



Strengthening CORE Group
Polio Project Impact:
Community-Based Surveillance
Activities in South Sudan
2017 ANNUAL REPORT
The Bill and Melinda
Gates Foundation

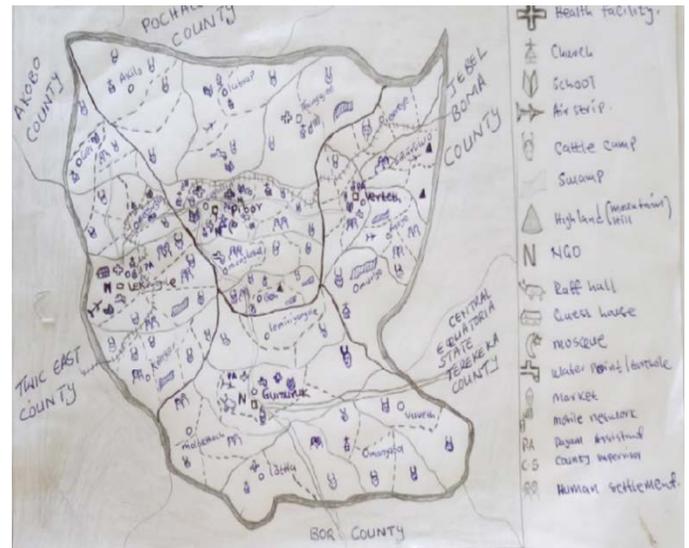
Reporting period: October 1, 2016 - September 30, 2017



Background

Three cases of circulating vaccine-derived polio virus (cVDPV2) in 2014 and 2015 exposed South Sudan's high vulnerability to another polio outbreak. A national outbreak response assessment review revealed that half of all counties (18 of 33) in the conflict-affected northern states of Jonglei, Upper Nile and Unity were silent - indicating an AFP surveillance system not sensitive enough to detect existing poliovirus cases. As a result, the South Sudan Technical Committee for Polio Eradication requested that Core Group Polio Project expand northward. In October 2015, CGPP extended its activities to all counties in the conflict-affected states of Jonglei, Upper Nile and Unity in addition to hard-to-reach Kapoeta East county that shares its international southern border with Kenya.

Since 2010, the Bill and Melinda Gates Foundation has supported GCPP's critical community based surveillance (CBS) efforts in South Sudan. Unrelenting conflict with robbery and looting has left health facilities destroyed or not functioning with about 400,000 children under 5 as of July 2015 not vaccinated or under vaccinated in the three northern conflict states. The conflict has resulted in the internal displacement of 1.8 million people and the exodus of more than two million people to the neighboring asylum countries of Uganda, Ethiopia, Sudan, Kenya, the Democratic Republic of Congo and Central African Republic. Increased conflict, reduced accessibility, very weak health infrastructure and continuous movement are important factors that underline the need for a strong community-based surveillance network in a country extremely vulnerable to a polio outbreak.



Hand-drawn Payam map used for Surveillance

During the 2017 reporting period, a dedicated network of 2,366 men and 991 women worked to detect and report suspected polio cases in South Sudan's areas under the control of both the SPLA-IO and the government. **Through CGPP community based surveillance efforts, 90 percent of all AFP cases detected in the reporting period were found by CGPP volunteers.**

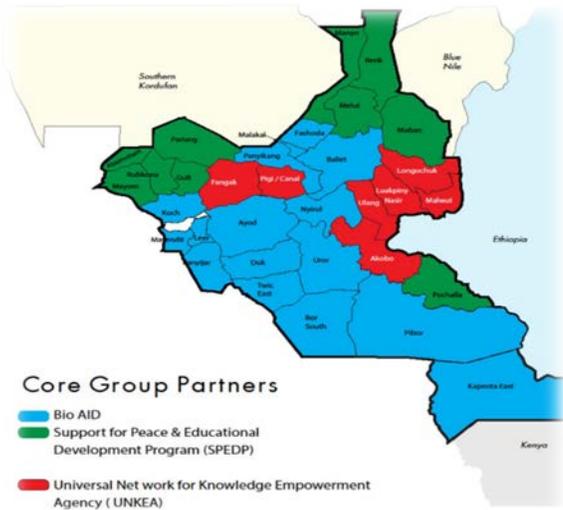
Progress from October 1, 2016 to September 30, 2017

