

# South Sudan

Integrated Disease Surveillance and  
Response (IDSR)

Annexes W25 2018 (Jun 18 – Jun 24)



**World Health  
Organization**  
South Sudan



Ministry of Health  
Republic of South Sudan

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Slide 12 **Trend in measles cases over time**

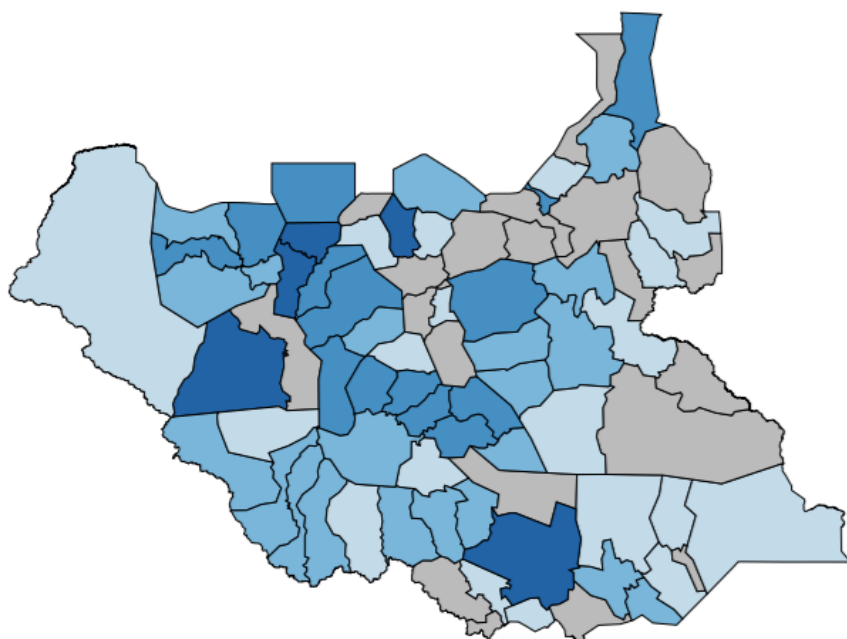
Slide 13 **Measles maps and alert management**

## Sources of data

1. Weekly IDSR Reporting Form
2. Weekly EWARS Reporting Form

## Access and Utilization | Map of consultations by county

**Map 1** | Map of total consultations by county (W25 2018)

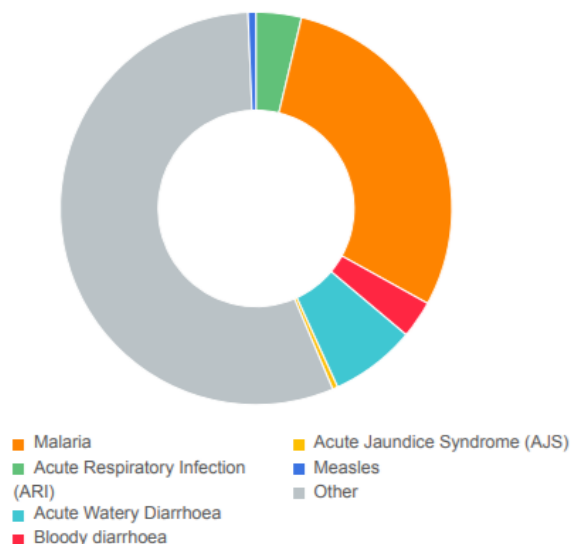


Hub	W25	2018
Aweil	10,155	297,972
Bentiu	12,608	373,154
Bor	12,286	255,643
Juba	10,260	270,590
Kwajok	27,063	579,666
Malakal	9,619	303,310
Rumbek	21,820	407,977
Torit	6,455	139,090
Wau	9,098	214,365
Yambio	14,793	291,068
<b>South Sudan</b>	<b>134,157</b>	<b>3,132,835</b>

The total consultation in the country since week 1 of 2018 is 3,132,835 by hub, Kwajok registered the highest number of consultations as indicated in the table above. The total number of consultations by county is indicated in the map above. See the key for more information.

## Proportional mortality

Figure 1 | Proportional mortality (2018)

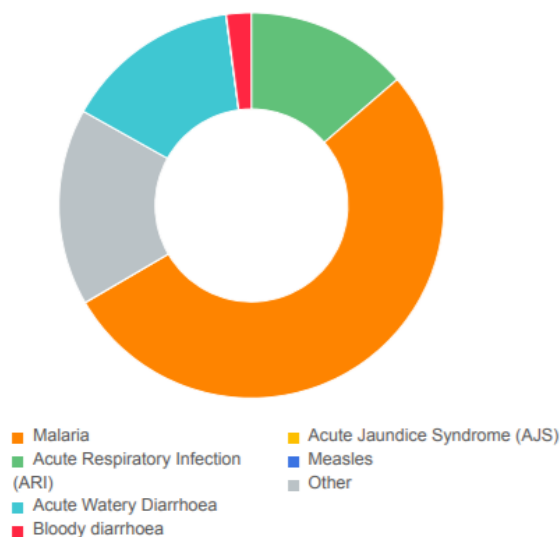


Syndrome	W25		2018	
	# deaths	% mortality	# deaths	% mortality
Malaria	12	70.6%	133	29.3%
ARI	1	5.9%	17	3.7%
AWD	3	17.6%	32	7.0%
Bloody diarrhoea	0	0.0%	14	3.1%
AJS	0	0.0%	2	0.4%
Measles	0	0.0%	3	0.7%
Other	1	5.9%	253	55.7%
<b>Total deaths</b>	<b>17</b>	<b>100%</b>	<b>454</b>	<b>100%</b>

Figure 1, above shows the proportional mortality for 2018, with malaria being the main cause of mortality accounting for 29.3% of the deaths since week 1 of 2018, followed by bloody diarrhoea, and acute watery diarrhoea.

