

**Report of the**

**Three-Month Wild Polio Virus Outbreak Response Assessment**

**Kenya**

**18 to 26 August 2013**

**9 September 2013**

## Introduction

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On 9 May 2013, the Somalia Ministry of Health reported the first confirmed case of type 1 wild poliovirus (WPV1) in a 32-month old girl from Mogadishu with onset of acute flaccid paralysis (AFP) on 18 April 2013. A week later, on 16 May 2013, Kenya confirmed a case of WPV1 in a 4-month old girl from the Dadaab refugee camp in North Eastern Province of Kenya with date of onset 30 April 2013. Three months following the detection of the outbreak in Somalia, on 14 August 2013 the Kenya Medical Research Institute (KEMRI) issued an advanced notification of a case of WPV1 from a child living in Ethiopia with date of onset 10 July 2013. As of 30 August 2013, Kenya has confirmed 13 cases of WPV-1 whereas Somalia has confirmed 152 cases of WPV1 cases in 33 districts. The latest date of onset for Kenya's polio outbreak is 14 July 2013. The 13 confirmed cases in Kenya are from the Garissa County in North Eastern Region and all Kenya's cases are concentrated within the axis of the Dadaab refugee camp with proximity to the border with Somalia. Of the 13 WPV1 cases, 7 (54%) cases are from the refugee camps whereas 6 (46%) are from the host community. In the refugee camp, 4 (57%) are from Hagadera, 2 (29%) from IFO1 and 1 (14%) from Kambios camps. Among those from the host community, 3 (23%) are from Damanjale, 1 (8%) each from Mathegesi and Hamay, and Hulugho areas. Regarding the age distribution, 10 (77%) out of the 13 cases are <5 years (range of 4-60 months), while 3 (23%) are adults, two aged 19 and one aged 23 years. Nine (69%) of the 13 cases are female. Only 4 (31%) out of the 13 cases had received at least 4-doses of OPV, 2 (16%) had received 1-dose of OPV each and 7 (54%) had never received oral polio vaccine (OPV) before. Six (46%) of the cases occurred during the month of May (1-18<sup>th</sup>), 2 (15%) in the month of June (3<sup>rd</sup> & 14<sup>th</sup>) and 5 (39%) in July (2<sup>nd</sup>-14<sup>th</sup>), 2013. Although 7 (54%) of the cases had no travel history, 6 (46%) were from nomadic families and only one case had a travel history to Somalia. Two cases were related and had family contact before the onset of paralysis. The population dynamics in this area are complex. Many are nomadic pastoralists who are always on the move between Kenya and Somalia for trade, grazing and meeting relatives. There are strong links to clans or tribes rather than nationality. The host communities and the refugee camps interact with each other freely, creating a favorable environment for disease transmission. Even though the Kenya-Somalia border is officially closed, there are multiple informal border crossing points. Since January 2013, Kenya has detected 373 AFP cases, giving an annualized national non-polio (NP-AFP) detection rate of 2.64/100,000 children aged <15 years. Of the 373 AFP cases, 66 (18%)

cases are from North Eastern Province. Twenty percent (13) of the AFP cases in North Eastern were detected during the polio SIAs.

This report summarizes the findings from a 3-month outbreak assessment conducted by an inter-agency team of experts (see annex 1) between 18 and 26 August 2013

## **Objectives**

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The objectives of the 3-month assessment were to:

1. Assess the quality and adequacy of polio outbreak response activities to evaluate if the response is on track to interrupt polio transmission within six months of detection of the first case, as per WHA-established standards
2. To provide additional technical recommendations to assist the country meet this goal

## **Methods**

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The draft guidelines developed for the 3-month assessment of the polio outbreak response were followed. The assessment was comprised the following activities:

1. Field visits to the areas at risk or affected by the outbreak including evaluating the planning process and implementation of an SIA and/or assessing response activities.
2. A desk review and field assessments of the quality of AFP surveillance and routine immunization activities
3. Interviews with national and sub-national officials, NGOs and other partner organizations involved in polio eradication activities in Kenya.
4. Provision of feedback to the government authorities and national partner teams assisting the government with the response.

