



Highlights

- In **Darfur**, a total of 512 suspected Dengue Fever (DF) cases including 125 deaths were reported in the period of 29th August to 4th December, 2015. Forty-three cases and 5 deaths have been added to the line list including 4 new cases and 2 deaths reported during week no 48 (ending on 4th of December 2015).
- In **Kordofan**, a total of 40 suspected cases of DF with 4 deaths were reported in the period of 17th of October 2015 to 4th December, 2015. Six localities are affected in North, West and South Kordofan (Abyei, Kailak, Rif Sharqi, Kadugli, Habila and Sheikan). Two samples were found positive for DF in South Kordofan (in Habila and Kadugli), 1 positive in West Kordofan (in Kailak) and none positive in North Kordofan.
- In **Kassala** state, 5 suspected cases of DF were reported in the period 23 to 26 November 2015. The cases were reported in Kassala town. Blood samples were taken from all the reported cases and revealed 2 DF positive (ELISA IgM).
- Laboratory analysis of 116 samples collected from cases, done at the Central Public Health Laboratory in Khartoum, revealed 6 positive for DF in Central Darfur, 22 positive in West Darfur and 1 positive in North Darfur and 2 positive in South Darfur besides 8 positive for West Nile virus and 1 positive for Chikungunya. All the samples tested negative for Yellow fever, Crimean Congo Hemorrhagic Fever (CCHF), and Rift Valley Fever. Since the last reporting period, 12 and 2 new samples from West and South Darfur tested positive for DF, respectively.
- Results of case contacts remained the same. From 108 samples collected from contacts, 24 tested positive for DF (2 in Central Darfur, 20 in West Darfur, and 1 in each of North and East Darfur) using ELISA IgM. Laboratory analysis also showed 1 positive sample for West Nile, and 3 positive for Chikungunya. All the samples tested negative for Yellow fever, CCHF, and Rift Valley Fever.
- Final results of samples sent to Pasteur Institute in Dakar showed inconclusive positive results, by RT-PCR, for Dengue fever (1 sample) and Yellow fever (4 samples). The rest of samples were negative, by RT-PCR, for Ebola Sudan, Ebola Zaire, Marburg virus, Rift Valley Fever, CCHF, West Nile, Chikungunya, Yellow Fever, and Zika viruses.
- Results of 23 samples sent to Robert Koch Institute in Germany did not show any highly pathogenic viruses or bacteria. This was mainly due to insufficient quantity of sera collected.

Epidemiology

- The no of affected localities across Darfur remains 27 as listed in the table below.
- About 65.8% of the reported cases are from West Darfur, 13.3% from Central Darfur, 13.7% from North Darfur, 2.7% from East Darfur and 4.5% are from South Darfur.
- 53% of all reported cases are males and 47% are females.

- Age distribution of the cases: 5.1% in the age group 0-1.9 years, 13.5% in the age group 2-4.9 years, 45.3% in the age group 5-14.9 years, 20.9% in the age group 15-29.9 years, 8.4% in the age group 30-44.9 years and 6.7% in the age group ≥ 45 years.
- No evidence of person to person transmission, as well as no reported cases among medical staff
- Ongoing veterinary surveys show no evidence of infection and no reports of perished animals or abortions,
- Reports indicated that suspected VHF cases did not present with profuse bleeding that required transfusion and hence no increase in the request for blood and blood products for the clinical management of suspected dengue cases.

Fig: Reported cases of suspected VHF by date of onset in Darfur in the period 29 August up till 4 of December 2015 (source FMOH).

