

# South Sudan

## Integrated Disease Surveillance and Response (IDSR)

Annexes W16 2018 (April 16 – April 22)



**World Health  
Organization**  
South Sudan



Ministry of Health  
Republic of South Sudan

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

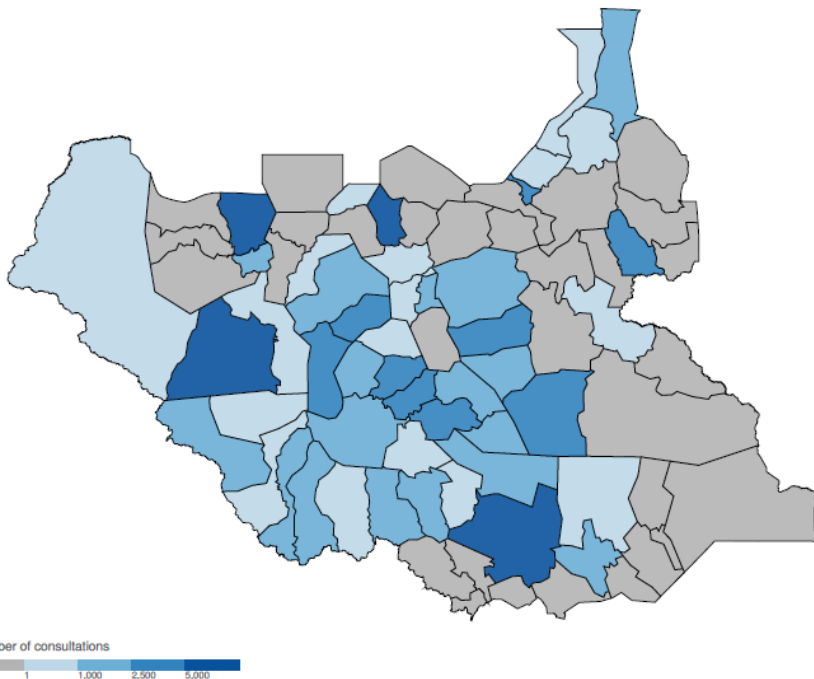
Slide 13 **Measles maps and alert management**

## 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 (W16 2018)

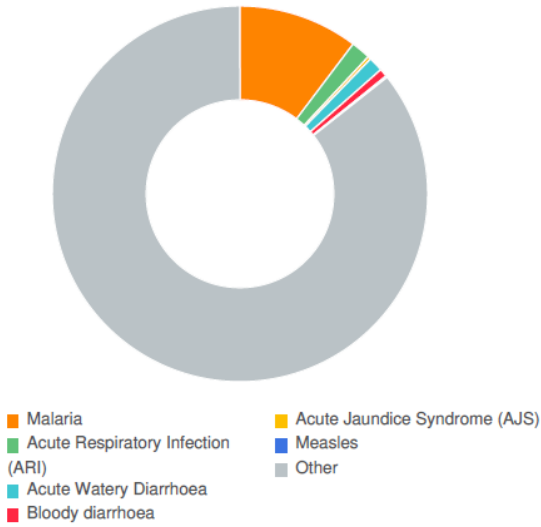


Hub	W16	2018
Aweil	7,161	225,233
Bentiu	11,219	260,830
Bor	8,770	180,411
Juba	7,688	144,221
Kwajok	10,110	374,631
Malakal	9,676	184,551
Rumbek	17,584	255,256
Torit	1,797	81,220
Wau	10,254	129,165
Yambio	11,912	170,417
South Sudan	96,171	2,005,935

The total consultation in the country since week 1 of 2018 is 2,005,935, by hub, Bentiu 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)

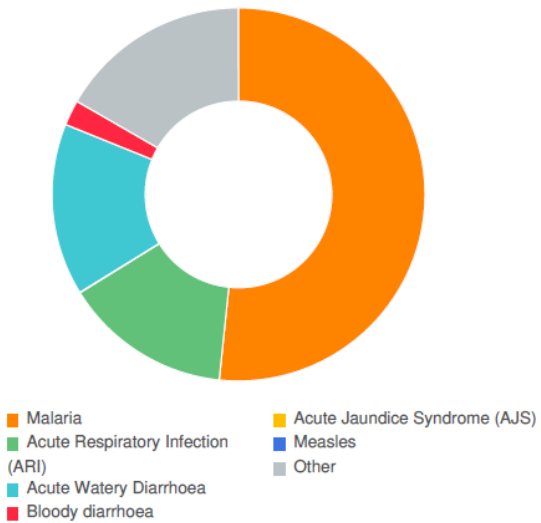


Syndrome	W16		2018	
	# deaths	% mortality	# deaths	% mortality
Malaria	0	0.0%	74	10.3%
ARI	0	0.0%	12	1.7%
AWD	0	0.0%	9	1.3%
Bloody diarrhoea	0	0.0%	5	0.7%
AJS	0	0.0%	2	0.3%
Measles	0	0.0%	1	0.1%
Other	416	100.0%	615	85.7%
<b>Total deaths</b>	<b>416</b>	<b>100%</b>	<b>718</b>	<b>100%</b>

Figure 1, above shows the proportional mortality for 2018, with malaria being the main cause of mortality accounting for 10.3% of the deaths since week 1 of 2018, followed by bloody diarrhoea, and acute watery diarrhoea.

