

# South Sudan

## Integrated Disease Surveillance and Response (IDSR)

Epidemiological Update W27 2018 (Jul02- Jul08)



- Completeness for IDSR reporting at county level was 74% . Completeness for EWARS reporting from IDP sites was 82%.

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- A total of 7 alerts were reported, of which 71% have been verified. 0 alerts were risk assessed & 0 required a response.

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- New alerts include suspect measles (Twic, Bentiu PoC, & Jur River) and suspect cholera in Magok (Awerial).

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- There was no new suspect Rift Valley Fever (RVF) case reported from Yirol East in week 28. 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).

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- Suspect rabies cases continue to be reported in Bentiu PoC, Abyei town, and Aweil town. There is need to optimize the response through case management, vaccination, community engagement, and curling of stray dogs.

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- Hepatitis E continues in Bentiu PoC where a total of 128 suspect cases (15 confirmed by PCR). Current response entails surveillance, case follow up, WASH and discouraging communities from using stagnant water for domestic and recreational purposes.

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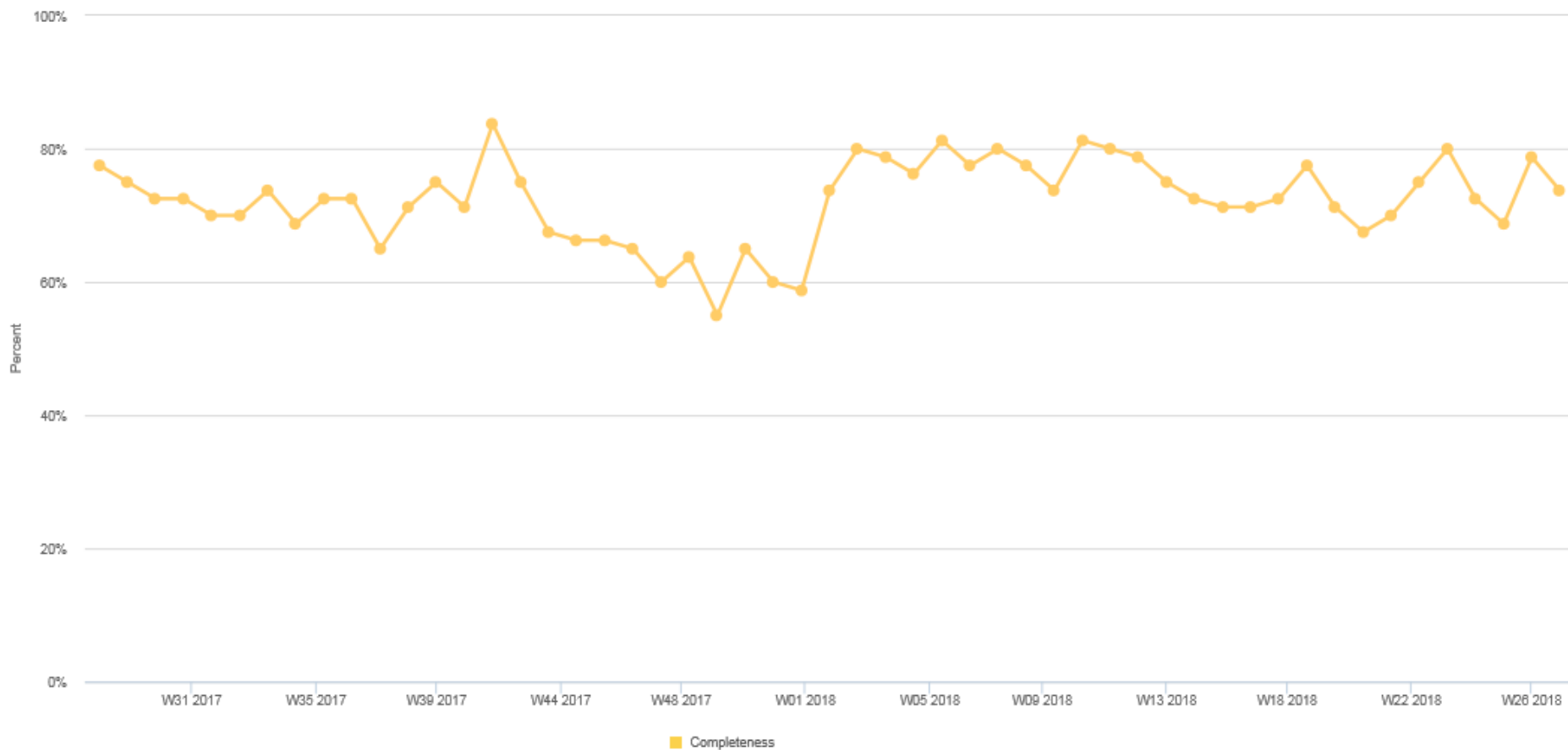
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**Table 1** | IDSR surveillance performance indicators by county (W27 2018)

Hub	Reporting		Performance (W27 2018)		Performance (Cumulative 2018)	
	# counties	# reports received	Completeness	Timeliness	Completeness	Timeliness
Aweil	5	5	100%	100%	87%	87%
Bentiu	9	6	67%	67%	68%	50%
Bor	11	7	64%	64%	47%	43%
Juba	6	5	83%	83%	81%	67%
Kwajok	7	7	100%	100%	100%	92%
Malakal	13	4	31%	31%	36%	16%
Rumbek	8	8	100%	100%	100%	93%
Torit	8	4	50%	50%	94%	73%
Wau	3	3	100%	100%	90%	72%
Yambio	10	10	100%	100%	99%	99%
<b>South Sudan</b>	<b>80</b>	<b>59</b>	<b>74%</b>	<b>74%</b>	<b>75%</b>	<b>74%</b>

- Completeness for IDSR reporting at county level was 74% in week 27 and cumulatively at 75% for 2018
- Timeliness for IDSR reporting at county level was 74% in week 27 and cumulatively at 74% for 2018

Figure 1 | Trend in IDSR completeness over time<sup>1</sup>



The graph shows completeness for weekly reporting at county level. The national average currently stands at **75%**.



**Table 4** | EWARS surveillance performance indicators by partner (W27 2018)

Partner	Performance		Reporting (W27 2018)		Reporting (Cumulative 2018)	
	# sites	# reports received	Completeness	Timeliness	Completeness	Timeliness
CMD	1	1	100%	100%	100%	100%
GOAL	2	2	100%	100%	100%	89%
HLSS	1	1	100%	100%	100%	100%
IMA	5	5	100%	100%	75%	72%
IMC	6	6	100%	100%	94%	94%
IOM	12	10	83%	83%	74%	74%
IRC	1	1	100%	100%	100%	100%
Medair	2	2	100%	100%	100%	96%
MSF-E	2	0	0%	0%	93%	74%
MSF-H	2	2	100%	100%	72%	46%
SMC	5	5	100%	100%	70%	70%
UNIDO	1	1	100%	100%	104%	104%
UNKEA	2	2	100%	100%	89%	85%
World Relief	1	0	0%	0%	96%	81%
<b>Total</b>	<b>49</b>	<b>40</b>	<b>82%</b>	<b>82%</b>	<b>75%</b>	<b>72%</b>

Timeliness and completeness for EWARN/IDP reporting stands at 82% for week 27, while cumulatively completeness and timeliness are 75% and 72% respectively for 2018

**Table 7** | Alert performance indicators by Hub

Hub	W27		Cumulative (2018)	
	# alerts	% verif.	# alerts	% verif.
Aweil	0	0%	29	97%
Bentiu	1	0%	50	62%
Bor	1	100%	39	51%
Juba	2	50%	61	64%
Kwajok	1	100%	30	97%
Malakal	0	0%	40	55%
Rumbek	1	100%	35	66%
Torit	0	0%	38	74%
Wau	1	100%	21	48%
Yambio	0	0%	71	52%
<b>South Sudan</b>	<b>7</b>	<b>71%</b>	<b>414</b>	<b>64%</b>

**Table 8** Summary of key alert indicators

W27	Cumulative (2018)	
<b>7</b>	<b>414</b>	Total alerts raised
<b>71%</b>	<b>64%</b>	% verified
<b>0%</b>	<b>0%</b>	% auto-discarded
<b>0%</b>	<b>4%</b>	% risk assessed
<b>0%</b>	<b>2%</b>	% requiring a response

A total of 7 alerts were reported in week 27 with 71% of the alerts in week 27 being verified; 0% were risk assessed and 0% required a response.

