This report summarizes achievements, challenges and the way forward for the WHO South Sudan activities covering the period July - September 2013 and focuses on twelve programme areas.
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1.0 The Current context in the Republic of South Sudan

The humanitarian situation remained complex and expensive. This deteriorated further in this reporting period due to increased inter-tribal clashes, rebellions, cattle rustling, widespread flooding, economic austerity and rising food insecurity. In this quarter, the humanitarian health emergency response focused more on Jonglei and flooding across the country. Access by humanitarian partners to Pibor slightly improved, with a stable security situation seen in the area although tensions remain very high. Five new sites were accessed by humanitarian partners providing food, water, sanitation and health care to the displaced people.

Health cluster partners in the flood affected states and counties also provided emergency health services through mobile health clinics and distribution of mosquito nets to thousands of displaced people. As a cluster lead, WHO prepositioned essential drugs including diarrheal kits, anti-malaria drugs and other medical supplies to all the affected states. In addition, technical officers were deployed in Warrap, Jonglei and Lakes states.

Progress towards the eradication of dracunculiasis continued in this period with the number of cases reported by the end of September standing at 104 indigenous cases (Jan-Sept 2013) as compared to 502 cases between January and September 2012. However access to communities in areas of insecurity remained limited.

The organization also continued supporting the Ministry of Health at the central and state levels with systems strengthening especially in the area of policy development. In this period, WHO deployed a consultant to support the Ministry of Health to develop a regulatory framework for public and private health facilities and providers, which will provide a benchmark for ensuring quality and safety of health services delivery.

Other programmatic areas that the organization continued supporting...
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technically and financially include; maternal and new-born health during which the ground breaking ceremonies for three construction sites for maternity Waiting Homes and theaters in Yambio, and Wau Hospitals were done; HIV/AIDS, tuberculosis programmes; health education and promotion and communication and advocacy.

The distribution of mectizan drugs for onchoceriasis elimination was also conducted during this period.

1. The President of the Republic of South Sudan, His Excellency General Salva Kiir Mayardit inaugurating the construction of new theatre and maternity waiting home in Wau Hospital, Western Equatoria state. WHO with support from the Canadian International Development Agency (CIDA) is supporting the construction of maternity wards, theatres and waiting homes in eight state hospitals as part of support to strengthen Comprehensive Emergency Obstetric and Newborn Care in the country (Photo: WHO/L Yeno)

2. The Canadian Ambassador His Excellency Nick Coghan, the Minister of Health, Honorable Riek Gai Kok, the Governor, Western Equatoria State, His Excellency Bangazi Joseph Bakasoro and the Head of the WCO South Sudan, Dr Abdi Aden Mohammed commissioning the construction of a theatre and Maternity Waiting Home in Yambio Hospital, Western Bahr el Ghazal state (photo: WHO/L Yeno)

3. Dr Abdi Aden Mohamed, the Head of South Sudan WHO Country Office, participating in the first graduation ceremony for nurses and midwives. The ceremony took place at Nyakuron Cultural Centre and was presided over by the Minister of Health, Honorable Riek Gai Kok, and attended by Senior Ministry of Health Officials and Heads of UN, International and NGO agencies (photo: WHO/PAjello)
2.0  WHO's Major Achievements in the third Quarter (July to September) 2013

2.1 Emergency Humanitarian Action (EHA)

The humanitarian situation in the country remained precarious and unpredictable especially in parts of Jonglei State. Insecurity remains a major concern and access to most of the affected population was a challenge. South Sudan continued to receive a high number of conflict injuries especially in Jonglei State. Heavy rains since August caused flooding in a larger part of the country with over 34 of the 80 counties were affected by floods. Measles and Hepatitis E continued to be a public health concern both in the host community and refugee settings respectively. Since January to end of the 3rd quarter of 2013, a total of 678 cases of Khalazar have been treated in the 19 treatment centres, (85.4%) of them new infections.

Since January 2013, 159 30 people were internally displaced by conflict. In this quarter, the number of conflict incidents were 269, refugees living in South Sudan are estimated at 225 366 while persons affected by floods needing assistance were recorded at 150 207 (8/10 states) by the end of the third quarter, the majority (30%) of whom were from Northern Bahr el Ghazal State. No considerable displacement due to the current floods was reported in this period.

WHO and other health partners provided The MOH received support from WHO and partners in form of medical supplies, technical assistance, coordination of health emergency response of partners/UN agencies and strengthening of disease surveillance and response to any disease outbreak.

2.1.1 Rapid Health Assessments

WHO provided technical support to the state ministries of health and other health cluster partners during the rapid field assessments. The communicable disease risk assessment provided critical information on the main threats and key areas on, organization of health services, human resources, medical supplies availability and collection of information to enable planning of priority interventions.

WHO also supported the central Ministry of Health to develop assessment tools in five thematic areas that affect provision of basic health services namely; existing health infrastructure, accessibility and availability of health services, availability and stock piles of emergency medical supplies and available capacity of health coordination.

WHO also led health cluster partners on various assessment which guided the development of response and action plans based on needs indentified in the assessments. These assessments were conducted in Aweil East and Aweil North, Northern Bahr el Ghazal State, Tonj East and Gogrial West, Warrap State, Gurmuk,
Dorian in Pibor County and Bor Town, Jonglei state, Nyirol County and Mayom Counties in Unity State and Yeri in Western Equatoria State.

2.1.2 Provision of Emergency Medical Supplies

As a measure of improving preparedness at the state levels, WHO delivered and supported the SMOH with basic and supplementary, inter-agency emergency health kits and inter agency diarrhea kits. The supplies were expected to support an estimated 100,000 people over a period of three months.

In Warrap state for instance, WHO program provided 36 Basic Unit Kits, One Diarrhea Disease kit, 8,000 dozes of antimalaria and 23,000 rapid diagnostic tests (RDT) to support the response in four counties of Tonj East, Tonj South, Gogrial West, and Gogrial East. The supplies were distributed to 13 health facilities including three county hospitals. A total of 10,929 consultations were recorded. In Northern Bahr el Ghazal state, through our partners at the counties, WHO provided six basic units to Health Net TPO to support the facilities of Awulic primary health care unit (PHCU), Akuem PHCC, and Majok yinh thieu primary health care units. At these health facilities common illnesses were managed. Other supplies donated included transport media for the diagnosis of cholera and dysentery and diagnostic materials/kits for measles/AFP surveillance.

2.1.3 Technical support during emergencies

As a way of strengthening service delivery in the flood affected states, WHO provided technical guidance to the SMOH health teams on how to develop a strategy for improved health services delivery and outreach services to the displaced population. During the development of the strategy, the teams agreed to deliver an integrated package of health services to the affected community including treatment of common diseases in displaced populations. A response plan was updated and shared with all the states to ensure high impact interventions are delivered to the flood affected counties.

In addition, the organization supported states with the development of preparedness plans for the control of epidemic prone diseases. These plans will be adopted to any epidemic prone diseases although this is tailored towards diarrheal diseases resulting from identified poor sanitation and environmental health issues.

To restore health services in Pibor County, WHO supported the County Health Department in Pibor with tents and emergency drugs in a bid to strengthen primary health services and ensure the vulnerable population receive treatment. In Dorain and Labrab, WHO supported medair with six basic kits and six malaria modules.
to respond to the humanitarian need in the two locations. Pibor town was deserted for the last four months and had all the health facilities destroyed during the conflict. A total of 12,817 patients were attended to.

In Jonglei state WHO supported the state ministry of Health to enhance its surgical capacity in responding to the increased number of injured patients airlifted from Manyabol. Tents and trauma kits were also supplied to Bor Hospital and Pibor County Health department to increase admission space for the injured. A senior emergency surgeon was also deployed to Bor Hospital to carry out life saving emergency surgeries and since then 254 patients have received life saving surgeries, 45% of who were patients of gunshot wounds. In addition WHO together with other health cluster partners supported the medical evacuation of 200 patients to Bor and Juba Teaching Hospitals.

To respond to the floods in Warrap state, WHO supported the National Ministry of Health to swiftly deploy 13 health workers in the affected areas of the greater Tonj. A total of 6 medical Doctors and 7 nurses were deployed in the flood affected counties in Warrap state to support strengthening of case management and disease surveillance of epidemic prone diseases. The counties where the health personnel were deployed include; Twic, Gogrial West, Gogrial East, Tonj North and Tonj South County and they:

- Supported health providers in clinical case management at the health facilities in the affected areas.
- Conducted on job training for health providers.
- Supervised routine and outreach Expanded Programme on Immunization services.
- Supervised the distribution of long lasting insecticide treated nets (Long Lasting Insecticide Treated Nets and health education.

As more returnees from Sudan arrived the country, technical teams from Upper Nile, Jonglei and Central Equatorial states ensured that medical assistance and immunization services were provided to the sick and vulnerable children. Support was offered at the ports of Malakal, Bor and
Juba in collaboration with the State Ministry of Health. Likewise WHO supported IOM to carry our mobile and static health services in Twic/Agok/Abyei Corridor as part of the re-integration package of the returnees and the displace population form the Abyei region. A total of 1,322 children received measles vaccination on arrival and through IOM and ACROSS 50,278 people were treated for common illnesses.

2.1.4 Emergency coordination and gap filling

In order to mitigate the effect of humanitarian emergencies and ensure prompt response, strategic prepositioning of emergency supplies was carried out across the ten states in this quarter. States that are flood prone as well as those at risk of conflicts such as Jonglei, Warrap, Lakes, Upper Nile, Unity and Northern Barh al Gazal were particularly targeted.

