WHO continues to monitor medical drug and supplies in health facilities in Darfur, South Kordofan, and Eastern Sudan States.

**Highlights**

- As heavy rains and floods are forecasted in many parts of Sudan, FMOH has activated task force for flood preparedness and response.
- In the Red Sea State, 45 cases of heat stroke and 1 death were reported between 14 and 20 August. WHO with SMOH has established a heat stroke center at the Port Sudan teaching hospital. So far, 3 medical officers and 3 nurses are working to manage heat stroke cases.
- In Kassala, 1 acute flaccid paralysis (AFP) case was reported from Nhre Atra locality. Stool samples were collected and sent to the national laboratory.
- Acute respiratory infections (ARI), bloody diarrhoea (BD), clinical malaria (MAL) were the leading causes of morbidity from 7 to 12 August.
- In South Darfur, WHO conducted training on water safety and water chlorination for well owners in Kass for 30 chlorinators, while orientation sessions on water / sanitation related diseases prevention were conducted for 16 religious and community leaders and 37 health/ hygiene promoters.
- In North Darfur, general cleaning campaigns were conducted in Zam Zam and Abo-shouk camps where 216 ton metrics of garbage and 825 pit latrines were cleaned and disinfected.
- A 3-day training session on sexually transmitted diseases was attended by 35 for medical assistants in Kassala State.
- In the Blue Nile State, WHO and SMoH conducted a 5-day training session on disease surveillance and outbreak management for 26 staff of GOAL in Kurmuk.
- A four-day simulation workshop is being organized by Ministry of Animal Resources and Fisheries (MOARF) and FMOH to test the national preparedness and response plans for Highly Pathogenic Avian Influenza (HPAI).
**Public health concerns**

- In Greater Darfur the health situation was stable, the morbidities reported during the week was within the normal limits except for malaria and diarrhea cases which showed upward trend. So far, activities with health partners are now focused on vector control, water quality and quantity and hygiene promotion.
- In the Red Sea State, 45 cases of heat stroke and 1 death were reported between 14 and 20 August. WHO with SMOH has established a heat stroke center at the Port Sudan teaching hospital. So far, 3 medical officers and 3 nurses are working to manage heat stroke cases. Furthermore, health education activities regarding heat stroke are on-going through radio while the SMOH health education section is arranging sessions for household level campaigns.
- In Kassala locality, 3 suspected measles cases were reported. Blood samples were taken and sent to the national laboratory.
- In Kassala, 1 acute flaccid paralysis (AFP) case was reported from Nhre Atbra locality. Stool samples were collected and sent to the national laboratory.

**Areas of concern**

- In South Darfur, restriction of movement to Shariea and Muhajuria is still in place.
- In West Darfur the Jebel Marra area continues to be off limits to humanitarian groups.
- Influx of new IDPs is on-going (due to intertribal conflicts) which is giving a big burden to existing health services in the areas of Mukjar, Bendisi, Zalingi, Nertti, and Um Dukhn.

**Coordination**

- The weekly health sector coordination meeting is regularly held in three Darfur states.
- In South Darfur, WHO met with its partners in Kass locality and Nyal to sort out the issue of non-reporting of some health facilities regarding disease surveillance. Heavy rains and communication problems were identified as main causes of low reporting.
- In North Darfur, an interagency mission comprising of UNOCHA, UNAMID, SMoH, and WHO was conducted in Jebel Eisa. A rapid health assessment and verification of rumors regarding visceral leishmaniasis cases were undertaken by SMoH and WHO. Rapid health assessment results show that only 1 primary health care unit is available and only 1 medical assistant is serving 40 villages in the area. Jebel Eisa village’s population is approximately 2 500 individuals or 400 households. The community purchases medicines from Mallha, as there is no regular supply of drugs from SMoH. The rumor on leishmaniasis cases is under investigation. Furthermore, there is a shortage of water and for existing water sources there is an urgent need for water chlorination activities in the area. WHO and partners have discussed the issue with SMoH to look into the only health facility find a way forward to support the only health facility by providing regular drug supply and human resource support.
- WHO is closely working with the Sudanese Red Crescent to continue the provision of health services through a mobile clinic in Sector 7 of Nertiti IDP Camp where newly arrived internally displaced people are residing. WHO will look into filling the gaps of staff and medicines.
- In the Blue Nile State, WHO and SMoH conducted a 5-day training session for 26 staff of GOAL in Kurmuk from 17 to 21 August. The training session focused on disease surveillance and disease outbreak investigation. In context of sharing experiences and resources with partners, WHO briefed GOAL on the new disease surveillance system software and as a response, GOAL installed the surveillance software and has agreed to help local health authorities on entering and analyzing weekly reports.