Table 9 | Alert performance indicators by event

Event	W27		Cumulative (2018)	
	# alerts	% verif.	# alerts	% verif.
<b>Indicator-based surveillance</b>				
Malaria	1	100%	80	55%
AWD	0	0%	169	59%
Bloody Diarr.	0	0%	100	50%
Measles	4	75%	78	73%
Meningitis	0	0%	0	0%
Cholera	0	0%	6	100%
Yellow Fever	0	0%	4	75%
Guinea Worm	1	100%	13	85%
AFP	0	0%	47	93%
VHF	0	0%	1	100%
Neo. tetanus	0	0%	4	50%
<b>Event-based surveillance</b>				
EBS total	1	0%	26	65%

Table 10 | Event risk assessment

W27	Cumulative (2018)	
0	7	Low risk
2	2	Medium risk
0	3	High risk
0	1	Very high risk

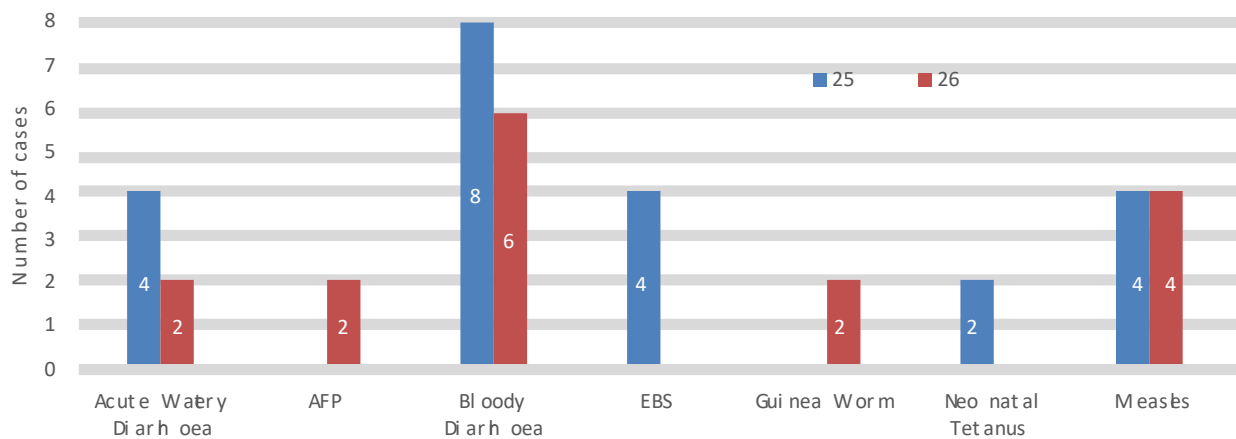
- During the week, Measles is the most frequent infectious hazards reported.



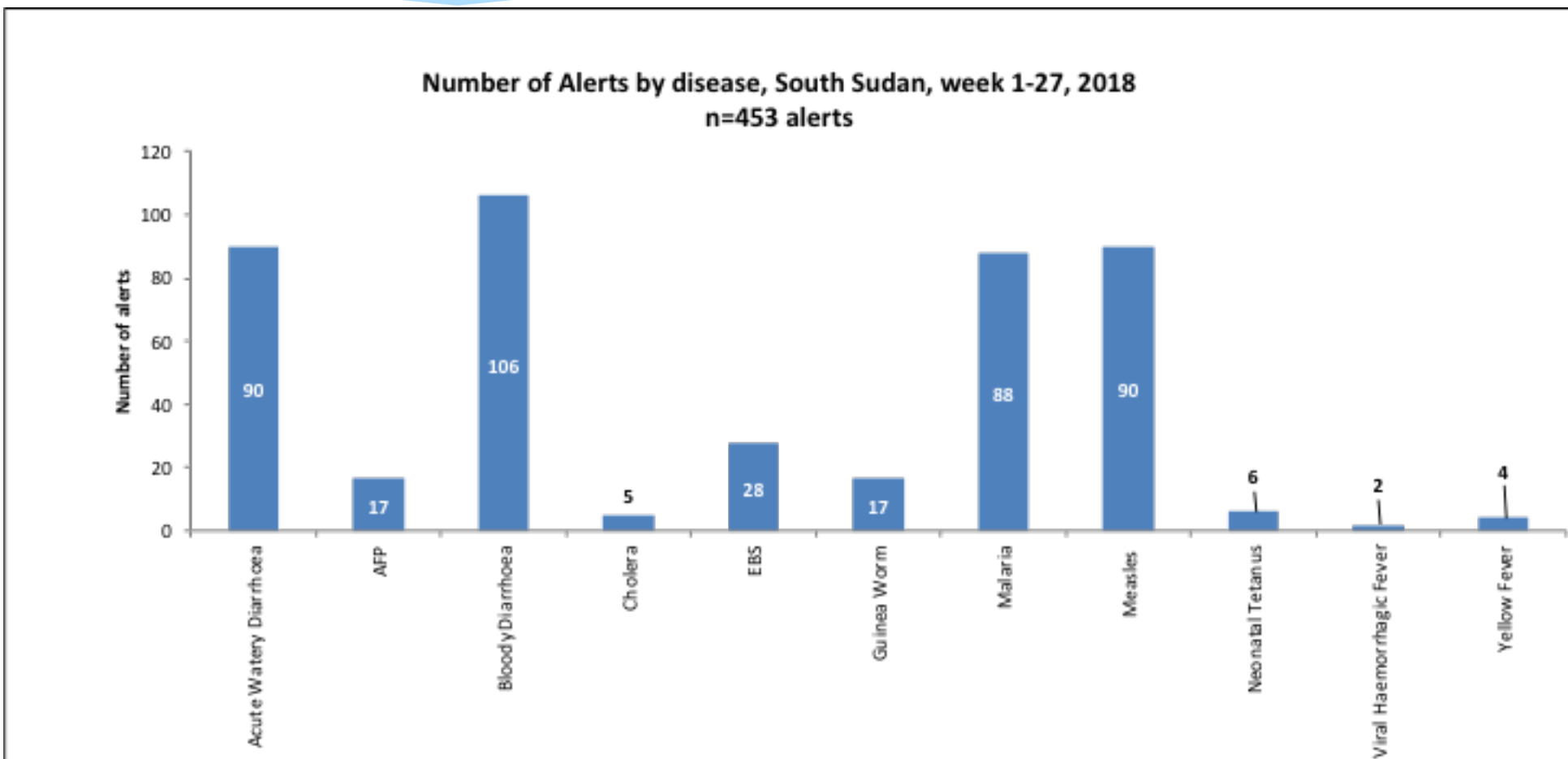
## Alert by disease and county in W27 2018

County	EBS	Guinea Worm	Measles	Malaria	Total Alerts
Juba	1		1		2
Jur River			1		1
Rumbek Centre			1		1
Tonj East		1			1
MSF-H Bentiu PoC Hospital			1		1
Pajut PHCC				1	1
<b>Total Alerts</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>7</b>

Alerts by hazard in week 25 and week 26, 2018



- During week 27, a total of 7 alerts were reported thru EWARS
- Suspect measles remains the most frequent alert with additional suspect measles cases reported in:
  - Twic county where five suspect measles cases where investigated and samples obtained for laboratory testing
  - Jur River county - Wau Bai payam, Awany village where 6 suspect measles cases have been investigated
  - In Bentiu PoC, another suspect measles case was reported bringing the cumulative suspect cases to 6 (most cases from Sector 6).
  - A suspect cholera alert was reported from Magok, Awerial - verification underway.



