

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Update W31 2018 (Jul30- Aug05)



Ministry of Health
Republic of South Sudan



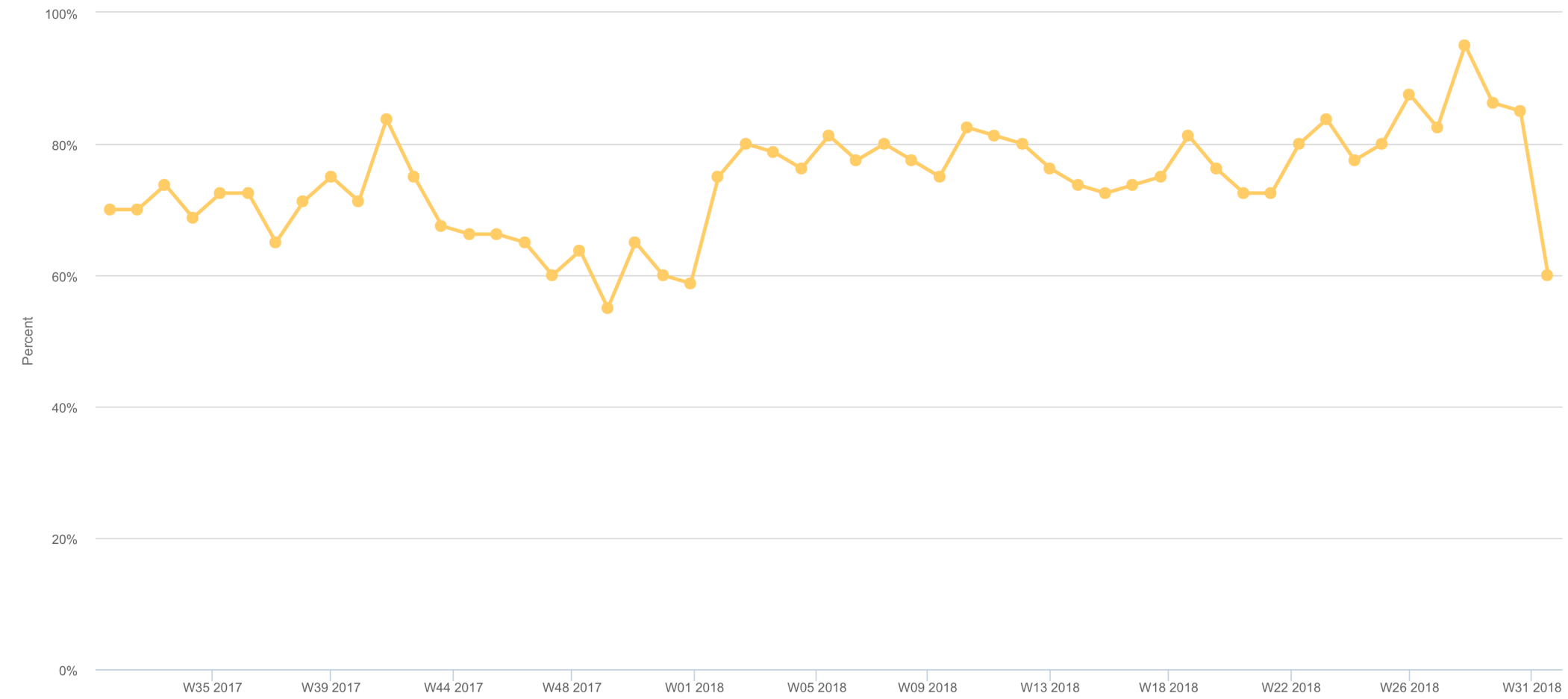
- Completeness for IDSR reporting at county level was 60% . Completeness for EWARS reporting from IDP sites was 76%.
- A total of 8 alerts were reported, of which 63% have been verified. 0 alerts was risk assessed & 0 required a response.
- In the absence of measles and rubella IgM ELISA test kits, a comprehensive response is planned for two suspect measles outbreaks in Bentiu PoC and Yirol East county.
- A cluster of suspect measles & pertussis cases reported in Waat payam, Nyirol county, Jonglei state
- There was no new suspect Rift Valley Fever (RVF) case reported from Yirol East in week 30. 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).
- There no new cases reported since week 31. A total of 129 HEV cases (15 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 (W31 2018)

Hub	Reporting		Performance (W31 2018)		Performance (Cumulative 2018)	
	# counties	# reports received	Completeness	Timeliness	Completeness	Timeliness
Aweil	5	4	80%	80%	88%	88%
Bentiu	9	0	0%	0%	68%	52%
Bor	11	3	27%	27%	49%	45%
Juba	6	5	83%	83%	83%	70%
Kwajok	7	3	43%	43%	98%	91%
Malakal	13	4	31%	31%	50%	20%
Rumbek	8	8	100%	100%	100%	92%
Torit	8	8	100%	100%	99%	75%
Wau	3	3	100%	100%	90%	73%
Yambio	10	10	100%	100%	99%	99%
South Sudan	80	48	60%	60%	79%	60%

- Completeness for IDSR reporting at county level was 60% in week 31 and cumulatively at 79% for 2018
- Timeliness for IDSR reporting at county level was 60% in week 31 and cumulatively at 60% for 2018

Figure 1 | Trend in IDSR completeness over time¹



The graph shows completeness for weekly reporting at county level. The national average currently stands at **79%**.