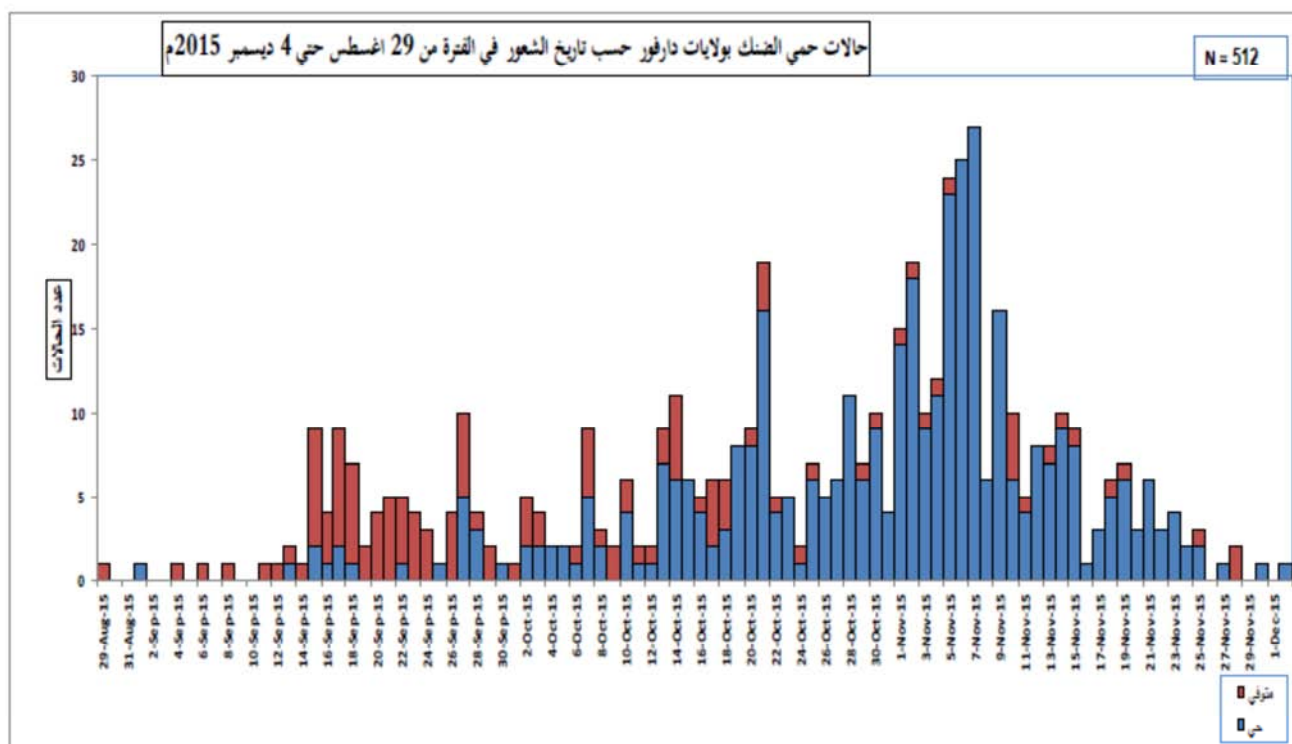


Fig below shows the weekly reported cases and deaths in Darfur in the period W 35 to W 48, 2015 (ending on 4th of December, 2015).

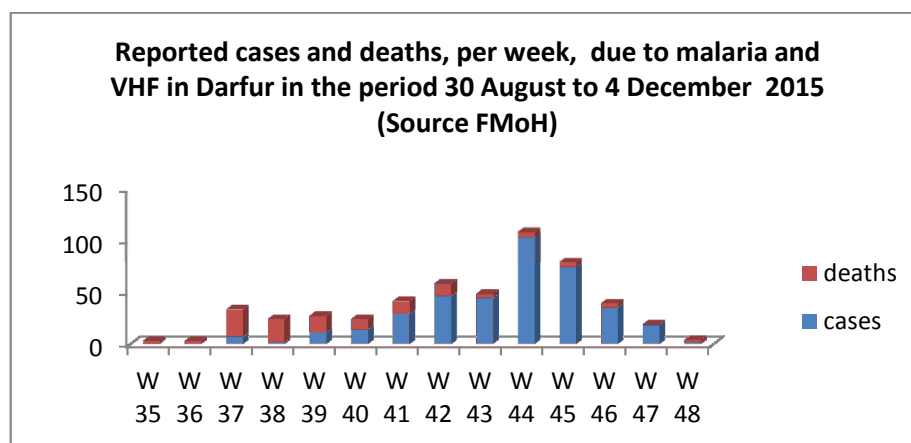


Table below shows attack rate (AR); case fatality rate (CFR); and date of last reported case, per locality, in Darfur in the period 29th August up to 4th December 2015.

