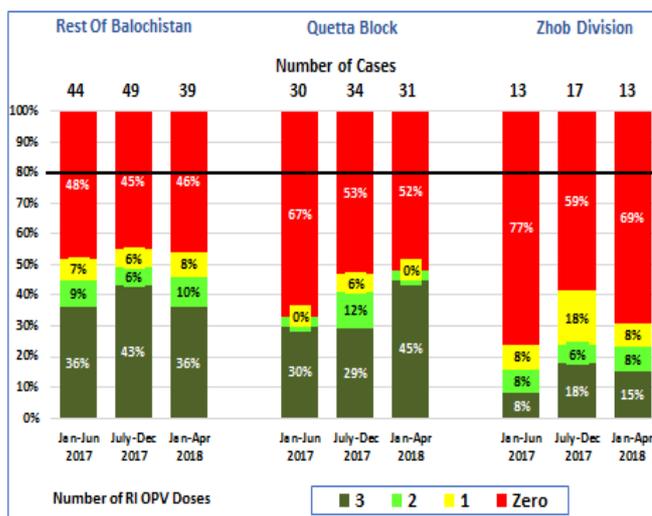


100,000, respectively. Stool adequacy decreased in Killa Abdulah and Pishin from 86% to 73% and 85% to 84%, however in Quetta it increased from 90% to 94%. However, sabin-like isolation increased in Killa Abdulah, Pishin and Quetta from 8% to 23%, 7 to 17% and 8 to 11%, respectively.

In Quetta block, the number of recorded missed children has been increasing since January (plausible explanation for population moving down to Karachi and North Sindh during the winter months). However, the number of still missed children has consistently decreased, from 40,746 children in January to 18,020 in May. This correlates with an improvement in coverage from 69% in January to 88% in May, although over a longer timeframe (Sept 17-May 18), coverage and rate of still missed children have remained static around 88% or just under 20,000 children, suggesting underlying non-transient causes of missed children which may be amenable to improvement in basic operational quality (see Figure 9). The proportion of LQAS lots passed in Balochistan has improved to 86% in May, compared to a low of 54% in December. PCM estimates coverage to be consistently above 90% in Quetta Block and Zhob division, while coverage for the rest of Balochistan has improved from 81% in January to 93% in May. Missed houses and vaccinated but not finger marked (VBNFM) remain the largest proportion of reasons for missed children and a challenge for the province. The program should systematically disaggregate the underlying reasons of VBNFM to ensure it does not include any unvaccinated children.

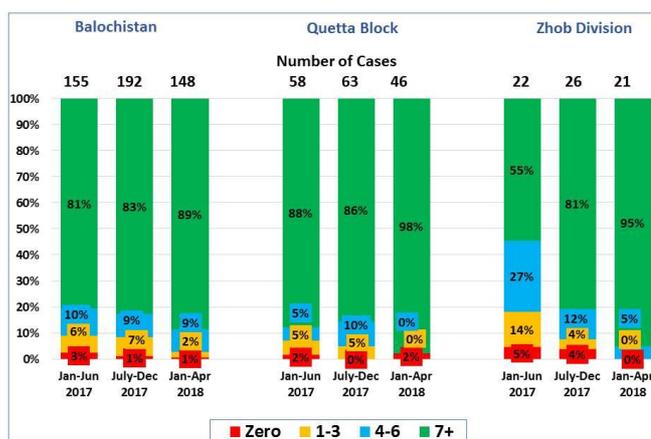
The vaccination status of NPAFP cases highlights a high percentage of zero OPV dose children for RI (52% in Quetta Block, 69% in Zhob and 46% in the rest of Balochistan); however, the overall vaccination status of NPAFP cases aged 6-59 months (i.e., considering SIA OPV doses) is much higher and has demonstrated substantial improvements in Balochistan and in particular Quetta Block and Zhob division (89%, 98%, 95% of NPAFP cases in Jan-Apr 2018 reporting 7+ OPV doses, in Balochistan Quetta Block and Zhob divisions, respectively) (see Figure 10). HRMP and guest children coverage also increased with 17,613 children covered in the February NID and 20,707 covered in the March SNID. Consistent with seasonal trends, individuals from Karachi made up 34% of the total HRMP population covered in April, compared to 3% in February.

Figure 10: Routine Immunization OPV status of NPAFP cases 0-23 months, 2017-2018



Communication and social mobilization strategies to engage the population and improve coverage continue to be a challenge and focus for Balochistan. Since December,

Vaccination Status of Non-Polio AFP Cases Aged 6-59 Months, 2017-2018



the province has succeeded in increasing female involvement in team members in Killah Abdullah, from 19% to 60% in May. Following the fatal incident in Quetta, motivational sessions were conducted and gifts distributed, ensuring 95% of staff were retained. Compared to November 2017, refusal clusters in Quetta block have reduced by 24%, however, challenges still persist in Gulistan, Chaman and Quetta.

