World Health Organization

TECHNICAL ADVISORY GROUP ON POLIO ERADICATION FOR THE HORN OF AFRICA COUNTRIES

16th Meeting Report

11th -12th of May, 2017

Nairobi, Kenya

Contents

List of Acronyms

AFP	Acute flaccid paralysis
bOPV	Bivalent oral polio vaccine
CDC	Centers for Disease Control and Prevention
cVDPV2	Circulating Vaccine Derived Polio Virus
ES	Environmental Sampling
HOA	Horn of Africa
ICC	Interagency Coordination Mechanism
IPV	Inactivated poliovirus vaccine
NGO	Non-governmental organization
OBRA	Outbreak Response Assessment
POSE	Polio Outbreak Simulation Exercise
RI	Routine immunization
SIA	Supplementary immunization activity
SOP	Standard operating procedure
TAG	Technical Advisory Group
UNICEF	United Nations Children's Fund
VDPV	Vaccine Derived Polio Virus
WHO	World Health Organization
WPV	Wild Polio Virus

Executive Summary

The 16th Horn of Africa (HOA) Technical Advisory Group (TAG) meeting was held 11-12 May, 2017. The likely continuing transmission of WPV and cVDPV2 in Nigeria and the Lake Chad region remains a threat to all HOA countries.

Within this context the 16th HOA TAG meeting was called with the following objectives:

1. To provide an update on the status of global polio eradication with particular emphasis on Nigeria and the Lake Chad Region and make recommendations for averting re-importation of virus into HOA
2. To discuss the status of surveillance and level of immunity in the HOA countries, particularly in hard to reach populations and inaccessible areas; and to make recommendations on how to guard against missing low level transmission
3. To review the status of preparedness to respond to polio outbreaks/events in the HOA countries
4. To review and recommend communication strategies to address the remaining and emerging challenges in the HOA.

Unfortunately, **the risk of polio virus importation and spread remains high**, due to the following factors:

- Previous history of WPV importation to HOA from Nigeria
- The reduced scope and number of SIAs in HOA countries, initially driven by vaccine supply and recently by end-game budget constraints
- Persistently inaccessible populations partially or completely unreached during SIAs
- Persistently low RI coverage
- The prospect of further reductions in funding over the coming years
- The remaining subnational surveillance gaps in HOA countries
- The weak outbreak response capacity in many countries
- The fact that IPV has not been introduced in Eritrea and Tanzania, and IPV stock outs exist in Uganda, Sudan and Ethiopia, all of which due to the ongoing global shortage of IPV.

Continued conflict and insecurity in Sudan, South Sudan, Somalia, and Yemen have left an estimated 730 000 children inaccessible for immunization.

Given the above risk factors, the TAG urges the HOA countries to take further steps to maintain their polio-free status. The TAG expressed that it is critical to sustain top quality surveillance, population immunity and outbreak preparedness at the sub-national level of each country in the HOA.

The TAG congratulates the HOA countries for implementing most of the recommendations from the 15th HOA TAG and for progress in building strong C4D networks in many countries and integrating C4D into the response.

However, while recognizing the progress, the TAG emphasizes that the work is not complete.

In addition to maintaining polio free status, with the current humanitarian crises in the HOA, polio assets and resources must be sustained to facilitate health activities in humanitarian emergencies. The programme should seek co-financing arrangements for such functions, particularly where front line polio workers also function as front line humanitarian actors.

Preamble

The 16th meeting of the HOA TAG was held from the 11th to the 12th of May, 2017 in Nairobi, Kenya under the chairmanship of Dr. Jean-Marc Olivé. The meeting was opened by Dr David Soti, Head Preventive and Promotive Health Services, Ministry of Health, Kenya. In attendance were delegations from Ethiopia, Kenya, Sudan, South Sudan, Somalia, Yemen, Uganda and representatives of BMGF, CDC, CORE group, Red Cross, Rotary, UNICEF, USAID and WHO.

The last (15th) HOA TAG meeting was held from the 6th to the 8th of September 2016 in Nairobi, Kenya, followed by a teleconference in December 2016 to discuss the implementation status of the 15th TAG recommendations.

Globally, there are three polio endemic countries: Pakistan, Afghanistan and Nigeria. At the end of 2016, a total of 37 WPV type 1 cases and 64 WPV type 1 isolates from other sources[1] had been reported. As of the 9th May 2017, a total of 5 WPV type 1 cases and 40 WPV type 1 isolates from other sources have been reported.

The recent outbreak response assessments in Nigeria and Lake Chad countries concluded that transmission of WPV and VDPV2 has not been interrupted. The most recent WPV was isolated on the 21st August 2016, and the most recent cVDPV2 was isolated on the 28th October 2016. In the context of repeated importations of WPV from Nigeria into HOA countries since 2000, the outbreak continues to pose a threat.

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2. To discuss the status of surveillance and level of immunity in the HOA countries, particularly in hard to reach populations and inaccessible areas; and to make recommendations on how to guard against missing low level transmission
3. To review the status of preparedness to respond to polio outbreaks/events in the HOA countries
4. To review and recommend communication strategies to address the remaining and emerging challenges in the HOA.

[1] Other Sources include environmental samples or isolates from healthy children and contacts

Conclusions and Recommendations

1. General Conclusions

The active WPV and VDPV2 outbreaks in Nigeria and Lake Chad countries are deeply concerning and pose a high risk to HOA countries, given the history of polio virus importation from this area.

The ongoing conflict and insecurity in South Sudan, Somalia, Yemen and Sudan continue to impact negatively on access to children and surveillance efforts. The TAG appreciates and congratulates the efforts made by these countries to maintain programme delivery, in very difficult situations. Despite these efforts there remain an estimated 730 000 children completely inaccessible and more than 1 million children in partially accessible areas.

Polio programme improvements have been made since the last HOA TAG meeting, and the TAG congratulates the HOA countries for implementing most of the recommendations from the 15th HOA TAG. The TAG also appreciates the ongoing work done by the HOA coordination office, enabling coordinated surveillance and intervention activities within countries and across the borders of HOA. The TAG emphasizes the importance of continuing this function through the end of 2017, and probably beyond.

In recognizing the progress, the TAG highlights that the work is not complete and complacency must be avoided as long as risk of active transmission remains. HOA countries must strengthen and sustain surveillance systems, and create linkages with other communicable disease programmes, to ensure continuation and sustainability in the long-term.

The TAG congratulates Somalia for implementing transit point vaccination in inaccessible areas and for GIS mapping.

The TAG has major concerns with declining quality of surveillance. In Kenya, TAG noted declining surveillance performance indicators. In Ethiopia, TAG noted the increasing number of AFP cases with unknown immunization status, and the increasing number of underperforming districts. In Somalia, TAG observed the majority of AFP cases were under 5 years old. In South Sudan two AFP cases from 2016 are still pending classification from the Expert Review Committee and four other AFP cases are pending laboratory results from 2016. The country also faces serious challenges with discarded collected samples due to non-availability of UNHAS flights.

With the continuing risk of WPV importation and VDPV emergence, it is crucial that HOA countries utilise mechanisms such as polio outbreak simulation exercises (POSEs) as a mechanism to develop robust outbreak response plans and thereby to strengthen preparedness and response capacity for polio events and outbreaks. The TAG congratulates the HOA coordination office for the implementation of POSEs in Kenya, Tanzania, Ethiopia, Eritrea & Sudan.

The TAG commends countries for the progress in implementing previous C4D recommendations, and for building strong C4D networks in-country and integrating C4D into the response.

With the current humanitarian crises in the HOA, countries should continue to use the polio network for other health interventions and humanitarian response. However as the GPEI programme begins

to transition polio assets, countries and partners investing in health will need to support the network in other ways to ensure its sustainability. The TAG is concerned that despite early warnings of a decrease in polio funding, countries are still not prepared with alternative resource mechanisms to sustain the gains achieved in the last several years.

The TAG endorsed the 2017 SIA calendar for HOA countries (see Figure 1 below), with minor adjustments to timing of campaigns in Somalia, Yemen, Djibouti and Sudan.

HoA Countries Proposed and Implemented SIA Calendar, 2017

HoA Countries	Jan	Feb	Mar	Apr	Jun	Jul	Aug	Sep	Oct	Nov	Comments
Somalia		100%	100%			30%	30%		100%		
Ethiopia								33%		33%	Moved from Feb to Sep
Kenya	33%			47%							Moved from Mar to April
South Sudan		100%	100%						100%	100%	
Sudan				50%						65%	Nov increased to 65%
Uganda					67%						Moved from Mar to Jun
Djibouti								100%			Moved from Mar to Sep
Tanzania											
Yemen		100%				100%			100%		Moved from May to Jul

Conducted Planned

Figure 1: HOA countries proposed and implemented SIA Calendar, 2017

2. Conclusions specific to the meeting objectives

Objective 1: To provide an update on the status of global polio eradication with particular emphasis on Nigeria and the Lake Chad Region and make recommendations for averting re-importation of virus into HOA

The TAG is deeply concerned by the ongoing transmission of WPV and VDPV in Nigeria and Lake Chad countries. The outbreak continues to pose a threat of importation to HOA, given the current immunity and surveillance gaps and the history of polio virus importation into HOA countries. These concerns are heightened with the use of mOPV2 in challenging areas without ensuring that vaccine management and quality of SIAs requirements are met. The summary of WPV, cVDPV2 and VDPV2 isolates can be seen in the. See Figure 2 below indicating all positive isolates from Nigeria.