## **Assessment Teams and areas visited**

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Four teams were constituted covering the following areas:

1. Nairobi (central level assessment and field assessment of high risk districts in Nairobi)
2. Rift Valley Province (Turkana Central, Turkana West, Loima sub-counties and Kakuma refugee camp)

3. North Eastern Province (Garissa County, Dadaab District and Dadaab refugee camps)
4. Coast Province (Mombasa County)

### **Assessments**

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The assessments focussed on:

1. Speed and appropriateness of immediate outbreak response activities in line with WHA Resolution, 2006 (WHA59.1)
2. Effectiveness of government leadership and partner coordination during outbreak response
3. Quality of SIAs – planning, delivery, monitoring and communications
4. AFP surveillance quality
5. Routine immunization performance
6. Adequacy of human resources to carry out effective response activities

## **Summary of findings**

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### **Central level**

The central level assessment focussed on adherence to the recommended guidelines regarding the speed and quality of response, and partner coordination and collaboration. Meetings were held with representatives of Ministry of Health (MOH), Nairobi County Health Office, Kenya Red Cross, UNHCR/Kenya, UNICEF/Kenya, WHO/Kenya, Kenya Medical Research Institute (KEMRI), and Polio Plus, Rotary International.

The following were the key findings:

#### **A. Speed and appropriateness of immediate outbreak response**

The country met the requirements of speed and appropriateness. MOH conducted four large-scale, house-to-house vaccination rounds using bOPV and tOPV, with the first round within four weeks of confirmation of the index case, and an interval of approximately four weeks between subsequent rounds. The outbreak response comprised the following supplementary immunization activities: **Round 1: 27-31 May 2013**. Targeted a population of 512,610 <5 year

old children in all districts in Garissa County, except refugee camps and 3 host districts where children <15 years of age were vaccinated. bOPV was used in Dadaab refugee camp and 3 host districts; tOPV was used in the rest of Garissa. Independent monitoring of <5 year old children verified by finger-marking showed vaccination coverage was 86%. **Round 2: 17-21 June 2013.** Targeted 1.35 million individuals, including: the entire population in Dadaab all refugee camps, <15 year olds in 3 host districts, and <5 year olds in 22 other districts in North Eastern Province, neighboring districts in Coast Province, and selected districts in Nairobi. Independent monitoring coverage of finger-marked <5 year old children was 91%. **Round 3: 1-10 July 2013.** Implemented in phases targeting 4,661,881 persons, including: Dadaab refugee camp (July 1-6) covering <15 year olds, four districts (Dadaab, Fafi, Lagdera, Wajir South) bordering Dadaab Camp (3-7 July) covering <5 year old children, all other districts including those on Coast, Turkana, and Nairobi. Independent monitoring coverage of finger-marked <5 year old children was 93%. **Round 4: 17-21 August 2013:** The round targeted 4.9 million individuals in 127 districts. This round was observed by the assessment teams in their areas of deployment and formed part of the field component of this outbreak response assessment.

## **B. Effectiveness of government leadership and partner coordination during outbreak response**

The following were key findings:

1. Regular calls between the global partners took place to coordinate the outbreak response.
2. Joint visits were undertaken to North Eastern Province (Garissa and Dadaab) by high level representatives of MOPH, UNICEF, and WHO for advocacy, assessment of preparedness, and monitoring of the SIA rounds.
3. In the initial phase of the outbreak, there were reports of lack of coordination between WHO/AFRO and WHO/EMRO and little/no sharing of lessons learned from SIA implementation. Coordination improved in subsequent campaigns.
4. There was excellent collaboration and support between the laboratory (KEMRI) with WHO/AFRO, WHO/EMRO, WHO/IST, and the Centers for Disease Control Prevention (CDC). However, it was reported that human resources and laboratory equipment were initially inadequate to cope with the increased number of stool specimens.

5. Kenya Red Cross volunteers supported rounds 1 and 2 of SIAs. Funding was inadequate to support all the volunteers needed for round 3 and 4 of the SIAs.
6. Community health workers cover only 30% of Kenya, and they tend to be working in Nairobi and other places where they are not critically needed. Funding is not available to support a community health worker network covering all priority areas (52% of Kenya), including high risk pastoralist communities.

### **C. Recommendations for the central level assessment**

1. Increase partner involvement:
  - a. Ensure that robust advocacy and resource mobilization plans are developed and implemented and that all partners have a stake and a voice in decision-making.
  - b. Strengthen partnership with Kenya Red Cross; explore ways their volunteers can support immunization at informal and formal Somalia border crossings, and in high risk, hard to reach communities.
  - c. Strengthen focus on cross-border activities, including increasing the frequency of cross-border meetings and monitoring the completion of recommendations/action points from the meetings. Hold partners accountable for progress.
  - d. Assess the feasibility of fixed immunization posts at border crossings and at priority transit sites within the country. Develop a staffing and resource plan to ensure continuity of care.
  - e. When possible, synchronize campaigns with neighbors.
  - f. Encourage innovation and new partnerships for campaign and routine immunization of mobile and hard to reach communities.
2. Strengthen program management
  - a. Ensure the continuity and integrity of the immunization program in the face of de-evolution; ensure country-level political leaders are sensitized to the importance of vaccinations and disease surveillance, and the critical deadline of polio eradication.
  - b. Establish accountability procedures to ensure immunization and surveillance funding to counties is appropriately spent.