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



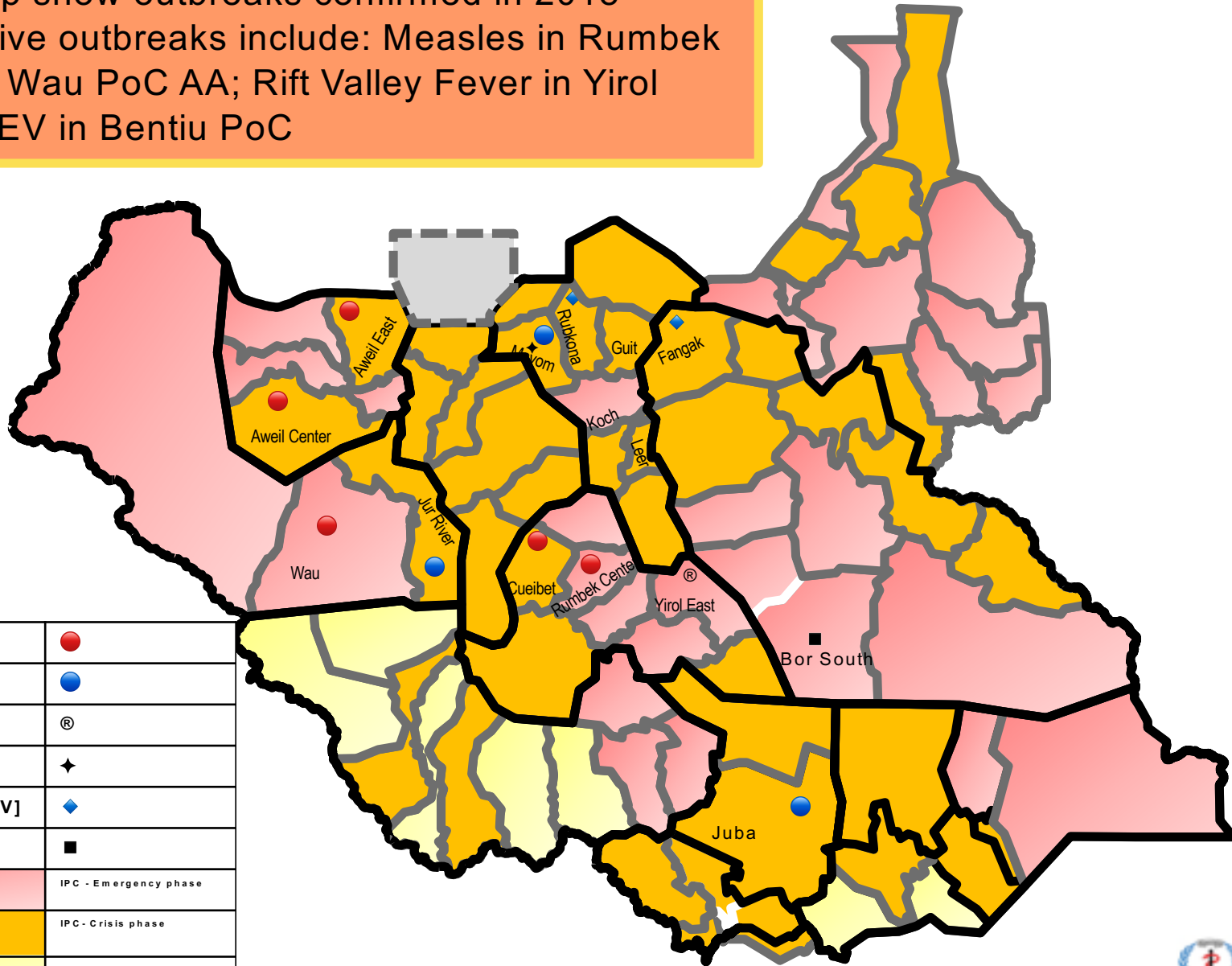
## Cumulative alerts by risk assessment stage in 2018

County	OUTCOME	RISK_ASSESS	RISK_CHAR	VERIFICATION	Total Alerts
Acute Watery Diarrhoea	1			89	90
AFP		1		16	17
Bloody Diarrhoea	1			105	106
Cholera	1			1	2
EBS		4		24	28
Guinea Worm	2			15	17
Neonatal Tetanus	2			4	6
Viral Haemorrhagic Fever				2	2
Yellow Fever				4	4
Measles	5	6		79	90
Cholera				3	3
Malaria	2		1	85	88
<b>Total Alerts</b>	<b>14</b>	<b>11</b>	<b>1</b>	<b>427</b>	<b>453</b>

- The Figures show the cumulative alerts by risk assessment state in 2018
- Of the 453 alerts reported in 2018; a total of 427 alerts have been verified; 11 alerts underwent risk assessment; and 14 alerts have a documented outcome

# Confirmed Outbreaks South Sudan – 15 July 2018

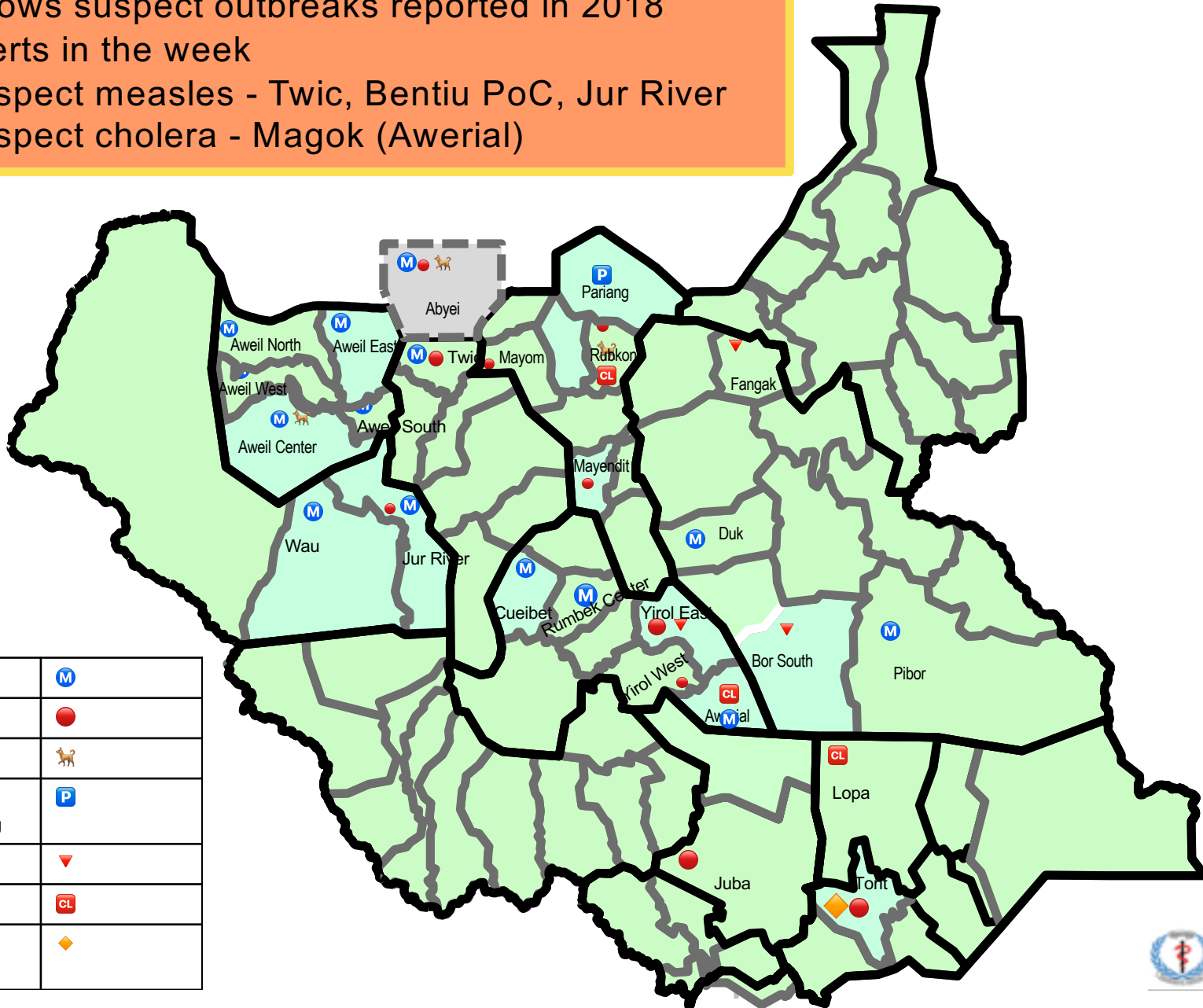
- The map show outbreaks confirmed in 2018
- The active outbreaks include: Measles in Rumbek Center; Wau PoC AA; Rift Valley Fever in Yirol East; HEV in Bentiu PoC



Measles	●
Rubella	●
Rift Valley Fever	®
Anthrax	◆
Hepatitis E virus [HEV]	◆
Foodborne disease	■
	IPC - Emergency phase
	IPC - Crisis phase
	IPC - Stressed phase

# Suspect Outbreaks South Sudan – 15 July 2018

- Map shows suspect outbreaks reported in 2018
- New alerts in the week
  - Suspect measles - Twic, Bentiu PoC, Jur River
  - Suspect cholera - Magok (Awerial)

