



Republic of South Sudan



World Health Organization

**EARLY WARNING AND DISEASE SURVEILLANCE BULLETIN
(IDP CAMPS AND COMMUNITIES)**

Week 50

8 – 14 December 2014

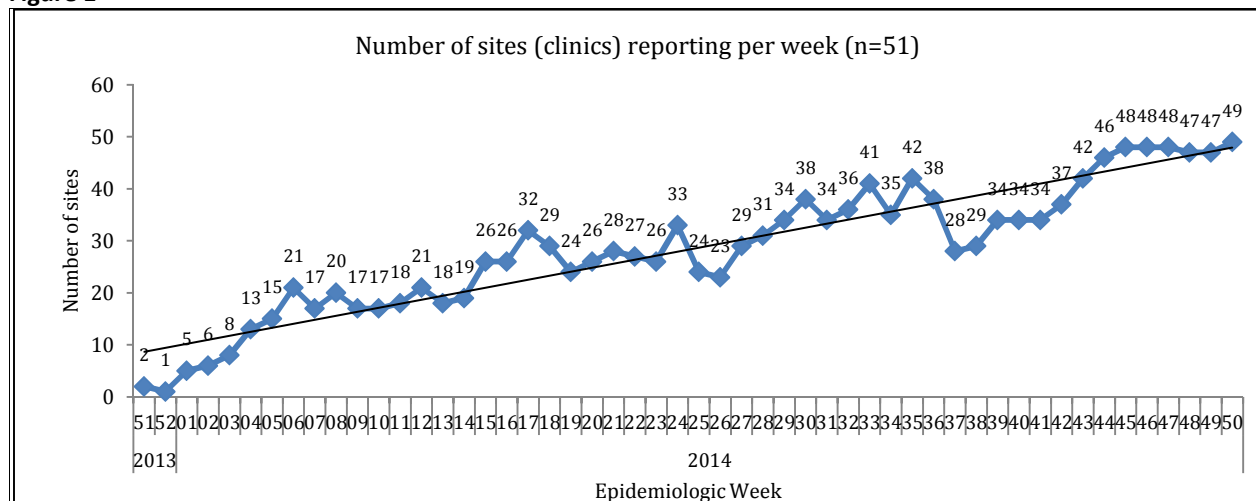
General Overview

- ✦ Completeness for weekly reporting increased from 89% to 96% while timeliness increased from 33% to 49% in week 50 when compared to week 49.
- ✦ During week 50, malaria re-emerged as the main cause of morbidity among IDPs with Malakal PoC having the highest malaria incidence followed by Lankien, Renk, Tongping, and UN House.
- ✦ During week 50, Malakal PoC had the highest incidence for Malaria and AWD while Bentiu had the highest ARI incidence and Akoka had the highest ABD incidence.
- ✦ Eight suspect measles cases were reported from Lankien in week 50, representing an increase from the five suspect measles cases reported from the same site in week 49.
- ✦ Three new HEV cases were reported from Mingkaman in week 50. The cumulative for HEV in Mingkaman is 128 cases including four deaths (CFR 3.23%) while the overall number of AJS cases from all the IDP sites has risen to 153 after two new AJS cases were reported in Bentiu during week 50.
- ✦ There are no new cholera cases reported since week 47. The cumulative remains at 6,421 cholera cases including 167 deaths (CFR 2.60%) from 16 counties in South Sudan.
- ✦ The under-five and crude mortality rates in all IDP sites were below the emergency threshold in week 50.

Completeness and Timeliness of Reporting

Completeness for weekly reporting increased from 46 (89%) in week 49, to 49 (96%) in week 50. Timeliness for weekly reporting increased from 17 (33%) in week 49 to 25 (49%) in week 50.

Figure 1



- ✦ In week 50, we did not receive reports from **two mobile outreach sites** since they were not visited (Table1).

- Health facilities are requested to kindly submit their IDP reports for the preceding week, by **17:00 hrs on Monday**.

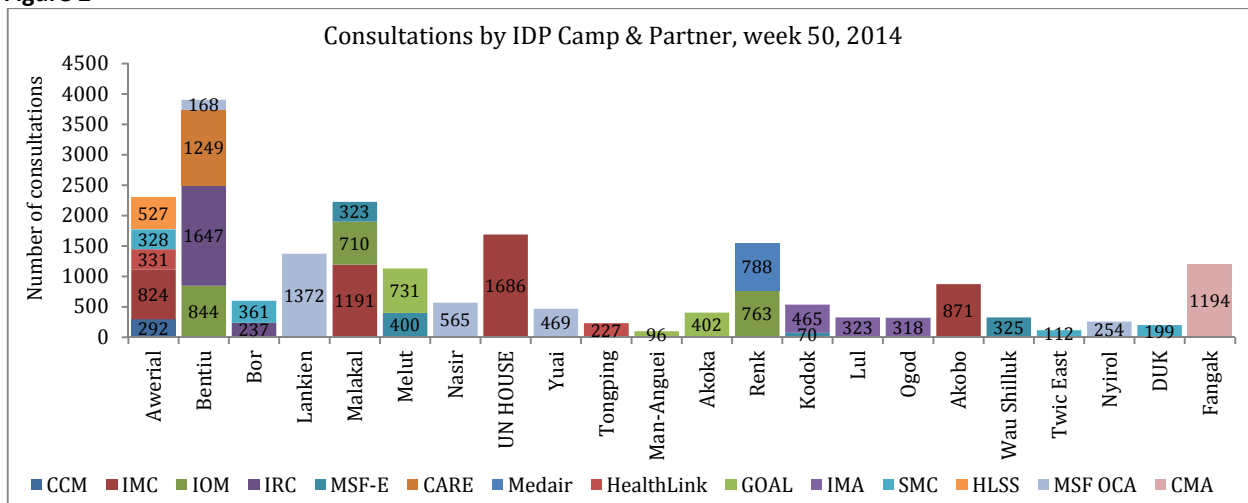
Table 1: List of silent health facilities during week 50, 2014

No.	IDP site	Health Facility/Partner
1	Twic	Man Awan GOAL
2	Twic East	DBLC/Bathoot mobile clinic SMC

Consultations (All patients seen at Outpatient and Inpatient facilities)

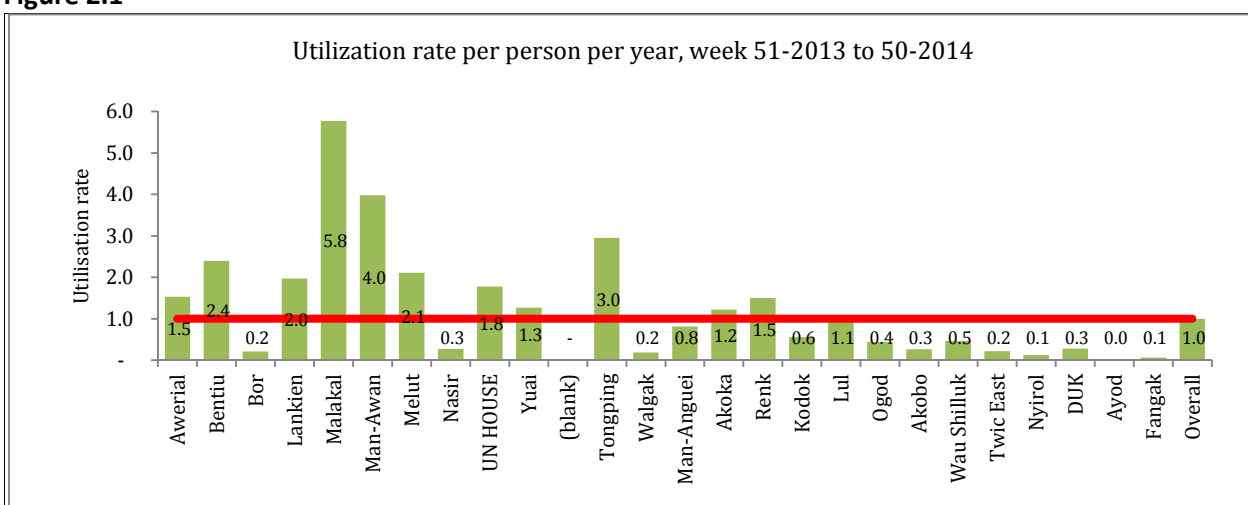
- The total number of consultations increased from 19,410 in week 49 to 20,662 in week 50. During week 50, most of the consultations were reported from Bentiu, Awerial, Malakal and UN House (Figure 2).