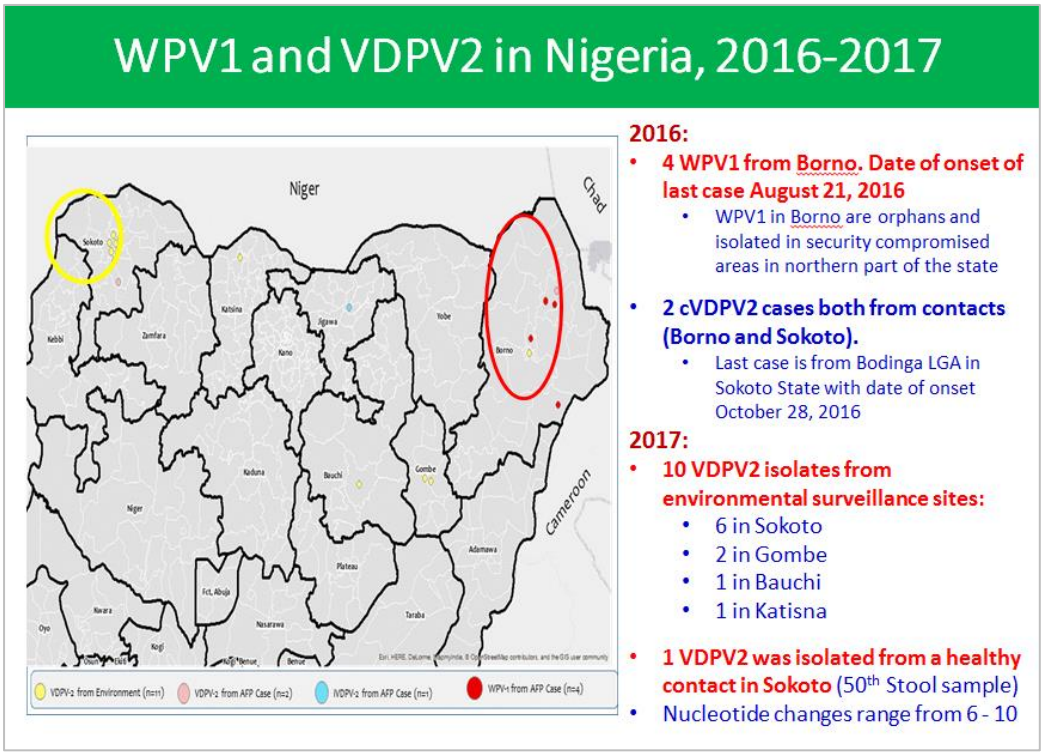


Figure 2: WPV1 and VDPV2 in Nigeria, 2016 - 2017

Objective 2: To discuss the status of surveillance and level of immunity in the HOA countries, particularly in hard to reach populations and inaccessible areas; and to make recommendations on how to guard against missing low level transmission

Gaps in subnational surveillance are evident, particularly in Kenya, Ethiopia and South Sudan (See Figure 3, 4, 5 and 6). The recent surveillance review conducted in Kenya concluded that the surveillance system is not robust enough to detect polio virus circulation in a timely manner.

Population immunity relies heavily on SIAs, particularly in Yemen, South Sudan, Somalia and Sudan. The same countries have approximately 730 000 children in inaccessible areas (See Figure 7), amplifying the risk of ongoing undetected virus transmission if importation from the Lake Chad region occurs.

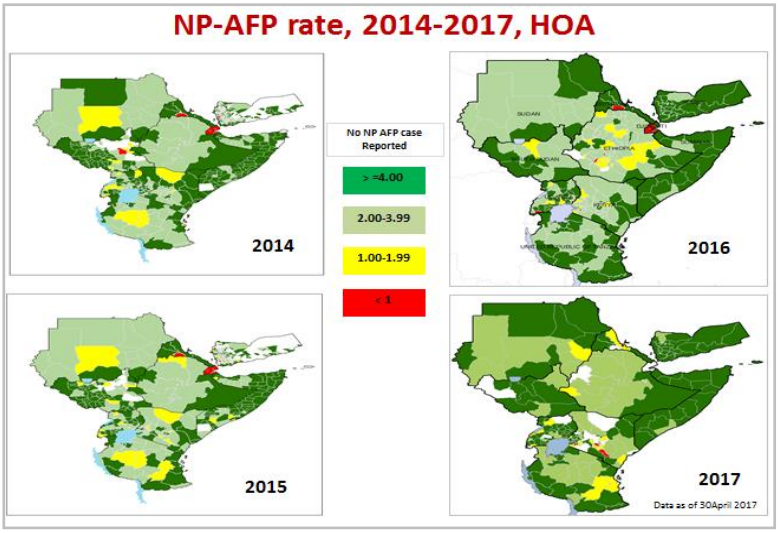


Figure 3: NP-AFP rate, 2014-2017 HOA

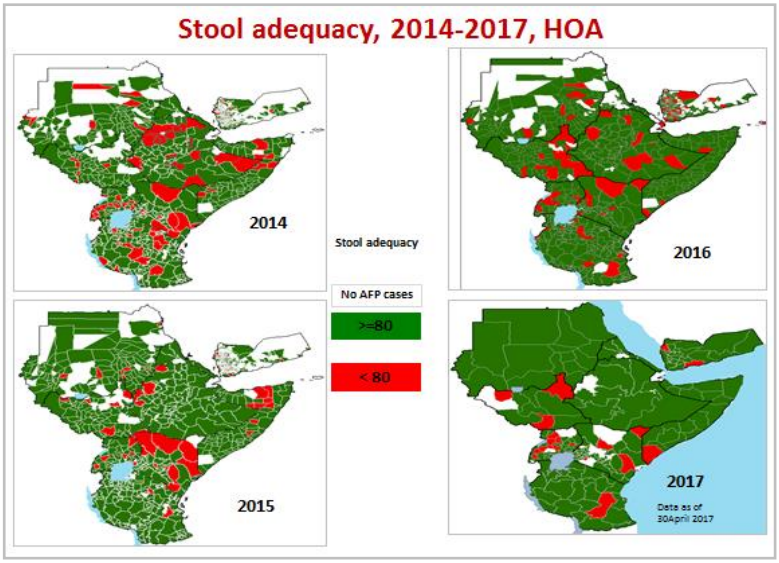


Figure 4: Stool Adequacy, 2014-2017 HOA

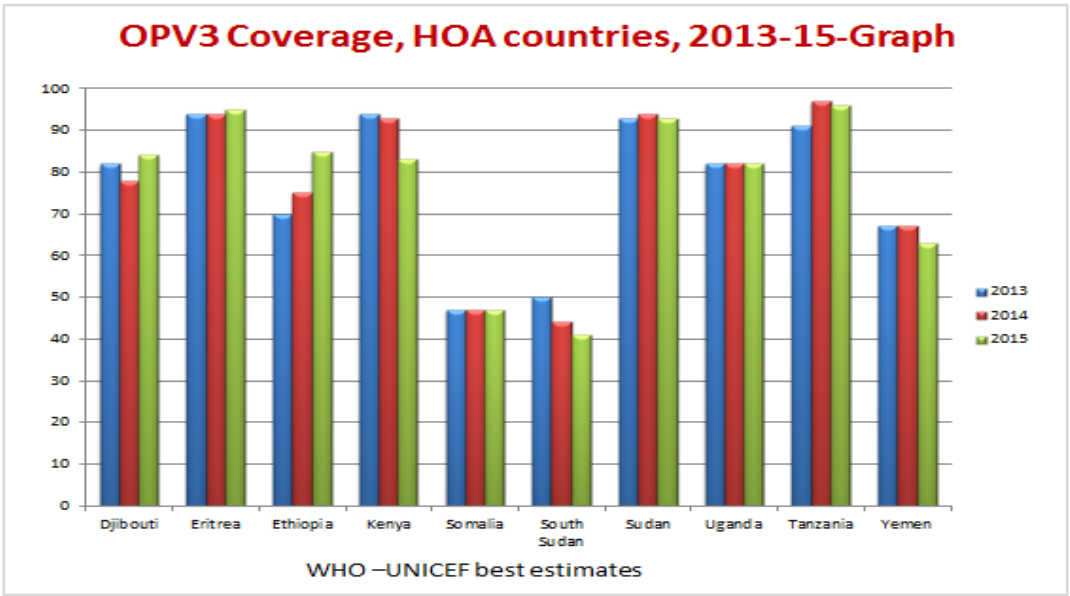


Figure 5: OPV3 Coverage, HOA countries, 2013-2015

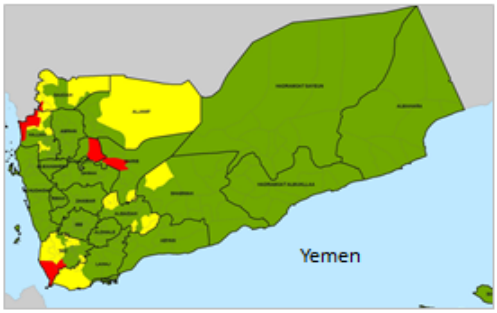
Validation of AFP cases, 2017

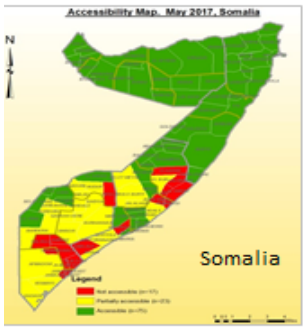
Country	Validation%	2017 epi Week
Djibouti	Not done	
Eritrea	Not done	
Ethiopia	49	W13
Kenya	21	W4
Somalia	51	W13
South Sudan	70	W16
Sudan	92	W18
Tanzania	Not Done	
Yemen	63	W13
Uganda	74	W10

