In North Darfur, cleaning campaigns in hospitals around the State are on-going. Cleaners were trained on the proper way to transport hospital wastes to storage points and on the right use of safety boxes.

**Highlights**

- In South Darfur, WHO provided 2 rapid response kits to Great Family Organization for Abu Matrig and Abu Jabra health facilities in localities bordering Bahr El Ghazal State of South Sudan. The kits will cover the needs of 6,000 patients for 3 months. The catchment population of the 2 health facilities is 172,557.
- In South Darfur, WHO provided 1 rapid response kit to Rufaida Health Foundation El Firdous health facility in the locality bordering Bahr El Ghazal State of South Sudan. The kit covers the needs of 3,000 patients for 3 months. The catchment population of the health facility is 98,623.
- In North Darfur, gap analysis for health services provision in Zamzam IDP camp was conducted by WHO and health partners between 15 and 21 January. Findings and recommendations were presented including establishment of an additional health facility, strengthening of existing 4 health facilities in terms of medical supplies, drugs, and possible training courses to build capacities of health providers on emergency preparedness, and building capacity of health workers.
- In North Darfur, 25 new medical assistants completed a 5-day training course on standard case management during the emergency using the national standard module of IMCI.
- In Kadugli, WHO is continuing its support to mobile clinics and referral hospitals which are providing services to returnees. So far, health services are freely provided to returnees including consultation, laboratory investigation, x-ray and ultra sound service and treatment.
- In the Blue Nile State, an inter-agency mission conducted a rapid assessment of the 5,000 displaced nomads from Upper Nile who have settled in Altadamon/Bout Administrative Unit and Bau/Wad Dabouk Administrative Unit between 16 and 20 January 2011.
- In the White Nile State, an inter-agency assessment mission was conducted between 18 and 19 January in the villages of Hudeeb and Dabakraya. In addition, the mission also looked into the situation of the returnees seeking shelter along the railway station. Key findings and recommendations will be presented to the Health Sector.
- In Khartoum state, cases of severe malaria (6.5% of all malaria cases) were reported in December 2010 with reported case fatality rate (CFR) of 11.4%. An epidemiological investigation is on-going.
• In South Darfur, the security situation was tense and unpredictable with threats of abduction/kidnapping among international humanitarian community.
• In North Darfur, the over-all security situation was tense from 15 to 21 January especially in El Fasher town and surrounding areas of Zamzam IDP camp. There was an increase in the number of banditry, shootings, abduction, attacks and threats cases.
• In East Sudan, the over-all security situation was calm and stable.

Public health concerns
• In Khartoum state, cases of severe malaria (6.5% of all malaria cases) were reported in December 2010 with reported case fatality rate (CFR) of 11.4%. An epidemiological investigation is on-going. (Source: Khartoum MoH Report on severe malaria, 29 December 2010). An epidemiological investigation is on-going.
• The malaria situation has improved from 15 to 21 January based on the comparative percentage of the total number of consultations conducted. During the week, malaria consultation comprised 7.9% of the total consultation while the previous week’s data showed that malaria cases covered 13.7% of the total number of consultations.
• In Kassala State, there were 5 suspected measles cases from Humeshkorab (2 cases), Wed Elhelow (one case), Kassala (one case) and Rural Kassala locality (one case), from these cases, 2 samples from Humeshkorab and Wed Elhelow showed positive results for measles. Blood samples were taken from all cases and sent to the national laboratory in Khartoum for further investigation.
• In the Red Sea State, since the start of the year, the total number of suspected dengue fever cases has reached 40. Between 15 and 21 January, 9 suspected cases of dengue fever were reported from Port Sudan locality.
• In South Darfur, lack of water and unhealthy sanitation practices in Khorabache can lead to outbreaks of water or food borne diseases.

Areas of concern
• In West Darfur, new returnees currently seeking shelter in 5 villages urgently need assistance while humanitarian groups, particularly those working on health, are expected to conduct post assessment missions to assess the available and needed health services.
• Due to conflicts, Jebel Moon area remained inaccessible during the week.