Figure 2



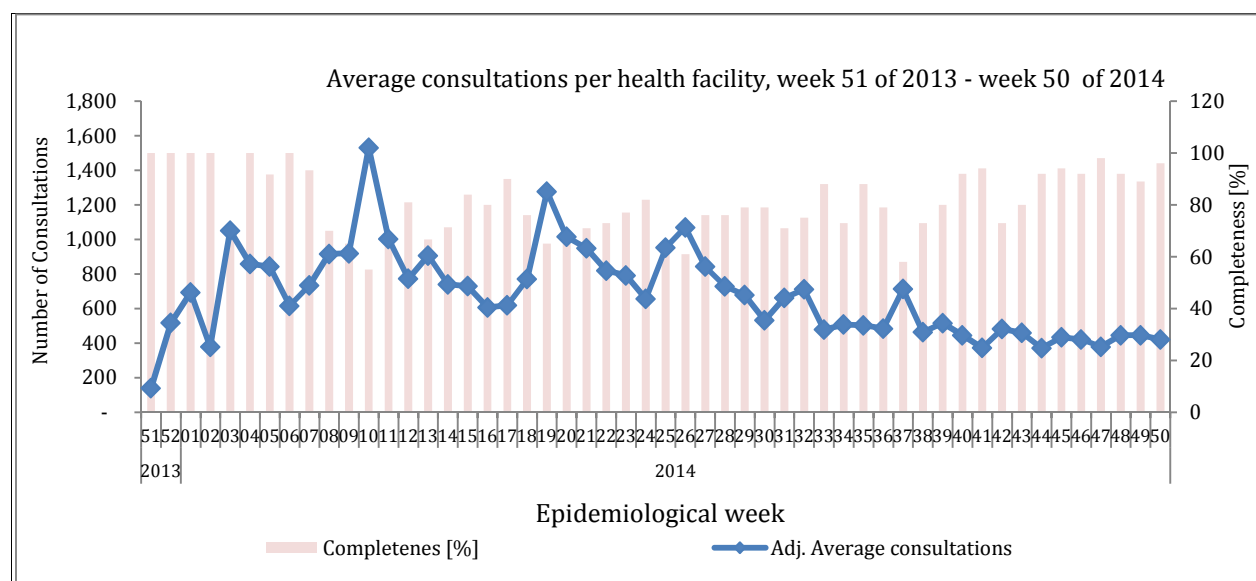
- Since the onset of the crisis 759,198 consultations have been registered from all IDP sites with an overall annualised OPD utilisation rate of 1.0 consultation per person per year (Figure 2.1). The IDP site-specific annualised OPD utilization rates are shown in Figure 2.1.

Figure 2.1



- Figure 2.2 shows the average consultations per IDP site by epidemiological week. The average consultations per IDP site during week 50 were 422 consultations, which represents an increase from 441 consultations in week 49.

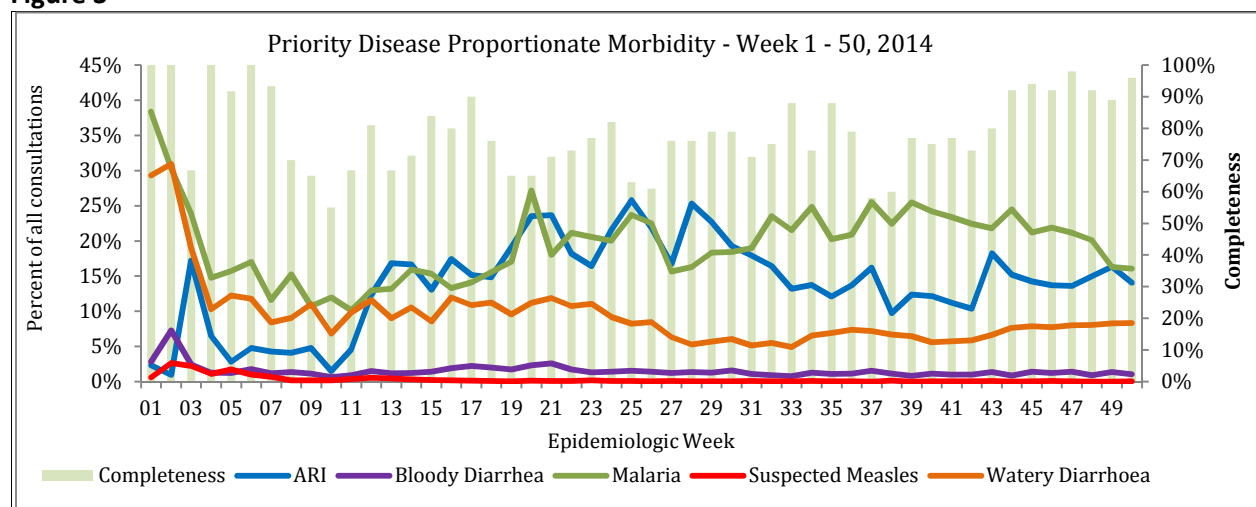
Figure 2.2



Overall Trends of Priority Epidemic-prone Diseases

Figures 3 and 4 show the proportionate and incidence morbidity trends for Malaria, Acute Respiratory Infection (ARI), Acute Watery Diarrhoea (AWD), suspected measles and Acute Bloody Diarrhoea (ABD).