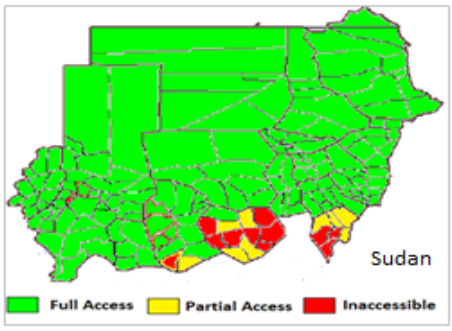
Figure 6: Validation of AFP Cases 2017

Children in inaccessible areas, May 2017

Access status	South Sudan	Somalia	Yemen	Sudan	Total
Partially accessible areas	16,282	655,967	363,864	109,222	1,145,335
Completely inaccessible areas	296,320	236,081 (400,000 in 2016)	51,972	142,532	726,905
Total population U5 in security challenged areas	312,602 (450,000 in 2016)	892,048	415,836 (600,000 in 2016)	251,754 (305,867 in 2016)	1,872,240







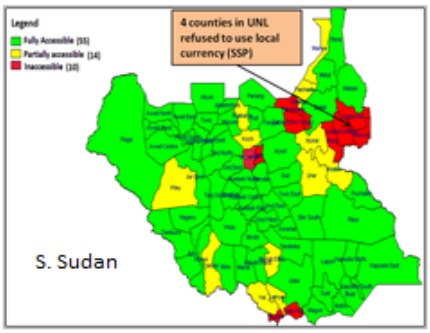


Figure 7: Children in inaccessible areas, May 2017

Objective 3: To review the status of preparedness to respond to polio outbreaks/events in the HOA countries

Ensuring preparedness in outbreak response remains critical for HOA countries at high risk of WPV/cVDPV2 importation and VDPV emergence. POSEs remain an opportunity to identify weaknesses and modify outbreak response plans to ensure response readiness. Low scoring POSEs conducted in Kenya, Eritrea, Tanzania and Ethiopia are noted, while the results of a second POSE conducted at subnational level in Sudan are encouraging (See Figure 8). The HOA Coordination office did not manage to conduct a POSE in Somalia and South Sudan.

Given the continuing risk, it is of utmost importance to maintain and further strengthen communication capacity, including crisis communication across HOA countries.

Polio Outbreak Simulation Exercises (POSEs) HOA, 2016-2017

Country	Date Conducted	Score (%)	Date of next POSE
Ethiopia	12-19 Oct, 2016,	44.8	Repeat (3rd Qtr, 2017)
Eritrea	18-22 July 2016	54.5	
Kenya	27-29 March 2017	66.0	
Tanzania	22-23 June 2016	68.0	
Uganda	13-14 August 2015	75.0	
Djibouti	09-10 Feb 2016	Pass *(score not available)*	Oct 2017 (refresher)
Somalia			05-07 Sept, 2017
Sudan	04-10 Mar, 2017	Pass *(score not available)*	
South Sudan			To be confirmed
Yemen			Sept, 2017

Figure 8: Polio Outbreak Simulation Exercises (POSEs) HOA, 2016-2017

Objective 4: To review and recommend communication strategies to address the remaining and emerging challenges in the HOA

As recorded in the last TAG, the overall social environment remains conducive to polio campaigns as evidenced by high campaign awareness across HOA countries (See Figure 9). However, children are still being missed due to both operational and social reasons.

The challenge for countries in or emerging from conflict is keeping the C4D networks in play amid dwindling resources. Innovations around mobile populations are laudable and need to be built upon from a C4D perspective.

Transition strategies should engage more concretely with the imperative of maintaining hard-won C4D assets and for leveraging RI and resources for other health emergencies.

Communication training for outbreak preparedness and response should be conducted annually to address high staff turnover in MOH and UN partners.

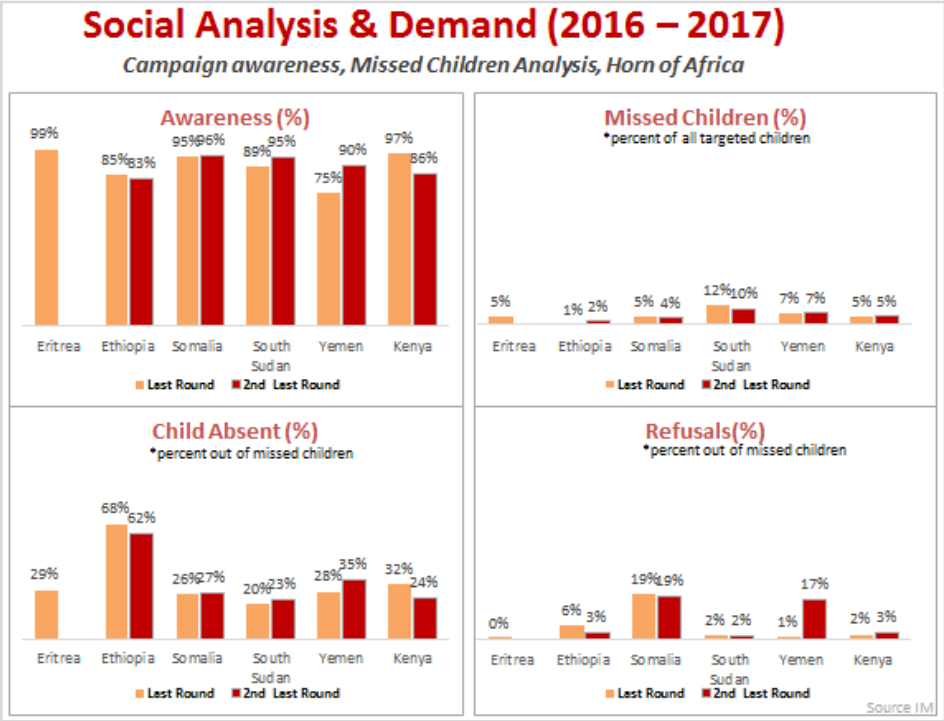


Figure 9: Social Analysis and Demand (2016-2017)

IN CONCLUSION, considering the:

- Previous history of WPV importation to HOA from Nigeria
- Reduced scope and number of SIAs in HOA countries, initially driven by vaccine supply and recently by end-game budget constraints
- Persistently inaccessible populations partially or completely unreached during SIAs
- Persistently low RI coverage
- prospect of further reductions in funding over the coming years
- Remaining subnational surveillance gaps in HOA countries
- Weak outbreak response capacity in many countries
- Fact that IPV has not been introduced in Eritrea and Tanzania, and IPV stock outs exist in Uganda, Sudan and Ethiopia, all of which due to the ongoing global shortage of IPV.

The HOA countries continue to be at high risk of WPV transmission should importation occur.

3. Cross cutting recommendations

Surveillance:

- Implement recommendations from surveillance reviews conducted in Somalia and Kenya and monitor progress quarterly
- AFP case validation should continue focusing on particular cases from areas that are low performing or with compromised access, to ensure that:
    - the location of onset of the case is reported correctly, and
    - basic information on the case investigation form (including immunization status and specimen collection dates) is correct
- Start implementation of environmental surveillance (ES) in Somalia, Yemen, Sudan and South Sudan
- Consider innovative strategies such as GIS mapping and Open Data Kit (ODK) to improve data collection and micro planning
- Explore possibilities of CORE group establishing community based surveillance across the Uganda/South Sudan borders.

Improving population immunity:

- Conduct validation of micro-plans in between rounds
- Strengthen ongoing efforts to improve routine immunization in areas with high numbers of missed children and report on these efforts to the next TAG
- All countries to report at time of vaccine request, on utilization and stock level, as per guidelines.

Outbreak preparedness and response:

- Implement POSEs in Somalia, South Sudan and Yemen, in 2017
- In 2017, following operational improvements, repeat POSEs in all countries that have already conducted one: Kenya, Tanzania, Ethiopia, Djibouti and Uganda
- Update national outbreak response plans in line with POSE findings, including communication
- Continue efforts of information exchange between countries at cross border areas and document these activities - to be presented at the next TAG.

Communication:

- Ensure use of updated social mapping, the analysis of high risk populations, and the reasons for missed children, in the preparation of evidence-based communication plans, according to various accessibility profiles
- Complete capacity building of Frontline Workers and ensure rigorous monitoring of outputs and outcomes
- Reinforce and monitor outreach strategies for mobile populations and activities, specifically in border areas.

Transitioning of polio assets:

- With the current humanitarian crises in the HOA, countries should continue to use the polio network for other health interventions and humanitarian responses
- Considering that overall epidemiological surveillance and delivery is part of the polio network, Somalia and South Sudan should take this into account in their transition planning, and particularly in identifying alternative financial resources
- WHO HQ to provide TAG members and HOA office an update on the status of transition in HOA countries.

4. Country specific recommendations

General comment: The TAG recognized and appreciated the documentation prepared by countries and submitted in advance, as well as the country specific presentations during the TAG meeting. This documentation is summarized in the country summaries in Annex B. *However, it believes that in some countries more attention needs to be paid to data accuracy, quality. completeness, and analysis.* The TAG looks forward to data improvements at its next meeting.

Somalia

- Continue implementation of contact and healthy children sampling as appropriate
- Map and monitor the inaccessibility status down to settlements, and continue negotiating access for vaccination and surveillance
- Continue to explore geo-mapping of AFP cases (especially in South and Central Somalia)
- Roll out e-data collection and integrate GIS maps in the micro planning process of Puntland and Somaliland during the next SIAs
- Continue transit point strategies
- Implement quality and evidence-based district communication plans and monitor implementation results in accessible districts

- Explore the mapping of available partners and resources to influence innovative strategies that will strengthen immunisation and outbreak response in inaccessible areas.

