

TECHNICAL ADVISORY GROUP ON POLIO ERADICATION IN THE HORN OF AFRICA

7th Meeting Report

8-9 February 2012 in Nairobi, Kenya

Executive Summary

The 7th meeting of the Technical Advisory Group on Polio Eradication for the Horn of Africa (HoA TAG) was held from 8-9 February 2012 in Nairobi, Kenya. This was the first meeting of the TAG in the context of polio as a programmatic emergency for global public health. The objectives of the meeting were to review the progress toward polio eradication in countries of the Horn of Africa, identify areas of concern and make technical recommendations on appropriate strategies to ensure the interruption of wild poliovirus transmission.

The TAG recognized the progress and achievements by many countries in 2011. However, the TAG was alarmed for three primary reasons. First, wild poliovirus (WPV) was detected in Kenya in July 2011. The WPV case was linked genetically to the 2010 WPV outbreak in Uganda and the 2008–2009 outbreak in Sudan/Kenya/Uganda. This WPV case highlights the undetected, persistent low-level circulation of WPV along the Kenya-Uganda border and is indicative of large gaps in AFP surveillance and population immunity, particularly among high-risk, underserved sub-populations. Neither Kenya nor Uganda presented convincing evidence that the necessary measures were implemented to ensure cessation of WPV transmission in 2012.

Second, both Yemen and Somalia reported acute flaccid paralysis (AFP) cases caused by circulating vaccine-derived polioviruses (cVDPVs) (type 2). The cVDPV outbreak (10 cases) in Yemen is new within the last half of 2011. Somalia has had ongoing transmission of cVDPVs since 2008. Both countries have chronically weak routine immunization programs and growing population immunity gaps due to lack of SIAs. Since 2009, the Somalia program has been unable to reach over half of all children (greater than 1 million children under age 5 years) due to access limitations imposed by political authorities. Somalia very likely has the single largest concentrated pool of susceptible children in the world. Neither Yemen nor Somalia presented an SIA plan that was sufficient to increase population immunity to a level necessary to stop transmission of cVDPVs in 2012.

Third, although the partners and donors have initiated emergency operations at the headquarters level, it was clear to the TAG that governments and partners, including WHO and UNICEF regional and country offices, continue to do “business as usual.” The TAG found no evidence that governments or regional or country-level partners had initiated emergency operations, increased capacity, delegated authority, or improved processes for accountability and transparency to ensure implementation of 6-month national emergency action plans. The TAG was disheartened by the general lack of coordination and communications between governments, partners and donors in this initial phase of transforming polio eradication into a programmatic emergency for global public health.

Although the majority of supplemental immunization activities (SIAs) were implemented as recommended by the TAG in 2011, the quality was variable as demonstrated by independent monitoring evaluations. Countries are using opportunities such as Child Health Days and measles

plus campaigns to provide OPV to children; however, the TAG recognizes that large population immunity gaps persist in most countries despite numerous opportunities to reach children via SIAs. In addition, even though social mobilization and communication indicators were collected by most country programs, there was limited evidence that the data was used to improve SIAs or routine immunization strategies or plans.

Most countries conducted risk assessments which were used to guide and prioritize activities for polio eradication, particularly in the polio-free countries. An integrated outbreak risk assessment for the Horn of Africa countries at both national and sub-national levels was completed and presented to the TAG as requested. The TAG recognizes the efforts of the regions to produce the first cross-region outbreak risk assessment to help prioritize activities across the sub-region.

Cross-border activities occurred primarily in the context of specific events, for example the regional famine and resulting large-scale population movements from Somalia into neighboring countries, synchronization of SIAs and the Horn of Africa coordination meeting. Some countries have made substantial progress to address mobile and migrant sub-populations at high risk for undetected WPV circulation, including Ethiopia, Sudan and South Sudan. These countries have identified high-risk mobile and migrant sub-populations at the district and provincial levels and produced tables, maps and micro-plans to enumerate and reach these sub-populations.

The final push to achieve global polio eradication will only succeed if funding and resources are available for full implementation of eradication strategies and strong oversight and accountability mechanisms are instituted for countries and regions with poliovirus. The TAG urges governments, partners, and donors to provide full commitment to polio as a national public health emergency in every Horn of Africa country and mobilize every available resource to develop and implement national emergency action plans until poliovirus transmission has ceased.

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1. PREAMBLE

The 7th meeting of the Technical Advisory Group on Polio Eradication for the Horn of Africa (HoA TAG) was held from 8–9 February 2012 in Nairobi, Kenya, under the chairmanship of Dr. Jean-Marc Olivé.

Since the last meeting of the TAG in May 2011, the Global Polio Eradication Initiative (GPEI) has undergone a fundamental transformation. The GPEI has entered a new phase of intensified operations as governments, partners and donors have declared that the persistence of polio is a programmatic emergency for global public health requiring the full implementation of eradication strategies and the institution of strong national oversight and accountability mechanisms for all countries with poliovirus. Governments with poliovirus transmission should declare polio a national public health emergency, make poliovirus eradication a national priority, and develop and implement emergency action plans, which should be updated every 6 months, until poliovirus transmission has ceased.

In the context of this renewed commitment on the part of governments, partners and donors to complete the work of global polio eradication and the transition to an emergency mode of program operations, the TAG met to review the current situation and progress of polio eradication in the nine countries of the Horn of Africa (Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, Uganda and Yemen), identify and address areas or issues of concern, and make technical recommendations on appropriate strategies to ensure the interruption of wild poliovirus transmission and ensure preparedness in case of importation. Two additional countries, Chad and Tanzania, were invited to participate in the HoA TAG meeting. Chad, with 132 cases of wild poliovirus (WPV), was invited to participate because of the risk of spread of WPV into Sudan and across the Horn of Africa. Tanzania was invited to participate due to the risk of undetected circulation of WPV along the shared borders with Kenya and Uganda.

The TAG was alarmed that WPV was detected in Rongo, Nyanza, Kenya in July 2011. The WPV case was linked genetically to the 2010 WPV outbreak in Uganda and the 2008–2009 outbreak in Sudan/Kenya/Uganda. The 2011 WPV case in Kenya highlights the undetected, persistent low-level circulation of WPV along the Kenya-Uganda border and is indicative of large gaps in both AFP surveillance and population immunity in both countries. In all the countries of the Horn of Africa, mobile, migrant, and underserved sub-populations form increasingly important pools of unvaccinated or under-vaccinated children where circulation of WPV is likely to remain undetected. **The 2011 Kenya WPV isolation suggests that persistent, low-level circulation of WPV continues in the Horn of Africa despite certification-level national AFP surveillance indicators.**

The TAG was further alarmed by a new outbreak of circulating vaccine-derived poliovirus (cVDPVs) (type 2) identified in Yemen during the last half of 2011. Yemen, with 10 cases of acute flaccid

paralysis (AFP) caused by cVDPVs, reported the second largest number of cVDPV cases globally in 2011. The population immunity gaps resulted from chronic low routine immunization coverage and lack of high-quality supplemental immunization activities (SIAs) for the last several years. The increasing trend in percentage of zero-dose AFP cases, from 7% in 2008 to 17% in 2011, demonstrates the large pool of susceptible children and created the conditions for an outbreak of cVDPVs. In addition, Somalia reported seven cases of AFP caused by cVDPVs, which is the third largest number of cVDPV cases globally in 2011. Since 2009, the Somalia program has been unable to reach over half of all children (greater than 1 million children under age 5 years) due to access limitations imposed by political authorities. Somalia very likely has the single largest concentrated pool of susceptible children in the world. **Yemen and Somalia both have ongoing transmission of cVDPVs despite certification-level national AFP surveillance indicators.**

The TAG observed that Kenya, Yemen and Somalia conducted outbreak response activities, and Uganda and Tanzania, which share borders with Kenya, implemented responses to the detection of WPV in Kenya in 2011. In addition, except for Djibouti, all countries conducted risk assessments and many countries conducted desk and/or field AFP surveillance reviews to further assess the risks of undetected circulation and identify sub-national surveillance and immunization gaps. External AFP surveillance reviews were conducted in South Sudan in 2011 and Sudan in 2012, in accordance with previous TAG recommendations. However, the persistent circulation of wild poliovirus in Chad (types 1 and 3) and Democratic Republic of the Congo (type 1) continue to pose a risk for importation to Horn of Africa countries.