- c. Strengthen surveillance. Districts not meeting laboratory and surveillance indicators must be prioritized to improve surveillance sensitivity.
- d. Find funds to 1) conduct all required supervisory training sessions (currently 2 per year, with 4 per year needed), 3) ensure > 6 month retention of new lab staff, and 3) expand the community health worker base in nomadic areas.

#### **D. Program norms and standard operating procedures for outbreak response**

National guidelines for the polio eradication activities, including SIAs micro planning, implementation and evaluation, integrated disease surveillance including AFP surveillance as well as outbreak emergency response were shared with the assessment team. These guidelines were consistent with global standards.

#### **E. Communications and Social Mobilization for outbreak response**

A desk review of the national level communications and social mobilization activities was done.

The key findings were:

1. Partner coordination for communication takes place through the Advocacy, Communication and Social Mobilization Committee (ACSM) with broad membership. This committee provides oversight to activities and reports to the Ministry of Health. The Terms of reference for the ACSM were not clear. It was also not clear how the group was expanded to reflect the emergency outbreak response necessary after wild poliovirus was detected in Kenya.
2. Communication activity guides were available in Nairobi, but many of the standard documents that existed, such as FAQs, were not yet updated for emergency outbreak response activities
3. The emergency polio outbreak communication guidelines developed at the national level for the August campaign were not visible or referenced among implementing partners in the field. A specific overview document focusing on Dadaab made available in Nairobi offered a good frame of reference for key resources active on the ground, but was not used in Dadaab for the August campaign.
4. Centrally developed communication materials for the August campaign (a poster) were seen but not visibly displayed; field level personnel cited a need for other materials such as

banners or pamphlets, particularly in local languages. Local budgets did not adequately include resources for production of local materials, nor were they available from the central level.

The following were the recommendations:

1. The National Advocacy Communication & Social Mobilization Committee under the leadership of the Kenya MOH and inclusive of all supporting partners should update their terms of reference, review the existing membership and participation and expand membership as appropriate for the polio outbreak emergency response.
2. This emergency approach to the polio outbreak should be updated to use existing data from the past polio campaigns and other social data to describe high risk areas and groups. Specific communication objectives for these high risk areas and groups should inform strategies and activities, and centrally produced materials should be produced and distributed. A detailed budget and financial monitoring processes should be developed through the end of 2013. At the end of 2013, a review of activities should be conducted and plans with budgets updated for 2014. The polio emergency outbreak response plan should include explicit links to routine immunization and other child survival initiatives as appropriate for the Kenya context.
3. As part of this process, data for communication planning should be available to all partners and interpreted after every polio SIA to identify progress and remaining gaps. These data should include (a) analysis of independent monitoring data broken down by county and presented according to country or Horn of Africa communication indicators (awareness, reasons for missed children), and (b) polio and non-polio AFP investigations should be used to determine profiles of zero dose and under-immunized children.
4. Standard operating procedures for communication planning, activities and budget based on the updated national emergency communication plan should be shared with partners at all levels, and county/district level plans, with a focus on high risk areas, should be updated based on these SOPs, examined for completeness at the central level and funded to ensure timely implementation of activities. Based upon the revised communication and social mobilization plan, (a) management and staffing needs should be discussed and agreed upon with partners to ensure capacity is in place to implement activities (b) detailed

budgets should be submitted outlining total needs for remainder of 2013 and all of 2014 and be linked to fund raising activities. Joint micro-planning formats need to be finalized to include communication and social mobilization, with social maps, standards activities such as mosque announcements or community dialogues (as described in the national plan) and materials in place to support these activities, and (c) according to national guidelines for community surveillance, materials need to be developed and distributed in local languages.

## **FIELD ASSESSMENTS**

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### **Nairobi County**

#### **Background**

Selected districts in Nairobi County were been included in the outbreak response because of the increased risk of infection following the outbreaks in Somalia and Dadaab district. The districts were selected because of their regular contacts with North Eastern Province high-risk areas, and their Somali refugee populations. Two SIA rounds (June and July) were conducted prior to the assessment; independent monitoring of finger-marked <5 year old children showed coverage of 84%, and 95% respectively. The non-polio AFP detection rate was 4.4 per 100,000 < 15 year old population in 2012, and 4.0 in 2013 (annualized). The stool adequacy rate for AFP cases was 90%, and 88% respectively.