## Federally Administered Tribal Areas (FATA)

Following the TAG recommendation, FATA has conducted an assessment of potential environmental sites and has since initiated sampling in Bajour and South Waziristan (SWA). At the time of the TAG no WPV1 had been reported, however, one positive ES has since been reported from sampling in Bajour in May.

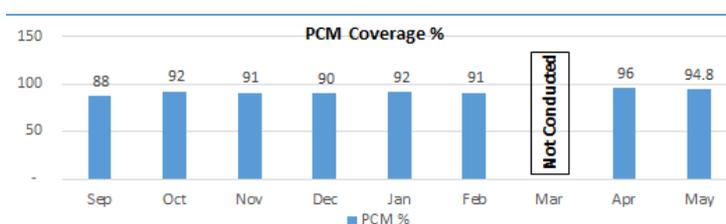
Figure 11: FATA Surveillance indicators, 2016 - 2018

Indicators	2016/17	2017/18
Non-Polio AFP Rate (Target 2 / 100,000)	22.12	23.73
Notification within 7 days (Target 80%)	81	87
Stool Adequacy (Target 80%)	86	91
SL Isolation	7	6
Enterovirus (EV) Isolation Rate (Target 10%)	19	27
Silent Tehsils	1 (Ladha)	0

FATA surveillance indicators continue to improve, with an increase in the NPAFP rate to 23.73 per 100 000. Notification within 7 days, stool adequacy and Enterovirus isolation has improved from 81% to 87%, 86% to 91% and 19% to 27% respectively. Ladha was previously the only silent tehsil but has since reported this year (see Figure 11).

Nevertheless, to further strengthen programme operation and surveillance efforts should continue to find culturally appropriate ways to increase the involvement of women as vaccinators and supervisors.

Figure 12: SIA performance: PCM September 2017 – May 2018



The proportion of passing lots in LQAS has been greater than 92% since December 2017, while PCM indicates a similar picture with coverage estimates all above 90% in the same period (December – May, see Figure 12).

The replacement of lots and clusters due to security reasons remains an ongoing challenge for FATA, with up to 5% of lots replaced in the February NID; however, progress has been made with only 2% and 1% of lots replaced following April and May SIAs. Monitoring challenges in some areas of Bajour, Kurram, SWA and NWA is also of concern, with a target of 8,000 children unmonitored in these areas.

SWA and Khyber have the highest number of repeated (3 or more times) Low Performing Union Councils (LPUCs), with 25 UCs within SWA being a repeated LPUC 6+ times.

FATA continues to focus on media, advocacy and communication to improve vaccine acceptance and campaign coverage. In 2017 and continuing into 2018, FATA training EOC officials as media spokespersons, held 4 trainings for more than 120 health journalists and is working to improve cross border communication coordination.

Efforts to ensure vaccination of HRMPs remain a focus for FATA, with 92 Permanent Transit Points (PTPs) around the province including; 8 on the border with Afghanistan in Khyber, Kurram and SWA, 33 on interprovincial borders and 51 between agencies. Approximately 200,000 children were vaccinated at PTPs between September and April 2018, with 40,000 at Pakistan/Afghanistan borders.

As part of the EPI/PEI synergy, the number of functional EPI centers has expanded from 228 to 332, while coverage of recorded zero dose children remains between 20 to 30%.

### Khyber Pakhtunkhwa (KP)

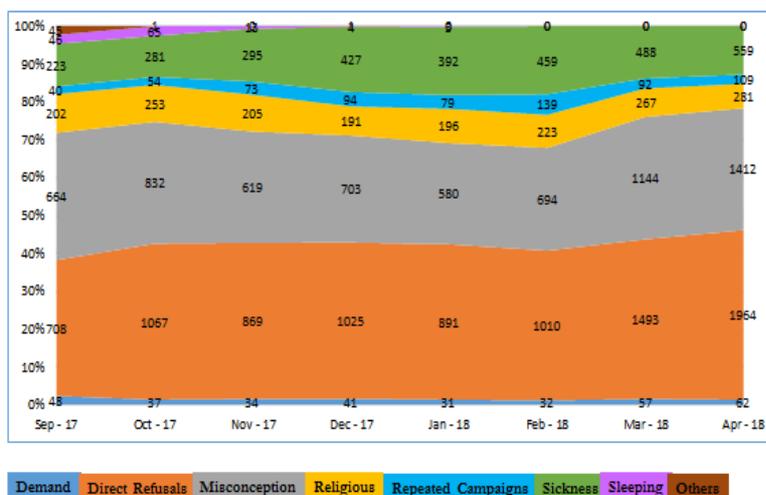
Although the last WPV1 in KP was reported August 28, 2017 from Lakki Marwat, ES in Shaheen Muslim Town, Peshawar, has been consistently positive since October 2017 (see Figure 13). The isolates of 2018 are genetically linked to the Northern Corridor virus, with evidence of local transmission.