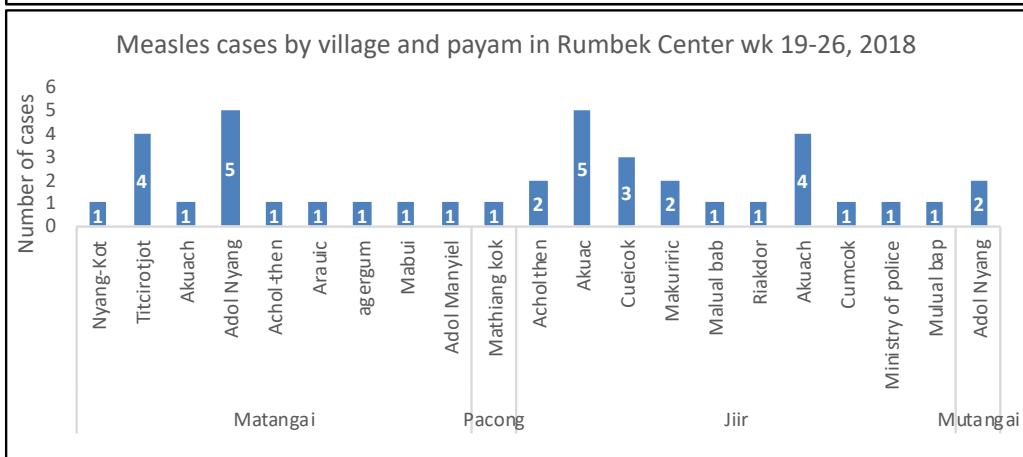
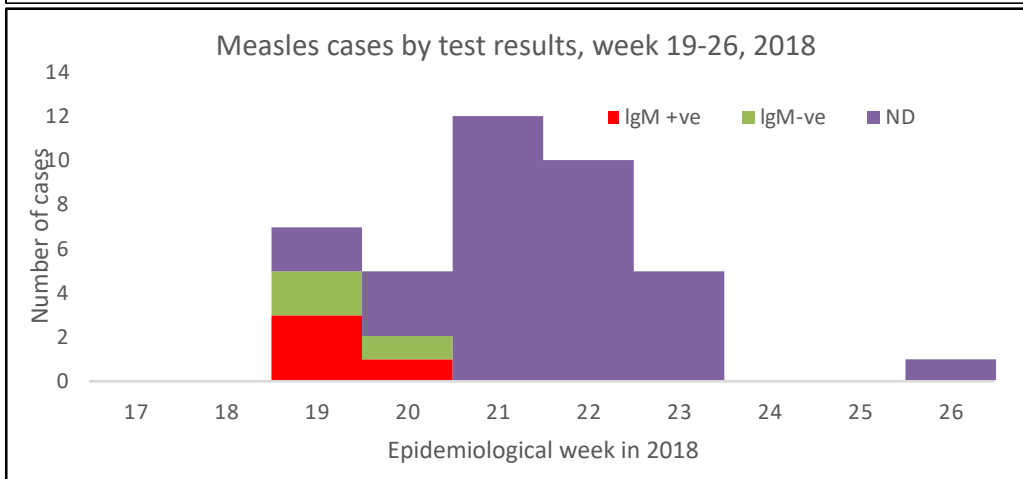
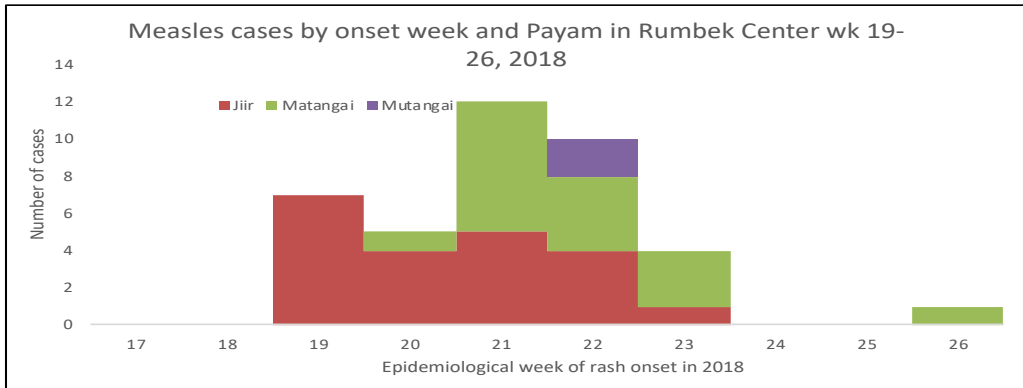


<b>Meningitis</b>	
<b>Measles</b>	
<b>Rabies</b>	
<b>Health effects of petroleum drilling</b>	
<b>Pertussis</b>	
<b>Cholera</b>	
<b>Acute Jaundice Syndrome</b>	

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
<b>New epidemics</b>								
<b>Ongoing epidemics</b>								
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
RVF	Yirol East	28/12/2017	0	58 (0.054)	Yes	N/A	Yes	N/A
Hepatitis E	Bentiu PoC	03/01/2018	12	128 (0.1096)	Yes	No	Yes	Yes
Rabies probable	Bentiu PoC	06/12/2017	9	263 (0.225)	Yes	Yes	Yes	N/A
<b>Controlled epidemics</b>								
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

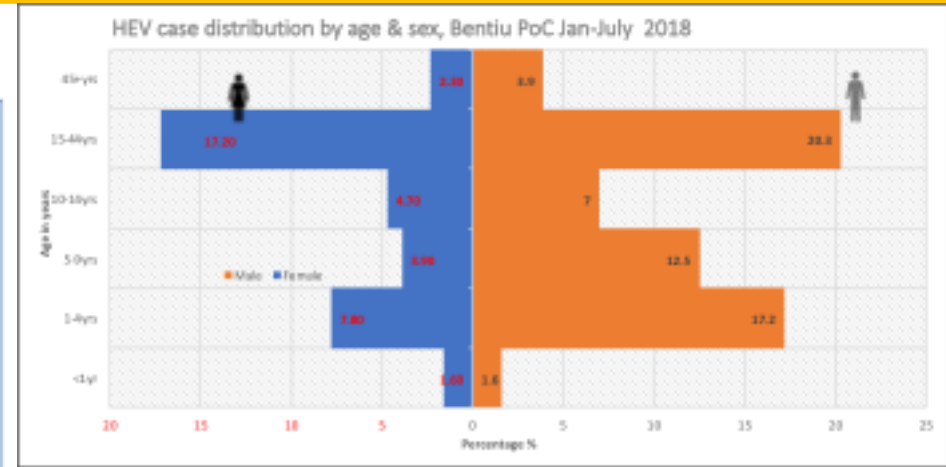
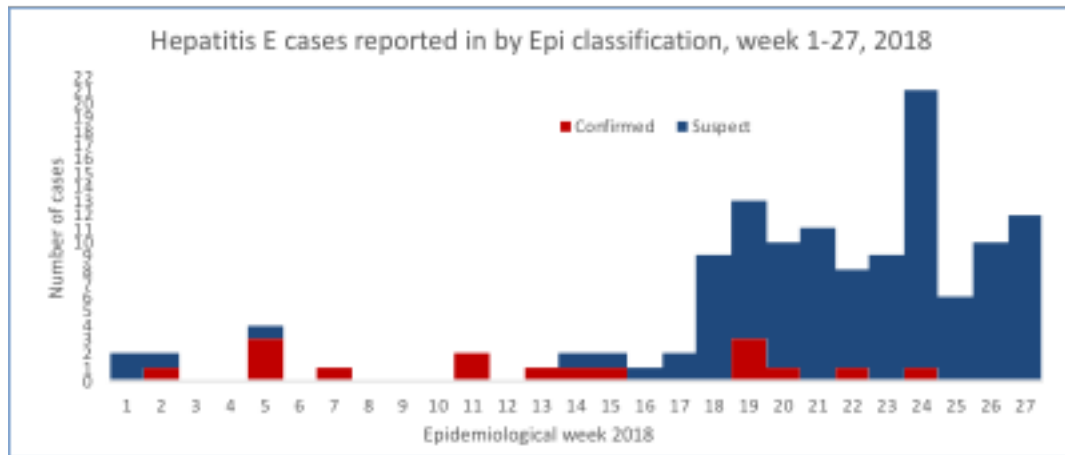
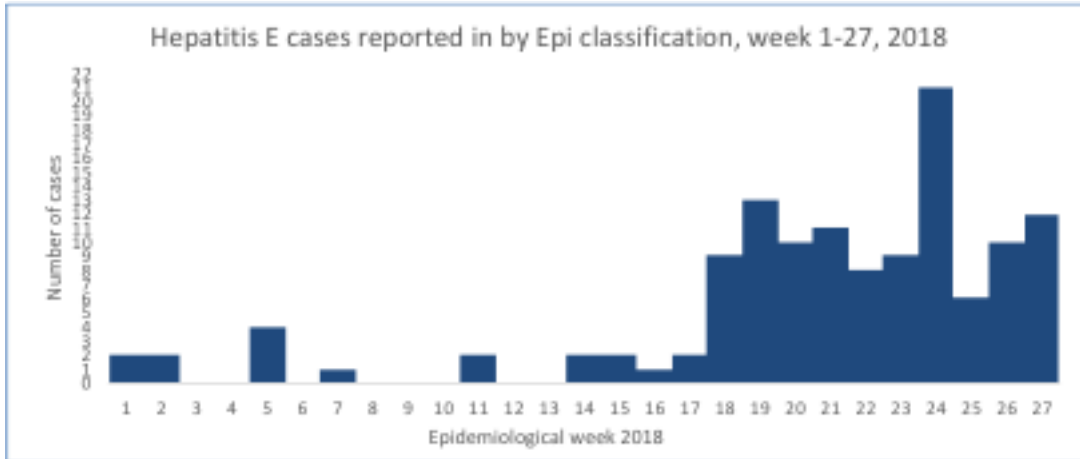
# Measles outbreak - Rumbek Center County