#### **Summary of findings**

The following districts were visited by the assessment team : Embakasi (campaign), Kamukunji (campaign and independent monitoring), Langata (campaign), Makadara (campaign), Starehe (campaign) and Westlands (campaign). The key findings were:

#### **A. Preparations for the campaign**

1. Funds were received late for the first round in June. For the third round in August, although funds were transferred from WHO to the MOH on time, only social mobilization funds were received by the districts on time.
2. Communication and social mobilization activities were inadequate to convey a sense of outbreak emergency. There were very few posters seen in the field and many parents were

ignorant that the campaign was happening. There were no community-specific social mobilization messages.

3. There were no vests, hats, or tee-shirts for immunization team members. This was attributed to a decrease in social mobilization funds provided to the county.
4. No visible political support/engagement at any level was observed. Few community leaders and elders were involved in social mobilization activities.
5. No social data were systematically collected for tracking community knowledge, participation, and support for outbreak response activities.

## **B. SIA Implementation**

The following were the key findings:

1. There were an insufficient number of teams in bus stops and other busy/big transit areas to ensure vaccination of all children.
2. No maps were used by the immunization teams; they were felt unnecessary as the community mobilizer “knew the area”. Teams reported difficulties in covering high-rise apartments.
3. There was no recording of the names of children missing from households, and no clear strategy for follow-up of children whose parents refused house-to-house vaccination but committed to vaccination at health facilities.
4. Zero dose information on vaccinated children was not collected.
5. There was little non-governmental organizations (NGO) involvement observed in the campaign.
6. There was a shortage of summary sheets, OPV droppers, and ice-packs. These shortages were attributed to inadequate funding.
7. House marking was incorrect or missing in many instances. Suspicious markings of many households were observed with the assumption that households did their own markings to prevent visits by the vaccination team.
8. Vaccination teams were often marking the wrong finger, and markers were of poor quality such that marks easily washed off.
9. Vaccination teams did not ask households about AFP cases during the house-to-house visits.

10. Vaccine handling by many teams was poor, with half frozen ice packs or ice strips, re-use of droppers and OPV vials not isolated in plastic bags in vaccine carriers. Supervisory checklists were not observed. All vaccine vial monitors (VVMs) observed were in stage 1.
11. Evening meetings did not take place between supervisors and district staff due to security concerns; instead, morning meetings were reported to occur every other day.
12. There was a high level of refusals in Somali communities as vaccine provided house-to-house was considered unsafe. No follow-up was planned to ensure children missed in the campaign were vaccinated at health facilities or by their private doctors.
13. An informal coverage survey of 86 eligible children in the Somali community during observation of independent monitoring showed only 78% of children were vaccinated. Parents of unvaccinated children expressed concerns about the safety of OPV and reasons for multiple doses.

### **C. AFP surveillance quality**

1. Every district has a surveillance officer, and community health workers (CHW) supplement active AFP case reporting. A surveillance bulletin is distributed each month with follow-up of districts not meeting targets. Private health facilities are included in the active surveillance network and private sector health workers are educated on the importance of vaccination and AFP case reporting. AFP case reporting is done (at least in part) by SMS so is thought to be timely. In general, completeness of monthly reporting is good, though private providers do not report weekly.
2. KEMRI has done an excellent job in meeting the demands of the outbreak. Normally, 3,000-3,500 specimens are tested each year; already in 2013 4,500 specimens have been tested (primarily from Somalia, but also from Kenya, South Sudan, Eritrea, and Djibouti) Through commitment and creative resource mobilization, it has efficiently worked through its June and July backlog.

### **Recommendations for Nairobi County**

1. Strengthen SIA implementation and quality:
  - a. Improve micro-planning with a bottom up approach.

- b. Increase supervisory accountability for team performance. Ensure supervisors reach out to each team at least once per day.
  - c. Develop guidelines/agreements on vaccination of children living on district boundaries (or who may be visiting from neighboring districts).
  - d. Provide refresher training on proper handling of vaccine (frozen ice packs, dry vaccine vials), house marking, and finger marking.
3. Strengthen social mobilization:
- a. Immediately develop a communication response plan to ensure the sensitization and mobilization of all targeted populations. Include specific messages that address the concerns of specific population groups (e.g., Somalis, households served by private providers).
  - b. Develop an “outbreak emergency” message to the public and government leaders to create vaccine demand. Immediately engage political and community leaders at every level to share information about the outbreak, the importance of campaigns and routine immunization, and the safety of OPV.
  - c. Immediately identify social mobilization funds for the next round, including those to hire all needed volunteers, produce media announcements, and purchase of identification clothes/badges for vaccinators. Consider approaching local NGOs and/or businesses for funding.
  - d. Identify long term, sustainable funding for social mobilization.