A total of 12 trauma kits, 8 inter Agency emergency health Kits and 15 Diarrheal diseases kits were prepositioned across the states as shown below:

In anticipation of huge malaria and Diarrheal disease burden precipitated by the heavy rains and flooding, all the states were provide with Diarrheal Disease Kits (ORS modules) antimalarial Modules of the Inter agency Emergency Health Kits as well as supplementary malaria modules for managing severe cases. A total of over 150,000 doses of Artemesinin combination therapy (ACTs), 60,000 sachets of ORS and 20 Supplemental Units of the Interagency Emergency Health Kits were prepositioned in the ten states.

As a provider of last resort WHO continued to support partners experiencing pipeline breaks to ensure continuous health care provision especially among the returnees in Renk, those displaced by armed conflict in Jonglei and those affected by floods in Warrap, Lakes and Unity state. Partners that received Kits and assorted drugs include IOM, ACROSS, PIN, THESO, COSV, MSFFamily, CMA, CCM, NDHF, UNIDO, Health net TPO and MEDAIR. A total of 20,000 consultations were made at the different facilities run by these partners as a result of backstopping provided by WHO.
2.2 Health Cluster Coordination

This reporting period was characterized by sporadic intertribal clashes particularly in Jonglei state and floods cutting across the ten states of South Sudan with, the worst affected being Northern Bahr Ghazal, Jonglei, Upper Nile, Warrap, Lakes and Unity states. The health situation remained below emergency thresholds with concerted efforts of health cluster partners. In Jonglei, cluster partners were part of the interagency response mechanism in Dorain, Labrab, Pibor, Gumuruk and Kongor. Services provided to displaced populations and communities affected included emergency primary health care, measles mass vaccination, training of community health workers to sensitize communities on communicable disease control among others. As more areas became accessible during the period including Boma, Merlin returned to the area at the end of September. Coordination remained the cornerstone in ensuring a collective, systematic, efficient and timely response in addressing the health needs of the affected vulnerable populations. With transitioning of partners to the county based approach where lead NGOs are selected and funded by Health Pool Fund, World Bank/IMA and USAID/JPHIEGO, capacity building of the county level providers were initiated during this period with humanitarian health cluster partners supporting the Ministry of Health to ensure a coordinated effort and avoid duplication of efforts.

The health cluster is guided by the following strategic objectives;

a) Maintaining the existing safety net by providing basic health packages and emergency referral services;

b) Strengthening emergency preparedness, including surgical interventions; and

c) Responding to health-related emergencies, including control the spread of communicable diseases.

2.2.1 Health cluster achievements

As a cluster lead agency, WHO with support from International Medical Corps (as co-lead agency) continued to lead partners in responding to the ongoing crisis in South Sudan. The response brought on board non conventional partners including ICRC, MSF family and South Sudan Red Cross who were quite instrumental in addressing emergency needs.

During this time, the health cluster conducted three health coordination meetings at the central level, with full representation of cluster partners and donors. During the meetings strategic issues on humanitarian situation and responses were discussed with guidance provided to partners. Similar coordination meetings were undertaken at state level where 18 meetings in total took place in the 10 states. At the central, through analysis of the humanitarian situation partners were guided on development of strategies to address prevailing gaps. Priority geographic areas, needs and actions were discussed and agreed upon. The indicators being used both in the Consolidated Appeal Process (CAP) development and Common
Humanitarian Fund (CHF) process are a direct result of these discussions.

Over 254 trauma cases received surgical treatment from nine supported secondary health care facilities. The cluster assisted to medivac about 200 severely injured patients for lifesaving surgical operations at various hospitals including Bor and Juba. Nine out of 10 targeted hospitals remained operational during the year. Boma hospital that was destroyed and looted during the clashes remained non-functional in most part of the reporting period. Merlin however sent a team at the end of September to assess and reestablish this essential service in Boma.

Availability of surge capacity within the cluster partners, with WHO support, greatly enhanced responses with timely interventions to outbreaks or population displacement especially in Pibor county. Surgical trauma management/surgeons/standby mechanism in coordination with national authorities and agencies was ensured during the period in focus. The Central Emergency Relief Fund (CERF) funded helicopters continued to play a major role in the transfer of critically wounded patients to appropriate levels of care.

The Health cluster further participated in all the Inter-sectoral working group (ISWG) meetings with participation of all sectors in South Sudan. Health inputs were made during discussions on the humanitarian situation, including development of contingency plans, and Jonglei response plans. Strategies for the multiyear CAP development were also presented and discussed during the meetings. Twelve ISWG meetings were held during the months of July to September.

WHO continued to actively engage partners through provision of technical support and advocacy for coverage of critical gaps in response to the affected communities. Medair provided a dependable surge capacity and remained key in responding to outbreaks and provision of emergency primary health care. Non cluster members (ICRC and MSF) played a crucial role in acute emergencies including management of persons wounded in the clashes and response to outbreaks. For example, both organizations provided surgical capacity and pitched camp in both Bor and Dorain at the peak of the crisis to provide surgical interventions to the injured.

WHO’s role in advocacy also paid off dividends after articulation of the health humanitarian situation in collaboration with health partners, and advocacy with donors which led to a number of partners being funded either bilaterally or through the Common Humanitarian Fund (CHF). As such, the health cluster CAP projects for 2013 are among the best funded, 71% funded ($52.9 million out of $74.5 million projected) as of September 2013. Over $13 million was realized from the two rounds of common humanitarian fund allocations. This is in addition to securing helicopters for medivacs through CERF funding as reported in the previous quarter.

Due to unforeseen circumstances in the delivery of health services by CHF funded partners, some partners were unable to complete the planned activities on time,
hence the cluster assisted in clearing their requests for no cost extension or realignment of budgets. This was to ensure proper delivery of services for the communities in need, with more time to implement activities or change location due to insecurity in their areas of work. Key among the partners supported, were Relief International, Mentor Initiative, IRC, Merlin, Care International and COSV.

The health cluster led partners in the development of CAP 2014 to 2016 health strategies, priority needs and core indicators. A needs analysis was performed based on desk review, population movement trends, lessons learnt and existing capacities and the most likely scenario in the country in the next three years. As per the guidance from OCHA, this is a multiyear CAP with draft health cluster project requirements at $91m. These will be revised after peer review, cluster defense and final approval by the humanitarian coordinator.

Emergency updates to partners with surge and surgical capacity ensured timely interventions especially following clashes in a number of locations in Jonglei and other affected states.

Achievement report for CAP 2013 projects was drafted jointly with health cluster partners to reflect progress in the implementation of planned activities as of September 2013. Key among the achievements were; through emergency primary health care services in both static and mobile facilities, 1,249,806 consultations out of the annual target of 2,854,700 were recorded during the reporting period and 330,574 under five years children received emergency measles vaccination, going beyond the annual target of 160,200. Partners were also assisted to compile the CHF midterm achievements for round 1 allocations with varying degrees of achievement levels in prepositioning of supplies, vaccination campaigns, primary health care services delivery and reproductive health. The reporting was done in accordance with agreed health cluster specific indicators.

2.2.2 Challenges

- Heavy rains with some areas cut off, for instance, Rumbek North where partners had to rely on air assets for assessments and response to needs making it rather expensive.

- General lack of and high NGO staff turnover making monitoring a challenge as new staff have to be trained on the systems.

- Unpredictable security situation with difficulties in access to certain locations by partners. Some partners have had to pull out of certain locations.

- Irregular and weak coordination in some states.

- Medivacs have been challenging in that the health cluster is frequently asked to support those outside the cluster mandate e.g. military and non wounded cases.

- Pharmaceutical delays/shortages faced by the Ministry of Health continue to impact on the response by humanitarian actors with drugs rupture reported in many counties.
2.2.3 Way forward

- Continue advocating at all levels with all stakeholders/actors to improve access.
- Advocate for support to partners that have returned to previously inaccessible areas to re-establish health service delivery.
- Revive production of health cluster bulletins.
- Conduct training of state cluster coordinators and the public health officers on cluster coordination and response.
- Work closely with the county-based approach partners to streamline the issue of pharmaceuticals in support of the MoH.

2.3 Communicable Disease Surveillance and Response. (CSR)

2.3.1 Disease surveillance and prevention support

WHO supports disease surveillance and response during humanitarian emergencies. The purpose of this is to monitor priority communicable disease trends (Epidemic prone) so as to detect outbreaks as early as possible and stop any possible outbreaks. In Warrap state, WHO worked with the SMOH surveillance team and health partners in the flood-affected counties to strengthen surveillance by ensuring strengthened weekly reporting mechanisms. Health workers and partners supported by monitoring all epidemic prone diseases like cholera, dysentery, measles, malaria, hepatitis E and viral hemorrhagic fever (VHF) among others. WHO technical teams conducted active surveillance visits to major health facilities and on-job training for health workers on disease surveillance. Standard surveillance case definition booklets and surveillance tools were distributed to peripheral health units.

The Organization deployed an epidemiologist in Maban County to support the hepatitis E response in collaboration with UNHCR and the SMOH of Upper Nile state. Financial support was provided to the surveillance teams and the County Health Department team in Maban County to conduct support supervision visits, on job training and strengthening of data collection on priority diseases. More than 12,568 cases of hepatitis E have been recorded in the Maban refugee camps since the outbreak was first reported in July 2012.