## Proportional morbidity

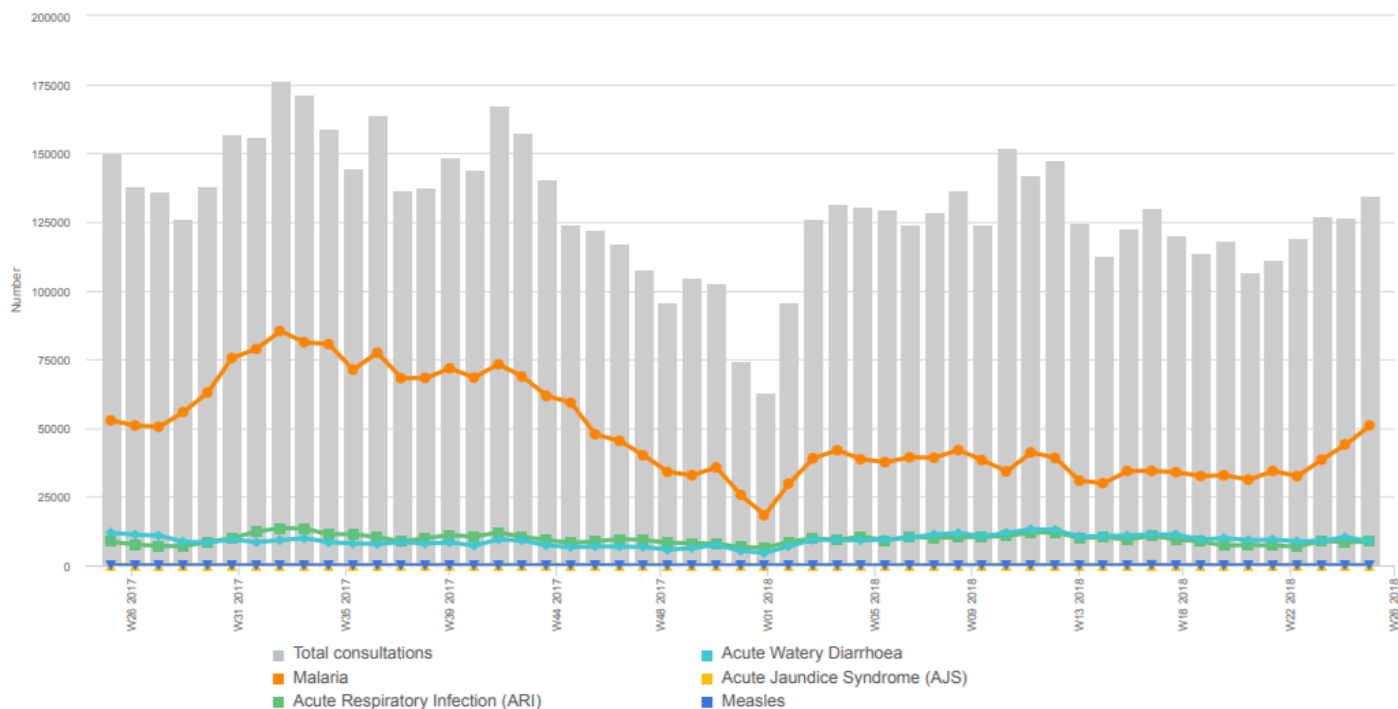
Figure 2 | Proportional morbidity (2018)



Syndrome	W25		2018	
	# cases	% morbidity	# cases	% morbidity
Malaria	50,985	63.1%	921,677	52.9%
ARI	8,740	10.8%	237,986	13.7%
AWD	8,852	10.9%	257,046	14.8%
Bloody diarrhoea	1,036	1.3%	36,515	2.1%
AJS	7	0.0%	156	0.0%
Measles	7	0.0%	417	0.0%
Other	11,224	13.9%	287,637	16.5%
<b>Total cases</b>	<b>80,851</b>	<b>100%</b>	<b>1,741,434</b>	<b>100%</b>

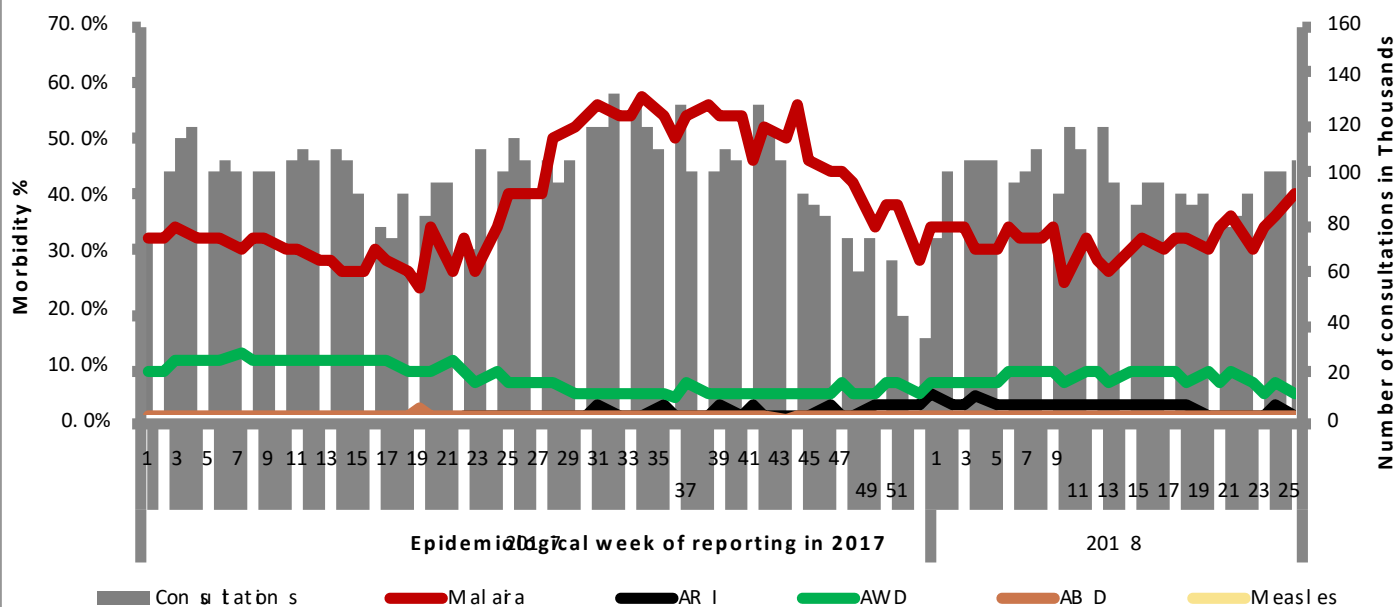
Figure 2, indicates the top causes of morbidity in the country, with malaria being the leading cause of morbidity 921,677 (52.9%) followed by ARI, AWD and ABD respectively since week 1 of 2018. refer to the figure above for more information.