Kohat has also reported two positive ES in January and March while Bannu reported a positive ES in March, its first positive report since the site was initiated, triggering a new alert in the central corridor

Surveillance indicators in KP have improved in the NEAP period 2017/2018 compared to 2016/2017. The NPAFP rate has increased from 13.8 to 15.8 per 100,000, while notification within 7 days and stool adequacy improved from 69% to 82% and 80% to 86%, respectively. Enterovirus isolation reached 21% from 16% and silent tehsils reduced to 0 from 3.

SIA performance shows mixed results. PCM coverage for the province increased from 89.7% in the Dec SNID, to 94.1% in the May SNID. The number of districts with less than 90% PCM coverage decreased from 13 in January to only 1 in April. The proportion of passed lots has fluctuated between 81% in January to 94% in May. Granular analysis of Peshawar indicates ‘misconception’ and ‘direct refusal’ contribute the largest proportion of still refusals, with the numbers increasing from January to April 2017 (see Figure 14). Underlying reasons for ‘direct refusal’ remain unclear – this is concerning given the significant proportion of unvaccinated children accounted for under this

Figure 14: Peshawar – Reasons of still refusals: September – April 2018



category. Underlying reasons for misconception as reported by front line workers vary within contexts, populations and across time. The most common misconceptions include:

1. Vaccine Composition - Poison in the vaccine
2. Vaccine Efficacy – Rumors of death of children due to expired vaccine
3. Family Planning – Vaccine causing infertility, particularly due to repeated campaigns
4. Low risk perception of disease
5. Negative propaganda incorrectly linking children’s deaths to polio

Since the last TAG, the province has implemented targeted communication and social mobilization activities in high risk UCs and has engaged key influencers to address refusals. Special EPI/PEI sensitization sessions were held in 17 high risk UCs of Peshawar, 264 community engagement activities were held in areas with high number of refusals, the Pakistan Pediatric Association was engaged to disseminate information during the IPV campaign and media focal points from the Northern Corridor and southern districts of KP continue to be orientated on media engagement and polio reporting.

A HRMP assessment after April NID was conducted in 13 districts of Malakand and Hazara divisions, out of the assessed 14,039 children, 98% were found to be vaccinated. With a large population of seasonal migrants, PTPs cover over 30,000 children each month.

In the context of virus isolation and large population movement from Karachi and Balochistan to KP, a cross-sectional study was conducted in 4 northern districts to determine household linkages to hot spot areas around Pakistan. In Northern KP, an association between populations in Swat, Buner, Shangla and Torghar with Karachi was evident. In Buner, 66% of households were linked to Karachi. Swat, Shangla and Torghar association with Karachi, was 17%, 15% and 31%, respectively. The activity also revealed Torghar as a district of high risk with 56% of 6-23 month children were zero dose routine immunization and only 9% had IPV coverage. Swat was also found to have 13% household linkage with Balochistan (see Figure 15).



16).

In interior Sindh, Sukkur reported a positive ES in February, Jacobabad reported positive samples in February and March, Hyderabad in February and Kambar recently reporting positive ESs in April and May.

Surveillance indicators remained above targets, with NFAFP increasing from 10.1 per 100,000 in 2016/2017 to 12.8 per 100,000 in 2017/2018 (see Figure 17). Sujawal, Jamshoro, and Karahi's Gadap town all reported very high NPAFP rates of 25, 33 and 26 per 100,000 respectively (0-15 years target population). Notification within 7 days and stool adequacy dropped to 84% and 89%, respectively.