Measles continues to be a public health concern in South Sudan and has been reported in eight counties in seven of the 10 states, as a result responses were launched in all the counties. WHO provided surge capacity and human resources for health in five counties that reported measles outbreaks. Health officers were deployed to work with the State MOH teams, these provided technical assistance to the county health departments to develop work plans, micro plans and documentation of measles vaccinations. In addition, the organization continued to provide logistical and financial support to field operations (outbreak investigation and measles campaigns) in order to strengthen the central laboratory to provide confirmation tests for the measles
outbreaks. In response to the increased number of measles cases, an estimated 58,650 children under 5 years were immunized for measles during the campaigns in the counties of Yirol West, Torit, Longecuk, Rumbek East, and Ayod counties.

2.3.2 Epidemic Preparedness and Response Coordination

To continue strengthening epidemic preparedness and response activities in the country particularly at the central level, WHO continued working with the central Ministry of Health to convene weekly Epidemic Preparedness and Response (EPR) meetings. In this quarter, there was increased participation of health officers and health cluster partners. The meetings are a forum that bring together health officers and representatives from key cluster partners involved in epidemic preparedness and response activities and review weekly surveillance data; discuss weekly alerts reported from across the country; and provide technical advice and support to surveillance teams and health partners on outbreak verification and response. In total, eight (8) EPR meetings were held. In addition, a number of emergency task force meetings were convened during this third quarter at the central and states levels to coordinate specific outbreak or emergency responses including measles, hepatitis E, anthrax, floods, Jonglei crisis, and in some counties similar EPR committees or emergency task force meetings were held once a week or on bi-weekly basis.

In order to strengthen the performance of malaria sentinel sites in the country, a two day consultative meeting with malaria state coordinators and monitoring and evaluation officers was organized in Juba by the National Malaria control Programme (NMCP) with support from WHO. The meeting was held with the purpose of reviewing achievements, challenges and lessons learnt since the inception of the sentinel sites; and to come up with the recommendations and way forward to resolve identified constraints in improving the performance of malaria sentinel sites in the country.

2.3.3 Training and Capacity Building

WHO supported a series of training or retraining activities for health workers and other health cadres to upgrade their knowledge and skills to be effectively carry out case management, laboratory diagnosis, data collection, reporting, investigations and response to outbreaks and other health related emergencies. During this reporting period, a total of thirteen (13) different trainings were conducted across the country, namely;

a) Integrated Disease Surveillance and Response (IDSR)

Five (5) trainings on integrated disease surveillance and response were supported in three of the ten states of South Sudan left
out during the first and second quarters trainings because at the time they were involved in other health activities. During this period, a total of one hundred and forty nine (149) health care workers from silent health facilities in Northern Bahr el Ghazal, Western Equatoria and Warrap states were trained. The trainings aimed at reorienting health workers on integrated disease surveillance system and provide new knowledge and skills needed to improve outbreak investigation, disease surveillance, reporting of early warning signals of impending outbreaks and help initiate an effective response in a timely manner. It was also an opportunity to introduce the revised IDSR guidelines to target states and counties, as the Ministry of Health began rolling out the revised IDSR technical guidelines. All trained participants received IDSR training package and revised technical guidelines for future reference.

b) Case Management of Epidemic prone Priority Disease Training

Five (05) case management trainings of priority diseases and diseases of public health importance were conducted during this reporting period in four states of Central Equatoria, Western Equatoria, Western Bahr el Ghazal and Warrap states. The trainings targeted health care workers, namely: Medical Officers, Clinical Officers, Nurses, Laboratory Technicians, Community Health Workers, and Midwives etc from functional health facilities. A total of one hundred and ninety-eight (198) health workers including 56 females participated in the trainings. The purpose of case management of priority diseases trainings were to enhance the capacities of frontline healthcare workers currently offering health services at the health facilities to enable them be more effective by using standard South Sudan national treatment guidelines especially for common epidemic prone diseases, diseases of public health importance and diseases targeted for eradication and elimination. Furthermore, the trainings were also intended to increase the exposure of the frontline healthcare workers to the standard national treatment protocol and synchronize the different treatment protocols/approaches across the country.

c) Laboratory In-service Refresher Trainings

Three (03) in-service refresher trainings on basic and advanced laboratory diagnostic techniques for laboratory professionals from hospitals and primary health care centers in Torit (Eastern Equatoria), Malakal (Upper Nile) and Wau (Western Bahr el Ghazal, Northern Bahr el Ghazal and Warrap) were conducted. In these trainings, a total of sixty-nine (69) laboratory technologists, technicians and assistants were trained. The aim of the laboratory in-service refresher training was to harmonize and strengthen the capacity of the laboratory personnel on basic and advanced laboratory diagnostic techniques for efficient and improved quality of laboratory services in South Sudan. These trainings provided technical skills required by laboratory staff to respond to biological and other public health emergencies, and to confirm diseases leading to public health threats. The participants were also given some reference materials.

2.3.4 Surveillance and Epidemic Response

a) Outbreaks Investigation

A total of two hundred and twelve (212) outbreak rumors/alerts were reported and verified by the state rapid response teams in the ten states during this quarter. More than
41% of all reported and investigated outbreak rumors were measles followed by acute flaccid paralysis (27.8%), Guinea Worm (10.4%), meningitis (4.7%), kala azar (4.2%), malaria (3.8%), acute jaundice syndrome (2.4%), shigellosis (1.9%) cholera (1.9%), and the remaining 1.9% being neonatal tetanus (NNT) and viral haemorrhagic fevers. Of these alerts, only eight (8) measles outbreaks in Malakal, Yambio, Rubkona, Juba, Duk, Wau, Guit and Mayom counties were confirmed as true outbreaks. All other alerts were classified as false alarms/alerts after verification and/or investigation. The state rapid response teams carried out all the verification and investigation of alerts/rumors upon receiving the notification, and over 78.8% of all outbreak rumors were investigated within three (3) days of notification. About twenty-one percent (20.7%) of the rumors were investigated within a period of more than three (3) days of notification; this delay could partly be attributed to insecurity, inaccessibility and high fuel prices, among others. WHO provided technical and financial support to facilitate the outbreak verification and response.

Most alerts or rumors were reported from health facilities; however community informers also reported some alerts. Tremendous efforts have been exerted to help improve community based disease surveillance, despite this key information like date of onset, location, number of affected patients, etc still miss in alerts received from the local communities, this usually makes investigation difficult. Community alerts accounted for only 0.5% of all rumors/alerts received in this period. The state rapid response team members, however made extra efforts to respond to all outbreak rumors on time with WHO providing technical and financial support for the collection of additional information on the alerts.

b) Laboratory Specimen

During this reporting period, a total of one hundred and fifty-three (153) clinical specimens (150 blood/sera, 2 stool and 1 cerebrospinal fluid (CSF) were collected across the country. These were sent for further analysis to reference laboratories in Juba (for measles and rubella only), CDC-KEMRI in Nairobi (for VHFs e.g. Hepatitis E/AJS, Ebola, Yellow Fever etc) and AMREF-Nairobi (for bacterial infections e.g. cholera, shigellosis, meningitis etc). Of the 150 blood/sera specimens, sixty-nine (69) tested positive for measles IgM and only five (5) tested positive for hepatitis E virus. A total of thirty-four (34) blood/sera specimens were pending at the CDC-KEMRI reference laboratory for analysis. None of the two stool specimens cultured at AMREF-Nairobi reference laboratory yielded neither shigella nor cholera bacteria. The only CSF specimen cultured at AMREF-Nairobi reference laboratory did not indicate presence of any bacteria. The rest of the specimens tested negative for the suspected epidemic prone diseases (measles, Rubella, cholera, shigellosis, (Refer to table 1 above for details of laboratory specimens).
c) Health Facility Reporting Performance

All functional health facilities are required to submit weekly surveillance reports on 14 priority diseases (mostly outbreak prone communicable diseases) and to immediately report any suspected outbreaks to the county and/or state health authority. Therefore, timeliness and completeness are key indicators for the surveillance performance and are defined as the proportion of expected surveillance reports received on time (timeliness) and the proportion of the expected surveillance reports received (completeness). As shown in figure 3, the proportion of health facilities that submitted complete weekly surveillance reports significantly increased during the third quarter of the year as compared to the same project period in 2012 and 2011. The average completeness rate of reporting from the functioning health facilities across the country during the third quarter (July-September 2013) is 79% (785 out of 993 health facilities), which is significantly higher as compared to the same period in 2012 where the completeness rate was at 51% (501 out of 993 health facilities).

The average timeliness rate of reporting from functional health facilities across the country during this reporting period was 46% (456 out of 993 health facilities). The timeliness rate slightly increased as compared to the same period in 2012, 38% (377 out of 993 health facilities). Nonetheless, over 90% of priority sites (Hospitals and Primary Health Care Centers) reported regularly during the third quarter of the year. The on-going capacity building of health workers and support supervision continued to play a crucial role in the improvement of surveillance weekly reporting.

As seen in figure 4, Lakes, Northern Bahr el Ghazal, Western Equatoria, Upper Nile, Warrap and Jonglei states were the best performing states maintaining over 80% completeness rate of reporting, while Central Equatoria and Eastern Equatoria States were the worst performing states during this quarter. Overall, the performance of health facilities across the country improved considerably as compared to the same period in 2012 and 2011. (Refer to figure 4 for details).