Figure 3 | Trend in total consultations and key diseases (W25)



IDSR Proportionate morbidity trends - in relatively stable states

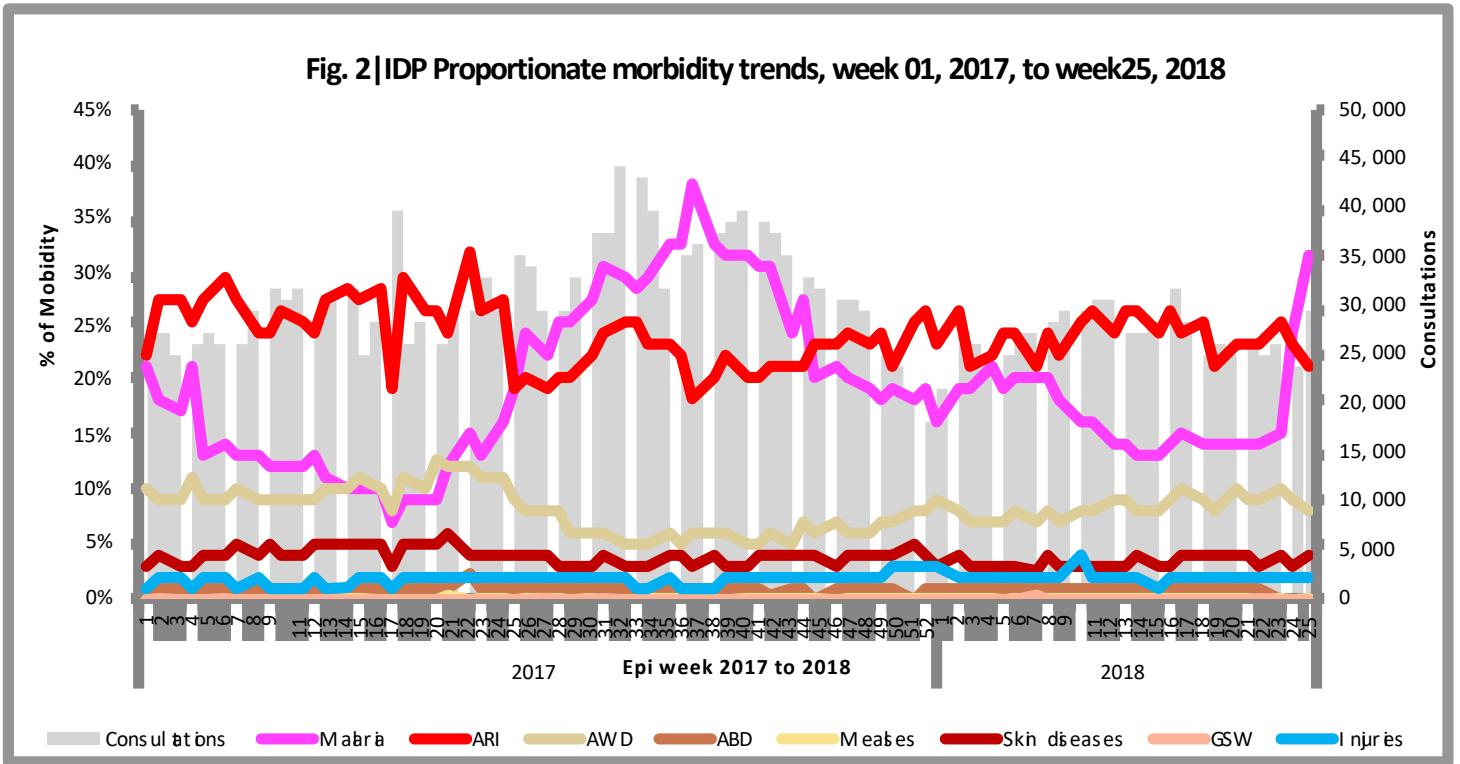
Fig. 1 | IDSR Proportionate morbidity trends, week 1, 2017 to 25, 2018



In the relatively stable states, malaria is the top cause of morbidity accounting for 39.9% of the consultations in week 25 (representing an increase from 37.3% in week 24).

## IDP Proportionate Morbidity trends – in displaced Population

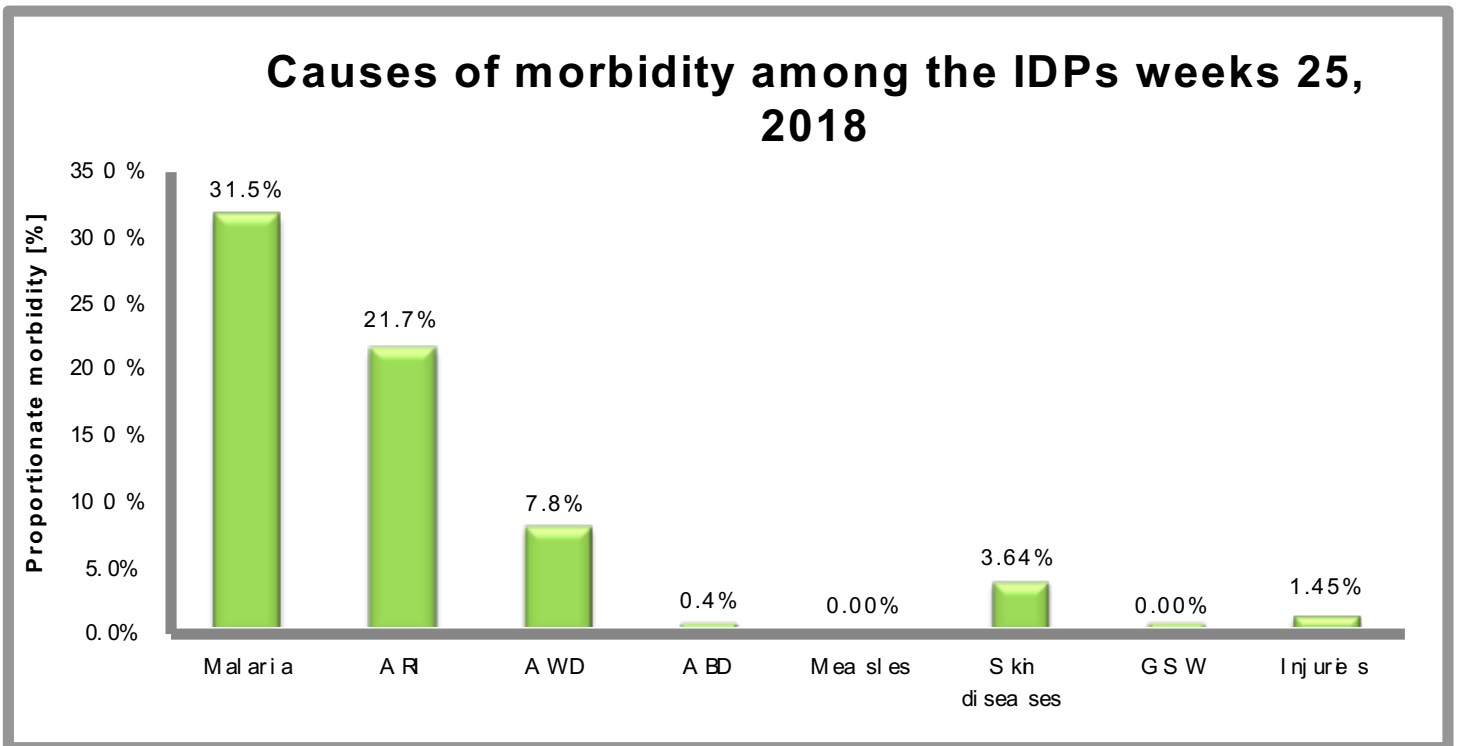
Fig. 2 | IDP Proportionate morbidity trends, week 01, 2017, to week 25, 2018



