

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Update W382018 (Sep17- Sep23)



Ministry of Health
Republic of South Sudan



World Health
Organization
South Sudan

- Completeness for IDSR reporting at county level was 76% . Completeness for EWARS reporting from IDP sites was 76%.

- A total of 20 alerts were reported, of which 85% have been verified. 0 alerts was risk assessed & 0 required a response.

- The suspect Ebola case reported in New site, Juba on 26th Sep 2018 tested PCR negative for Ebola, Marburg, CCHF, RVF, and Sosuga.

- Malaria remains the top cause of morbidity and mortality with at least 15 counties having malaria trends that exceed the expected levels.

- There was no new suspect Rift Valley Fever (RVF) case reported from Yirol East in week 38. A total of 58 suspect human cases including 6 confirmed; 3 probable; 48 non-cases; and 01 pending classification (with no definitive lab. test results) have been reported. Nine confirmed animal cases (cattle).

- Two new HEV cases reported in week 38. A total of 139 HEV cases (18 confirmed by PCR) have been reported in Bentiu PoC in 2018. Current response entails surveillance, case follow up, WASH and discouraging communities from using stagnant water for domestic and recreational purposes.

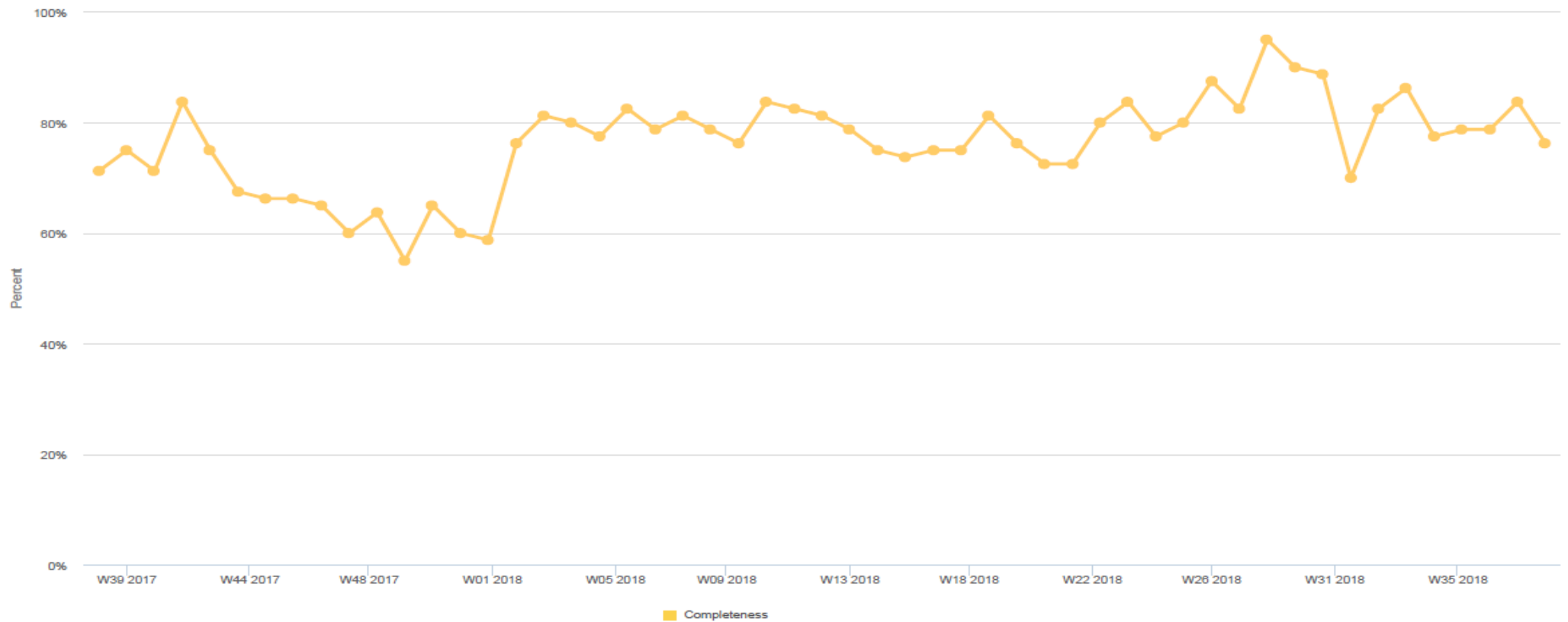
- In light of the confirmed EVD outbreak in North Kivu, the South Sudan EVD contingency plan has been updated to mitigate the risk of EVD importation and enhance readiness capacities.

Table 1 | IDSR surveillance performance indicators by county (W38 2018)

Hub	Reporting		Performance (W38 2018)		Performance (Cumulative 2018)	
	# counties	# reports received	Completeness	Timeliness	Completeness	Timeliness
Aweil	5	4	80%	80%	87%	87%
Bentiu	9	6	67%	67%	71%	57%
Bor	11	8	73%	73%	50%	47%
Juba	6	5	83%	83%	86%	74%
Kwajok	7	7	100%	100%	100%	91%
Malakal	13	5	38%	38%	55%	24%
Rumbek	8	8	100%	100%	100%	93%
Torit	8	6	75%	75%	96%	73%
Wau	3	3	100%	100%	91%	76%
Yambio	10	9	90%	90%	99%	99%
South Sudan	80	61	76%	76%	80%	76%

- Completeness for IDSR reporting at county level was 76% in week 38 and cumulatively at 80% for 2018.
- Timeliness for IDSR reporting at county level was 76% in week 38 and cumulatively at 76 % 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 80%.

Table 4 | EWARS surveillance performance indicators by partner (W38 2018)

Partner	Performance		Reporting (W38 2018)		Reporting (Cumulative 2018)	
	# sites	# reports received	Completeness	Timeliness	Completeness	Timeliness
CMD	3	3	100%	100%	39%	38%
GOAL	2	2	100%	100%	100%	92%
HLSS	1	1	100%	100%	100%	100%
IMA	5	4	80%	80%	81%	79%
IMC	6	5	83%	83%	95%	94%
IOM	12	10	83%	83%	73%	73%
IRC	1	1	100%	100%	100%	95%
Medair	2	2	100%	100%	95%	92%
MSF-E	2	1	50%	50%	71%	58%
MSF-H	2	2	100%	100%	80%	57%
SMC	4	3	75%	75%	83%	83%
UNIDO	1	1	100%	100%	103%	103%
UNKEA	2	1	50%	50%	91%	88%
World Relief	1	1	100%	100%	97%	87%
TRI-SS	7	1	14%	14%	27%	27%
LIVEWELL	4	4	100%	100%	32%	32%
Total	55	42	76%	76%	71%	68%

Timeliness and completeness for EWARN/IDP reporting stands at 76% for week 38, while cumulatively timeliness and completeness are 68% and 71% respectively for 2018.

Table 7 | Alert performance indicators by Hub

Hub	W38		Cumulative (2018)	
	# alerts	% Verif.	# alerts	% Verif.
Aweil	1	100%	40	95%
Bentiu	1	100%	73	74%
Bor	4	100%	55	67%
Juba	0	0%	73	70%
Kwajok	1	100%	39	100%
Malakal	3	33%	63	68%
Rumbek	2	100%	51	76%
Torit	5	100%	51	84%
Wau	2	100%	40	70%
Yambio	1	0%	86	60%
South Sudan	20	85%	571	74%

Table 8 Summary of key alert indicators

W38	Cumulative (2018)	
20	571	Total alerts raised
85%	74%	% verified
0%	0%	% auto-discarded
0%	3%	% risk assessed
0%	1%	% requiring a response

A total of 20 alerts were reported in week 38 with 85% of the alerts in week 38 being verified; 0 were risk assessed and 0 required a response.

Table 9 | Alert performance indicators by event

Event	W38		Cumulative (2018)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	1	100%	110	67%
AWD	5	60%	189	69%
Bloody Diarr.	6	83%	144	56%
Measles	3	100%	116	84%
Meningitis	0	0%	0	0%
Cholera	0	0%	6	100%
Yellow Fever	0	0%	4	75%
Guinea Worm	0	0%	21	90%
AFP	1	100%	50	100%
VHF	0	0%	3	100%
Neo. tetanus	0	0%	5	60%
Event-based surveillance				
EBS total	4	100%	31	71%

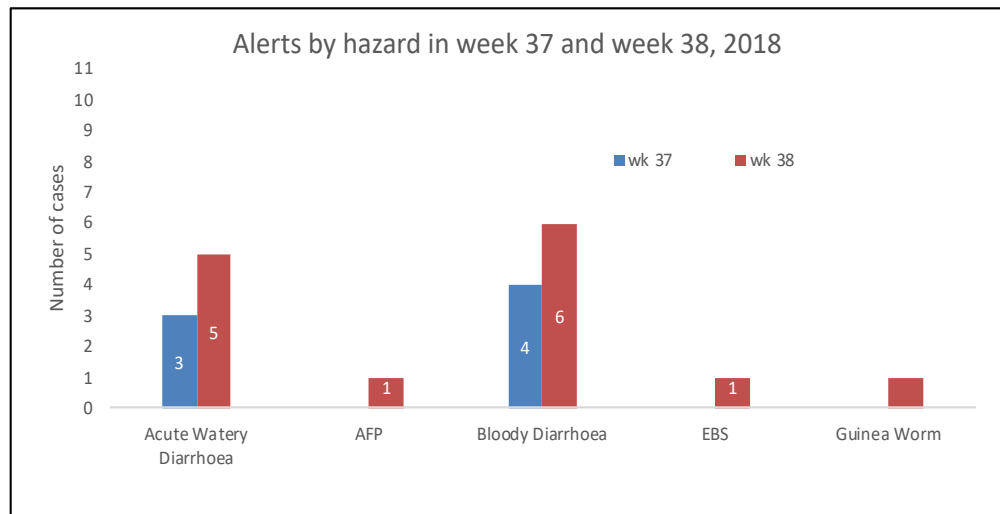
Table 10 | Event risk assessment

W38	Cumulative (2018)	
0	8	Low risk
2	2	Medium risk
0	3	High risk
0	1	Very high risk

