

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Update W12 2018 (Mar 19- Mar 25)



- Completeness for IDSR reporting at county level was 74% . Completeness for EWARS reporting from IDP sites was 86% .

- A total of 16 alerts were reported, of which 75% have been verified. 0 alerts were risk assessed and 0 required a response.

- Rift Valley Fever outbreak - Yirol East with 43 suspect human cases including 6 confirmed; 3 probable; 19 non-cases; and 15 pending classification. Nine confirmed animal cases (cattle).

- A new outbreak of Rubella confirmed in Juba county after 16 Rubella IgM positive cases were confirmed in March 2018.

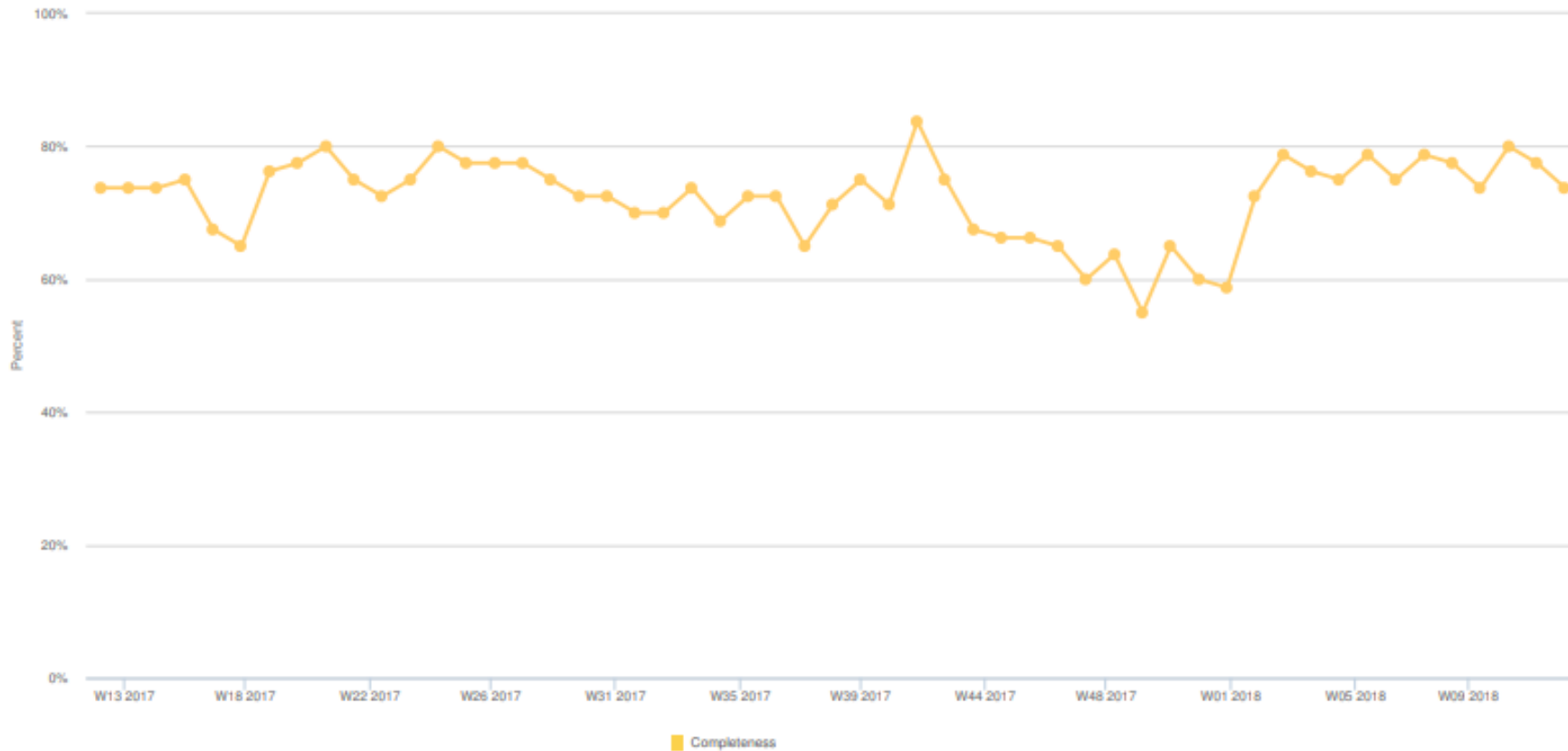
- In Torit, suspect meningitis continued to decline with no new cases in week 13 and the weekly attack rate remaining below the alert threshold in weeks 11 , 12, & 13. At least 173 suspect cases (31 deaths) reported. PCR sample testing revealed no definitive etiological pathogen.

Table 1 | IDSR surveillance performance indicators by county (W12 2018)

Hub	Reporting		Performance (W12 2018)		Performance (Cumulative 2018)	
	# counties	# reports received	Completeness	Timeliness	Completeness	Timeliness
Aweil	5	4	80%	80%	97%	97%
Bentiu	9	7	78%	78%	80%	57%
Bor	11	6	55%	55%	52%	45%
Juba	6	5	83%	83%	79%	65%
Kwajok	7	7	100%	100%	100%	93%
Malakal	13	3	23%	23%	28%	11%
Rumbek	8	8	100%	100%	100%	98%
Torit	8	7	88%	88%	95%	69%
Wau	3	2	67%	67%	89%	75%
Yambio	10	10	100%	100%	98%	98%
South Sudan	80	59	74%	74%	76%	74%

- Completeness for IDSR reporting at county level was 74% in week 12 and cumulatively at 76% for 2018
- Timeliness for IDSR reporting at county level was 74% in week 12 and cumulatively at 74% for 2018

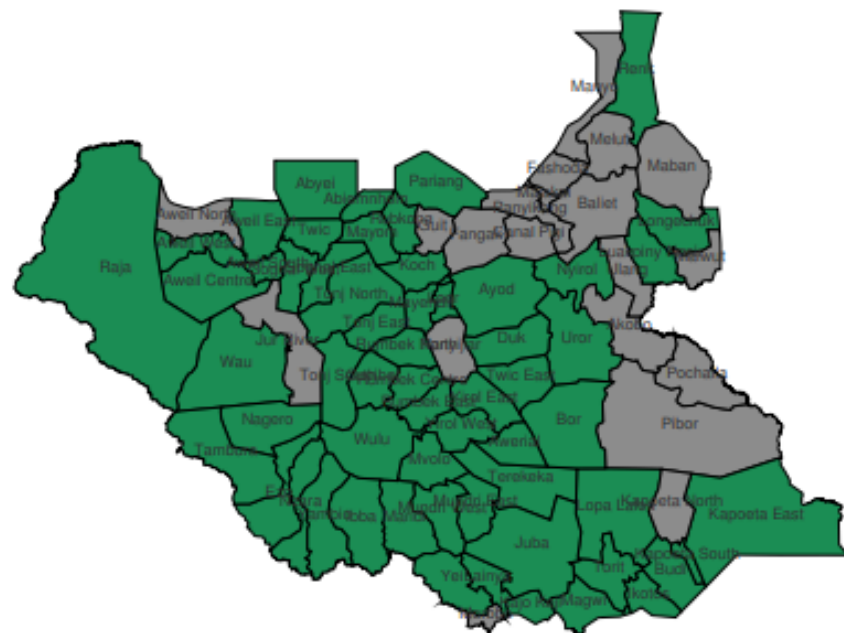
Figure 1 | Trend in IDSR completeness over time¹