# Proportional morbidity

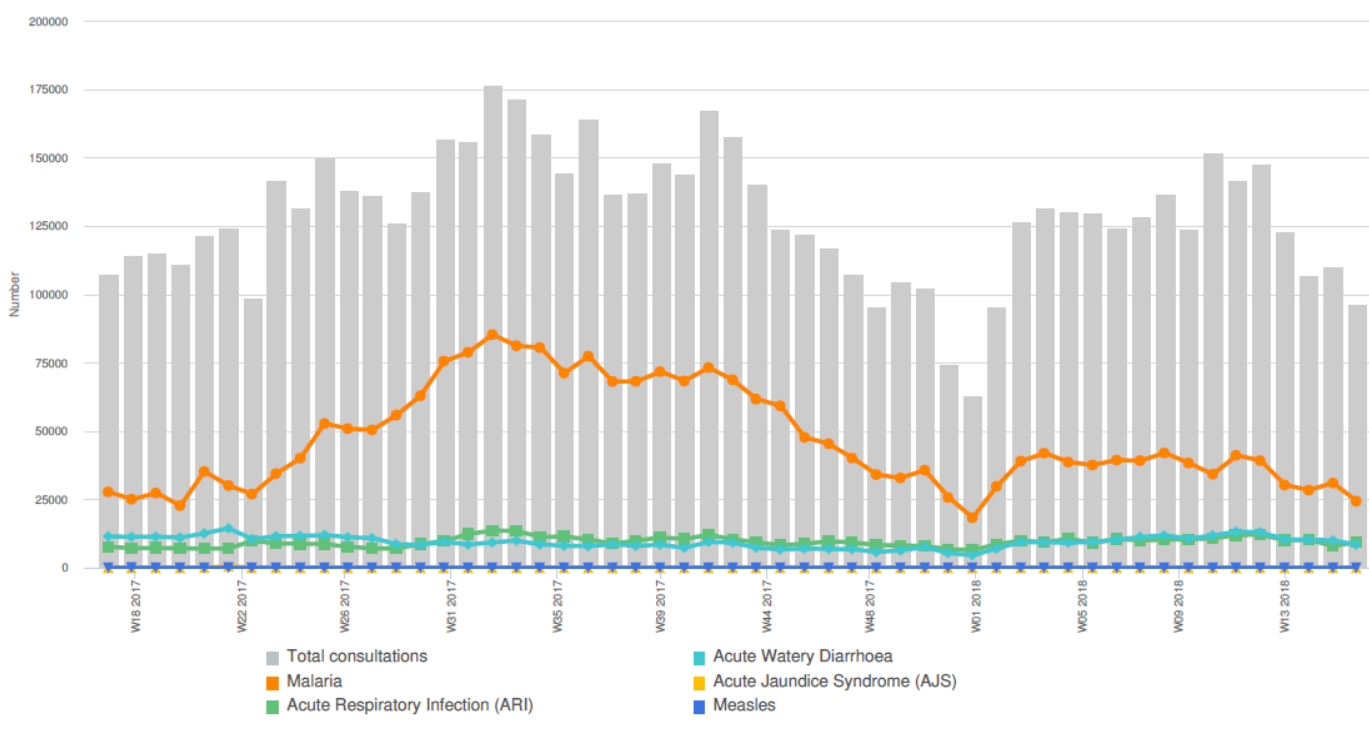
Figure 2 | Proportional morbidity (2018)



Syndrome	W16		2018	
	# cases	% morbidity	# cases	% morbidity
Malaria	24,387	43.4%	575,089	51.7%
ARI	9,353	16.6%	161,609	14.5%
AWD	8,453	15.0%	165,988	14.9%
Bloody diarrhoea	941	1.7%	24,717	2.2%
AJS	0	0.0%	66	0.0%
Measles	12	0.0%	165	0.0%
Other	13,030	23.2%	185,543	16.7%
<b>Total cases</b>	<b>56,176</b>	<b>100%</b>	<b>1,113,177</b>	<b>100%</b>

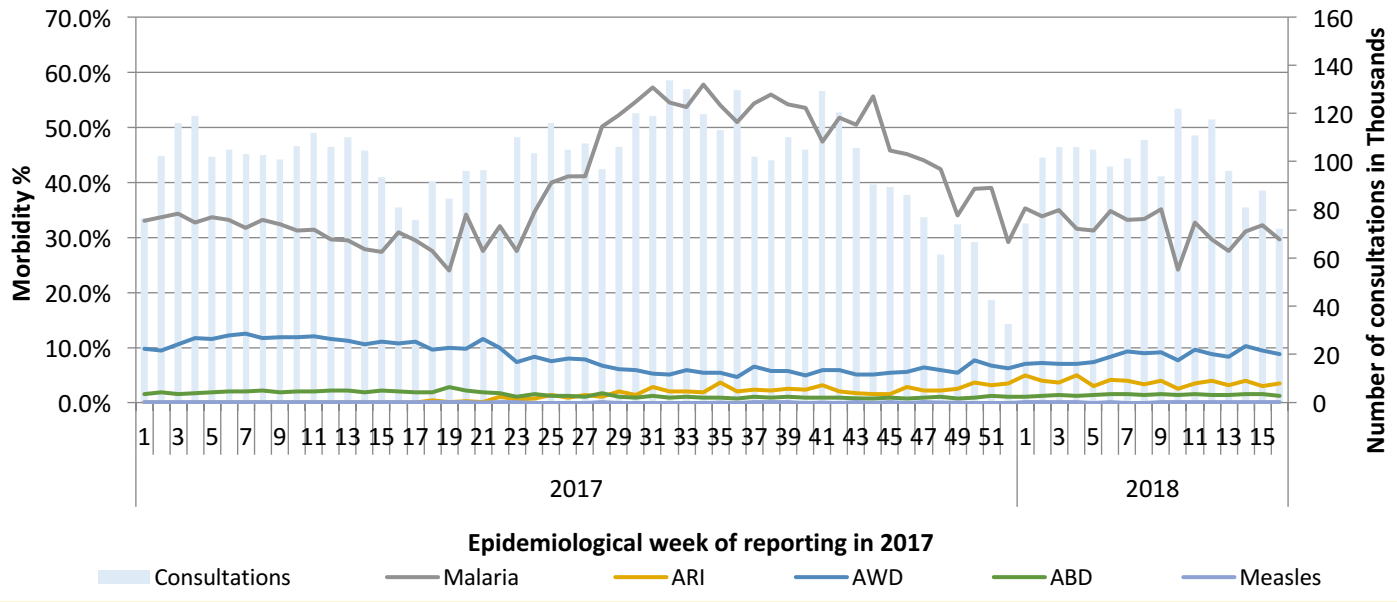
Figure 2, indicates the top causes of morbidity in the country, with malaria being the leading cause of morbidity 575,089 (51.7%) followed by ARI, AWD and ABD respectively since week 1 of 2018. refer to the figure above for more information.