The Horn of Africa is at risk of a significant WPV outbreak primarily due to three reasons:

1. Clear evidence of undetected circulation of WPV. The WPV case identified in Rongo, Nyanza, Kenya, in 2011 was genetically linked to the 2010 Uganda outbreak. Rongo, Nyanza, Kenya is in close geographic proximity to Uganda and Tanzania.
2. Clear evidence of large pools of susceptible children due to chronic sub-optimal routine immunization coverage and either no SIAs or poor SIA performance, which have led to cVDPV outbreaks in Somalia and Yemen.
3. Inaccessible areas due to chronic security issues (e.g., Somalia, South Sudan-Sudan border areas) and emerging political/security challenges (e.g., Yemen, Kenya-Ethiopia-Somalia border areas) which prevent access for both AFP surveillance and immunization activities.

In accordance with the proposed 2012 World Health Assembly resolution to declare polio eradication a programmatic emergency for global public health and the transformation underway of GPEI into an emergency operation by partners and donors, the TAG urges immediate Head of State engagement, national and partner accountability and coordinated management by government and partners in all countries of the Horn of Africa. The TAG further urges all governments and partners to ensure that their country-level programs are engaged and acting in an emergency operations capacity. Country-level programs must immediately start full implementation of their 6-month emergency action plans, which should include activities recommended by the TAG. The TAG urges governments, partners and donors to deploy full financial and human resources immediately to facilitate implementation of country emergency action plans. The declaration of polio eradication as a programmatic emergency for global public health should be translated into tangible, measurable changes in program implementation at every level; polio eradication cannot succeed if governments and partners continue to do “business as usual.”

2. CURRENT SITUATION

A. AFRO Region (Kenya, Uganda, Ethiopia, Eritrea, Tanzania and Chad)

1. Kenya

The 6th HoA TAG made six specific recommendations for Kenya, and four (67%) were fully implemented, one (17%) was partially implemented, and one (17%) was not implemented. In addition, the high-level advocacy visit to Kenya, a cross-cutting recommendation, was not implemented in 2011. The 6-month plan of action for strengthening surveillance was updated in November 2011 and activity implementation has started. Implemented activities include the following: (1) formation of a high-level Coordination Committee with membership drawn from the Ministry of Health NPEC, NPCC and country representatives of CDC, UNICEF and WHO; three meetings have taken place since November 2011; (2) AFP surveillance has been included in the performance contract for the Permanent Secretary of Health; (3) high-risk sub-populations have been identified and targeted for supplemental immunization activities (SIAs) in June 2012; (4) AFP surveillance continues in refugee camps; and (5) STOP teams and WHO consultants are deployed according to the performance of districts.

Two outbreak response polio campaigns were conducted after the WPV1 case in the western part of Kenya in September and October using monovalent oral polio vaccine (mOPV) and bivalent OPV (bOPV), respectively, each targeting one million children below age 5 years. In addition, a risk assessment was completed that expanded the number of districts at -risk to 129; these additional districts were added to SIAs conducted in November (bOPV) and December (tOPV). The additional high-risk districts included districts bordering Uganda, South Sudan, Somalia and Tanzania with a target population of over five million children below the age of 5 years.

The opportunity to integrate polio vaccine was taken during the August 2011 measles plus campaign, which targeted the drought-stricken populations in North Eastern, Turkana and Nairobi. The country also provided OPV during Child Health Days to all children under age 5 years.

Kenya had planned to conduct a full surveillance review in the third quarter 2011 but due to activities following the outbreak, the review was not completed.

The non-polio AFP detection rate of 3.2 per 100,000 was better in 2011 as compared to the 2010 rate of 2.3/100,000, primarily because of the increased awareness due to campaigns and SIAs. However, 15% of AFP cases in 2011 were investigated late (>14 days after paralysis onset). Although the national stool adequacy rate was 85%, there were sub-national gaps. The 2011 WPV case was reported from Rongo in Nyanza province, which had a stool adequacy rate of 77% in 2011. Kenya reported a total of 557 AFP cases in 2011; to date, 178 (32%) are pending. Of the pending cases, 99 (56%) are due for 60-day follow up and 40 (22%) are awaiting review by the National Expert Committee.

The country has been conducting risk assessments on quarterly basis as recommended by the TAG; the latest risk assessment was conducted in January 2012 using a tool provided by AFRO. Eight (5%) out of 158 districts were high risk, 113 (72%) were medium risk and 37 (23%) were low risk. This risk categorization will help prioritize and direct resources for enhanced surveillance and SIAs.

The WPV1 case in Rongo was detected in a timely manner (paralysis onset on July 30 and stool collection on 3-4 August 2011) but provides evidence of continuing undetected circulation from the 2008–2009 outbreak.

Two rounds of NIDs are scheduled for April and June using tOPV and targeting 6.5 million children under age 5 years. The June round will be integrated into a planned measles plus catch-up campaign. An external AFP surveillance review has been planned for July 2012. The target for finalizing and disseminating the communication plan for surveillance and immunization is June 2012.

2. Uganda

The 6th HoA TAG made eleven specific recommendations for Uganda, and only 60% were fully implemented. In addition, the high-level advocacy visit, a cross-cutting recommendation, was not implemented in 2011. The specific recommendations included development of a surveillance strengthening plan; utilization of all opportunities to provide OPV; utilization of PEI staff to strengthen EPI activities; ensuring that PEI and routine immunization activities are prioritized and resources mobilization to implement relevant actions; formulation of micro-plans guided by local social communication strategies; holding cross-border meetings; identification of mobile and migrant communities; use of ICC to review funding mechanisms; and government and partners to provide funding and resources for PEI activities.

A surveillance plan was developed, monitored weekly and 83% of planned activities were completed. In the last half of 2011, several activities were conducted that included the following: (1) administered OPV during the Child Days Plus in October 2011; (2) conducted central surveillance review meeting;

(3) deployment of national and international STOP teams to build capacity and improve case detection in 32 high-risk districts; (4) house-to-house sub-NIDs were conducted in 8 districts bordering Kenya in response to the Rongo, Kenya WPV case; (5) preventive house-to-house strategy in 22 districts bordering DRC. The Ministry of Health and partners continued to advocate for resource mobilization for SIAs and routine immunization services. Community surveillance using village health teams was not fully supported during the review period. A study was conducted that has been used to develop a communication plan. The communications plan will be finalized by end of February 2012 to guide micro-planning for routine immunization, subsequent SIAs and enhanced surveillance activities. The house-to-house SIAs provided Uganda with opportunity to identify migrant, mobile and difficult-to-access communities; districts have been provided guidance on strategies to reach these communities for delivery of immunization services.