Figure 3

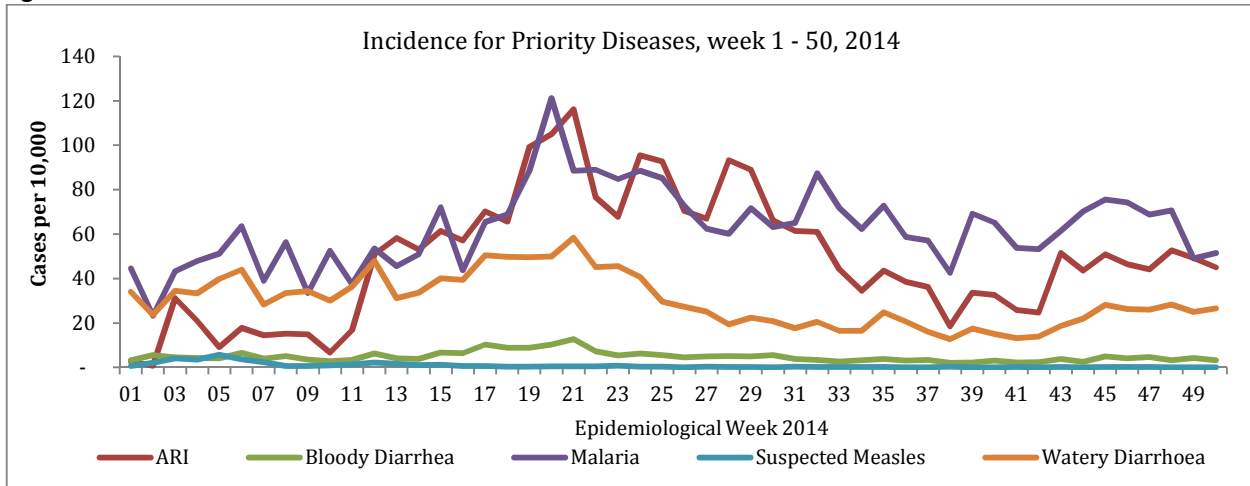


- Malaria, ARI, and AWD were the top three causes of morbidity among IDPs in week 50 (Figure 3 and 4).
- During week 50, malaria re-emerged as the top cause of morbidity among the IDPs (Figure 3 and 4).
- The overall incidence for malaria, AWD, and suspect measles increased, while the incidence of ARI and ABD decreased in week 50 when compared to week 49 (Figure 4).
- The weekly number of cases for the current and preceding week, and cumulative number of cases for the top five causes of morbidity are presented in Table 2.

Table 2

No.	Disease	New cases for weeks		Cumulative cases since week 51 of 2013
		49	50	
1	Malaria	3,074	3319	147,490
2	AWD	1,584	1718	65,933
3	ARI	3,173	2904	114,354
4	ABD	268	213	10,830
5	Measles	5	8	1,529

Figure 4



Specific Priority Epidemic-Prone Diseases

Acute Respiratory Infection

ARI registered the second highest proportionate morbidity of 14.1% and incidence of 45 cases per 10,000 population) in week 50 (Figure 5). The highest ARI incidence (cases per 10,000) was reported from Bentiu (241) followed by Malakal (160), UN House (159), Awerial (49), and Lul (50) (Figure 5.1).

Figure 5

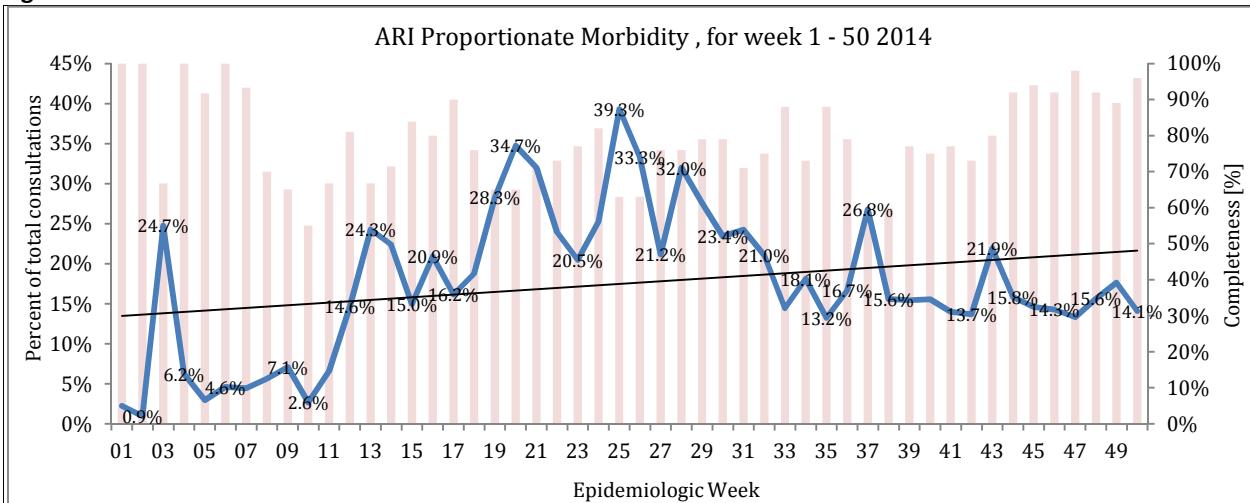
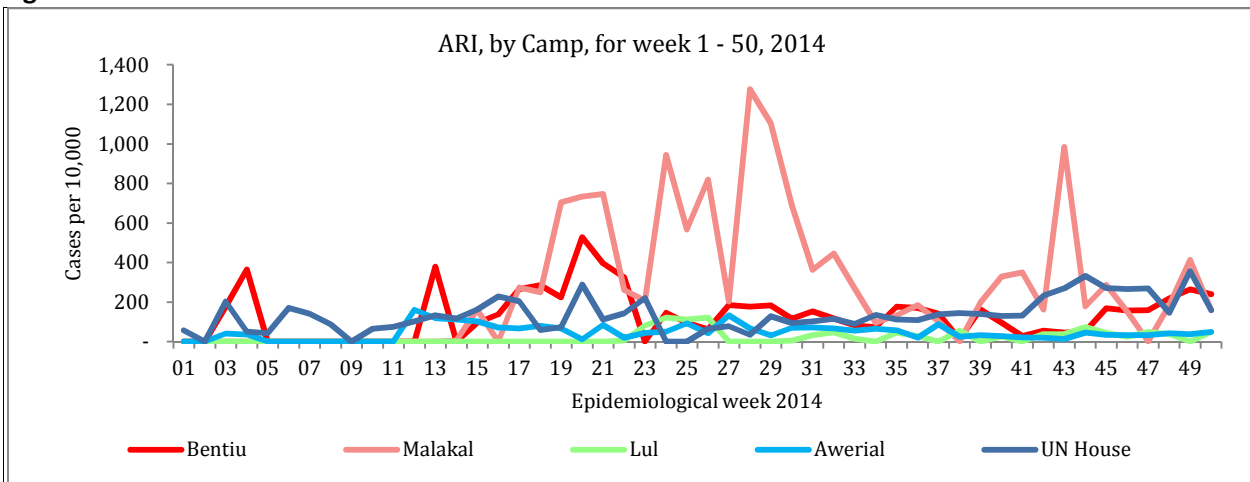


