**1.0 DISEASE SURVEILLANCE AND EARLY WARNING AND RESPONSE NETWORK (EWARN)**

**1.1. Outbreaks verification and response**

During the month of October and November a total of seven rumors of disease outbreaks were received and verified by WHO/ EWARN. Four were confirmed, one is still waiting laboratory confirmation and two were discarded.

Rumors of measles outbreaks were received, verified and confirmed from Narus and Udier. It is to be noted that measles is endemic in South Sudan and reports of the disease are received from all the regions in Sudan. Plans by WHO and UNICEF are currently under way to address the situation through mass vaccination campaign next year. As part of that preparation, UNICEF has started a pilot mass measles vaccination campaigns in two counties (Tonj and Aweil West) in the third week of November.

Two confirmed outbreaks of whooping cough are currently being responded to by EWARN and partners in Awerial and Aweil West counties in Bahr el Ghazal region. The outbreak in Awerial has spread to the east of the Nile in south Bor County while reports of whooping cough is also being followed in Maper in Rumbek.

Two rumors of meningitis outbreaks were received from Tieralet and Nagishot in Gogrial and Budi counties respectively. EWARN and partners are making arrangements to get CSF from these locations for lab confirmations.
1.1.1. **Suspected VHF reported in Yei River County, Central Equatoria**

A suspected case of VHF reported in Yei Hospital was quickly verified, specimens collected and sent to KEMRI. Preliminary PCR result is negative for all the known VHF agents. Measles virus test showed the presence of IgM antibody against measles virus. Further testing is to be conducted at CDC.

The case is a male aged 20 years, originally from Yambio County and resident of Hai Cuba. The patient got sick on the way when he traveled from Yambio to Yei on November 14, 2004. He was admitted to Yei Civil Hospital on November 16, 2004 and the report was sent to WHO/Loki on November 19, 2004.

The patient presented with history of fever, severe headache, and diarrhea with black stool, epistaxis and haemoptysis.

1.1.2. **Whooping cough claims more lives in Awerial County**

According to records compiled by WHO/Poliocounty supervisor for Awerial County, a total of 218 children died from a complication of whooping cough between June and October 31, 2004. A WHO/EWARN investigation conducted from October 27 to November 1, 2004 compiled 374 cases of suspected whooping cough registered in Bunagok PHCU records and during five days, the EWARN team treated 56 new cases of suspected whooping cough.

Awerial County is in Lakes Region of South Sudan. The area is remote and isolated. At the onset of the outbreak there was no NGO in the area and basic health service including EPI is lacking.

The outbreak was first reported to WHO/EWARN in July following which an emergency response meeting was organized in Rumbek and drugs were contributed and one NGO (CCM) sent a team to the area. The organization established a primary health care unit in the area in August but the area was too vast to be covered by one PHCU. The outbreak has since spread to all the five payams of the County.

WHO South Sudan assessed the outbreak, sent in supplies of drugs and has organized together with CCM, mobile teams of IMCI workers which move from village to village doing active case findings and treating them. WHO and OLS/EP&R are leading the effort to mobilize health NGOs to contribute manpower to be sent to re-enforce the team on the ground.

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**Fig. 2. Epicurve of the whooping cough outbreak Awerial County, Lakes Region**

1.2. **Building Alliance with NGOs Partners Consultative Meeting to Strengthen Information Sharing**

A one-day consultative meeting was held with representatives of NGOs in Yambio at ZDA compound on Saturday October 23, 2004. The organizations represented were, CRS, ACROSS/ZDA, FAO, WV, Yambio Diocese, UNICEF and WHO. The participants were briefed on status of first round SNIDs and the preparation for second round in polio eradication program and in disease early warning and response network (EWARN) activities including response efforts to control the on-going Yambio measles outbreak. The need for cooperation and collaboration among the NGOs, counterparts and WHO in epidemic surveillance, investigation, response and reporting was stressed to the participants.