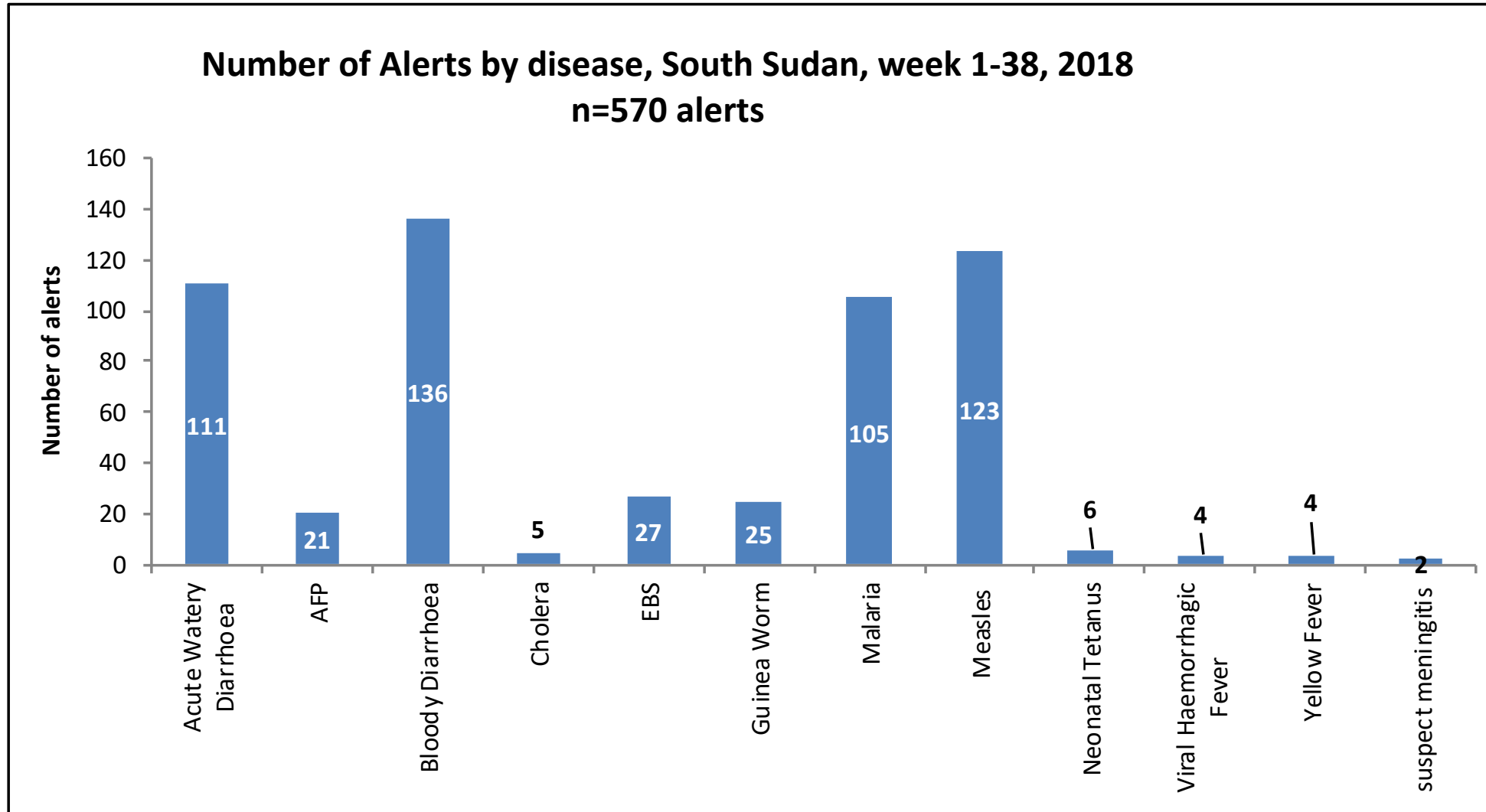
During the week, suspect bloody diarrhoea, acute watery diarrhoea, and measles were the most frequent infectious hazards reported.

Alert by disease and county in W38 2018

County	Acute Watery Diarrhoea	AFP	Bloody Diarrhoea	Suspect meningitis	Guinea Worm	Measles	Malaria	suspect meningitis	Suspect rabies	Total Alerts
Abyei			1							1
Aweil East		1								1
Duk	1		1							2
Fashoda							1			1
Jur River			1							1
Magwi			1		1					2
Melut	1		1							2
Nzara	1									1
Rubkona						1				1
Rumbek North			1							1
Torit				1				1	1	3
Wau						1				1
Yirol West						1				1
Pibor	2									2
Total Alerts	5	1	6	1	1	3	1	1	1	20



- During week 38, a total of 20 alerts were reported through EWARS
- During the week; bloody diarrhoea and acute watery diarrhoea were the most frequent alerts as seen in the table and figure
- **Malaria case increase – reported in Warrap; Wau; Aweil & Mayom – there is currently no buffer stock of diagnostics, ACTs, & LLINs to respond to the current upsurge**
 - **Warrap hub:** Malaria cases reported to be on the increase in the hub particularly in Abyei; Twic; Tonj South & Gogrial East counties with reported stockout of antimalarials in some health facilities
 - **Wau hub:** a 2-3 fold increase in malaria cases reported in all the counties in Wau state.
 - **Aweil hub:** all indicators point to an increase in malaria cases in the coming weeks due to the low-grade flooding reported in all the counties; with reports of antimalarial stockouts in some health facilities.
 - **Mayom hub:** a 50% increase in malaria cases has also been reported in Mayom PHCC and the county as a whole.
- **Suspect measles- Yirol West:** Since 4 Aug 2018; at least 11 suspect measles cases have been reported in Yirol hospital (originating from Yirol Town and Abang). Six samples have been collected for laboratory testing.
- **Suspect measles- Wau & Jur River:** Three suspect measles cases [one case in Agok village, Wau South Payam; and 2 suspect cases in Marial Ajieth village, Jur River] were investigated during the week and samples sent to Juba for testing.
- **Suspect pertussis - Jur River:** A cluster of suspect pertussis cases has been reported in Acheno, Jur River in an area that is not accessible to partners as its not under government control. HealthNet has been identified to verify and investigate the case cluster.



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

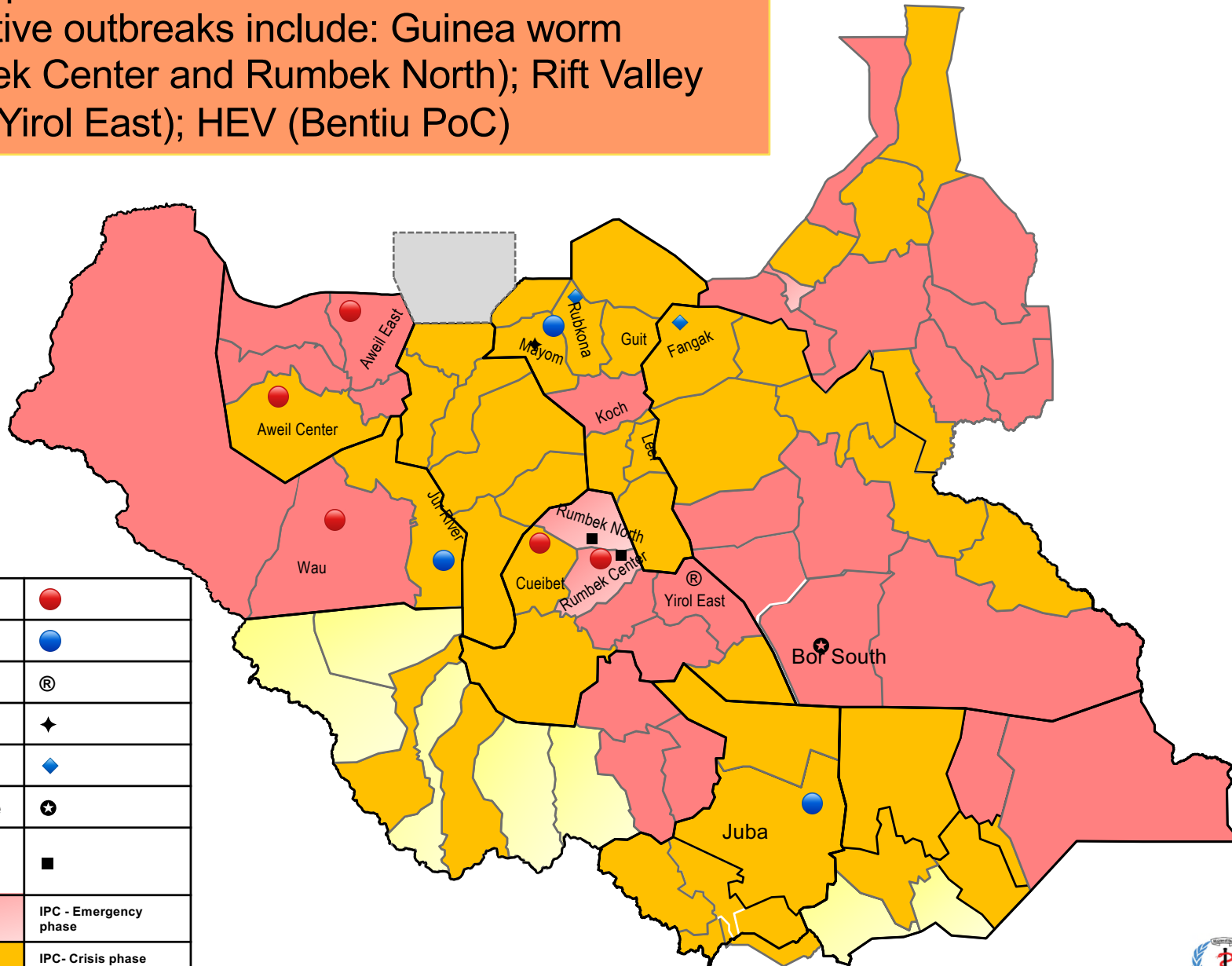
Cumulative alerts by risk assessment stage in 2018

County	OUTCOME	RISK ASSESSED	RISK CHARACTERISED	VERIFICATION	Total Alerts
Acute Watery Diarrhoea	1			110	111
AFP		1		20	21
Bloody Diarrhoea	1			135	136
Cholera	1			1	2
EBS		3		24	27
Guinea Worm	2	1		22	25
Neonatal Tetanus	3			3	6
Viral Haemorrhagic Fever				4	4
Yellow Fever				4	4
Measles	5	7		111	123
Cholera				3	3
Malaria	2	4	1	98	105
suspect meningitis				2	2
Suspect rabies				1	1
Total Alerts	15	16	1	538	570

- The Figures show the cumulative alerts by risk assessment state in 2018
- Of the 570 alerts reported in 2018; a total of 538 alerts have been verified; 16 alerts underwent risk assessment; and 15 alerts have a documented outcome