Key challenges in 2011 included human resource constraints both in staffing levels and appropriate skills to implement immunization and surveillance activities. Delayed and inadequate Primary Health Care funds led to sub-optimal outreach and supportive supervision activities. There was delayed implementation of previous TAG recommendations although activity and funding proposals were submitted. The lack of funding and resources negatively affected AFP surveillance, SIAs and routine immunization performance indicators in 2011; the negative trend in all program indicators since 2009 supports this conclusion.

Following the latest risk assessment in December 2011, 33 districts were identified at high risk of a polio outbreak following an importation. In response, plans were developed for the next 6 months to address gaps in surveillance and population immunity in order to reverse the trend. The key activities identified included: (1) staff accountable to achieve PEI milestones; (2) strengthening

surveillance activities by national and international STOP teams, particularly targeting the high-risk districts; (3) establishment of two additional regional Integrated disease surveillance response centers; (4) administering OPV during the measles campaign scheduled to take place in April 2012; (5) launching of the Africa Vaccination Week in conjunction with the measles campaign; (6) conducting NIDs in June 2012; (7) conducting an external in-depth surveillance review in July 2012; and (8) implementation of the communication plan to the district level by March 2012.

3. Ethiopia

Ethiopia was on-track in implementing the HoA-TAG recommendations. One of the recommendations was to conduct two rounds of sub-national polio SIAs in 4th quarter 2011, with one round using bOPV. The external surveillance review is planned for the 1st quarter 2012; Ethiopia continues to conduct peer reviews in weak performing areas to strengthen surveillance.

The AFP surveillance indicators are certification standard at national level with weak performance in the border insecure zones of Somali and Afar regions. Other concerns on AFP surveillance indicators performance were the low non-polio enterovirus (NPEV) isolation rates at 9% (target = 10%) and the low turn-around rate of laboratory results at 71% (target= 80%). Ethiopia is working on reducing number of stool transportation days, strengthening reverse cold chain and increasing the size of stool specimens to increase NPEV isolation. The detection of VDPV in November 2010 is an indication that the surveillance network is still sensitive to detect wild poliovirus (WPV) in Ethiopia (last reported WPV in April 2008). Since then, there has been no cVDPV identified.

The population immunity is generally good except in the underserved border pastoralist areas of Afar, Gambella and Somali due to insecurity and weak health delivery systems. There are 23 bordering zones which are high risk for WPV importation / circulation. Additionally, there are 14 zones (not in the border) that have largest numbers of unimmunized children and which pose a threat of vaccine preventable disease outbreaks (e.g., measles outbreak of over 8,000 cases reported in 2011).

The active population movements within and across the borders with Somalia, Kenya and Sudan continues to pose a risk for WPV and cVDPV importation and circulation. Ethiopia has mapped out the migration pattern of populations for implementation of synchronized cross-border activities in 2011. The migratory situation has been further aggravated by the severe drought / famine in the Horn of Africa, particularly in Somalia. This has resulted in an influx of refugees of about 110,000 to the Dollo Ado camps in Somali region (UNHCR, July 2011). Additionally, about 4.5 million people have been affected / displaced within Ethiopia due to drought.

In the refugee camps, 6–59 month-old children are vaccinated with measles; and 0-59 month-old children with polio vaccine (tOPV). There is also intensification of surveillance in the camps and surrounding areas.

To support government efforts to tackle the drought situation and outbreaks, the polio infrastructure (WHO and UNICEF) is involved in weekly reporting of emergencies (e.g., AFP, measles, acute diarrhoea, malnutrition) using the surveillance network in the field; participating in drought / malnutrition assessments in the field; participating in Emergency Humanitarian Response Committees at the national and regional levels; proposal writing to donors for resource mobilization; participating in HoA Emergency Planning meeting in Nairobi in July 2010; and mapping areas outside refugee camps affected by both drought and measles outbreaks.

Proposals for operational costs of emergency response for measles SIAs and vitamin A supplementation are being shared with possible donors / development partners. The plan has been discussed with government and approval granted to implement the planned activities. The government has mobilized some measles vaccine for the planned response. However, there is still a gap in operational costs and OPV requirements for implementation of the planned activities in the country.

The planned activities have been incorporated in the Ethiopia Intensified PEI Plan (July 2011– Feb 2012) which has been submitted to WHO, UNICEF and partners for technical and financial support.

4. Eritrea

The 6th HoA TAG provided four specific recommendations and three were fully implemented, and one, the assessment mission by AFRO, was not implemented in 2011. The implemented recommendations included improving population immunity using the following strategies: (1) two rounds of sub-NIDs were conducted in seven districts bordering Sudan, (2) two rounds of Sustainable Outreach Services (SOS) were conducted in hard-to-reach and low-performing districts, and (3) OPV vaccine defaulters tracing activities during African Vaccination Week (AVW) to increase immunization coverage. The non-polio AFP rate was 6.4 in 2010 and 4.7 in 2011 with a stool adequacy rate of 98% in 2010 and 99% in 2011.

A risk assessment and classification was conducted based on the following indicators: routine immunization coverage, NPAFP detection rate, stool adequacy rate, AFP zero-dose cases, shared borders with outbreak countries, population movement, hard-to-reach communities, IDP and access to health services. Based on these criteria, the districts were classified in to high, medium and low priority and enhanced surveillance activities were instituted according their category.

To develop a national EPI/PEI communication strategy, a technical committee on communication was formed and a situation analysis was done. Recommendations from the results of EPI coverage survey (2009) and EPI program review (2011) were reviewed. No plan was created due to a lack of technical assistance and funding.

Challenges include irregular immunization outreach services due to fuel and transportation shortages and the lack of a structured community-based surveillance system for VPDs, including AFP cases. The lack of funds prevented full implementation of SOS and sub-NIDs in hard-to-reach and low-performing districts with a high risk polio importation due to high population movements across borders. In addition, the lack of a national census has created incorrect denominators for planning and operational purposes.

Three rounds of Sustainable Outreach Services (SOS) in hard-to-reach and low-performing districts and two sub-NIDs in high-risk districts, implementation of EPI/IDSR Integrated Supportive Supervision, cross-border surveillance activities with Sudan and Ethiopia, quarterly risk assessments and develop EPI/PEI communication strategy based on situation analysis completed in 2011. Technical and financial support will be required to implement planned SIA and communications activities in 2012.

4. Tanzania

Although the last wild poliovirus in Tanzania was detected in 1996, the threat of importation remains high due to pockets of low population immunity and inadequate AFP surveillance, especially in the western part of the country bordering the Democratic Republic of Congo.