Figure 17: Surveillance Indicators, Sindh 2015- 2018

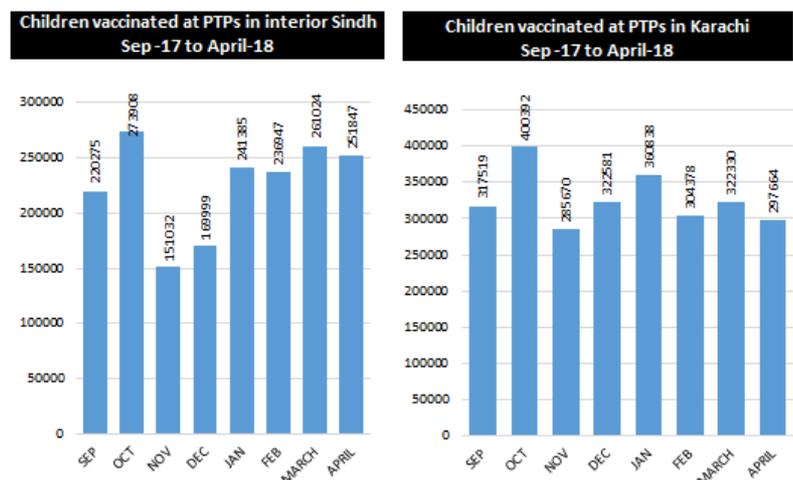
Indicators	2016/17	2017/18
Non-Polio AFP Rate (Target 2 / 100,000)	10.1	12.8
Notification within 7 days (Target 80%)	85%	84%
Stool Adequacy (Target 80%)	90%	89%
SL Isolation	3	5
Enterovirus (EV) Isolation Rate (Target 10%)	17	20
Silent Tehsils	NO SILENT TEHSIL/ TAULKA IN BOTH PERIODS	

According to PCM, SIA performance in Karachi fluctuated between 88% in January, to 95% coverage in March and May. While coverage in interior Sindh increased from 88% in December to 96% in May. LQAS results highlight mixed performance, with the proportion of passed lots in Karachi at 53% and 62% in April and May, respectively. Interior Sindh performance was better with the proportion of passed lots between 78% and 88% between December and May 2018. In Karachi a significant increase in the number of refusals is evident, with 38 715 children in December to a high of 98 077 in April. A trend analysis reveals 'Misconception' and 'direct refusal' as the largest proportion of reasons for refusal. Interior Sindh also saw a huge increase in the number of still refusals from a low of 777 children in December to a high of 6723 in March.

The vaccination status of AFP cases shows an increase in 7+ OPV doses from 81% in 2017 to 88% in 2018. The number of zero dose routine immunisation AFP cases decreased from 20% in 2016 to 17% in 2017.

Sindh continues to implement various strategies to track and vaccinate its large mobile population. This includes 68 PTPs in sites in Karachi and Interior Sindh (see Figure 18), vaccination inside trains and additional transit points during SIAs and seasonal activities. A special IPV campaign was conducted in North Sindh vaccinating 14,000 children,

Figure 18: HRMP: Mobile/Guest Children vaccinated at PTPs, Sindh September 2017 - 2018



with 6,900 children vaccinated in Jacobabad alone.

Sindh has faced great challenges in resistance from the community following incidents from other injectable campaigns and an increase in negative propaganda. The province’s current focus is on conducting granular analyses to highlight areas where communication interventions are required and to develop sustainable interventions to maintain behaviour change. The Sindh team has implemented several proactive initiatives to rebuild community trust and reduce the number of refusals. These include engaging private paediatricians, hospitals, religious clerics, developing positive videos on risk perception and vaccine safety, and planning a special Ramadan media plan to increase visibility of the polio programme. Proactive social media engagement and rapid crisis communication following an incident will be a challenge and focus for the Sindh programme going forwards.

## Punjab

The last WPV1 case from Punjab was reported from the Tier 4 district of Lodhran in January 2017. However, Rawalpindi, as part of the Northern corridor, has reported repeated positive ESs in both January and May 2018. Genetic sequencing links this virus to positive isolates from Peshawar in March, and Nangarhar in Afghanistan in February 2018. A positive ES in DG Khan in February 2018 was reported and genetic sequencing classified it as an orphan virus.

Surveillance indicators show sustained performance in the province. The NPAFP rate maintained above 13 per 100,000 (13.8 per 100,000 in the 2017/ 2018 NEAP period and 13.3 per 100,00 in 2016/2017 period), notification within 7 days increased to 86%, stool adequacy remained at 88%, while Sabin-like and Enterovirus increased from 3% to 4% and 14% to 16% in 2017/2018 compared to the last NEAP period 2016/2017 (see Figure 19).