## **Coast Province: Mombasa County**

### **Background**

Mombasa County was included in the outbreak response as it was considered at risk because it is close to the Somalia border and there are a significant number of Somali residents who have extensive contact with the outbreak communities in Somalia and Kenya. All 4 districts in Mombasa County were targeted for the outbreak response activities. One round (July had been conducted targeting 211,233 children <5 years of age. Independent monitoring showed a coverage 93%. Likoni/Changamwe and Mvita/Kisauni sub-counties were visited by the assessment team.

The following were the surveillance indicators in the sub-counties: non-polio AFP detection rate per 100,000 children under 15 years in Likoni/Changamwe: 3 in 2011, 4 in 2012 and 8 in 2013 (annualized) All AFP cases had received 3 or more doses of OPV. In Mvita/Kisauni Districts the rates were 4 in 2011, 7 in 2012 and 18 in 2013 (annualized): most non-polio AFP cases had received 3 or more doses of OPV. However, in 2013, 9 cases had no OPV dose information recorded. However, Malindi District, in Kilifi County, which expects expect 1-2 AFP cases per year, has been silent so far this year. Routine EPI performance was good, with the average routine Immunization performance in Likoni/Changamwe of OPV3 as follows: 2011: 94%; 19% dropout rate; 2012: 85%; 16% dropout rate; 2013: 74%; 17% dropout rate. In Mvita/Kisauni the OPV3 was as follow: 2011: 103%; 9% dropout rate, in 2012: 99%; 4% dropout rate (2013 data were not available). Interpretation of routine EPI data is compromised because of unreliable denominator data.

### **SIA Implementation**

1. Good social mobilization in advance of campaign – virtually all families assessed had heard about campaign.
2. Each vaccination team included a member from the local community and all vaccinators met were trained for this round. Vaccinators were participating in the SIAs even though funds had not been received before the campaign started.
3. No micro-plans for the activity could be found although there appeared to be enough vaccination teams, supervisors and coordinators.

4. District Medical Officers were actively engaged in campaign and in redirecting teams to areas needing more assistance.
5. Teams had a systematic approach to reach all homes and tally sheets were correctly completed. However, missed children were not recorded on the tally sheet although follow-up and revisit was reported to be done by the teams using community health worker knowledge of the area.
6. There was lack of clarity amongst team members on whether the target was under-fives or including five year-olds.
7. Finger markings were hard to see the day after the campaign ended; many vaccinators only marking nail but not skin
8. AFP cases were not always asked for during the house-to-house visits
9. Although all VVMs seen in the field were Stage 1, ice-packs were not frozen, and there was a shortage of vaccine carriers requiring the use of some very old, damaged, vaccine carriers.
10. Vaccines supplied were not adequate such that near the end of the campaign, routine EPI OPV was distributed to some teams
11. During Independent Monitoring it was noted that at least 10 houses in one area were not marked at all

#### **AFP Surveillance quality**

Standard AFP surveillance is in place in the Mombasa sub-counties visited. The following were noted:

1. Hospitals were visited by district surveillance officers weekly and smaller facilities monthly. Registers are signed to document the visits. The visits were used for sensitization of staff at each facility visited in two of the four sub-counties.
2. At the largest hospital (Coastal Provincial General Hospital), the surveillance officer has good rapport with pediatric inpatient and outpatient staff as well as occupational therapy staff.
3. Facilities contact the surveillance officer anytime there is a suspected AFP case. The officer then conducts the investigation and collects stool specimens.

4. It was reported that illegal immigrants tend to visit the private sector and ask doctors not to report their illnesses
5. The review team noted that it takes 3-4 months to get results back on negative stool specimens: clinicians and families not happy about these delays
6. In Mvita/Kisauni Districts no additional AFP training has been done this year due to lack of funds to hire a venue and pay for attendance; AFP cases were not summarized in a table.
7. Surveillance officers suggested that training of community health workers in AFP surveillance may help improve AFP surveillance rates.