This report addresses the period from October 1, 2016 through September 30, 2017. CGPP's community based surveillance efforts are conducted in the three conflicted-affected and infrastructure-poor northern states of Jonglei, Unity and Upper Nile and Kapoeta East County in Eastern Equatoria State due to its significant population movement and proximity to refugee routes. Thus, a total of 34 counties are addressed in this progress narrative.

The CORE Group Polio Project implementing partners operate in four states of Upper Nile, Jonglei, Unity and one county in Eastern Equatoria state covering a total of 34 counties with an estimated population of **3,703,680** people, of which the target population is **150,116** children under the age of 1 year, **782,800** children below the age of 5 years and **1,677,518** children under the age of 15 years.

| State | Total Pop | Pop under 1 | Pop under 5 | Pop under 15 |
|-------------------|------------------|----------------|----------------|------------------|
| Upper Nile | 1,179,984 | 47,424 | 248,827 | 557,424 |
| Jonglei | 1,555,989 | 63,304 | 327,660 | 660,593 |
| Unity | 937,510 | 37,501 | 196,877 | 440,628 |
| Eastern Equatoria | 30,197 | 1,887 | 9,436 | 18,873 |
| Total | 3,703,680 | 150,116 | 782,800 | 1,677,518 |

In FY17, CGPP partnered with three national organizations implement the project in the conflict-affected areas of Jonglei, Unity and Upper Nile. Bio Aid, Universal Network for Empowerment Agency (UNKEA) and Support for Peace and Educational Development Program (SPEDP) support CBS activities in 34 counties in four states. CGPP community based efforts complement the formal WHO surveillance system. As of September 2017, CCPP South Sudan established community based surveillance in all of the 34 counties, including Leer which was reached by SPEDP; issues of insecurity in Panyikang in Upper Nile, however, has temporarily halted project implementation.



| Northern conflict-affected states | |
|-----------------------------------|---|
| JONGLEI | |
| 12 counties | Akobo, Ayod, Boma, Duk, Fangak, Nyirol, Pibor, Pigi, Pochalla, Bor South, Twic East and Uror |
| UPPER NILE | |
| 13 counties | Baliet, Longochuk, Maiwut, Melut, Nasir, Panyikang, Renk, Ulang, Akoka, Fashoda, Maban, Manyo and Malakal |
| UNITY | |
| 9 counties | Abiemnhem, Guit, Koch, Leer, Mayiendit, Mayom, Pariang, Panyijar, and Rubkona |
| Southern hard-to-reach state | |
| EASTERN EQUATORIA | |
| 1 county | Kapoeta East |
| | Denotes Silent County |

Meetings to Improve Collaboration and Cooperation

Monthly partners meetings: CORE Group South Sudan convened and chaired monthly meetings to discuss lessons learned and to review progress and obstacles to implementation in the field. The meetings are used to agree on standard operating procedures for quality improvement and to develop quick resolutions to challenges. Topics in the fiscal year included payment of salaries and vaccine shortages. Outcomes of the meetings are recorded by the Secretariat and shared immediately with partners. The 2017 minutes of the meetings were structured with clear resolutions; this detailed documentation allowed for improved accountability and timely response to critical issues.