**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**

**North Darfur**

- WHO North Darfur conducted a supportive supervision to Awlad Reef Clinic in El Fasher. Medical drugs including infection prevention supplies were provided to the health facility to fill up identified gaps.
- To beef-up access and utilization of quality primary health care (PHC) services, a one day brainstorming session on PHC services was organized by WHO El Fasher sub office. The meeting was attended by SMOH different PHC programs and UNICEF. During the session, there were presentations on lessons learnt from implementation of IMCI and accelerated child survival and development. The meeting was concluded with recommendations to choose 2 facilities in ElFasher to pilot the implementation of full PHC packages with joint integrated supportive supervision by UNICEF, WHO and SMoH.
South Darfur
- Activities are geared to support Almalam health facility in East Jebel Marra. MDM-France has submitted a proposal to support the health facility. Almalam health facility will provide services surrounding areas in East Jebel Marra including Faluja. In addition, MDM-F also agreed to support Mohajrea hospital. Health posts are functional in Jawa, Dera, Faluja and Golangbay.
- During an interagency mission assessing the general humanitarian situation in Kalma IDP camp, observed were the following: the PHC clinics of Merlin and American Refugee Committee International (ARC) were functioning with local Kalma staff while the IMC clinic is totally destroyed by fire. Moreover, consultations as recorded in health facilities are more than 100 patients per day. The Health Cluster in South Darfur are working on possible interventions to address the health needs of areas hosting IDPs from Kalma camp.

West Darfur
- UNHCR Gender Based-Violence (GBV) unit reported at the GBV meeting regarding the expulsion of their representatives in El Geneina and Zalingei as a result of GBV related activities. The forum discussed the need for support from the government on ensuring safety and security of all GBV members and recommended the issue to be discussed at the Wali’s committee meeting.
- WHO WD PHC supported HIV/AIDS pillar in West Darfur with antiretroviral (ARV) drugs and antibiotics to fill gaps in Geneina hospital antiretroviral therapy (ART) clinic.

Eastern States
- A 3-day training session on sexually transmitted diseases was attended by 35 for medical assistants in Kassala State. The training was initiated by WHO in collaboration with SMOH Kassala State. The objective of the training was to improve the knowledge and skills of the participants on diagnosis, proper management and reporting of STIs cases.

South Kordofan State
- WHO in its capacity as Health Cluster lead participated in a joint assessment to Keilak locality from 15 to 18 of August. The mission targeted areas to implement conflict prevention and peace building joint project. Eight UN agencies participated in the assessment mission.
- WHO Abyei and MoH DG are working to enhance the capacity of Abyei hospital. As initial step, WHO and MoH will identify the hospital’s operational and technical situation, challenges, and the possible solutions by MOH and NGOs.
- WHO donated medical supplies and essential drugs for mobile health activities carried by Zambia Troop Contributing Countries (TCC) and MoH medical team in north Abyei. The supplies will be enough for more than 2 months for 1 500 population.