UNICEF used the occasion to inform the NGOs of plans to conduct measles mop-up vaccination campaign in the payams with low coverage including Yambio payam this time. The campaign was scheduled for mid
November 2004 because of the ongoing polio campaign. On their part the sister agencies and NGOs also briefed WHO public health coordinator and the new polio international focal point about their programs. The representatives also agreed that the next monthly meeting would be held in WHO compound on 27 of November 04. WHO public health coordinator proposed that health coordination meetings be headed by CHD with the counterparts and NGOs.

### Table 1. Summary update of verified outbreaks: October 2004

<table>
<thead>
<tr>
<th>Outbreak disease/syndrome</th>
<th>Location/Onset</th>
<th>Source and date of update</th>
<th>Reported cases/deaths/actions taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspected Whooping Cough</td>
<td>1. Bunagog, Awerial County, Lakes Onset: 2nd week June/04</td>
<td>CHD/CCM 1st week July/04, L/update: 31/10/04</td>
<td>Overall number of cases not known but 400 cases recorded in September and October, and 218 deaths recorded from June to October. Assessment done. Drugs sent to the area. Active case finding and management ongoing (see report). Seventy cases and 9 deaths. Case finding and management ongoing. More drug supplies sent in by IRC.</td>
</tr>
<tr>
<td></td>
<td>2. Marialbai, Aweil West, BGZ. Onset: 1st week October/04</td>
<td>IRC, 03/11/04, L/update: 12/11/04</td>
<td></td>
</tr>
<tr>
<td>Suspected meningitis</td>
<td>1. Tierael, Gogrial, B6Z Onset: 15/11/04</td>
<td>Tearfund Reported: 16/11/04, L/update: 29/11/04</td>
<td>Five cases and no death. Case management ongoing. Plans to get CSF for laboratory confirmation underway. Many cases and deaths reported. Area is inaccessible but efforts to get an investigation and response team is underway.</td>
</tr>
<tr>
<td>Suspected VHF (EBOLA)</td>
<td>Yei Hospital Yei County, EQA Onset: Nov. 14, 04.</td>
<td>NPA Reported: 19/11/04, L/report: 27/11/04</td>
<td>One case no death reported. Pt. Came from Yambio and admitted to YCH on 16/11/04. Preliminary lab (PCR test) result is negative for all agents of VHF. Further tests will be done at CDC. Pt is improving.</td>
</tr>
</tbody>
</table>

### 1.3. WHO embarks on Buruli ulcers trainings in South Sudan

Two Buruli ulcer workshops were conducted by WHO in November 2004 in Yambio in Western Equatoria. The purpose of the workshops was to train core surgical staff for Buruli ulcer management in Yambio hospital and to train health staff of Yambio County in diagnosis and management of early stages of Buruli Ulcer.
The first workshop took place at Yambio hospital from the 17th to 19th November 2004 and was attended by 7 participants from the hospital. This is a core surgical team that will be involved in diagnosis and management of Buruli ulcer cases in the hospital together with the surgeon. The second workshop took place from 22nd to 24th November in the Yambio also and was attended by 28 health workers from various health centers and units in Yambio county. This was to strengthen the capacity of these health workers on early recognition of Buruli ulcer, management of early forms of the disease such as nodules and referral of severe cases to the hospital for proper surgical management.

The methodology employed in the workshops involved formal lectures on several topics, group discussions, video show on Buruli ulcer, practical work in the theatre, laboratory and wards. Participants were taken through the routines of surgical management of Buruli ulcer, they were shown grafting equipment, sterilization procedures, and anaesthesia practice, nursing of Buruli ulcer patients and staining for AFB using ZN stain.

Now that the training of health workers in Western Equatoria is done, what is required is the improvement of the health facilities in both Yambio and Tambura by provision of management materials such as dressing materials to the health centres and units and supply of minor surgical kits to the hospitals and the health centres.