Monthly partners meeting at the CORE Group Secretariat office in Juba with participation of BMGF consultants

Weekly Technical Working Group Meetings: CGPP South Sudan works closely with the MoH, WHO, UNICEF and CDC on the EPI Technical Working Group (EPI TWG) and has maintained strong partnerships through meetings at national, state, county and community levels. At the national level, the secretariat staff participated in the weekly EPI TWG meetings that were usually chaired by the Director EPI MoH and is attended by all the EPI team MoH, WHO polio staff, staff from Directorate of Health Promotion MoH, JSI, UNICEF immunization and communication team, JSI and CDC-Afenet. The meetings usually deliberate on technical matters regarding all EPI activities in South Sudan, including evaluating monthly performance, planning for NIDs and outbreak emergency response and follow up on policy issues. The Surveillance Project Manager and the Secretariat Director attend these meetings and contribute towards the successful implementation of the activities set by the MoH.

ICC Meetings: CGPP South Sudan is a member of the inter-agency coordination committee and participates during its quarterly meetings.

Horn of Africa Technical Advisory Group meeting: The Core Group Secretariat Director attended the 16th Horn of Africa Technical Advisory Group (HoA TAG) working group meeting from May 10-12, 2017 in Nairobi to review strengthening routine immunization in high-risk areas. At the 16th HoA meeting, CORE Group Polio Project Secretariats from South Sudan, Ethiopia and Kenya/Somalia were provided a special opportunity to share an update on its work and were later recognized for their important contribution to global polio eradication efforts in the Horn of Africa, including community surveillance, cross-border activities and independent campaign monitoring.

Coordination with Gates Consultants in South Sudan: Core Group in South Sudan collaborates with Foundation Consultants Dr. Abdalla Elkasabany and Carl Hasselblad in all aspects of the implementation of the project. Both consultants worked with CGPP staff to revise monthly reporting tools for country supervisors and payam assistants. These tools include field check lists, standardized performance measurements and forms to support AFP investigations, social mapping tools and workplan templates. To roll out these tools, a one-day training was held in November 2016 and included participation from key staff of the three implementing partners.

Recruitment, Deployment, Training, and Supervision of Community Based Surveillance Actors

Recruitment of State Surveillance Officers: Three State Surveillance Supervisors were recruited to strengthen support supervision at the state level and will spend 75% of their time in the field ensuring that the counties follow standard operating procedures developed by Core Group to improve quality of the community based surveillance implementation in South Sudan. South Sudan State Surveillance Supervisors visited at least half their

assigned counties each quarter using a standard supervision checklist. Feedback is shared and the monthly partners meeting.

South Sudan's CORE Group Polio Project Pibor County Supervisor Koma Samuel of Bio Aid is investigating a case of Acute Flaccid Paralysis (AFP) in Moloktoch village in hard-to-reach and conflict-affected Pibor County in August 2017.

In Pibor County, the Yaw conflict and the country's Civil War left surveillance and immunization systems destroyed. During this time, Pibor County did not report any cases of AFP for more than three years. The silence was broken when CGPP established a robust surveillance system in December 2015, reporting its first AFP case in May 2016. From January through October 2017, Pibor country has reported 4 AFP cases – double the national target of 2 or more children younger than 15 years old per 100,000 population.



County Supervisors & Payam Assistants: CGPP South Sudan recruited all County Supervisors and Payam Assistants. The project deployed 34 County Supervisors to each county and 230 payam assistants to each of the project's payams. County Supervisors oversee project implementation at the county level. In areas where there is a WHO field supervisor, County Supervisors work together and facilitate timely reporting and investigation of cases through facilitating field logistics and reporting suspected cases reported by the payam assistants. They facilitate the trainings of payam assistants and key informants, supervise field operations and submit monthly reports. Meanwhile, payam assistants are based at the payam level. Payam assistants facilitate identification and provide supervision and training of key informants. Each payam assistant supervises 10-20 community volunteers, or key informants, on a daily basis. Payam assistants conduct social mapping and ensure timely reporting of cases from the payam level to the county supervisors and provide laboratory results to the households. CGPP staff and BMGF conducted training to improve the quality of project implementation. Plans are underway to train the rest of the Payam Assistants for Leer county and Payikang in the first quarter of FY18 if the security situation improves.