2.3.5 Disease Specific Surveillance Update

a) Acute Watery Diarrhea (AWD)

A total of 114,123 cases of AWD (Incidence rate of 1,381.55 per 100,000 populations)
with 120 related deaths (CFR of 0.11%) were recorded across South Sudan between July-September 2013. The number of AWD cases and deaths recorded during this reporting period were significantly higher as compared to cases and deaths recorded in the same period in 2012 and 2011 (Incidence rate of 857.82 per 100 000 and CFR of 0.23% and Incidence rate of 669.34 per 100 000 and CFR of 0.10% respectively). The incidence rates of AWD cases per 100 000 populations reported across the country remained relatively stable in most states with the exception of Upper Nile state, Warrap, Lakes and Northern Bahr el Ghazal states which reported increased cases during this reporting period as compared to the same period in 2012 and 2011. The rate of acute watery diarrhoea differs by age group, with the highest rate seen in children less than 5 years of age (59.6%) as compared to those of 5 and above years of age (40.4%). Upper Nile state recorded the highest incidence rate of AWD followed by Warrap, Lakes and Northern Bahr el Ghazal states due to the large numbers refugees. Another possible reasons for the rise in the AWD cases is the poor hygiene and sanitation among the vulnerable population compounded with heavy rains which caused massive flooding in over 40% of the counties in the country. Although there were some suspected cholera or shigella cases in Jonglei and other locations, there was no confirmed case during this reporting period.

b) Acute Bloody Diarrhea

A total of 29 840 cases of ABD (incidence rate of 361.2 per 100 000 populations) with 55 related deaths (CFR 0.18%) were reported during this reporting period. Children below five years of age accounted for 37.4% of all reported cases of ABD and about 93% of related deaths. The overall ABD incidence rate recorded across the country was slightly higher in this quarter as compared to the same period of 2012 and 2011 (IR of 288.3; CFR of 0.27% and IR of 264.5; CFR of 0.11% respectively). Upper Nile state recorded the highest ABD incidence followed by Western Equatoria, Lakes, Unity and Warrap states. The majority of the ABD cases in Upper Nile were recorded in Maban refugee camps. But there was no confirmed dysentery (shigellosis) outbreak in any part of the country.

c) Malaria

A total 527 265 malaria cases (IR of 6 382.97 per 100 000 populations) and 500 related deaths (CFR of 0.09%) were reported across South Sudan during this reporting period. The overall incidence rate of malaria significantly increased in the third quarter (July-September) of 2013 as compared to the same period in 2012 (IR of 4,355.56 per 100 000 populations) and in 2011 (IR of 3 911.55 per 100 000 populations). Children below five years of age accounted for 37.3% of all reported malaria cases, while the case fatality rate (CFR) recorded during this reporting period mostly occurred in children below 5 years of age (82.5% of total deaths). Warrap state reported the highest incidence rate of malaria followed by Upper Nile, Western Bahr el Ghazal, Northern Bahr el Ghazal and Central equatorial states; while Jonglei state reported the lowest incidence rate. The majority of the malaria deaths were recorded from Upper Nile (UNS) and Central Equatoria (CES) states; while Western Equatoria (WES) and Lakes (LKS)
states recorded the lowest deaths. The current heavy rains and flooding have contributed to the increased incidence and case fatality rates reported across the country.

d) Meningitis

A total of twenty-one (21) suspected meningitis cases (incidence rate of 0.25 per 100,000 populations) and 2 related deaths (CFR of 9.52%) were reported during this period across the county. The overall incidence rate (IR) of meningitis slightly decreased in the third quarter (July-September) of 2013 as compared to the same periods in 2012 (IR of 0.27 and CFR of 9.09%) and 2011 (IR of 0.46 and CFR of 0.00%). Children below 5 years of age accounted for majority of the suspected meningitis cases (61.9%). Northern Bahr el Ghazal state recorded the highest, 17 (80.9%) of the suspected meningitis cases followed by Upper Nile (9.5%); Central Equatoria and Western Bahr el Ghazal each recorded one suspected case (4.8%). The rest of the states recorded zero cases of meningitis during this reporting period. There was no confirmed meningitis case in the whole country during this quarter of 2013.

e) Measles

A total of three hundred and thirty-eight (338) suspected measles cases (incidence rate of 4.09 per 100,000 populations) and five (5) deaths (CFR of 1.48%) due to measles were reported across the country. Of these reported cases, about 78% were in children below 5 years of age, with over 80% related deaths. The overall incidence rate of measles slightly decreased in the third quarter (July-September) of 2013 as compared to the same period in 2012 and in 2011. Despite increased numbers of measles cases recorded across the county with multiple measles outbreaks confirmed, the mortality associated with the current measles outbreaks was quite low due to improved and early detection, case management and better nutritional status among children.

Lakes state recorded the highest incidence rate of suspected measles cases followed by Central Equatoria and Unity states, while Warrap state recorded zero (0) incidence rate of measles cases during this reporting quarter. Almost all the reported suspected cases were investigated within 3 days of notification of the rumors by the surveillance officers and partners; and about 75% of blood samples collected from suspected cases for laboratory confirmation. As a result, only eight (8) measles outbreaks in eight different counties of Malakal, Yambio, Juba, Rubkona, Duk, Wau, Guit and Mayom were confirmed, although blood samples from several other counties tested positive for measles IgM, these did not cross the outbreak threshold by the MoH-RSS (i.e. 3 blood samples tested positive for measles IgM in a County/facility in a month).

Measles can be a serious and highly contagious disease. It remains one of the leading causes of vaccine-preventable death among children globally. Factors contributing to the increased trend of measles and recurrent outbreaks include; poor routine immunization, increased population movements; severe malnutrition among young children; and limited access to health services. Consequently, vaccination coverage for measles among young children is below the international standards as the last coverage survey
finding indicates that the measles coverage in South Sudan is below 63%.

Health authorities and health cluster partners are concerned of the measles situation in the country and have put in place various preventive measures to control the spread of the outbreak. Surveillance was enhanced in all counties, and case management and surveillance skills among front-line health workers and surveillance officers improved through training and support supervision. Measles surveillance improved at facility and community level, and case based investigation system was put in place. Awareness raising and sensitization campaigns were conducted by health authorities and partners to educate the community on prevention and mitigation of the spread of measles and other communicable diseases. All measles outbreaks were responded to on time through vaccination campaigns, except Mayom and Ayod counties due to flooding. Over 150,000 children were vaccinated against measles in response to the above outbreaks.

f) Acute jaundice Syndrome (AJS)

A total of one thousand three hundred and twelve (1,312) suspected AJS cases (IR of 15.88) and one (1) related death (CFR of 0.08 %) were recorded across the ten states of South Sudan. Of these cases and deaths, more than 91% and 100% of the death were recorded in Maban (UNS) and the remaining 9% of the cases reported from Yida (6.4%) and other locations/states (host community in Maban, Central Equatoria, Eastern Equatoria, Western Equatoria, Jonglei and Western Bahr el Ghazal states). There was no suspected case of AJS recorded from Lakes, Northern Bahr el Ghazal and Warrap states during this reporting period. Hepatitis E outbreaks in Maban and Yida refugee camps are still ongoing, and during this reporting period the incidence and case fatality rates and deaths in Maban refugee camp and Yida camp slightly decreased as compared to cases and deaths recorded in the first quarter of 2013. This could be attributed to improved water and sanitation conditions in Batil, Jamam (now Kaya) and Gendrassa camps. Fewer cases were recorded in Batil as compared to the previous quarters, while the number of cases recorded from Doro, Yida, and Gendrasa slightly increased.

According to information obtained from the host community in Maban camps, many of the Hepatitis E patients do not visit health facilities, instead preference to visit traditional healers. Therefore most cases were unreported. Refer figure 5 and 6 for the AJS/HEV epi-curve in Maban and Yida.

The Ministry of Health together with UNHCR, WHO and others partners have taken steps to contain the ongoing outbreak including increased water access in camps; increasing the number of latrines and hand washing facilities; decommissioning of filled up latrines; increased supervision and monitoring of water, sanitation, and hygiene activities; increased hygiene and sanitation messages in the community and schools; improved coordination of health agencies, partners and camp managers; and strengthened disease surveillance and case management across the camps and host communities.
g) Viral Hemorrhagic Fever

There was no case of suspected viral hemorrhagic fevers recorded during this reporting period.

h) Influenza Like Illnesses (ILI)

No suspected ILI case was recorded this reporting period.

i) Neonatal Tetanus (NNT)

A total of sixteen (16) suspected cases of NNT with three (3) related deaths were recorded from CES (Juba), NBG (Aweil North and Aweil West) and Warrap (Gogrial East, Gogrial West and Tonj North) in the third quarter of 2013.

2.3.5 Challenges

- The ongoing economic austerity combined with the high inflation rates has negatively affected basic social services. State health authorities lack resources to support key health care services and the day to day operations.

- The high inflation rate and shortage of hard currency are also impacting negatively on the availability of food, fuel and other essential commodities at all levels.

- The rapidly evolving humanitarian context in South Sudan and the unpredictable population movements posed challenges to accurate and effective project implementation, especially in high risk areas.

- Retention of qualified and highly trained health personnel remained very challenging due to delayed salaries coupled with availability of highly paid employment opportunities with the UN, INGOs and other NGOs.

