

# South Sudan

## Integrated Disease Surveillance and Response (IDSR)

Annexes W4 2018 (Jan22 - Jan28)



**World Health  
Organization**  
South Sudan



Ministry of Health  
Republic of South Sudan

## Access and Utilisation

Slide 2 **Map 1** Map of consultations by county (2018)

## Indicator-based surveillance

Slide 3 **Figure 1** Proportional mortality

Slide 4 **Figure 2** Proportional morbidity

Slide 5 **Figure 3** Trend in consultations and key diseases

## Disease trends and maps

### Malaria

Slide 6 **Trend in malaria cases over time**

Slide 7 **Malaria maps and alert management**

### Acute Watery Diarrhoea (AWD)

Slide 8 **Trend in AWD cases over time**

Slide 9 **AWD maps and alert management**

### Bloody diarrhoea

Slide 10 **Trend in bloody diarrhoea cases over time**

Slide 11 **Bloody diarrhoea maps and alert management**

### Measles

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

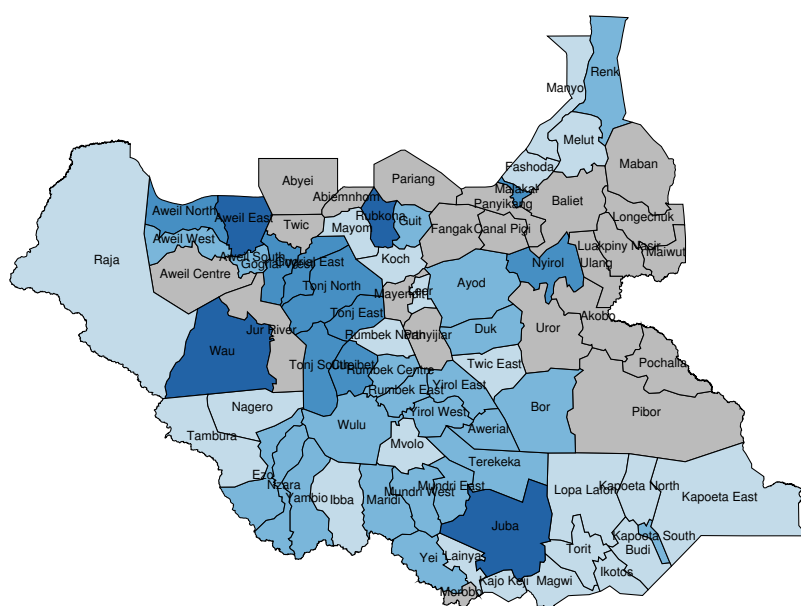
Slide 13 **Measles maps and alert management**

### Sources of data

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

## Access and Utilization | Map of consultations by county

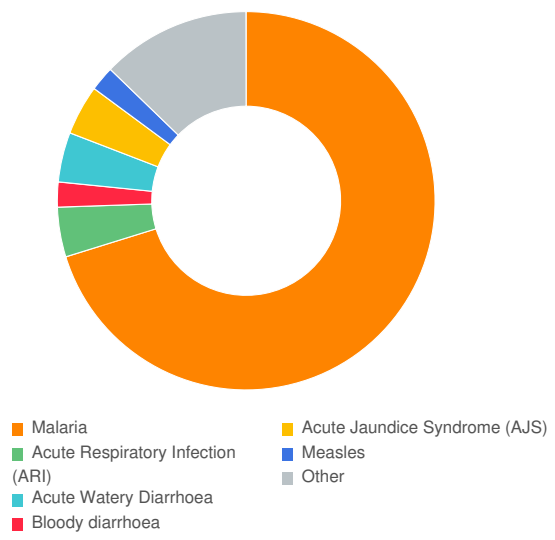
**Map 1** | Map of total consultations by county (W4 2018)



Hub	W4	2018
Aweil	18,329	70,757
Bentiu	10,350	37,656
Bor	9,162	42,309
Juba	9,767	39,284
Kwajok	16,159	64,176
Malakal	7,142	29,376
Rumbek	15,479	61,788
Torit	4,394	14,477
Wau	6,574	25,407
Yambio	10,868	
<b>South Sudan</b>	<b>108,224</b>	<b>429,422</b>

# Proportional mortality

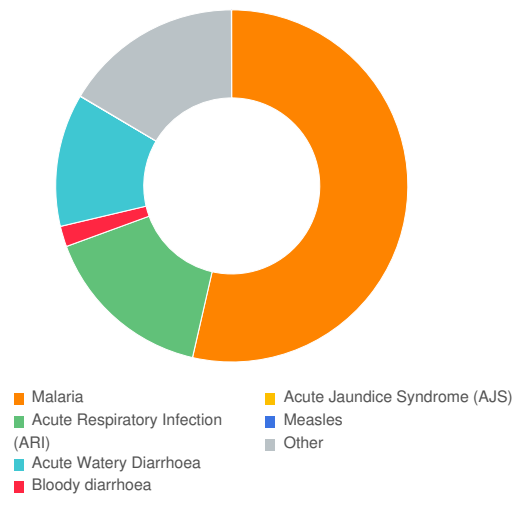
Figure 1 | Proportional mortality (2018)



Syndrome	W4		2018	
	# deaths	% mortality	# deaths	% mortality
Malaria	4	36.4%	33	70.2%
ARI	0	0.0%	2	4.3%
AWD	0	0.0%	2	4.3%
Bloody diarrhoea	1	9.1%	1	2.1%
AJS	2	18.2%	2	4.3%
Measles	0	0.0%	1	2.1%
Other	4	36.4%	6	12.8%
<b>Total deaths</b>	<b>11</b>	<b>100%</b>	<b>47</b>	<b>100%</b>