Ethiopia

- Urgently address the issue of declining quality of AFP surveillance in low performing districts
- Ensure that surveillance officers systematically check that immunization status of AFP cases is captured in the initial case investigation
- Scale up community based surveillance particularly in Somali, Afar and Gambela regions
- Address the recurring micro planning challenges prior to the next SIAs
- Implement systematic contact sampling for high risk regions
- Update outreach efforts for nomadic and pastoral populations and ensure targeted interventions to these mobile populations are part of the immunization strategy.

Kenya

- Report on implementation of recommendations from the November 2016 surveillance review during the 3rd quarter 2017, and follow up on implementation through ICC, with reporting at the HOA-TAG TC
- Ensure that surveillance officers systematically check that immunization status of AFP cases is captured in the initial case investigation
- Review and address bottlenecks in financing surveillance and SIAs activities, including ES *at county and sub-county levels*
- Intensify and implement strategies addressing children who are persistently missed due to operational and social reasons.

South Sudan

- Conduct a surveillance review before the end of 2017
- Urgently address the issue of discarded collected samples due to non-availability of UNHAS flights
- Expand the use of Rapid Response Missions to vaccinate inaccessible populations, including other antigens (Measles and Penta)
- Expand transit point vaccination strategies
- Ensure classification of all AFP cases within 120 days, including all pending 2016 AFP cases
- Expand social mapping for all states and counties and adapt an integrated communication strategy accordingly
- Conduct four rounds of SIAs in both 2017 and 2018.

Yemen

- Conduct a surveillance/desk review before the end of 2017
- Ensure that the two remaining SIAs are implemented before the end of 2017
- Continue efforts to reduce shipment delays
- Start implementation of community based surveillance
- Develop an integrated, evidence-based, health promotion strategy with a focus on immunisation and polio.

Sudan

- Conduct a surveillance review by the end of 2017
- If the immunisation status of the NPAFP cases does not improve by the end of 2017, the country should implement a full national round in early 2018
- Intensify efforts to reach inaccessible children in South Kordofan and Blue Nile
- Use every opportunity to administer extra vaccination doses in newly accessed areas
- Prepare an analytical update on the findings of social mapping of high risk populations and analysis of reasons for missed children; factor the implications into the communication plan.

Next meeting of the TAG

The next meeting of the HOA TAG is proposed for February, 2018.

The TAG will also review the status of implementation of the recommendations via teleconference in September, 2017.

Leading up to the next meeting of the TAG, it was proposed that the TAG play an expanded advocacy role with certain countries. In addition, the TAG should play a support role, when requested, in implementation of critical country level activities, such as surveillance improvements and outbreak response preparedness.

Annex A: Questions to the TAG

Somalia:

Q. Considering the unique situation of Somalia, can the TAG advise on the best way forward for the transition process in Somalia?

A. Polio frontline workers are already involved in delivering humanitarian health interventions. In the context of the polio ramp down, it is essential to explore if other humanitarian partners can begin to co-fund the critical infrastructure built by the polio programme.

South Sudan:

Q. Should the country continue to conduct 4 rounds of National SIAs, due to low Routine Immunization, for the next 2 years?

A. Yes for 2018

Q. Should South Sudan be given special preference due to the Polio ramp down, such that International STOP are maintained until the integration of NSTOP to the MOH.

A. Yes but this will depend on CDC and the security situation

Kenya:

Q. In light of the current PEI ramp-down, what advice do they have for countries on the next steps in transition planning?

A. As the asset mapping is done, develop the simulation and business plan. Aggressively look for replacement donors.

HOA Countries:

Q. From the information and risk presented, what will be the TAG assessment of the possibility of re-importation from the current Nigeria outbreak?

A. High probability if transmission in Nigeria and Lake Chad Region is not interrupted soon

Q. Is the way forward, including the 2017 EOMG proposed SIA calendar for HOA appropriate?

A. Yes with slight modifications

Q. How do we sustain the gains made in the HOA since the outbreak?

A. Maintaining high quality surveillance, improve and maintain population immunity and ensure robust outbreak response plans.

Q. How to maintain the coordination and collaboration considering the closure of HOA office

A. As recommended in the assessment, the HOA coordination office should continue till end 2017, and a decision for 2018 and beyond needs to be made in Q4, 2017.

Annex B: Country Summaries

Country Summary: Kenya

Background: Kenya had a WPV1 outbreak in 2013 with a total of 14 confirmed cases. The last case was detected on 14 July 2013. After the outbreak, 14 rounds of SIAs were conducted in 2013-2014. The outbreak was declared closed in June 2015 and since then 7 preventive SIAs have been conducted in 2015-2017.

AFP surveillance*:* As of week 16 of 2017, 164 AFP cases had been reported compared with 241 cases during similar period in 2016. The national non-polio AFP rate is 3.03/100000 and stool adequacy of 89%. 55% (26 of 47) counties have met non-polio AFP rate of >=2/100000 while 60% (28) counties attained minimum stool adequacy rate of 80%.

An External Surveillance Review was conducted in November 2016. The national surveillance improvement plan developed in July 2016 is currently being implemented. In February 2017, the country updated its EPI annual work-plan to incorporate AFP surveillance activities in the improvement plan and recommendations of 15th HOA TAG meeting and External Surveillance Review. These include support to active AFP case search, AFP case validation, supportive supervision, surveillance review meetings, polio containment committee meetings, and sensitization of clinicians, traditional healers and health workers.

Environmental Surveillance was established in Kenya from 2013 to complement AFP surveillance. Currently, the country has 9 collection sites located in 4 counties namely; Garissa, Mombasa, Kisumu and Nairobi.
Immunization campaigns: Two rounds of polio SIAs conducted in 2017 with bOPV. In January 2.94 million children <5yrs. in 15 high risk counties were targeted and 2.97 million reached. The April SIA targeted 4.5 million children <5yrs. in 22 counties and 4.7 million

Monitoring the quality of SIAs Both SIA rounds had independent monitoring [IM] coverage of 95%. In the April round, lot quality assurance sampling [LQAS] was conducted in 6 counties. Out of the 18 sub-counties sampled, 8 had acceptable coverage >90% while 8 had coverage between 70-90% and 2 had coverage between 60-69%. Feedback from both IM and LQAS shared with counties to improve on successive SIAs.

Routine immunization: The National Vaccines and Immunization Programme (NVIP) held a national immunization consultative forum in February 2017 where all counties were represented. Sub-national routine immunization [RI] performance was reviewed and county-specific improvement plans were developed.

In March, NVIP updated its M&E framework and 2017 RI denominators. Support supervision on data quality self-assessment (DQS) and RI is planned for May 2017 in select counties as part of Gavi TCA support activities.

The country introduced Measles Rubella vaccine in routine immunization schedule in November 2016. Gavi HSS funding available for the country is proposed to support national systems strengthening with focus on 16 counties with highest number of unvaccinated children, poor immunization coverage and marginalized and highly mobile populations.

Communication for Development (C4D): Kenya's C4D strategy focuses on polio within the overall child health promotion (including RI) as a positive social norm. The national outbreak response plan is updated and includes a communication component. The country's communication and social mobilization strategy is updated to include risk communication guidelines.

The SIA communication products and vaccination teams' trainings developed for the 2017 polio SIAs were informed by reasons for missed children from 2016 polio SIAs and 2016 Measles/Rubella campaign. The two main reasons for non-vaccination during SIAs were: 'house not visited' and 'child absent'. Child absent as a

reason for missed children decreased from 31% in the last polio SIA of 2016 to 24% in the April 2017 round while campaign awareness increased from 86% to 97% and that refusals are at an all-time low of 2%.

Two innovative strategies namely the School Strategy and the Immunization Champions Strategy have been transitioned to support RI with funding from GAVI as part of the communication related interventions.

Accessibility: The quarterly risk assessments take into consideration accessibility to services in the counties. This is a challenge mainly in the vast counties of northern and eastern parts of the country. Currently, accessibility is further compromised by insecurity in certain counties, namely Baringo, Laikipia, Mandera and Lamu.

Cold chain capacity and vaccine management: The Cold Chain Inventory and gaps were shared with counties during the National Immunization Forum in February 2017. A procurement plan under the anticipated Gavi Cold Chain Equipment Optimization Platform (CCEOP) -with projected cold chain equipment requirements up to 2020- was also shared. In April 2017, NVIP and partners in the Logistics Working Group self-administered the Effective Vaccine Management Assessment (EVMA) at the Central Vaccine Stores to assess the level of efficiency.

Preparedness for outbreak response: Kenya's POSE was conducted from 28TH – 29TH March, 2017. The national outbreak preparedness and response plan was updated including communication component. In their preliminary report, the external evaluators stated that the existing national polio preparedness and response plan developed was generally in line with the April 2016 SOPs. They observed further that the technical capacity to respond to a polio outbreak is available; however coordination through the national steering committee [NSC] had some gaps that need to be addressed in line with the roles of NSC clearly stipulated in the plan. The overall score for the country in the exercise was 66%. It was recommended that Kenya should conduct a mock simulation at the country level once the plan is finalized to bridge gaps identified.