- Limited involvement of health authorities at the central level in monitoring and supervision of ongoing disease surveillance activities at state or county levels.

- Lack of public health reference laboratory infrastructure and services at the central and state levels.

- The ongoing crisis in Jonglei state has hampered surveillance activities in high risk counties, with most surveillance teams and health workers fleeing their location.
The heavy rains which resulted in massive flooding in seven out of ten states in South Sudan has grossly affected surveillance activities during this third quarter of 2013.

2.4 Expanded Programme on Immunization/Polio Eradication Initiative

In the first quarter of 2013, WHO implemented activities aimed at maintaining the success achieved in the previous years to ensure that polio eradication and measles elimination goals are reached.

Following reports of three wild polio virus 1 cases reported on 26 September 2013, which was later re-classified as laboratory contaminants during the third quarter of 2013, the Expanded Programme for Immunization/Polio Eradication Initiative (EPI/PEI) successfully completed one Sub National Immunization Days in August, and Mop Up campaign in the same period in the counties of Ikotos, Aweil East and Gogrial West.

In order to reach the set targets, WHO worked in close collaboration with the Ministry of Health, republic of South Sudan, the State Ministries of Health and other development partners like, UNICEF, CDC, USAID, Rotary and other UN agencies and International NGOs namely; eg. JPIGO and World Vision,) FBOs, CBOs, and local communities.

2.4.2 Acute Flaccid Paralysis (AFP) surveillance

South Sudan has not recorded wild polio virus in the country for over 48 months. In the period under review acute flaccid paralysis (AFP) surveillance was further intensified with increased collection of community samples for salient counties in addition to maintaining and resourcing the AFP structures for active case search in health facilities and communities. These continue to assure South Sudan of sustained efforts at monitoring improvement of the immunity profile of the population as part of global standards for the Polio Eradication Endgame. The summary of AFP samples and results as shown in table 2 below.

All AFP surveillance indicators has met the required standard as seen figure 7 below.
2.4.3 Annual Certification Update

Following the formation of the National Certification in the 3rd quarter, WHO provided financial and technical support to improve AFP information management system, with emphasis on completeness of AFP, files from 2009 – 2013. Further to this WHO, sponsored visits to KEMRI laboratory in Nairobi to retrieve all archived information on cases of AFP for the Republic of South Sudan over the same period. The exercise though successful, witnessed some challenges like incomplete forms for 2009 AFP cases. Nonetheless WHO developed and implemented a strategy that has seen all states update their filing systems thus giving assurance to the creation of scientific foundation informing the validation responsibility of the National Certification Committee.

2.4.4 Supplementary Immunization Activities (SIAs)

Due to threats of the polio outbreak in Ethiopia, Somalia and Kenya, a sub National Immunization Days (sNID) campaign was conducted in Central Equatoria, Eastern Equatoria, Jonglei, Upper Nile and Parieng county in Unity state. Before the campaigns a total of 1145 supervisors were trained and deployed to support the supervision of 8,465 vaccinators. Moreover as a measure of improving the quality of management of the campaign, and more importantly bridging gaps for improved population immunity, WHO engaged the CORE Group to implement the Post Campaign Evaluation (PCE) which up till then was being conducted by WHO. The change was in conformity to the global standards of an independent monitoring team for the campaigns thereby limiting confounders in the interpretation and application of results.

Despite the challenges of flooding and insecurity, the administrative coverage of the campaign revealed that 1,532,256 children 0-5 years were vaccinated and the PCE coverage showed 90.5% coverage as detailed in table 3 below.

Table 3: Summary of March 2013 NID results (administrative and PCE), South Sudan

![Table showing NID results](image)

2.4.5 Surveillance of Fever and Rash illness

Measles case-based surveillance continue to record steady improvements as reflected in the increasing number of cases with samples resulting in laboratory confirmation of outbreaks. Outbreaks confirmed in Juba, Lufon, Yirol West, Nagero, Rubkona, Aweil East, Guit, Longichuk, Tambura and Pariang received responses through technical and financial support of over $200,000 from WHO South Sudan. The summary of measles cases based surveillance is shown in table 4 below.

![Table showing measles monitoring](image)
2.4.6 Routine Immunization

Due to the challenge faced by MoH to access GAVI funds to support routine immunization, WHO and partners provided technical and financial support to a tune of over $400,000 for the 10 states of South Sudan to conduct outreach and defaulter tracing activities aimed at improving the deplorable state of routine immunization coverage. During this period, the annualized DPT3 coverage increased from 29% in the previous quarter to 55.7% in this quarter. WHO continued to render supervisory and technical support to the EPI programmes to ensure quality of immunization sessions.

2.4.7 Capacity building

The Expanded Programme for Immunization/Polio Eradication Initiative (EPI/PEI) continued to provide on the job and spot training to field staff of the MoH in EPI. During this period, the training of 9,610 staff and volunteers working in health facilities, communities and on EPI and PEI programme at the ministries was enhanced. Those trained were also inclusive of volunteers and supervisors who provided quality vaccination services during the sub National Immunization Days.

2.4.8 Challenges

- Dwindling funding support for EPI/PEI program both from donors and government is a major concern to the program.
- Inaccessibility due to insecurity and bad road network creates difficulties in accessing most areas of the country, making it difficult to carry out planned activities.
- Lack of human resources both in numbers and mix is a major challenge facing the EPI/PEI program.

2.4.9 Way forward

1. WHO EPI/PEI programme will continue to support MOH/RoSS and development partners to strengthen routine immunization activities as the backbone to the Polio Eradication Programme with more emphasis on monitoring and support supervision and communication programmes.

2. Work with the MOH/RoSS to implement supplemental immunization activities, routine immunization strengthening and highly sensitive AFP and other vaccine preventable disease surveillance to maintain Southern Sudan’s polio free status.

3. Collaborate with integrated disease surveillance and response (IDSR) to strengthen Measles Surveillance System and intensify response mechanisms against the surge of measles cases.

4. Provide continuous support through training to achieve high quality AFP surveillance.
2.5 Guinea Worm Eradication Programme

South Sudan reported thirty one (31) new guinea worm cases between July and September 2013 compared to 113 cases over the same period in 2012. The 93.8% reduction in the number of new guinea worm cases observed in the months of July, August and September comes as a result of good interventions made by the program during the 2012 transmission season.

By the end of September 2013, South Sudan reported 104 indigenous cases (Jan-Sept 2013) as compared to 502 cases between January and September 2012. This is a big achievement towards eradicating guinea worm disease in South Sudan the most endemic country in the world. As at the end of September 2013 guinea worm cases were reported from: Kapoeta East, Kajo-Keji, Pibor, Aweil, Gogrial East and Aweil West. Eastern Equatorial state accounting for 86% of all the cases.

Through integrated disease surveillance and response (IDSR), a total of 202 guinea worm rumors were registered, 193 of them were investigated within 24 hours and one confirmed by Center for Disease Control laboratory as a guinea worm case

Globally, 123 cases have been reported between January and September 2013 from five endemic countries namely: South Sudan 104, eight in Chad, Six in Ethiopia, fur in Mali and one in Sudan one. South Sudan accounted for 84.5% of the global cases reported in 2013.

2.5.1 Capacity building and meetings

In Aweil West, a total of twenty health workers were selected from the nine Payams of Aweil West and trained on Guinea Worm Disease Active case search.

During the training, participants were given skills on how to conduct house to house search for guinea worm cases. They were later provided with surveillance tools: House hold questionnaire forms, Village data forms, guinea worm identification cards, guinea worm posters, note books and pens. A total of Nine teams were formed and assigned to conduct guinea worm disease active case search for each of the 9 Payams. Two vehicles and motorbikes
were assigned to support the enumerator’s supervision within Payams. The trained teams then conducted interviews in 540 households and detected ten suspected cases however no one was found with guinea worm.

It was agreed that;

- The South Sudan Guinea Worm Eradication programme (SSGWEP) embark on massive guinea worm disease awareness campaigns in Aweil West and Aweil North, with the other three counties of Northern Bhar El Gazel targeted as well. The county surveillance officer provided the number of community leaders (Chiefs, payam administrators, Village elders, school teachers, church leaders and the youth group who would participate in the exercise.

- Conduct guinea worm disease surveillance training for all health workers and village volunteers. Malaria Consortium has a network of 700 volunteers in Aweil West County who could be trained and used for guinea worm disease surveillance.

- Initiate active surveillance in all at-risk villages. These should be selected based on the level of risk. Some villages at risk of guinea worm disease transmission are on either side of Aweil North and Aweil West and,

- Empower the county surveillance officers to take responsibility of overseeing guinea worm disease surveillance in Aweil East County. Given the good working relationship with partners. This will ensure continuity of guinea worm surveillance and other diseases.

In Raja country, two of the four Payams were assessed. A total of thirty three (33) villages were visited and two hundred and ninety nine (299) households interviewed to confirm transmission of indigenous guinea worm disease in the county. In addition seven health facilities were assessed to confirm the presence of diagnosed guinea worm patients in the facilities registration registers. Five (5) suspected cases were detected and investigated during the ACS in Mangayat, Mayonga and Sopo in Raja and Uyjuku Payams respectively. No case of the disease was detected.