#### **Recommendations for Mombasa County**

1. Micro-plans for SIAs should be available and used for planning the SIAs and should be available for review by national level and county level supervisors
2. Funds for vaccinators should be made available prior to start of the campaign
3. The micro-plans should include all elements for SIA implementation, including vaccine amounts required, logistics, cold chain and adequate number of ice-packs and vaccine carriers as well as planning for freezing of icepacks prior to start of the campaign
4. Provide adequate social mobilization materials including pamphlets for polio and SIAs
5. Visit and mark all houses in vaccinated neighborhoods
6. Work with the laboratory to ensure timely feedback of results to the clinicians and families
7. Ensure good finger markers are available for the subsequent SIAs
8. Training for AFP surveillance should be supported immediately to improve and update the skills of both health care providers and community health workers.

## **Rift Valley Province**

### **Turkana West, Turkana Central and Loima, and Kakuma refugee camp**

The districts and refugee camp were included in the outbreak response because they were areas at risk of infection because of their close proximity to high risk areas as well as having been affected by the last outbreak of WPV in 2009 which originated in South Sudan. The assessment team visited Turkana West, Turkana Central and Loima, and Kakuma refugee camp. The county has poor OPV3 coverage with populations at high risk especially nomads, and internally displaced persons (IDPs). The refugee camp also hosts Somali populations (47% of approximately 120,000 refugees) who move between Somalia, Nairobi and North Eastern Province. The routine OPV coverage in Turkana County was estimated at 78% in 2013. Independent monitoring data from the June and July rounds of SIAs was 98% and 97% respectively. AFP surveillance indicators showed a detection rate of 3.8 per 100,000 population under 15 in 2012 and 3.57 for 2013 (annualized). The stool adequacy was 63% and 78% respectively. Of the five cases of AFP detected in Turkana West in 2013, two were detected during the SIAs.

### **Partner coordination during outbreak response**

1. The Ministry of Health was fully engaged in the outbreak response activities in all the places visited.
2. There was a delay in receipt of funds for the July round. However, for the August round, funds were received at least two weeks before the campaign.
3. In Kakuma and Lokichogio, NGOs and faith-based organizations were active participants.
4. In Turkana West, the local partners included the African Inland Church (AIC) and AMREF, which also supported the campaign with vehicles.

### **Quality of SIAs:**

1. The micro-plan developed was not available for review during the time the team was in the field.

2. Although training was reported to have taken place in both Lokichogio (Loki) and Kakuma prior to the campaign, some vaccinators the team interviewed in Kakuma were not trained.
3. In Loki, the team supervisors were knowledgeable of the area. They were also very organized in the preparation of the campaign each day and had a system for receiving the daily campaign returns. There was also an immunization team at the South Sudan/Kenya border.
4. In all places visited, there were no team movement plans, and daily work plans were not defined in advance of the campaign but defined each day. This led to many areas being missed by teams. In addition, supervisors were noted to be moving all teams to work in a single area at a time instead of allocating them to pre-defined areas.
5. Supervision was poor, and no supervisory check-lists were seen to be in use. There were no maps seen outside the group map in Loki and supervisors did not carry extra supplies.
6. There were no launching ceremonies for rounds July and August SIAs rounds and IEC is done through letters to faith-based organizations, chiefs, media, and radio. There are radio interviews but no radio spots due to a reported lack of funds.
7. There was no consistent strategy to reach mobile populations.
8. All vaccine was noted to be in stage 1 or 2, vaccine carriers had 1-2 ice packs and all teams had finger markers, chalk and tally sheets. In Turkana West and Central, there were reliable sources to freeze ice packs and store vaccine.

#### **Routine immunization performance**

1. Routine immunization was being provided in all five health facilities visited in Turkana West. Recent provision of solar units by WHO and UNICEF has increased the number of health facilities with cold chain. Outreach immunizations are mostly integrated with nutrition outreach activities supported by the International Rescue Committee (IRC) and Africa Inland Church (AIC).
2. Immunization coverage monitoring chart and ledgers for vaccine stock management were not available in health facilities visited.
3. IRC provided a room with reliable power supply for the storage of vaccines.

**Surveillance Quality:**

1. There was no documentation of active surveillance, spot maps, or line lists of the cases in Turkana West. Although AFP posters were seen in every facility and health workers were knowledgeable, case investigation was poorly documented and 60 day follow-up was not completed. Case reports were available for only 2 of the 5 AFP cases.
2. Weekly reporting was done by SMS, but the health and information systems (HIS) data could not be reviewed with the surveillance officer because there was no internet or electricity resulting in no available documentation.