Figure 3 | Trend in total consultations and key diseases (W16)



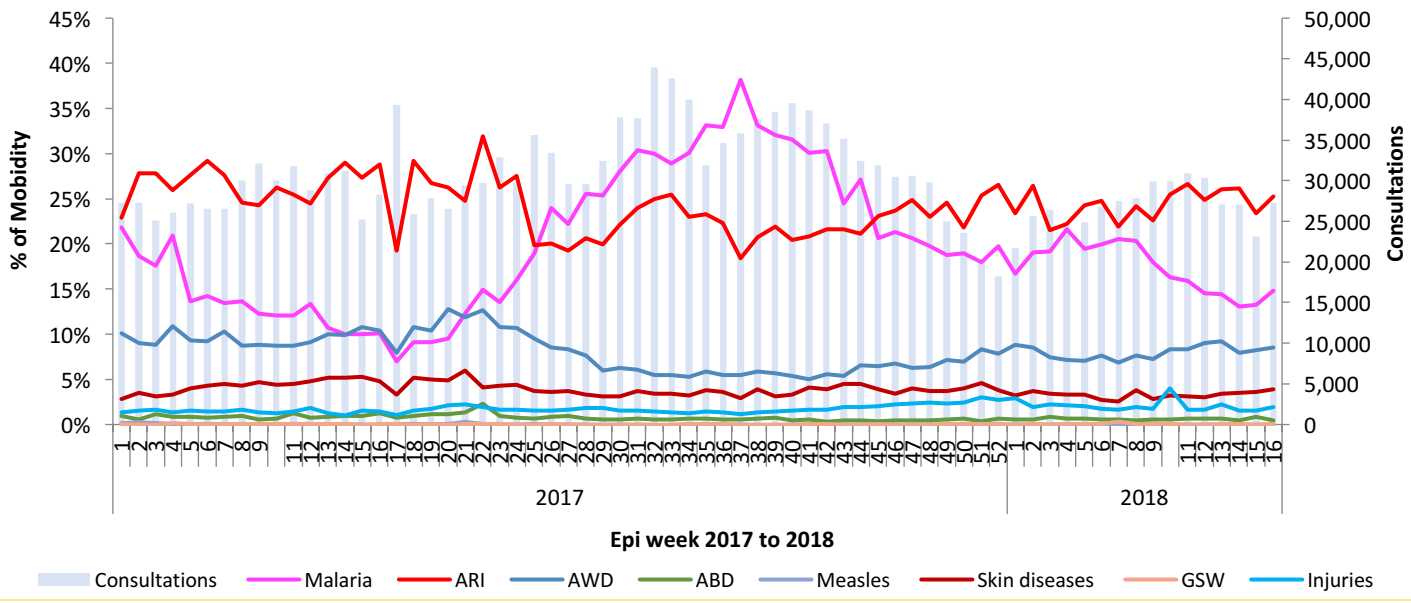
IDSR Proportionate morbidity trends - in relatively stable states

Fig. 1 | IDSR Proportionate morbidity trends, week 1, 2017 to 16, 2018



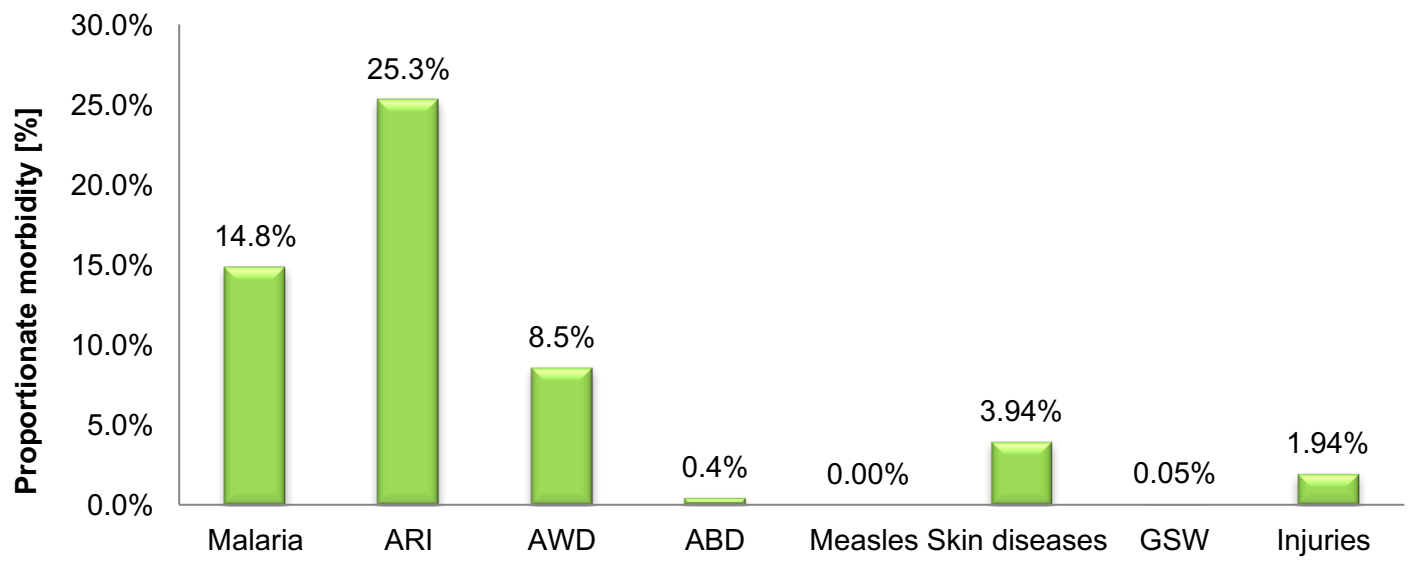
In the relatively stable states, malaria is the top cause of morbidity accounting for 29.6% of the consultations in week 16 (representing an decrease from 32.2% in week 15).