Coordination
• In South Darfur, WHO is coordinating with SMoH, UNICEF, UNFPA and SRC for delivery of humanitarian assistance for new IDPs, around 100 households, who are currently seeking shelter in Diraige IDP camp. The IDPs came from Khorabashi and Shearia areas.
• In South Darfur, Sudan Aid has showed interest to fill in gaps at Ed Daein hospital through provision of drugs and medical supplies.
• In North Darfur, WHO took part in a one day conflict sensitive consultative meeting in Abu Shouk IDPs camp on 18 January 2011. Around 50 IDP participants from Abu Shouk and Alsalam camps attended the meeting which was facilitated by UNCHR in partnership with UNAMID CAD, UNICEF, HAC, Office of the El Fasher Commissioner, National Women’s Union, National Youth Union, and El Fasher’s peace and reconciliation committee – Ajaweed. The purpose of the meeting was to analyze the conflict in Darfur, to build capacities of community members, to seek for strategies for peace attainment, resolve and mitigate conflicts.

WHO activities linked to the health sector objectives

*Strategic Objective: Contribute towards better access for vulnerable populations to quality health care services that include a basic health package and emergency referral services.

Primary health care

South Darfur
• WHO provided 2 rapid response kits to Great Family Organization for Abu Matrig and Abu Jabra health facilities in localities bordering Bahr El Ghazal State of South Sudan. The kits will cover the needs of 6 000 patients for 3 months. The catchment population of the 2 health facilities is 172 557.
• WHO provided 1 rapid response kit to Rufaida Health Foundation El Firdous health facility in the locality bordering Bahr El Ghazal State of South Sudan. The kit covers the needs of 3 000 patients for 3 months. The catchment population of the health facility is 98 623.
**North Darfur**

- Gap analysis for health services provision in Zamzam IDP camp was conducted by WHO and health partners between 15 and 21 January. Findings were presented and the following points were recommended:
  - Establishment of an additional health facility, especially for the new extension of the camp, in order to provide more health services and to improve equitable /accessibility to the IDPs
  - Strengthen the existing 4 health facilities in terms of medical supplies, drugs, and possible training courses to build capacities of health providers on emergency preparedness.
  - Build capacity of midwives working in the camp and Zamzam rural for safe delivery and improve mother and child services
- Twenty five (25) new medical assistants completed a 5-day training course on standard case management during the emergency using the national standard module of IMCI.
- WHO is supporting SMoH in the implementation of mobile voluntary counseling and testing (VCT) in 3 localities in North Darfur State namely Mallet, Kabkabya and Um Kadada. The underlying motivation of strengthening mobile VCTs are as follow:
  - HIV testing and counseling (HTC) form the gateway to care, treatment and support for persons in need.
  - Testing and counseling services must become commonplace in Sudan settings where those most likely to benefit from knowledge of their HIV status can be reached.
  - People who want to learn their HIV status should have better access to voluntary counseling and testing in a variety of avenues.
  - Mobile VCT was conceived as a break through to increased access to HIV Counseling and Testing (HCT) in The Sudan. The plan comprises;
    - Raising awareness activities including radio and TV tTalk shows to promote HTC. IEC materials distribution.

**West Darfur**

- WHO distributed IEC materials and posters on HIV/AIDS prevention to health facilities around the State through the Sudan National AIDS Programme (SNAP/SMoH).

**South Kordofan**

- In Kadugli, the total number of returnees who arrived in the locality from 15 to 12 January has reached 815. WHO continues its support to mobile clinic services and referral system. So far, health services are freely provided to returnees including consultation, laboratory investigation, x-ray and ultra sound services and treatment.
- SMoH in collaboration with WHO, IOM and UNFPA is working to provide 24/7 health services in referral hospitals. In addition, WHO and SMoH started to provide the health services through a fixed clinic in returnees’ way station.
- In Kadugli, 70 buses with around 2 000 returnees arrived in the locality, spent a night in Kadugli and travelled the following day towards the South through Al Buram. More than 50 consultations of the travelling returnees were attended to at the Kadugli hospital and all received free medications.
- WHO sent medical drugs and supplies to Nyama clinic in Mujlad after receiving confirmed reports that returnees were stuck in Nyama area.
- In Abyei, WHO prepositioned drugs and essential supplies to 3 new health facilities namely Maryal Achak, Tajali and Zambatt Clinic at Difra. The supplies will serve more than 20 000 population.