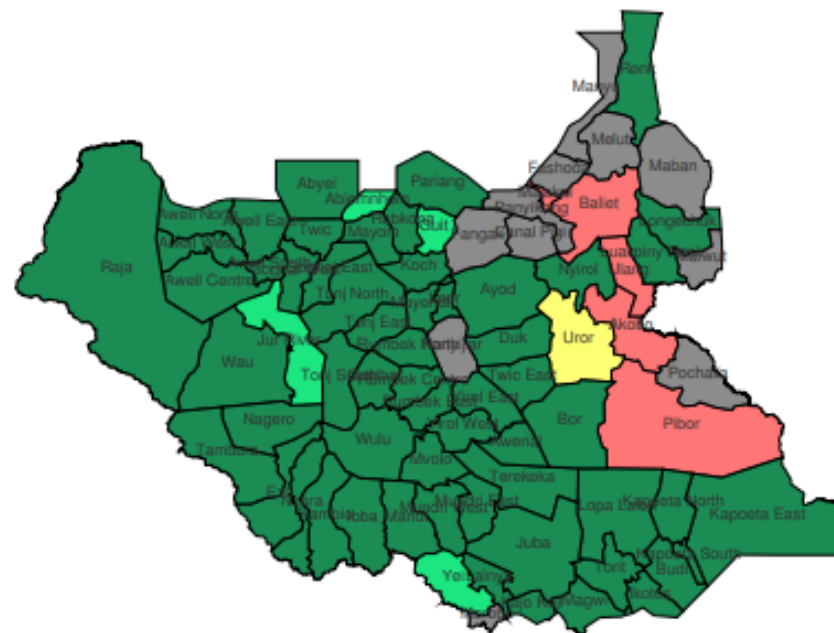
¹ Completeness footnote (to be drafted)

The graph shows completeness for weekly reporting at county level. The national average currently stands at **76%**.

Map 1a | Map of IDSR completeness by county (W12 2018)



Map 1b | Map of IDSR completeness by county (2018)



3 W12 2018 (Mar 19-Mar 25)

- Counties that submitted IDSR reports in W12 are shown in green in map 1a
- Counties that did not submit IDSR reports in W12 are shown in grey in map 1a

Table 4 | EWARS surveillance performance indicators by partner (W12 2018)

Partner	Performance		Reporting (W12 2018)		Reporting (Cumulative 2018)	
	# sites	# reports received	Completeness	Timeliness	Completeness	Timeliness
CMD	2	2	100%	100%	100%	100%
GOAL	2	2	100%	100%	100%	75%
HLSS	1	1	100%	100%	100%	100%
IMA	4	3	75%	75%	73%	65%
IMC	6	4	67%	67%	65%	64%
IOM	10	9	90%	90%	83%	83%
IRC	1	1	100%	100%	100%	100%
Medair	2	2	100%	100%	100%	92%
MSF-E	2	2	100%	100%	92%	83%
MSF-H	2	2	100%	100%	58%	50%
SMC	4	4	100%	100%	83%	81%
UNIDO	1	1	100%	100%	100%	100%
UNKEA	2	2	100%	100%	75%	75%
World Relief	1	1	100%	100%	100%	67%
Total	42	36	86%	86%	78%	74%

Timeliness and completeness for EWARN/IDP reporting stands at 86% for week 12 while cumulatively, completeness and timeliness are 78% and 74% respectively for 2018

Table 7 | Alert performance indicators by Hub

Hub	W12		Cumulative (2018)	
	# alerts	% verif.	# alerts	% verif.
Aweil	1	100%	19	74%
Bentiu	5	20%	23	52%
Bor	0	0%	18	33%
Juba	3	100%	24	67%
Kwajok	1	100%	18	100%
Malakal	2	100%	18	56%
Rumbek	1	100%	16	38%
Torit	0	0%	21	57%
Wau	0	0%	9	44%
Yambio	3	100%	31	58%
South Sudan	16	75%	197	59%

Table 8 Summary of key alert indicators

W12	Cumulative (2018)	
16	197	Total alerts raised
75%	59%	% verified
0%	0%	% auto-discarded
0%	3%	% risk assessed
0%	1%	% requiring a response

A total of 16 alerts were reported in week 12 [majority from Bentiu hub]. 75% of the alerts in week 12 were verified; 0% were risk assessed and 0% required a response.

Table 9 | Alert performance indicators by event

Event	W12		Cumulative (2018)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	5	60%	28	61%
AWD	2	100%	123	57%
Bloody Diarr.	2	50%	53	41%
Measles	6	83%	42	71%
Meningitis	0	0%	0	0%
Cholera	0	0%	5	100%
Yellow Fever	0	0%	2	50%
Guinea Worm	0	0%	7	71%
AFP	0	0%	39	83%
VHF	0	0%	1	100%
Neo. tetanus	0	0%	2	50%
Event-based surveillance				
EBS total	1	100%	9	67%

Table 10 | Event risk assessment

W12	Cumulative (2018)	
0	4	Low risk
1	1	Medium risk
0	0	High risk
0	0	Very high risk

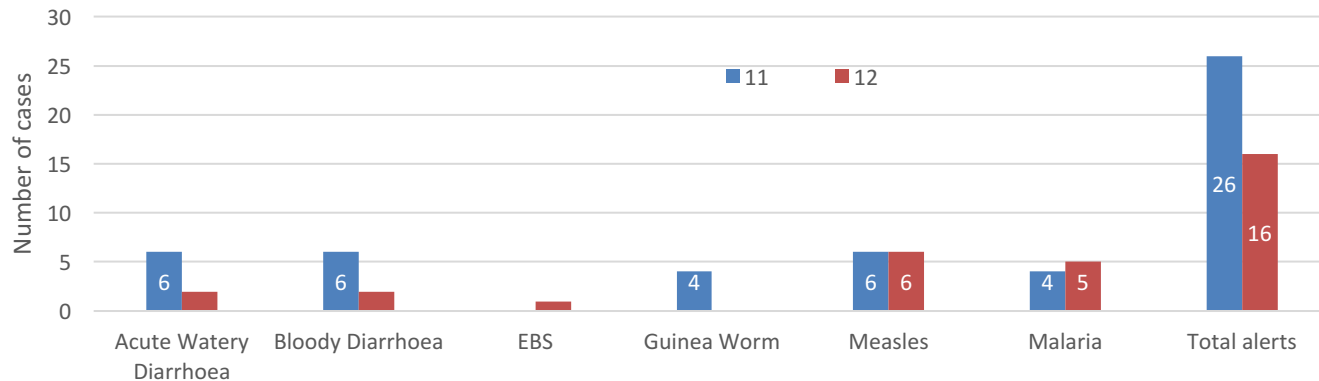
- During the week, measles and Malaria were the most frequent infectious hazards reported.