Key Informants: Core Group recruited 3,129 Key Informants who are well-respected in the community such as traditional chiefs, healers, birth attendants, clinic owners, teachers, church or Muslim leaders and headmen. About 10 Key Informants are identified per payam. Caretakers would usually consult with one these community members in cases a child is suffering from AFP symptoms. CGPP conducted refresher training for informants on their roles and responsibilities and provided a review of basics on CBS and AFP from on a field manual developed jointly by CGPP and Gates. The training is conducted with the county health departments and WHO field staff. Community informants in Leer, Maiwut, Longochuk and Panyikang could not receive training due to active fighting.

| Partner | Number of Counties | Number of Payam Assistants | Number of Key Informants |
|--------------|--------------------|----------------------------|--------------------------|
| Bio Aid | 16 | 82 | 959 |
| SPEDP | 11 | 88 | 1,455 |
| UNKEA | 7 | 60 | 715 |
| Total | 34 | 230 | 3,129 |

Orientation training for State Coordinators and Partners Project Officers October 13-14, 2016

CGPP conducted orientation training at the Secretariat Office in Juba for the three newly hired State Surveillance Supervisors, four M&E Officers, six partner project officers and three BMGF field consultants. The training was facilitated by Dr. Abdalla from BMGF, Shah Jamal from UNICEF, and Abraham Guma and Anthony Kisanga from Core Group. Topics covered included the basics on AFP and CBS, diagnosis and investigation of an AFP case, AFP stool sample collection, community children sampling and shipment protocols, roles of County Supervisors and Payam Assistants in community based surveillance, community informants, different M&E tools used in AFP surveillance and communication for development strategies.

| Participant Type | Number Trained | % Trained |
|----------------------|----------------|-----------|
| County Supervisors | 30/34 | 88% |
| Payam Assistant | 224/230 | 97% |
| Community Informants | 2625/3129 | 84% |

Refresher training for County Supervisors from May 22-24, 2017

CORE Group, in conjunction with Gates Foundation consultants, WHO and UNICEF, conducted training for 47 County Supervisors, partner project officers and CGPP staff to provide technical support on community based AFP surveillance programming, implementation and monitoring. In turn, County Supervisors shared information with their Payam Assistants and Key Informants once they returned to their respective counties. Prior to the three-day training session, a project review meeting was held on May 20 to provide an opportunity for participants to share knowledge, experiences and lessons learned from the various field locations.



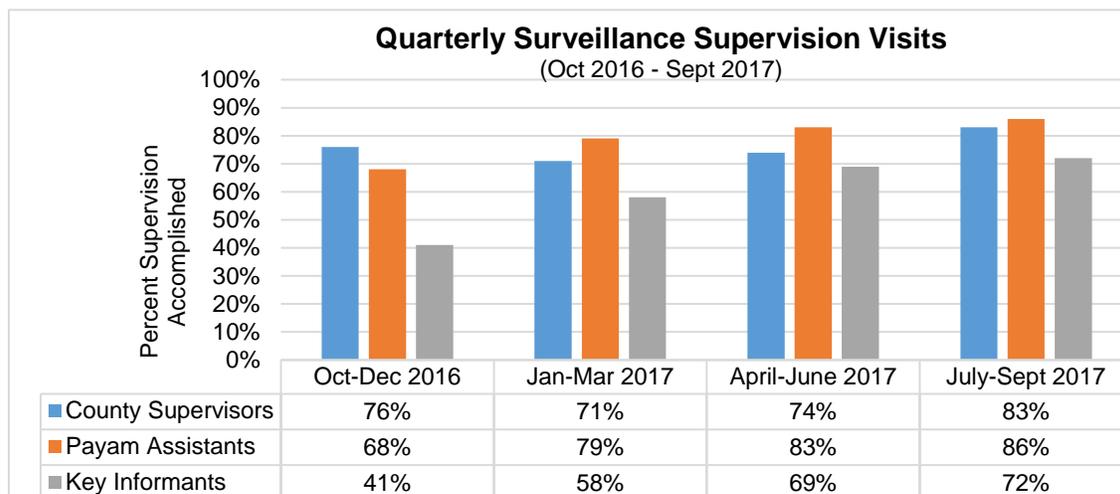
Payam Assistants posing for a group photo after training in Fashoda County