**Blue Nile State**

- An inter-agency mission conducted a rapid assessment of the 5 000 displaced nomads from Upper Nile who have settled in Altadamon/Bout Administrative Unit and Bau/Wad Dabouk Administrative Unit between 16 and 20 January 2011. During the rapid assessment, WHO assessed 2 hospitals, 1 health clinic and 2 basic health units, in order to verify preparedness of health facilities on ground to respond to displaced people needs and gaps needs to be filled.
- WHO in collaboration with SMoH has assessed health facilities in affected areas (2 rural hospitals, 1 health clinic and 2 basic health units). One of the BHUs is located in Alroum village where the IDPs have settled. WHO donated 1e basic PHC kit to Alroum BHU to support its efforts of providing free services to IDPs and host population.
- A vaccination campaign was conducted by the EPI department from 14 to 21 January including routine vaccination for children less than 1 year old, polio vaccination for children less than 5 years old, measles vaccination for 9 months to 15 years old. Tetanus toxoid was also given to women in child bearing age.
East Sudan

• WHO jointly with Kassala SMoH- IMCI department conducted supportive supervisory visit to the Alshabia health center and Munsora health unit in Kassala locality, the aim of the visit to monitor performance of the health cadres after training, provide technical support and fill the gaps in registries and reporting formats.

White Nile

• An inter-agency assessment mission was conducted between 18 and 19 January in the villages of Hudeeb and Dabakraya. In addition, the mission also looked into the situation of the returnees in the railway station.

Hudeeb village

Key findings

- Health services are being provided to the newly displaced individuals and families by 1 health centre, reachable by 10 minutes walk. The health centre which recently opened is managed by the Ministry of Health and has the following services – outpatient consultation, maternity services/delivery room, laboratory, and immunization.
- The health facility has 1 medical assistant, 1 laboratory personnel and 3 staff working on immunization and nutrition, and 1 midwife.
- Patients are paying fees for services rendered by the clinic – consultations, laboratory, essential drugs (including anti-malaria, antibiotics, and analgesics). With this current scheme, only 4 to 5 patients were seen daily in the outpatient department. The patients who went for consultations mostly complained of malaria and respiratory infection. So far, there were no reports on diarrhea and measles. Severe cases were referred to Rabak Hospital, around 1 hour by commercial transport.
- Meanwhile, immunization services at the clinic covered the eligible children of the displaced population.

Recommendations

- There is a need to support the clinic with primary healthcare medicines and supplies and facilitate provision of free health services.
- Setting up of a strong surveillance structure in the facility should be prioritized to allow regular and timely reporting on morbidity and mortality in the area. Last year, the locality was hit by a diarrhea outbreak.

Dabakraya village

Key findings

- The closest health facility to Dabakrayh area is the rural hospital located in Alnaeem village, around 2-3 hours by donkey ride. Commercial vehicles are unreliable. The building structure of the hospital needs rehabilitation.
- Essential health staff in the hospital include 2 medical doctors, 1 medical assistant, 1 midwife, 1 pharmacist, several nurses and 1 laboratory technician.
- Health services provided include outpatient and inpatient consultations with a daily outpatient visits of between 40-60. Most of the patients attended to were suffering from acute respiratory infection, malaria and diarrhea. These diseases, however, were within expected proportions. Immunization and delivery services are also available. Further, the hospital has a surgical capacity to conduct emergency operations such as caesarean sections. The doctor reported that there were 10 C/S operations conducted last month but there were constraints in fully providing services to all those in need of surgical support due to lack of essential human resources and equipment.
- The pharmacy is well stocked with different groups of essential medicines. The drugs available are for sale. The Ministry of Health is providing few range of emergency drugs free of charge, however, shortage in supply is frequently reported.
- A well maintained ambulance is available and used to transport critical cases to Kosti Hospital.
- Individuals who were interviewed indicated that their children received polio vaccine few days back. In addition, expanded programme on immunization (EPI) officers have now availed other vaccines used for routine immunization at the locality level and planning to cover eligible children in the area through mobile teams in the next days.

Recommendations

- There is an immediate need to conduct mobile clinics to provide essential package of health services (treatment of common illnesses, antenatal care, and nutrition) among the population. In the long run, it is imperative to advocate among health authorities to establish a fixed health centre in the area.
- Health cluster should ensure that the rural hospital is properly functioning by providing essential medicines and equipment (for operating theatre, labor room and the laboratory). The Ministry of Health should also look into strengthening human resource including anesthesiologist, nurse and midwife).
Railway station

Key findings

- Currently, health services are provided by the Sudanese Red Crescent Society which runs a small clinic utilizing 2 rooms provided by the railway station authorities. Health staff running the clinic include 1 medical assistant, nurse, 1 pharmacy assistant and 1 volunteer.
- The facility is providing outpatient services to people who were stuck in the train. The average outpatient consultation is 50-60 patients per day and most of the cases seen were having complaints of respiratory infections, malaria and diarrhea. Medical drugs were provided free of charge through the Sudanese Red Crescent with support from UNICEF and the Ministry of Health.
- Immunization services are not available at the centre. Women interviewed reported that under-five children did not receive measles vaccination at the departure points in Khartoum.