Among the IDPs, ARI and Malaria accounted for 21.7% and 37.5% of the consultations in week 25. The other significant causes of morbidity in the IDPs includes AWD, Skin diseases, and Injuries.

## IDP Proportionate Morbidity trends – in displaced Population

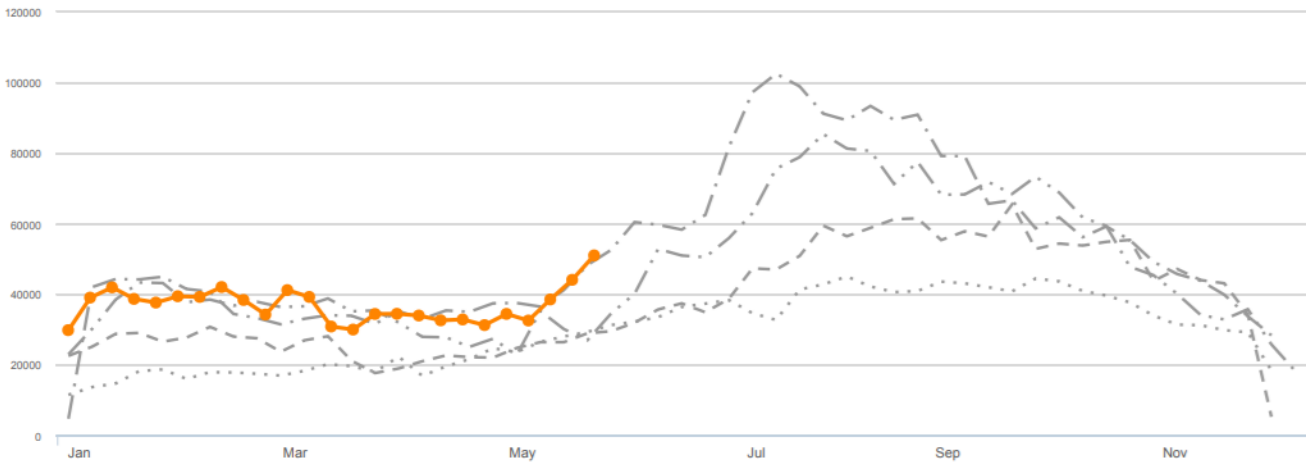
Causes of morbidity among the IDPs weeks 25, 2018



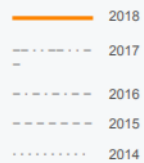
The top causes of morbidity in the IDPs in 2018 include ARI, Malaria, AWD, Skin diseases, Injuries and ABD.

# Malaria | Trends over time

Figure 4a | Trend in number of cases over time (South Sudan)



**Graph legend**



**Key malaria indicators (2018)**

**921,677**   **133**   **76**  
 Cases   Deaths   Alerts

**Figure 4b | % morbidity**



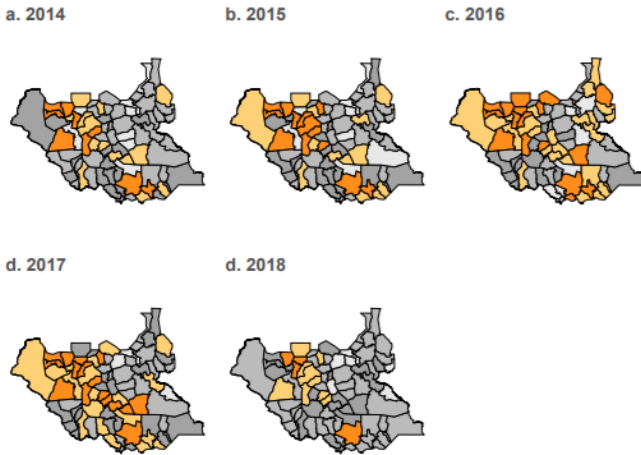
**Figure 4c | Age breakdown**



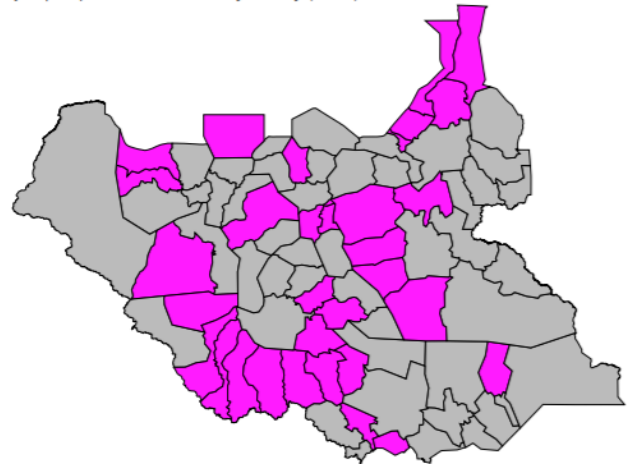
Malaria is the top course of Morbidity in the country, a total of 921,677 cases with 133 deaths registered since week 1 of 2018. malaria trend for week 25 of 2018 is above 2014, 2015, 2016, and 2017 as shown in the figure 4a, above.