Figure 19: Punjab Surveillance Indicators, 2016- 2018

Indicators	2016/2017	2017/2018
Non-Polio AFP Rate (Target 6 / 100,000)	13.3	13.8
Notification within 7 days (Target 80%)	85%	86%
Stool Adequacy (Target 80%)	88%	88%
SL Isolation	3	4
Enterovirus (EV) Isolation Rate (Target 10%)	14%	16%
Silent Tehsils	0	0

SIA performance is also consistent according to LQAS and PCM data. The proportion of lots passing in Rawalpindi and Southern Punjab remains above 90% for almost all districts between January and May 2018, except RY Khan in January only achieving 33% and Rawalpindi reaching only 80% in May.

The PCM shows improved performance in many key districts of Punjab, when comparing September to December 2017 to PCM results from 2018 onwards. More than 95% coverage has been consistently achieved in Muzaffargarh, Rajanpur, RY Khan, DG Khan (see Figure 20). Multan’s PCM coverage had been consistently over 96% coverage, however, dropped to 89%

Figure 20: PCM % Rawalpindi and Southern Punjab

Districts	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018
Rawalpindi	92	89	95	94	89	91	95	94	92
Multan	98	96	97	96	98	89	97	99	98
M.Garh	96	92	95	94	97	95	97	97	98
DG Khan	90	93	95	87	96	95	93	95	98
Rajanpur	95	91	91	95	97	97	95	96	95
RY Khan	96	85	87	90	96	95	98	96	96

in February.

Consistent with other provinces, Punjab saw an increase in recorded refusals from 3,410 children in February NID to a high of 6,877 in the March SNID. However, despite the increase, coverage of refusals has remained around 90% each campaign from February to April 2018. An analysis of reasons for refusals from October to May 2018 revealed ‘negative media’ and ‘misconception’ as the largest contributing factors. In addressing the increased refusals, media engagement has remained a priority for Punjab. Journalists, media houses, community medical camps have been engaged throughout the high season. Rebuttal communication has been rapidly implemented to counter negative media and positive content shared with front line workers to address community concerns.

Administrative coverage for IPV in Punjab is currently at 95% for the period of January to April, an increase from 83% in 2017. Punjab continues to strengthen EPI/PEI synergy with targeted action and outbreak sessions to improve routine immunization coverage around the province.

HRMP data shows consistent coverage of approximately 20,000 children at PTPs, with a slight increase to 29,400 in March 2018. Addressing the challenges in Rawalpindi, negative media events, and improving RI coverage gaps remain a focus for Punjab going forwards.

## Key Findings and Recommendations

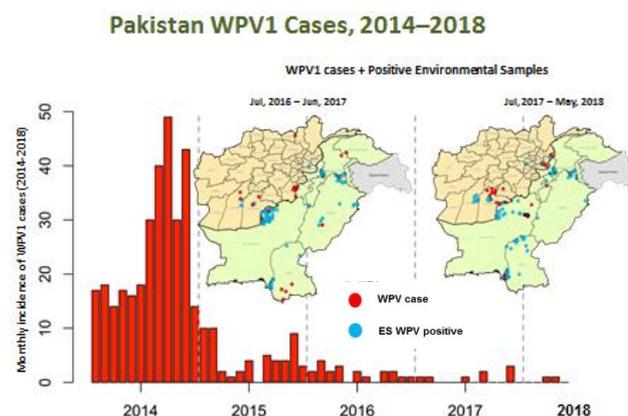
### Pakistan

The TAG recognizes the continued progress in Pakistan despite the challenges including the devastating loss of two frontline workers, two post campaign monitors, the negative propaganda and incidents during injectable mass campaigns resulting in an increase in community resistance and refusals in some areas across the country. TAG recognizes the highest level of Government commitment, the support of the LEA and Security Forces, and all the frontline workers that are the heroes of the programme. The TAG is confident that the current surveillance system is sensitive enough to detect circulation.

The programme has reported three cases in 2018 to date<sup>3</sup>. Transmission continues to persist in Peshawar and Karachi, as evident by ES. Karachi, the Northern and Southern corridors, still pose an epidemiological risk that extends beyond the corridors themselves.

The TAG congratulates the national, provincial and local programme for continued high level of performance. However, further improvement of basic programme quality is necessary to reach

Figure 21: WPV1 cases and environmental sample positives, Pakistan and Afghanistan, 2014 - 2018



<sup>3</sup> 12<sup>th</sup> June 2018

remaining un- and under-vaccinated children and end polio transmission. #endpolio TAG recommends that the programme immediately undertake a review of programme performance, using all existing operations and social data to identify opportunities to further strengthen reduction in missed children; the key is consolidation and optimized use of existing data to enhance SIA quality rather than generation of large new datasets.