Age	Female	Male	Total cases	%age	Cum%
<1yr	1	3	4	10.0%	10.0%
1-4yrs	5	19	24	60.0%	70.0%
5-9yrs	4	2	6	15.0%	85.0%
10-14yrs		1	1	2.5%	87.5%
15-44yrs	5		5	12.5%	100.0%
<b>Total</b>	<b>15</b>	<b>25</b>	<b>40</b>	<b>100.0%</b>	

- Measles outbreak confirmed in Rumbek Center after 3 IgM positive cases were reported
- A cumulative of 40 measles cases with no deaths have been line listed since week 19
- Most cases are from Akuach village (2km from Rumbek hospital) in Jiir Payam. This is where the index cluster originated
- 70% of the cases are under 0-59 months
- Routine measles coverage for 1<sup>st</sup> quarter of 2018 for the county was 19%
- As part of the response; outbreak investigation completed; line listing underway; and vaccination microplan targeting 44,049 children 6-59 months of age started on 21 June 2018
- The reactive campaign completed by MedAir and CUAMM supported by WHO and UNICEF
- Administrative coverage data shows that 44,965 (102%) of children 6-59 months were vaccinated
- Plans underway for post-campaign coverage survey
- **In Wau municipality:** the reactive campaign ran from 10-15 July, targeting 56,072 child from 6-59 months.

## Hepatitis E, Bentiu PoC and Old Fangak

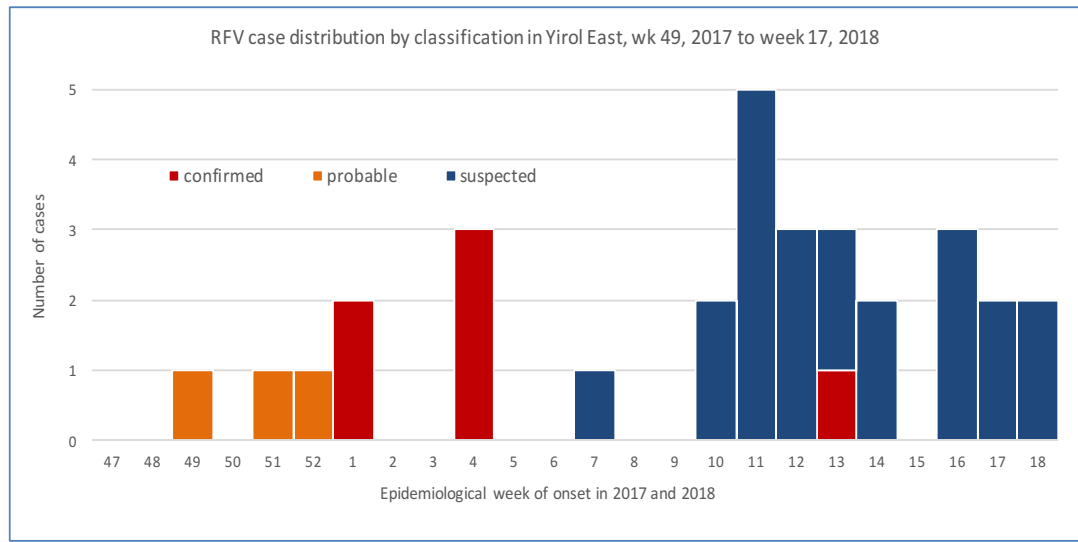
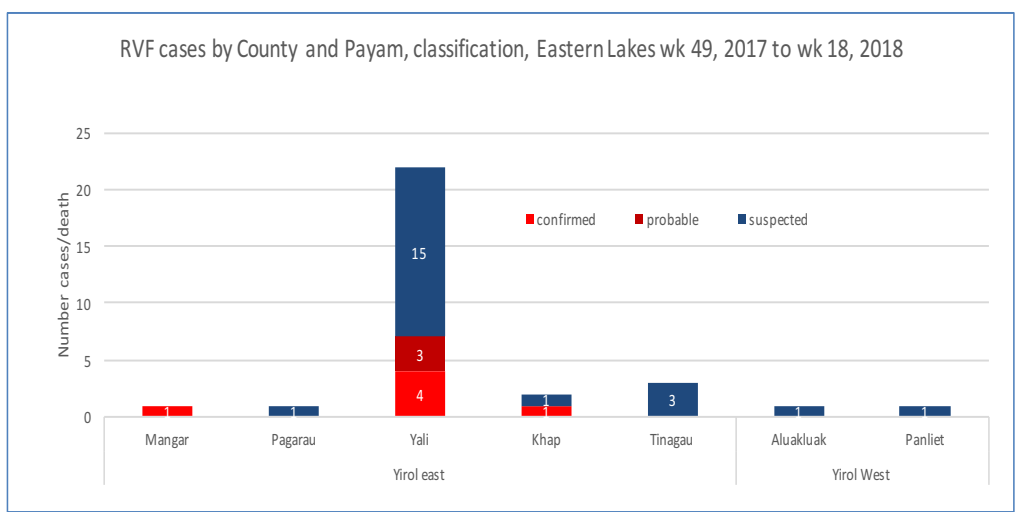
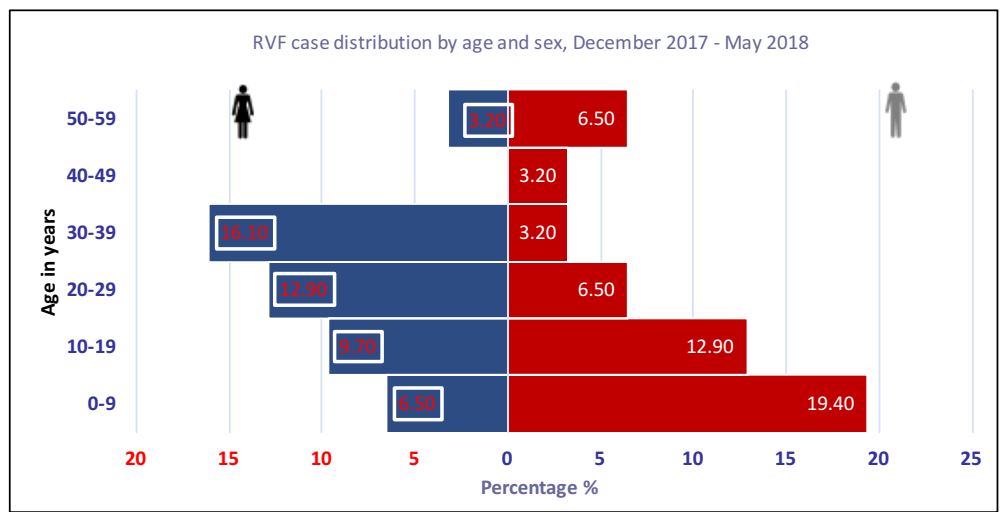


- At least 116 suspect cases of Hepatitis E (HEV) have been reported in 2018. Of the 116 suspect cases, a total of 16 cases have been PCR confirmed as HEV (15 in Bentiu PoC & 1 in Old Fangak). No new cases identified after active follow up in Fangak. Only 4 HEV cases have been admitted/
- At least 44% of the cases are 1-9 years of age; and 66% 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 3<sup>rd</sup> 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 shared key HEV messages - for radio programs on [Kondial FM & Bentiu FM] and community sensitizations.
- Case identification and follow up is ongoing and WASH risk assessment has been planned.