Transition Planning: Gavi funding has been secured to support communication and demand generation activities including KAP and needs assessments and capacity building of front line staff in the area of communication and social mobilization

Remaining challenges: (1) Inaccessible/partially accessible areas and Hard to reach populations: strategies developed to address urban HTR populations using formal and informal community structures and gatekeepers. (2) Cross-border areas: cross-border health initiative supported by CORE Group conducted community health volunteers (CHV) and community mobilizers' trainings, held quarterly cross-border meetings, and developed community surveillance materials (3) Nomadic populations: riding on other government departments that provide services to nomadic communities e.g. livestock, education, drought management/feeding programs and internal security to track movements and use of Use of nomadic tracking tool

Way forward: Annual joint planning of National and County levels for better allocation of resources to mitigate effects of devolution that have impacted negatively on RI and surveillance; Regular meetings at national and sub-national levels to review and monitor RI and surveillance performance; Continued advocacy with both national and sub-national levels of government for surveillance budget line; Partners and other stakeholders continued support for RI and surveillance

Country Summary: Somalia

Background: Somalia is celebrating over 2 years and 8 months since the last case of polio was reported in Mudug region in August 11, 2014. Most of the recommendations made by the 15th HoA TAG are being implemented accordingly, and the implementation progress of these recommendations is monitored and reported in the Monthly SITREP.

AFP surveillance: There are 870 active AFP reporting sites distributed across Somalia, most of health facilities are operated by partners (NGOs and private institutions).The calculated national and zonal AFP surveillance indicators are above the recommended international standards. From January 1, 2017 to date 122 AFP cases were reported. The number of reported AFP cases at the same time in 2016 was 102. Of the 122 AFP cases, 108 are discarded and 14 are pending laboratory results. Case detection rate within 7 days is 93%, AFP case investigation within 48 hours is 98%, stool adequacy is 98% and the annualized non-polio AFP rate is 6.8. The non-polio enterovirus and sabin like virus isolation are 12% and 11% respectively. In 2017, 85/115 districts and all regions of Somalia have reported at least one AFP case. The surveillance system has been strengthened through innovative strategies including community surveillance, AFP case validation, zero dose investigation, contact and healthy children sampling, geocoding of AFP cases and surveillance training and surveillance review..

Immunization campaigns: Since the last TAG, the program has conducted 4 NIDs (October, November 2016 and March and April 2017). Puntland conducted NID Round 1, in April and will conduct NIDs 2 in May 2017. There will be 2 hard to reach campaigns in July and August, and an additional NID (round 3) in October 2017. In addition, Somalia is providing permanent transit points vaccination sites. There are 419 Transit point vaccination teams who are strategically placed to capture children on the move mainly from inaccessible areas to accessible areas as well as at ports of entry in Mogadishu, Berabera, Bosaso among others. In total 772,991 under 10 years old children were given OPV at these transit points since the beginning of 2017. Of these, 64,311 (8%) had no history of previous vaccination (zero dose). There are 43 new transit point sites located inside the completely inaccessible areas, since the first week of 2017, a total of 82,058 <10 years children were reached through this newly established permanent vaccination sites in fully inaccessible area in South and Central zones. 66.0% (n=53,761) of the children are vaccinated for the first time

Monitoring the quality of SIAs: Independent Monitoring (IM) and Lot Quality Assurance Sampling (LQAS) methodologies are carried out after every SIA in all zones. The IM coverages for NID-R1 are; Somaliland – 97%, Puntland – 98%, South – 92% and Central – 94%. Twelve districts in Central and South zones reported poor quality SIAs in at least 3 of the last 4 rounds (IM<90%). LQAS was introduced in South and Central zones after the last TAG on October 2016.

Routine immunization: Routine immunization coverage is low in Somalia. Efforts to strengthen routine EPI in all zones of the country were discussed and outlined in the 6-month and annual work plans. Measles immunization was conducted in some parts of Somalia to respond to ongoing a measles outbreak. The program is focusing on improving RI in this regard, to improve the population immunity. The country is receiving support from GAVI for 25 districts. There is funding gap for the remaining districts.

Communication for Development (C4D): The Somalia program is using a combination of C4D strategies including, high level advocacy with stakeholders, ministries, religious leaders, schools, radio, megaphone announcements and house to house community mobilization. Communication in the national polio outbreak preparedness and response plan was reviewed early 2017. Special emphasis is laid upon the sensitization of mobile nomadic populations. Specially trained mobilizers are set to reach and sensitize these populations with the support of duly trained nomadic elders. Polio IEC materials were also produced, with a special focus

on polio surveillance FAQ leaflets and posters were produced and dispatched to all 3 zones, in addition to the usual printed material on polio vaccination (posters, banners, mobilizers aprons)

Accessibility: Accessibility challenges continue particularly in the South and Central zones. As of April 2017, 17 districts were inaccessible and 23 partially accessible. As of January 2017, 446,152 (15% of total under 5 children) remain inaccessible, of whom 230,000 have never been accessed since 2013. In order to ensure that SIADs are being carried out without any delays, the program has developed preparedness micro-plan for all inaccessible districts.

Cold chain capacity and vaccine management: There are more than 500 ILRs and 250 Deep Freezers in good working condition in Somalia. A total 224 SDDs were procured thru supply division to replace place the kerosene and obsolete equipment as well as establishment of new health facilities. Among the health facilities equipped, were the newly accessible districts in South Central regions of Tieglow, Elberde, Wajid and Buloburti among others. One more cold room in Dusamareb is completed and 25 generator sets have been ordered to support the zonal and regional vaccine stores. In order to improve vaccine quality, all cold rooms have been installed with central temperature (4 CTM) and 25 computers procured and distributed for data management at all regional and zonal vaccine stores. Refresher trainings in vaccine management have been conducted were all regional and zonal managers have participated.

Preparedness for outbreak response: The outbreak preparedness plan was revised in April 2017 and has been shared with the zones so that they can adopt to their respective zones. The country will conduct outbreak simulation exercise before the end of 2017.

Transition Planning: There are no major achievements in the transition planning for Somalia. There was a UNICEF hired consultant who conducted asset mapping and has left. Somalia is still at the coordination stage of this activity.

Remaining challenges: Large number of unreached children, inadequate supervision of active surveillance sites, low routine Immunization and risk importation of WPV from endemic country.

Way forward: Improve micro-planning for immunization activities by using the digital maps. Establish some permanent immunization sites in the inaccessible districts. Utilize the developed electronic supervision checklist for active sites visits. Work with partners to improve RI and developed integrated Polio/EPI activities plan.

Country Summary: Ethiopia

Country Background Information: Ethiopia is the most populous nation of the Horn of Africa Region. While most of Ethiopia's population resides in central and northern highlands, the eastern, western and southern lowland borders are sparsely populated and inhabited by mostly pastoralist communities. In addition to free movements of these pastoralists, the refugees and other vulnerable populations cross to Ethiopia from Somalia and South Sudan. Projection from 2007 Census indicates that 94.3 million population lives in Ethiopia distributed into 9 regions and city administrations. The country has also many refugee populations (in camps) from Somalia, South Sudan and Eritrea.

AFP surveillance: Ethiopia has maintained certification level AFP surveillance performance since 2004 at national level. The case detection per 100,000 <15 population has shown a slight decline in 2016 (NP-AFP rate 2.5) compared to 2015 performances (NP-AFP rate 3.1). Almost all (82%) regions and 72% of zones have achieved both detection and stool adequacy rates during 2016. However, 23% of woredas were silent during 2016. The rate of unknown OPV vaccination status in 2016 was 3%, much lower than the 8% during 2015. Somali region was one of the best performing regions with NP-AFP, stool adequacy and NPENT rates of 4.3, 92% and 13.6%, respectively. Although recruitment and training of community volunteers is at 45%, the implementation of community surveillance has continued in Somali Region. Efforts are being made to increase reach of population with community surveillance volunteers. Somali region has continued to perform well. However, sub regional gaps exist in other regions.

Immunization campaigns: Ethiopia conducted three SNIDs (Feb, Aug and Dec) and one NID (Apr) during 2016. The SNIDs were implemented in high risk and border zones/regions of the country covering nearly 33% of the population and all refugee camps.

Monitoring the quality of SIAs: Micro-planning, training, supervision, rapid convenience monitoring and independent monitoring activities were in place during all polio SIAs implemented in 2016. Independent monitoring processes during all rounds revealed that the rates of missed children are still significant (as high as 26% in major urban areas like Dire Dawa and Hareri). IM coverage for refugee camps during Dec 2016 SIA was 98%. Absence of children (58-74%) followed by failure of the vaccination team to visit the houses (7-26%) was cited as major reasons for being missed.

Routine immunization: Ethiopia continued to implement RI improvement plan in 2016 and Q1 of 2017 with primary focus on low performing and high risk areas. Moreover, RED/REC is being implemented in priority zones. The proportion of zones achieving a minimum 80% OPV-3 coverage has increased from 29% in 2013 (baseline) to 66% in 2016. However, the national admin coverage has slightly decreased during 2016 (89%) compared to 2015(92%). On the other hand, contrary to many agrarian regions, progressive improvements were seen in RI coverage in pastoralist (Afar and Somali) and Benishangul Gumuz. Though permanent crossing point sites couldn't be sustained after Dec 2015, regular RI services are conducted in refugee camps.

Communication for Development (C4D): C4D is well addressed in the revised polio preparedness and response plan. No refusal was reported during SIAs in 2016. Lack of awareness as a reason for non-vaccination for SIAs remains 2% or less during the year.

Accessibility: Ethiopia doesn't have insecure areas issues reported during 2016 despite some months of insecurity due to public demonstrations.

Cold chain capacity and vaccine management: About 2,144 SDD fridges with priority for distribution given to pastoralist and border areas were in use during the year. Strict use of vaccine requisition form with monitoring of stock was in place for woreda and higher levels. There has been shortage of IPV nationally throughout the year. National vaccine stock being monitored using SMT.

Preparedness for outbreak response: Ethiopia developed a comprehensive polio outbreak preparedness and response plan as per the new SOPs. POSE was conducted in Oct 2016 and country score was low hence the country was advised to repeat simulation exercise following revision of the Plan.