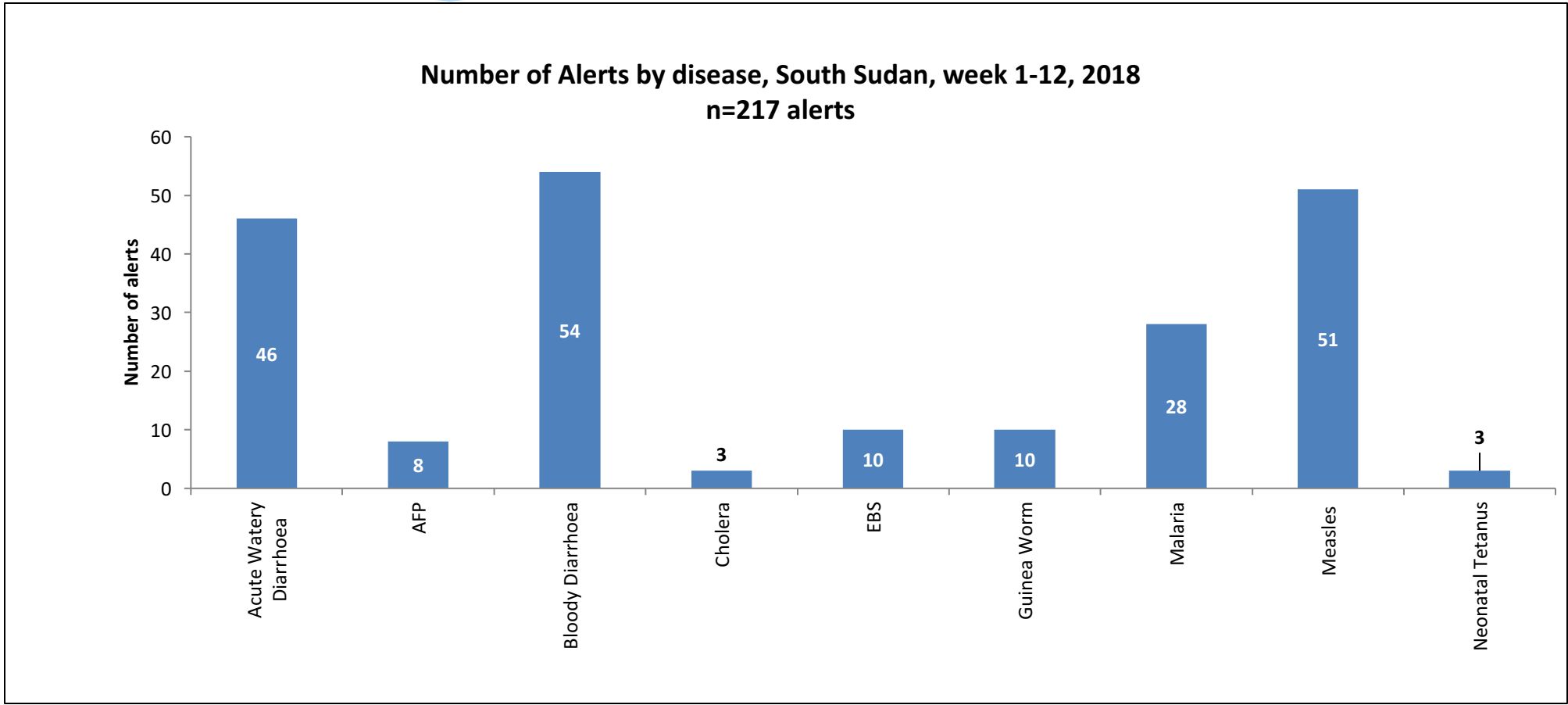
Alert by disease and county in W12 2018

County	Acute Watery Diarrhoea	Bloody Diarrhoea	EBS	Measles	Malaria	Total Alerts
Aweil East				1		1
Ezo				1		1
Juba			1	1		2
Lainya				1		1
Leer		1			1	2
Malakal	1					1
Mayendit					1	1
Mayom				1		1
Rubkona	1					1
Rumbek East					1	1
Tonj North				1		1
UNKEA Mandeng PHCC			1			1
Maringindo PHCU					1	1
Nagero PHCC					1	1
Total Alerts	2	2	1	6	5	16

- During week 12, a total of 16 alerts were reported.
- Measles and malaria were the most frequently reported conditions of the week.

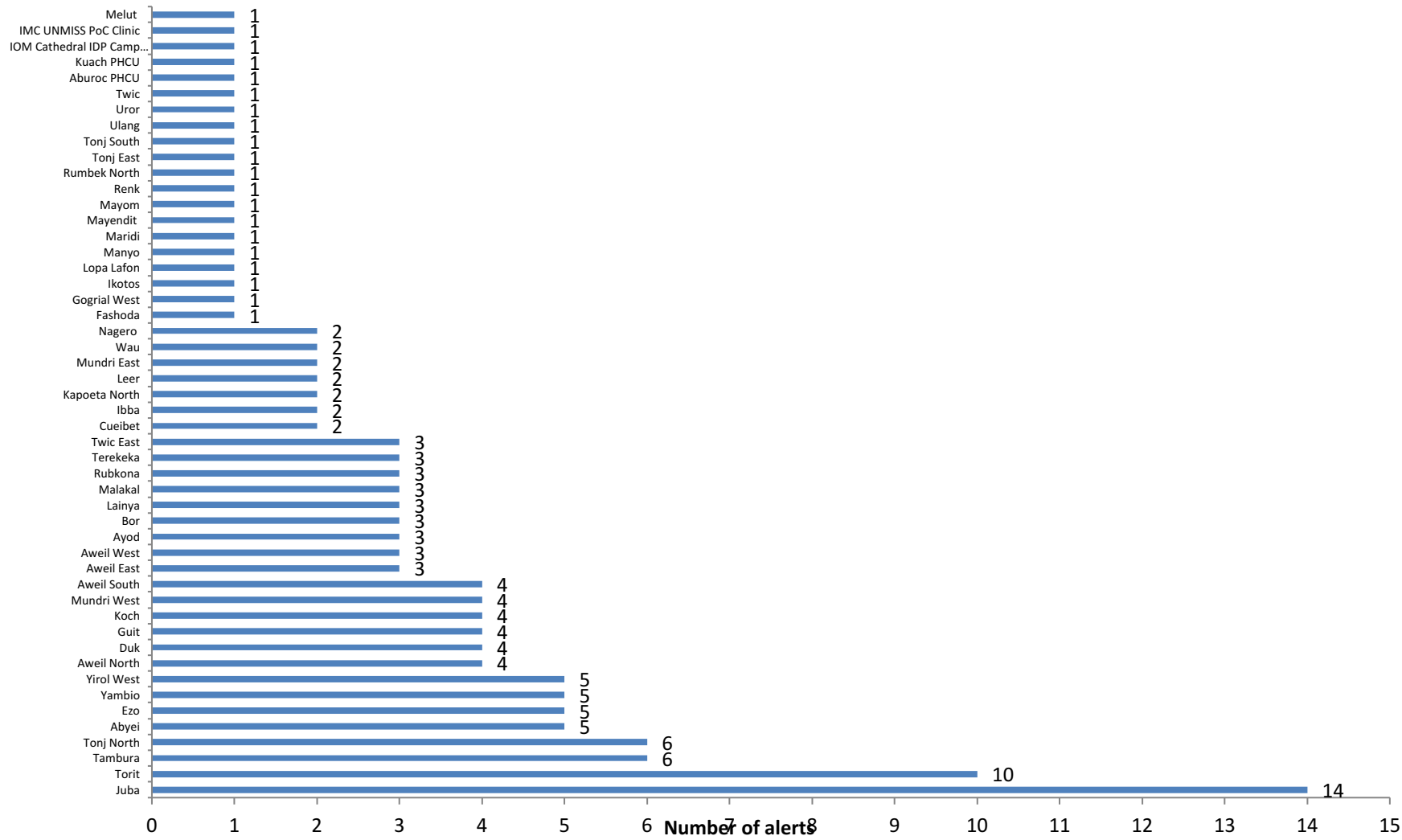
Alerts by hazard in week 11 and week 12, 2018





- The Figure shows the cumulative number of alerts triggered in 2018 by hazard and location.