A total of 12 HEV cases were reported in week 27 (with non being RDT positive).



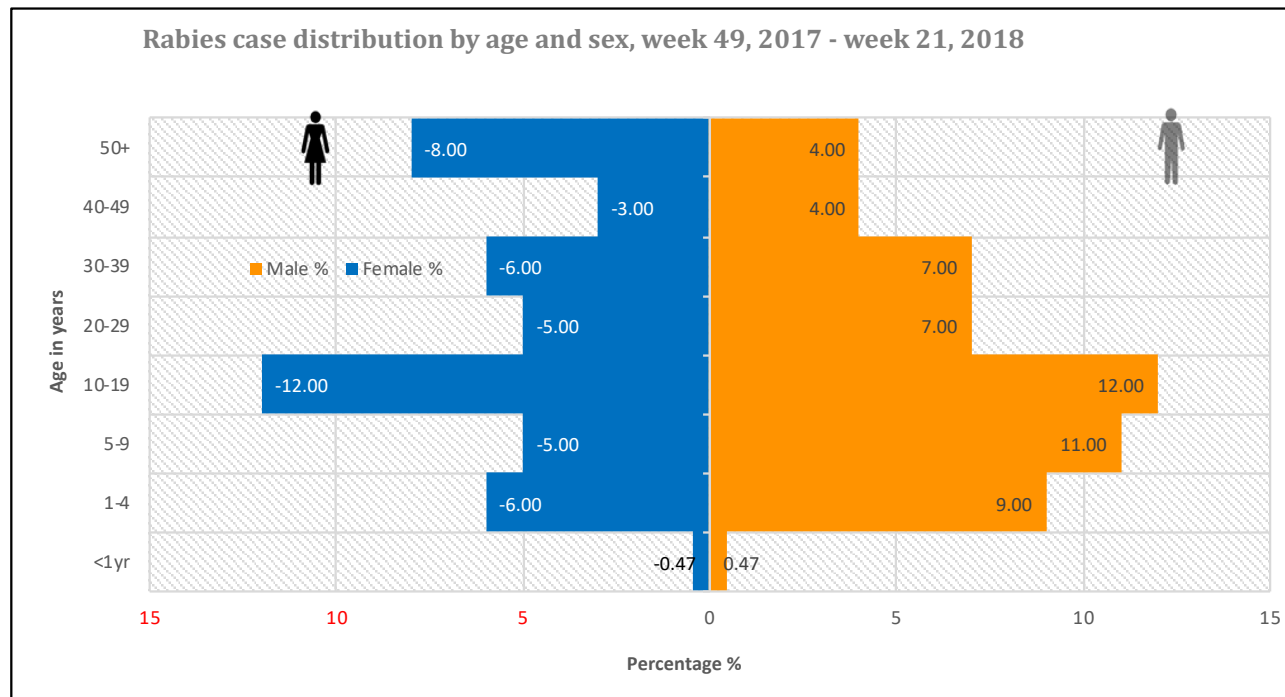
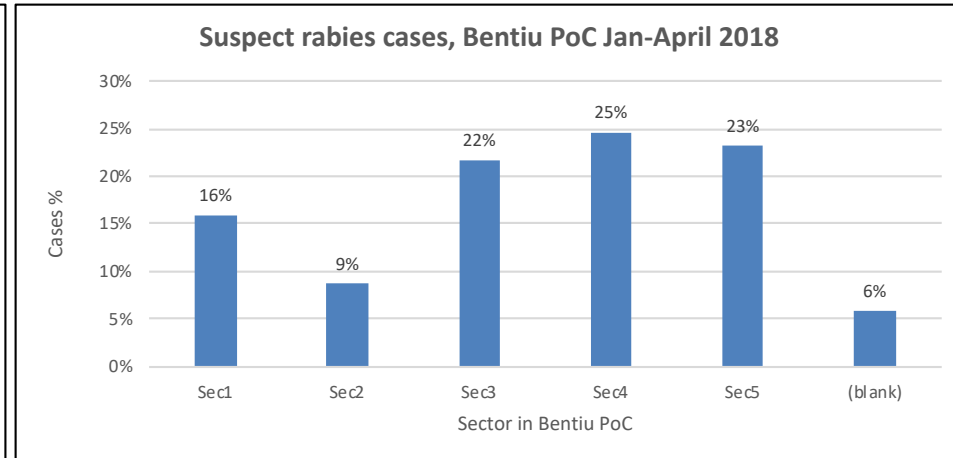
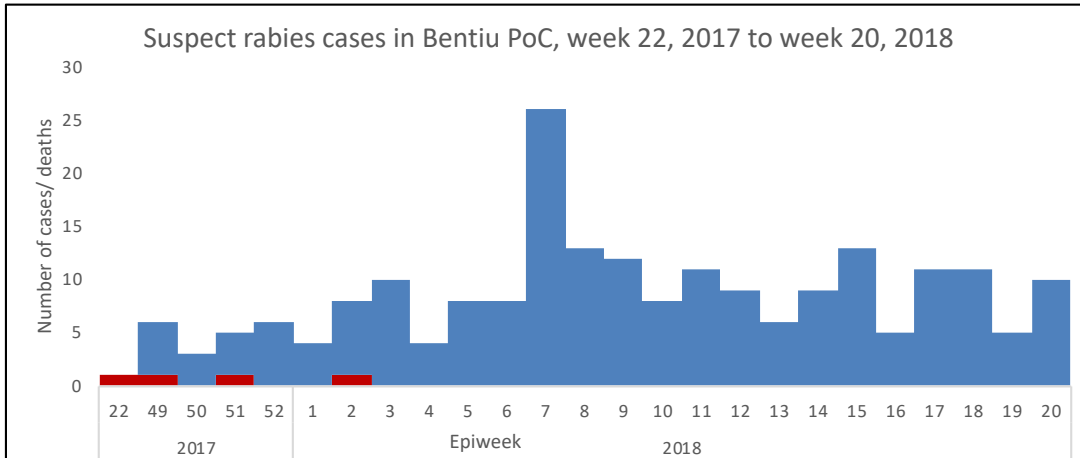
# Ongoing epidemics - Epidemic description - RVF Eastern Lakes state



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 28.
- In the period 7 December 2017 to 16 July 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 16<sup>th</sup> July 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

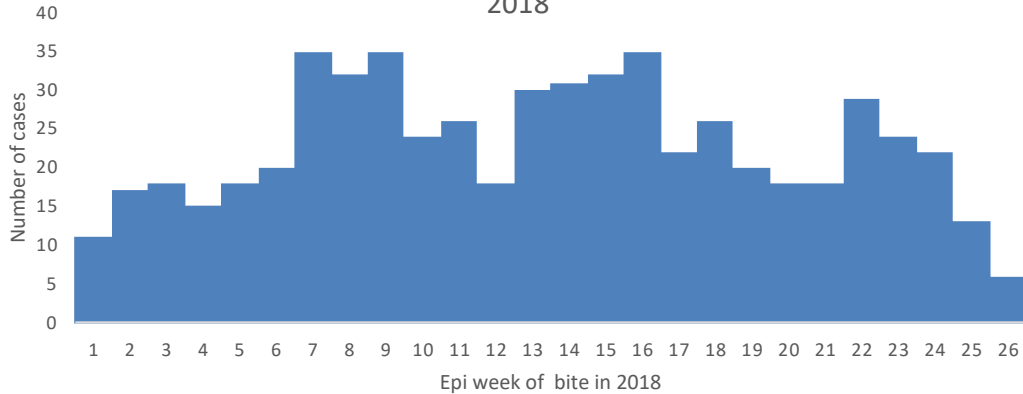
## Animal bites - suspect rabies, Bentiu PoC