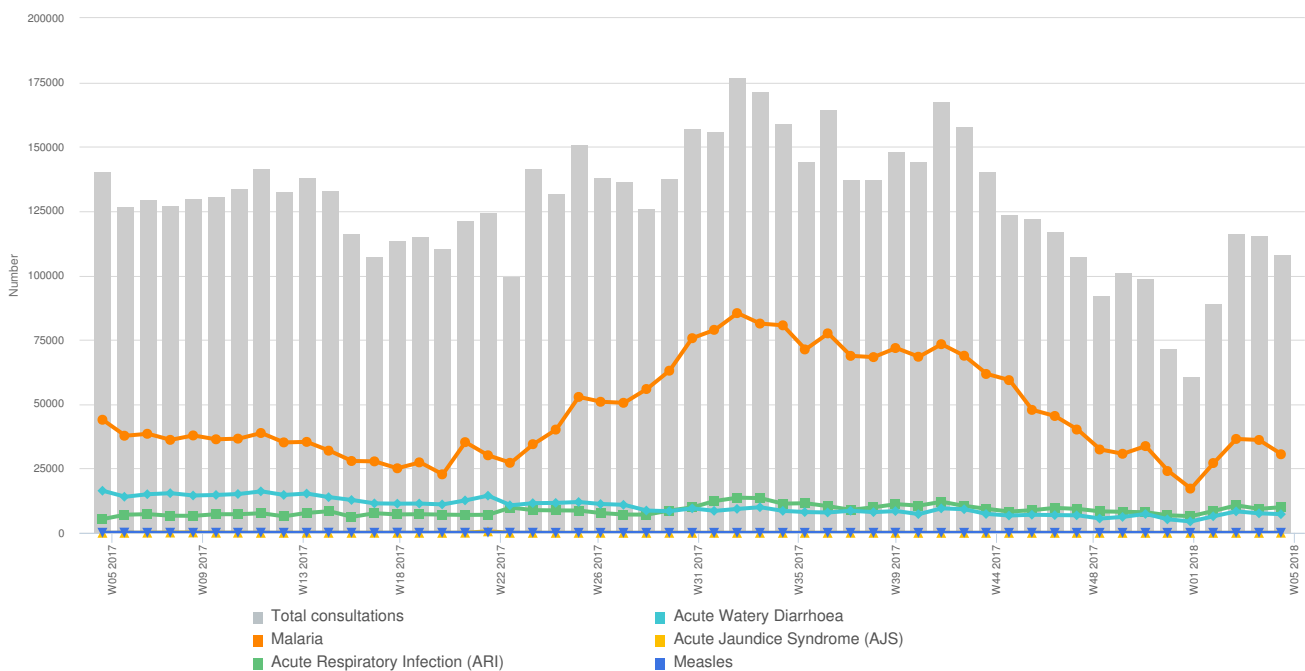
# Proportional morbidity

Figure 2 | Proportional morbidity (2018)



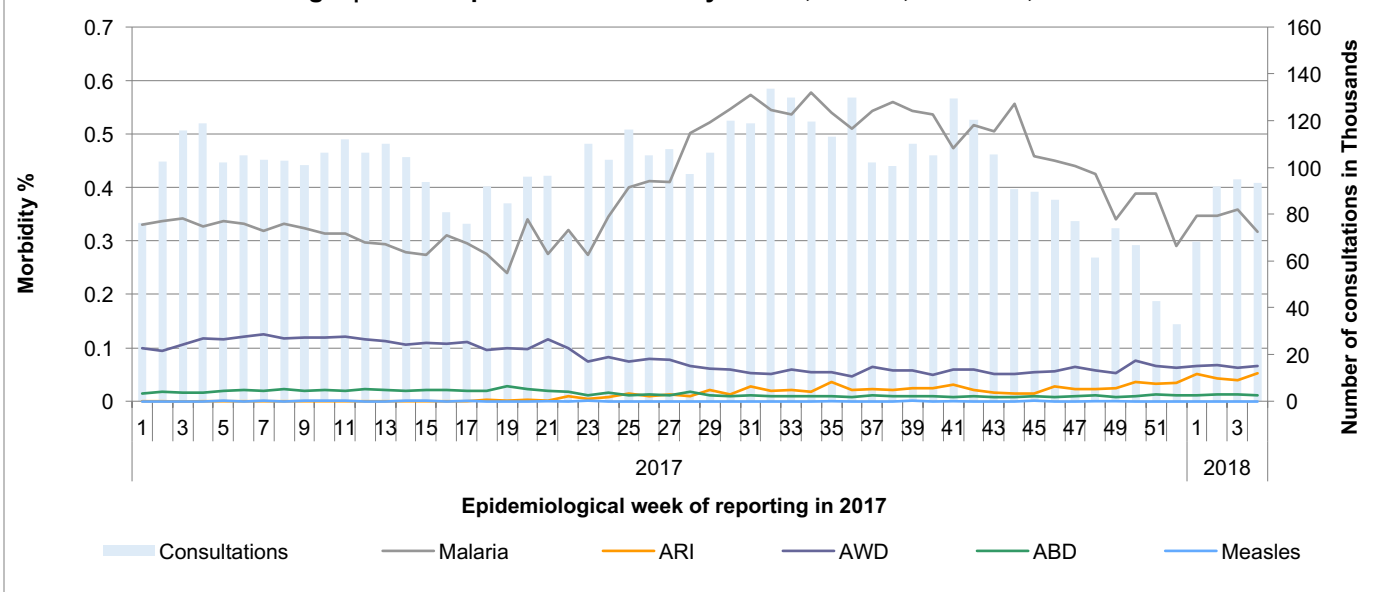
Syndrome	W4		2018	
	# cases	% morbidity	# cases	% morbidity
Malaria	30,532	53.6%	130,224	53.6%
ARI	9,964	17.5%	38,483	15.8%
AWD	7,252	12.7%	29,626	12.2%
Bloody diarrhoea	1,181	2.1%	4,593	1.9%
AJS	55	0.1%	58	0.0%
Measles	12	0.0%	49	0.0%
Other	7,934	13.9%	39,975	16.5%
<b>Total cases</b>	<b>56,930</b>	<b>100%</b>	<b>243,008</b>	<b>100%</b>