## Sindh

The unique population movement dynamics of Karachi poses an epidemiological challenge to the programme (see Figure 22). The TAG notes Karachi's history of amplification of virus transmission remains the main risk for the programme. As the Karachi team transitions the last mobile teams to community health workers (CHWs), the TAG would like to appreciate the efforts in implementing the SMT strategy. The TAG also appreciates the micro-level analysis of 4 ES drainage areas across Karachi

The TAG elaborates its concern with the repeated reintroduction in Jacobabad.

The TAG recognizes the direct impact the unfortunate Nawab Shah incident had on Karachi and interior Sindh during the low season, and notes the increased trend of still missed children in Key transmission areas from March to May rounds.

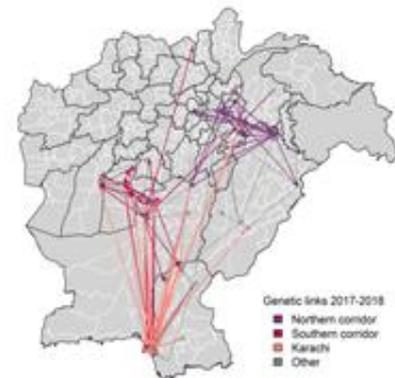
### Recommendations:

- Cluster and still missed children analyses should be overlaid with a social analysis, to obtain a richer picture of the issues and determine appropriate intervention strategies, by end of August
- Evaluate recent communication interventions to determine their impact on addressing direct refusal and misconceptions, by end of August
- EOC Sindh should conduct an in-depth analysis on operational challenges in SIAs from Area-In-Charge level up in key high risk areas in Karachi and Interior Sindh and develop an action plan to respond to these challenges, by end of August
- Attention must be placed on ensuring a smooth transition to CBV/CHW across all UCs in Karachi
- The Sindh government, with partner support to make concrete efforts to address continued circulation in underserved populations in Karachi, by securing provision of WASH, nutrition and immunization services to these communities

## Balochistan

The TAG is impressed with the efforts made in Killa Abdullah, Pishin and Quetta. However, despite the impressive progress, Gulistan remains a challenge for operational quality and community acceptance. With the notification of three WPV1 cases from Dukki and investigation into contributing factors, the TAG emphasizes the main reason for the outbreak in the district of Dukki lies

Figure 22: Genetic links of virus (2017-2018)





transmission in the northern corridor demonstrated by positive ESs in Peshawar and other areas. The TAG commends the rapid crisis communication response that helped to avert a programme risk in April 2018.

The TAG recognised the significant strides in strengthening EPI and improving EPI/PEI synergy.

There remains a continued risk in South KP and South FATA following detection of an orphan virus in the ESs of District Bannu.

#### Recommendations:

- Conduct a comparative analysis (operations, communications, accountability) in Peshawar on the reasons for positive ESs since Oct 2017, compared to the period when it was negative, by end of August
- TAG recommends a detailed plan of action for each weakness identified in the SWOT analysis for the 17 draining UCs, by end of August
- Expand cross-sectional studies to include population movement into the Northern Corridor from Upper DIR and Chitral, by end of August

## **Punjab**

The TAG appreciates the detailed analysis conducted for the drainage UCs in Rawalpindi, DG Khan and Multan. TAG further appreciates the steps taken towards EPI/PEI synergy.

TAG recognizes the continued risk in the twin cities, Rawalpindi/Islamabad and Southern Punjab (DG Khan, RY Khan and Bahawalpur).

#### Recommendations:

- TAG recommends the continued UC level analysis for missed children in the most problematic areas including Rawalpindi and South Punjab
- TAG recommends increased focus on Rawalpindi, Islamabad and DG Khan to address continuing risks of transmission extending from the Northern Corridor

## **Cross- Cutting Recommendations**

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The TAG outlined the following cross cutting recommendations to be followed for the coming low season.

### **Management and Oversight**

- During the period of the caretaker government, election and installation of the new Government, the programme must maintain focus and commitment. The caretaker Prime Minister and caretaker Chief Ministers should convene a National Task Force for endorsement of the NEAP and the PC1.
- Government of Pakistan should ensure timely issuance of blanket NOCs for Baluchistan, FATA, and KP so GPEI partners can deploy staff in key high risk areas.