Fig. 2 | IDP Proportionate morbidity trends, week 01, 2017, to week 16, 2018



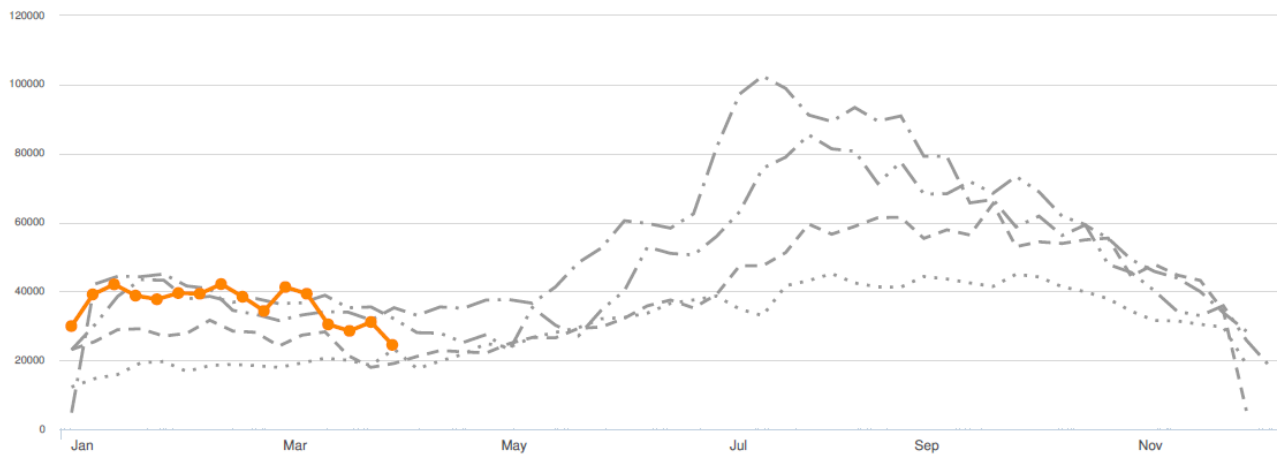
Among the IDPs, ARI and malaria accounted for 25.3% and 14.8% of consultations in week 16. The other significant causes of morbidity in the IDPs include AWD, skin diseases, and injuries.

Causes of morbidity among the IDPs weeks 16, 2018

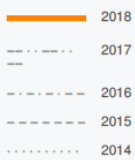


The top causes of morbidity in the IDPs in 2018 include ARI, malaria, AWD, skin diseases, injuries, and ABD.

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



**Graph legend**



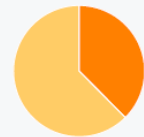
**Key malaria indicators (2018)**

**575,089** Cases  
**74** Deaths  
**39** Alerts

**Figure 4b | % morbidity**



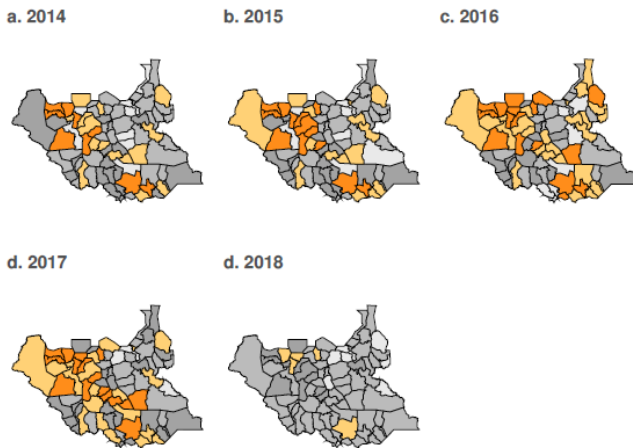
**Figure 4c | Age breakdown**



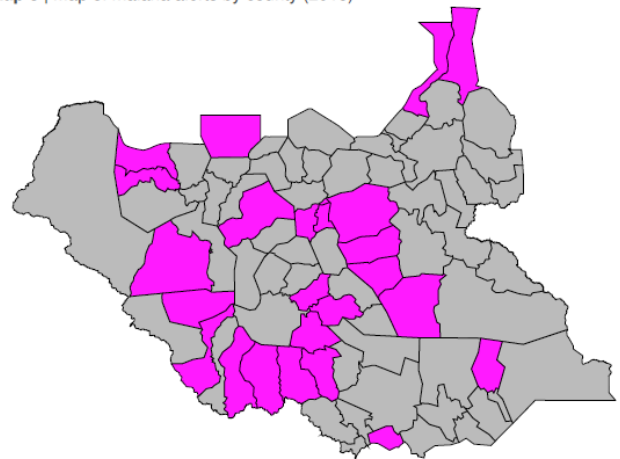
Malaria is the top course of Morbidity in the country, a total of 575,089 cases with 74 deaths registered since week 1 of 2018. malaria trend for week 16 of 2018 is above 2014, 2015, however, is below the trend for 2016 and 2017 as shown in the figure 4a, above.