# Malaria | Maps and Alert Management

Map 2 | Map of malaria cases by county (2018)



Map 3 | Map of malaria alerts by county (2018)



**Map legend**



**Alert threshold**

Twice the average number of cases over the past 3 weeks. Source: IDSR

**76**   **41**  
 Alerts   Verified

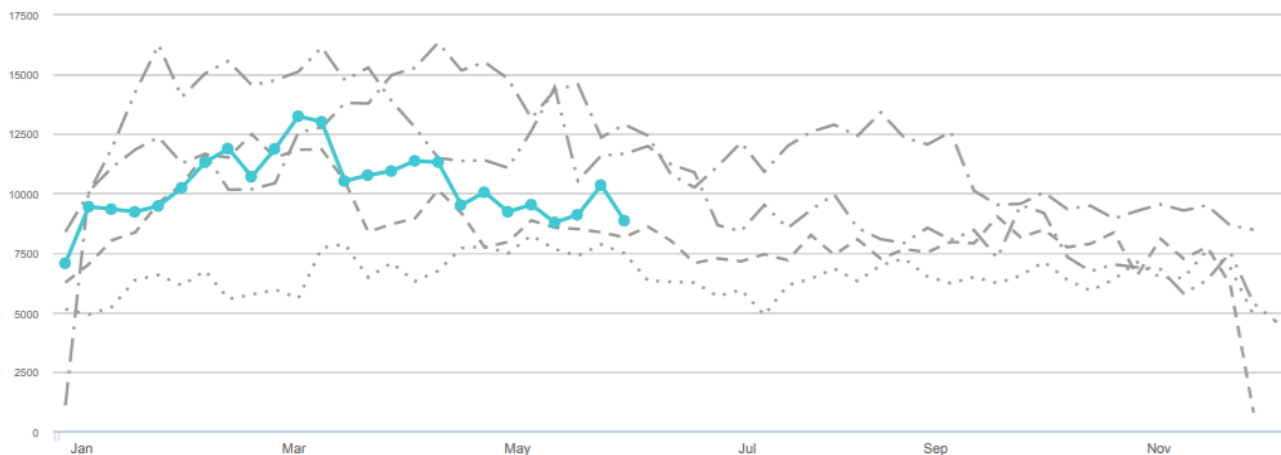
**Risk Assessment**



Since the beginning of the year, a total of 66 malaria alerts have been triggered, 40 of those were verified. The Maps above indicate the location reporting malaria alerts from 2014, 2015, 2016, 2017, and 2018.

# Acute Watery Diarrhoea | Trends over time

Figure 5a | Trend in AWD cases over time (South Sudan)

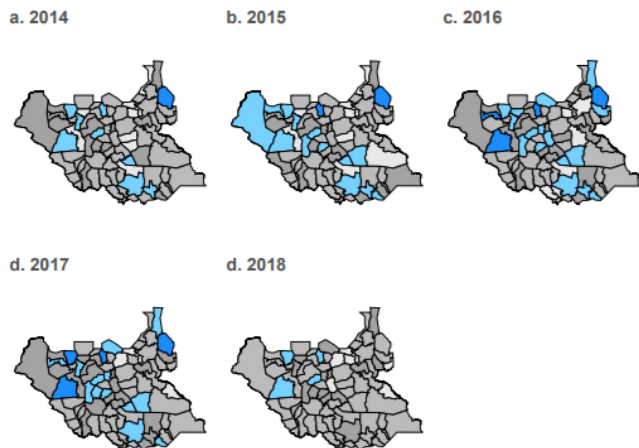


<b>Graph legend</b> 2018 (solid blue) 2017 (long-dashed) 2016 (dash-dot) 2015 (dashed) 2014 (dotted)	<b>Key AWD indicators (2018)</b>			<b>Figure 5b   % morbidity</b> 	<b>Figure 5c   Age breakdown</b> 
	<b>257,046</b> Cases	<b>32</b> Deaths	<b>87</b> Alerts		

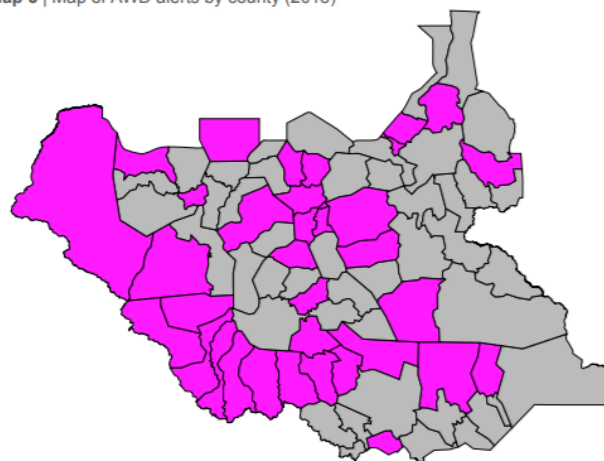
AWD is one of the top causes of morbidity in the country with 257,046 cases reported since week 1 of 2018 including 32 deaths. AWD trend for 2018 is below 2014, & 2015 as shown in figure 5a, above.

# Acute Watery Diarrhoea | Maps and Alert Management

Map 4 | Map of AWD cases by county (2018)



Map 5 | Map of AWD alerts by county (2018)