Transition Planning: National and international consultants were recruited, the country has finalized asset mapping, documented polio best practices, simulation conducted and polio transition management group meeting held. Development of a transition plan underway. However, ramp down exercise has started which may affect the gains made over the years if not handled carefully.

Remaining challenges: Staff turnover, persisting health and nutrition emergencies (especially drought, food, water and pasture shortages, malnutrition, acute watery diarrhea and other VPD outbreaks which take significant amount of time of polio staff; decreasing polio fund leading to a decline in staffing trends; importation of fresh reference virus cells for polio lab is yet under discussion with AFRO and CDC. Refugee influx is another persisting challenge in Ethiopia. RI is generally under-funded.

Way forward:

- Continue the support in all areas of the country with a priority to high risk and border regions. AFP case validation (at least 80%) and follow up of late/inadequate cases (100%) will be given emphasis.
- Continue to mobilize funds to fill human resource gaps with temporary staff
- The AFRO KPIs are to be introduced and aligned with the existing accountability dashboard for strategic support to priority areas.
- Deploy international STOP to under-performing areas; Recruit and deploy national STOP in Gambella and Somali regions

Country Summary: Yemen

Background: Yemen is free form Wild Polio virus since February 2006. Yet, due to the current war situation in Yemen, concerns are raised about the humanitarian situation in general and the challenges facing health system in particular. Between the destruction of infrastructure, internally displaced population and huge economic constraint, the health sector faces enormous challenges to sustain its services and its progress. Moreover, according to humanitarian agencies, the estimated population in need of humanitarian aid are more than 23 million people, which is around 80% of the population, around 10% of the population is internally displaced.

AFP surveillance: AFP surveillance indicators in 2017 reached the targets, and also exceeded the 2016's rates. The annualized non-polio AFP rate reached 5.6 per 100,000 children less than 15Ys in 2017 and sample's adequacy rate is 92 % compared to NPAFP rate 5.4 /100,000 and stool adequacy of 91 % in 2016. The early detection rate (within 7 days of onset) in 2017 is 87% compared to 86 % in 2016. Sample transportation improved, where it is transported once a month to the referral lab, still, more improvement has to take place to prevent sending a large number of samples. Community based surveillance was established in 2016, but due to limited funding, CBS will be focused on high risk districts, inaccessible and that containing Nomads in 2017. An update to all functioning health facilities took place in order to update the surveillance sites and to monitor any possible gaps.

Immunization campaigns: Two rounds of NIDs were conducted in January and April 2016, with coverage of 93% and 92% respectively. And 1 round of NIDs was implemented in February 2017 with administrative coverage of 93%. The immunisation campaign focused on hard to reach areas and special population such as IDPs.

Monitoring the quality of SIAs*:* Monitoring and evaluation of NIDs was done with the help of WHO and UNICEF, where the electronic monitoring of campaign was introduced in 2017's campaign. IM was also given electronic devices to facilitate reporting and projection of monitored villages on maps. The PCM coverage for February NIDs was 93% by recall and 82% by figure mark.

Routine immunization: Polio eradication activities encounter many challenges such as, lack of governmental funds to pay their share in the procurement of vaccine, where UNICEF stepped in the process of procurement and transportation of vaccines to ensure its availability in the country and in health facilities. This helped the country to attain 86% of OPV coverage in 2016, where EPI program with the help and support of UNICEF, WHO, GAVI and WB implemented 5 integrated outreach rounds (IOR) in all governorates. In the latter, several services were provided, such as vaccination, nutrition, IMCI, antenatal and family planning services. IORs have been a strategy to vaccinate children in hard to reach, high risk areas and internally displaced population. Yemen switched from tOPV to bOPV in April 2016. Furthermore, 2 rounds of NSIAs were conducted in January and April 2016, with coverage of 93% and 92% respectively. And 1 round of NSIAs was implemented in February 2017 with administrative coverage of 93%. The immunisation campaign focused on hard to reach areas and special population such as IDPs.

Communication for Development (C4D): The information and education center at the ministry of health has developed its new 2017-2020 strategic plan to support EPI's activates and to advocate for Polio eradication. With the help of UNICEF, the ministry was able to face the rumors emerging before the NIDs implantation in Feb 2017. Prompt response and actions were taken involving medical personals, since the rumors were medically based targeting the safety of vaccines and it was circulating in the educated sector of the population. Moreover, the information and education program is concentrating its efforts in involving the community figures, local authorities and community leaders in areas with refusals and in hard to reach areas. In 2017, and after the refusal of vaccine entrance to the country, the ministry of health and its partners were

successfully able to advocate greatly for the importance of vaccination and polio eradication at very high political levels all over the country.

Cold chain capacity and vaccine management: Vaccine management and monitoring is conducted with the help of UNICEF and WHO, where EPI was able to conduct regular monitoring of vaccine stock at all levels, improving the reporting of vaccine stock from central and governorate levels, provide fuel regularly to cold rooms and district vaccine stores to keep them functional and provide solar refrigerators for vaccine stores and in some health facilities.

Preparedness for outbreak response: The plan of action for the detection of and response to wild poliovirus importation is adequately up-to-date and includes all data, information and the urgent actions required to respond to any potential imported polio virus wherever to take place. The plan of action for importation enables prompt action against any imported wild virus. Furthermore, rapid response teams have been established in all governorates to increase preparedness and early detection to any imported wild polio cases.

Way forward: Polio eradication program and its partners will continue working hard to strengthen surveillance and EPI through implementation of large-scale supplementary immunization activities (at least 2 NIDs per year), enhance ongoing surveillance measures through coordination with other programs in the MoPH and community involvement in the surveillance/reporting in inaccessible and high risk areas, supporting operational cost for EPI/AFP at all levels including the district level, supporting the use of the solar system for the central and governorate levels, strengthening monitoring and supervision of routine, supplementary activities and AFP surveillance. And finally, continue advocating for the importance of Polio eradication.

Country Summary: Sudan

Background: Sudan is polio free for 8 years and 7 weeks since the last case of polio was reported in Red Sea State on mid –March 2009. Sudan has implemented most of the recommendations of the 15th HoA TAG and few are being implemented.

AFP surveillance*:* Sudan has 599 reporting sites all over the country. There are 359 active AFP reporting sites. The national and state AFP surveillance indicators are above the WHO and National recommended standards. The system reported 159 cases up to week 18 2017 compared to 156 cases up to week 18 2016. One hundred and thirty one cases (82.4%) were classified as non-polio AFP and 28 cases (17.6%) are pending for classification, 27 cases are pending for primary culture at the National Polio Laboratory, one case is pending for 60 days follow up examination and another one cases is pending for classification by National Expert Group. The annualized non-polio AFP rate is 2.6 per 100,000 and it is above the recommended rate (2.0). The adequate samples collection rate is 99% at national level and it is above the recommended rate (>80%) in all of the reported states. The early detection rate (within 7 days of onset) of the cases in 2017 is 96% compared to 95% in week 18 2016. The non-polio enterovirus (NPEV) detection rate among AFP cases in 2017 is 11%. Two Sabin-like viruses were detected among AFP cases (1.6%) and one among contacts (1.5%) and a third one SLV among healthy children compared to zero in week 18 2016. The immunity profile of the AFP cases (6-59 months) shows coverage rate of 4+ OPV doses >90% for several years

WHO supported Sudan for a training workshop on Molecular ITD and Sudan Polio Lab is performing ITD with 100% consistency with Regional Lab, during 2017. Good network for community based surveillance is established in states among special population and supported by WHO. Global Action Plan (GAP III Phase 1a) for Poliovirus Containment was completely implemented with support of WHO.

Immunization campaigns: Sudan conducted one 50% SNIDs during November 2016 and another 50% snidS IN April 2017. In each round the target <5 years children are 4.2 million in high risk areas of 17 states with administrative coverage 97-98% and independent monitoring >95%.

Monitoring the quality of SIAs: Independent Monitoring (IM), and Lot Quality Assurance Sampling (LQAS) are carried out after each SIA in all states of Sudan. The IM coverages for SNIDs November 2016 97.7% while the IM results for April 2017 round will be presented for HOA TAG on 11th May 2017.

Routine immunization: Routine immunization coverage with OPV3 is above 90% for the last five years. Efforts to strengthen routine EPI in all low performing localities of the country were discussed and outlined in the cMYP and annual work plan. Sudan is receiving support from GAVI to strengthen RI.

Communication for Development (C4D): Sudan EPI /POLIO is using multiple strategies including, high level advocacy with stakeholders, ministries, religious leaders, schools, radio, megaphone announcements and house to house community mobilization. The program prepared a communication component for the national outbreak response plan which included updated social mapping of high risk population, analysis of reasons for missed children. This was discussed and updated during the POSE conducted in Sudan 5-8 March 2017.

Accessibility: World Health Organization (WHO), UNICEF and other partners in Sudan are prepared to respond to a scenario in which the parties provide access to deliver Polio Eradication activities to an **estimated 156,000 children** in conflict areas of South Kordofan and Blue Nile who have been affected by conflict since 2011. The plan outlines a three phase response (**rapid, interim and medium term response)** to deliver immunization activities.

Cold chain capacity and vaccine management: The results of EVMA conducted by EMRO in Sudan during December 2016 found a very good progress and improvement compared with the EVMA made in 2012.

Sudan has progressed well in improving vaccine storage capacity. Capacity has been enhanced through completion of installation of the cold rooms in state and locality level. The evaluation found a cold chain expansion and rehabilitation recommendations of previous assessment were completed by Sudan. A comprehensive improvement plan developed through support of EMRO Mission with clear budget line and activity (recommendation) time frame. The Program is using EVMA report as the baseline in vaccine management and the improvement

Preparedness for outbreak response: The polio outbreak preparedness plan was updated according to the new WHO SOPs and then it was revised again in POSE March 2017. The states and localities have updated their respective plans. Sudan has conducted outbreak simulation exercise at locality (district) level 5-8 March 2017.