## Malaria | Maps and Alert Management

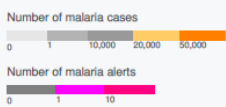
**Map 2 |** Map of malaria cases by county (2018)



**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: *IDSF*

**39** Alerts  
**25** Verified

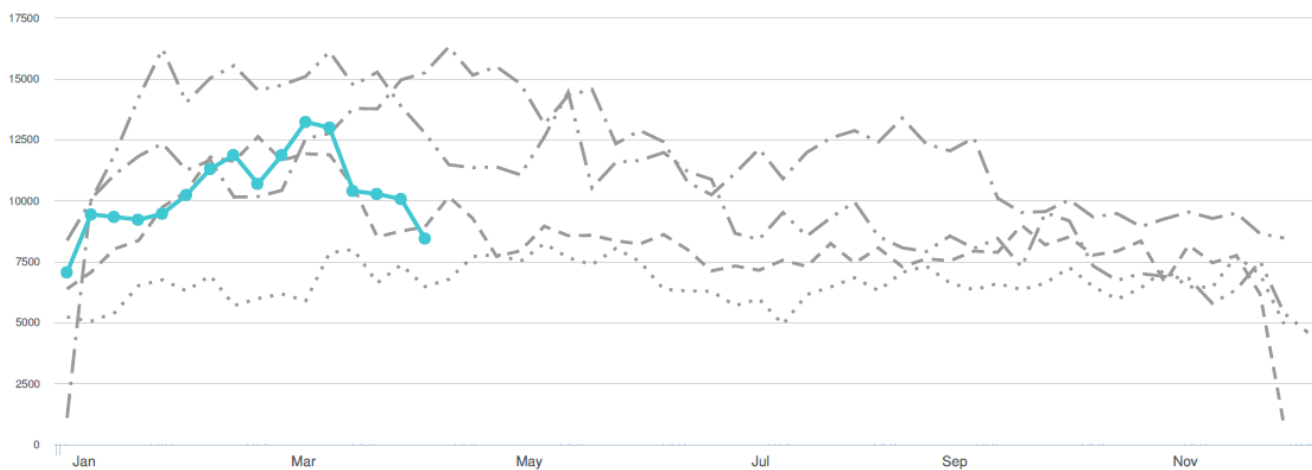
**Risk Assessment**



Since the beginning of the year, a total of 39 malaria alerts have been triggered, 25 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)**



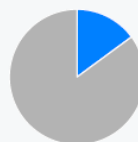
**Graph legend**

- 2018
- - - 2017
- - - 2016
- - - 2015
- ..... 2014

**Key AWD indicators (2018)**

**165,988** Cases  
**9** Deaths  
**55** Alerts

**Figure 5b | % morbidity**



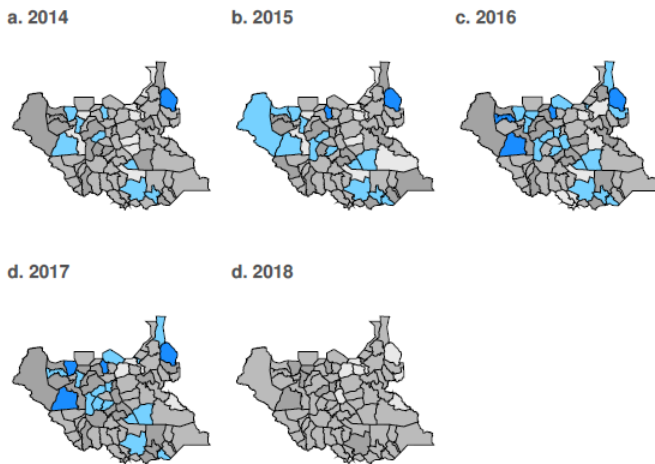
**Figure 5c | Age breakdown**



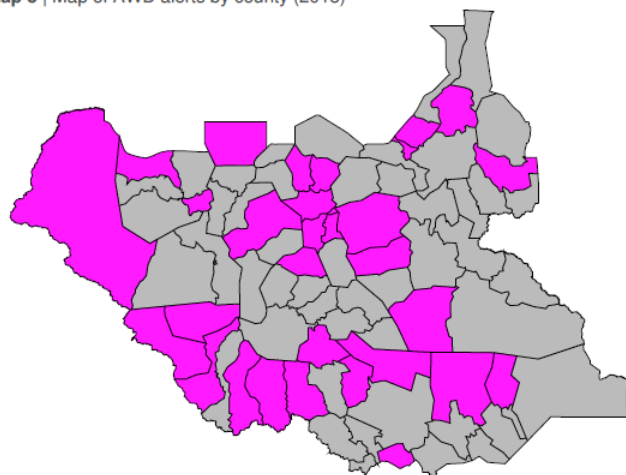
AWD is one of the top causes of morbidity in the country with 165,988 cases reported since week 1 of 2018 including 9 deaths. AWD trend for 2018 is below 2015, 2016, and 2017 as shown in figure 5a, above.