Field Support Supervision

By July 2017, CGPP expanded its CBS activities to 35 counties in the four project states. Project supervision indicators target that 90% (95% from July 2017) of county supervisors, payam assistants, and key informants should have supervisory visits each quarter. County supervisors are visited by the Secretariat staff, implementing partners project staff and BMGF field consultants; payam assistants are visited by county supervisors; key informants are visited by payam assistants. Field supervision visits should be guided through the use of a

standard supervision checklist during the visit and a field report produced after the visit using a standard field supervision report form to be later shared with CGPP Secretariat for follow-up actions.

Recent fighting, instability, and inconsistent flights from Juba have made quarterly supervision a challenge during the project period. While the quarterly supervision did not reach the target, considerable gains in the level of supervision have been achieved. Notable changes include an increase in the level of supervision from 41% to 72% for key informants and from 68% to 86% for payam assistants. The project will continue to strive for the 95% target in the new project year.



Impact of Community Based Surveillance

During FY17, all states achieved the national target of non-polio AFP rate equal or more than 2 per 100,000 children under the age of 15 years old. Stool samples arrived at the national laboratory in Juba and were validated within 14 days of case detection, reaching 96% and 90% adequacy in Jonglei and Kapoeta East respectively. Stool adequacy did not reach targets in Unity and Upper Nile counties, where challenges with violence, fighting, and cold chain remain.

| States | Population <15 | Stool Adequacy | NPAFP Rate |
|--------------|----------------|----------------|------------|
| Jonglei | 982,693 | 96% | 3.53 |
| Unity | 864,152 | 72% | 3.86 |
| Upper Nile | 895,541 | 42% | 2.38 |
| Kapoeta East | 109,709 | 90% | 4.6 |

Source: WHO South Sudan weekly updates 2016-2017

Number of AFP cases from October 2016-September 2017

A total of 233 suspected AFP cases were reported through the community based surveillance network and line listed during this reporting period. All 100% of these suspected cases were investigated by either a county supervisor or WHO filed supervisor. Of these, 82** (35.2%) were found to be true AFP cases, had stool samples collected and were reported in WHO weekly surveillance data; **90.7%** of these validated AFP cases from the CGPP project areas were reported through CGPP's community based surveillance. This demonstrates the sensitivity of community-based surveillance and the critical importance of CBS due to widespread destruction of health facilities across the country.

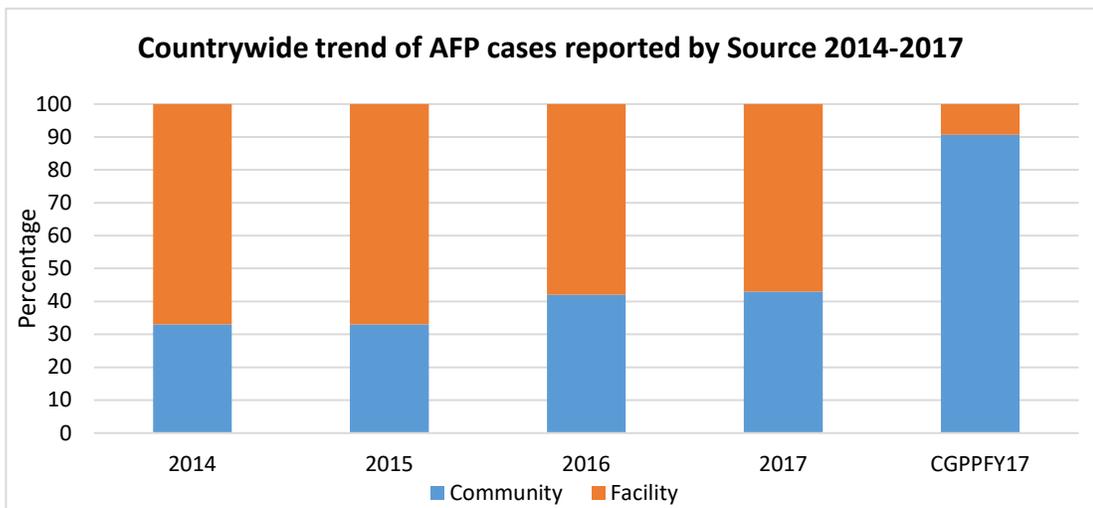
| Quarter | Number of suspected/investigated AFP cases | Excluded cases as not AFP | AFP cases validated by WHO with stool samples collected |
|---------------|--|---------------------------|---|
| Oct-Dec 16 | 24 | 8 | 16 |
| Jan-Mar 17 | 71 | 51 | 20 |
| April-June 17 | 61 | 42 | 19 |
| July -Sep 17 | 77 | 50 | 27 |
| Total | 233 | 151 | 82** |