The AFP surveillance has been improving over a number of years from a non-polio AFP rate of 0.9 in 2004 to 2.6 in 2010. The stool adequacy rate remained to be above 80% throughout the period. In 2011, the non-polio AFP rate was 2.1 and the stool adequacy rate was 99%. Despite the certification standards of the national AFP surveillance indicators, there was a disparity in performance at the sub-national levels. In 2011, the wild poliovirus importation risk assessment was conducted based on the following criteria: districts bordering WPV infected countries, AFP surveillance performance at district level, OPV3 coverage at district level, number of unvaccinated children, refugees in districts (e.g., Kigoma). Using these criteria, the following regions were identified as high-risk in June 2011: Kagera, Kigoma, Rukwa and Mbeya. In response, a house-to-house preventive polio campaign using mOPV was conducted and a total of 1,801,678 under five children were vaccinated. The independent monitoring data coverage for June 2011 sub-NIDs ranged from 92.5% in Mbeya to 97.1% in Rukwa and the average was 94.9%. In response to the Kenya WPV case of July 2011, Mara region conducted house-to-house polio SIAs using mOPV1 (4,777,137 vaccinated, 122% by administrative coverage) and independent monitoring coverage of 98% was observed. A nationwide integrated Measles Campaign (IMC) that included bivalent OPV, Vitamin A and mebendazole was conducted in November 2012. A total of 7,809,810 (96.4% of target) under five children were vaccinated against polio.

To improve routine immunization coverage rates, RED/REC strategy was implemented into 71 councils and 710 health facilities with a high number of unvaccinated and under-vaccinated children. Furthermore, there are specific plans for marginalized and underserved communities to be supported by Community Health Attendants.

Challenges for the program in 2012 include the following: (1) lack of a trained health workforce to deliver immunization services; (2) WPV circulation in neighboring countries of Kenya and DRC; (3) maintaining AFP surveillance indicators at certification levels with less financial support from government and partners for SIAs; and (4) inaccurate target population (NBS) figures that undermine planning and evaluation of SIAs.

Key activities in 2012 include the following: (1) initial and/or refresher training for immunization resource persons on AFP surveillance and data management at all levels; (2) strengthen integrated and supportive supervision at all levels; (3) improve the quality of future SIAs by using data from prior rounds to take corrective actions and update micro-plans; (4) implement the 2nd African Child Vaccination Week and continue to monitor and evaluate RED/REC activities to improve population immunity; and (5) recruit national and international STOP team members to enhance surveillance activities and support SIA micro-planning.

6. Chad (Presented for information of the TAG only)

Since the first case imported from Nigeria in 2003, Chad has failed to interrupt circulation of wild poliovirus across the country. The outbreak expanded in 2010 and 2011. In 2011, Chad reported 132 cases of wild polioviruses both type 1 (129 cases) and type 3 (3 cases).

The population immunity remains low due to poor performance of routine EPI and poor quality of SIAs conducted in 2010 and early 2011. The WHO / UNICEF estimated OPV3 coverage in 2010 was only 63%. The proportion of missed children remains alarmingly high after each campaign and corrective actions are not always systematically taken to improve the situation. Lot Quality Assurance Sampling (LQAS) was adopted as a strategy to improve coverage rates during SIAs in October and November 2011 with some evidence of operational improvements.

In the last half of 2011, five operational hubs were established and an additional 88 staff were deployed for polio eradication activities as part of the outbreak response. The Chad PEI Emergency Plan for January to June 2012 was put into action and identified four priority intervention zones with specific actions for implementation in three areas including surveillance, SIAs and routine immunization service delivery.

B. EMRO Region (Somalia, North Sudan, South Sudan, Yemen and Djibouti)

1. Somalia

Somalia continued to be polio-free for almost 5 years (last WPV reported in March 2007). Key AFP surveillance indicators were maintained at certification standards both at national and sub-national levels. Most of the 6th HoA TAG recommendations were implemented except the cross-border meeting with Ethiopian (suggested in location, Jijiga, in 2012) and cross transit / border vaccination teams due to access / security issues. The planned two rounds of NIDs were implemented in all accessible districts with support of partners during the 1st half of 2011, with above 95% coverage reported. Only one of the two planned CHDs rounds was implemented in the accessible areas: Northwest and Northeast zones and two regions (Galgadud & Banadir) of South and Central zones in July 2011.

Somalia continues to do regular risk assessments for WPV importation and spread and takes corrective actions as feasible. District-level micro-plans are regularly updated, an emergency vaccination response is in place, and a rapid response could be activated should access become available. A measles plus (with OPV) campaign was implemented in Mogadishu in September 2011, which included IDPs from inaccessible areas of South and Central zones.

Despite the AFP surveillance system performance and efforts to implement planned vaccination activities, Somalia continues to face serious challenges in reaching children for vaccination. The decline in the immunity profile is reflected by the increase in proportion of zero-dose AFP cases from 8% in 2010 to 16% in 2011 and a decline of routine EPI coverage to 50% in 2011. Barriers to an effective PEI program included drought and famine resulting in large population displacements, and continued insecurity causing large population displacements and limited access to populations for immunization activities. **Somalia very likely has the single largest geographically concentrated reservoir of unvaccinated children in the world. Since 2009, over one million children under age 5 years have not been immunized during NIDs and CHDs due to lack of permission by local authorities in half of the country (Central and South zones).** Because of the large pools of susceptible children, Somalia has had ongoing cVDPV transmission since 2008. Somalia reported 7 cases of cVDPVs in 2011, the third largest total globally.

2. Sudan

In response to the 6th HoA TAG recommendations, Sudan developed a 6-month plan to address those gaps identified. The majority of those recommendations were implemented.

Since the last HOA TAG meeting in 2011, Sudan AFP surveillance indicators have been sustained at certification-level standards. The rates of the non-polio AFP detection and adequate specimen collection were above 2 and 97%, respectively, in 2011. All states, except one, reported ≥ 2 non-polio AFP cases per 100,000 children below 15 years of age in 2011. In January 2012, an external AFP surveillance review was conducted by a team of international consultants; the review found only minor surveillance gaps at the sub-national level concentrated primarily high-risk states. Overall, the review team concluded that the Sudan AFP surveillance system is fully functional and sensitive enough to detect WPV in the event of an importation.

The routine coverage of OPV3 remained above 90% in 2011. The three Darfur states have achieved 80% coverage rate as a result of several accelerated routine immunization rounds.

Four NIDs and three sub-NIDs rounds were conducted in 2011 as per TAG recommendations. Two NIDs in the first quarter and another two rounds in the fourth quarter were implemented. The sub-NIDs rounds were conducted in high-risk areas including Darfur region (three states) and Red Sea state in the second and third quarters. The post-campaign assessment result by finger marking of these campaigns was 95% or above. As a result of the routine immunization activities and SIAs, the immunity profile maintained at a high level as indicated by the proportion of children <60 months who received 7+ OPV.

Risk assessments were done at both state and district (locality) levels. The results of the assessments showed that all states are at medium and low risk of polio outbreak following poliovirus importation. The risk assessment at locality level showed some gaps that need to be addressed in 2012.

Sudan team has drafted a plan to address the following issues:

- Surveillance gaps at sub-national level in high-risk states
- Supplementary immunization activities (NIDs and sub-NIDs in high-risk states)
- Protection of populations from importations or re-introduction of wild poliovirus through sustaining high population immunity via routine immunization
- Improving cross-border coordination activities (SIAs/AFP surveillance)
- Strengthen the cross border coordination with neighbouring countries (mainly South Sudan, Chad and Eritrea)

3. South Sudan

The Republic of South Sudan officially became into existence in July 2011 after a 5-year peace agreement with Sudan and following 22 years of civil war. The last WPV case reported in South Sudan was in June 2009. The AFP surveillance system is functional and South Sudan meets the standard certification level performance indicators at the national and sub-national levels for both non-polio AFP rate and stool adequacy. An external field AFP surveillance review was conducted in April 2011; the main finding was that there were gaps in both surveillance and population immunity, primarily among mobile and migrant populations and geographically inaccessible areas. Following the review, South Sudan identified the high-risk mobile and migrant sub-populations at the district and provincial levels and produced tables, maps and micro-plans to enumerate and reach these sub-populations. These efforts have led to more accurate quantification of high-risk sub-populations;

approximately 17% of the total population either belongs to a high-risk, hard-to-reach sub-population or is geographically inaccessible.