**Figure 3 |** Trend in total consultations and key diseases (W4)



## IDSR Proportionate morbidity trends - in relatively stable states

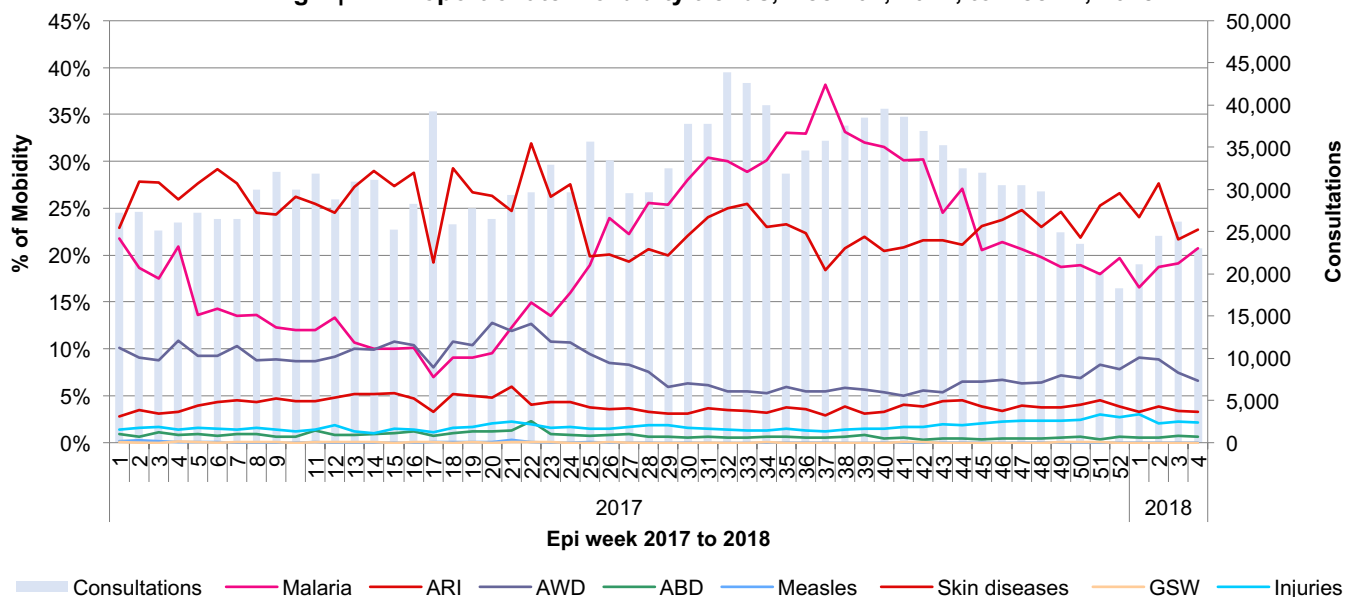
**Fig. 1 |** IDSR Proportionate morbidity trends, week 1, 2017 to 4, 2018



In the relatively stable states, malaria is the top cause of morbidity accounting for 31.6% of the consultations in week 4 (representing a decline from 35.8% in week 1).

# IDP Proportionate morbidity trends - in displaced populations

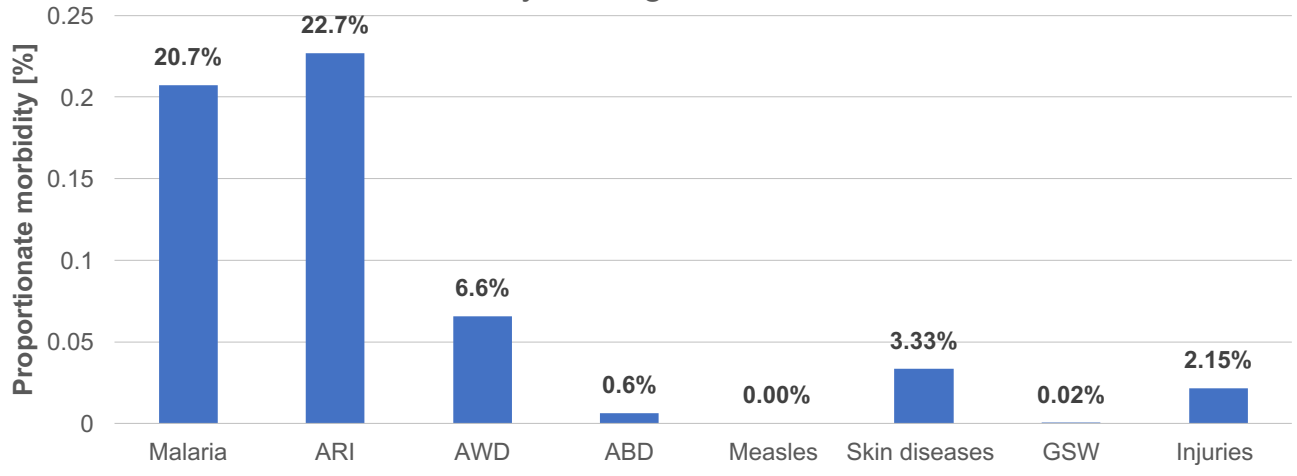
Fig. 2|IDP Proportionate morbidity trends, week 01, 2017, to week 4, 2018



Among the IDPs, ARI and malaria accounted for 22.7% and 20.7% of consultations in week 4. The other significant causes of morbidity in the IDPs include AWD, skin diseases, and injuries.