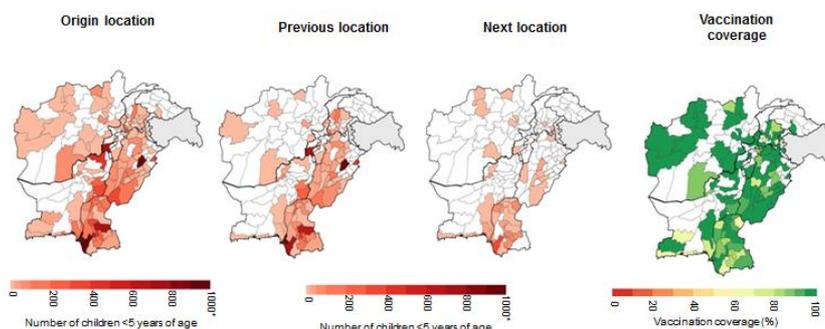
- Provincial governments should facilitate granting NOCs and EOL for trained national polio staff so they can continue their work in GPEI partner agencies.
- TAG highlights the risk of new districts with weak administration and recommends that any new district be labelled as temporarily high risk, with increase supervision, federal support and monitoring.
- The TAG emphasizes that the ‘one team’ approach is essential to the success of the programme, and this approach must extend from the UC to global partners.
- Partners should actively review their staffing to ensure that in all locations team size, personal and professional profiles, mix of competencies and standards of performance are and remain fit-for-purpose.
- The government of Pakistan and GPEI partners should provide the required resources to implement the NEAP 2018/2019.

## Additional Analysis and Investigation

- Continue evaluating the impact of operations and communication interventions on missed children, particularly persistently missed children, (including vaccinator capacity, household interaction, cluster analysis/ intervention, community engagement, local media/IEC, and mass media/Spin Saree/Khala), to help direct programme resources to effective activities
- TAG requests that a data use analysis of the Data Support Center be conducted to determine who is using the data / dashboard and what their needs are to identify specific data and supportive training requirements for each level of the program.
- TAG encourages the continued increase of female team members

## Corridors & HRMP

- The Northern and Southern Corridor action plans must be fully implemented, and status jointly tracked by the AFG and PAK NEOCs through monthly video-conference. A face-to-face meeting on the common reservoirs should take place in the third quarter of 2018, with an agenda focusing on defining and addressing common issues
- TAG strongly supports the strategy of coordinating Pakistan and Afghanistan programme activities (geographical mapping, social analysis of risk groups, intervention design, communication/media, and impact evaluation) in the Corridor Action Plans
- The interventions to identify and reach HRMPs, guided through the NEAP and Corridor action plans should be continuously documented and evaluated
- The biggest flow of population is along the northern and southern corridors. Special focus should be put on regular assessment of planning and functioning of cross border and permanent transit teams to ensure that no opportunity is missed for vaccinating children on



the move (see Figure 23). This should include assessment of how these teams are monitored and supervised.

Figure 23: Movement and vaccination status of HRMP children into and out of Karachi 2017/2018

## Communication

- TAG supports the NEAP's 2018 focus on 'communication for eradication' as further integration of all operational and communication activities but urges the programme to also maintain pressure on campaign quality to continue reducing missed and still missed children.
- TAG recommends the programme urgently strengthen UC-level analysis using existing social/communications and operational data to revise micro plans every round, and evaluate the impact of activities on rates of missed/still missed & persistently missed children; results should be quickly fed back into operational SIA planning at appropriate levels.
- TAG endorses the development of a cadre from within existing communications personnel at district level to support this analysis and ensure strong ongoing programme delivery, with the capacity to shape vaccine delivery to identified household and community concerns.
- Recognizing progress made through lower-profile strategy in recent years, TAG encourages appropriate visibility according to local conditions across the programme. TAG would encourage the programme to conduct thorough risk assessments before adopting any higher-visibility strategy, for example on OPV safety and the rationale for multiple rounds
- TAG recognizes the program's concern over the impact of recent negative material circulating on social media. TAG endorses strengthening the programme's social media strategy and encourages the programme as far as possible to be proactive rather than reactive, for example with regard to AEFI
- The TAG supports programme plans to conduct a regular programme review.
- The TAG recommends a review of underlying reasons for 'misconceptions' and a strategy developed to reduce this as the largest proportion of still refusals

## Routine Immunization

- The TAG recognizes the importance of making progress in EPI in achieving and sustaining a polio free Pakistan. Given the current gaps in EPI in certain provinces, the government should ensure mechanisms for oversight and accountability.
- The TAG recommends that EPI-PEI synergy needs to further deepen in the coming 6 months in Tier 1 districts:
  - Focusing effort to improve EPI progress in core reservoirs – making functional EPI centres and data quality and flow, fully staffed, reviewing RI micro plans and monitoring outreach.
  - Establish indicators to track these efforts and provinces report these to the TAG
  - To systematically include EPI staff and data in DC and provincial review