Transition Planning: Sudan has completed Polio Asset and lessons learned mapping and preparing for business case studies for stakeholders and to finalize the National Transition Plan.

Remaining challenges: Still there are large number of unreached children, low routine Immunization and risk importation of WPV, and ramp down of polio budget.

Way forward*:* Strengthen CBS in special groups. Establish more permanent immunization sites in the inaccessible areas. Introduce environmental surveillance. Conduct the International "external surveillance review. Improve RI through coordination with partners.

Country Summary: South Sudan

Background: Country continues to witness sporadic fighting with reports of robberies and looting in most parts of the country. There is over 1.8 million people displaced internally and more than 1.5 million South Sudanese refugee in neighboring countries. Access to most parts of the conflict affected areas remains a challenge for routine activities. Conflicts have been reported in Western Bahr El Gharzal, Western Equatoria, Unity and Jonglei. High operational cost due to inflation of the local currency makes the operation difficult in South Sudan. Implementation fund transfer remains a challenge in the three conflict affected states as there is no financial and money transfer.

AFP surveillance: 2016 NPAFP rate was 3.93 and 92% stool adequacy and as week 17, 2017 NPAFP rate is 3.50 and stool adequacy 91%. On closer observation 4 counties remained silent in 2016 with 2 of them being inaccessible due to security issues while in week 2017, 46 counties have not yet notified a case. Surveillance improvement activities in the three conflicts affected states include accelerated surge at the lowest level from county to the communities, an additional 42 Field Supervisors were recruited at county level, increase in the number of key informants through community mapping. The percentage of contact sampling for all AFP cases in 2016 is 82% and the Contacts samples collected within 7 days of index case notification is 95%.

Immunization campaigns: Two rounds of Polio NIDs were conducted in 2017. During Feb. round 69 out of 79 counties were accessed to vaccinate 2,930,133 (87%) under five children across the country with post campaign evaluation survey coverage of 88%. LQAS was also conducted as part of end process monitoring in 45 counties of which 35 of them were accepted with coverage of above 90%, 9 counties rejected at below 90% coverage and only one county rejected at below 70% coverage. The second round NIDs figure is still being collated and will be shared. In the last quarter of 2016 one NID and one SNID were conducted in November and December respectively.

Monitoring the quality of SIAs*:* During Feb. round 69 out of 79 counties were accessed to vaccinate 2,930,133 (87%) under five children across the country with post campaign evaluation survey coverage of 88%. LQAS was also conducted as part of end process monitoring in 45 counties of which 35 of them were accepted with coverage of above 90%, 9 counties rejected at below 90% coverage and only one county rejected at below 70% coverage. The second round NIDs figure is still being collated and will be shared.

Routine immunization: In 2017 the country reported annualized Pent-3 coverage of 53.6% (March 2017) with 12% Penta-1 to Penta-3 dropout rate, based on 38% completeness of reporting from functional health facilities in mainly 7/10 states. Further analysis by state showed that only CES and Lakes states achieved more than 80% annualized Penta-3 coverage. In 2016 OPV 3 coverage was 42% only.

Communication for Development (C4D): Communication activities continue to receive technical support from UNICEF, C4D and there is a functional SMWG that ensures SM activities are consistently carried out.
Cold chain capacity and vaccine management The cold chain at the National level remains adequate but at the state and health facilities remains a challenge with looting of cold chain equipment.

Preparedness for outbreak response: The outbreak response plan was updated. The POSE is yet to be conducted

Transition Planning: The polio transition continues with a total of 2 International and 3 National consultants working as a team, with human and assets mapping concluded and a Simulation exercise planned for May. Priorities and areas of integration include use of the BOMA initiative, impact of transition on Immunization with discussion ongoing with GAVI and other donors.

Remaining challenges: High operational cost for PEI activities due to inflation and fund transfer to conflict affected states remain a challenge; Insecurity in the state with ongoing conflicts in most parts of the country;

Impact of the GPEI ramp down on other health structures that PEI supports such as Immunization, outbreak response excluding Polio, surveillance Large number of unimmunized children due to assess issues; Multiple outbreaks in the country diverting resources and time.

Way forward: WHO to continue to support active case search, while CORE Group supports Community Based AFP Surveillance in the states of Jonglei and Upper Nile; Finalise the Polio transition plans with the development of a business model and ensure country buy in; Strengthen coordination with NGOs to support surveillance and immunization activities; Use of the PIRI and RRM (Rapid Response Mechanism), which is a temporary Humanitarian Emergency Collaborative platform, operated to deliver a basic lifesaving package). The PEI carry out emergency immunization activities to opportunistically reach children under 5 years in conflict affected states with OPV doses and MCV during the mission; Conduct an EPI /Surveillance review before the next TAG; Use of standardized training manual for Social Mobilizers.

Country Summary: Tanzania

Background> Last case in Tanzania was reported in June 1996. The main recommendation made by the HoA TAG in all meeting was to intensify surveillance which has been addressed and reports shared.

Accessibility: The whole country is accessible throughout the years, no in security.

AFP Surveillance system: The country has 283 high, 755 medium and 6,589 low priority AFP surveillance sites. Each high and medium priority sites has a focal person to conduct regular active surveillance. In 2016, 948 AFP cases reported and investigated and the country achieving the Non polio AFP detection rate of 4.3: 100,000 with stool adequacy of 93.9%. From January 2017 to April 2017 a total of 188 cased have been reported and investigated achieving the annualized non-polio AFP rate of 3.3:100,000 with stool adequacy of 97.9%
The surveillance system is being intensified by deploying National STOP Teams four times a year in all low performing districts for two weeks.

SIAs No campaign in Tanzania implemented in 2016

Monitoring the quality of SIAs: Not applicable

Preparedness and response plan for Polio outbreak: The outbreak preparedness and response plans were revised in February 2017 for both Tanzania Mainland and Zanzibar as per recommendation of POSES conducted in 2016. The revised plans were shared with to AFRO as part of the Country 2016 Annual Progress Report.

Routine immunization: Tanzania has been able to sustain the high Routine immunization coverage of above 90% of all antigens for at least 10 years. In 2016, a total of 1,778,457 (93%) children were vaccinated with OPV3.
The country fully participated and implemented the switch of tOPV to bOPV. However IPV have not been introduced in the country.

Cold chain capacity and vaccine management: Tanzania has enough cold chain storage at National to store vaccine for six months, all regional level stores are equipped with Walking Cold Rooms with capacity to store vaccines for four months. Almost 95% of the districts councils have vaccine stores to keep three months vaccine stock.

Web based vaccine management tool is used to monitor the vaccine stock at National, regional and district level. At health facility level vaccines are distributed on monthly basis and stock monitored using the monthly stock monitoring tool. Temperature monitoring tool (fridge tag) is used in all refrigerators.

Communication for Development (C4D): Tanzania Government is committed in the immunization services. Social mobilization on immunization services is done using combined methods including advocacy with stakeholders, politician, religious leaders, radio, megaphone announcements and house to house community mobilization.

Transition planning: NA

Remaining challenges: Timely shipment of specimens from Tanzania to the Entebbe lab in Uganda.

Way forward: Continue to intensify AFP surveillance activities and close monitoring the implementation of routine immunization services.

Country Summary: Uganda

Background: The Government of Uganda is fully committed towards polio eradication initiative. IPV was introduced into routine immunization program on April 17, 2016 in all districts, switched from tOPV to bOPV in all health facilities on April 29, 2016. Sabin 2 has not been isolated from any stool sample since the

switch. The last laboratory confirmed indigenous wild poliovirus case type 1 was reported in October 1996 from Mukono district, central region. However in 2009 and 2010 Uganda succumbed to an importation of WPV1 and presented it's report on outbreak response activities following the importations of WPV 1 to the ARCC in November 2015 that was accepted.

AFP surveillance: Uganda has attained two core indicators (non- polio AFP rate and stool adequacy rate) of AFP surveillance at the national level over the past five years. The annualized non-polio rate per 100,000 children below 15 years of age in 2017 is 3.14 compared to 3.73 in 2016 while the stool adequacy rate in 2017 is 88% for both years. There are noted gaps at the sub national level (districts) with 77 (69%) of the districts in 2016 attaining a non-polio AFP rate of >79%. In 2017, using the actual non-polio AFP rate, only 24 (21 % of 116 districts) have attained a rate of >2/100,000. Currently in 2017 a total of 42 districts are still silent. In 2016 only one district was silent.

Immunization campaigns: Three supplementary immunization activities were conducted in 2016 to boost population immunity of which two were conducted prior to the switch from tOPV to bOPV. The first round targeted 57 high risk districts of which 5,105,158 children of the targeted 4,781,026 below five years were vaccinated using tOPV. The second round was NIDs during which 8,196,782 children below five were vaccinated of the 7,602,336 children targeted. The third round was SNIDs during which 4,995,972 children below five years were vaccinated of the targeted 4,787,722 children. tOPV was used for all the three rounds. The extra number of children vaccinated in all rounds was a result of an influx of refugees and probably vaccinating children from border districts that were not included in the plan.