# IDP Proportionate morbidity trends - in displaced populations

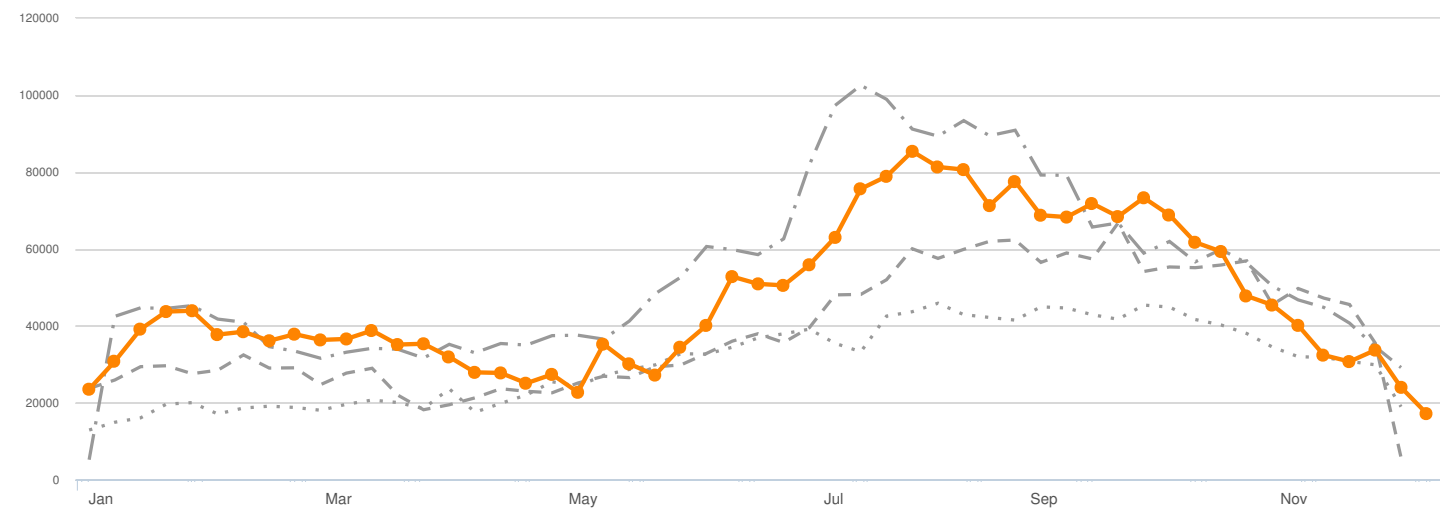
Causes of morbidity among the IDPs weeks 4, 2018



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**

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

**Key malaria indicators (2018)**

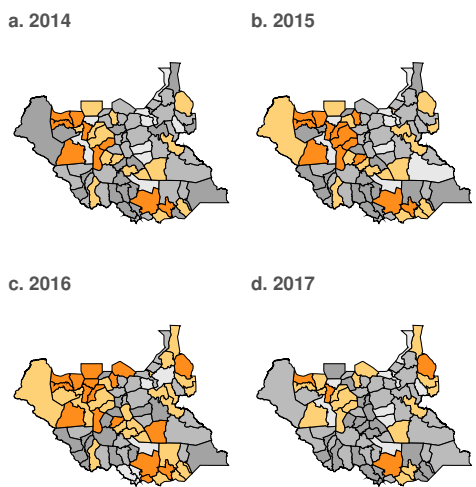
<b>130,224</b>	<b>33</b>	<b>8</b>
Cases	Deaths	Alerts