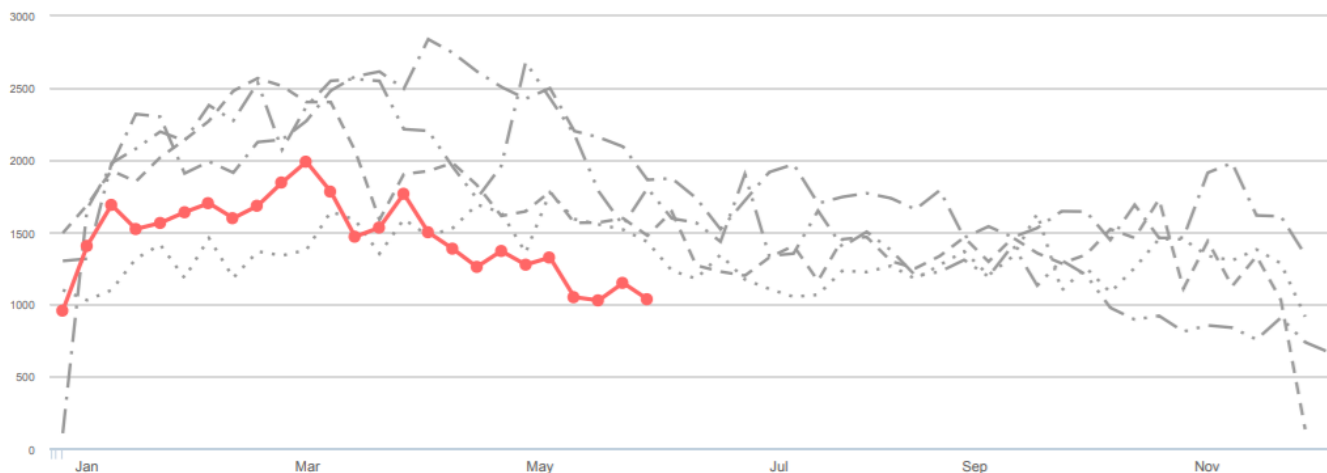
<b>Map legend</b> Number of AWD cases 0 to 25,000 (color scale) Number of AWD alerts 0 to 10 (color scale)	<b>Risk Assessment</b>				
	<b>87</b> Alerts	<b>51</b> Verified	<b>0</b> Low Risk	<b>1</b> Moderate Risk	<b>0</b> High Risk

**Alert threshold**  
Twice the average number of cases over the past 3 weeks. Source: IDSR

The number of AWD alerts triggered since week 1 of 2018 is 87, out of which 51 were verified. Maps above highlight the areas reporting AWD alerts from 2014 to 2018.

# Acute Bloody Diarrhoea | Trends over time

**Figure 6a | Trend in bloody diarrhoea cases over time (South Sudan)**

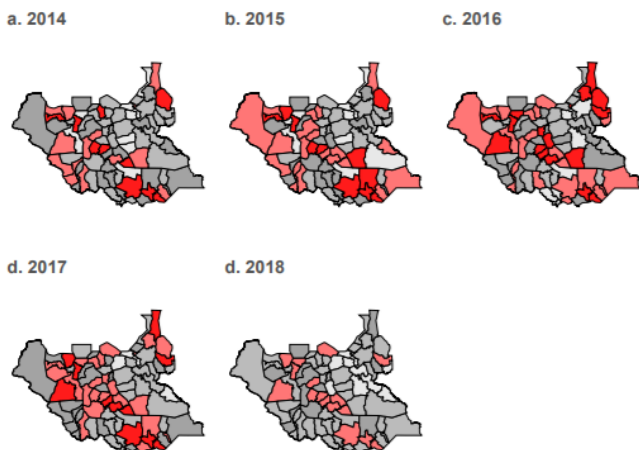


<b>Graph legend</b> — 2018 - - - 2017 - - - 2016 - - - 2015 ..... 2014	<b>Key bloody diarrhoea indicators (2018)</b>			<b>Figure 6b   % morbidity</b> 	<b>Figure 6c   Age breakdown</b> 
	<b>36,515</b> Cases	<b>14</b> Deaths	<b>97</b> Alerts		

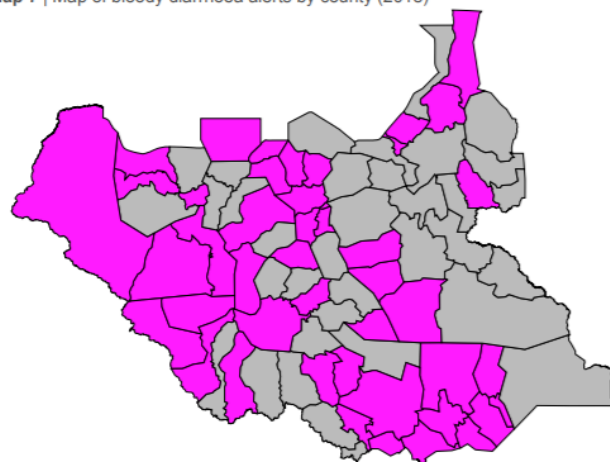
Since week 1 of 2018, a total of 36,515 cases of ABD have been reported country wide including 14 death. ABD trend for 2018 is below 2014, 2015, 2016, and 2017 respectively. Refer to figure 6a, above.

# Acute Bloody Diarrhoea | Maps and Alert Management

**Map 6 | Map of bloody diarrhoea cases by county (2018)**



**Map 7 | Map of bloody diarrhoea alerts by county (2018)**



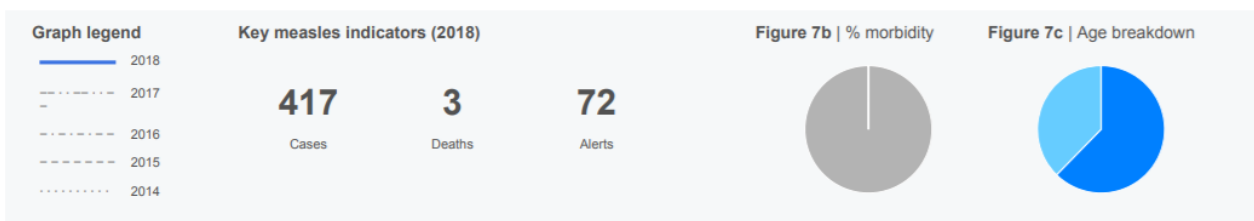
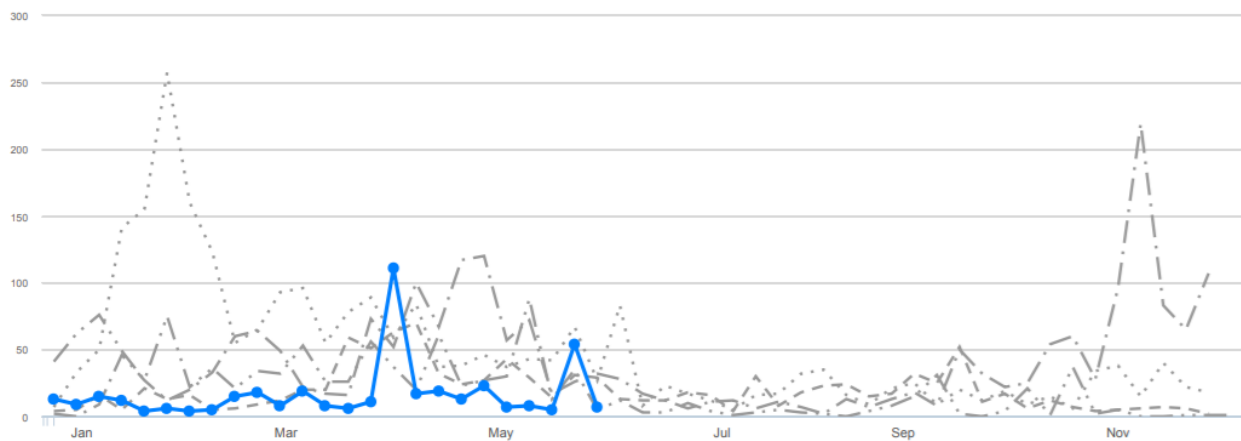
<b>Map legend</b> Number of bloody diarrhoea cases 0 500 1,000 2,000 Number of alerts 0 1 10 <b>Alert threshold</b> Twice the average number of cases over the past 3 weeks. Source: IDSR	<b>97</b> Alerts	<b>58</b> Verified	<b>Risk Assessment</b>			
				<b>1</b> Low Risk	<b>0</b> Moderate Risk	<b>0</b> High Risk