- AEFI incidents in the past 6 months have demonstrated the negative impact they can have on trust in immunization and impact on polio eradication efforts. The proposed measles SIA therefore needs to be one of the highest quality, with proper injection safety and AEFI management training and with robust crisis communication
- The TAG recommends that the government carefully review the current status of the measles campaign preparation, using the WHO readiness assessment guidelines, and evaluate if the campaign needs to be postponed to ensure a higher quality campaign

## Immunization Strategies to improve impact on mucosal immunity

### - Conclusions

The TAG briefly reviewed analyses prepared by the national program, the Institute of Disease Modeling (IDM) and Imperial College on possible impacts on mucosal immunity of different immunization approaches. A working group was subsequently formed to review the analyses in greater depth and to take into consideration existing data from sero-prevalence surveys. The TAG considered that some of the reviewed immunization options may impact on immunity (see under ‘Recommendations’).

However, the TAG noted that there is evidence of continuous operational gaps in certain areas and that focus must remain on addressing operational gaps and reaching persistently missed children. Recommendations on immunization strategies to improve impact on mucosal immunity should not be considered as a substitute to high-coverage and high-performance regardless of vaccine used or target age-group.

### – Recommendations

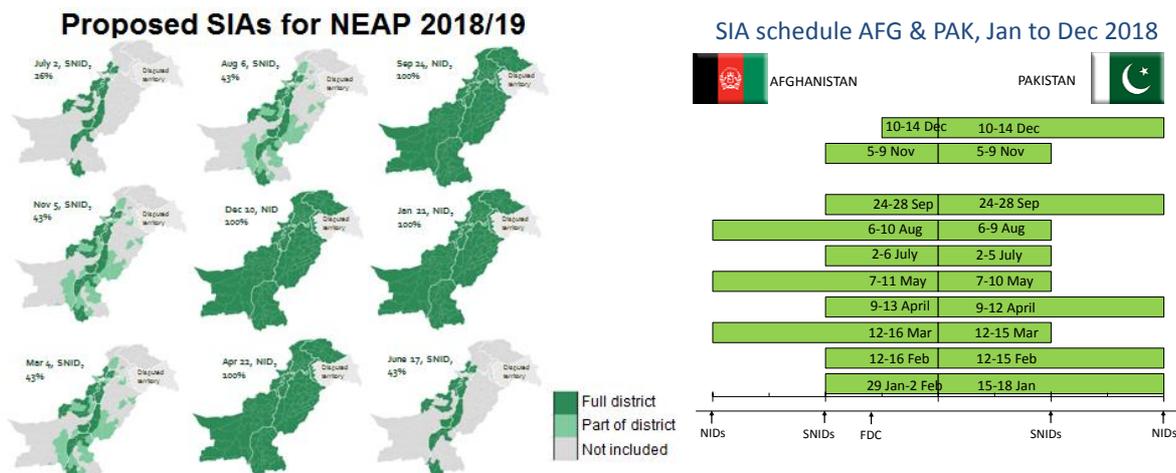
- Monovalent OPV type 1 (mOPV1) should be used in SNIDs in priority areas of Pakistan and Afghanistan at least three times between September 2018 and June 2019.
- Monovalent OPV1 should also be used in response to any case of WPV1 and should be considered in any response to environmental isolation of WPV1 as indicated by the national polio response protocol.
- Given the lead time needed to produce the vaccine, the two country programmes should estimate mOPV1 requirements for SNIDs and outbreak response as soon as possible to enable the global programme to ensure supply.
- In Pakistan, the target age group for IPV campaigns in persistent transmission tier 1 areas should be expanded up to 5 years of age (consistent with the practice in Afghanistan). The national program should estimate the IPV supply requirements and share with GPEI as soon as possible to explore global availability and supply issues.
- In light of the global IPV supply constraint, the national programme should also explore the most efficient/impactful use of its IPV supply, including the use of fractional doses in appropriate settings.
- The national programme should assess the feasibility of expanding the age group for targeted SNIDs in Tier 1 areas with persistent transmission of WPV1, initially on a trial basis; this will require careful attention to the communication and operational challenges involved.

- On a case-by-case basis the national programme should consider the following strategies in outbreak/event catchment areas:
  - an expanded target age group regardless of using mOPV1 or bOPV
  - the use of IPV in the target age group up to 5 years if IPV has not been used in these populations in the previous year.

## SIA schedule

The TAG endorses the SIA schedule of four NIDs and five SNIDs between June and Jan 2019, and commends the synchronization efforts with Afghanistan (see Figure 18 and 19).

Figure 18: SIA Schedule Pakistan and Afghanistan, December 2017 – May 2018



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