**Adequacy of human resources to carry out effective response activities:**

1. In all places visited, there were inadequate human resources effectively to plan SIA activities and the high turnover of staff compromises effective planning for SIAs and conduct of AFP surveillance. Three of the 6 sub-counties did not have AFP focal points.

**Recommendations for Turkana County:**

1. Introduce proper SIA micro-planning well in advance of the September rounds. Standard tools should be used. Ensure plans contain clear strategies for reaching hard to reach populations, including nomads and other mobile populations.
2. Implement active AFP surveillance, with designation of priority reporting sites, identification of facility focal points and a supervisory activity plan. In addition, expand the use of community volunteers or community health workers to serve as community informants for suspected AFP cases.
3. Review the training plans and frequency of training and orientation for surveillance staff, taking into account high staff turnover.
4. Ensure all health facility staffers are properly trained in surveillance.

## North Eastern Province

### Garissa County; Dadaab District

#### Background

Dadaab District is the epicenter of the Kenya outbreak. A total of 13 cases have been confirmed. Ten of the cases were detected in the refugee camps and the last three were detected in the host communities. Dadaab District has an estimated population of 80,430 and comprises three divisions (Dadaab town, Dertu, and Liboi). The refugee population is estimated at over 500,000 in five camps (Hagadera, IFO1, IFO2, Kambioos and Dagahaley) that are coordinated by UNHCR. The implementing partners providing health services are International Rescue Committee (IRC), Islamic Relief Fund, Kenya Red Cross, and MSF Suisse. Independent monitoring for the June round SIAs showed coverage of 94% in the refugee camps and 87% in the host communities. In the July round, the corresponding coverage was 92% in the camps and 94% in the host communities.

#### Partner coordination.

1. There is strong UNHCR coordination of implementing partners in the refugee camps. Communication planning is conducted by a sub-group led by UNHCR.
2. There is also good collaboration between MOH staff and WHO for activities implemented in the host communities. UNICEF led communication activities through MOPH in areas not covered by UNHCR.
3. Local response guidelines were not available for communication planning and the Ministry of Health national strategy was used. No local communication plan was made, and there was no systematic communication training provided to mobilizers.
4. Communication and social mobilization activities relied on briefings and existing community structures already in place to reach communities with messages. InterNews conducted some rapid qualitative assessments, findings which were used to guide radio messages broadcast on two FM radio stations. Funds for communication were received after the first campaign was over, but activities were conducted based on promises to reimburse. For subsequent campaigns funds were received on time.

5. Radio spots and megaphones were the main communication activities. Banners for fixed sites and other materials were not available or not utilized. Religious leaders were targeted for Eid celebrations and to guide mosque prayers. The provincial health office has supported innovative ways to improve access to populations that are in areas of limited or no access because of insecurity near the Somalia border. One strategy has been to work with local leaders and community volunteers who are given OPV to vaccinate populations in security compromised areas.

### **Quality of SIAs**

1. Vaccine logistics and cold chain were well managed (all OPV observed in stage I).
2. Team composition and planning in both refugee camps and host communities were appropriate (vaccinator and local guide from the community).
3. Micro-plans included numbers of teams, number of vaccines, vaccine carriers and supervisors. Plans were available at the district office.
4. No communication targets or evaluation of activities was done. Independent monitoring data from previous SIA rounds was not used to set targets or identify high risk areas or groups. There was no mapping of refusals or missed children to identify clustering.
5. Vaccination teams included locals and community health workers, but no explicit plans were made to create community ownership beyond using local religious leaders as advocates during campaigns (mosque announcements, converting refusals).
6. Daily evening meetings took place on schedule during the campaign; vaccination and communication plans for the next day were modified as appropriate.
7. All team supervisors had adequate transport and were monitoring their teams at least twice a day.
8. Random checks in both the host communities and the refugee camps did not identify vaccine refusals and virtually no zero dose children were found.
9. Populations in security compromised areas in Liboi district near border with Somalia remained unvaccinated.
10. Vaccination teams placed at water-points were effective in vaccinating pastoralists.

11. House markings were incorrect in most instances. However, random assessments found very few unvaccinated individuals
12. Strategies for revisits of missed children and adults were being implemented.