Source: CGPP CBS Surveillance line-list 2016-2017

** Of the total AFP cases referred to WHO field supervisors for validation, 82 cases were found to be true AFP cases with stool samples collected and sent to Juba for further laboratory analysis. However, four stool samples from AFP cases from Nyirol in February 2017 were recorded by WHO as community samples and not included in the weekly surveillance due to inadequate information on the initial reporting form and decreasing the total number to 78 AFP cases reported by WHO.

Trend of AFP cases reported by Site (Facility and Community) 2014-2017

Since 2014, there has been a steady increase in the proportion of AFP cases reported by community based surveillance versus those reported through facility-based surveillance. In the project period, the proportion of cases identified through CBS rose to 43%. For CGPP counties, this trend has an even stronger uptick, with over 90% of cases being identified through CBS.



Source: WHO Weekly Surveillance Report (Epidemiological week 39/2017); CGPP Project Records

Reduction in the Number of Silent Counties

Core Group South Sudan reported suspected AFP cases in 30 of 34 (88.2%) counties during the reporting period. Four counties remain silent due to repeated conflict with the worst hit areas of Panyikang in Upper Nile, and Koch, Panyijar and Leer in Unity.

| Partner | Number of counties | # of counties that reported suspected AFP cases |
|--------------|--------------------|---|
| UNKEA | 7 | 7 |
| SPEDP | 11 | 11 |
| Bio AID | 16 | 12 |
| Total | 34 | 30 |

Source: CGPP Reports 2016-2017

As of epidemiological week 52, WHO reported 4 of 34 counties did not report any true AFP cases. Though true AFP cases were reported from Nyirol in 2017, these cases were submitted as community samples and not reflected in the WHO weekly surveillance report due to a lack of information on the initial reporting form. Another true AFP case was also reported in Piggi county in September 2017 but the samples could not be submitted due to lack of cold chain facilities. Thus, further decreasing the number of silent counties to 2 of 34 counties supported by the project during the reporting period.

It should be noted that the indicator **“95% of greater of silent counties identified will conduct community children sampling by the end of the project period”** was removed from tracking, a change that was agreed upon with the South Sudan Gates consultant. . The indicator became impossible to track or carry out due to logistical challenges – CGPP does not have cold chain facilities to store stool samples, insecurity in silent counties necessitates flight, which are unreliable. While CGPP has reported suspected cases from “silent” areas, WHO could not collect samples due to insecurity and logistics. Instead, the program agreed with the consultant to focus on the other CBS indicators – including number of silent counties and investigation and confirmation of suspected AFP cases. Those are presented here and in the results tracker.

Cross Border and Special Vaccination Posts

The South Sudan Secretariat in collaboration with WHO, UNICEF and the Ministry leads the national cross-border collaboration with Uganda, Kenya, Ethiopia and DR Congo. CGPP South Sudan plans, organizes and implements meetings with neighboring countries to work towards establishing Special Vaccination Posts (SVPs) at heavily travelled cross-border sites. The goal of the effort is to strengthen collaboration and coordination between countries at the subnational level and to share information on immunization, surveillance and social mobilization to mitigate cross border transmission of the wild polio virus and to respond quickly in case of any outbreak.