Confirmed Outbreaks South Sudan – 30 September 2018

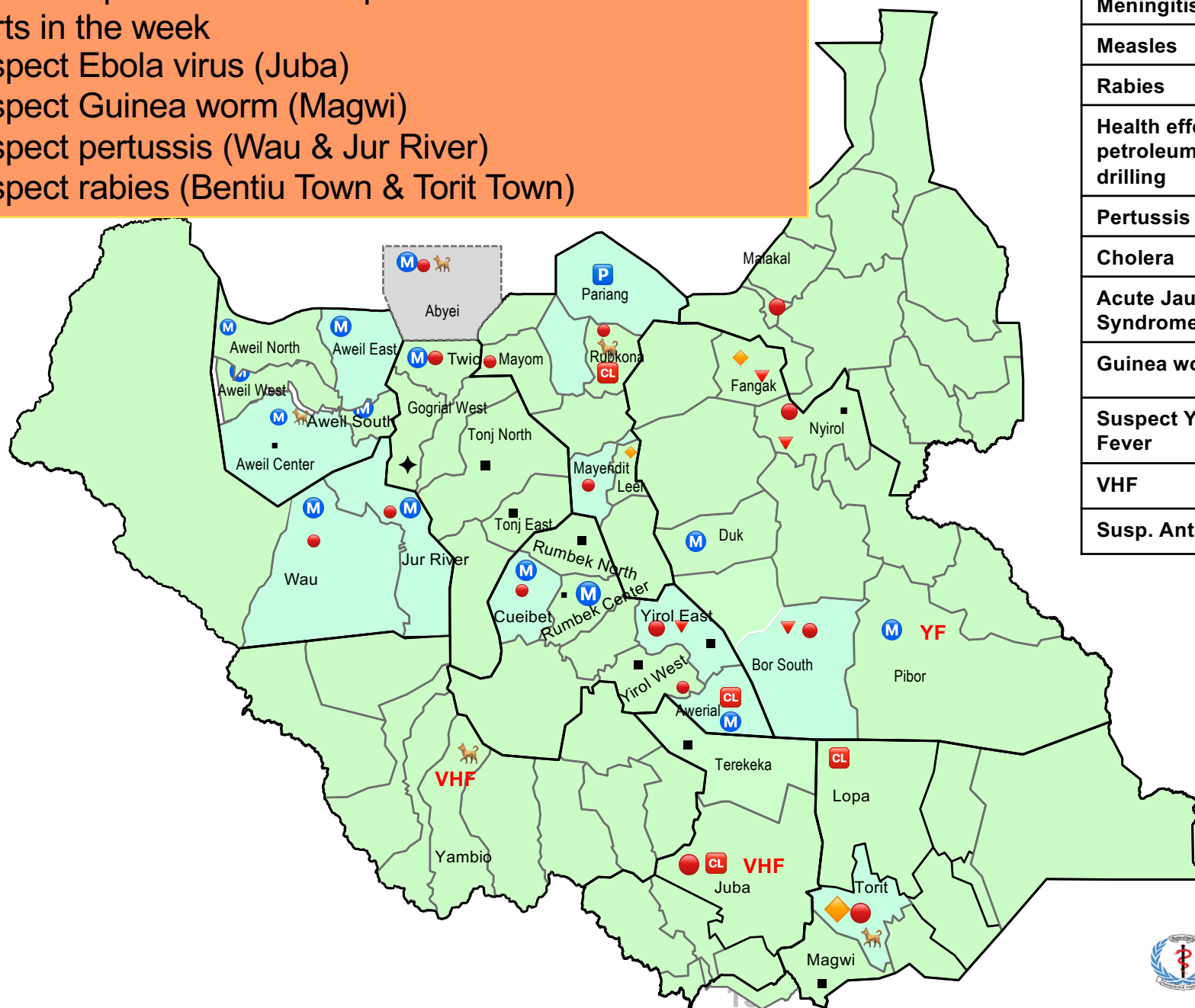
- The map show outbreaks confirmed in 2018
- The active outbreaks include: Guinea worm (Rumbek Center and Rumbek North); Rift Valley Fever (Yirol East); HEV (Bentiu PoC)



Measles	●
Rubella	●
Rift Valley Fever	Ⓜ
Anthrax	◆
Hepatitis E virus	◆
Foodborne disease	★
Guinea worm	■
	IPC - Emergency phase
	IPC- Crisis phase
	IPC - Stressed phase

Suspect Outbreaks South Sudan – 30 September 2018

- Map shows suspect outbreaks reported in 2018
- New alerts in the week
 - Suspect Ebola virus (Juba)
 - Suspect Guinea worm (Magwi)
 - Suspect pertussis (Wau & Jur River)
 - Suspect rabies (Bentiu Town & Torit Town)



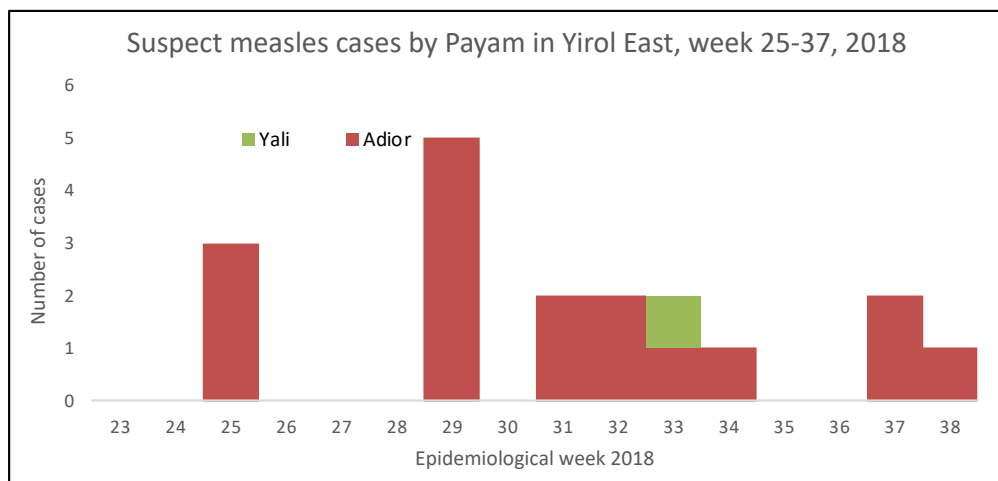
Meningitis	M
Measles	●
Rabies	🐕
Health effects of petroleum drilling	P
Pertussis	▼
Cholera	CL
Acute Jaundice Syndrome	◆
Guinea worm	■
Suspect Yellow Fever	YF
VHF	VHF
Susp. Anthrax	◆

Response | Summary of major ongoing outbreaks

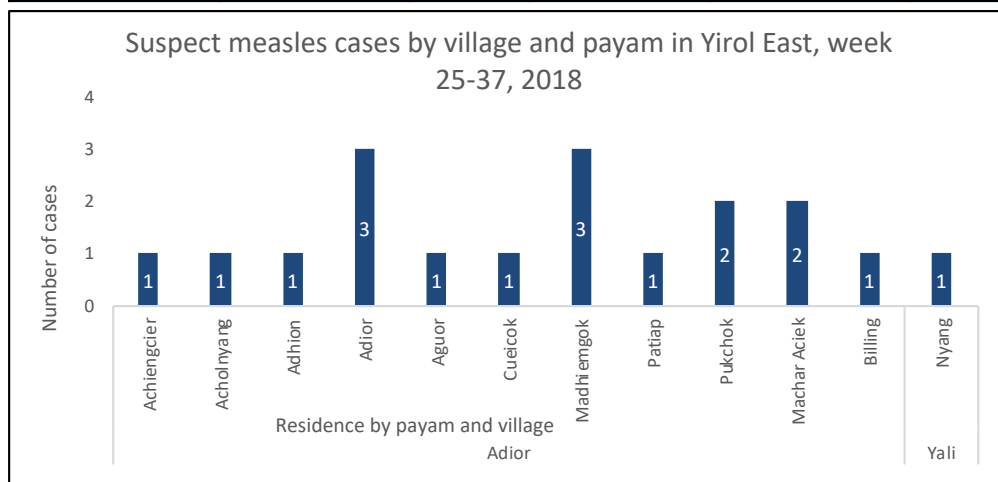
Aetiologic agent	Location (county)	Date first reported	New cases since last bulletin	Cumulative cases to date (attack rate %)	Interventions			
					Case management	Vaccination	Health promotion	WASH
New epidemics								
Ongoing epidemics								
Guinea worm	Rumbek Center & Rumbek North	27/05/2018	0	3 (0.001)	Yes	N/A	Yes	Yes
RVF	Yirol East	28/12/2017	0	58 (0.054)	Yes	N/A	Yes	N/A
Hepatitis E	Bentiu PoC	03/01/2018	03	139 (0.119)	Yes	No	Yes	Yes
Controlled epidemics								
Rabies probable	Bentiu PoC	06/12/2017	0	270 (0.231)	Yes	Yes	Yes	N/A
Measles	Rumbek Center	13/05/2018	0	40 (0.017)	Yes	Yes	Yes	N/A
Measles	Wau PoC AA	04/04/2018	0	1 (0.0025)	Yes	No	Yes	N/A
Hepatitis E	Old Fangak	15/02/2018	0	01 (0.001)	Yes	No	Yes	Yes
Rubella	Jur River	14/02/2018	0	76 (0.039)	Yes	No	Yes	N/A
Rubella	Juba	26/02/2018	0	22 (0.0037)	Yes	No	Yes	N/A
Rubella	Mayom	22/02/2018	0	08 (0.004)	Yes	No	Yes	N/A
Measles	Aweil Center	6/Jan/2018	0	22 (0.021)	Yes	Yes	Yes	N/A
Measles	Cueibet	14/10/2017	0	20 (0.012)	Yes	Yes	Yes	N/A
Measles	Aweil East	05/02/2018	0	31 (0.006)	Yes	Yes	Yes	N/A
Foodborne	Bor South	18/02/2018	0	434 (29)	Yes	Yes	Yes	Yes
Cut. Anthrax	Mayom	27/01/2018	0	2 (0.001)	Yes	No	Yes	N/A
Meningitis	Torit	17/01/2018	0	173 (0.107)	Yes	No	Yes	N/A

- There is no new outbreak confirmed in the week
- The other ongoing and controlled outbreaks in 2018 are shown in the table

Suspect measles outbreak - Yirol East county



Age	Female	Male	Total cases	Percentage %	Cum%
<1yr		1	1	6%	6%
1-4yrs	3	5	8	44%	50%
5-9yrs	3	4	7	39%	89%
10-14yrs	1	1	2	11%	100%
Total cases	7	11	18	100%	



- At least 18 suspect measles cases (with no deaths) have been reported in Yirol East since week 25, 2018.
- Most of the suspect cases are <5 years with 50% being <5 years of age.
- Most of the suspect measles cases are from Adior payam with most cases reported from Madhiengkok and Adior villages
- All the suspect measles cases reported to date have not received any measles vaccine dose

Recommended response

1. Case-based surveillance should continue
2. Ensure adequate clinical management of suspect measles cases (guided by national measles protocols).
3. Due to the absence of measles and rubella ELISA kits to facilitate lab confirmation and since Yirol East hosts IDPs with the risk of amplification; reactive measles vaccination (and polio vaccination) should be implemented immediately with contingencies to vaccinate all new arrivals.
 - a) **Antigens to be delivered:** Measles & oral polio vaccine
 - b) **Target population for measles:** 6months -15 years
 - c) **Target population for oral polio vaccine:** 0-59 months

Updates on preparations for the campaign

- Vaccination campaign started on 24 Sept 2018 and has been completed. Coverage data is awaited.
- Partners supporting the response include CUAMM, WHO, UNICEF

Malaria trends

Current malaria trends

Malaria remains the top cause of morbidity and mortality that accounts for 62% and 81% of cases and deaths as of week 37, 2018. Consequently, trend analyses show that 15 counties in 5 hubs currently have malaria trends that are significantly higher than expected. Counties with malaria trends that exceed the threshold (third quartile of trends for the period 2013-2017) include:

1. Aweil hub (Aweil Center);
2. Rumbek hub (Rumbek Center, Rumbek East, Rumbek North, Wulu, Yirol East, Yirol West);
3. Kuajok hub (Abyei, Gogrial East, Tonj East, Tonj South, and Twic Mayardit);
4. Bentiu hub (Mayom); and
5. Juba hub (Terekeka).