State	Locality	No. of Cases	No. of Deaths	CFR	AR/10000	Date of Last Case Admitted	Date of Last Case Reported
Central Darfur	Zalingei	43	6	14	1.62	25-Nov-15	25-Nov-15
	Azoom	4	4	100	0.66	15-Nov-15	16-Nov-15
	Mukjer	8	1	13	1.17	12-Nov-15	14-Nov-15
	Nertity	6	1	17	0.36	16-Nov-15	17-Nov-15
	Wadi Salih	3	0	0	0.13	2-Nov-15	3-Nov-15
	Bendecy	2	0	0	0.29	17-Nov-15	18-Nov-15
	Um Dukhun	2	0	0	0.25	24-Nov-15	24-Nov-15
	Total	68	12	17.6	0.72		
West Darfur	Keraink	252	80	32	7.72	30-Nov-15	02-Dec-15
	Genaina	79	13	16	2.62	24-Nov-15	25-Nov-15
	Habela	2	1	50	0.24	31-Oct-15	31-Oct-15
	Beida	2	1	50	0.13	1-Nov-15	4-Nov-15
	Sirba	2	0	0	0.18	5-Nov-15	6-Nov-15
	Total	337	95	28.2	3.47		
North Darfur	Alseraif	65	13	20	9.84	01-Dec-15	02-Dec-15
	Saraf Omra	1	1	100	0.12	7-Oct-15	8-Oct-15
	Aliaat	2	1	50	0.24	5- Nov -15	8- Nov -15
	El Fashir	2	0	0	0.03	14-Nov-15	16-Nov-15
	Total	70	15	21.4	0.73		
South Darfur	Kubum	2	0	0	0.06	5-Nov-15	8-Nov-15
	Belail	2	0	0	0.11	18-Nov-15	18-Nov-15
	Kass	6	0	0	0.07	15-Nov-15	22-Nov-15
	Alsalam	1	0	0	0.09	17-Nov-15	18-Nov-15
	Sharq Algabal	11	1	9.1	2.11	21-Nov-15	24-Nov-15
	Nyala Shimal	1	0	0	0.01	21-Nov-15	23-Nov-15
	Total	23	1	4.3	0.10		
East Darfur	Eddaein	7	2	29	0.43	13-Nov-15	15-Nov-15
	Asalaya	4	0	0	0.28	14-Nov-15	15-Nov-15
	Adeela	1	0	0	0.08	1-Nov-15	1-Nov-15
	Bahar Arab	1	0	0	0.06	18-Nov-15	19-Nov-15
	Alfirdos	1	0	0	0.09	27-Nov-15	27-Nov-15
	Total	14	2	14.3	0.20		
Total		512	125	24.4	0.86		

The most frequent symptoms were fever (98.8%), bleeding (86.9%), and joint pain (50.3%) and jaundice (23.1%) as shown below.