On December 16, 2016, CGPP in partnership with SPEDP, the local government of Koboko in Uganda, and DR Congo Health Department organized a cross border meeting in Arua district in Uganda. The meeting was funded by CGPP and convened 33 participants from South Sudan, DR Congo and Uganda to discuss routine immunization, surveillance and social mobilization efforts. In response to the influx of South Sudanese refugees into Uganda and DR Congo, meeting participants proposed that the cross-border vaccination posts should be extended to include all crossing points and districts in Uganda through mapping key informal routes and settlements.

During the reporting year, 39,770 children under 15 years old were vaccinated with one dose of oral polio vaccine. Of the children vaccinated, 11.6 percent were zero dose - above the acceptable level of zero dose children of 10 percent. Most of these children had not been immunized previously due to either destruction of health facilities or are members of nomadic families in search of water and pasture for their animals.

CGPP established the 11 SVPs at the following cross-border sites: Mingkaman, Kirynumbo, Attit, Kuda, Nadapal, Mogos and Joda Junub, Nimule, Panjala, Biemkat, and Buribie. Three SVP sites were not in operation due to a lack of cold chain facilities and vaccine stock outs (Mogos, Nadapal and Buribie).

Children under 15 vaccinated at SVPs during October 2016-September 2017

| Vaccination Status | Male | Female | TOTAL |
|---|---------------|---------------|---------------|
| Vaccinated before | 17,740 | 17,427 | 35,167 |
| Vaccinated for the first time (Zero dose) | 2,297 | 2,306 | 4,603 |
| Total | 20,037 | 19,733 | 39,770 |

Source: CGPP SVP monthly reports 2016-2017

Silent Counties

Silent counties, those that did not report any suspected AFP cases, were: Panyikang in Upper Nile, Koch, Panyijar and Leer in Unity. These counties have experienced repeated conflict over the project period, with Panyikang and Leer being the hardest hit. Continued violence has destabilized the community based surveillance systems in these areas. CGPP will continue efforts to reach silent counties.

Field Support Supervision

The project did not reach the 90 percent threshold (95% after July 2017) for supervision in any of the supervision indicators – county supervisors, payam assistants, or community informants. Numerous factors contribute to missing the target, insecurity, violence, and active fighting in Leer, Panyikang, Maiwut, Longochuk, Nyirol, Koch, Mayiendit, Panyijar, Manyo and Fasoda. Logistical challenges are also responsible for inadequate field supervision; 85% of CGPP counties can only be assessed through often-cancelled flights from Juba.

However, upward trends in supervision were seen throughout the project period. Quarter four showed a marked improvement in all types of supervision. During quarter four, 83% of county supervisors, 86% of payam assistants, and 72% of key informants received supervisory visits. CGPP will continue to strive toward the target of 95% supervision.

AFP Rate and Stool Adequacy

AFP rate and stool adequacy are key measurements of the community based surveillance systems. In South Sudan, the target AFP rate is 2/100,000 children < 15 years. CGPP set a target of 4/100,000 for the grant period between July 1, 2016 – June 20, 2017. This more sensitive target was met by Kapoeta East (4.6), and nearly attained by Unity (3.86) and Jonglei (3.53), but was not reached by Upper Nile (2.38). CGPP continues to combat issues of insecurity, inaccessibility, and supervision difficulties. During the remainder of the project period, CGPP will strive to improve the sensitivity and detection of AFP cases through further training for CI and payam assistants, and greater levels of supervision.

Stool adequacy, remains a challenge in some of the CGPP focal states due to inaccessibility, fighting, and breakdown of cold chain. Stool adequacy : Jonglei (96%); Unity (72%) Upper Nile (42%) Kapoeta East (90%). CGPP continues to work closely with WHO to ensure that stool samples are collected and tested appropriately.