Proposed public health actions

1. Convene malaria taskforce or malaria technical working group meeting to ensure that operational readiness for malaria prevention, diagnosis, and treatment are optimized.
2. Field missions to conduct technical verification of the trends in the affected counties
3. Assessment of current stock levels of malaria diagnostics (RDTs), medicines (ACTs), and LLINs in the affected counties.
4. Stocking up on malaria prevention (LLINs), diagnostics (RDTs), medicines (ACTs), and enhancing behavioral change communication for malaria prevention, prompt investigation and initiation of treatment

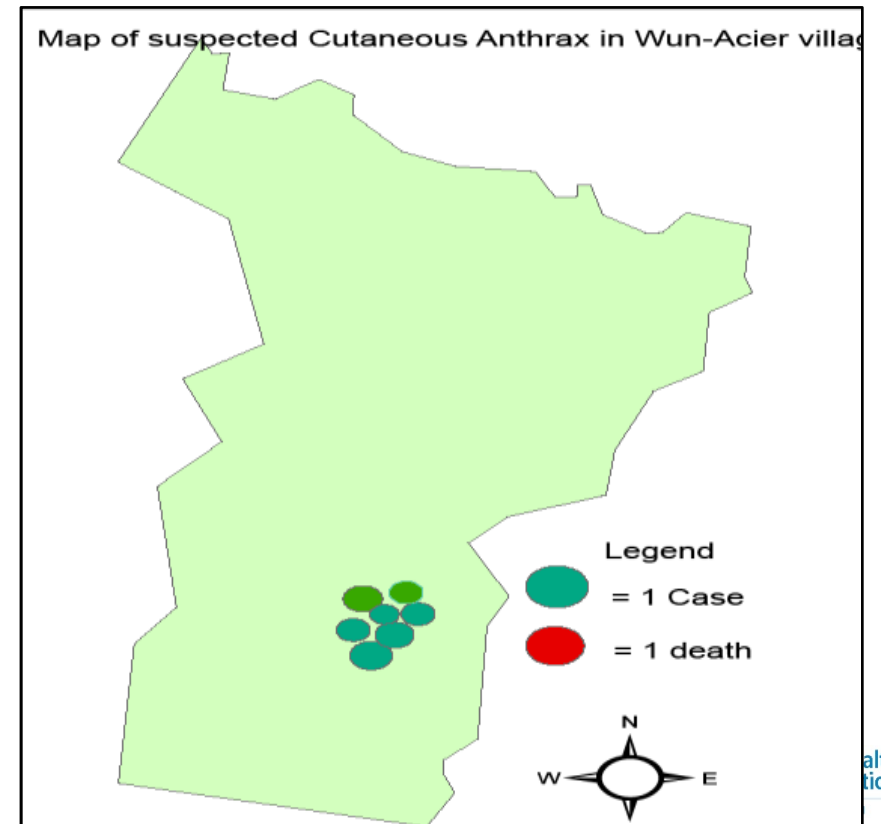
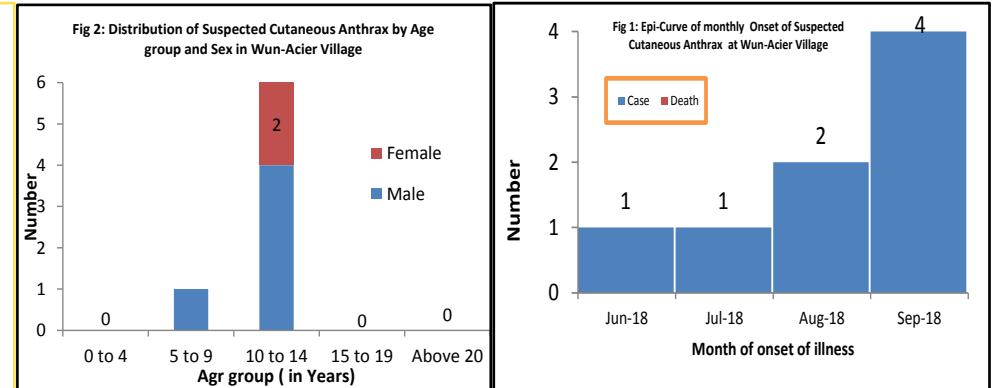
Suspect subcutaneous anthrax, Kuac North, Gogrial West

Descriptive case series

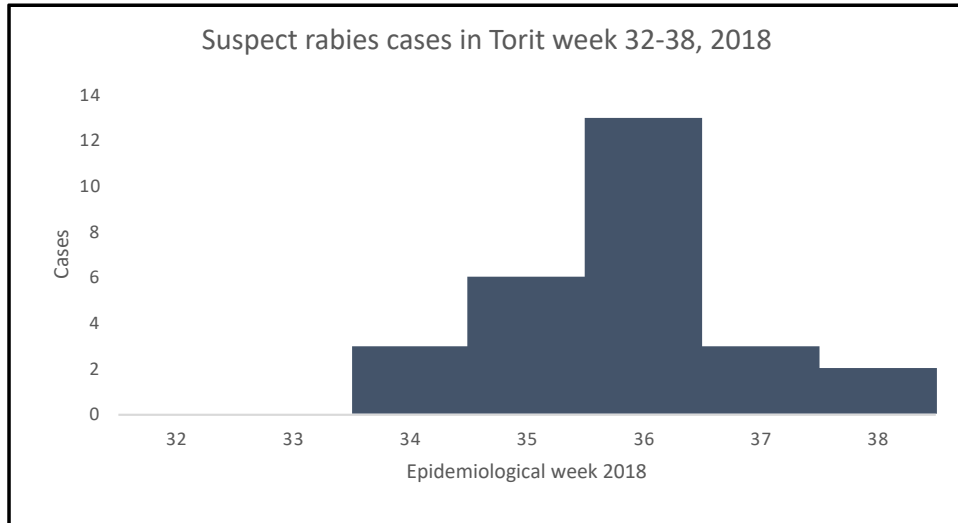
- During the week, a suspect case of subcutaneous anthrax was detected in Kuajok hospital. The case originates from Wun-acier village, Monjioc Boma in Gogrial West County.
- On 20 Sep 2018, the Kuajok MoH/WHO rapid response team conducted an investigation into the case by travelling to the case village of residence.
- Following the investigation, five additional cases, with lesions suggestive of subcutaneous anthrax were identified retrospectively in the same village. There were no human deaths linked to this case cluster. Outbreaks of similar cases were reported in the neighboring villages in 2011, 2013, and 2015, suggesting that the disease is endemic in the villages and county as a whole.
- The current human case cluster was linked to and preceded by four sudden deaths of goats in the village.
- The affected were teenagers that had direct or indirect contact with animal products. In addition, the cases and community members reported eating meat from the diseased animals.
- No animal vaccination has been reported in the area in the past three years.

Response actions to date

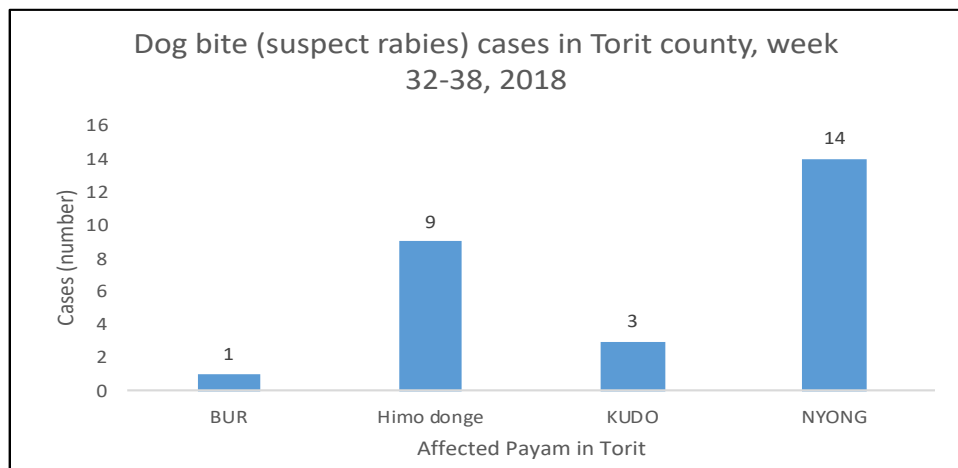
1. The affected community members were sensitized on anthrax prevention and control. The communities were also advised to report suspect cases to the nearby health facility.
2. Active surveillance initiated in the health facility and community using the subcutaneous anthrax case definitions. Recent follow up visits have not revealed any new cases/deaths in animals or humans
3. The Ministry of Health at Juba level has engaged WHO, FAO and the Ministry of Livestock to initiate a comprehensive response that includes human and animal surveillance; risk communication; and animal vaccination.
4. In two coordination meetings involving MoH, WHO, FAO, & Min. of Livestock; it emerged that JAM & TOCH (NGOs) were supported to conduct Animal anthrax vaccination in Tonj & Gogrial states in October 2018.
5. Active surveillance shows that there is no evidence of human or animal transmission.