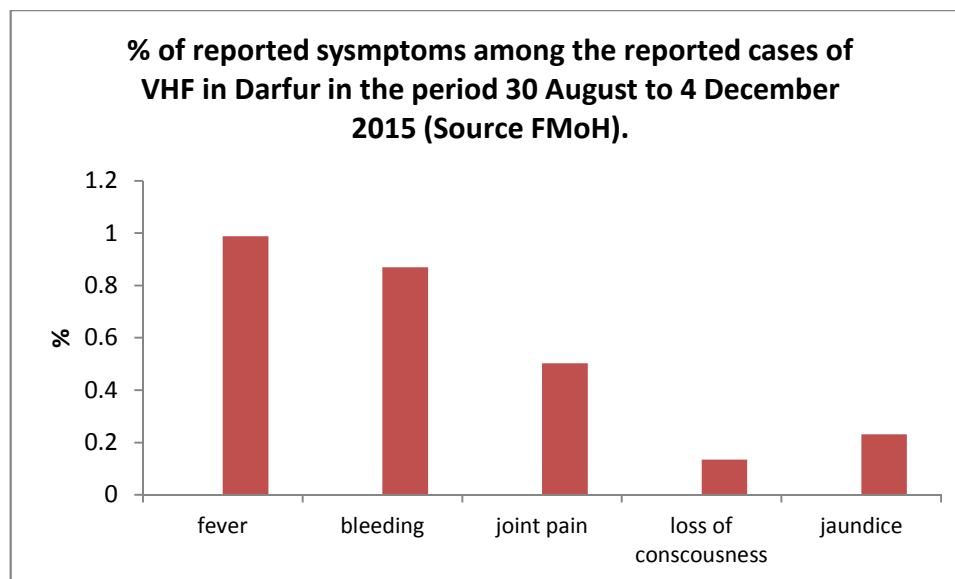


Table below shows attack rate (AR); case fatality rate (CFR); and date of last reported case, per locality, in Kordofan in the period 17th of October up to 4th December 2015.

State	Locality	No. of Cases	No. of Deaths	CFR	AR/10000	Date of Last Case Admitted	Date of Last Case Reported
West Kordofan	Abyei	1	1	100	0.3	10-Nov-15	11-Nov-15
	Kailak	5	0	0	0.5	5-Nov-15	11-Nov-15
	Total	6	1	16.7	0.5		
South Kordofan	Rif Sharqi	2	0	0	0.4	8-Nov-15	11-Nov-15
	Kadugli	1	0	0	0.1	9-Oct-15	19-Oct-15
	Habila	2	1	50	0.3	28-Oct-15	11-Nov-15
	Total	5	1	20	0.2		
North Kordofan	Sheikan	29	2	6.9	0.5	20-Nov-15	20-Nov-15
	Total	29	2	6.9	0.5		
Total		40	4	10	0.4		

Table below shows attack rate (AR); case fatality rate (CFR); and date of last reported case, per locality, in Kassala state in the period 23 November to 4th December 2015

State	Locality	No. of Cases	No. of Deaths	CFR	AR/10000	Date of Last Case Admitted	Date of Last Case Reported
Kassala	Kassala	5	1	100	0.3	23-Nov-15	26-Nov-15
Total		5	1	20	1.5		

Actions taken

- A WHO epidemiologist from regional office reached the country last week and is supporting FMOH in epidemiological investigation and outbreak response.
- WHO and FMOH are preparing the deployment of a mini-lab from Institute Pasteur, Dakar, together with a team of laboratory experts to support field diagnosis and strengthen the capacity of CPHL.
- World Relief conducted 5 mobile clinics during the week and provided treatment in three villages namely Tendelti (twice), Fejara (twice) and Mukshasha (once); and received 500 mosquito nets from SMOH to be distributed to the 4 clinics including Kirkir, Azirni, Sanidadi and Umtagouk in Kerenik locality and to the beneficiaries.
- UNICEF released 3 PHC kits (covering 30,000 of population) in addition to 6 cartoons of ringer lactate to the SMOH in East Darfur. MSF- Switzerland and WHO supported treatment centre in Geneina managed 47 cases during the week.
- MSF- Switzerland also supported two mobile clinics, one in Geneina and the other in Krenik with 863 consultations. Through health education 2271 people were sensitized.
- A request for emergency procurement of blood bank reagents and supplies was sent to WHO regional office to respond to possible increase in demand for blood and blood products. This is done with technical support from WHO expert that was deployed to support blood transfusion facility at field hospitals in Darfur.
- WHO continued to support MOH for integrated vector control activities covering all affected localities in Greater Darfur, Kassala and Kordofan.
- The health sector partners are actively participating in state Task force meetings and contributing to the response in areas of surveillance, active case finding, case management and community awareness.