Routine vaccination coverage is still low but has improved from 16% in 2006 to 71% in 2010 by administrative coverage. A coverage verification survey is currently ongoing. The independence resulted in a huge influx of returnees from Sudan, which has created additional programmatic challenges. Immunizations are delivered to women and children at arrival points; the demand for services is high and staff is limited. In the last 2 years (2010-2011), four rounds of NIDs have been conducted each year with steadily improving coverage by independent monitoring. During the NID in December 2011, less than 10% of children were missed at the state level. Every opportunity is used to reach children with OPV; OPV was included in the measles follow-up campaigns that were conducted in 8 states in 2011. The remaining two states will conduct measles plus OPV campaigns in March 2012.

For communication and social mobilization, many activities were carried out in 2011 including the following: (1) employment of 10 polio communication officers (one per state); (2) introduction of a comprehensive communication strategy for national and state level activities focusing on polio and strengthening routine immunization; (3) capacity development via a national-level communication workshop for all state counterparts that focused on mapping of social groups, resources, networks, and partners to create platforms for communication; (4) revitalization of inter-sectoral coordination and involvement of traditional and non-conventional media for social mobilization activities.

To strengthen the immunization program in South Sudan in 2012, the following components have been identified as areas of need:

- Continued financial support to conduct four rounds of NIDs, particularly in light of the low routine immunization coverage rates
- Continued support of the community-based AFP surveillance system including operations and training for field staff
- Support for routine immunization service delivery with a focus on conducting outreach activities in difficult-to-reach areas and high-risk mobile and migrant populations
- Support for communication and social mobilization activities and cross-border coordination
- Continued technical support via international consultants and STOP team through end of 2013
- Support to improve the cold chain at the state and county levels

4. Yemen

The AFP surveillance performance indicators for 2010 and 2011 were well above certification standards at both the national and sub-national levels. The 2011 annualized AFP rate was 3.4 cases per 100,000 children under 15 years of age, compared to 3.9 in 2010. In 2011, the AFP case rate was >2 per 100,000 in all 22 governorates. The annualized stool sample adequacy rate was 91% in 2011 and 97% in 2010.

Routine immunization coverage for OPV3 was 84% in 2010 and 81% in 2011. Yemen had sub-national immunity gaps; 5 (23%) of 22 governorates reported <80% OPV3 coverage in 2011. No NIDs were conducted in 2010 due, in part, to funding constraints and security issues. In 2011, Yemen reported 10 AFP cases due to cVDPVs with spread from Saa'da to four other governorates. The cVDPV cases originated in a high-risk sub-population and geographic location that has been under-

served due to chronic insecurity and lack of a functional health delivery system. The cVDPV cases are all in children less than 3 years of age and the majority are in unvaccinated (no routine or SIA doses of OPV) children. Due to the ongoing conflict and shipping restrictions, there was a delay in identifying the cVDPV cases. Yemen still has approximately 100 specimens waiting laboratory testing from 2011. Yemen conducted two rounds of NIDs in November 2011 (bOPV) and January 2012 (tOPV), with both campaigns reporting over 90% administrative coverage. In the two governorates with identified cVDPVs in November 2011, tOPV was used rather than bOPV. **The identification of cVDPVs and increasing trend in percentage of zero-dose AFP cases is alarming and demonstrates large pool of susceptible children which will likely contribute to a widening of the cVDPV outbreak.** (Percentage of zero-dose AFP cases: 7% in 2008, 11% in 2009, 14% in 2010 and 17% in 2011.)

Yemen remains at high risk for importation and sustained transmission due of the following factors: (1) current outbreak of cVDPVs due to low routine coverage and increasing population immunity gap; (2) civil unrest and large areas of insecurity due to conflict; and (3) large population movements into and through Yemen from across West Africa and the Horn of Africa.

The 6-month country plan includes two rounds of NIDs and one sub-NID in post-conflict areas and high-risk districts when “windows of opportunity” occur using tOPV and an external AFP surveillance review. Additional partner and donor funding will be necessary to fully implement the cVDPV outbreak response activities, including vaccine and operational costs for SIAs and enhanced surveillance activities in 2012.

5. Djibouti

Djibouti has been polio-free since the last clinical polio case in 1999. Djibouti implemented the four 2011 HoA TAG country-specific recommendations. The first HoA TAG recommendation was to conduct two annual NIDs using tOPV or bOPV; one NID was implemented in February 2011 using tOPV and a sub-NID was conducted in high-risk and border areas in June 2011 using tOPV. The second recommendation was to implement the recommendations from the 2010 external surveillance review. Substantial progress was made to implement the recommendations including a reorganization of the AFP surveillance system, a functional surveillance unit was set up in the EPI structure, and capacity was increased through training of Ministry of Health staff. A STOP team member has been deployed since May 2011 to support AFP surveillance, SIAs and training and capacity development. In addition, the President opened the November SIA and additional funds have been committed by the Ministry of Health. Djibouti also participated in the EMRO Vaccination Week in 2011.

The AFP surveillance performance indicators for 2011 show an improvement from 2010 but demonstrate clear weaknesses in the system. Djibouti detected six AFP cases in 2011 for a rate of 2.1 compared to a rate of 1.2 cases per 100,000 children less than 15 years of age in 2010. All six cases were reported in the first 6 months of 2011. The stool sample adequacy rate was just 33% in 2010 and 67% in 2011. One of the six cases from 2011 is still pending classification. The NPEV rate was 20% in 2011.

The reported administrative coverage for OPV3 was 88% in 2011. Sub-national gaps in routine immunization exist; only 4 (67%) of 6 provinces reached coverage rates greater than 80%. Only one NID and one small sub-NID were conducted in 2011. From 2009 to 2011, all AFP cases detected had

received a minimum of 3 OPV doses. Djibouti has not implemented independent monitoring or measurement of communications outcomes during SIAs.

Djibouti continues to be at risk for importation due of the following factors: (a) lack of priority for the polio eradication program, (b) high cross-border movement with Eritrea, Ethiopia, Somalia and Yemen (by sea), (c) difficult-to-track mobile populations, (d) weak AFP surveillance system and (e) low routine immunization coverage in high-risk areas and sub-populations.

3. CONCLUSIONS AND RECOMMENDATIONS

A. General Conclusions

The Technical Advisory Group was pleased to note that all countries were represented and that there was participation by Chad and Tanzania; however, the TAG noted with regret that there was no participation by UNICEF MENARO or the WHO EMRO Regional Advisor for Polio. The TAG appreciates the continued support and participation of Rotary International through their regional representative. The TAG recognizes the progress and achievements made by many countries in surveillance, supplementary immunization activities, routine immunization, risk assessments and communications and social mobilization in 2011.