Total of 97 alerts were generated since week 1 of 2018, of which 58 were verified by the county surveillance team. Maps indicating areas triggering alerts since 2014 to 2018 are shown above.



# Measles | Trends over time

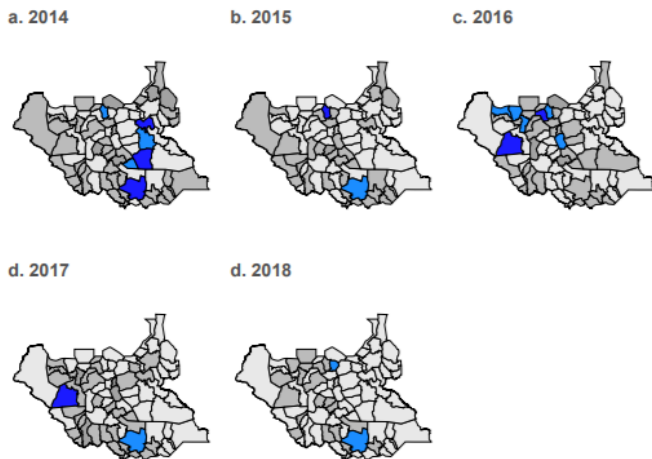
Figure 7a | Trend in number of cases over time (South Sudan)



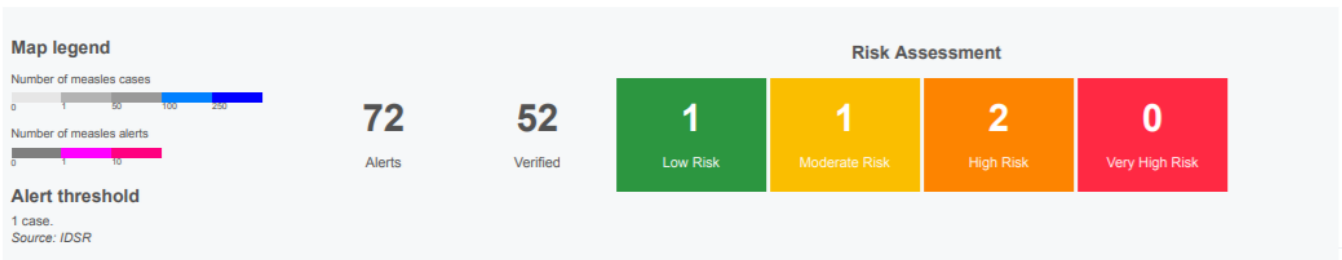
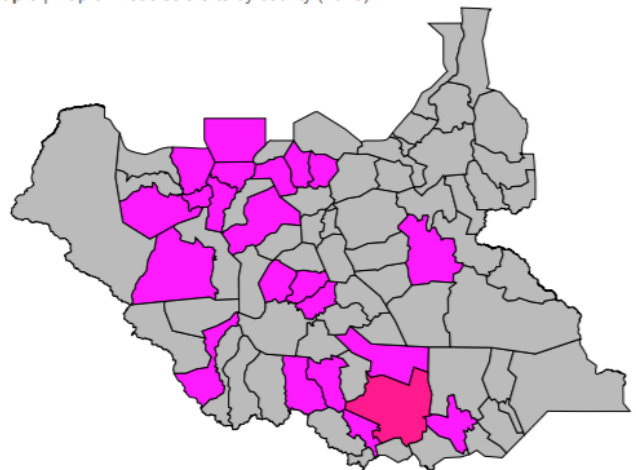
Since the beginning of 2018, at least 417 suspect measles cases including 3 death (CFR 0.72%) have been reported.

# Measles | Maps and Alert Management

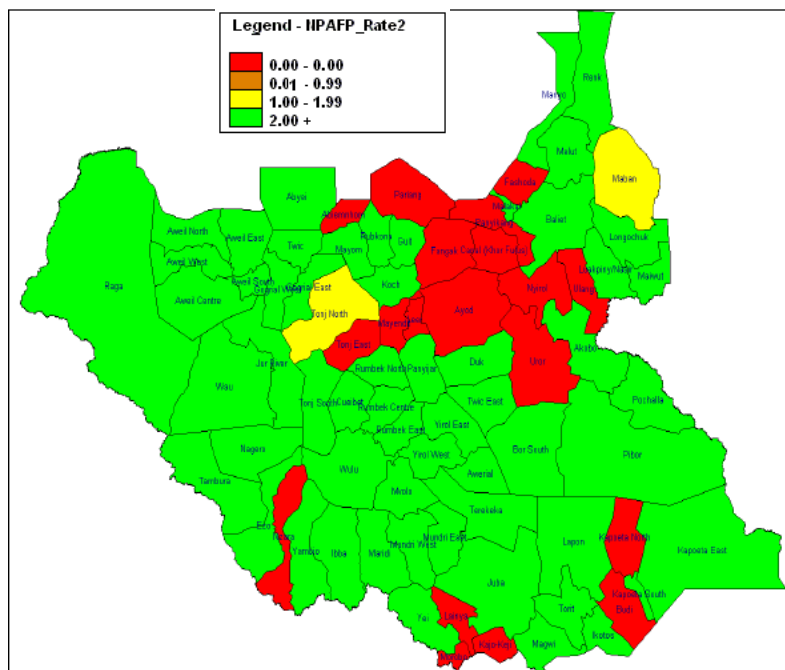
Map 7 | Map of measles cases by county (2018)



Map 8 | Map of measles alerts by county (2018)



Since week 1 of 2018, 72 alerts of measles were triggered and 52 of those have been verified at county level. Maps of areas raising alerts from 2014 to 2018 are shown above.