### **AFP Surveillance quality**

1. There was good knowledge of AFP surveillance in the health facilities in the camps. Community health workers were engaged and served as community focal points for notification of suspected AFP cases. Documentation of active surveillance in the refugee camps was good.
2. Community surveillance was active (Kenya guidelines for 18 diseases including polio were in use), and all partners supported surveillance through established systems. Community surveillance communication guidelines were not shared with the team, but were referenced by partners.
3. There was good collaboration between the district health office, refugee camps, and MOPH at the county level for investigation and follow-up of suspected AFP cases.
4. Many health facilities in the host community, especially on the border with Somalia, were closed because there were no staff willing to work in these locations.
5. No active AFP surveillance was conducted in the host community. No supervisory visits for AFP were done in the district hospital, health facilities or functional dispensaries. Moreover there were no outreach activities involving community health workers.

### **Adequacy of Human Resources for outbreak response**

1. In Dadaab, human resources for communication support are adequate due to intensive presence of various NGOs and agencies supporting refugee activities.
2. For the outbreak response, staff from the Kenya UNICEF Country Office visited Dadaab twice for first two campaigns, but no additional staff deployed to Dadaab. UNHCR has dedicated staff overseeing community engagement, with IRC, InterNews, UNICEF and others organizing community health workers for campaign activities.

**Routine EPI Activities**

1. There is good adherence to the RI schedule in both the refugee camps and the host communities.
2. Routine EPI activities in the refugee camps were used by both refugees and residents of host communities.
3. Functional health facilities in host communities were not systematically documenting their activities and there was no evidence of outreach activities or monitoring of defaulters or coverage. Communication for SIAs did not support or encourage routine immunization.
4. In some areas bOPV was being used for routine immunization during the campaign. There is no communication strategy for routine immunization directed at the large influx of people who cross the border back and forth for registration and related food.

**Recommendations for Garissa County**

1. Implement active surveillance in all functional health facilities through training and supervision.
2. Re-train vaccination teams on proper house marking.
3. Expand the involvement of trained community volunteers and community health workers to vaccinate population groups in security compromised areas and serve as focal points for notification of AFP cases.

## **Conclusions and Recommendations of the 3-month wild polio virus outbreak Assessment in Kenya**

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### **Conclusion**

The outbreak assessment team had three key conclusions regarding the response to the wild polio virus outbreak in Kenya.

- 1. There was a timely response to the outbreak by truly dedicated public health staff and strong government leadership with partner coordination**
- 2. The quality of current outbreak response activities is, however, unlikely to achieve sufficient population immunity required to interrupt WPV transmission within six months of detection of index case (Nov 2013)**
- 3. Gaps in AFP surveillance at subnational level may prevent early detection of wild polio virus and response**

### **Recommendations**

1. The Government of Kenya should be commended for their prompt outbreak response
2. The current polio outbreak should be declared a public health emergency, and all necessary human and material resources should be mobilized to increase public awareness and improve the quality of SIAs and AFP surveillance
3. Social mobilization should be immediately strengthened to create a sense of urgency in non-outbreak but high risk areas and sustain demand for vaccine delivered in the routine immunization program as well as in SIAs
4. Advocacy and resource mobilization strategies must be immediately elucidated to ensure that government and community leaders are visibly and regularly promoting the urgency of OPV vaccination, and that all stakeholders are contributing to halting WPV transmission
5. Active AFP surveillance should be established or strengthened to comply with national AFP surveillance guidelines. This must go beyond meeting the non-polio AFP detection rate indicators.

6. To complement AFP surveillance, environmental surveillance for polioviruses must occur as soon as possible in multiple sites in Nairobi and other high risk areas where feasible.
  7. Training should be conducted to ensure that immunization staff understands the importance of data in targeting program activities.
  8. The immunization workforce should be trained on micro-planning tools and held accountable for their use. This training should include proper house and finger marking, re-visiting missed children, and tracking refusals. SIA vaccination teams must use detailed maps.
  9. Staff with supervisory responsibilities in SIA, AFP surveillance, and routine immunization should receive regular training in supervisory techniques and be held accountable for the performance of their staff.
  10. Community vaccination volunteers should be treasured and publicly acknowledged for their critical role in public health by officials at all levels of the government.
  11. Effective strategies for reaching remote, nomadic communities, mobile populations, and persons residing in insecure areas should be identified, reinforced, and replicated. Funds should be made available to support implementation of these strategies by community health workers and volunteers in all high risk districts.
  12. Adequately staffed and funded fixed immunization sites should be located at high volume transit points. Fixed immunization sites should be re-opened, if possible, at commonly used border points.
  13. Consideration should be given to the role of IPV in the current polio eradication program, including its targeted use in high risk areas like the Dadaab refugee camp and host communities.
  14. Progress on implementing recommendations should be reviewed before the November 2013 Horn of Africa Technical Advisory Group for Polio Eradication (HOATAG) meeting.
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## **Annex 1**

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