Cumulative alerts by county, week 1-12, 2018



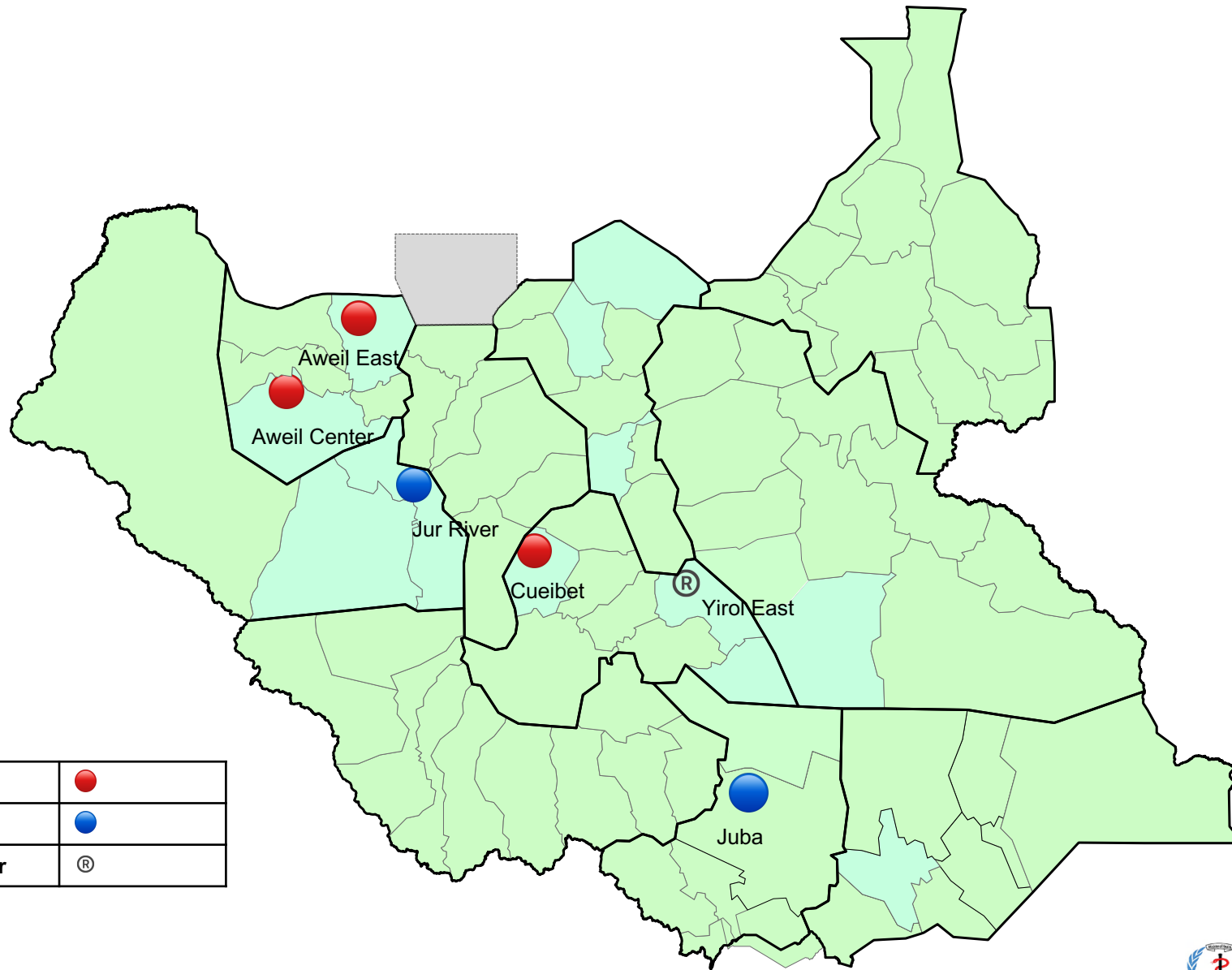
- The Figures show the cumulative alerts triggered in 2018 by location
- Most alerts have been reported from Juba and Torit.

Cumulative alerts by risk assessment stage in 2018

County	OUTCOME	RISK_ASSESS	VERIFICATION	Total Alerts
Acute Watery Diarrhoea			46	46
AFP		1	7	8
Bloody Diarrhoea			54	54
EBS		2	8	10
Guinea Worm	2		8	10
Neonatal Tetanus	2		1	3
Viral Haemorrhagic Fever			2	2
Yellow Fever			2	2
Measles	4	6	41	51
Cholera			3	3
Malaria			28	28
Total Alerts	8	9	200	217

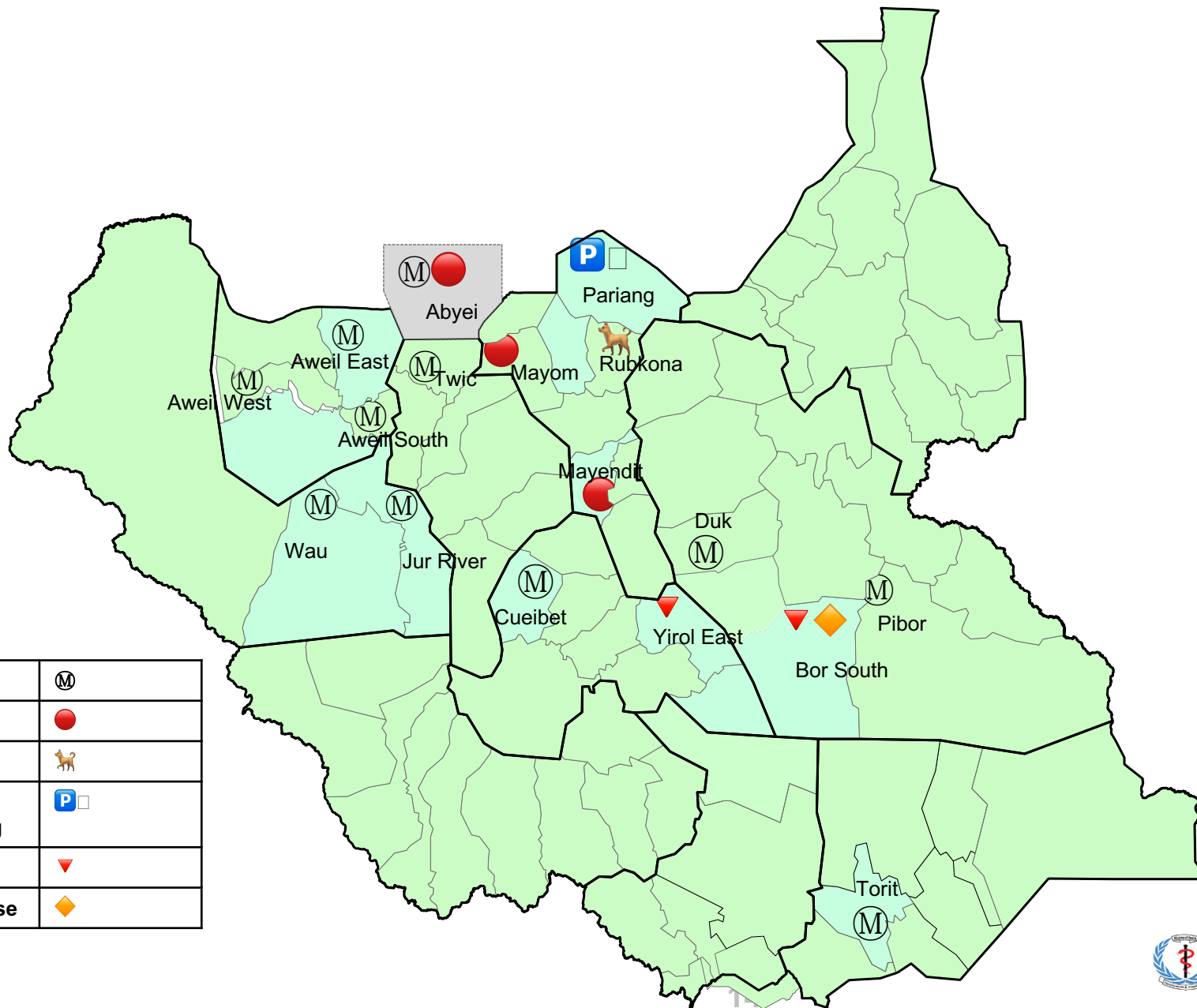
- The Figures show the cumulative alerts by risk assessment state in 2018
- Of the 217 alerts reported in 2018; a total of 200 alerts are at verification stage; and the rest are at risk assessment stage (9 alerts); 8 at outcome stage.