Table 4 | EWARS surveillance performance indicators by partner (W31 2018)

Partner	Performance		Reporting (W31 2018)		Reporting (Cumulative 2018)	
	# sites	# reports received	Completeness	Timeliness	Completeness	Timeliness
CMD	1	1	100%	100%	100%	100%
GOAL	2	2	100%	100%	100%	90%
HLSS	1	1	100%	100%	100%	100%
IMA	5	5	100%	100%	78%	75%
IMC	6	5	83%	83%	95%	94%
IOM	12	6	50%	50%	74%	74%
IRC	1	1	100%	100%	100%	97%
Medair	2	2	100%	100%	100%	97%
MSF-E	2	0	0%	0%	81%	65%
MSF-H	2	2	100%	100%	76%	53%
SMC	5	5	100%	100%	74%	74%
UNIDO	1	1	100%	100%	103%	103%
UNKEA	2	2	100%	100%	90%	87%
World Relief	1	1	100%	100%	97%	84%
Total	49	37	76%	76%	75%	72%

Timeliness and completeness for EWARN/IDP reporting stands at 76% for week 31, while cumulatively timeliness and completeness are 72% and 75% respectively for 2018.

Table 7 | Alert performance indicators by Hub

Hub	W31		Cumulative (2018)	
	# alerts	% verif.	# alerts	% verif.
Aweil	0	0%	35	97%
Bentiu	0	0%	60	70%
Bor	3	67%	47	55%
Juba	3	100%	66	67%
Kwajok	1	0%	35	94%
Malakal	0	0%	51	63%
Rumbek	0	0%	41	71%
Torit	0	0%	42	81%
Wau	1	0%	29	59%
Yambio	0	0%	75	52%
South Sudan	8	63%	481	69%

Table 8 Summary of key alert indicators

W31	Cumulative (2018)	
8	481	Total alerts raised
63%	69%	% verified
0%	0%	% auto-discarded
0%	4%	% risk assessed
0%	2%	% requiring a response

A total of 8 alerts were reported in week 31 with 63% of the alerts in week 31 being verified; 0% were risk assessed and 0% required a response.

Table 9 | Alert performance indicators by event

Event	W31		Cumulative (2018)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	1	100%	97	61%
AWD	1	100%	179	64%
Bloody Diarr.	4	25%	119	52%
Measles	2	100%	91	78%
Meningitis	0	0%	0	0%
Cholera	0	0%	6	100%
Yellow Fever	0	0%	4	75%
Guinea Worm	0	0%	19	89%
AFP	0	0%	48	93%
VHF	0	0%	1	100%
Neo. tetanus	0	0%	5	60%
Event-based surveillance				
EBS total	0	0%	26	69%

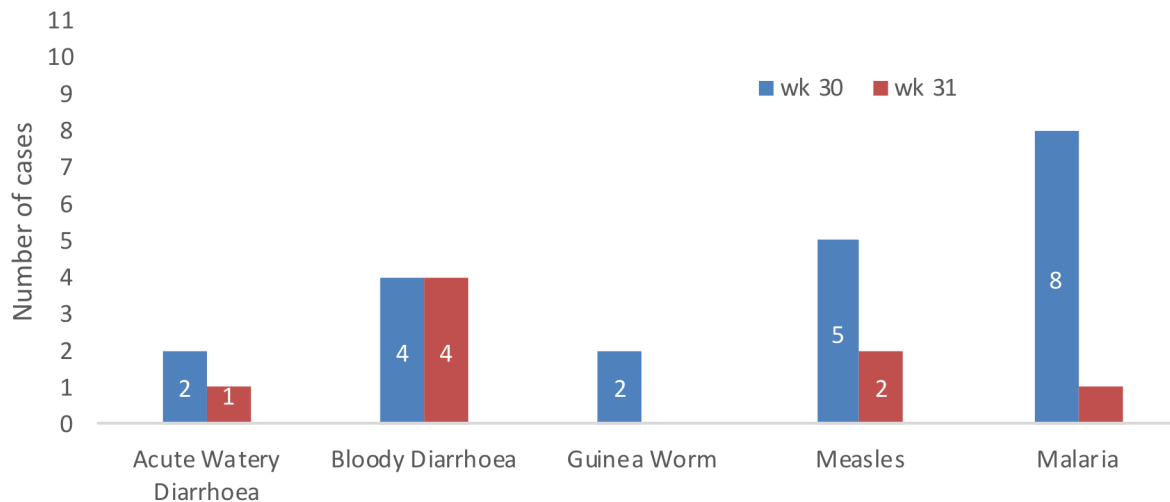
Table 10 | Event risk assessment

W31	Cumulative (2018)	
0	8	Low risk
2	2	Medium risk
0	3	High risk
0	1	Very high risk