**Figure 4b | % morbidity**

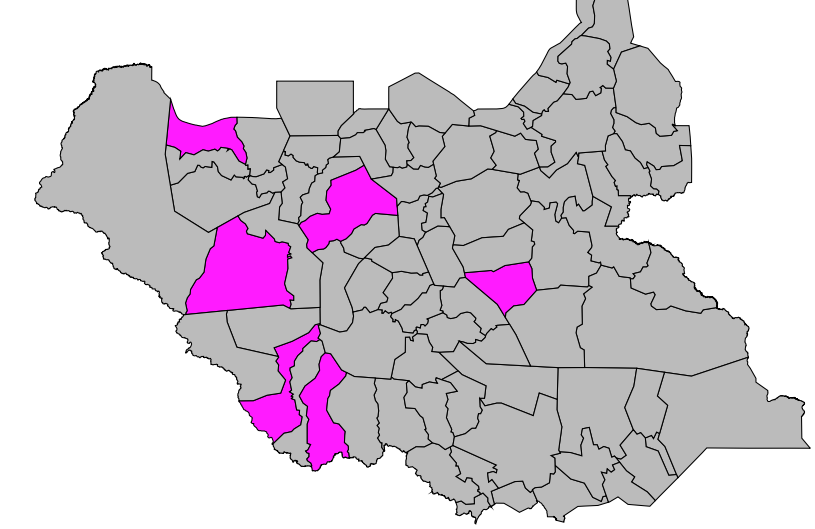
**Figure 4c | Age breakdown**

# Malaria | Maps and Alert Management

**Map 2** | Map of malaria cases by county (2017)



**Map 3** | Map of malaria alerts by county (2017)



**Map legend**

Number of malaria cases

Number of malaria alerts

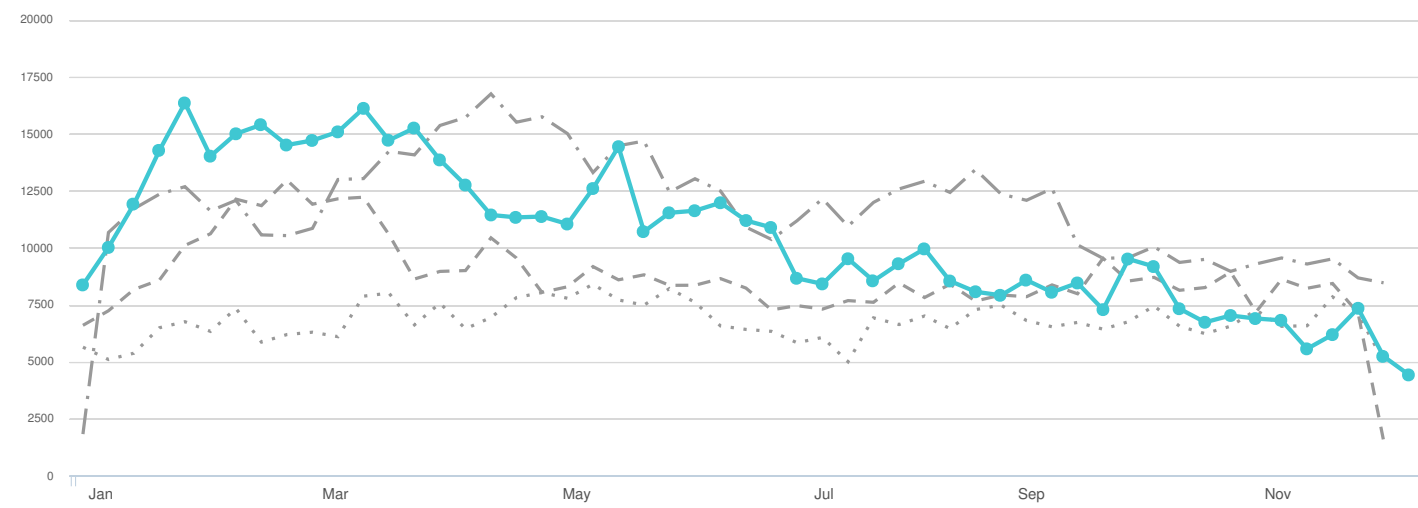
**Alert threshold**  
Twice the average number of cases over the past 3 weeks. Source: IDSR

**Risk Assessment**

<b>8</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Alerts	Verified	Low Risk	Moderate Risk	High Risk	Very High Risk

# Acute Watery Diarrhoea | Trends over time

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



**Graph legend**

- 2017 (Solid blue line)
- 2016 (Dashed grey line)
- 2015 (Dashed grey line)
- 2014 (Dotted grey line)

**Key AWD indicators (2018)**

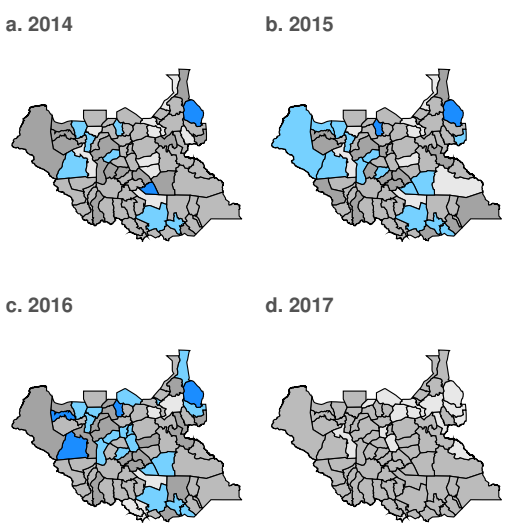
<b>29,626</b> Cases	<b>2</b> Deaths	<b>16</b> Alerts
------------------------	--------------------	---------------------

**Figure 5b | % morbidity**

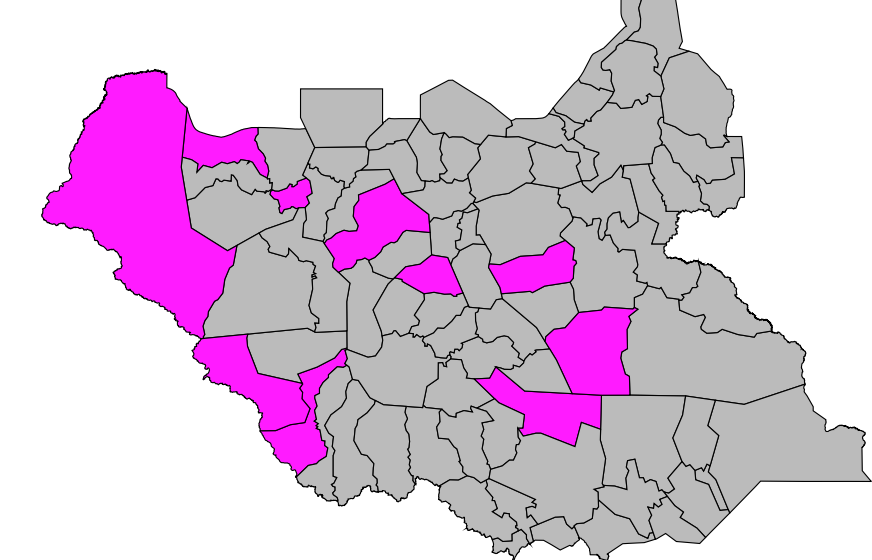
**Figure 5c | Age breakdown**

# Acute Watery Diarrhoea | Maps and Alert Management

Map 4 | Map of AWD cases by county (2017)



Map 5 | Map of AWD alerts by county (2017)