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

Secondary Health Care
- In North Darfur, WHO supported Kutum rural hospital with various essential drugs and medical supplies to cover for 1 330 internally displaced people. In addition, WHO conducted a training session on infection prevention in Kutum rural hospital with 46 staff in attendance. The training was conducted with support from ECHO.
- In South Darfur, a monitoring visit was conducted in Kass rural hospital. The hospital is continuing its provision of free services for IDPs. During the visit, the hospital’s medical director emphasized that the hospital will no longer be able to provide free services for the IDPs without the WHO/ECHO support.
- Kass rural hospital received 35 patients with gunshot wounds as a result of tribal conflicts in South West Kass town. In addition, more than 50 people have been reported to have died because of this incident. In response to the emergency WHO provided the hospital with assorted drugs and consumable supplies.
- In West Darfur, Furbranga rural hospital continues to provide free services for IDPs. The chronic problem of environmental health in the hospital as a result of the IDPs settled in the compound still prevails.
- The one month on job training on comprehensive emergency obstetric care (EmOC) in Garsilla rural hospital was completed during the reporting week.
Summary of outputs from supported hospitals:

<table>
<thead>
<tr>
<th>Week</th>
<th>Outpatient</th>
<th>Inpatient</th>
<th>Total no. of Operations</th>
<th>Deaths</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IDPs</td>
<td>Non-IDPs</td>
<td>IDPs</td>
<td>Non-IDPs</td>
<td>IDPs</td>
</tr>
<tr>
<td>North Darfur</td>
<td>395</td>
<td>434</td>
<td>75</td>
<td>82</td>
<td>21</td>
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<tr>
<td>South Darfur</td>
<td>758</td>
<td>757</td>
<td>123</td>
<td>134</td>
<td>23</td>
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<tr>
<td>West Darfur</td>
<td>580</td>
<td>495</td>
<td>161</td>
<td>175</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>1733</td>
<td>1686</td>
<td>359</td>
<td>391</td>
<td>59</td>
</tr>
</tbody>
</table>

Between 14 and 20 August, the total number of women who underwent caesarean section (C/S) operation reached 30 with 9 cases from North Darfur, 16 cases from South Darfur and 5 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**

**Reporting timeliness and completeness**

Between 7 and 13 August, 91.6% of the total number of reporting sites in Greater Darfur reported on time through EWARS reports. A total of 58 326 patient visits were attended to from the 2 348 478 populations under surveillance.
Diseases of public health importance
Acute respiratory infections (ARI), bloody diarrhoea (BD), clinical malaria (MAL) were the leading causes of morbidity from 7 to 12 August. During the week, 21 cases of acute jaundice syndrome (AJS) were reported (16 cases from South Darfur, 4 cases from West Darfur and 1 case from North Darfur).

Incidence rate (IR) per 10000 population of ARI, bloody Diarrhoea & Malaria reported in Greater Darfur in week 29 to week 32, 2010.

<table>
<thead>
<tr>
<th>State</th>
<th>Disease</th>
<th>W 29</th>
<th>W 30</th>
<th>W 31</th>
<th>W 32</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Darfur</td>
<td>ARI</td>
<td>14.0</td>
<td>17.7</td>
<td>17.7</td>
<td>16.1</td>
</tr>
<tr>
<td></td>
<td>BD</td>
<td>6.2</td>
<td>4.8</td>
<td>4.6</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>MAL</td>
<td>11.4</td>
<td>10.5</td>
<td>10.5</td>
<td>8.4</td>
</tr>
<tr>
<td>West Darfur</td>
<td>ARI</td>
<td>24.4</td>
<td>24.4</td>
<td>27.7</td>
<td>28.8</td>
</tr>
<tr>
<td></td>
<td>BD</td>
<td>8</td>
<td>6.7</td>
<td>8.7</td>
<td>8.1</td>
</tr>
<tr>
<td></td>
<td>MAL</td>
<td>8.9</td>
<td>8.8</td>
<td>12.3</td>
<td>13.9</td>
</tr>
<tr>
<td>North Darfur</td>
<td>ARI</td>
<td>22.1</td>
<td>30.5</td>
<td>29.6</td>
<td>25.5</td>
</tr>
<tr>
<td></td>
<td>BD</td>
<td>2.2</td>
<td>2.9</td>
<td>4.5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MAL</td>
<td>2.7</td>
<td>4.3</td>
<td>4.2</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Outbreak preparedness and response

Preparedness for rainy season, floods and diarrhoeal diseases
As heavy rains and floods are forecasted in many parts of Sudan, FMOH has activated task force for flood preparedness and response. Concerned departments of FMOH, Unicef and WHO participate in the meeting to review federal and state level preparedness activities. So far, floods have affected small areas in Gedaref, White Nile, North Kordofan and River Nile states which are being managed effectively. Federal teams have conducted assessment and states are addressing the needs of the affected community. WHO is engaged in supporting training, printing of essential AWD management guidelines and surveillance forms, and procuring essential laboratory diagnostics. Additionally, WHO will also support field assessment, supervision and coordination efforts as and when required. WHO has also procured 15 cholera kits to be pre-positioned in different states for an immediate response.