In week 19, 2018, Fourteen (14) new AFP cases were reported from Lakes, Northern Bahr el Ghazal, Upper Nile, Eastern Equatoria and Warrap hubs. This brings the cumulative total for 2018 to 148 AFP cases.

The annualized non-Polio AFP (NPAFP) rate (cases per 100,000 population children 0-14 years) in 2018 is 4.9 per 100,000 population of children 0-14 years (target  $\geq 2$  per 100,000 children 0-14 years).

Stool adequacy was 88% in 2018, a rate that is higher than the target of  $\geq 80\%$ .

Environmental surveillance ongoing since May 2017; with 23 samples testing positive for non-polio enterovirus (NPEV) in 2017 and seven (7) NPEV positive sample in 2018.

**Source:** South Sudan Weekly AFP Bulletin

Mortality in the IDPs

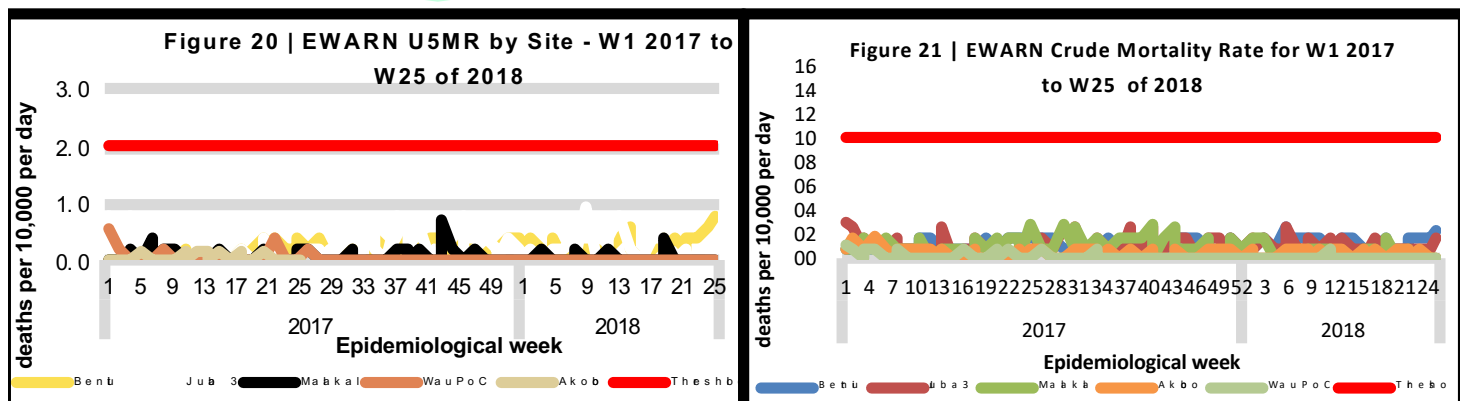
**Table 6 |** Proportional mortality by cause of death in IDPs W25 2018

Cause of Death by IDP site	Bentiu		Juba 3		Total deaths
	<5yrs	$\geq 5$ yrs	<5yrs	$\geq 5$ yrs	
Liver failure	1				1
malaria	4	1			5
perinatal death		2			2
SAM		2			2
HIV/AIDS				1	1
Unkown	4	1			5
Anaemia			1	2	3
Hepatic Encephalopathy	1				1
Hep C	1				1
Severe Septic Shock	1				1
<b>Total deaths</b>	<b>12</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>22</b>

Among the IDPs, mortality data was received from Bentiu PoC, & UN House PoC in week 25. (Table 6). **A total of 22** deaths were reported during the week. Bentiu PoC report 18 deaths (82%) in the week. During the week, 14 (64%) deaths were recorded among children <5 years in (Table 6).

The causes of death during week 25 are shown in Table 6.

## Mortality in the IDPs - Crude and Under five mortality rates



The U5MR in all the IDP sites that submitted mortality data in week 25 of 2018 is below the emergency threshold of 2 deaths per 10,000 per day (Fig. 20).

The Crude Mortality Rates [CMR] in all the IDP sites that submitted mortality data in week 25 of 2018 were below the emergency threshold of 1 death per 10,000 per day (Fig. 21).

## Mortality in the IDPs - Overall mortality in 2018

**Table 7 | Mortality by IDP site and cause of death as of W25, 2018**

IDP site	acute watery diarrhoea	cancer	GSW	Gunshot wound	Heart Failure	Kala-Azar	malaria	Meningitis	perinatal death	pneumonia	Rabies	SAM	Sepsis	TB/HIV/AIDS	Trauma	HIV/AIDS	TB	Others	Grand Total
Bentiu	7	1	1	2	1	2	12	3	18	10	1	11	16	9	1	13	7	152	267
Juba 3	1	1			1		7			3		2		1		5	7	42	70
Malakal		1			3	1			1	1							2	17	26
Akobo				1			3			2		1	2	1	1			6	19
Wau PoC							1											0	1
<b>Grand Total</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>23</b>	<b>3</b>	<b>19</b>	<b>16</b>	<b>1</b>	<b>14</b>	<b>18</b>	<b>11</b>	<b>2</b>	<b>18</b>	<b>16</b>	<b>217</b>	<b>383</b>
<b>Proportionate mortality [%]</b>	2%	1%	0%	1%	1%	1%	6%	1%	5%	4%	0%	4%	5%	3%	1%	5%	4%	57%	100%

A total of 383 deaths have been reported from the IDP sites in 2018 [Table 7](#).  
 The top causes of mortality in the IDPs in 2018 are shown in [Table 7](#).

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## Notes

WHO and the Ministry of Health gratefully acknowledge health cluster and health pooled fund (HPF) partners who have reported the data used in this bulletin. We would also like to thank ECHO and USAID for providing financial support.

The data has been collected with support from the EWARS project. This is an initiative to strengthen early warning, alert and response in emergencies. It includes an online, desktop and mobile application that can be rapidly configured and deployed in the field. It is designed with frontline users in mind, and built to work in difficult and remote operating environments. This bulletin has been automatically published from the EWARS application.

More information can be found at <http://ewars-project.org>