Recommendations

- Vaccination for all children under five years old.

---

Strategic Objective: Contribute to reduction in maternal and child morbidity focusing on safe motherhood and child survival interventions

Secondary Health Care

North Darfur

- WHO provided drugs and medical supplies to El Fasher Teaching and Maternity hospitals. The supply is estimated to cover 500 beneficiaries for 1 month.
- WHO facilitated the training of 8 health workers from German Red Cross and Sudanese Red Crescent on rational use of drugs. The training session was conducted in Mallet hospital and costs were covered by GRC/SRC.

South Darfur

- WHO and the management of the Nyala Teaching Hospital discussed ways of improving quality of care at the hospital particularly the pediatric care. The DG has expressed possibility of securing additional funds for the extension of the pediatric ward if WHO or other partners can provide the seed money for the expansion work.
- Sudan Aid has expressed its interest to provide financial support to Eldaein hospital. The money will be used to procure essential drugs.

West Darfur

- WHO participated in a joint mission to Urum area to assess health services for returnees from Kalma IDP camp. The Islamic Relief Agency (ISRA) is running a mobile clinic and the referral center is Habila hospital. WHO recommended to increase the frequency of the mobile clinic service to three per week

---

Week | Outpatient | Inpatient | Total no. of Operations | Deaths | Gender
---|---|---|---|---|---
| IDPs | Non-IDPs | IDPs | Non-IDPs | IDPs | Non-IDPs | Male | Female

| North Darfur | 532 | 1432 | 148 | 290 | 63 | 125 | 1 | 3 | 791 | 1173
| South Darfur | 429 | 565 | 74 | 115 | 22 | 53 | 5 | 1 | 405 | 589
| West Darfur | 498 | 468 | 204 | 184 | 22 | 47 | 1 | 3 | 442 | 524
| Total | 1459 | 2465 | 426 | 589 | 107 | 225 | 7 | 7 | 1638 | 2286

Caesarean Section

The total number of C/S done at the supported rural hospitals between 15 and 21 January was 67 with 41 cases from North Darfur, 25 cases from South Darfur and 11 cases from West Darfur.
Strategic Objective: Strengthen local capacity to predict, prepare for, respond to, mitigate and manage health risks that include communicable diseases and seasonal emergencies

Darfur

Reporting timeliness and completeness

Between 8 and 14 January 2011 (week 2 of 2011), 58.1% of the total number of sentinel sites reported through the early warning alert and response system (EWARS) in Greater Darfur. The total number of consultations was 27,720 from the 1,642,929 population under surveillance. The data presented do not include data from West Darfur.

Diseases of public health importance

Acute respiratory infections (ARI), bloody diarrhoea (BD), clinical malaria (MAL), remained the leading causes of morbidity in Darfur. Between 8 and 14 January, 5 cases of acute jaundice syndrome (AJS) were reported from South Darfur. Seven deaths (due to other causes) were notified this week from North Darfur. No death was reported from South Darfur.

Incidence rate (IR) per 10,000 population of ARI, Bloody Diarrhoea & Malaria reported in Greater Darfur, week 51/2010 to week 02/2011.

<table>
<thead>
<tr>
<th>State</th>
<th>Disease</th>
<th>Incidence Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W 51</td>
<td>W 52</td>
</tr>
<tr>
<td>South Darfur</td>
<td>ARI</td>
<td>19.1</td>
</tr>
<tr>
<td></td>
<td>BD</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>MAL</td>
<td>6.2</td>
</tr>
<tr>
<td>West Darfur</td>
<td>ARI</td>
<td>10.9</td>
</tr>
<tr>
<td></td>
<td>BD</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>MAL</td>
<td>12.1</td>
</tr>
<tr>
<td>North Darfur</td>
<td>ARI</td>
<td>25.4</td>
</tr>
<tr>
<td></td>
<td>BD</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>MAL</td>
<td>2.1</td>
</tr>
</tbody>
</table>

*no available data.

Disease morbidity in East Sudan

Please refer to table below comparing incidence rate/10,000 population in the eastern states.

Comparison of incidence rate (IR) per 10,000 populations of common diseases reported in East Sudan, week 51/2010 to week 02/2011.