1.4. Kala Azar Update

WHO sponsored a one-day meeting in Nairobi on 28th October 2004 for all partners interested in control of Kala Azar in South Sudan. The meeting was opened by the Director General of the Health Secretariat, Dr. Bellario Ahoy Ngong. The objective of the meeting was to explain to implementing partners the role of WHO in the control of this devastating disease.

WHO, with support from ECHO, has committed to an increased presence in the field for the season when Kala Azar cases usually increase in number. This increased presence will facilitate the investigation of possible outbreaks and the training of national staff in both the clinical and the laboratory diagnosis of Kala Azar. Any organization needing assistance in the diagnosis and treatment of suspect patients is requested to contact WHO either through the EWARN system or directly through the temporary technical advisor, Dr. Jill Seaman. Dr. Seaman will be based in Old Fangak but will be available to facilitate training for implementing partners in other locations. Guidelines for the diagnosis (both clinical and laboratory) and the treatment of primary Kala-azar, relapses and PKDL have been developed. These draft guidelines are available to any agency wishing a copy. The guidelines will be utilized by WHO this season and then re-evaluated with improvements/changes made as indicated.

As of late November no suspected outbreaks of Kala-azar for this season have been reported in South Sudan. WHO is using this time to concentrate on training activities to increase
preparedness for appropriate response if an outbreak is reported.

1.5. Sleeping Sickness Update

WHO initiated a six-months emergency intervention to support the diagnosis and treatment of sleeping sickness patients in Tambura and Ezo Counties in late May 2004. The Health Secretariat of the SPLM in conjunction with WHO has been committed to finding an agency to take over the support of the program at the end of the six-months program. We are happy to announce that as of 1st December 2004, MSF-E (Spain) will take over the support of this important project.

The project was considered very successful especially by the national authorities, staff and communities in Tambura and Ezo Counties. Rehabilitation of health structures ensured that the facilities for diagnosis and treatment were clean and safe for patient care. Further work will be continued to improve other parts of Tambura Hospital. Intense training of national staff took place in June 2004 and was ongoing daily throughout the project by the three WHO-staff based in the field. The program as of end October 2004 reported 8,797 persons in the counties screened for sleeping sickness and 216 persons with the disease were identified and successfully treated.

Although MSF-E has assumed support for the day-to-day project, WHO in conjunction with the Health Secretariat will continue to liaise with the agency on the ground to ensure incorporation of the program into the health system of the county to promote sustainability of the program for the future.

2.0 SUMMARY NOTE ON ACTIVITIES OF CBI/PHC UNIT

2.1. Baseline and needs assessment survey in CBI/BDN model areas

The communities of the BDN model areas in Rumbek and Yambio carried out baseline household surveys including needs assessment.

BDN model area Deng Nhial has 12 clusters, each comprising of 25 houses. One surveyor for each cluster was assigned, belonging to that cluster. On each 4 clusters there was one supervisor whereas the CBI/BDN programme manager with close collaboration of WHO public health officer and county health department Rumbek organized and monitored the survey activity. The surveyors, supervisors and programme managers were trained for one day in the survey process. The survey activities continued for about 2 weeks, followed by tabulation of data. WHO officer for PHC/CBI visited the area and conducted one-day workshop on data compilation and analysis.

Similar activities were carried out in BDN model area Yambio that comprises of 16 clusters, 25 houses in each cluster. BDN area comprises of 4 parts named as Maria, Napa, Malaria and Koori, each has 4 clusters. The 16 surveyors and 4 supervisors received one day training, followed by household survey under close supervision and monitoring by WHO Public health officer, CBI/BDN programme manager and county health department Rumbek. During the visit of WHO officer for PHC/CBI, the data was tabulated, compiled and analyzed in a one-day workshop.
2.2. Work plan for district health system

A work plan for district health system in south Sudan has been prepared and forwarded to WHO/EMRO. The proposal is being revised after feedback from the concerned technical unit.

Fig. 5. Participants tabulating data after assessment in Rumbek, Lakes Region

Fig. 6. BDN household baseline survey data being analyzed - Yambio