**Map legend**

Number of AWD cases

Number of AWD alerts

**Alert threshold**

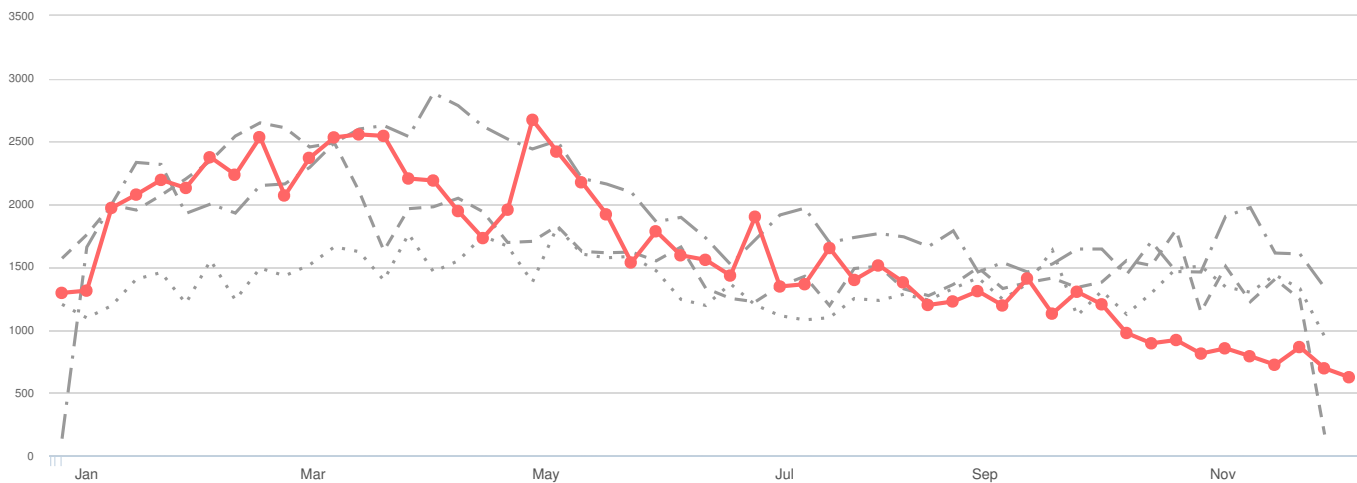
Twice the average number of cases over the past 3 weeks. Source: IDSR

**Risk Assessment**

<b>16</b> Alerts	<b>5</b> Verified	<b>0</b> Low Risk	<b>0</b> Moderate Risk	<b>0</b> High Risk	<b>0</b> Very High Risk
---------------------	----------------------	----------------------	---------------------------	-----------------------	----------------------------

# Acute Bloody Diarrhoea | Trends over time

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



**Graph legend**



**Key bloody diarrhoea indicators (2018)**

**4,593**

Cases

**1**

Deaths

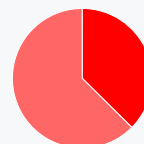
**22**

Alerts

**Figure 6b** | % morbidity



**Figure 6c** | Age breakdown

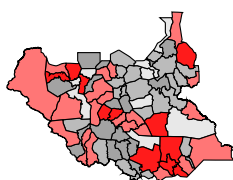
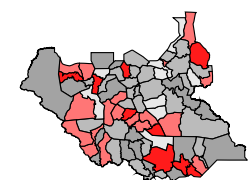


# Acute Bloody Diarrhoea | Maps and Alert Management

**Map 7** | Map of bloody diarrhoea cases by county

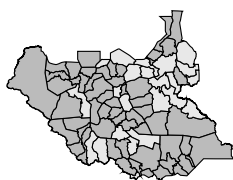
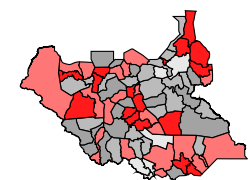
a. 2014