Based on the WPV case reported in Kenya in July 2011, which was linked genetically to the 2010 Uganda outbreak and to the 2008–2009 Sudan/Kenya/Uganda outbreak, the TAG is alarmed at the persistent low-level circulation of WPV in the Horn of Africa region. Significant AFP surveillance and population immunity gaps clearly exist. The AFP surveillance and SIA performance in both Kenya and Uganda is sub-optimal despite a significant influx of resources from 2009 to 2011. In Uganda, the AFP surveillance system has had declining performance since 2009. **No concrete evidence was presented that reassures the TAG that either Kenya or Uganda has taken the steps necessary to ensure cessation of WPV in 2012 and beyond.**

The TAG is also distressed at the growing outbreak of cVDPVs in Yemen and their delayed and inadequate response activities in 2011. With huge population immunity gaps demonstrated by declining routine immunization coverage, lack of regular high-quality SIAs and a growing percentage of zero-dose AFP cases (17% in 2011), the conditions in Yemen are alarming, particularly in light of the ongoing political and security challenges. In addition, there remains a back log of 2011 AFP cases waiting for laboratory results; it is possible that the cVDPV spread is more widespread than is currently recognized. Somalia also had ongoing circulation of cVDPVs in 2011 as a result of the large pool of susceptible children (16% of AFP cases were zero-dose). Yemen and Somalia each had more cVDPVs than any other country in the world in 2011, except Nigeria. **No evidence was presented that reassures the TAG that either Yemen or Somalia has taken the steps necessary to increase population immunity to a sufficient level to stop transmission of cVDPVs in 2012.**

The TAG noted the progress in strengthening AFP surveillance and improving immunity profiles in South Sudan and Ethiopia, but surveillance and immunity gaps still remain in inaccessible geographic areas and in mobile, high-risk sub-populations. Eritrea and Djibouti, although small countries in terms of population, are of concern to the TAG because of their geographic locations, high-risk mobile populations and large population immunity gaps.

The TAG notes the following key issues which should be addressed immediately in order to ensure the timely detection and interruption of transmission of wild poliovirus in the sub-region:

Activation of the emergency response: Although the partners and donors have initiated emergency operations at the headquarters level (e.g., activation of WHO's Strategic Health Operations Center (SHOC) and CDC's Emergency Operations Center [EOC]), and it is very clear that the governments and partners, including WHO and UNICEF regional and country offices, continue to do "business as usual." The governments and partners at the regional and country office levels must initiate an emergency mode of operation with a change in business practices, proper delegation of authority, streamlined processes, accountability and transparency to ensure that implementation of the 6-month national emergency action plans starts immediately, without delays.

Addressing surveillance gaps: Most countries in the sub-region have clear surveillance gaps at sub-national levels based on AFP surveillance indicators and risk assessments. Across the sub-region, mobile, migrant, and underserved sub-populations are increasingly important as likely pools of unvaccinated or under-vaccinated children where circulation of WPV can continue undetected. The risk of undetected transmission in these sub-populations and geographic areas is high.

Supplementary immunization activities: Although the majority of SIAs were implemented as recommended by the TAG in 2011, the quality of the activities remains variable across the sub-region and within countries as shown by independent monitoring evaluations. In the context of weak routine immunization programs across the sub-region and ongoing low-level WPV and cVDPV transmission, high-quality implementation of SIAs remains the primary strategy to interrupt WPV circulation in the Horn of Africa countries during 2012.

Social mobilization and communications activities: The TAG noted that social mobilization and communication activities remain essential components to ensure high-quality immunization activities. There was evidence presented that countries either had or were in the process of finalizing social mobilization and communications plans based on previous TAG recommendations. The majority of countries provided little evidence that the social mobilization and communication indicators measured during independent monitoring were being used to improve SIA or routine immunization strategies or plans. There were notable exceptions, such as Sudan, where social mobilization and communications strategies have been implemented and evaluated successfully. Sudan implemented strategies to address vaccination refusal among high-risk sub-populations in Red Sea state following poor vaccination coverage during SIAs in early 2011. The Sudan team demonstrated a decline in refusals among this sub-population during the last half of 2011 as a result of a multi-pronged community social mobilization and communications approach.

Routine immunization activities: The TAG recognizes the importance of routine immunization activities to maintain population immunity and notes that several countries, most notably Ethiopia and South Sudan, have made improvement in routine immunization coverage during 2011. However, because routine immunization will not improve dramatically over the next few years, SIAs remain the priority strategy for interruption of WPV transmission. The TAG endorses the efforts of several countries to provide OPV to children during other health activities including Child Health Days, measles campaigns and other interventions during 2011. However, the TAG notes that neither Child Health Days nor measles campaigns are substitutes for high-quality house-to-house polio NIDs or sub-NIDs, particularly in countries with undetected WPV circulation or cVDPVs and neighboring countries at risk of importation.

Outbreak preparedness and response: The TAG recognizes that currently Kenya and Uganda are in the response and evaluation phase of a WPV outbreak (Rongo, Kenya in July 2011), and Yemen is in the response phase of a cVDPV outbreak. Based on the evidence presented, the TAG notes that the response activities implemented to date by Kenya, Uganda and Yemen are unlikely to be sufficient to prevent further transmission. The TAG recognizes the global efforts to harmonize risk assessment methodologies in polio-free countries across the regions. The TAG commends the countries for providing a comprehensive HoA sub-national risk assessment and the additional risk assessments undertaken by each country. The TAG urges countries to ensure that country plans include risk mitigation activities and that the results of assessments are tracked over time to ensure activities are having an impact and lowering the risk of an outbreak.

Cross-border meetings of the Horn of Africa countries: The TAG was pleased to note that a coordination meeting was held in August 2011 and that local cross-border meetings occurred in a few countries following the coordination meeting. In addition, during the Horn of Africa famine, large-scale population movements from Somalia into neighboring countries occurred and necessitated coordination between Somalia, Kenya and Ethiopia to address vaccination needs among refugees and internally displaced persons (IDPs). The TAG believes that cross-border planning and synchronization and implementation of activities are critical for addressing high-risk mobile and migrant sub-populations. In addition, cross-border meetings encourage the sharing of best practices and strategies for identifying, mapping and reaching these sub-populations. The TAG urges renewed efforts and financial support to coordinate local-level cross-border planning meetings prior to the upcoming SIAs in spring 2012.

Coordination and communication: Optimal coordination between the AFRO and EMRO regional offices is essential to ensure cross-regional collaborative activities (e.g., HoA coordination meetings, cross-border initiatives and surveillance reviews). The TAG was dismayed that no AFRO regional or country-level representatives participated in the Sudan external AFP surveillance review in January 2012, despite Sudan sharing borders with four AFRO countries (Chad, CAR, Eritrea and Ethiopia) and repeated requests for participation. To work effectively with governments in an emergency mode at the headquarters, regional and country levels will require coordination and communications with defined roles and responsibilities between partners (i.e., WHO, UNICEF, CDC) and donors (e.g., BMGF). Country-level coordination and communication will become absolutely essential as increasing numbers of staff are deployed to increase technical and managerial capacity in countries with ongoing poliovirus transmission.

B. Recommendations

1. TAG Operations and Follow-up of Recommendations

In order to enhance the TAG's capacity to support polio eradication in the Horn of Africa sub-region and to monitor the status of implementation of recommendations:

- a. The TAG must receive copies of the Horn of Africa Bulletin produced by the WHO Secretariat and weekly updates from each country that tracks the status of AFP surveillance, SIA implementation and communications and social mobilization evaluations.
- b. The TAG urges all HoA countries and the WHO / UNICEF regional offices to ensure that key independent monitoring data and social mobilization indicators for SIAs are reported in a timely manner and posted online in order to track trends.