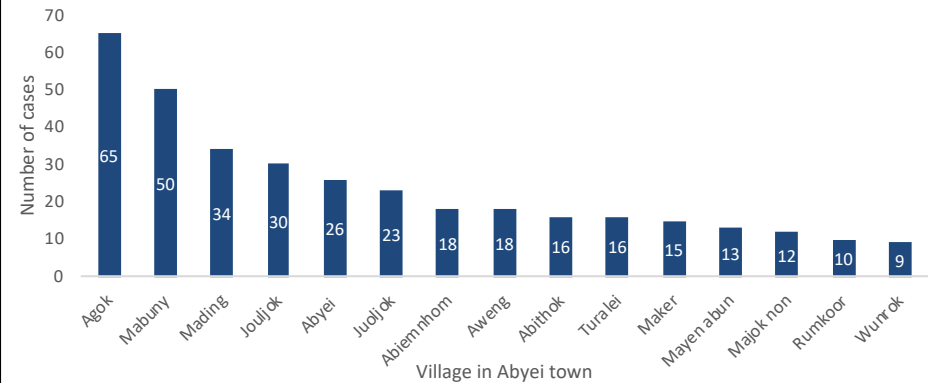
- During week 27, a total of 9 animal bite cases were reported and treated in Bentiu PoC
- A cumulative of 263 animal bite cases including 4 deaths have been reported since 6 Dec 2017.
- Sectors 3,4, &5 have reported most cases and children <19yrs constitute more than 56% of the cases with males affected more than females
- Post exposure vaccination ongoing with support from MSF-H and partners.
- WHO/ health cluster have secured antirabies vaccine to support the response.
- Community messaging underway via CCCM/ internews/ UNMISS broadcast

## Animal bites - suspect rabies, Agok hospital, Abyei Town

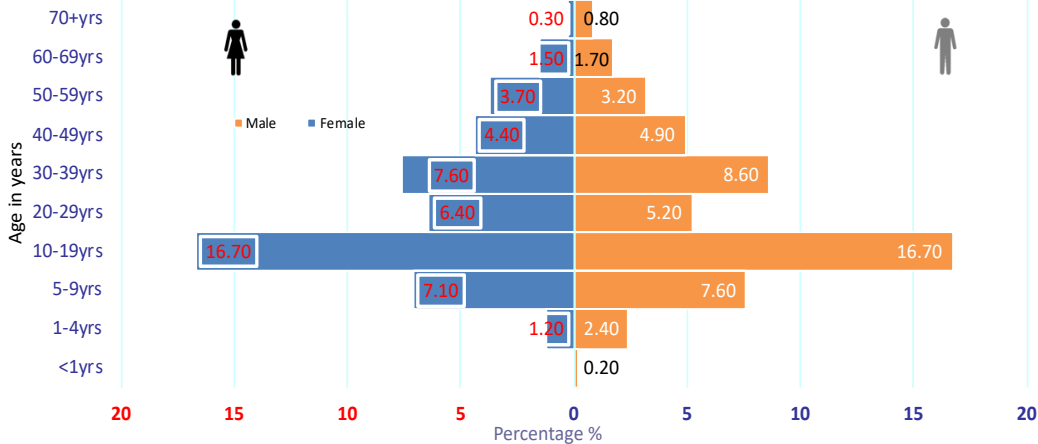
Dog bite cases treated in Agok hospital, Abyei town, week 1-26, 2018



Animal bite cases by village in Abyei town, Jan-July 2018



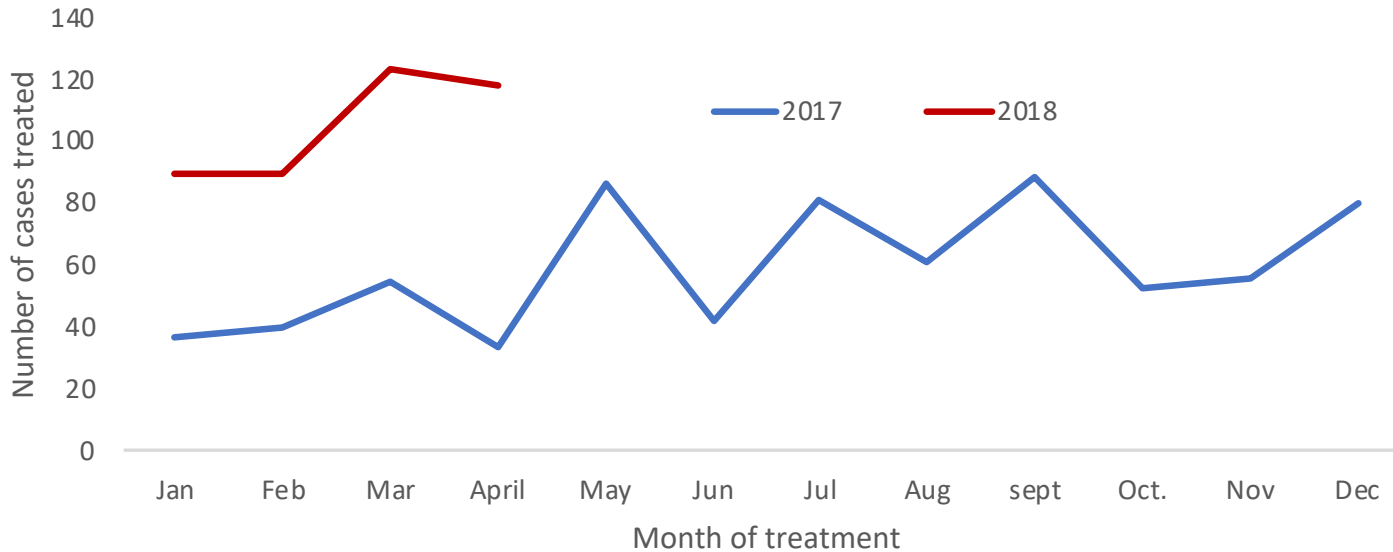
Suspect rabies case distribution by age and sex, Bentiu PoC Jan-July 2018



- An increase in dog bite (suspect rabies) cases continues to be reported from Agok hospital in Abyei.
- An exponential increase in suspect rabies cases has been reported in 2018 when compared to the previous years with a total of 595 cases reported in 2018 (week 1-26);
- Most bites reported in persons aged 10-19 years and there are no significant risk difference by sex (gender)
- Current response entails surveillance - case detection and line listing and post exposure prophylaxis with rabies vaccine.
- At a joint response meeting held in Abyei Town involving MSF and FAO on 7<sup>th</sup> June 2018.
- Follow up meetings planned to mobilize resources required for a comprehensive response.

## Animal bites - suspect rabies, Aweil hospital, Aweil Town

Number of dog bite cases treated in Aweil hospital, 2017-2018



Year	Jan	Feb	Mar	April	May	Jun	Jul	Aug	sept	Oct.	Nov	Dec	Total
<b>2017</b>	37	40	55	34	86	42	81	61	88	53	56	80	<b>713</b>
<b>2018</b>	89	90	123	118									<b>420</b>

- Reports from Aweil continue to show that dog bite cases remain a major public health concern
- The data shown here is obtained from Aweil hospital pediatrics outpatients department as a proxy of the suspect rabies burden in the state.
- In 2017; limited dog vaccination was undertaken in UNMISS camp, Aweil.
- The current statistics highlight the need for a comprehensive response that includes post exposure vaccination; community mobilization and education to minimize the risk of dog bites; dog vaccination; and curling of stray dogs in the town.

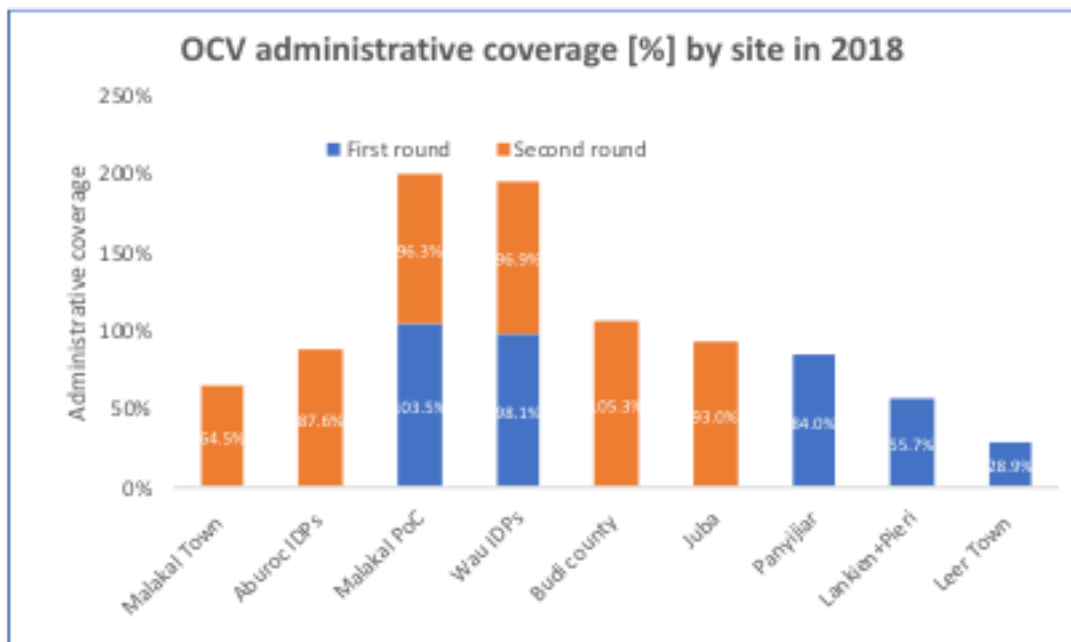
## Cholera preparedness and preventive activities - Oral cholera vaccine campaigns - 2018