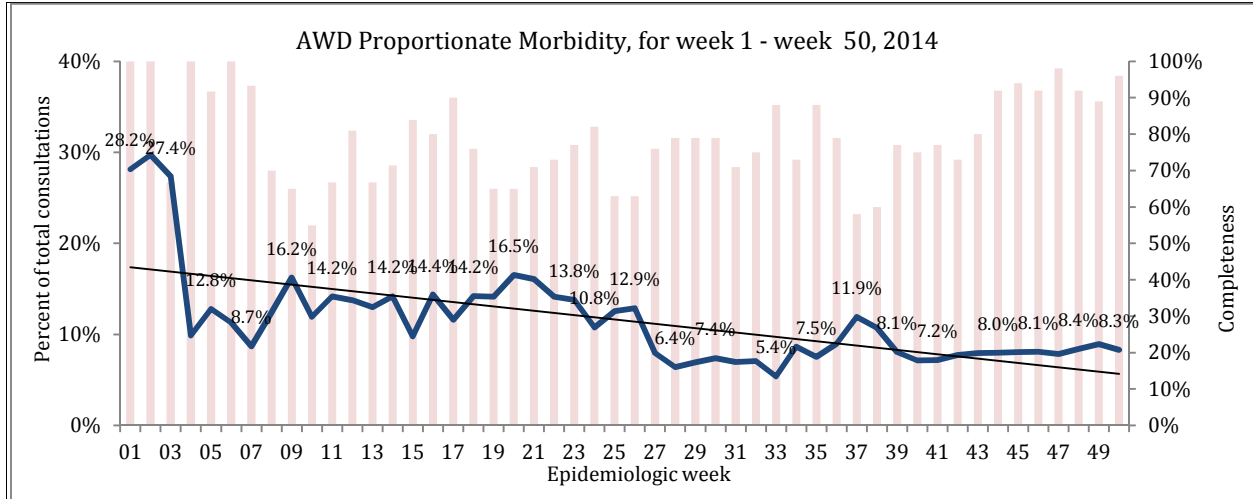
Figure 5.1



Acute Watery Diarrhoea

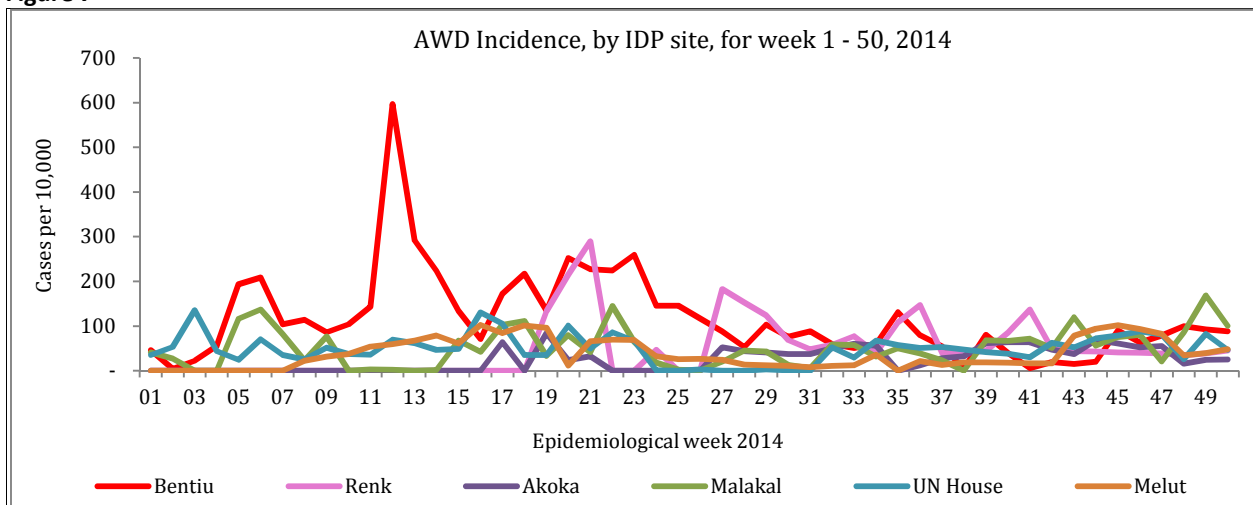
- As seen from Figure 6, the AWD proportionate morbidity increased from 8.30% to 8.31% while the overall AWD incidence (cases per 10,000) increased from 25 to 27 in week 50 when compared to week 49 (Figure 4).
- Overall, the AWD trend has been on the decline since the beginning of the year.

Figure 6



- During week 50, a total of 1,718 AWD cases were reported with the highest AWD incidence (cases per 10,000) being reported in Malakal (100), followed by Bentiu (88), Melut (48), UN House (46), and Renk (45) as illustrated in Figure 7.

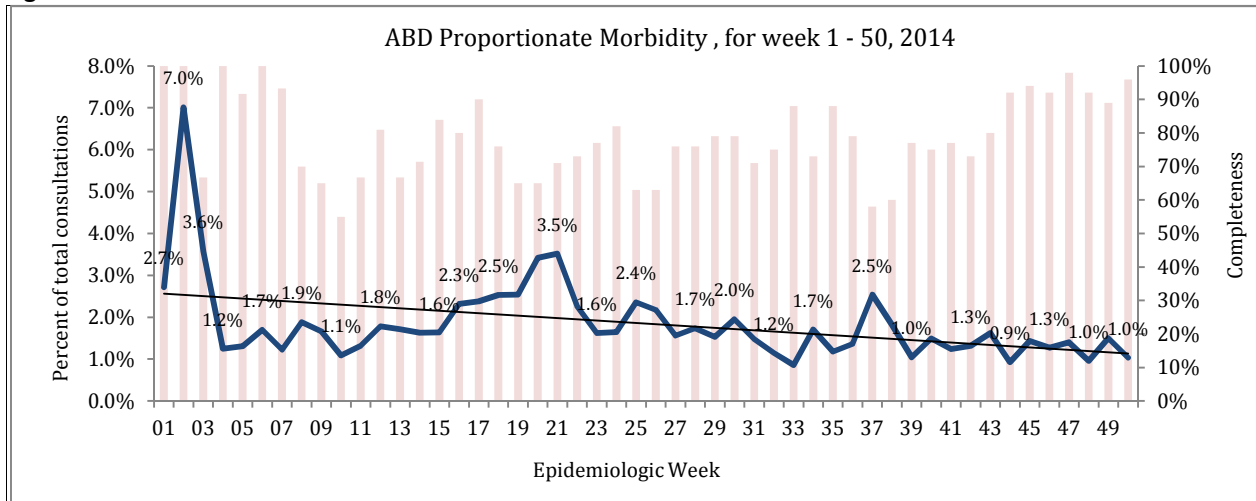
Figure 7



Dysentery / Acute Bloody Diarrhoea

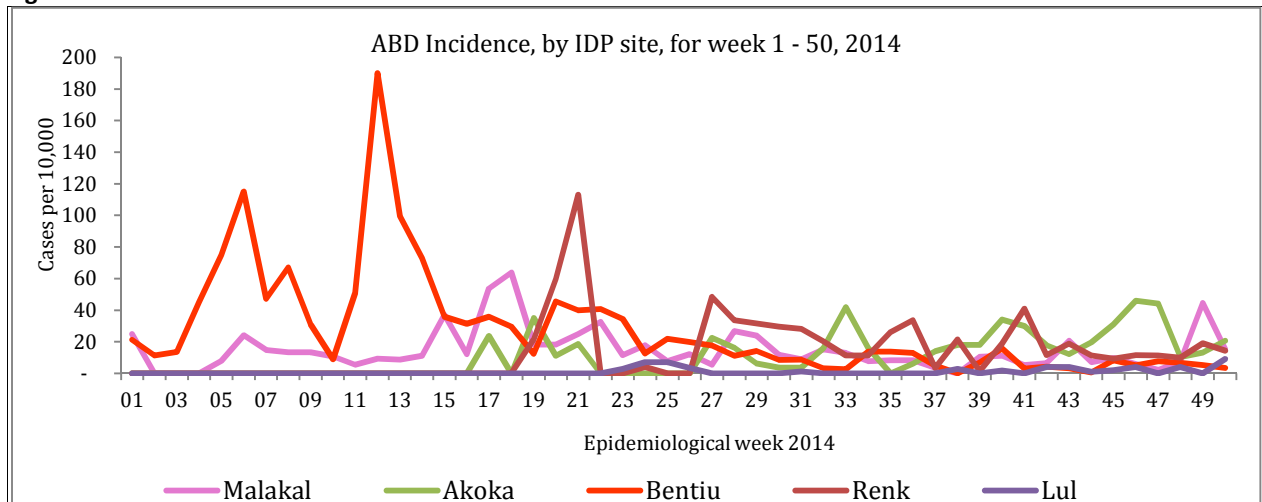
- The overall ABD trend has been on the decline since the beginning of the crisis with successively shorter peaks in weeks 2, 21 and 37 (Figure 8).
- The incidence (cases per 10,000) of ABD decreased from four to three, while the proportionate morbidity (%) decreased from 1.4 to 1.0 in week 50 when compared to week 49.
- During week 50, 213 ABD cases were reported with the highest ABD incidence (cases per 10,000) being reported in Akoka (21) followed by Malakal (15), Renk (14), Lul (9) and Melut (8) see Figure 9.