Animal bites (suspect rabies) - Torit county



Age (yrs)	Fema	Male	Total cases	Percentage	Cum %
0-9yrs	7	7	14	52%	52%
10-19yrs	2	2	4	15%	67%
20-29yrs		1	1	4%	70%
30-39yrs	2	2	4	15%	85%
40-49yrs	1		1	4%	89%
50-59yrs	2	1	3	11%	100%
Total cases	14	13	27	100%	



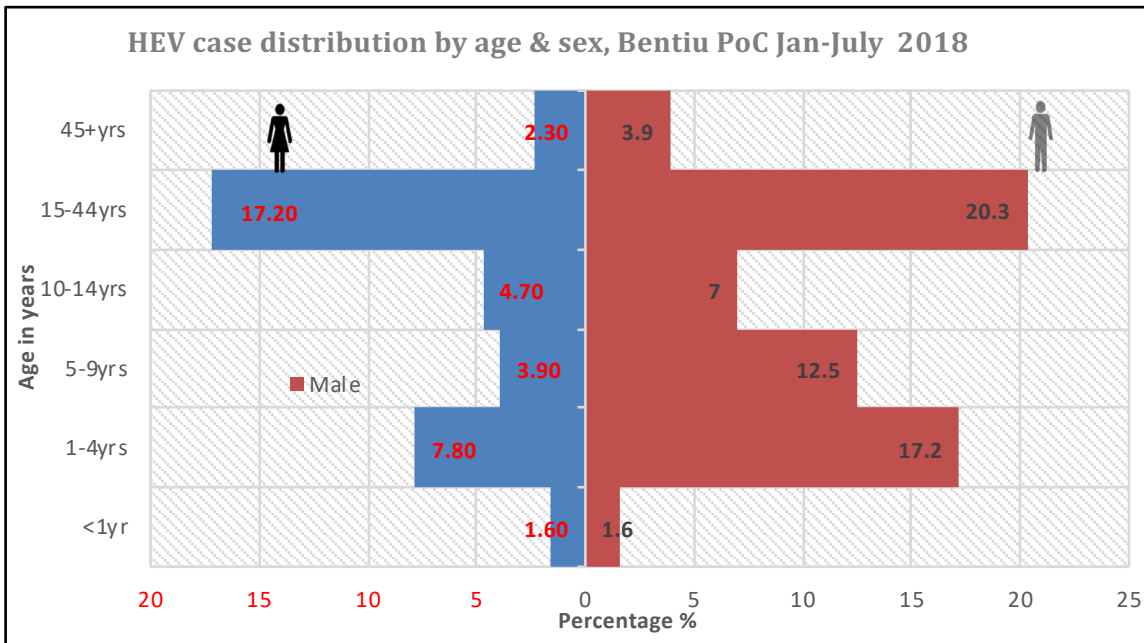
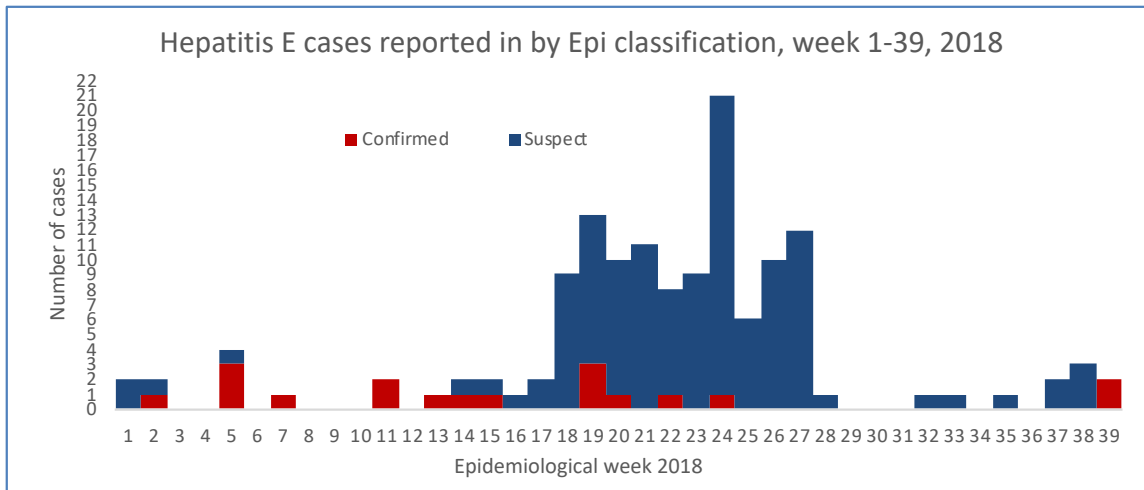
Descriptive epidemiology

- Animal bite (suspect rabies) have been on the increase in Torit county with 30 cases (no deaths) reported since 20 Aug 2018.
- The cases are distributed evenly by gender.
- Nearly 70% of the cases were reported in children aged 0-19 years.
- Nyong and Himo donge are the most affected payams.

Recommended response

1. Form a state level taskforce involving [the state Government; Ministry of Health; Ministry of Education; Torit Town Council; and partners including: WHO, UNICEF, FAO, VSF] and develop a comprehensive one-health plan to control rabies
2. Promote public awareness to prevent rabies through risk communication to reduce the risk of exposure in high risk groups and for early care seeking in the event of exposure; and educating dog owners to have their dogs vaccinated.
3. Securing human antirabies vaccine for post exposure prophylaxis
4. Securing animal rabies vaccine for vaccinating domestic canine (dogs and cats) animals
5. Surveillance – using the rabies case definition and line lists in all health facilities (public and private) to report suspect rabies (animal bite) cases to the state MoH.
6. Working with VSF and Torit Town Council to sterilise stray dogs

Hepatitis E, Bentiu PoC

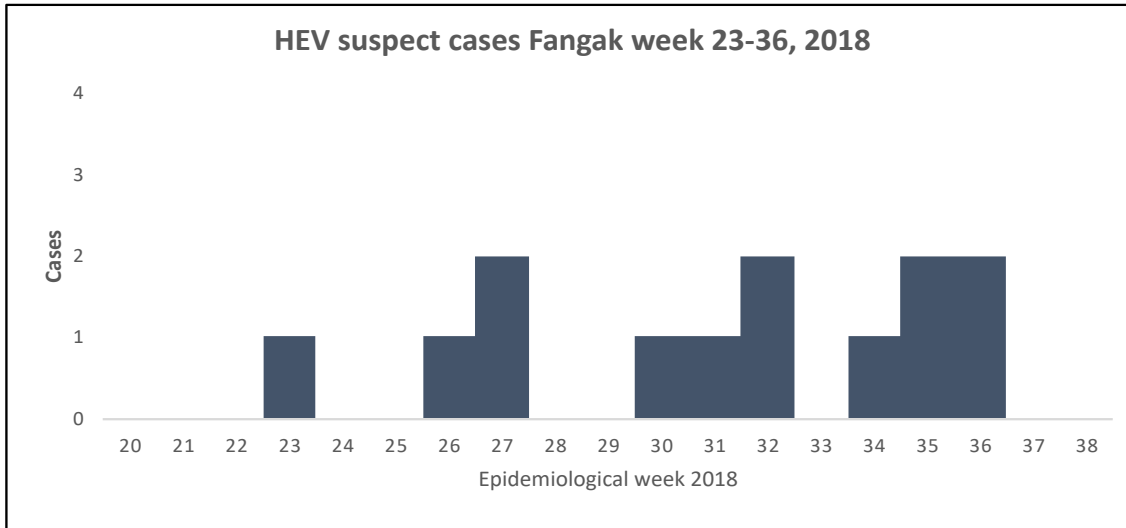


Bentiu PoC

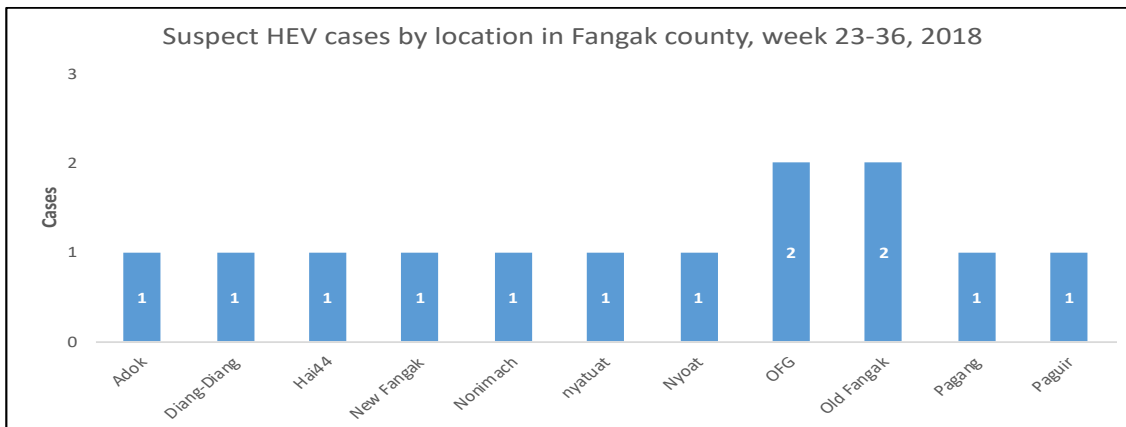
- At least 139 suspect cases of Hepatitis E (HEV) have been reported in 2018. Of the 139 suspect cases, a total of 18 cases have been PCR confirmed as HEV in Bentiu PoC
- Only 8 HEV cases have been admitted.
- Nearly 40% of the cases are 15-44 years of age; and 60% being male. Among the females, most cases have been reported in those aged 15-44 yrs (who are at risk of adverse outcomes if infected in the 3rd trimester of pregnancy).
- Use of stagnant water for domestic or recreation purposes likely to be source of infection - communities are being educated on the risk and draining the water is being discussed
- Unicef has disseminated key HEV messages - on radio [Kondial FM & Bentiu FM] and through community sensitizations.
- Case identification and follow up is and WASH interventions are ongoing.