Confirmed Outbreaks South Sudan – 2 April 2018



Measles	●
Rubella	●
Rift Valley Fever	Ⓜ

Suspect Outbreaks South Sudan – 2 April 2018



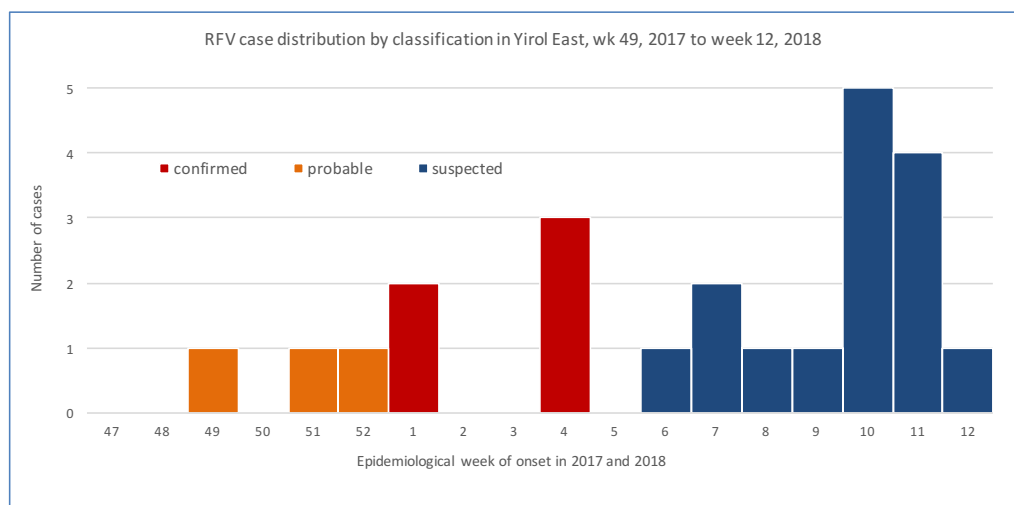
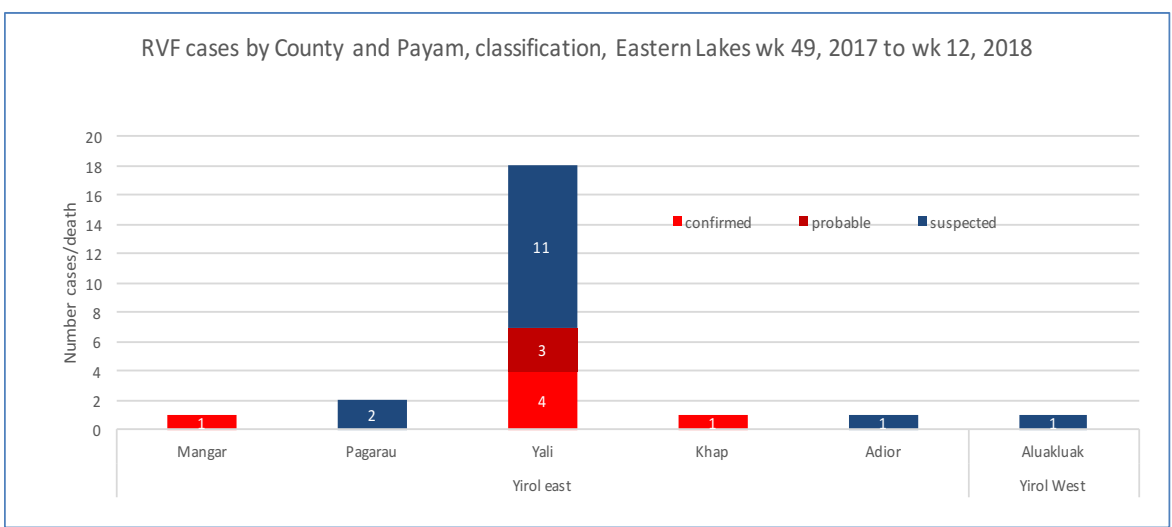
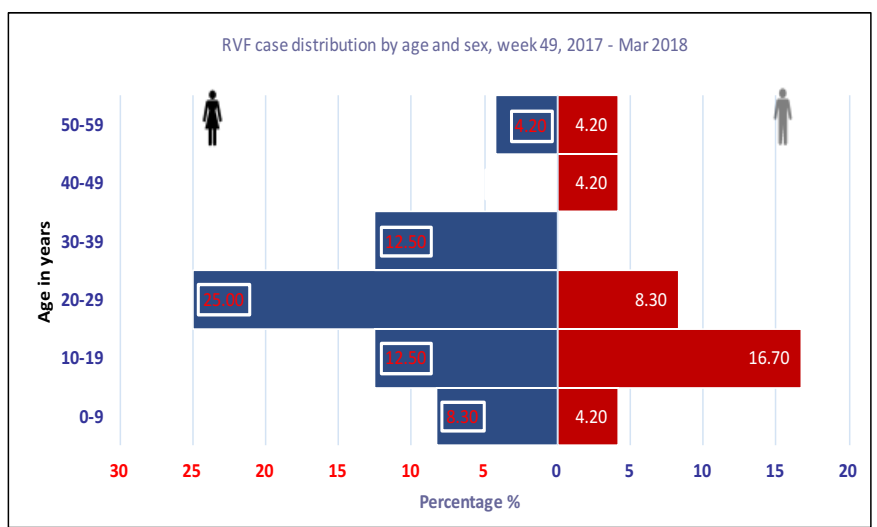
Meningitis	(M)
Measles	●
Rabies	🐕
Health effects of petroleum drilling	P
Pertussis	▼
Foodborne disease	◆

Aetiologic agent	Location (county)	Date first reported	New cases since last bulletin	Cumulative cases to date (attack rate %)	Interventions			
					Case management	Vaccination	Health promotion	WASH
New epidemics: New epidemics								
Rubella	Juba	26/02/2018	22	22 (0.0037)	Yes	No	Yes	N/A
Ongoing epidemics:								
Measles	Aweil Center	6/Jan/2018	8	22 (0.021)	Yes	Yes	Yes	N/A
RVF	Yirol East	28/12/2017	1	40 (0.037)	Yes	N/A	Yes	N/A
Measles	Cueibet	14/10/2017	0	20 (0.012)	Yes	Yes	Yes	N/A
Measles	Aweil East	05/02/2018	10	31 (0.006)	Yes	No	Yes	N/A
Rubella	Jur River	14/02/2018	20	54 (0.028)	Yes	No	Yes	N/A

Epidemics - Update

- A new Rubella outbreak confirmed in Juba after **16 rubella IgM positive cases** and **2 measles IgM positive cases** were confirmed during March 2018. The current response entails case identification, line listing, supportive care for suspect cases; and community mobilization for enhanced routine immunization
- Measles was confirmed in Aweil East after **four samples tested measles IgM positive** on 24 Feb 2018. A total of 21 measles cases have been line listed. IOM will support IRC the local implementing partner to conduct the reactive measles campaign. MSF to support cold chain. Target age group will include children 6months to 59 months. The campaign implemented during March 26, 2018 and 31 Mar 2018.
- In Aweil Center; a reactive measles vaccination campaign targeting under fives has been completed. Campaign led by two – partners – MedAir and MSF-F. Preliminary data from the coverage survey indicates at least 85% of the target population was reached.

Ongoing epidemics - Epidemic description - RVF Eastern Lakes state



Sno.	Description	Number
1	Suspect cases	43
2	Total deaths	4
3	Confirmed cases	6
4	Probable cases	3
5	Cases pending testing	15
6	Non-cases	19
7	Cases on admission	0
8	Total human samples collected	37
9	Total animal samples collected	28
10	Positive animal cases	9

- In the period 7 December 2017 to 2 April 2018, a total of 43 suspect RVF cases were reported in Eastern Lakes.
- These were reclassified based on investigations and laboratory results, such that as of 2nd April 2018, there were a total of six (6) RVF confirmed cases, three (3) probable, and fifteen (15) suspect RVF cases (laboratory results are pending).
- Nineteen (19) cases were discarded as non-cases following negative laboratory results for RVF and other common causes of viral haemorrhagic fever.
- A total of nine animal samples have been confirmed serologically (3IgM and 6IgG).
- Current response entails surveillance, laboratory testing, supportive care for suspect cases, and community sensitization on hygienic animal handling

Suspect meningitis Torit county

Fig. 1 | Suspect meningitis cases Iyire and Imurok payams, Torit, week 1-12, 2018 (n=173)