Figure 8



⊕ This trend highlights the need for continued hygiene and sanitation promotion in all IDP camps.

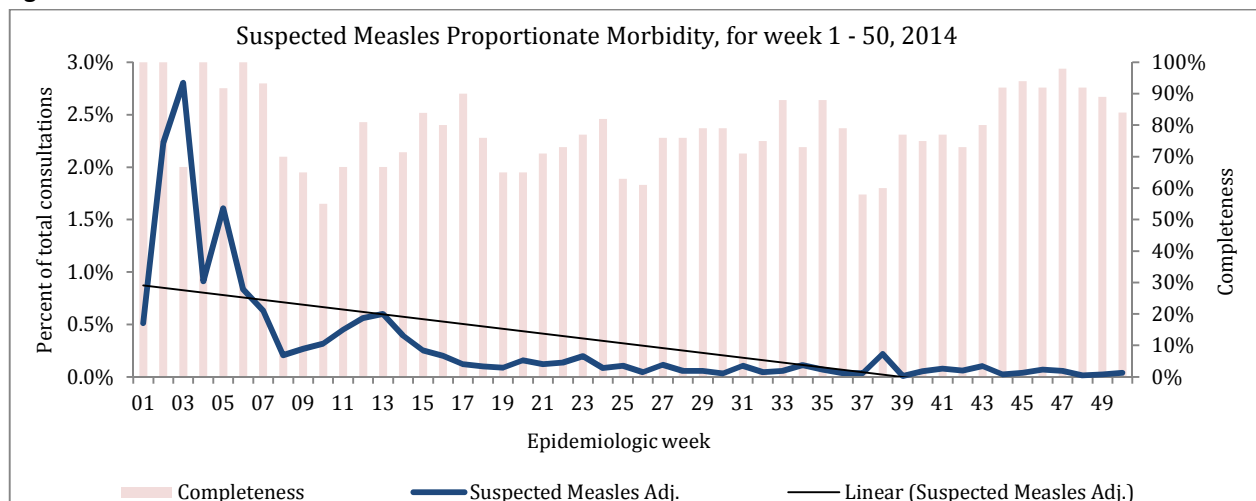
Figure 9



Measles

⊕ The measles trend peaked at the beginning of the crisis with the highest peak occurring in week 3, followed by a decline with subsequent shorter peaks in week 5 and 13 (Figure 10).

Figure 10

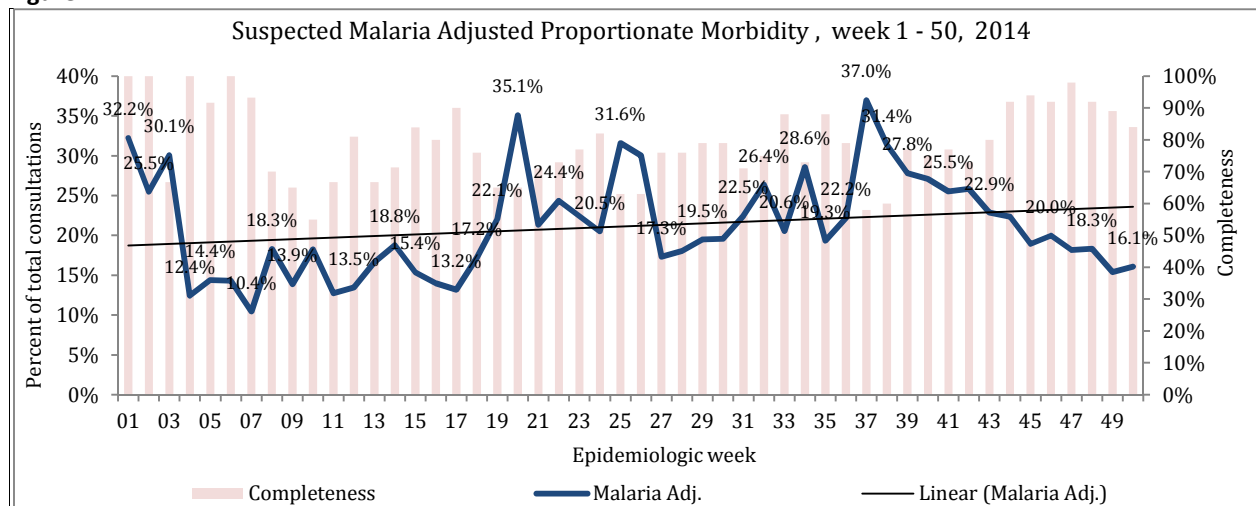


- ✦ This trend is attributed to a series of reactive measles vaccination campaigns conducted to contain the outbreaks in UN House, Tongping IDP camp, Bor, Yuai, Lankien, Cueibet and in Thol Payam, Nyirol County in Jonglei State.
- ✦ During week 50 a total of eight suspect measles case were reported from Lankien, representing an increase from the five cases reported in week 49 from the same location.
- ✦ Three measles samples from Melut were confirmed as measles in September 2014, while in Lankien, seven samples were confirmed as measles in October 2014. Integrated measles campaigns are planned for the two locations.

Malaria

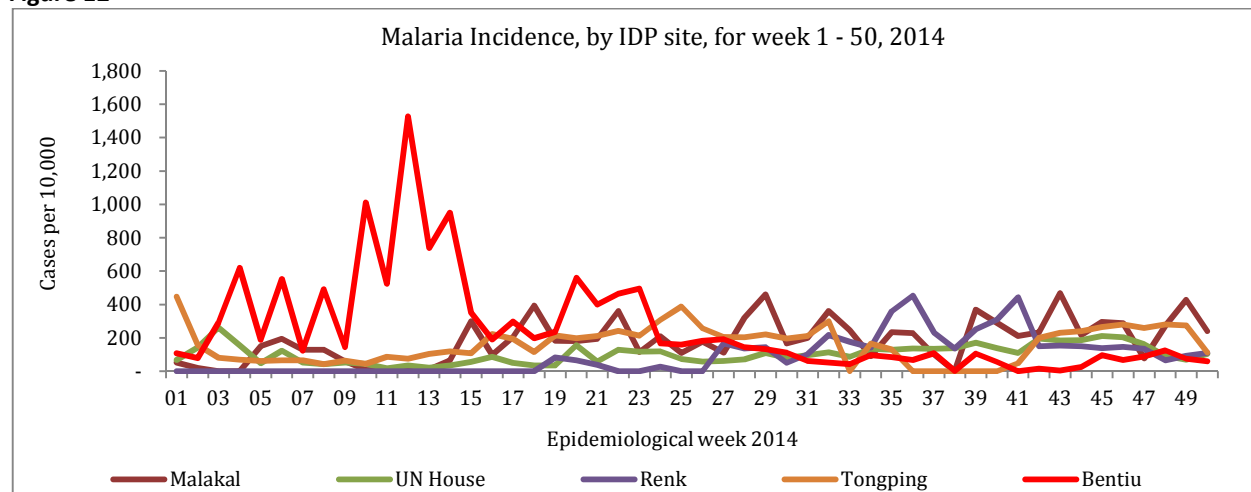
- ✦ As seen from Figure 11, since the beginning of the year, three peaks of malaria transmission have been registered with the highest occurring at the beginning of the crisis (weeks 1-3), while the other peaks were registered in weeks 20, 25, 31 and 37. The malaria trend has been on the decline since week 37 (Figure 11).
- ✦ During week 50, malaria re-emerged with the highest proportionate morbidity of 16.1%, representing an increase from 15.4% in week 49. Similarly, the malaria incidence (cases per 10,000) increased from 49 in week 49, to 51 in week 50.