In this reporting period, a mid-year review meeting was conducted in Rumbek and Kapoeta towns targeting all the ten states of South Sudan. The meetings were organized by the Ministry of Health South Sudan Guinea Worm Eradication Program (SSGWEP) and fully supported by both The World Health Organization and The Carter Center. In Rumbek, Lakes state, the meeting was officiated by the Hon Minister of Health for Lakes state. A total of seventy two (72) participants from the four states of: Northern Bahr El Gazel, Western Bhar El Gazel, Warrap and Lakes states attended, a similar number attended in Kapoeta. The participants included: State and county surveillance officers, Guinea Worm Eradication Programe state Field Coordinators, Program Officers, Senior MOH officials from Lakes state and Technical Advisors for the GWEP program.

The review meetings were held with the objectives of; reviewing progress made by the SSGWEP in endemic and guinea worm
free areas in 2013 and discuss challenges experienced; discuss and recommend areas for transition from active surveillance to passive and explore ways for SSGWEP and County Health Department to work together to ensure that SSGWEP’s practices are transferred to the County Health Department despite disparities in resources. And discuss the 2014 surveillance strategies and priorities for guinea worm eradication program for all endemic and guinea worm free areas.

During the meeting, It was agreed among other things that; all Payams bordering Gogrial East county namely; Kirk, Awul, Aliek, Manalorto be under active surveillance; transition all of greater Tonj to passive surveillance (East, South, North); the SSGWEP will provide data on at risk areas to safe water partners like UNICEF, Ministry of Water, Ministries of Electricity, Dams, and Irrigation, to enable prioritization for the provision of safe water. Other recommendations include; the SSGWEP needs to explore possibilities of strengthening coordination with other health actors at state and county levels and SSGWEP staff at all levels should communicate and share IDSR reports and communicate about suspected cases.

2.5.2 Challenges

Insecurity in Pibor, the only remaining county in Jonglei state continues to be a big threat in interrupting guinea worm disease transmission.

2.5.3 Way forward

1. Provide the first ever Direct Funding Cooperation (DFC) to the South Sudan GWEP in the MOH and evaluate the capacity of the Ministry to manage financial resources.

2. Conduct guinea worm active case search in five counties through the Polio National Immunization Days.

3. Participate in the guinea worm cross-border meeting for neighboring countries of Kenya, Ethiopia, Uganda and South Sudan.


5. Prepare work-plans for the next two years (2014-15).

6. Prepare the South Sudan budget proposal and work plan for 2014

2.6 Human Immune Deficiency Virus (HIV)

HIV with a national prevalence of 2.6%, remains one of the priorities in health. It escalates the burden of other health conditions such as tuberculosis, malaria, childhood diseases and nutrition. Approximately 150,000 people are living with HIV in South Sudan; an estimated 16,000 new infections and 15,000 AIDS related deaths occurred in 2012. Overall, about 7% of those in need of ART services are currently on ART. Access to antiretroviral medicines for Prevention of
maternal to child transmission of HIV is less than 10% compared to women in need.

In a bid to support the country come out of this situation, WHO continued its role in providing leadership on matters regarding HIV, and working in partnership with other stakeholders in the dissemination of consolidated guidelines on the use of antiretroviral medicines for HIV prevention, care and treatment; adapting of guidelines for national use and provision of technical support for the development of scale up plans for HIV treatment and care.

The expansion of services is however slow due to multiple system failures resulting to reduced access of services and poor retention. Other weaknesses that are contributing to the slow expansion of services include; limited health facilities providing primary and referral services for HIV, weak integration and linkages between HIV and related programmes, suitability and adequacy of Human Resource skills mix at different levels to ensure continuum of HIV services, inadequate and frequent breakdown of laboratory diagnostic and monitoring equipment (CD4), maintenance of chronic care M&E systems. Others are; expensive and highly technical surveillance systems and surveys, inadequate financing for the HIV response and undeveloped community care systems to ensure retention and adherence. Other country context and wide systems issues affecting chronic HIV care including high mobile populations due to insecurity, returnees, floods, famine and cultural context; and poor general infrastructure including roads and communications, power and water.

WHO has nevertheless engaged the Ministry of health and health partners in a bid to improve the performance of the HIV program.

In the last quarter, the National HIV&AIDS Strategy 2013 – 2017 was finalized and resources mobilized for Transitional Funding Mechanism of the Global Fund (GFATM) to ensure sustainable progress for the next 2 years (2014 – 2015). Human resource capacity and service delivery was enhanced through clinical mentorship and consultations initiated regarding new guidelines for treatment and prevention of HIV. The new guidelines are based on the current scientific evidence. The recommendations are aimed at increasing equitable access to the quality of ART and reduce HIV transmission. Among the recommendations made are; earlier initiation of ART in adults at a CD4 below 500 cells/mm$^3$, immediate ART for HIV-infected partners in sero-discordant relationships and children below five years regardless of CD4 cell count, lifelong ART for pregnant and breastfeeding women living with HIV, use of viral load for ART monitoring, as well as use of harmonized, simpler, and less toxic regimens. The recommendations provide an opportunity for improved access to treatment, this has prompted the revision of the South Sudan ART guidelines.

The consolidated ART guidelines for adults, adolescents, children, pregnant and breastfeeding women, contribute to the National HIV/AIDS Strategic Plan goal of
universal access to ART by 2017. The guidelines were developed to standardize clinical management of PLHIV and HIV-exposed children using an integrated approach, and emphasize the fact that HIV treatment should be offered in a comprehensive continuum of care setting.

2.7 Tuberculosis

During this period, WHO distributed various TB information, education and communication (IEC) materials (100 posters and 1,000 leaflets) to 10 health facilities including TB management units in Central Equatoria State, to support and promote health education.

The exact burden of TB including Multi-drug Resistant TB (MDR-TB) in South Sudan is unknown, though this is present in the country. Ten samples (re-treatment cases) sent to Nairobi TB Reference Laboratory for culture and Drug Susceptibility Testing (DST), confirmed 13 cases of MDR-TB. None of these patients however has been enrolled on treatment due to unavailability of the second-line drugs. The National Tuberculosis and Leprosy Programme (NTBLP) plans to initiate a programmatic management of drug resistant TB (PMDT) in 2014.

The USAID/TB CARE-1 through WHO, sponsored two clinicians to attended the IV International Course on Clinical Management of Drug Resistant Tuberculosis, in July in Oshakati, Namibia. The objectives of this course included; the review of different approaches to case findings for drug resistant TB, principles of MDR/XDR-TB treatment, review management of MDR-TB in special populations, treatment and common challenges and potential solutions for managing drug resistant-TB from a programmatic perspective.

Twenty four health care workers were also trained in TB diagnosis and management, and TB/HIV collaborative activities. The objectives of the training were to improve knowledge and skills of health care workers in TB case finding and management and achieve the NTLBP objectives in improving TB case detection rate and notification. The five days training took place in August in Nimule, Eastern Equatoria State.

Collaboration between the national TB control program and the private health sector is an important strategy to ensure equitable access to quality TB diagnosis, treatment and care. However, in the policy and guidelines for TB control program in South Sudan, the roles of private health sector in TB control are not well defined and currently, the partnership existing between the public - private mix (PPM) for TB control is limited only to the non-governmental organizations (not-for-profit) and excludes private health sector for profit. In collaboration with the NTLBP, WHO conducted two days workshop with the private health practitioners (PHPs). The meeting conducted in Yei, Central Equatoria State, aimed at enlightening the PHPs of the TB situation in the country, discuss the role of private health practitioners in TB control, and visit and discuss with managers/owners of the private health facilities possibilities of collaboration in TB control. Thirty three participants from PHPs attended the meeting. The team also
visited four private health facilities in Yei Municipality. The participants identified vertical approaches of TB service provision as the main barrier for expansion of TB services in South Sudan.

Low Directly Observed Treatment (DOTs) coverage is among the key challenges facing TB control in South Sudan. Tuberculosis services are provided in only 6% of all the functional health facilities in the country. In collaboration with the NTLBP, WHO conducted two days TB stakeholders meeting in Juba. The aim of the meeting was to explore opportunities for integrating TB services into primary health care (PHC) system with the objectives of identifying gaps in TB service delivery and to develop plan of action for integration of TB and TB/HIV services into PHC. Twenty eight participants representing the Ministry of Health and State Ministries of Health, donors including USAID, MSH, UNDP/GFATM, TB implementing partners and facility based health workers attended.

Two laboratory technicians from the Ministry of Health attended the 3rd International Laboratory Training Course on Programmatic Management of Drug-Resistant Tuberculosis (PMDT) in Kigali, Rwanda, from 23rd September to 2nd October 2013. The objectives of this training were to; introduce the participants to the latest updates on lab developments related to Drug Resistant TB, introduce research within PMDT (including laboratory), conduct appropriate laboratory processes and techniques of growth detection, develop quality indicators (e.g. internal quality control) and conduct external quality assessment of growth detection and identification.

2.8 Health Systems Development

The health systems development team implements activities that contribute to the attainment of WHO strategic objectives 10 and 11. This report outlines major activities carried out between July to September 2013.

2.8.1 Donor Coordination and collaboration

During this reporting period, WHO was selected as one of the co-chairs for the Health Development Partners (HDP) group for one year tenure. The HDP meetings will be convened by and hosted by WHO over the next one year. During this period the HDPs dialogued on reviewing the HDP group terms of reference to ensure that more collective actions are taken besides information sharing. It was agreed that an explicit plan of action for the HDPs be developed and adapted to guide activities for the next one year. In addition options for improving performance of the health sector working group and all other technical working groups (TWG) was discussed and a review of the current status of all the TWG will be undertaken.