Three new HEV cases reported in week 38

Hepatitis E Old Fangak



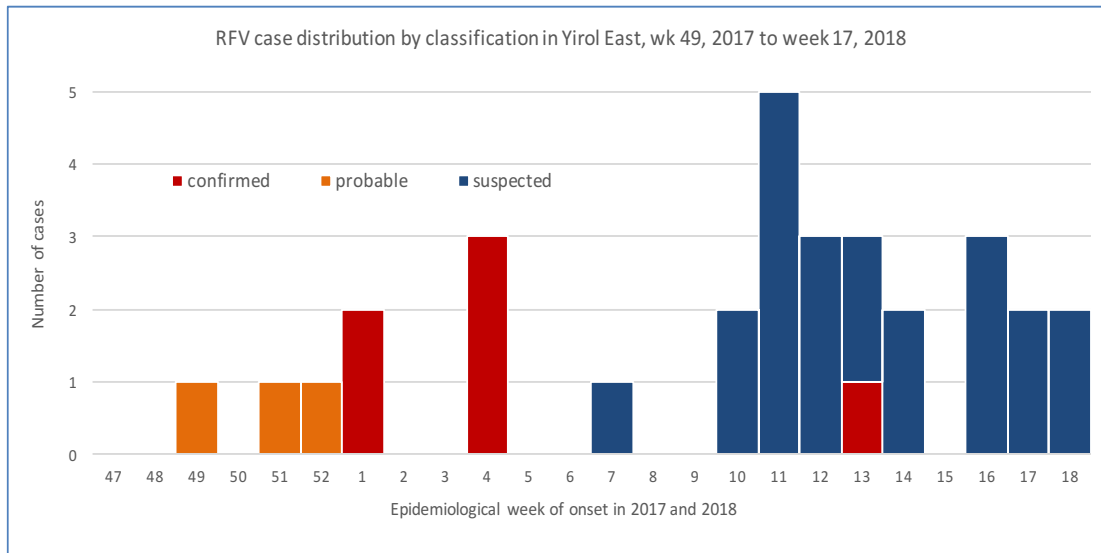
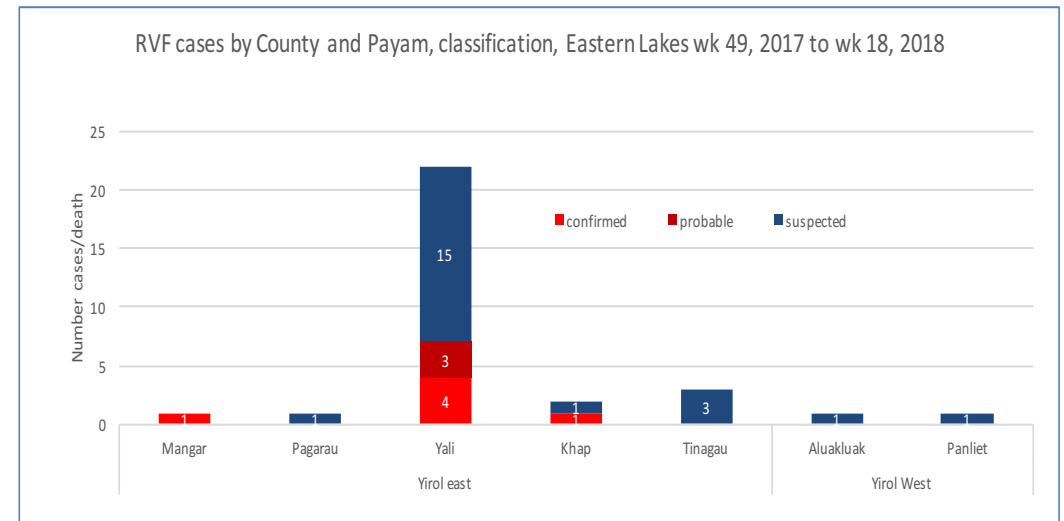
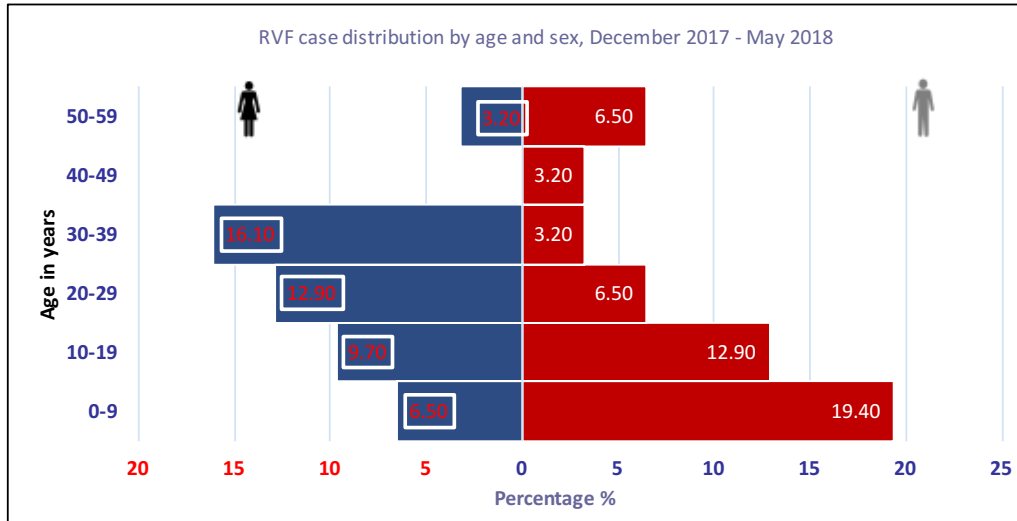
Age	Female	Male	Total cases	Percentage	Cum.%
10-19yrs	2	2	4	31%	31%
20-29yrs	1	6	7	54%	85%
30-39yrs		2	2	15%	100%
Total cases	3	10	13	100%	



Old Fangak

- At least 13 suspect HEV cases including one confirmed HEV case have been investigated in Old Fangak.
- All the 13 cases were HEV RDT positive.
- Over half (54%) of the cases are 20-29 years of age.
- The cases appear to be occurring sporadically and are using River water (largely from Phow river).
- Community awareness and hygiene promotion are ongoing.

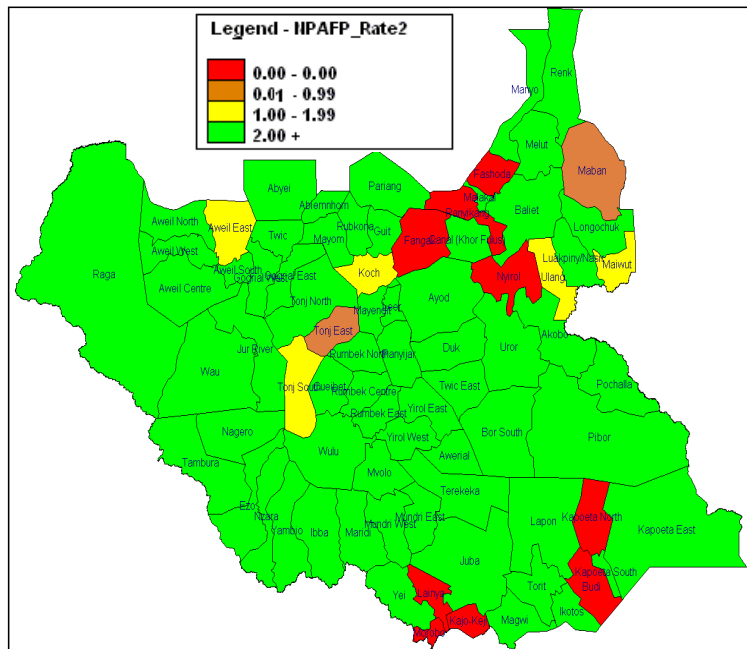
Ongoing epidemics - Epidemic description - RVF Eastern Lakes state



Sno.	Description	Number
1	Suspect cases	58
2	Total deaths	4
3	Confirmed cases	6
4	Probable cases	3
5	Cases pending testing	01
6	Non-cases	48
7	Cases on admission	01
8	Total human samples collected	39
9	Total animal samples collected	28
10	Positive animal cases	9

- No new suspect RVF case reported from Yirol East in week 38.
- In the period 7 December 2017 to 30 Sep 2018, a total of 58 suspect RVF cases were reported in Eastern Lakes.
- These were reclassified based on investigations and laboratory results, such that as of 23rd Sep 2018, there were a total of six (6) RVF confirmed cases, three (3) probable, and 01 suspect RVF cases (either no samples collected or samples collected and test results are pending).
- Forty eight (48) 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

Acute Flaccid Paralysis - suspect Polio



In week 38, 2018, a total of one (1) new AFP case was reported from Central Equatoria; Eastern Equatoria; Lakes; & Warrap hub. This brings the cumulative total for 2018 to 301 AFP cases.

The annualized non-Polio AFP (NPAFP) rate (cases per 100,000 population children 0-14 years) in 2018 is 5.01 per 100,000 population of children 0-14 years (target ≥ 2 per 100,000 children 0-14 years).

Stool adequacy was 87% 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 Thirty Six (36) NPEV positive sample in 2018.

Source: South Sudan Weekly AFP Bulletin

2017-2018* SUMMARY by States (Using NID figures for population estimates)

State Hubs	Population <15 years	Cumulative AFP Cases	Non-Polio Cases	Cases of the Week	Polio cases					NPAFP Rate	Stool Adequacy			Lab indicators (Pending lab cases excluded)			
					Polio Compatible	VDPV	Pending				Specimens (#)	Adequate Specimens	Stool adequacy	NPEV		Sabin like	
							Pending Lab/CLT	Pending Lab/ITD	Pending ERC					Number	Percent	Number	Percent
CENTRAL EQUATORIA HUB	737148	18	14	3	0	0	3	0	1	3.3	18	15	88%	2	0%	0	0%
EASTERN EQUATORIA HUB	674008	30	27	3	0	0	3	0	0	6.1	30	29	97%	3	10%	2	11%
JONGLEI HUB	982693	32	29	0	0	0	1	0	2	4.5	32	27	84%	3	9%	1	8%
LAKES HUB	791864	42	39	1	0	0	3	0	0	7.3	42	42	100%	4	10%	0	0%
NORTHERN BAHR EL GHAZAL HUB	987309	29	29	0	0	0	0	0	0	4.0	29	27	93%	5	17%	3	15%
UNITY HUB	864151	25	20	0	0	0	0	0	5	4.0	25	20	80%	4	16%	1	7%
UPPER NILE HUB	895541	35	28	0	0	0	0	0	1	5.4	35	21	60%	5	14%	3	14%
WARRAP HUB	1456973	46	40	4	0	0	5	0	2	4.3	46	42	91%	5	11%	0	0%
WESTERN BAHR EL GHAZAL HUB	316372	15	12	0	0	0	0	0	3	6.5	15	9	60%	1	7%	0	0%
WESTERN EQUATORIA HUB	516397	29	28	0	0	0	0	0	1	7.7	29	28	97%	4	14%	2	11%
SOUTH SUDAN	8222455	301	266	11	0	0	15	0	20	5.01	301	260	87%	36	12%	12	7%

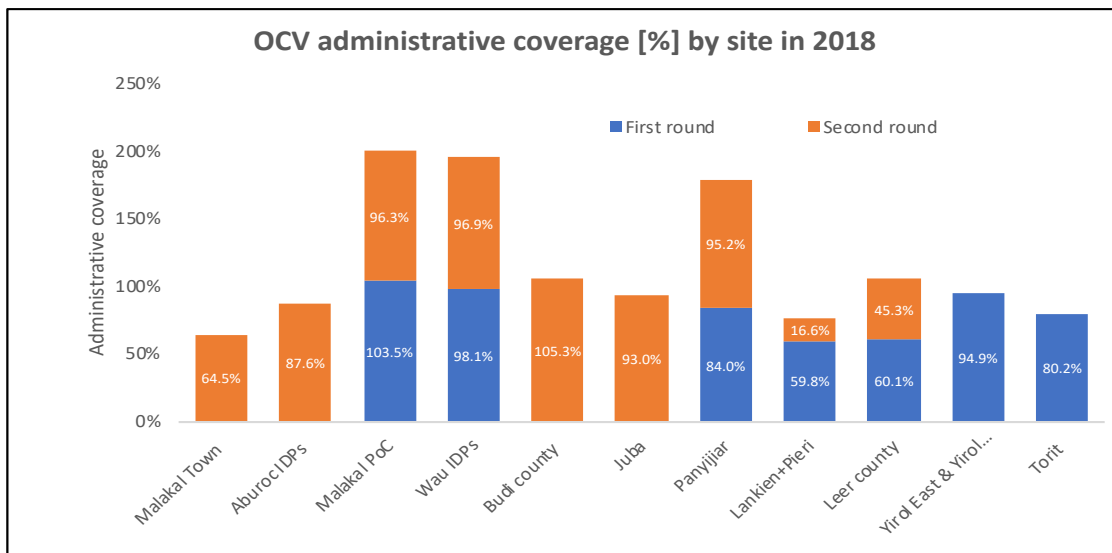
Cholera preparedness and preventive activities - Oral cholera vaccine campaigns - 2018