Figure 11



- ✦ During week 50, a total of 3,319 malaria cases were reported with the highest malaria incidence (cases per 10,000) being reported in Malakal (240), followed by Lankien (133), Tongping (113), Renk (111), and UN House (105) as seen in Figure 12.

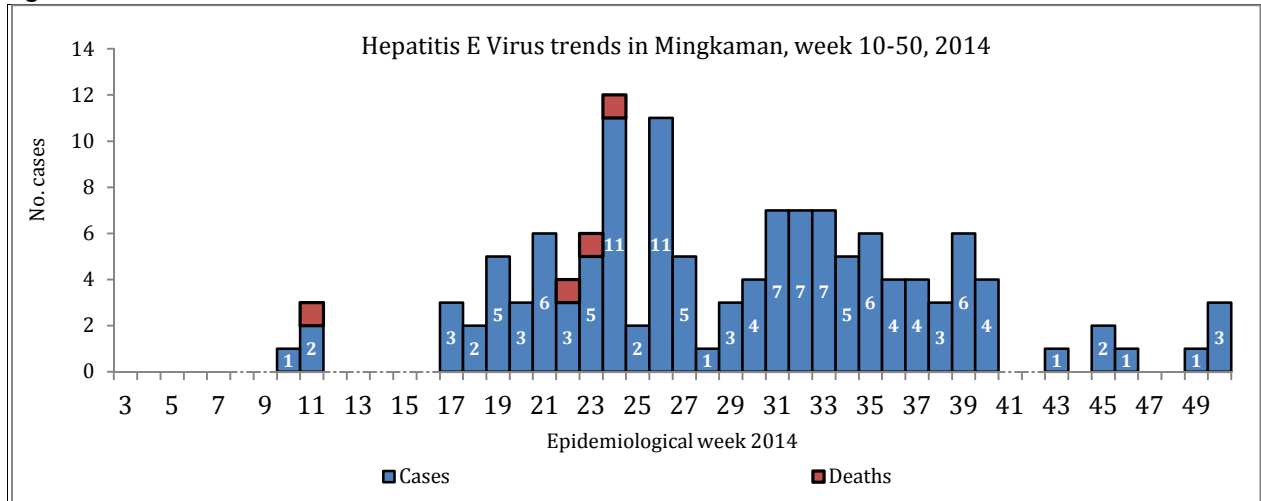
Figure 12



Hepatitis E Virus (HEV)

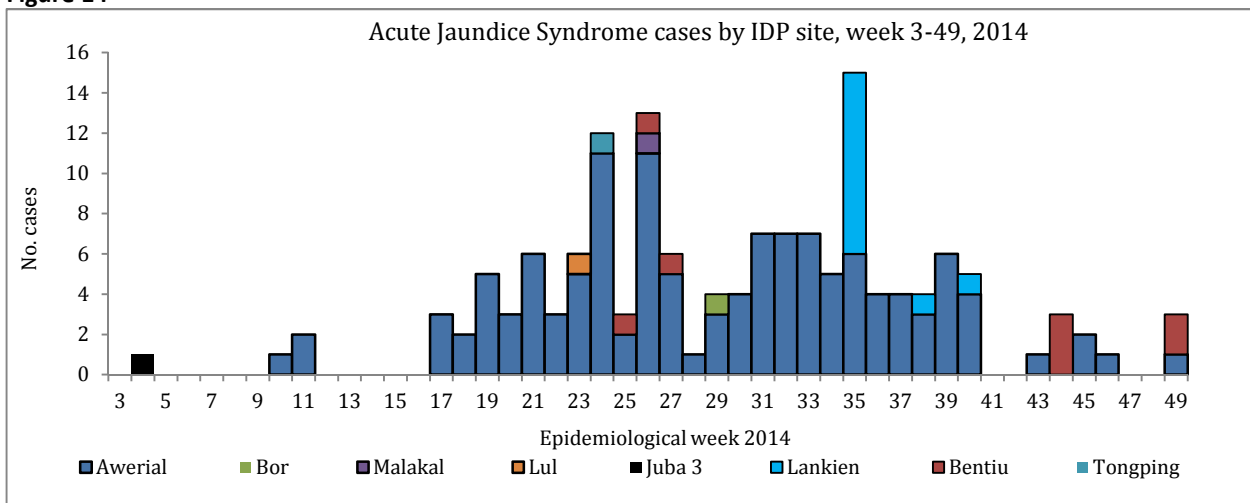
- As seen in Figure 14, Acute Jaundice Syndrome (AJS) cases were first reported in week 10 in Mingkaman and after reaching the highest peak in week 24, the cases have been declining steadily. At least eight cases were confirmed through laboratory testing (ELISA/PCR).
- Three new HEV cases were reported from Mingkaman in week 50; hence the cumulative has now increased to 128 cases including four deaths (CFR 3.13%). Three (75%) deaths occurred among pregnant women (Figure 13).

Figure 13



- Two new AJS cases were reported from Bentiu PoC during week 50. Overall, 153 AJS cases have been reported from the various IDP sites as shown in Figure 14.
- Several interventions including supportive case management, targeted preventive interventions during antenatal visits, soap distribution, shock chlorination of boreholes, as well as house-to-house hygiene and sanitation promotion visits are being conducted by partners in response to the HEV trends.

Figure 14



Cholera

- The Ministry of Health, working in collaboration with partners, rolled out a comprehensive response to the cholera outbreak that started in Juba in week 17 of 2014. The national cholera taskforce is coordinating the implementation of comprehensive interventions for cholera prevention and control. There were no new

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cases of cholera reported in week 50. Table 3 shows the cholera cases reported through the EWARN reporting network for the internally displaced populations and through the IDSR reporting system for the rest of affected populations living outside the IDP settlements. The cumulative for cholera in South Sudan is 6,421 cases including 167 deaths (CFR 2.60%) from five states and 16 counties (Table 3). There are no new cholera cases reported since week 47.