b. 2015

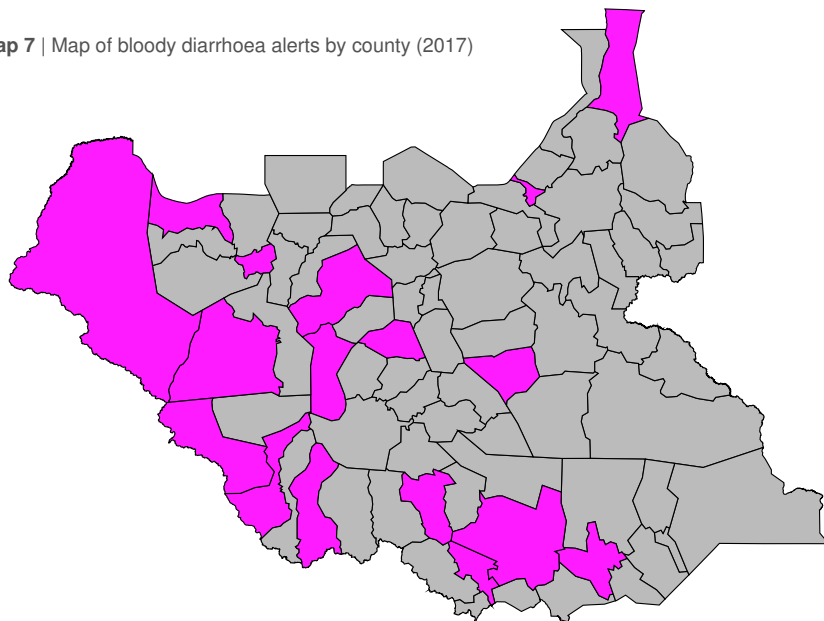


c. 2016

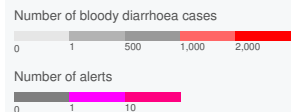
d. 2017



**Map 7** | Map of bloody diarrhoea alerts by county (2017)



**Map legend**



**22**

Alerts

**4**

Verified

**Risk Assessment**



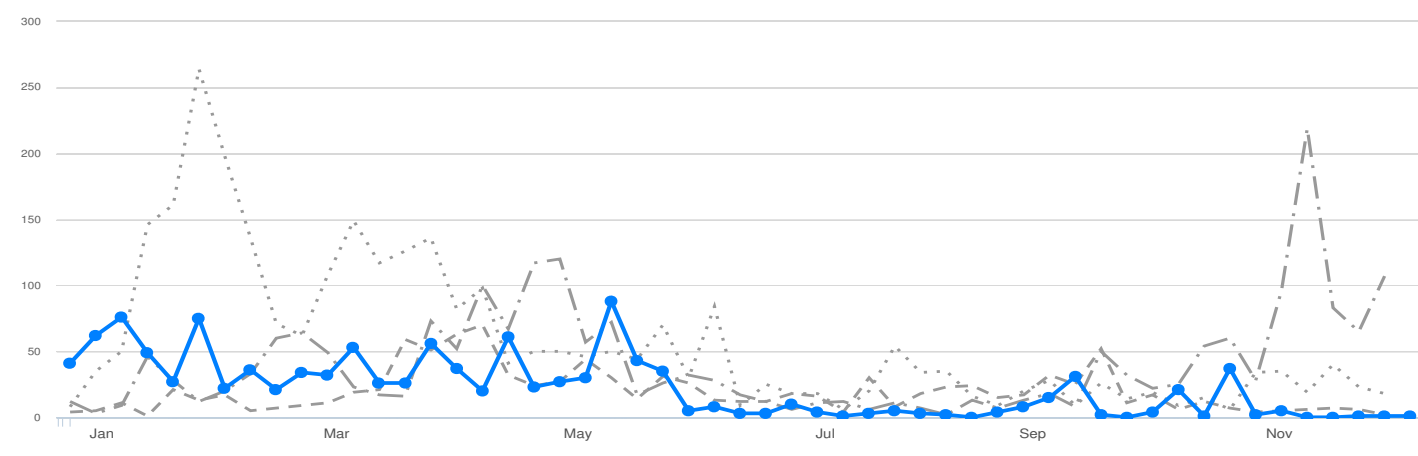
**Alert threshold**

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

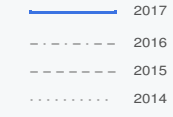


# Measles | Trends over time

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



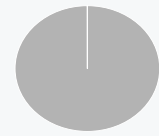
**Graph legend**



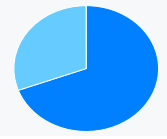
**Key measles indicators (2018)**

**49** Cases  
**1** Deaths  
**14** Alerts

**Figure 7b | % morbidity**



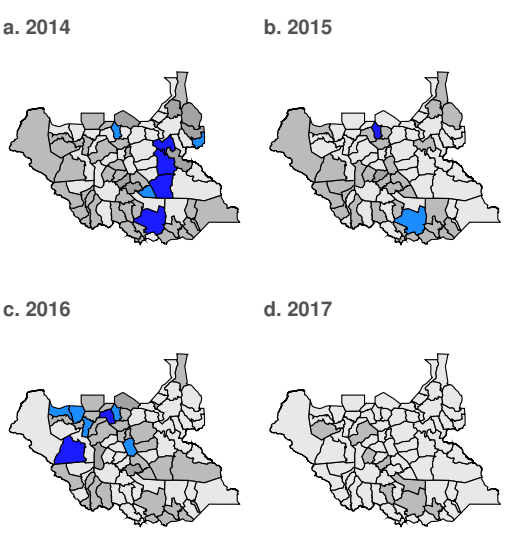
**Figure 7c | Age breakdown**



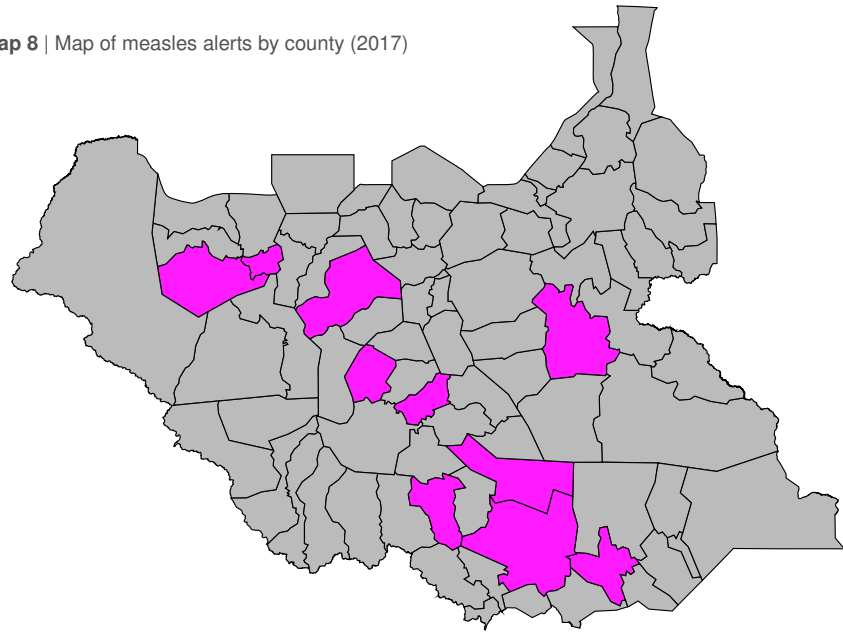
Since the beginning of 2018, at least 22 suspect measles cases including at least 1 death (CFR 4.5%) have been reported. Of these, 11 suspect cases have undergone measles case-based laboratory-backed investigation with 11 samples collected out of which 3 measles IgM positive cases have been reported.