2.8.2 Development of Policies, Strategies and reports

WHO in collaboration with partners supported the ministry of health in the finalization and submission of a GAVI Health Systems Strengthening proposal. WHO led the dialogue on the feedback from the pre-submission assessment of proposal during a capacity building workshop organized by the EMRO office in Sharm El Shiekh. Comments from the pre-submission
assessment were used to revise and finalize the proposal.

In collaboration with African Medical Research Foundation (AMREF), WHO conducted the following trainings: Governance, Leadership and Management training for all State Ministries of Health attended by the State Director Generals and State Directors of planning in Nairobi; County Health Management Team (CHMT) trainings for all County Medical Officers (CMO); Basic Package of Health and Nutrition Services attended by CMOs and other members of the CHMT. This is part of the process of supporting the Ministry of Health build the capacity of the Counties to ensure ownership and provide leadership for health programming at the County level.

WHO finalized the process of developing the inaugural Country Cooperation Strategy (CCS) for South Sudan. A launching ceremony and dissemination workshop will be carried out soon.

In addition, the agency deployed a consultant to support the Ministry of Health to conduct a national wide assessment of the Health Information System. This will provide inputs and the basis for development of a national Health Information System policy and strategy.

2.8.4 Blood safety

Progress on work for Blood safety in the previous quarter follows accomplishments made in the 2\(^{nd}\) quarter of this year on the development of the national Strategy for Blood Safety. The technical working group (TWG) with support from consultant recruited by WHO developed the first draft of the strategy.

This was reviewed and the second draft produced and discussed at the national review attended by 10 participants from the Ministry of Health, CDC and WHO. During the meeting, the national 5 year strategy to ensure safe delivery of blood for South Sudan was finalized. The Strategy now awaits endorsement of the senior management board of the Ministry of Health.

Two trainings were also conducted for health workers in Blood Banks for Juba, Wau and Malakal Teaching hospitals on
Voluntary Non-Remunerated Blood Donation (VNRBD) and Quality Management. The trainings were conducted to ensure readiness to collect and handle donated blood in the newly established blood centres by health personnel. The Ministry of Health also finalized recruitment and assignment of teams of health providers to the Blood Transfusion Centers in this period.

2.9 Ochocerciasis Control Programme

The African Programme for Onchocerciasis Control (APOC) continued to support the South Sudan Onchocerciasis Taskforce (SSOTF) in a bid to establish effective and self-sustainable community-directed ivermectin treatment (CDTI) throughout the onchocerciasis endemic areas. The CDTI strategy relies on community participation for the distribution of ivermectin to the targeted population. Project Coordinating Officers, County OV Supervisors, Staffs from Front Line Health Facilities (FLHF) facilitate the CDTI process by organising communities to participate in CDTI activities. Community selected Community Drug Distributors (CDDs) who conduct community censuses, provided treatment with ivermectin and keep records of the households treated.

The key activities implemented by the onchocerciasis control program included:

2.9.1 Onchocerciasis control stakeholder meeting

During the reporting period, the onchocerciasis control stakeholders’ meeting was held between 17th and 18th July 2013. The purpose of the meeting was to contribute to the creation of a forum for dialogue for the elimination of onchocerciasis and the other preventive chemotherapy (PCT) neglected tropical diseases (NTDs) in South Sudan. The objectives for the meeting included: building consensus around the road map document for the reorganization of Community Directed Treatment with Ivermectin (CDTI) to control/eliminate onchocerciasis and other PCT NTDs in South Sudan; and to obtain commitment of all partners to avoid fragmentation and ensure cost efficiency in the implementation of the South Sudan roadmap for the control/elimination of onchocerciasis and PCT NTDs in South Sudan.

The meeting was officiated by the Minister of Health, who informed participants that the Ministry of Health would re-launch and restructure the onchocerciasis control programme as part of efforts to revamp CDTI in South Sudan. He reiterated government’s commitment to integrate onchocerciasis and other NTDs in the health system and establish a department for community preventive medicine to fight NTDs and other diseases.

Consensus was obtained on the reviewed roadmap document by all partners; and partial commitment obtained for financing the activities of the road map document is made by all partners.
2.9.2 Training of Trainers (ToT) workshop

During this period, a training of trainers’ workshop was conducted between 19th to 24th July 2013. The national level training targeted national and state level staff and CDTI Project Coordinators in the onchocerciasis control program with the aim of equipping them with knowledge and training skills required for cascading similar trainings at the state and lower levels in CDTI project areas. This was in line with the implementation of the recommendation of the stakeholders meeting held in 2012 in Juba, South Sudan, to re-launch CDTI activities in South Sudan with emphasis on training, monitoring, supervision and reporting at all levels.

The findings from the plenary and working group discussions showed that South Sudan CDTI projects are at the beginning stage, consorted effort is therefore required to get to the performing stage. Issues of inadequate community ownership and record keeping at the community level, poor management of funds and logistics and unskilled manpower was also discussed.

The meeting recommended the following; need to conduct desk review at the state and county level to collate list of frontline health facilities and communities by the county, Boma and health facility catchment areas, a need for increased advocacy from the South Sudan national onchocerciasis task force (NOTF) to the Government for financial and political commitment to the Onchocerciasis control programme and for co-implementation using the CDTI strategy and a need for health personnel to be trained on the protocol for managing severe reactions in areas of co-endemicity with loa loa. Other recommendations included; a need for health facility sensitizations on roles and responsibilities including referral of cases, review of training materials provided by APOC and adapt them to suit training at all levels and cascade trainings down to state, County, Payam, Boma and community levels.

As a way forward, the participants agreed that re-orientation of health implementers, re-mobilization of communities, advocacy to policy makers and collaboration with other sectors be done.

2.9.3 Field visits CDTI Project sites

A joint field visit with the National Coordinator for Onchocerciasis Control Program and Onchocerciasis Program Coordinator from the lead non-governmental development organization (NGDO) Christoff Blinden Mission (cbm) was conducted to Western Equatoria CDTI project. Over the past few month, the Western Equatoria CDTI project was plagued with huge project management problems to resolve the problem, the team met with the state health and political leadership in a bid to address the management flaws. As a result the team recommended a change of the current Project Coordinating Officer and tasked the
state ministry of health to nominate another member of staff.

2.9.4 National Onchocerciasis Task Force meeting

A meeting for the National Onchocerciasis Task Forces (NOTFs) from the 20 APOC and 11 Ex-OCP countries was held in Ouagadougou, Burkina Faso from the 23rd to 27th September 2013. The South Sudan NOTF from South Sudan attended and was represented by the APOC Technical Adviser, the National Coordinator for Onchocerciasis Control Program and cbm Onchocerciasis Program Coordinator.

The meeting was held with the objectives of; reviewing the 2012 and 2013 country performances on CDTI implementation for the elimination of Onchocerciasis; reviewing the 2012 and 2013 data on treatment, co-implementation, and training; reviewing of epidemiological and entomological evaluations conducted and preparation of Joint Action Forum (JAF) 19 country presentations. During the meeting, participants recommended that the 2012 and 2013 performance of countries be reviewed including data on treatment, co-implementation, training; strengths, weakness, cross border issues, opportunities and suggestions for the improvement of Onchocerciasis elimination in Africa efforts be identified and discussed for each country among others.

2.9.5 Way forward

- Continue providing technical support to the South Sudan NOTF at both the national and state levels.
- Support training on cytotaxonomy of simulium flies (black flies) and delineation of transmission zones that is planned to take place from October 24th to November 29th in Eastern, Central and Western Equatoria states.

- Conduct field visits to provide technical support to staff involved in implementation of CDTI activities.
- Conduct field visits to monitor the progress of implementation of CDTI project activities.

2.10 Maternal and New-born Health

The Comprehensive Emergency Obstetric and Newborn Care (CEmONC) project is intended to contribute to the reduction of maternal mortality ration in South Sudan by ensuring access to quality delivery services in South Sudan. This is the second year of the projects implementation in the country. The programme among other areas, supports, community participation and strengthening the accountability framework for Maternal Child Health in civil registration and vital statistics, monitoring and evaluation, maternal neonatal death surveillance and response, e-health and innovations, advocacy and outreach and resource tracking by partnering with the Ministry of health and other stakeholders.

2.9.1 Launch of the new project sites

During this period, the programme launched the construction of new theaters and maternity waiting homes in Yambio and Wau hospitals. In Yambio, the ground breaking ceremony was presided over by the Minister of Health, Honorable Riek Gai Kok together with the Ministry of Health.
officials at central and state levels, and the Governor of Western Equatorial state, while in Wau, the ground breaking ceremony was presided over by the President of the Republic of South Sudan, His Excellency General Salva Kiir Mayardit.

2.9.2 Human Resource Components

WHO supported the Ministry of Health to sponsor students for residency in Obstetrics and Gynecology in Kenya, Uganda, Tanzania and Khartoum. In this quarter, 10 students were admitted in the above countries while sponsorship of students to Ethiopia is still under consideration.

Training of medical officers, community midwives, certificate nurses, clinical officers and Maternal and Child Health nurses was done provide basic and emergency maternal and newborn care services in all the four state hospitals where the programme is currently running, namely; Bor, Wau, Yambio and Malakal hospitals. Life Saving Anesthetic Skills (LSAS) training was also provided to the team as per need.