## 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)**



**Map legend**

Number of AWD cases  
 0 1 5,000 10,000 20,000

Number of AWD alerts  
 0 1 10

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

**55** Alerts  
**34** Verified

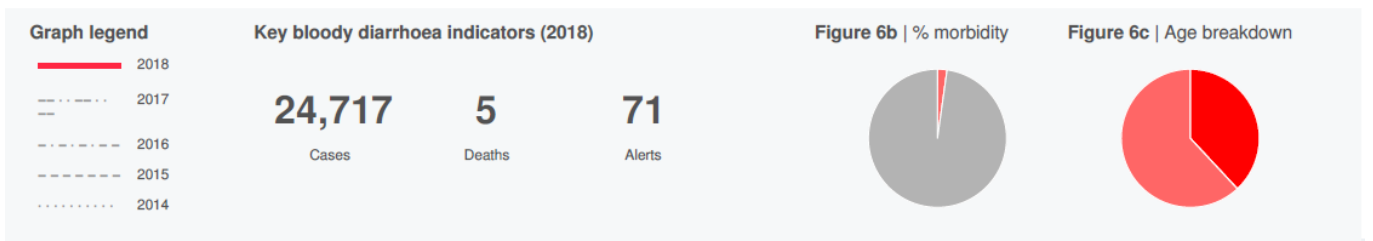
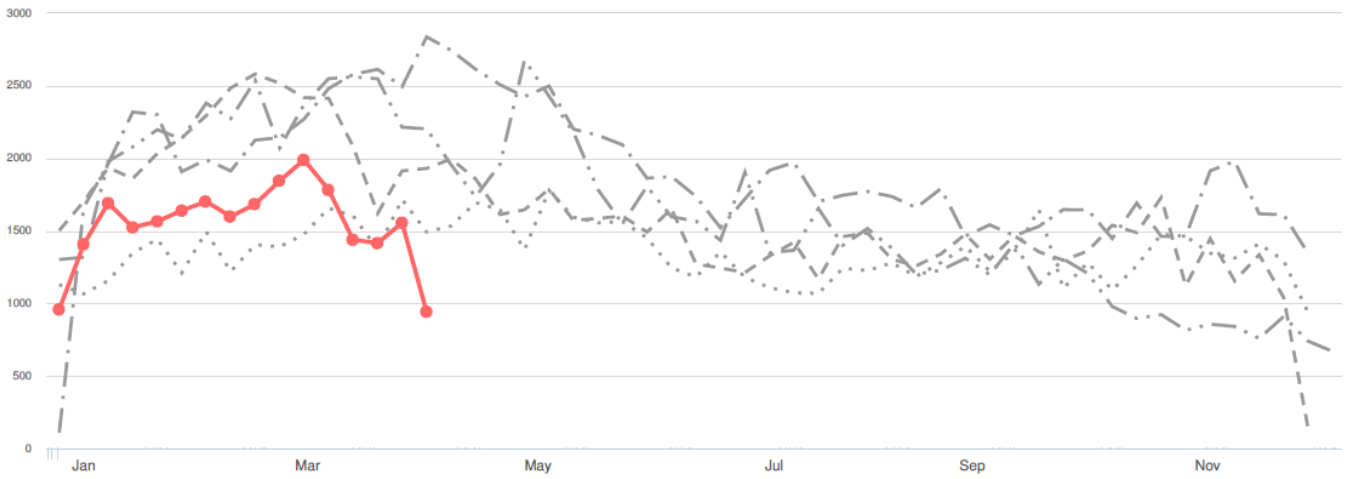
**Risk Assessment**



The number of AWD alerts triggered since week 1 of 2018 is 55, out of which 34 were verified. Maps above highlight the areas reporting AWD alerts from 2014 to 2018.

# Acute Bloody Diarrhoea | Trends over time

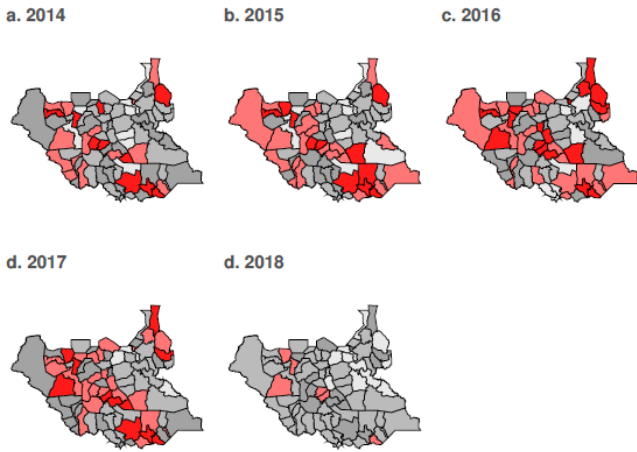
**Figure 6a** | Trend in bloody diarrhoea cases over time (South Sudan)



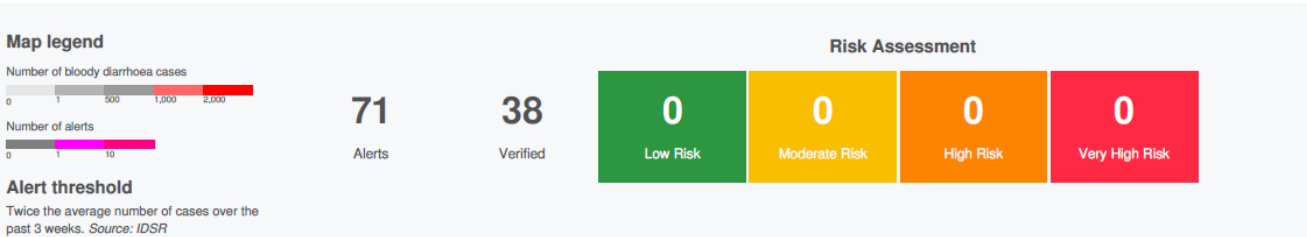
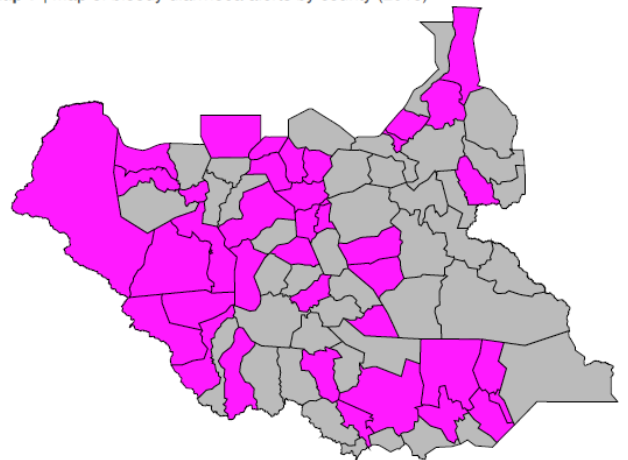
Since week 1 of 2018, a total of 24,717 cases of ABD have been reported country wide including 5 death. ABD trend for 2018 is below 2014, 2015, 2016, and 2017 respectively. Refer to figure 6a, above.