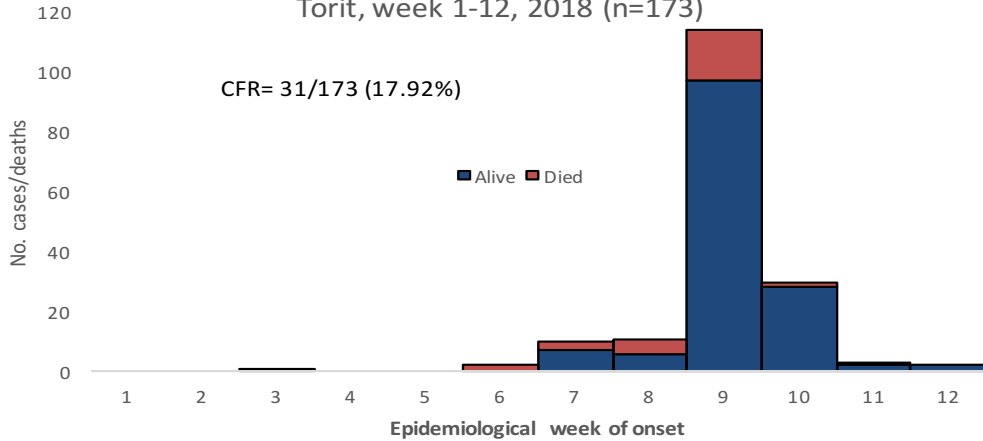


Fig. 3 | Suspect case and CFR distribution by age in Iyire and Imurok payam, Torit, week 1-12 2018 (n=173)

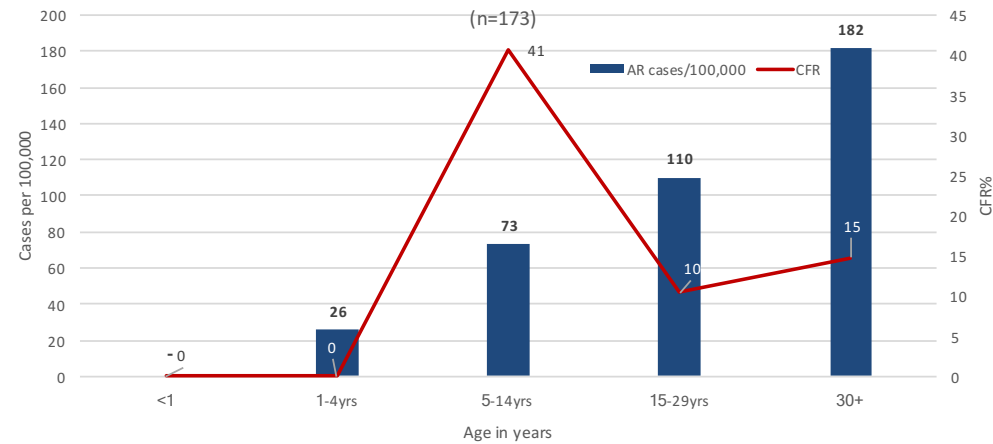


Fig.2 | Suspect meningitis cases Iyire and Imurok payams, Torit, week 1-12, 2018 (n=173)

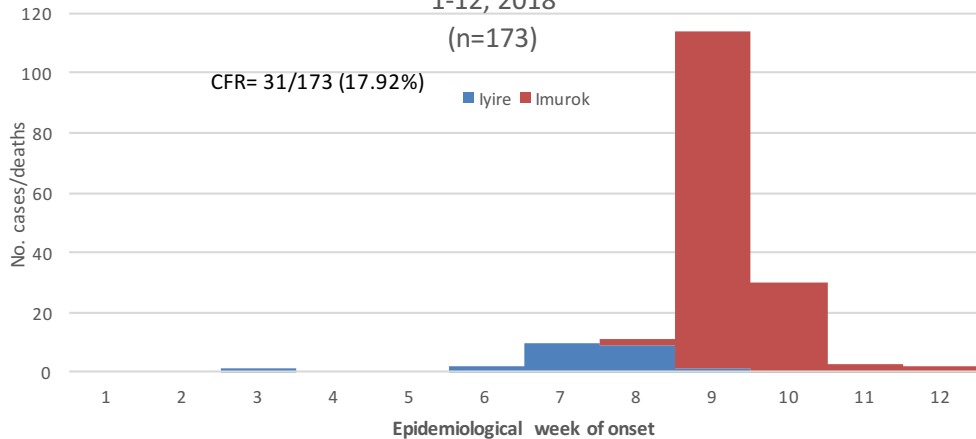
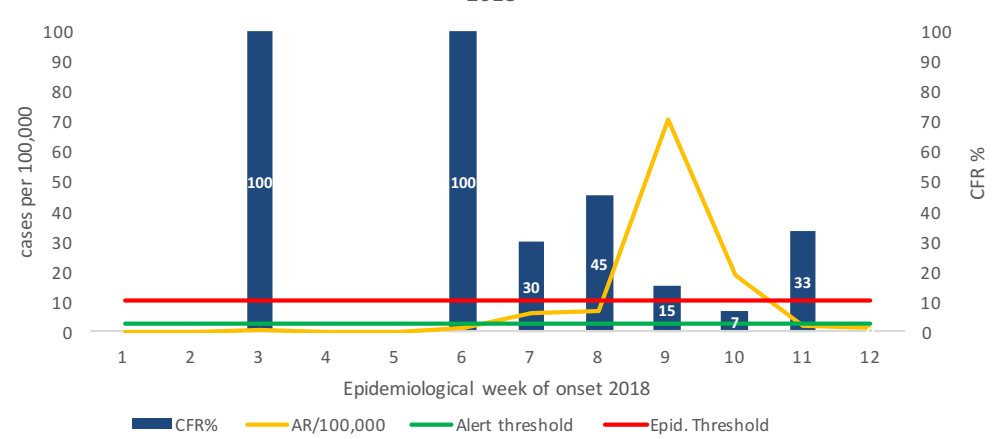


Fig. 4 | Suspect meningitis cases per 100,000 per week, Torit county, week 1-12 2018

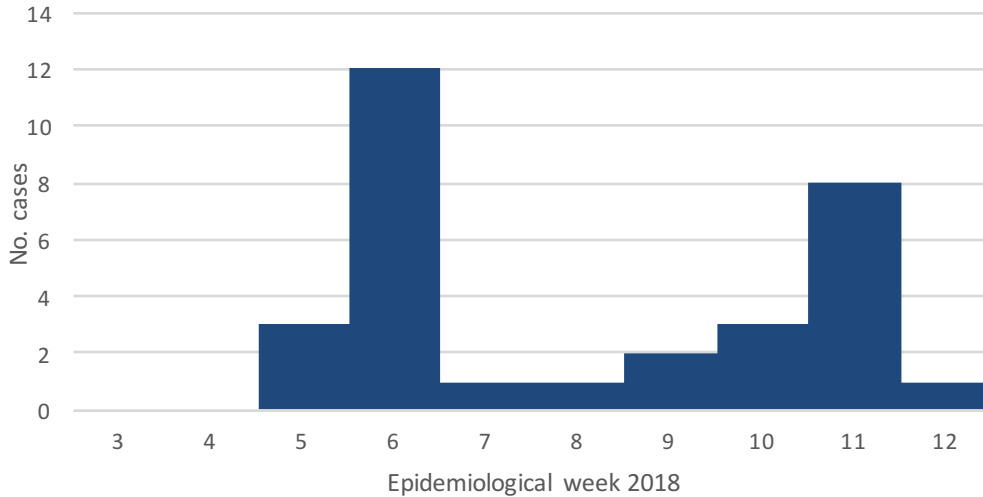


- No new suspect meningitis cases reported in week 13.
- Thus, the weekly attack rate for Torit county has remained below the alert threshold during weeks 11, 12, & 13.

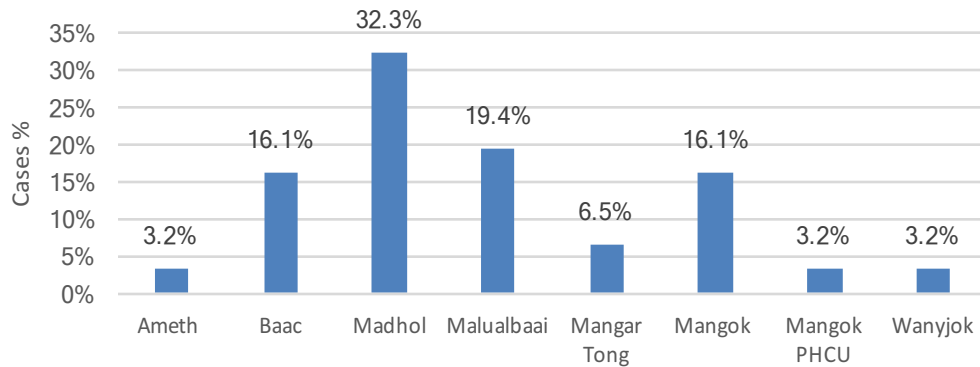
- Total cases are 173 cases with 31 deaths (CFR 17.92%)
- Most affected: Imurok payam; persons 30+ years; CFR highest in persons 15-14 yrs. PCR testing revealed no definitive aetiology.