2.9.3 Strengthening Outreach and Referral Services

WHO in partnership with NGO’s working in the counties surrounding the hospitals where WHO is currently running the Comprehensive Emergency Obstetric and Neonatal Care, identified 12 counties where outreach and referral services would be strengthened. In this period, community mobilization meetings with County and Payam leaders and the village health committees were held, in total 12 meetings were held in all the four project sites. Discussions to draft the terms of reference for the involvement of NGO’s and civil society to strengthen outreach and referral services is underway. This will include support for the established Maternal Waiting Homes.

The number of admissions in each hospital steadily increased this quarter due to the presence of an Obstetrician and a Gynaecologist in each of the hospitals of Malakal and Wau Teaching Hospitals and the state Hospitals of Bor and Yambio. Even in the absence of the Obstetrician and Gynecologist medical officers are trained to handle emergencies. The CEmONC cases in relation to the total admissions is above the upper limit of 30 percent and is steadily increasing. The overall caesarean section rate of 1.5% for the whole country increased to almost 9 % at the state hospitals.

However, improvements still need to happen in newborn care, for instance the fresh stillborn cases did not change, and the number of neonatal resuscitations still remains minimal. Maternal health improvements in reducing complications during child birth is still critical. Measures are being taken but due to lack of personnel and expertise, round the clock services at all times are still limited. Family planning services and community awareness are very much lacking.

Figure 10: Comparing the admissions, normal deliveries, CEmONC and caesarean cases in 4 state hospitals
2.9.4 Way forward

- During this period the programme commenced with the development and field testing of standards and protocols for provision of CEmONC services and Hospital administration and management. The development of forms for reporting maternal and neonatal deaths also commenced this reporting period. All these will be finalized in the fourth quarter.

- Procurement of furniture, equipment, renewable supplies and commodities for mothers, newborns and children was initiated in the third quarter and will be completed in the fourth quarter.

- Provision of technical support to the States for the development of Reproductive Child Health Strategy including costing and financing mechanisms will also be conducted in this quarter.

- Support integration and implementation of essential child survival interventions like integrated management of Neonatal and Childhood Illnesses, home based newborn care and management of pneumonia and diarrhea.

- Assessment and scale-up of activities to four more State hospitals and adjoining counties. Include recruitment of specialists and training of locally recruited field staff for provision of basic maternity services.

- Strengthen programme Monitoring and Evaluation and reporting and promoting use of Information, Communication and Technology strengthening Health Management Information Systems.

2.10 Neglected Tropical Diseases

During the third quarter, WHO continued supporting Human African Trypanosomiasis (HAT) and Visceral Leishmaniasis (VL), control activities. The support was provided in the areas of; Capacity building, support supervision, distribution of medicine, reagents and other medical supplies for diagnosis and treatment of HAT – VL, response to HAT and VL emergency, Advocacy visits to initiate and integrate HAT – VL activities, coordination meetings and HAT active Screening.

There are eight (8) treatment centers for HAT namely; Yei, Yambio, Lui, Juba Nimule, Tambura, Maridi and Kajo Keji Hospitals and eighteen (19) treatment centers for VL in South Sudan. Human African Trypanosomiasis mainly occurs in central, Eastern and Western Equatoria States, where as VL is commonly found in Eastern Equatoria, Unity, Upper Nile and Jongolei States of South Sudan.
2.10.1 Capacity Building

Four trainings were conducted this period, in Malakal, Upper Nile State two trainings were conducted, one in Torit, Eastern Equatoria state and one in Western Bahr el Ghazal State. The trainings were on Visceral Leishmaniasis (VL) Ambisome and on basic and advanced laboratory techniques which includes diagnostic techniques for VL and HAT.

A total of ninety seven health workers benefited from the Visceral Leishmaniasis training while seventy one participants benefited from the laboratory training. Those who benefited from the laboratory training were; laboratory personnel, nurses, community health workers, clinical officers and doctors.

2.10.2 HAT-VL Drugs and Supplies Distribution

The neglected tropical disease programme has adopted a system of issuing HAT- KA drugs twice in a year. During this reporting period, 8,413 vials of sodium siibo gluconate) SSG, 12,500 vials of Paromomycin, 9,100 strips of rK39, four direct agglutination test (DAT) kits (antigen, positive and negative controls) a bottle of 250 2-Mercapto-ethanol were distributed to KA treatment centers and five kits of NECT, 150 vials of Melarsoporal and 230 vials of pentamidine were distributed to human African trypanosomiasis 7 treatment center.

2.10.3 Active screening

a) Visceral Leishmaniasis (VL)

During this reporting period, a total of six hundred and seventy eight cases were treated. Five hundred and seventy nine (85.4%) new cases, Ninety (13.27%) relapses and Nine(1.32% ) PKDL, sixteen (2.4%) deaths and six (0.9%) defaulters were reported compared to 1,103 cases treated in the same quarter of 2012 i.e Nine hundred and sixty two (87.7%) new cases, eighty seven (8.1%) relapses and fifty two (4.71%) PKDL) and eleven (2.27%) deaths and twenty seven (2.45%) defaulters were reported.

There was a decrease in the number of cases in 2013 as compared to 2012- 2011. See figure below.

Figure: 12 Comparison of VL total cases by quarter - 2011- 2012- 2013

A total of 1,849 VL suspected cases were also screened using the three Techniques; rK39, DAT and LNA. Of the 1,849 suspected cases, 579 were positive and 1,270 were negative Compared to 4,578 suspected cases were screened using the same techniques the previous year in the same period. Eight Hundred and thirty suspected cases were positive and 3,740 suspects were negative. See fig 13.
b) **Human African Trypanosomiasis (HAT)**

A total of eighteen new cases (nine in stage I and nine in stage II) were diagnosed in the third quarter of 2013 in the eight treatment centers compared to eighty four new cases (forty nine in stage I and thirty five in stage II) diagnosed in 2012 from the same treatment. See graph 3. A total 844 patients were passively screened in 2013 compared 9,348 in 2012 and 8,095 actively screened as compared to 1,253 in 2012 in all the eight (8) HAT treatment facilities.

2.10.5 **Challenges**

- Weak surveillance system hence delays in reports.
- Inadequate qualified human resources at the facility levels continue to pose a challenge in most areas of South Sudan.
- Limited health facilities like wards and, drug storage facilities.
- High rate of staff turn over

2.10.6 **CHALLENGES**

- Weak surveillance system hence delays in reports.
- Lack of qualified human resources at the health facilities continues to be a challenge in most areas of South Sudan.
- Logistics constrains like few vehicles to facilitate all activities within the country.

2.10.7 **Way forward**

- Frequent support supervision visits to health facilities in the field.
- All NGOs and Government health facilities to use the national (South Sudan) guidelines for HAT and VL
especially in the diagnosis and treatment.

- Need for ownership of HAT-VL control activities by the SMOH.

- Ensure proper use of case definition for KA suspects to avoid over testing of non KA suspects.

- MOH-RSS and WHO to organize a coordination meeting with partners to discuss responsibilities for each party in the control of high numbers of cases in the peak seasons.

- WHO to provide solar fridges to some KA treatment centers

### 2.12 Health Promotion and Prevention and, Advocacy and Communication

With the decline in the number of reported guinea worm cases, the Department of Neglected Tropical Diseases in WHO Headquarter in collaboration with WHO South Sudan country office secured services of a film producer to capture video images of an emerging worm as well as other visuals depicting core WHO/South Sudan Guinea Worm Eradication Programme field activities, like educational, community awareness projects and the role of volunteers and community health workers supporting by the program.

The team interviewed the Head of WHO South Sudan Country Office, the Undersecretary in the Ministry of Health and the State Minister for Health for Eastern Equatoria State. Interviews with key partner agencies like UNICEF and other field technical teams. Health facility staff and communities in cattle camps, schools, water collection points, containment centers and farms were also interviewed.

This new video footage will provide WHO with opportunities to produce/amplify effective leadership and advocate for messaging to different audiences, including policy makers, partners, donors and the eradication community.

To support create more awareness of the international community and donor partners on nodding disease syndrome in South Sudan, the WHO country office in collaboration with PRAX Productions, a media company in Austria worked closely to produce a documentary of Nodding disease in Mundri West. Its hoped that this video will help generate public interest in supporting cases of nodding disease syndrome in South Sudan.

In addition WHO supported the Ministry to hire a consultant to conduct a situational review of the state of health promotion in South Sudan. The consultant conducted desk reviews and visited key agencies that deal with health promotion. This assessment will guide in the future development of the Health promotion Strategy for South Sudan.

The Organization further continued with its technical and financial support to the Ministry of Health to conduct review visits to the states of Northern Bahr el Ghazal and Eastern Equatoria state to support the appointed personnel for the health promotion programmes at the state levels. Its hope that this support will improve health promotion interventions and coordination at the state levels.

In addition, the printing of IEC materials for diarrhea and malaria begun in this period. WHO supported the illustration of the
materials in the second quarter. Once printing is complete, the materials will be distributed to all the states.

3.0 Conclusion

The WHO South Sudan Country Office will strengthen its commitments of supporting the Ministry of Health at the central, state and county levels in order to improve the health status of the people of South Sudan, by working closely with the Ministry of Health, other line ministries and health partners at the national and sub national levels to realize the objectives set out in the Health Sector Development plan.

Many thanks to all Programme Managers for the contributions.

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