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	30Jun-7Jul 2018	28Jul- 6Aug 2018	MoH, WHO, Unicef, SCI, CARE
Yirol East & West	143,722	139,410	139,410	139,410	278,821	TBD	TBD	MoH, WHO, Unicef, LiveWell
Lankien	65,000	63,050	63,050	63,050	126,100	TBD	TBD	MoH, WHO, Unicef, MSF-H
Panyijiar	76,000	73,720	75,000	75,000	150,000	16-22May2018	TBD	MoH, WHO, Unicef, IRC
Leer	50,000	48,500	48,500	48,500	97,000	11-Jun-18		MoH, WHO, Unicef, MedAir
<b>Totals</b>	<b>826,341</b>	<b>801,551</b>	<b>591,875</b>	<b>831,917</b>	<b>1,423,793</b>			

- 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 are expected in the country on 18 July 2018 for the campaigns in Panyijiar, Yirol, and Torit

- **Oral cholera vaccine campaigns completed in 2018 include:**
  - Malakal Town (2<sup>nd</sup> round)
  - Aburoc IDPs (2<sup>nd</sup> round)
  - Malakal PoC (1<sup>st</sup> & 2<sup>nd</sup> round)
  - Wau PoC+IDPs (1<sup>st</sup> & 2<sup>nd</sup> round)
  - Juba Town (1<sup>st</sup> & 2<sup>nd</sup> round)
  - Panyijiar (1<sup>st</sup> round)
- **Upcoming campaigns for 2018**
  - Panyijiar (2<sup>nd</sup> round)
  - Torit (1<sup>st</sup> round)
  - Yirol East and parts of Yirol West (1<sup>st</sup> round)
  - Lankien, Akobo & Pieri (2<sup>nd</sup> round)
  - Leer county outside Leer town (pre-emptive campaign)

## Oral cholera vaccine campaigns administrative coverage - 2018



The following OCV campaigns have been completed in 2018:

1. Malakal Town (2<sup>nd</sup> round)
2. Aburoc IDPs (2<sup>nd</sup> round)
3. Budi county (2<sup>nd</sup> round)
4. Malakal PoC (1<sup>st</sup> & 2<sup>nd</sup> round)
5. Wau PoC+IDPs (1<sup>st</sup> & 2<sup>nd</sup> round)
6. Juba (2<sup>nd</sup> round)
7. Panyijiar (1<sup>st</sup> round)
8. Leer town (1<sup>st</sup> round)
9. Lankien and Pieri (1<sup>st</sup> round)

2018 OCV campaigns		First round		Second round	
Site	Target	Coverage	Coverage	Coverag	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	36337	98.1%	35887	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%		
8 Lankien+Pieri	38,000	21,178	55.7%		
9 Leer Town	10,000	2,892	28.9%		
<b>Total</b>	<b>183,495</b>	<b>147,684</b>	<b>80.5%</b>	<b>375,217</b>	<b>94.8%</b>

## Ebola DR Congo update & risk to South Sudan

Situation as of 12 July 2018

**Confirmed cases: 38**

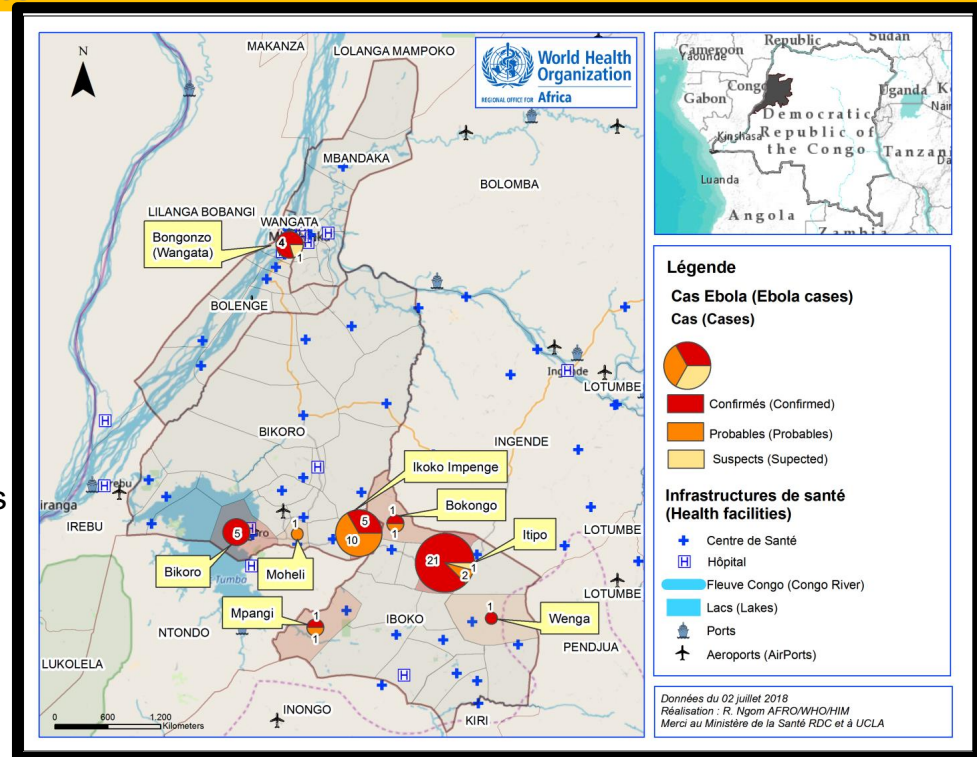
**Probable cases: 15**

**Suspect cases: 5**

**Total cases: 53 (29 deaths)**

**CFR (probable & confirmed cases) - 54.7%**

- The MoH DR Congo declared an outbreak of Ebola virus disease on 8 May 2018 Equateur province in Northwestern DR Congo
- The epidemic is active in three health zones - Bikoro (10 confirmed cases, 11 probable, 3 suspect, & 18 deaths); Iboko (24 confirmed cases, 4 probable, 2 suspect & 8 deaths); & Wangata (4 confirmed cases and 3 deaths).
- [5 HCW affected - 4 confirmed & 2 deaths].
- All contacts completed their 21-day follow up.
- Recombinant vesicular stomatitis virus–Zaire Ebola virus (rVSV-ZEBOV) vaccines were delivered to Kinshasa by WHO - The initial vaccination is targeting immediate contacts to confirmed cases, contacts of contacts and frontline health workers. Since 21 May 2018, a total of 3,330 people have been vaccinated in the three affected health zones (893 -Wangata; 1,530 -Iboko; 779-Bikoro; Ingede (107); and Kinshansa (21).
- Regional risk is low since all contacts have completed follow up and the last confirmed case was notified 6 June 2018.



### EVD Preparedness activities in South Sudan

1. Laboratory training conducted from 2<sup>nd</sup> to 7<sup>th</sup> July 2018 and covered
  1. Laboratory biosafety
  2. Ebola RDT testing
  3. Molecular testing of Ebola using GeneXpert
2. Ebola preparedness training completed for health workers in Yei town
3. Dissemination of Ebola contingency planned for several stakeholders
  1. MoH senior management
  2. Partners
  3. Donors
4. Simulation planned to test the EVD contingency plan [14 Aug 2018]
5. IPC capacity enhancement: guidelines; training; supplies
6. Other activities underway: surveillance; screening at JIA

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 <sup>nd</sup> & 3 <sup>rd</sup> 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. <a href="https://bit.ly/2EIndTP">bit.ly/2EIndTP</a> #SouthSudan. Initial verification details to follow
31Mar2018	Suspect meningitis /malaria	12(08)	Gogrial West	Kuach South	On 28 <sup>th</sup> 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	8	Rumbek Center	Teyau	Eight suspect measles cases reported from Teyau, Rumbek Centre - MMT to be dispatched for the investigation. Specimens collected for testing.
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

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 testing underway.
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	3	Yirol East		Three 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	6	Bentiu PoC		Six 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 <sup>th</sup> 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 <sup>th</sup> 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 efforts are underway to gather more information on the alert.

**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.

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