# Acute Bloody Diarrhoea | Maps and Alert Management

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



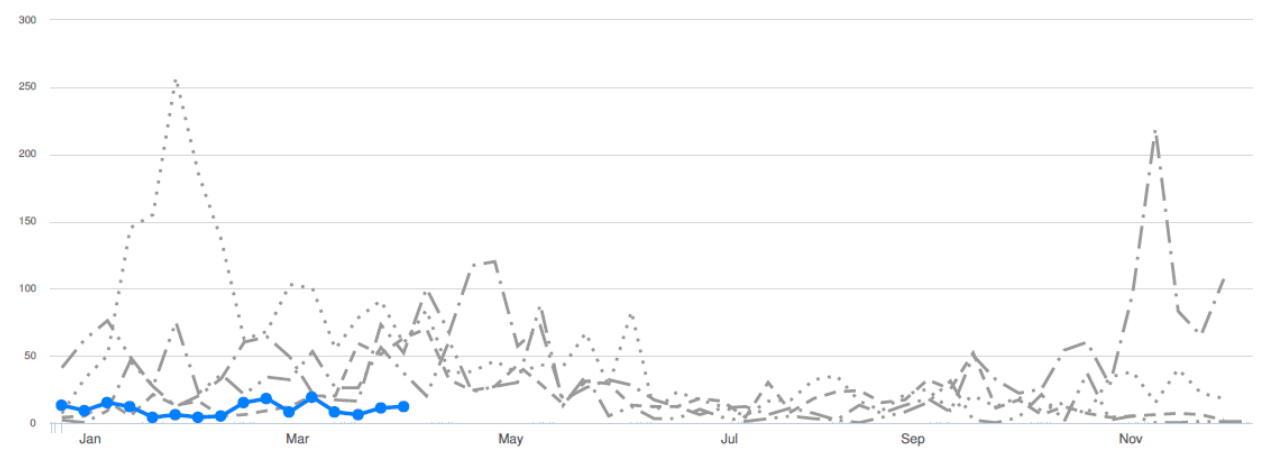
**Map 7** | Map of bloody diarrhoea alerts by county (2018)



Total of 71 alerts were generated since week 1 of 2018, of which 38 were verified by the county surveillance team. Maps indicating areas triggering alerts since 2014 to 2018 are shown above.



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

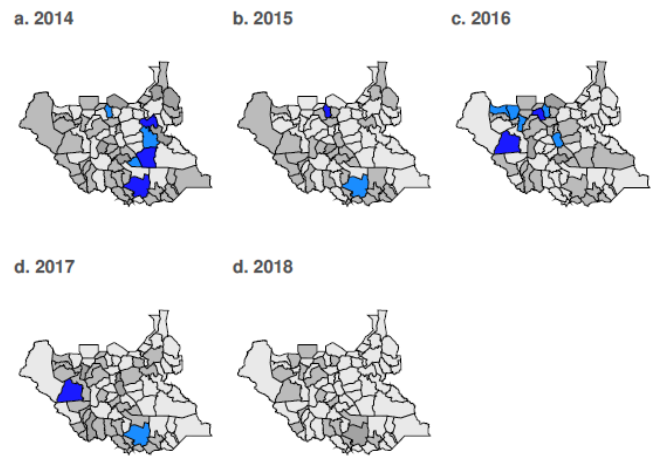


<b>Graph legend</b> — 2018 - - - 2017 - · - 2016 - - - 2015 ····· 2014	<b>Key measles indicators (2018)</b>			<b>Figure 7b   % morbidity</b> 	<b>Figure 7c   Age breakdown</b> 
	<b>165</b> Cases	<b>1</b> Deaths	<b>51</b> Alerts		

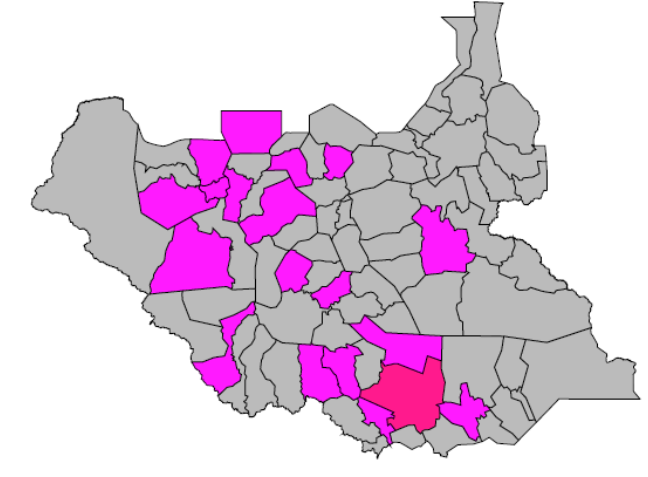
Since the beginning of 2018, at least 165 suspect measles cases including 1 death (CFR 0.8%) have been reported. Of these, 84 suspect cases have undergone measles case-based laboratory-backed investigation with 68 samples collected out of which 14 measles IgM positive cases; 14 clinically confirmed cases; and 3 cases confirmed by epidemiological linkage.