Site	Total population	Target population	1st round doses	2nd round doses	Total doses	1st Round dates	2nd Round dates	Partners
Aburoc	11,640	11,291		11,550	11,550	20-22May2017	Jan 17- 20 2018	MoH, WHO, Unicef, MSF-E
Malakal Town	20,000	19,200		22,200	22,200	18-24Mar2017	Jan 5 - 9 2018	MoH, WHO, Unicef, MSF-E
Juba	214,887			206,292	206,292	9Sep - 24Nov 2017	Apr 24-28 2018	MoH, WHO, Unicef, MSF-F & Spain
Malakal PoC	24,424	23,691	34,291	34,291	68,582	19-23March 2018	Apr 17-21 2018	MoH, WHO, Unicef, IOM
Wau IDPs	40,499	39,284	56,860	56,860	113,720	19-23March 2018	Apr 17-21 2018	MoH, WHO, Unicef, IOM
Torit	180,169	174,764	174,764	174,764	349,528	9th - 14th Aug 2018	28Jul- 6Aug 2018	MoH, WHO, Unicef, SCI, CARE
Yirol East & West	170,189	165,083	165,083	165,083	330,167	20-29 July 2018	pending	MoH, WHO, Unicef, LiveWell
Lankien	38,000	36,860	36,860	36,860	73,720	28May -13Jun2018	suspended	MoH, WHO, Unicef, MSF-H
Panyijiar	75,000	72,750	75,000	75,000	150,000	16-22May2018	20-24 Jul2018	MoH, WHO, Unicef, IRC
Leer	50,000	48,500	48,500	48,500	97,000	13-15th Jun 2018 (Leer town) & 13th 18th Jul 2018 (Leer County)	24-29Aug (Leer Town); 8-13Aug (Leer County)	MoH, WHO, Unicef, MedAir
Totals	824,808	800,064	591,358	831,400	1,422,759			

- Cholera prevention and response activities are already underway to mitigate the risk of cholera outbreaks in cholera transmission hotspots
- These efforts are critical now as the rain season is starting for the states in the Southern parts of the country.
- The use of oral cholera vaccines alongside WASH and other interventions is critical to these efforts
- Preventive vaccine campaigns (with oral cholera vaccines) for the first half of 2018 are listed in the table
- The National Cholera Control Plan is being finalized by a consultant secured with support from the GTFCC
- Validation of the National Cholera control plan is planned for August 2018
- A consignment of 96,285 doses of oral cholera vaccine from the ICG arrived in the country on 4Jul 2018 for the pre-emptive campaign in Leer county
- Another 352,660 doses of oral cholera vaccine from the GTFCC arrived in the country on 18 July 2018 for the campaigns in Panyijiar and Yirol

- **Oral cholera vaccine campaigns completed in 2018 include:**
 - Malakal Town (2nd round)
 - Aburoc IDPs (2nd round)
 - Malakal PoC (1st & 2nd round)
 - Wau PoC+IDPs (1st & 2nd round)
 - Juba Town (1st & 2nd round)
 - Panyijiar (1st & 2nd round)
 - Leer county (1st & 2nd round)
 - Yirol East and Yirol West (1st round)
- **Upcoming campaigns for 2018**
 - Torit (2nd round)
 - Yirol East and Yirol West (2nd round)

Oral cholera vaccine campaigns administrative coverage - 2018



2018 OCV campaigns		First round		Second round	
Site	Target	Coverage	Coverage	Coverage	Coverage %
1 Malakal Town	19,200			12,393	64.5%
2 Aburoc IDPs	9,683			8,484	87.6%
3 Malakal PoC	23,447	24,277	103.5%	22,588	96.3%
4 Wau IDPs	37,048	36,337	98.1%	35,887	96.9%
5 Budi county	89,377			94,128	105.3%
6 Juba	216,852			201,737	93.0%
7 Panyijiar	75,000	63,000	84.0%	71,378	95.2%
8 Lankien+Pieri	38,000	22,712	59.8%	6,294	16.6%
9 Leer county	48,125	28,930	60.1%	21,819	45.3%
10 Yirol East & Yirol West	165,081	156,682	94.9%		
11 Torit	158,297	126,895	80.2%		
Total	544,998	458,833	84.2%	474,708	85.3%

The following OCV campaigns have been completed in 2018:

1. Malakal Town (2nd round)
2. Aburoc IDPs (2nd round)
3. Budi county (2nd round)
4. Malakal PoC (1st & 2nd round)
5. Wau PoC+IDPs (1st & 2nd round)
6. Juba (2nd round)
7. Panyijiar (1st & 2nd round)
8. Leer county (1st & 2nd round)
9. Lankien (1st round)
10. Pieri (1st & 2nd round)
11. Yirol East & Yirol West (1st round)
12. Torit county (1st round)

Ebola situation update - North Kivu 29 Sep 2018

Outbreak declaration

- Ebola outbreak declared in North Kivu province, DRC on 1 Aug 2018

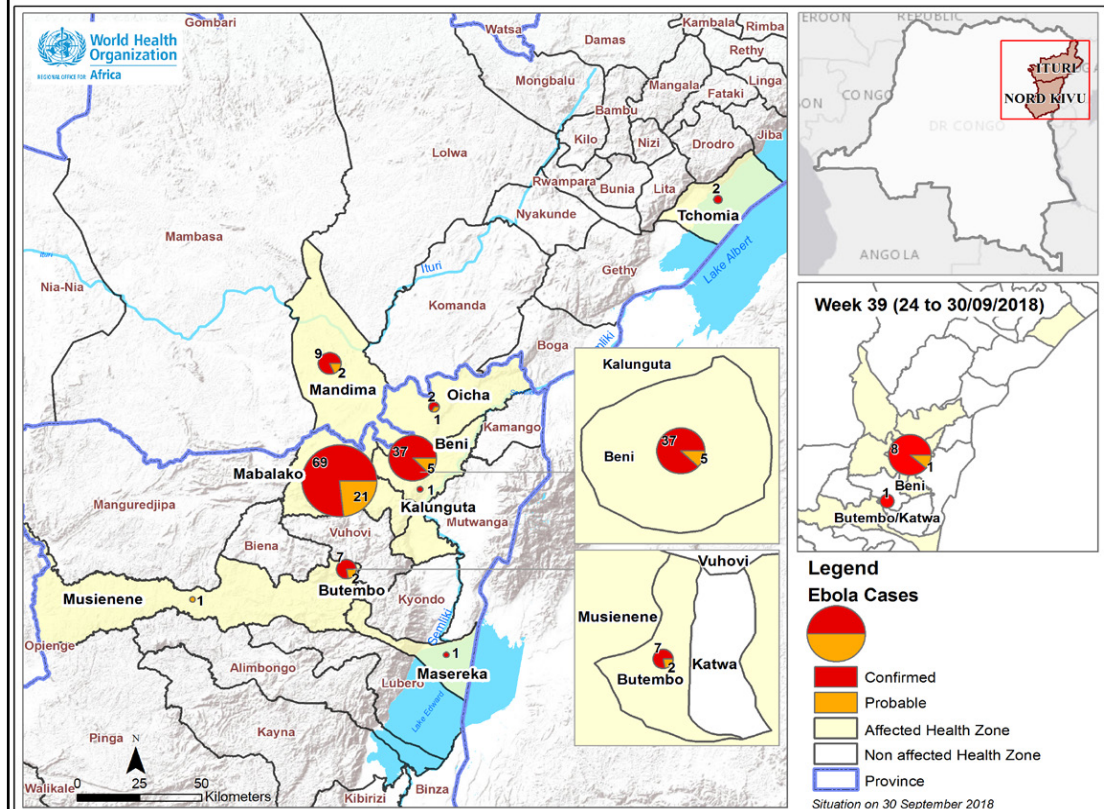
Cases (deaths): 159 cases (104 deaths)

- 127 Laboratory confirmed cases
- 32 probable cases
- 19 healthcare workers (18 confirmed, 1 probable); one death
- 45 EVD cases recovered
- Over 1410 contacts under follow up and a follow up completeness of 91%.
- Ring vaccination commenced at least 12,549 contacts and health workers have been vaccinated

9 health zones affected in two provinces

- Mabalako, Beni, Butembo, Oicha, Musienene; Masereka, & Kalunguta in **North-Kivu Province**
- Mandima in **Ituri Province**
- Recent spread Tchomia (Lake Albert)
- Suspension of community response in Beni
- Risk of regional spread revised to **VERY HIGH**

Geographical distribution of confirmed and probable Ebola virus disease cases reported between 1 May to 30 September 2018, North Kivu and Ituri provinces, Democratic Republic of the Congo.



Latest numbers as of 29 September 2018

Total cases: 159
 - Confirmed cases: 127
 - Probable cases: 32

Deaths: 104
 - Confirmed: 72
 - Probable: 32

Ebola preparedness in South Sudan

EVD preparedness activities undertaken in South Sudan

- South Sudan, as a priority one (1) country for Ebola virus disease outbreak (EVD) preparedness continues to make progress to enhance capacities for EVD case detection, investigation, response, and prevention.
- The national Ebola taskforce continues to meet twice weekly and is coordinating the implementation of the EVD contingency plan. The Ebola taskforce working groups are currently updating and implementing the EVD contingency plan to enhance readiness capacities for EVD response.
- Detailed preparedness update can be accessed <https://www.afro.who.int/publications/weekly-update-ebola-virus-disease-evd-preparedness-south-sudan>

South Sudan Ebola Response | Monitoring of EVD screening activities at Points of Entry in countries prioritized for Ebola preparedness activities

Year: 2018

Week number: W38

From: 2018-09-17

To: 2018-09-23

Name of PoE	Passengers Screening Information			EVD Alerts		
	# screened	# isolated	# under Voluntary Home Quarantine	# reported	# validated	# suspects
Bazi Border	0	0	0	0	0	0
Gangura Border	443	0	0	0	0	0
Juba International Airport	3,780	0	0	0	0	0
Kaya Border	0	0	0	0	0	0
Nimule Border	44,897	3	0	0	0	0
Sakure Border	28	0	0	0	0	0
Wau Airport	64	0	0	0	0	0
Yambio Airport	5	0	0	0	0	0
South Sudan	49,217	3	0	0	0	0

Note

This table is generated automatically from EWARS South Sudan. It has been deployed since December 2013, following the eruption of political violence. From May 2017, it has been scaled up to provide support to all 80 counties across the country. It is supporting MoH and partners to strengthen integrated disease surveillance and response (IDSR). <http://ss.ewars.ws/login>



The electronic EWARS platform for capturing, aggregating, and analyzing points of entry screening data is now up and running with the table below, summarizing the number of travelers screened in week 38 at the active points of entry being exported from the web-based platform.