Highly Pathogenic Avian Influenza:
A four-day simulation workshop is being organized by Ministry of Animal Resources and Fisheries (MOARF) and FMOH to test the national preparedness and response plans for Highly Pathogenic Avian Influenza (HPAI). In addition to other concerned ministries like defense, transport, etc, UN agencies like FAO and WHO will also participate in the simulation exercise. Initially it will be a tabletop classroom exercise but after Ramadan, it will also take place in the form of field exercise.

The Integrated National Action Plan for HPAI was prepared by MOARF and FMOH during 2008-2009 has been partially supported by African Union’s International Bureau for Animal Resources.
Environmental health activities

Water Quality

- In South Darfur, water chlorination is on-going in Nyala town for open dug wells while quality monitoring is being carried out in all sectors by WES/ SMoH joint team. From different water sources, only 8% from 8,415 water samples taken showed zero reading of FRC. Chlorination activities have been strengthened.
- In North Darfur, water quality activities are on-going in IDPs camps where FRC is below the normal range. From the samples taken, 20 samples were tested for H₂S in Kabkbia and Zam Zam camps. From these samples, 1 sample from Kabkbia was contaminated.
- In West Darfur, WHO donated one chemical & bacteriological testing kit to Zalengei’s Health Academy to support the water quality laboratory for teaching students and to support the needs of Geneina hospital and health facilities.
- In Kassala State, the coverage of chlorination reached 91.6%. Chlorination activities were conducted in 391 water sources (private wells, dug wells etc).
- In Gedaref State, 47 samples were collected for FRC, 26 samples showed results under 0.2 ppm while 21 samples showed results within WHO guidelines. The chlorination was activities were carried out in urban networks and in other water sources (private wells, dug wells and hafeer). Twenty seven samples were collected for bacteriological test, using rapid test (H₂S). Results showed 12 samples were contaminated with total Coli form while 15 showed negative results.
- In the Red Sea State, water surveillance in households was done to evaluate quality of water during storage inside houses. Ten samples were taken from the town to check chlorine residual and measure the other important parameters (PH & turbidity of water). Results showed no residual chlorine and the turbidity was more than 5 NTU. Vector control activities are on-going as a routine activity, targeting larva control.
- In Blue Nile, suspected cases of AWD have been reported in a Chinese workers’ camp in Damazine locality. In collaboration with the company’s authorities, spraying of insecticides and daily cleaning of the camp latrines are being carried out, and health education sessions were conducted for the workers.

EPRP for rainy season

- In North Darfur, WES and Plan Sudan conducted general cleaning campaigns in Zam Zam and Abo-shouk camps where 216 ton metrics of garbage and 825 pit latrines were cleaned and disinfected.
- In West Darfur, 92 ton metrics of garbage from the commercial areas of AubZer, Gamarik, Zahur, and Nahdah areas was collected and disposed off. In West Darfur, campaign space spray breeding sites for flies was conducted in 39 sectors of the town. During the campaign, 294 breeding sites were treated with 15 kg of diazzone insecticide.

Capacity building

- In South Darfur, WHO conducted training on water safety and water chlorination for well owners in Kass for 30 chlorinators, while orientation sessions on water / sanitation related diseases prevention were conducted for 16 religious and community leaders and 37 health/hygiene promoters.
- In North Darfur, WHO supported the 3-day day training session on community base waste management in El Fasher which was attended by 45 community leaders, public health officers and WASH partners.

For more information please visit WHO Website

www.emro.who.int/sudan

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