SIAs monitoring: Independent monitoring and LQAS in selected high risk districts was done for all rounds. The coverage at household level for the first round by finger marking was 88.6% while the overall coverage by history was 92.6%. The second round (NID) the coverage at house hold level and public places by finger marking was 87% by independent monitoring. The third round (SNID) the coverage at house hold level and public places by finger marking was 91% by independent monitoring. Forty five percent (50 districts) and 55% (34 districts) had a coverage of 95% or above by finger marking at house hold level for the NID. Of the 28 Lots that were evaluated for the NIDs, 3 (10.7%) were ACCEPTED as having oral polio vaccine coverage of ≥ 90%, while 7 (25%) failed; regarding SNIDs 6 (21.4% of 28 lots) and 4 (14.3%) evaluated results were ACCEPTED and failed respectively. Over 80% of the mothers for all the three rounds were aware of the campaign and the main source of information were radios.

Routine immunization: The national OPV3 routine immunization coverage in 2016 was 97%. Eighty seven percent, 87% (97) of districts attained coverage of 80% and above while 13% (15) districts did not achieve a coverage of at least 80%. None of the districts was below 50%. IPV was introduced into the routine immunization program on April 17, 2017 and the coverage at the national level was 67%. In 2017, OPV3 routine immunization coverage is 85% (annualized Jan to Feb). According the 2016 UDHS, OPV3 coverage was 66%. Implementation of the RED approach was emphasized in low performing districts to ensure that they have up to date immunization micro plans, resources are mobilized to support implementation of developed micro plans, active involvement of communities to plan for services, regular support supervision and use of data to monitor progress.

Communication for Development (C4D): There has been enhanced polio risk communications during SIAs. An equity assessment was conducted addressing identification of high risk populations: urban poor settlements, migrants, ethnic minorities, some religious sects (especially Muslims, Bisaka sect and Triple 6, upcoming town settlements, fishing communities, refugee communities, remote rural, island and mountainous communities. Assessment of communication staff's capacities was done: three UNICEF C4D staff members have completed the UNICEF-NYU Behavioral and Communication Strategies for Global Epidemics course in 2015, 2016 & 2017

Accessibility: The country has a total 49 villages which are geographically hard to access.

Cold chain capacity and vaccine management: The last SIAs were conducted in April 2016 and an update on vaccine management was reported on during the last TAG. The country applied to GAVI for support to improve cold chain capacity through the CCEOP platform which was approved. Implementation will start in July 2017.

Preparedness for outbreak response: An updated plan 2017 using the new global guidelines is in place and has been shared with ARCC

Transition Planning: Mapping of all polio assets was completed. The high risk programmatic areas are under the laboratory support. The process of developing a transition plan has started however implementation of some key critical areas has been initiated. Two national polio funded staff have been transferred to the GAVI funding but they have continued to support the PEI.

Remaining challenges: Increasing number of districts with limited technical capacity leading to more demands and yet the resources are dwindling such as need to provide motorcycles

1. An influx of refugees increasing the risk of polio importation into Uganda
2. Delayed submission of accountabilities by districts and regions hence leading toe delayed release of funds for subsequent activities hence affecting the quality of active surveillance/search activities
3. Some areas are not reached with routine immunization services
4. Poor data management
5. Low stock levels of IPV

Way forward: With the support of GAVI funds through HSS2 and country targeted assistance, the following areas will be supported ensuring sustainable immunization financing, promotion of coverage and equity, improvement of data management and use of data, sustainability of surveillance activities at the district level and continued advocacy from other partners to support surveillance activities including transport services. The final EPI coverage survey results will be used to review and update the current cMYP and the 2017 annual work plan.
In 2017, one round will be conducted by June targeting 73 high risk districts with a targeted population of 5,666,588 children below five years.

Country Summary: Eritrea

Background Eritrea is committed to the Global Eradication of Poliomyelitis, Measles and MNT and has been implementing the recommended strategies for the eradication and elimination. It has demonstrated and

maintained high quality active AFP/Measles/NNT surveillance indicators since 2005. The country delivers immunization for children against eleven vaccine preventable diseases namely Tuberculosis, Diphtheria, Whooping Cough, Tetanus, Polio, Measles, Hepatitis B, Homophiles influenza type B, Rota vaccine and Pneumococcal Conjugated Vaccine (PCV-13).

The switch date for the tOPV to bOPV (OPV2 cessation) was implemented and recalled and destroyed tOPV stocks. Facilities implemented the date for the switch from tOPV to bOPV and the destruction of tOPV was implemented on time. The collection and destruction of tOPV and used vials from designated collection points, health facilities and national and subnational storage facilities was implemented based on WHO guidelines. Within the stated switch time Eritrea submitted documentation to the WHO and RCC that the containment of OPV2/Sabin2 poliovirus requirements has been met. An inventory of laboratory containment survey for wild poliovirus was conducted in 2015 and was updated in 2016 to assess stocks of potentially infectious materials and the report shared with WHO and RCC. The country is keeping highest level of sensitivity of AFP surveillance which was confirmed by the findings of the external surveillance review conducted in 30 November to 10 December 2016. The country is now developing polio end game transitional plan with support of external consultant.

AFP surveillance:

- In the year 2016 the country performances of active AFP surveillance was very good and detected a total of 100 AFP cases, no WPV has been found. A total of 22 NPEV cases were positive and were discarded as non-polio AFP.
- The completeness of the routine report was 98% and timeliness was 987%. The non-polio AFP rate was 5.88 per 100, 000 population while the stool adequacy rate was 100%.
- As of 1st quarter, 35 AFP cases have been reported, and the lab result of 33 cases revealed that all were negative for wild poliovirus. The non-polio AFP rate is 8.4/100,000 at national level and in all the six Zobas the non-polio AFP rate is above 2/100, 000 population under 15 years of age. The percentage of stool adequacy rate is 98% in the six Zobas.

Zoba	Pop < 15	No of Detected cases	No. of AFP with adequate stool	Annualized NP-AFP rate	% of Adequate stool	WPV confirmed cases of AFP
Anseba	271288	3	3	4.4	100	0
Debub	443362	9	8	8.1	88.9	0
Gash Barka	401291	12	12	12.0	100	0
Maekel	312186	10	10	12.8	100	0
NRS	204706	1	1	2.0	100	0
SRS	38595	0	0	0	0	0
Total	1671429	35	34	8.4	97.1	0

Table: AFP/polio surveillance performance indicators by Zoba as of 1st quarter of 2017

Immunization campaigns: Immunization campaign (SIA) was not conducted since January 2016. The report of the last SIA ending on 4th January 2016 was shared during 15 HOA/TAG meeting.

Monitoring the quality of the SIA: The independent monitoring was conducted after the polio SIA in February 2016. The survey was carried out by 18 independent monitors and team leaders (2 monitors and a team leader in each of the Zobas) from Asmara Nursing College. Eighty nine per cent (89%) of those under 5 years old

Routine immunization: At national level routine administrative coverage of OPV 3 for 2016 was 83%. There is population immunity gap in the hard to reach areas and nomadic population in 14 sub-Zobas. To overcome the immunity gaps, three rounds of Sustainable Outreach Services (SOS) are conducted every year in the 14 hard to reach areas and nomadic population. To continually increase immunization coverage and boost the herd immunity, the program conducts defaulters tracing activities during child health and

nutrition week in districts located in less geographically accessible areas and nomadic population. More over periodic intensified routine immunization services is provided as per schedules.

Communication for Development: Communication and social mobilization activities are ongoing.

Accessibility: The inaccessible areas, nomadic population and hard to reach are accessed through sustainable outreach immunization services (SOS) conducted 3-4 times in a year. The country accesses the unreached children through intensifying routine Immunization activities in 14 districts of hard to reach areas 4 times per year to increase routine immunization coverage and minimize immunization drop-out rates in those areas. The program involves the community during implementation of immunization session. Immunization coverage is sustained at 81%.

Cold chain capacity and vaccine management

- The EPI unit has a central cold chain store, with other stores at the Zoba levels. There are four immunization supply chain levels in the country, at national, subnational, district and service delivery points (health facilities).
- The Immunization program regularly plan activities on renewal, rehabilitation and maintenance of cold chain equipment at all levels.
- Vaccine ledgers and recording forms are standardized and all health workers trained on recording the vaccines. The country has installed additional one cold room at central level to have additional storage capacity.
- Currently, there is a net storage capacity of 19,414 liters at national level and 25,240 capacities at zonal levels. Hence, the country has a total of 44,654 Liters which is estimated to be enough storage capacity to store all vaccine of the routine and including the measles/rubella campaign doses.
- To keep-up monitoring vaccines potency, 30 days continuous temperature monitoring devices were also procured and distributed to each health facility and are on use.

Preparedness and response for Polio outbreak: The Polio outbreak preparedness and response plan was developed in 2016 and tested during POSE exercise in April 2016. The polio outbreak preparedness and response plan was updated and shared with IST.

Challenges: There is no national polio lab in the country the stool specimens are shipped to Kemri, Kenya. There were delays to ship AFP stool specimen from Asmara to KEMRI lab Nairobi delaying results of the stool specimen from KEMRI.
Inadequate budget for active surveillance of AFP, measles, and NNT and untimely disbursement of funds

Ways forward

- Conduct joint quarterly supportive supervision using structured check list focused on the low performing Sub-Zobas.
- Active surveillance visit to high priority site (weekly), medium (once in two weeks) and low priority (once/month).
- Meet MoH to explore actual population figures to avoid discrepancy in calculating surveillance indicators.
- 3 rounds of Sustainable Outreach Service (SOS) to be implemented in hard to reach and low performing sub-Zobas
- Routine AFP, Measles/ rubella case investigation, collection, samples, storage and transport
- Procure reagents, chemicals and kits for AFP, measles lab and shipment of AFP
- Conduct supportive supervision to silent health facilities in Zoba SRS, Debub and NRS

Annex C: List of Participants

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