Table 3: Cholera cases and deaths by county week 17 – 50, 2014

No.	State	County	New cases by Epidemiological week													Total cases 2014	Total deaths	CFR [%]
			38	39	40	41	42	43	44	45	46	47	48	49	50			
1	CES (IDP)	Tongping PoC	0	0	0	0	0	0	0	0	0	0	0	0	0	72	3	4.2
2		Juba 3 PoC	0	0	0	0	0	0	0	0	0	0	0	0	0	97	0	0
3	CES	Juba	4	3	0	8	3	2	0	0	0	0	0	0	2,091	43	2.1	
4		Kajo-Keji	0	0	0	0	0	0	0	0	0	0	0	0	93	7	7.5	
5		Yei River	0	0	0	0	0	0	0	0	0	0	0	0	47	2	4.3	
6	JS	Bor	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
7	EES	Torit	3	0	0	0	0	0	0	0	0	0	0	0	2,032	36	1.8	
8		Lopa-Lafon	0	0	0	0	53	3	4	0	0	0	0	0	264	16	6	
9		Kapoeta North	3	7	1	0	0	0	0	0	0	0	0	0	83	1	1.2	
10		Kapoeta South	0	0	0	0	0	0	12	2	0	0	0	0	14	0	0	
11		Ikotos	25	19	19	5	41	30	31	4	10	0	0	0	297	27	9	
12		Magwi	2	0	0	0	0	0	0	0	0	0	0	301	11	3.7		
13		Budi	0	0	0	0	0	0	0	0	0	0	0	1	0	0		
14	UNS	Manyo	0	0	0	0	0	0	0	0	0	0	0	1	0	0		
15		Malakal	0	0	0	0	0	0	0	0	0	0	0	1,024	21	2.1		
16	WES	Mundri East	0	0	0	0	0	0	0	0	0	0	0	3	0	0		
	Total	South Sudan	37	29	20	13	97	35	47	6	10	0	0	0	6,421	167	2.60	

Source of data: Ministry of Health Integrated Disease Surveillance & Response (IDSR); EWARN reporting

Acute Flaccid Paralysis (AFP)

During week 48, seven new AFP cases were reported making cumulative of 287 cases since the beginning of 2014 (Table 4). The annualized non-Polio AFP (NPAPF) rate is 3.78 cases per 100,000 population children 0-14 years (target ≥ 2 per 100,000 children 0-14 years). All states with the exception of three (30%), (Jonglei, Upper Nile, and Unity), have attained the targeted NPAPF rate of ≥ 2 per 100,000 children 0-14 years (Table 4). The non-Polio Enterovirus (NPEV) isolation rate (a measure of the quality of the specimen cold chain) is 17%, which is above the global threshold of $\geq 10\%$. Stool adequacy is 93%, a rate that is higher than the global target of $\geq 80\%$ (Table 4). However active surveillance continues to be hampered by insecurity in the three states that are directly affected by the current crisis.

Table 4: Summary of AFP indicators by state as of week 48, 2014

State	Population <15 years	Cumulative AFP Cases	Non Polio Cases	Cases of Week 48	Polio cases		Pending			NPAPF Rate	Stool Adequacy			Lab indicators			
					Confirmed WPV1	VDPV	Pending Lab/CLT	Pending Lab/ITD	Pending ECR		Specimens (#)	Adequate Specimens	Stool adequacy	NPEV		Sabin like	
														Number	Percent	Number	Percent
CENTRAL EQUATORIA	737148	25	21	0	0	0	4	0	0	3.67	24	24	100%	5	21%	0	0%
EASTERN EQUATORIA	674008	28	23	2	0	0	5	0	0	4.5	27	26	96%	1	4%	2	8%
JONGLEI	982693	9	8	0	0	0	1	0	0	0.99	9	8	89%	3	33%	0	0%
LAKES	791864	49	49	0	0	0	0	0	1	6.7	49	47	96%	7	14%	0	0%
NORTHERN BAHR EL GHAZAL	987309	31	28	0	0	0	3	0	0	3.4	31	30	97%	7	23%	0	0%
UNITY	864151	10	8	0	0	2	0	0	0	1.25	10	8	80%	1	10%	2	20%
UPPER NILE	895541	11	9	0	0	0	2	0	0	1.33	11	8	73%	3	27%	0	0%
WARRAP	1456973	40	33	2	0	0	6	0	1	2.97	40	36	90%	4	11%	1	3%
WESTERN BAHR EL GHAZAL	316372	33	27	2	0	0	6	0	0	11.3	32	24	75%	4	13%	0	0%
WESTERN EQUATORIA	516397	51	50	1	0	0	1	0	0	10.7	51	50	98%	11	22%	3	6%
SOUTH SUDAN	8222455	287	256	7	0	2	28	0	2	3.78	284	261	92%	46	17%	8	3%

Other diseases of public health importance

Guinea worm (Dracunculiasis)

- One suspect Guinea worm case was reported from Malakal PoC by IMC clinic 2 during week 50. The case investigation form has been submitted to the National Guinea worm eradication program to facilitate follow-up investigations.

Viral Haemorrhagic Fever

- The Republic of South Sudan continues to enhance its readiness capacities for Ebola/Marburg virus disease.
- The national Ebola/Marburg taskforce is coordinating the implementation of interventions guided by a national Ebola/Marburg contingency plan.
- No Ebola/Marburg cases have been confirmed in South Sudan but five alerts have been investigated in Ezo, Nzara, Terekeka (Tali), and Juba (Hai Jalaba and Gudele).
- Community sensitization on Ebola prevention and control is ongoing through radio messages, talk shows on radio and television as well as the distribution of IEC materials (posters and brochures).

Visceral Leishmaniasis (Kala-azar)

- Kala-azar cases have been on the decline in recent weeks. Given the high number of cases reported this year when compared to last year, the decline in Kala-azar cases in the recent weeks is largely attributed to under reporting and poor access to endemic areas.
- During week 49 (no update for week 50), four (21%) treatment centres reported 52 new Kala-azar cases and one death. Of the 52 new cases reported this week, 23 cases were reported from Rom, 19 cases from Walgak, two cases from Malakal IDP, and eight cases including one death from Melut.
- Since the beginning of the year 7,204 Visceral Leishmaniasis (Kala-azar) cases and 199 deaths (CFR 2.76%) have been reported from 19 treatment centres. Of these 6,738 were new cases and 446 relapses or Post Kala-azar Dermal Leishmaniasis (PKDL), while 228 were defaulters. In comparison 2,992 cases and 88 deaths were reported during the same period in 2013, of which 2,772 were new cases, 220 relapses/PKDL and 42 defaulters.
- During 2014, most of the Kala-azar cases have been reported from Lankien (4,282 cases), Chuil (1,239 cases), Walgak (648 cases), Melut (241 cases) and Malakal IDP (206 cases).
- Most of the cases reported this year are male 3,930 (54.6%) while the most affected age group is 5-17 years 3,064 (42.52%) followed by 17 years and above 2,501 (34.72%) and less than 5 years 1569 (21.78%).
- A higher number of Kala-azar cases have been reported this year in comparison to last year and this is attributed to several factors including displacement of non-immune populations to endemic areas, congregation of populations in settlements, malnutrition, poor housing, and reduced access to treatment centres leading to late detection and diagnosis of cases.
- WHO is supporting implementing partners with case management supplies and adequate stockpiles have been assembled in endemic states.
- Training of health workers in Visceral Leishmaniasis case management, prevention and control is ongoing.

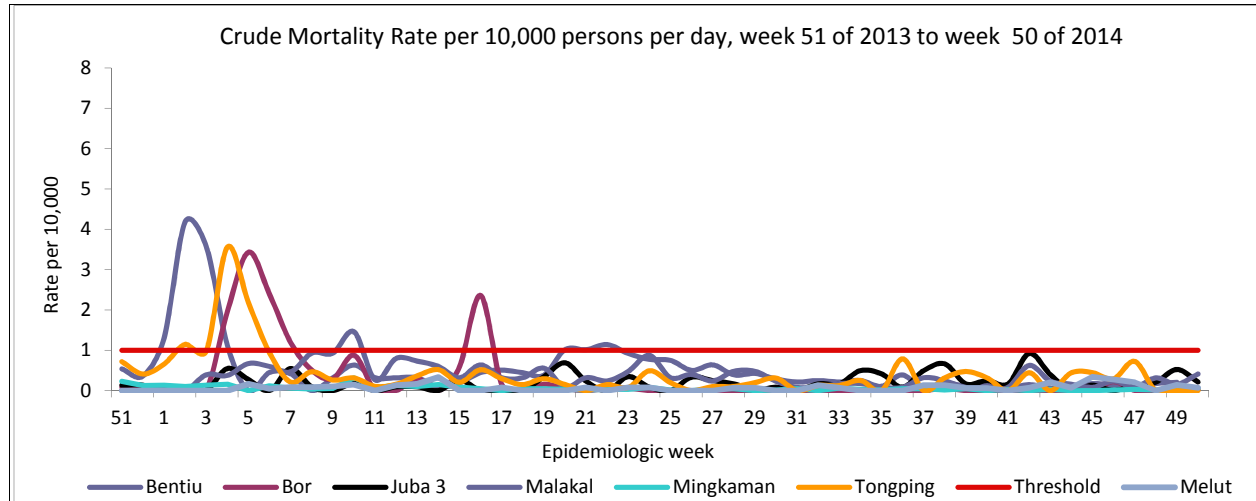
Meningitis

- There were no new suspect meningitis cases reported during week 50.