Measles in Aweil East county

Measles cases Aweil East County, week 3 to 12, 2018

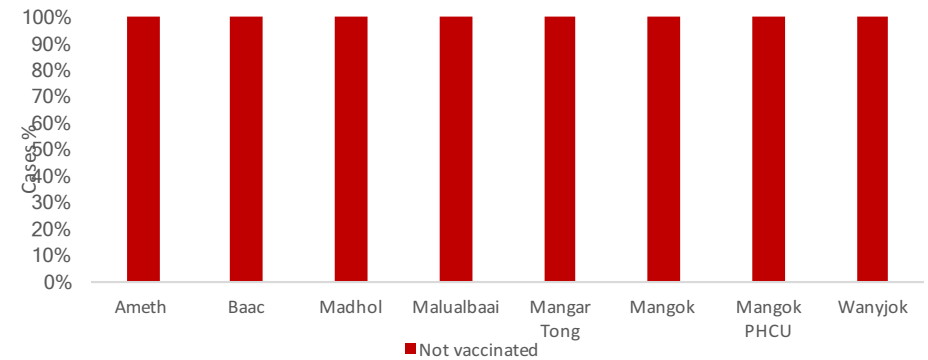


Meales cases by Payam in Aweil East, week 3-12, 2018



Age	Female	Male	Total cases	Cases %	Cum%
1-4yrs	2	11	13	42%	42%
5-14yrs	11	6	17	55%	97%
15+yrs		1	1	3%	100%
Total cases	13	18	31	100%	

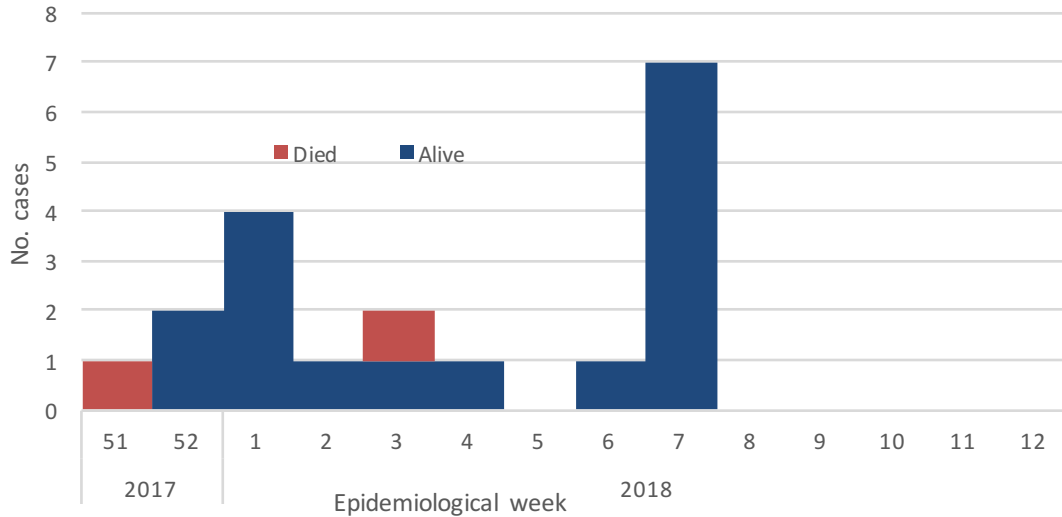
Meales cases by Payam & vaccination status in Aweil East, week 3-12, 2018



- Measles campaign conducted from 26-31, March 2018
- Most of the cases were reported from Madhol, Malualbaai, Baac, and Mangok
- None of the suspect cases were vaccinated
- 42% of the cases were 1-4 years of age
- Coverage data analysis underway.

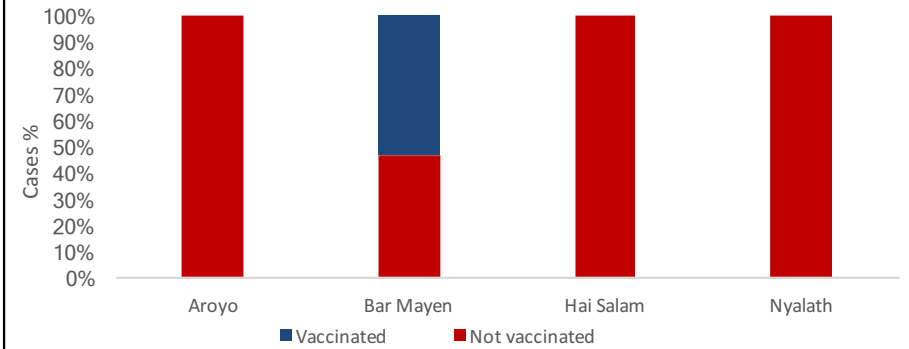
Measles in Aweil Center county

Measles cases Aweil Center County, week 3 to 12, 2018

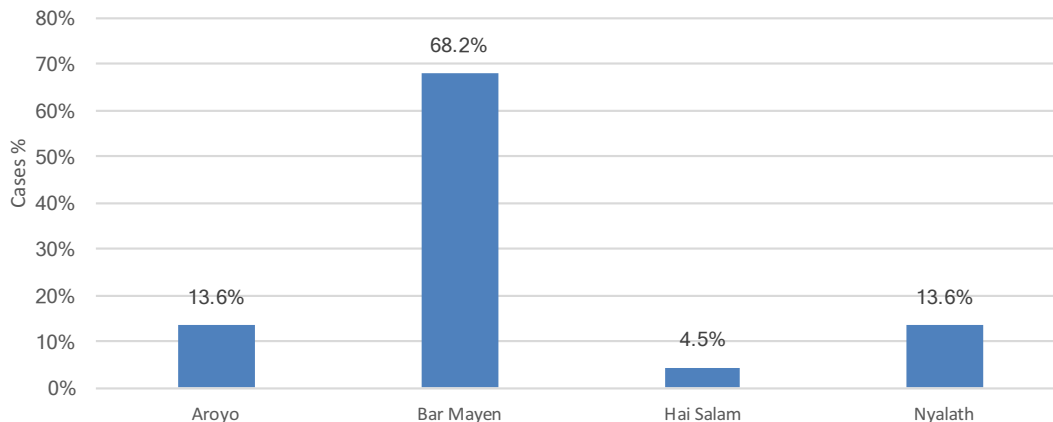


Age	Female	Male	Total cases	Cases %	Cum%
1-4yrs	5	5	10	45%	45%
5-14yrs	8	4	12	55%	100%
15+yrs	0	0	0	0%	100%
Total cases	13	9	22	100%	

Measles cases by payam & vaccination status Aweil Center, week 3-12, 2018



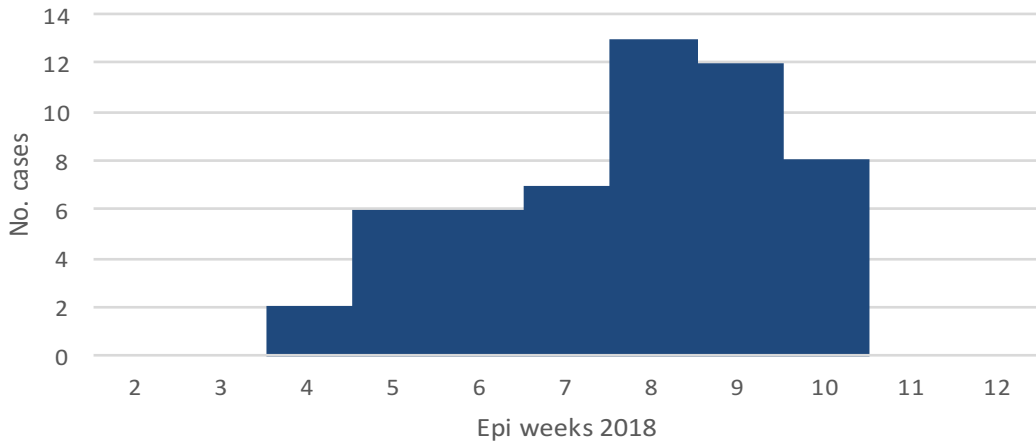
Measles cases by Payam in Aweil Center, week 3-12, 2018