- c. Wherever possible, TAG members should participate in surveillance reviews, rapid assessments, advocacy visits or other appropriate activities in the sub-region, to increase advocacy and facilitate problem solving. Opportunities for TAG member participation should be identified by the WHO Secretariat and included in the 6-month plans of the countries.
- d. In addition to full meetings, the TAG should meet via conference call during the first week of May 2012 to discuss progress on implementation of recommendations and make new recommendations as needed; ad hoc meetings (either in person or by teleconference) may be rapidly convened as necessary in response to importations or other epidemiological developments.
- e. Given the current epidemiological situation in the sub-region and 6-month national emergency action plan time line, the TAG requests the following:
 1. A quarterly update on the status of implementation of TAG recommendations; the updates should be received by the TAG no later than 27 April and 27 July 2012.
 2. The next full meeting of the TAG be convened in August 2012.

2. Cross-Cutting Recommendations

- a. The long planned high-level advocacy visits to Kenya and Uganda should be conducted in the next 2 months; WHO / UNICEF Regional Director level visits to engage heads of state / government, partners and donors in the emergency phase of polio eradication and outbreak response efforts are urgently required.
- b. A Horn of Africa Coordination Meeting should be held by August 2012 to:
 1. Evaluate the implementation of the emergency plan of action for polio eradication by government and partners in each country in terms of the partnership accountability framework and support / technical assistance provided.
 2. Evaluate funding and resource requirements and engagement of partners and mechanisms such as the national Interagency Coordination Committees (ICC) in light of the emergency phase of polio eradication.
 3. Evaluate the outbreak responses by Kenya and Uganda (WPV) and Yemen and Somalia (cVDPVs).
 4. Evaluate plans and strategies following the spring 2012 SIAs, with particular attention on coverage rates in high-risk sub-populations and geographic areas.
 5. Update sub-national risk assessments and report on cross-border synchronization and implementation of activities.
- c. All countries are urged to finalize and implement their national 6-month emergency action plans and to ensure that they include appropriate surveillance, social mobilization, communications and immunization strategies and activities for mobile, migrant, and underserved populations.

- d. Countries should continue to use all opportunities to provide OPV to children during Child Health Days (CHDs), measles campaigns, and other health interventions that target mothers and children. However, these activities are not a substitute for high-quality, house-to-house polio SIAs and should not be counted as NIDs or sub-NIDs as a part of outbreak response activities. In addition, coverage data and independent monitoring evaluations of CHD and measles campaigns should be reported as for polio SIAs.
- e. The TAG endorses the use of risk assessment models and urges validation of the models.

3. Funding and Resource Mobilization

- a. The TAG recognizes the resource constraints faced by the Global Polio Eradication Initiative and the potential impact of funding gaps on activities; the TAG urges governments, partners, and donors to provide funding and other resources for necessary activities to achieve polio eradication in the Horn of Africa.
- b. HoA countries should re-engage the national ICCs or alternative forums (e.g., National Polio Emergency Action Committee) in light of the emergency polio eradication operations in order to review funding requirements and determine the capacity of governments, partners and donors to respond. The TAG requests a report on the engagement of national PEI programs with ICCs (or alternative forums) and action points by country for follow-up.
- c. The Kenya and Uganda WHO country offices are urged to conduct the following:
 - 1. An administrative review to determine the bottlenecks to distribution of partner and donor funds to the Ministries of Health in a timely manner to the correct level (national, province, and district) to ensure accountability and prevent future delays in program implementation due to financial management issues. (Report to the TAG by May 2012.)
 - 2. Provide a cost analysis of all outbreak activities (e.g., enhanced surveillance, SIAs, training, staff deployments) and percentage of cost covered by government, partners and donors from 2009 to 2012 in order to determine the cost-effectiveness of preventive SIAs versus outbreak response activities. (Report to the TAG by August 2012.)

4. Routine Immunization

- a. In order to reduce population immunity gaps in high-risk areas, PEI staff should systematically support opportunities to strengthen routine immunization activities.
- b. PEI staff should use the polio eradication platform to strengthen routine immunization service delivery and capacity where synergies exist (e.g., logistics, cold chain, data management, information systems).

5. Communications and Social Mobilization

- a. All HOA countries should finalize national evidence-based immunization communications plans by March 2012. Plans should include specific strategies to reach the migrant, mobile and high-risk populations. UNICEF is urged to support country teams to finalize and operationalize communications plans immediately.

- b. National strategies should be devolved into sub-national plans immediately with a focus on high-risk sub-populations and geographic areas. The communications and social mobilization plans have to be integrated into SIAs plans at all levels as a critical component of micro-planning. The TAG requests an update on the status of implementation of national and sub-national plans at the next TAG meeting in August 2012.
- c. Government, WHO and UNICEF should provide timely analysis of national and sub-national social mobilization and communications data in order to incorporate corrective actions into subsequent activities. The TAG urges partners to support and enable this process via technical assistance and financial support.

6. Country Level

A. AFRO Region (Uganda, Kenya, Ethiopia, Eritrea and Chad)

1. Uganda

- Following the recent outbreak assessments, the TAG urges the full implementation of the recommendations including:
 1. Funding and resources for implementation of recommendations to enhance AFP surveillance and conduct high-quality house-to-house SIAs.
 2. Two NIDs and two sub-NIDs in high-risk districts be conducted in 2012 in addition to using other opportunities to vaccinate children such as Child Health Days or measles plus campaigns. In the current situation, all efforts should be made to quickly boost population immunity.
 3. SIAs should be coordinated and synchronized with neighboring countries to the greatest extent possible.
- The implementation of recommendations from the outbreak assessment should be tracked and reported on a quarterly basis; an external field AFP surveillance review should occur within 6 months to ensure implementation of recommendations.
- The TAG recommends revitalization of the N-STOP program and an increase in the number of international STOP consultants in 2012.

2. Kenya

- Following the recent outbreak assessments, the TAG urges the full implementation of the recommendations including:
 1. Funding and resources for implementation of recommendations to enhance AFP surveillance and conduct high-quality house-to-house SIAs.
 2. Two NIDs and two sub-NIDs in high-risk districts be conducted in 2012 in addition to using other opportunities to vaccinate children such as Child Health Days or measles plus campaigns. In the current situation, all efforts should be made to quickly boost population immunity.

3. SIAs should be coordinated and synchronized with neighboring countries to the greatest extent possible.

- The implementation of recommendations from the outbreak assessment should be tracked and reported on a quarterly basis; an external field AFP surveillance review should occur within 6 months to ensure implementation of recommendations.
- High-risk populations in northeastern and eastern areas bordering Somalia, and in western areas bordering South Sudan and Uganda, should be prioritized during routine immunization, SIAs, and enhanced surveillance; in addition, Kenya should continue to focus on mobile, migrant, and underserved populations in these areas.
- The TAG urges a renewed commitment by partner and donors for communications and social mobilization activities including technical and financial assistance.
- Consider establishing an N-STOP team to increase technical support and capacity.
- The TAG recommends a feasibility study of environmental sampling in Nairobi as a supplemental surveillance strategy.