<table>
<thead>
<tr>
<th>State</th>
<th>Disease</th>
<th>Incidence Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W 51</td>
<td>W 52</td>
</tr>
<tr>
<td>Kassala</td>
<td>MAL</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>PT</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>Typhoid F.</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>BD</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Bilharzias</td>
<td>0.3</td>
</tr>
<tr>
<td>Gedaref</td>
<td>MAL</td>
<td>10.7</td>
</tr>
<tr>
<td></td>
<td>TB</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>Typhoid F.</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>Kala-Azar</td>
<td>0.42</td>
</tr>
<tr>
<td></td>
<td>BD</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Viral H.</td>
<td>0.01</td>
</tr>
<tr>
<td>Red Sea</td>
<td>MAL</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>TB</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Viral H.</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>BD</td>
<td>0.52</td>
</tr>
</tbody>
</table>
Outbreak preparedness & response

Malaria morbidity and mortality
In East Sudan, malaria situation improved in week 2**. The incidence rate of 6 per 10 000 in Kassala State was reported in week 2 compared to 14 per 10000 of population in week 1 while the incidence rate in Gedaref State was 8 per 10000 population in week 2 compared to 12.5 per 10000 in week 1*.

In the Blue Nile state, malaria trend showed slight increase in week 2. This was the same trend experienced in the same period last year but at a lower level.

*Week 1 is from 1 to 7 January 2011
**Week 2 is from 8 to 14 January 2011

Environmental health activities
South Darfur
- A field mission was conducted in Buram locality to assess the environmental health conditions within healthcare facilities and to provide technical support to the environmental health department in carrying out activities on water quality, vector control and building capacity of medical staff on handling healthcare waste management. Moreover, the mission looked into the preparations of health facilities vis-à-vis the potential impact of the recently conducted referendum.

Main findings of the mission were the following:
- The water distribution network of 26 kilometers cover around 1 400 households with 18 water points and 12 open dug wells.
- Water treatment is not practiced and during the visit, there was no stock of chlorine.
- Ten (10) samples were taken from 2 water yards, 7 water points and 1 hand dug well from Buram and Tagreba. Results showed there was contamination in 2 samples.
- In Buram hospital, the health care waste management system is not being practiced.

During the mission, the team trained 11 medical staff of Buram hospital on Health Care Waste Management. In addition, 7 staff from the hospital and environmental health department were trained on water quality control activities. To attend to the immediate needs of the hospital, 2 boxes of 33mg chlorine and 1 tin (200 tabs) of 1.67 mg and 2 pool testers were donated and focal persons for water quality and medical waste management were identified. Furthermore, 50 school teachers were trained on malaria prevention and provided with guidelines on malaria control through the volunteers.

- Water quality control activities were conducted in Kass open dug wells and IDP camps, 211 samples were collected from donkey carts among them 186 samples were found with free residual chlorines level between 0.2 – 0.5mg/l or within the normal range while the 25 samples were below the required level (0.1mg/l).

North Darfur
In North Darfur, WHO supported a 4-day training course on vector classification, operational research and control strategies for 40 SMoH and WASH partners’ staff. The training session was conducted in Mallet town from 16 to 19 January 2011.

West Darfur
Routine solid waste management campaign activities were conducted at the local market of El Geneina locality from 15 to 21 December. One of the constraints of the campaign was the insufficient manpower and equipment.

East Sudan
- In the Red Sea State (RSS), radio messages on vector control, sanitation and hygiene were broadcasted over local radio stations in different local languages from 15 to 21 January to boost the preventive campaign in the State.
- WHO in collaboration with the State Ministry of Health in RSS conducted a meeting on malaria to discuss the impact of Malaria control program in 2010 and also discussed the plan of action for 2011.
- In Kassala, 27 spraying campaigns targeting flies were conducted from 15 to 21 January.
• In the RSS, from the 35 326 sites inspected, 13 861 sites were found to be mosquito breeding sites.
• In the RSS, disinfection activities are on-going for sewage systems of 577 houses which were damaged by rains and floods.
• In the RSS, Environmental Health Department and WHO are looking into the increased salinity of water in some sectors of Port Sudan town namely Hadal Thawra, daim Elnoor and Hai Elkhleeg. The pH level has reached 8.2 and reasons for this are still unknown. In addition, chlorination at household level in Port Sudan was conducted, including chlorination of donkey carts.

For more information please visit WHO Website

www.emro.who.int/sudan

For further information please contact:

Mrs. Christina Banluta
Communications and Advocacy Officer, WHO Sudan
banlutac@sud.emro.who.int

Dr. Iman Shankiti
EHA Coordinator, WHO Sudan
shankitii@sud.emro.who.int