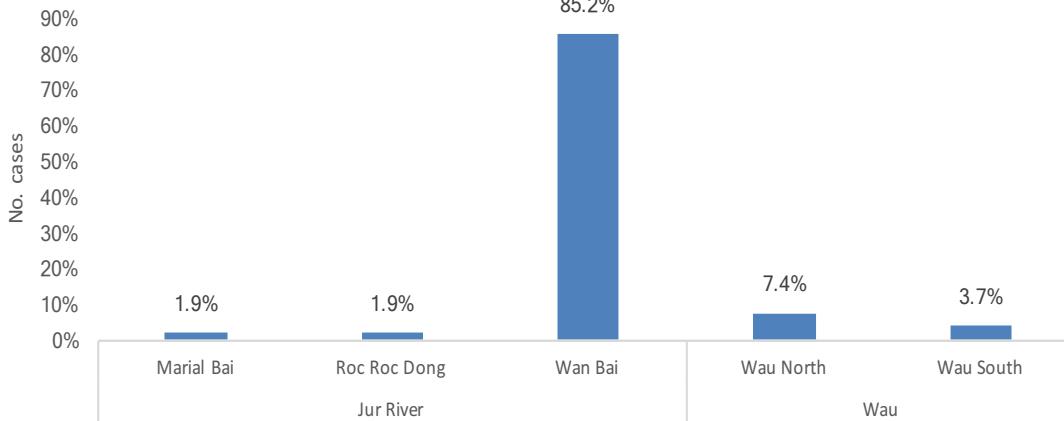
- Measles campaign completed and no new cases reported
- Most of the cases were reported from Bar Mayen
- Most cases were not vaccinated
- 45% of the cases were 1-4 years of age
- Preliminary coverage survey data showed at least 85% of the target population were reached during the campaign

Rubella in Jur River and Wau counties

Rubella cases Jur River, week 4 to 10, 2018



Rubella cases by payam in Jur River and Wau Counties, weeks 4-10, 2018



Age	Female	Male	Total cases	% Cases	Cum cases%
<1yr	1	4	5	9.3%	9.3%
1-4yrs	10	21	31	57.4%	66.7%
5-14yrs	11	7	18	33.3%	100.0%
Total cases	22	32	54	100%	

- At least 54 rubella cases have been reported from Jur River (48 cases) and Wau (6 cases) with no deaths
- Cases have been reported from week 4 of 2018
- Most cases were not vaccinated
- Most cases (57.4%) are aged 1 - 4 years
- Most cases (85.2%) are from Wan Bai payam in Jur River county
- Females constitute 41% of the cases reported
- No cases reported in females of childbearing age.

Response | Suspect outbreaks being investigated

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
13Mar18	Meningitis	16 (00)	Duk	Ayueldit	On 12 Mar 2018; a 3 year old male from Buongjok area, Ayueldit payam was admitted to Padiet PHCC. The health partner SMC requested for guidance on managing the case and the WHO Bor team shared the meningitis case management guidelines. Surveillance has been stepped up but no additional cases have been identified.
17Feb18	Meningitis	173 (31)	Torit	Iyire and Imurok	After rumors of strange illness in Iyire, several RRT verification and response missions have been undertaken since 20Feb18. Torit county surpassed in the alert and epidemic thresholds in week 7 and week 9 respectively. Conclusive laboratory confirmation underway. Overall coordination, case surveillance, line listing, and investigation are ongoing. Transmission declined after week 9 with the weekly attack rate falling below the alert and epidemic threshold in week 11 & 12.
10Mar18	Meningitis	3 (0)	Cueibet		Since 10 Mar 2018, at least three suspect meningitis cases have been reported by CUAMM in Cueibet hospital. However, sample collection and testing has not been undertaken on any of the cases.
02Feb2018	Meningitis	13 (0)	Aweil South (5cases) Aweil East (4 cases) Aweil West (2 cases) Aweil Town (2 cases)	Aweil hospital	Since 2Feb2018, at least 13 suspect cases have been admitted in Aweil hospital. Of the 5 susp. Cases from Aweil South, one tested positive for Gram positive diplococci; one case from Aweil East was positive for <i>Streptococcus pneumoniae</i> by rapid pastorex; & one case from Aweil East was also positive for <i>Streptococcus pneumoniae</i> by rapid pastorex. All admitted to Aweil hospital with average age of 5.9 years (range 6months to 12 years); 7 (58%) female.
06Jan18	Meningitis	02 (00)	Abyei and Twic	Rumkor and Pan-nyok	The two suspect cases were treated in Agok hospital on 4 Jan and 29 Jan respectively with initial diagnoses of severe malaria but final diagnosis was bacterial meningitis. Rapid pastorex testing sample from the second suspect case from Twic county was positive for <i>Streptococcus pneumoniae</i> .
14Feb18	meningitis	07(03)	Wau (Jur River)	Udici, Roc Roc Dong	Since 14 February; seven suspect meningitis cases have been reported from Wau and Jur River counties. The most recent suspect case involved a 45 year old male from Jur River that was admitted in Comboni hospital on the 28 Feb 2018. Rapid pastorex testing was positive for <i>Streptococcus pneumoniae</i> .

Response | Suspect outbreaks being investigated

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
16Mar2018	Measles	08(01)	Mayom	Riak & Lol Maroal	Suspect measles cases reported from Riak payam in Nyebola village since 9 Mar 2018. Four samples obtained by MSF-CH for testing. Another alert of 4 suspect measles cases including one community death has been reported from Lol Maroal but verification and sample collection are pending.
19Jan18	measles	01	Mayendit	Rubkuai	One suspect measles cases from Rubkuai in Mayendit tested measles IgM positive. Measles follow up campaign in Leer and Mayendit has been completed by MedAir; MSF-Holland; and UNIDO with support from Unicef and WHO. Plans underway to conduct a coverage survey.
16Feb18	Health effects of petroleum drilling	Unspecified	Pariang	Pariang	A newswire indicates the Mayor of Pariang in Ruweng State has appealed to the Ministry of Health to establish some health conditions affecting people in the oil producing area. bit.ly/2EIndTP #SouthSudan. Initial verification details to follow
31Mar2018	malaria	6(06)	Gogrial West	Kuach South	On 28 th Mar 2018; the Director Gogrial West reported community deaths in Kuach South that were verified by the RRT on 29 Mar 2018. The clinical and lab tests on suspect cases were consistent with malaria and the cases responded to treatment with ACTs.

Response | Suspect outbreaks being investigated

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
14Feb18	pertussis	Unspecified	Bor	Baidit (Bongo, Mayen, Kwei, Anuak	Alerts of whooping cough reported from Baidit Payam (Bongo & Mayen Bomas. Other alerts reported from Kwei Boma and Anuak (a swampy area/island/fishing camp only accessible by speed boat). These locations have no health implementing partner presence. Investigations planned by the RRT to accessible areas (further updates to follow).
25Jan18	Rabies	110 (2)	Rubkona	Bentiu PoC	Rabies surveillance and response is ongoing. Current response entails post-exposure prophylaxis; community awareness (radio & IEC message dissemination) on rabies prevention and early care seeking following bite incidences. Camp management, IOM, VSF Suisse, & UNMISS are holding consultations on dog curling.

For more help and support, please contact:

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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>