3. Ethiopia

- Conduct a risk assessment at the zonal level to help prioritize surveillance, routine immunization activities and SIAs; validate risk assessment models using historical data, particularly related to the cVDPV outbreak.
- Prioritization of high-risk groups, particularly in eastern areas bordering Somalia, and in western areas bordering South Sudan and Kenya, during routine immunization, SIAs, and surveillance activities.
- The TAG endorses the country plan to conduct two sub-NIDs in high-risk zones in 2012.
- An external field AFP surveillance review should be carried out in the first quarter 2012.
- The TAG urges greater involvement of the UNICEF country office in social mobilization and communication activities, particularly at the sub-national (zonal) level.

4. Eritrea

- The TAG had recommended an assessment mission by WHO/AFRO staff to Eritrea in 2011. The TAG urges that the mission should be carried out within 3 months to support the national program in updating a risk assessment to inform planning for enhanced surveillance and supplementary immunization activities. The TAG requests a report by May 2011.
- The TAG endorses the country plan to implement two sub-NIDs in high-risk areas.

5. Tanzania

- Following the recent risk assessments, the TAG urges the full implementation of the recommendations including:

1. Funding and resources for implementation of recommendations to enhance AFP surveillance and conduct high-quality house-to-house SIAs.
2. Two sub-NIDs in high-risk districts bordering Kenya and DRC should be conducted in 2012 in addition to using other opportunities to vaccinate children such as Child Health Days or measles plus campaigns.
 - The TAG recommends an external field AFP surveillance review within the next 6 months.
 - Consider establishing an N-STOP team to enhance technical support and capacity.

6. Chad

- Chad has a country-specific TAG; no recommendations will be made by the HoA TAG.

B. EMRO Region (Somalia, North Sudan, South Sudan, Yemen and Djibouti)

1. Somalia

- The TAG notes the continued inability to access children in large areas of central and southern Somalia and the risks this poses to Somalia and the whole sub-region, both because of ongoing cVDPV2 circulation and the risk of WPV importation. The TAG proposes a two-pronged strategy to reduce the risks.
 1. The program should continue to explore all possible ways of negotiating access with the political leadership in the inaccessible zone.

In addition, the following steps should be taken to reduce the risk:

2. During NID and CHD rounds special attention should be placed on accessible areas surrounding the inaccessible zone to ensure that the highest possible immunity is achieved; routine immunization strengthening efforts should also be focused on these areas.
 3. Populations displaced from the inaccessible zone, and populations moving in and out of that zone, should be identified and special plans developed to ensure they are covered by surveillance and immunization activities; if necessary ad hoc special rounds should be carried out to cover displaced populations; permanent immunization posts should be set-up in key transit points covering populations moving in and out of the inaccessible zone; the programme should collaborate closely with other UN agencies and NGOs in identifying these high-risk groups.
 4. The program should collaborate closely with the Kenya, Ethiopia and Djibouti programs to ensure that mobile populations, refugees and populations in border areas are identified and included in AFP surveillance and SIAs.
 5. Consider using novel immunization approaches to maximize immunity in access-limited areas.
- Supplementary immunization activities:

1. The TAG endorses the plan for two national NIDs and two national CHDs in 2012. These rounds should be with tOPV given the risk posed by cVDPV2 circulation.
 2. A minimum of three rounds in the currently inaccessible zones should be carried out immediately once access is achieved.
- Based on the recent risk assessment, enhanced surveillance and immunization activities should focus on the accessible areas of Northeast and Northwest zones. The risk assessments should be tracked quarterly to ensure that surveillance and immunization activities are optimized in accessible areas.
 - The TAG understands the difficulties of fully implementing independent monitoring in Somalia, but urges that global monitoring guidelines should be implemented as fully as possible for both NIDs and CHDs in at least the two accessible zones (Northeast and Northwest), using any reliable monitors and the standard monitoring format with results reported within 15 days of the round as per global recommendations.

2. Sudan

- Supplementary immunization activities:
 1. The TAG endorses the country plan for two national rounds in the first quarter of 2012. In principle one round should use bOPV and the other tOPV to ensure the best balance of immunity against all three poliovirus serotypes.
 2. Additional rounds in the Darfur states bordering Chad will be necessary if transmission continues in that country; contingency plans for an additional round using bOPV in the three Darfur provinces should be developed to cover this possibility.
 3. The TAG endorses the country plan for two national rounds in the fourth quarter of 2012. In principle one round should use bOPV and the other tOPV to ensure the best balance of immunity against all three poliovirus serotypes
- The TAG recommends full implementation of the 2012 external AFP surveillance review recommendations within the next 6 months.
- The TAG endorses the use of contact sampling for all AFP cases in the three Darfur states and other high-risk states as appropriate.

3. South Sudan

- Supplementary immunization activities:
 1. The TAG endorses the country plan for two national rounds in the first quarter and two rounds in the fourth quarter of 2012. In principle, one round should use bOPV and the other tOPV in each quarter to ensure the best balance of immunity against all three poliovirus serotypes.
 2. Additional vaccination activities and sub-NIDs should be implemented in insecure areas when / if access becomes available; contingency plans for rapidly implementing activities should be developed to cover this possibility.

- The TAG endorses continued contact sampling of all AFP cases and sampling of healthy children in “silent” areas per standardized operational protocols to enhance the sensitivity of the AFP surveillance system.

4. Yemen

- With the current cVDPV outbreak in Yemen, the TAG urges that the global guidelines for outbreak response be activated immediately. The following steps should be taken:
 1. An outbreak investigation should be conducted as quickly as possible to determine the extent of the outbreak. Technical support should be provided, if necessary, via WHO, CDC and / or the national Field Epidemiology Training Program.
 2. Enhanced surveillance should be implemented immediately; any back log of stool specimens from 2011 should be immediately transported to the laboratory in Egypt and prioritized for testing.
 3. Delays in transporting stool specimens have to be addressed immediately; a reliable system for transporting specimens on a weekly or bi-weekly basis should be put into place immediately and funding made available to support this component of surveillance.
 4. Two national NIDs and two sub-NIDs in the high-risk, affected governorates should be conducted in the first half of 2012. Timing may be dependent on the political situation and a contingency plan should be developed for NIDs/sNIDs to be implemented during a “window of opportunity.”
 5. Because the cVDPV outbreak is type 2, all SIAs should use tOPV to ensure protection against type 2 poliovirus.
- A full outbreak assessment should be carried out at 3- and 6-month intervals in accordance with WHO guidelines to determine if outbreak investigation recommendations have been implemented and if cVDPV transmission has ceased. The TAG requests a report of all assessment conducted.
- Consider establishment of an N-STOP program to increase technical support and program capacity.
- The government, partners and donors are urged to ensure that polio eradication and immunization are given the highest priority in a national emergency action plan and that resources are devoted to ensuring the full implementation of activities.

5. Djibouti

- Given the risks of importation of WPV or cVDPV into Djibouti, the Ministry of Health is urged to ensure that polio eradication and immunization are given the highest priority and that resources and attention are devoted to ensuring the full implementation of surveillance and immunization activities.
- The TAG urges the use of available funds for two rounds of NIDs and one sub-NID in refugee / mobile populations in 2012.

- A STOP team member should continue to provide technical support through the end of 2012. The STOP team member should be focused primarily on polio eradication activities including enhanced surveillance, training and capacity development, and planning and implementation of SIAs.
- The TAG urges that the process for receipt of laboratory results is clearly defined and functional between the KEMRI laboratory and the Ministry of Health EPI program.