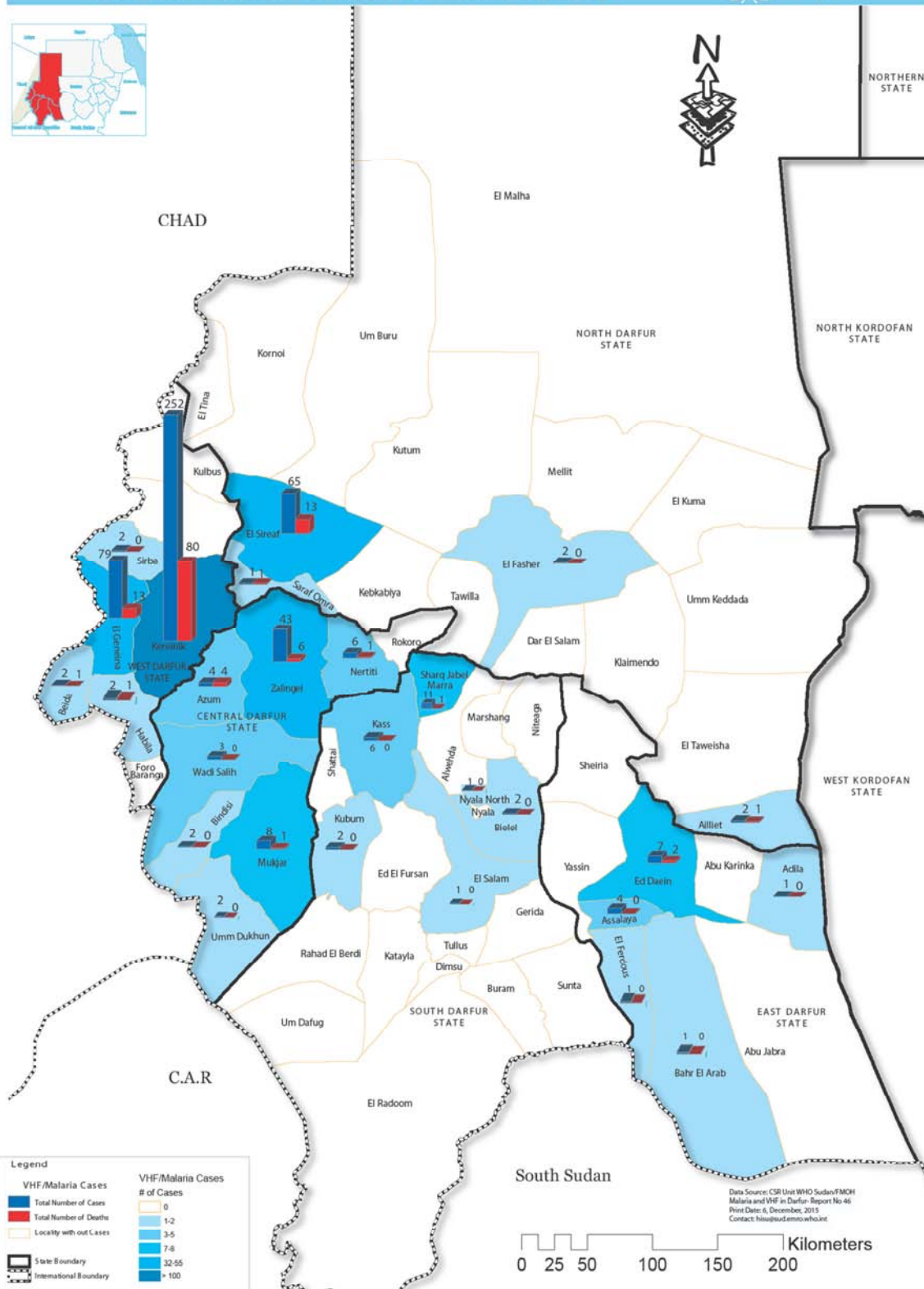
Recommendations

- While waiting for arrival of the mini-lab, FMOH to send new samples to international reference laboratories for confirmatory testing.
- Expand the engagement of families and communities in prevention activities including: elimination of adult mosquitoes by indoor spraying, search for and destroy larva breeding sites in and surrounding household, to prevent mosquito egg-laying, sleep under impregnated mosquito bed nets (protect against malaria and reduce the mosquito population), wear protective clothing and use mosquito repellents.
- Strengthening of the surveillance: FMOH, international agencies and NGOs to expand the existing surveillance system by adding more sentinel sites in Keraink and deploy team to operate the closed clinic.

Suspected Cases of Viral Hemorrhagic Fever & Malaria in Darfur States as of 4 of December, 2015



World Health Organization



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