## Measles | Maps and Alert Management

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

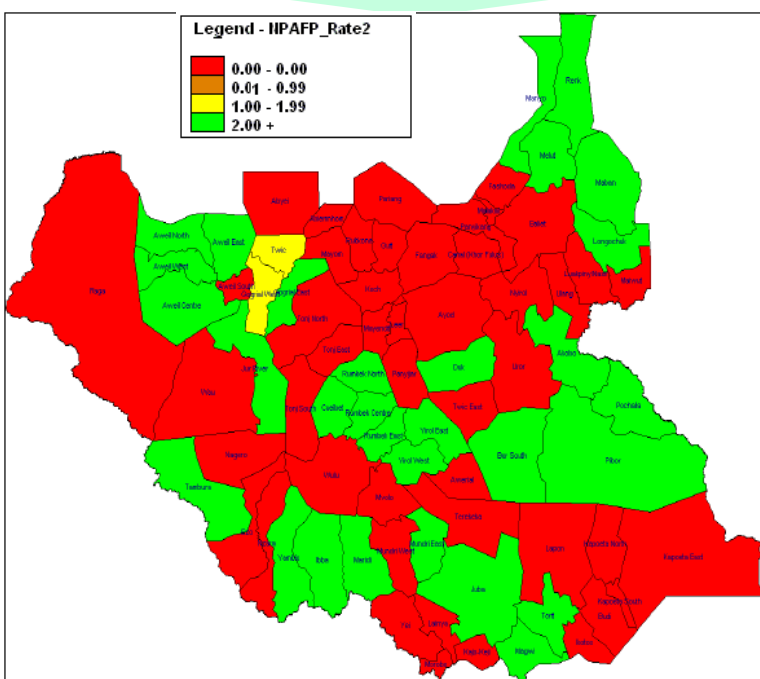


**Map 8 |** Map of measles alerts by county (2018)



<b>Map legend</b> Number of measles cases 0 1 50 100 250 Number of measles alerts 0 1 10 <b>Alert threshold</b> 1 case. Source: IDSR	<b>Risk Assessment</b>				
	<b>51</b> Alerts	<b>37</b> Verified	<b>1</b> Low Risk	<b>1</b> Moderate Risk	<b>0</b> High Risk

Since week 1 of 2018, 51 alerts of measles were triggered and 37 of those have been verified at county level. Maps of areas raising alerts from 2014 to 2018 are shown above.



In week 9, 2018, Thirteen (13) new AFP cases were reported from Jonglei, Lakes, Northern Bahr el Ghazal, Upper Nile, Western Bahr el Ghazal, and Western Equatoria hubs. This brings the cumulative total for 2018 to 51 AFP cases.

The annualized non-Polio AFP (NPAFP) rate (cases per 100,000 population children 0-14 years) in 2018 is 3.58 per 100,000 population of children 0-14 years (target  $\geq 2$  per 100,000 children 0-14 years).

Stool adequacy was 96% 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 one NPEV positive sample in 2018.

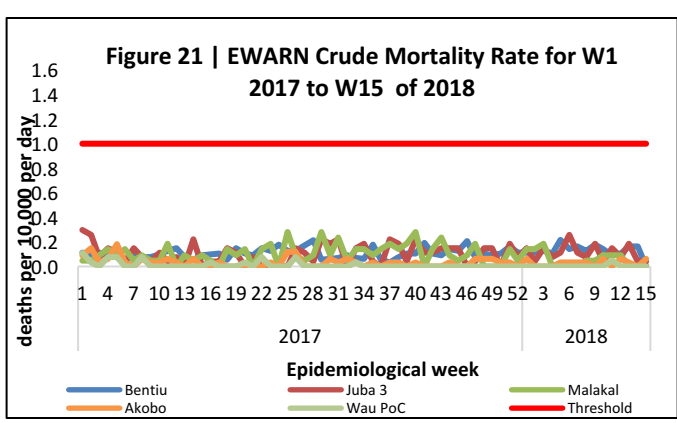
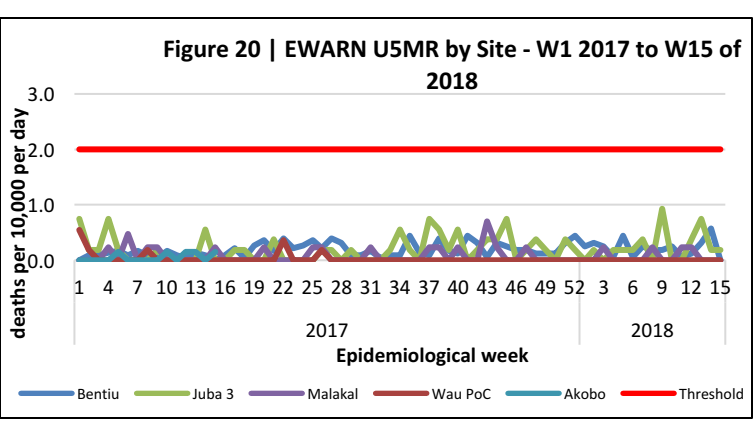
**Mortality in the IDPs** **Source:** South Sudan Weekly AFP Bulletin

**Table 6 |** Proportional mortality by cause of death in IDPs W15 2018

Cause of Death by IDP site	Akobo		Juba 3	Total deaths
	<5yrs	$\geq 5$ yrs	<5yrs	
SAM	1			1
Infection Septicemior Syndrome			1	1
stillbirth				1
<b>Total deaths</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>

Among the IDPs, mortality data was received from Akobo, and UN House PoC in week 15. (Table 6). **A total of 3** deaths were reported during the week. Bentiu PoC reported is yet to submit 0 (0%) deaths in the week. During the week, 2 (67%) deaths were recorded among children <5 years in (Table 6).

The causes of death during week 15 are shown in Table 6.



The U5MR in all the IDP sites that submitted mortality data in week 15 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 15 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 W15, 2018**

IDP site	Acute watery diarrhoea	cancer	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	4	1	2	1	1	5	3	14	4	1	4	14	7	1	10	7	74	153
Juba 3	1	1		1		5			2		1		1		4	7	22	45
Malakal		1		2	1			1								2	11	18
Akobo			1		2	1			1			2		1			5	13
Wau PoC						1											0	1
<b>Grand Total</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>12</b>	<b>3</b>	<b>15</b>	<b>7</b>	<b>1</b>	<b>5</b>	<b>16</b>	<b>8</b>	<b>2</b>	<b>14</b>	<b>16</b>	<b>112</b>	<b>230</b>
<b>Proportionate mortality [%]</b>	<b>2%</b>	<b>1%</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>	<b>5%</b>	<b>1%</b>	<b>7%</b>	<b>3%</b>	<b>0%</b>	<b>2%</b>	<b>7%</b>	<b>3%</b>	<b>1%</b>	<b>6%</b>	<b>7%</b>	<b>49%</b>	<b>100%</b>

- A total of 230 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](#).

# This bulletin is produced by the Ministry of Health with Technical support from WHO

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## Notes

WHO and the Ministry of Health gratefully acknowledge the surveillance officers [at state, county, and health facility levels], 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>