## Measles | Maps and Alert Management

**Map 7 |** Map of measles cases by county (2017)



**Map 8 |** Map of measles alerts by county (2017)



**Map legend**

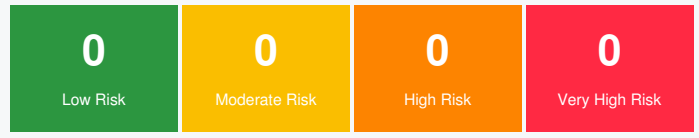


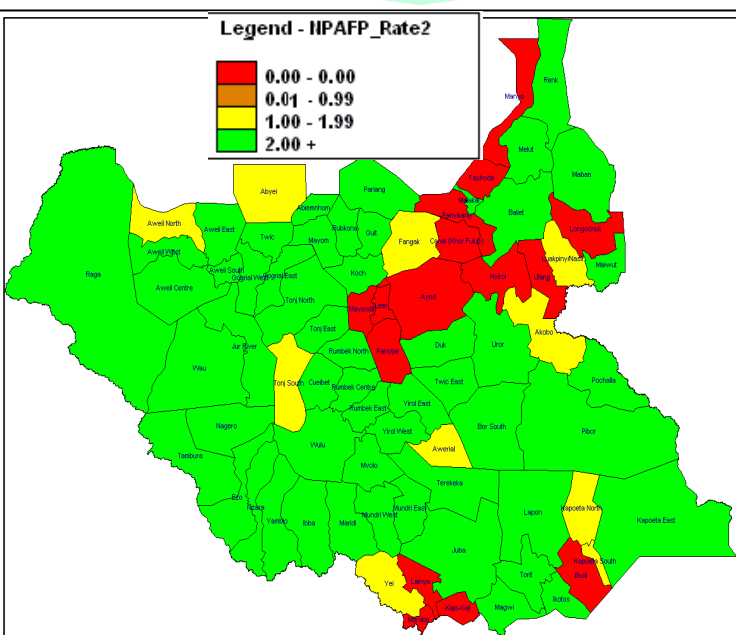
**Alert threshold**

1 case.  
 Source: IDSR

**14** Alerts  
**7** Verified

**Risk Assessment**





In week 4, 2018, five new AFP cases were reported from Jonglei, Lakes, and Warrap hubs. This brings the cumulative total for 2018 to 13 AFP cases.

During 2017, a cumulative of 387 AFP cases were reported countrywide. The annualized non-Polio AFP (NPAFP) rate (cases per 100,000 population children 0-14 years) in 2017 was 4.72 per 100,000 population of children 0-14 years (target  $\geq 2$  per 100,000 children 0-14 years).

Stool adequacy was 87% in 2017, 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.

**Source:** South Sudan Weekly AFP Bulletin

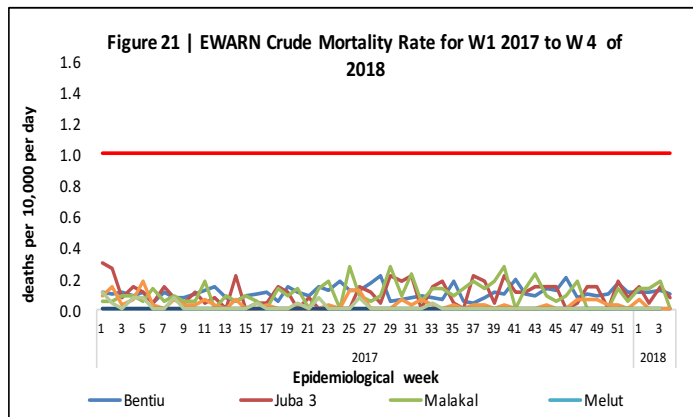
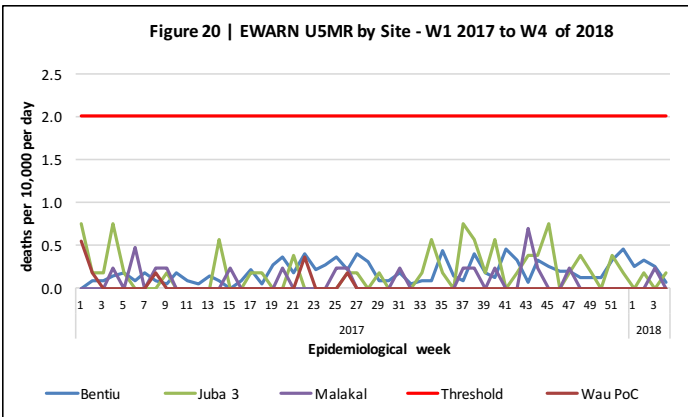
Mortality in the IDPs

**Table 6 |** Proportional mortality by cause of death in IDPs W4 2018

Cause of Death by IDP site	Bentiu		Juba 3		Total deaths	Proportionate mortality [%]
	<5yrs	$\geq 5$ yrs	<5yrs	$\geq 5$ yrs		
Acute Abdomen		1			1	10
Cancer		1			1	10
perinatal death	1				1	10
HIV/AIDS			1	1	2	20
TB		2			2	20
Unkown		2			2	20
Hypoglyceamia		1			1	10
<b>Total deaths</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>10</b>	<b>100</b>

Among the IDPs, mortality data was received from Bentiu PoC & UN House PoC in week 4. (Table 6). **A total of 10** deaths were reported during the week. Bentiu PoC reported 8 (80%) deaths in the week. During the week, 2 (20%) deaths were recorded among children <5 years in (Table 6).

The causes of death during week 3 are shown in Table 6.



The U5MR in all the IDP sites that submitted mortality data in week 4 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 4 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 W4, 2018

IDP site	SAM	Heart Failure	Kala-Azar	Acute Abdomen	Neonatal Sepsis	Sepsis	Septic shock	acute watery diarrhoea	Asthma	cancer	Liver Cirrhosis	malaria	Meningitis	perinatal death	pneumonia	Rabies	Shock	TB/HIV	Trauma	HIV/AIDS	TB	burns	Unknown	LRTI Bleeding	Peptic ulcer disease	Hypoglycaemia	Grand Total
Bentiu	1	1		1	1	2				1		1	1	5	2	1	3	1		2	3	2	6	1		1	36
Juba 3								1	1	1	1	1			1					3	1				1		11
Malakal		2	1				1			1				1								2	2				10
Akobo			1																	1							2
<b>Grand Total</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>59</b>
<b>Proportionate mortality [%]</b>	<b>2%</b>	<b>5%</b>	<b>3%</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>5%</b>	<b>2%</b>	<b>3%</b>	<b>2%</b>	<b>10%</b>	<b>5%</b>	<b>2%</b>	<b>5%</b>	<b>2%</b>	<b>2%</b>	<b>8%</b>	<b>10%</b>	<b>3%</b>	<b>14%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>100%</b>

- A total of 59 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](#).

## For more help and support, please contact:

Dr. Pinyi Nyimol Mawien  
Director General Preventive Health Services  
Ministry of Health  
Republic of South Sudan  
Telephone: +211 955 604 020

Dr. Mathew Tut Moses  
Director Emergency Preparedness and Response (EPR)  
Ministry of Health  
Republic of South Sudan  
Telephone: +211 955 295 257

### 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>