Crude Mortality Rate

- ✦ The crude mortality rates (CMR) for week 50 are shown in Figure 16. During this week the CMRs were below the emergency threshold for the six IDP sites that submitted mortality data.
- ✦ During week 50, two deaths attributed to TB and HIV/AIDS were reported from Mingkaman IDP settlement.

Figure 16

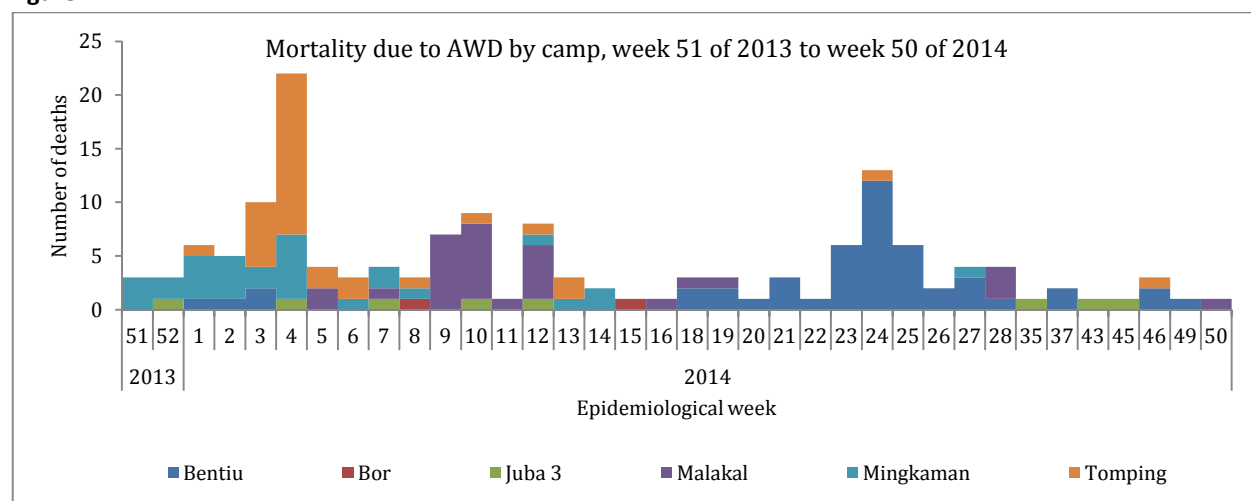


Disease specific mortality

Acute watery diarrhoea related deaths

- ✦ Figure 17 shows mortality due to AWD from week 52 in 2013 to week 50 in 2014. AWD has caused the highest number of deaths with a cumulative of 152 deaths since the onset of the crisis.
- ✦ The majority of AWD related deaths have been reported from Mingkaman, Tongping, Malakal and Bentiu (Figure 17).

Figure 17



Overall Mortality

- ✦ Since the onset of the crisis, at least 1,326 deaths have been reported from the IDP sites. Children under five years account for 631 (47.6%) of the deaths. The majority of the deaths occurred in Bentiu, Tongping,

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Malakal, Mingkaman and Bor. The top causes of mortality during the period include AWD, severe pneumonia, measles and malnutrition (Table 6).

Table 6: Overall mortality by settlement, week 51 of 2013 to week 50 of 2014

IDP site	Acute Jaundice Syndrome	Acute watery diarrhoea	Bloody diarrhoea	Cancer	Gunshot wound	Heart disease	Hypertension	Kala-Azar	Malaria	Maternal death	Measles	Perinatal death	Pneumonia	SAM	Septicemia	Stroke	TB/HIV/AIDS	Trauma	Others	Grand Total
Agok							1												2	3
Bentiu		48	2	1	9	3	2		14	1	8	2	46	47	14	1	25	6	119	348
Bor		2				1	1		1		42	2	10	3	1		2		59	124
Juba 3	1	8		4	1	2			10	1	1	33	8	5	1	2	18		21	116
Kodok															1				0	1
Malakal	1	30		1	38	14	1	13	12			12	5	15	7	1	18	6	84	258
Melut				1		2		13	7	2		2	5	5	1		6		13	57
Mingkaman	6	30	4	2		1	1		18	1	4	8	9	3	8	1	8	2	43	149
Tomping		33	2	4	6	11	1		10		37	15	24	16	1	3	4	1	98	266
(missing)		1											1						2	4
Grand Total	8	152	8	13	54	34	7	26	72	5	92	74	108	94	34	8	81	15	441	1326

General recommendations

- ✦ Malaria preventive interventions including the use of Long Lasting Insecticide Treated Nets (LLITN), indoor residual spraying (IRS) and prompt case management should be sustained.
- ✦ Promote ARI prevention and control by sensitizing communities on respiratory hygiene, regular hand washing with soap and water, prompt recognition and treatment of pneumonia in children under five years, and routine vaccination of children as per infant vaccination schedule.
- ✦ Integrate TB/HIV/AIDS prevention and control into the routine healthcare services in all the IDP sites.
- ✦ Biological samples should be obtained and shipped to Juba to allow laboratory confirmation of emerging outbreaks of measles, acute jaundice syndrome, bloody diarrhea and cholera.
- ✦ Interventions for cholera prevention should be sustained countrywide with a major focus on identifying long-term strategies to improve access to safe drinking water and sanitation in at-risk areas.
- ✦ Lankien and other sites like Melut where measles outbreaks have been confirmed in the recent weeks should be prioritized for integrated measles campaigns.
- ✦ In response to the HEV cases in Mingkaman and AJS cases in the other IDP sites, the following interventions should be prioritized: household sanitation and hygiene promotion; improve access to safe water; and targeted interventions to prevent new infections in pregnant women.
- ✦ The ongoing integrated response to Kala-azar that entails enhanced surveillance, improved access to diagnosis and treatment facilities, refresher training of healthcare workers on Kala-azar case management, replenishing of drug stocks in endemic areas, and communication on Kala-azar prevention and control should be sustained.
- ✦ Support the implementation of the Ebola preparedness and response so as to enhance capacities for case detection, investigation, response and community awareness on Ebola prevention and control.
- ✦ Please send all disease surveillance information and any outbreak rumours to outbreak_ss_2007@yahoo.com.
- ✦ IDSR reports and mortality line lists should be submitted by COB Monday after the close of each epidemiologic week.

For comments or questions, please contact

Department of Epidemics, Preparedness and Response, MoH-RSS

E-mail: outbreak_ss_2007@yahoo.com,

HF radio frequency: 8015 USP; Selcall: 7002