Response | Suspect outbreaks in 2018

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 was stepped up but no additional cases were 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. There was no conclusive laboratory confirmation due to sample contamination . 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 weeks 11-18, 2018. Plans underway to conduct meningitis training for the NRRT and laboratory team at NPHL & in the state hubs
10Mar18	meningitis	3 (0)	Cueibet		Since 10 Mar 2018, at least three suspect meningitis cases have been reported by CUAMM in Cueibet hospital. However, no samples were collected.
02Feb2018	meningitis	52 (06)	Aweil South (14cases) Aweil East (18 cases) Aweil West (11 cases) Aweil North (4 cases)	Aweil hub	Since 2Feb2018, at least 52 suspect cases (6 deaths) have been reported in Aweil hub. Six samples positive for <i>Streptococcus pneumoniae</i> following rapid pastorex testing or showed gram positive diplococci on gram stain. None of the affected counties exceeded the alert threshold for meningitis.
06Jan18	meningitis	03 (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 for the 2 nd & 3 rd suspect case from Twic and Abyei counties respectively were positive for <i>Streptococcus pneumoniae</i> .
14Feb18	meningitis	21(03)	Wau (Jur River)	Udici, Roc Roc Dong	Since 14 Feb; 20 suspect meningitis cases have been reported from Wau (11 cases - 2deaths) and Jur River (9 cases - 1 death) counties. A suspect case involving a 45 year old male from Jur River was admitted in Comboni hospital on 28 Feb 18. PCR testing was positive for <i>Streptococcus pneumoniae</i> . Another suspect case tested positive for NmA by rapid pastorex at NPHL on 27/4/18.

Response | Suspect outbreaks in 2018

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 were obtained by MSF-CH for testing. Three of the four samples tested were positive for rubella IgM.
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	Suspect meningitis /malaria	12(08)	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. All the deaths were 10 years and above and 50% of the deaths were 20 years and above. Given the dramatic nature of symptoms, the other differential diagnosis to keep an eye on is epidemic meningitis. No new cases reported in weeks 14 and 15.
12/Apr/18	pertussis	18(00)	Fangak	Bei	Suspect pertussis cases have been reported by Mandeang PHCU and Kuephone PHCU in Fangak county. At least 11 suspect cases have been reported from Bei payam and another 7 suspect cases from Jiath. The response instituted by the partner CMA - entails treatment of cases and prophylaxis to close contacts and enhancing routine immunization for the infants.
22/05/18	cholera	2	Lopa	Imehejek	Two suspect cholera cases reported from Imehejek, Lopa from 22May18; the index ate cold food at a local market; direct RDT positive for cholera; all two samples negative for cholera after culturing in NPHL.
21/05/2018	measles	40	Rumbek Center	Teyau	Eight suspect measles cases reported from Teyau, Rumbek Centre - MMT dispatched for the investigation. Specimens obtained. Outbreak confirmed & reactive vaccination done.
23/05/18	measles	2	Mayom	Tam & Wangbur	Two suspect measles cases reported from Mayom (Tam & Wangbur payams) samples sent to Juba by MSF-CH
16/05/18	measles	1	Torit	Nyong	One suspect measles case reported from Nyong payam in Torit. Specimen collected

Response | Suspect outbreaks in 2018

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
30/05/2018	Acute jaundice	01(00)	Torit	Torit town	On 30 May 2018, a 2year and eight month child was admitted to Torit Hospital with fever, yellow eyes, and vomiting, Specimen obtained for testing and sent to Juba. First test results in week 26; showed the sample was negative for HEV by PCR. Further tests were IgM negative for YF, ZIKV, CHIK, WNV and DEN.
28/05/2018	Measles	2 (00)	Awerial		Two suspect measles cases reported and investigated in Awerial county. Samples have been collected and shipped to Juba for laboratory testing.
26/06/2018	Measles	14	Yirol East		Fourteen suspect measles cases have been reported and investigated in Adior payam. Samples have been collected for testing.
26/06/2018	Measles	1	Yirol West		One suspect measles cases was reported in week 26.
10/06/2018	Measles	18	Bentiu PoC		18 suspect measles cases were reported in Bentiu PoC from 10 June 2018. Samples have been obtained for laboratory testing
28/06/2018	Measles	6	Jur River		New suspect Measles cases reported from (Thilij) village in Wau Bai payam in Jur River county, an investigation team dispatched on 28 th June and they investigated & collected 6 blood samples
02/07/2018	Measles	6(0)	Twic		Five suspected measles cases have been reported in Twic County. They were investigated and samples were collected pending transportation to Juba. Line-listing and investigation reports had been prepared.
13/07/2018	cholera	Deaths	Awerial	Magok	On 13 th July; suspect cholera deaths were reported from Magok, Awerial county. Initial verification by MoH/WHO has not revealed suspect cholera deaths in the area. Further verification by the CHD revealed on additional information to confirm the alert.
25/07/2018	Acute Jaundice	3 (02)	Leer TPA	Leer Town	Three AJS (suspect HEV) deaths reported in Leer TPA are being investigated. Surveillance has been strengthened to detect and investigate subsequent cases; and WASH has been stepped up.
20/07/2018	measles	1	Aweil Center		A suspect measles case reported from Aweil Center county and investigated (sample collected for testing).

Response | Suspect outbreaks in 2018

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
10/08/2018	Suspect measles & pertussis	unspecified	Nyirol	Waat	On 10 Aug 2018, CMA reported a cluster of suspect measles and pertussis cases in Waat payam, Nyirol county. The area has not been reached with immunization (routine or supplementary) in the last one year. Emergency supportive response is underway and there are preparations to line list and collect samples from suspect cases.
8/08/2018	Suspect cholera	1	Juba	Juba	Suspect cholera case reported in EB clinic and referred to Juba Teaching hospital. Test results awaited.
8/08/2018	Animal bites (suspect rabies)	12	Yambio	Yambio town	Animal bites (suspect rabies) involving 12 cases including 2 children were reported in Yambio town and were attributed to stray dogs. A multisectoral meeting convened in Yambio and from the national level - human & animal rabies vaccines are being shipped to support the response. IEC materials are being adapted to support rabies risk communication.
8/08/2018	Suspect Guinea worm	2	Aweil	Aweil town	Two suspected Guinea worm cases were reported and investigated in Aweil State hospital. There was no hanging worm found the patients are being monitored
24/08/2018	Suspect Guinea worm	1	Nyirol	Lankien	One suspect Guinea worm case reported in Lankien. The SSGWEP has been initiated to initiate detailed investigations into the suspect case
05/08/2018	Suspect HEV cases	8	Fangak	Fangak	From Fangak, one suspect HEV was reported in week 33. Since week31, a total of 7 HEV RDT positive cases have been reported from Fangak. All the cases have occurred in adults (one in a postpartum female). The cases appear to be occurring sporadically and are using River water (largely from Phow river). Community awareness and hygiene promotion are ongoing. Samples sent to Uganda for PCR testing.
17/08/2018	Suspect Yellow Fever	1 (01)	Pibor	Pibor Town	A 23 year old male presented to Pibor PHCC on 12/08/2018 with history of fever, yellowing of eyes, agitation, convulsions, vomiting, coma, and bleeding from 06/Aug/2018. Patient died and autopsy sample tested PCR negative for YF, DENV3 and DENV4. Further histochemical testing underway.
08/Sept/18	Suspect VHF	1	Yambio	Bakiwiri	One EVD alert reported and investigated by the rapid response team during the week in Bakiwiri Boma, Yambio county. The presentation was not consistent with EVD case definition and there was no epidemiological linkage to EVD case or the outbreak in DR Congo. Sample tested PCR negative for Ebola, Marburg, CCHF, RVF, and Sosuga.

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
10/09/2018	Suspect cutaneous anthrax	6	Gogrial West	Kuach North	During week 37, a suspect case of subcutaneous anthrax was detected in Kuajok hospital. The case originated from Wun-acier village, Monjiooc Boma in Gogrial West County. Follow up investigations revealed five additional cases, with lesions suggestive of subcutaneous anthrax. There were no human deaths linked to this case cluster. Outbreaks of similar cases were reported in the neighboring villages in 2011, 2013, and 2015, suggesting that the disease is endemic in the villages and county as a whole.
10/09/2018	Malaria alerts	counties with trends significantly higher than expected	15		Counties with malaria trends that exceed the threshold (third quartile of trends for the period 2013-2017) include: Aweil hub (Aweil Center); Rumbek hub (Rumbek Center, Rumbek East, Rumbek North, Wulu, Yirol East, Yirol West); Kuajok hub (Abyei, Gogrial East, Tonj East, Tonj South, and Twic Mayardit); Bentiu hub (Mayom); and Juba hub (Terekeka).
20/08/2018	Suspect rabies	30	Torit	Nyong, Himo donge	Animal bite (suspect rabies) have been on the increase in Torit county with 30 cases (no deaths) reported since 20 Aug 2018. The cases are distributed evenly by gender. Nearly 70% of the cases were reported in children aged 0-19 years. Nyong and Himo donge are the most affected payams.
04/08/2018	Suspect measles	11 (0)	Yirol West	Yirol Town; Abang	Since 4 Aug 2018; at least 11 suspect measles cases have been reported in Yirol hospital (originating from Yirol Town and Abang). Six samples have been collected for laboratory testing.
26/09/2018	Suspect Ebola	1 (01)	Juba	Northern Bari	On 26/09/2018; the PHEOC received a call of a suspect Ebola death involving a 25 year old businessman and Ethiopian by Nationality ; the illness of the case started on 24/08/2018 with fever, headache, and cough. He received treatment from a private clinic the same day and improved. Hence on 26/09/2018; he went to work but his condition changed suddenly; he started vomiting blood; collapsed and died as he was being rushed to the nearby clinic. The samples reached Uganda Virus Research Institute (UVRI) on 27 th September 2018 and the results released by the laboratory on 28 th September 2018 showed that the samples were negative for Ebola, Marburg, CCHF, RVF and Sosuga viruses by PCR.

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
17/09/2018	Suspect rabies	10	Rubkona	Bentiu town	Suspect rabies have been reported in Bentiu town; MSF is supporting the management of cases but there is no rabies vaccine in stock to facilitate post-exposure prophylaxis
17/09/2018	Suspect measles	3	Wau; Jur River	Wau South; Jur River	Three suspect measles cases [one case in Agok village, Wau South Payam; and 2 suspect cases in Marial Ajieth village, Jur River were investigated during the week and samples sent to Juba for testing.
17/09/2018	Suspect pertussis	?	Jur River	Acheno	A cluster of suspect pertussis cases has been reported in Acheno, Jur River in an area that is not accessible to partners as its not under government control. HealthNet has been identified to verify and investigate the case cluster.

**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>