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

County	Acute Watery Diarrhoea	Bloody Diarrhoea	Measles	Malaria	Total Alerts
Bor			1		1
Juba	1		1	1	3
Jur River		1			1
Tonj North		1			1
Pibor		2			2
Total Alerts	1	4	2	1	8

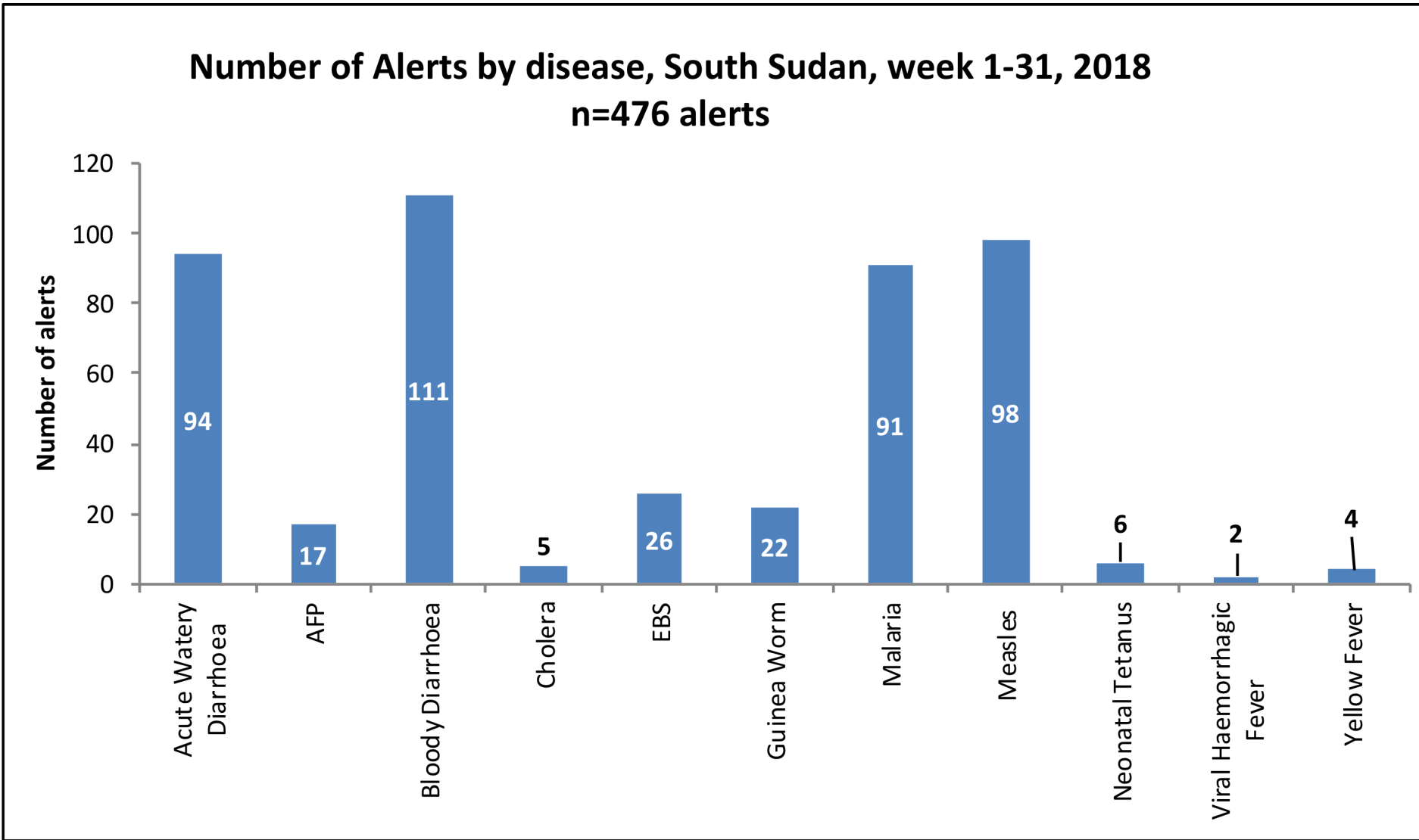
Alerts by hazard in week 30 and week 31, 2018



- During week 31, a total of 8 alerts were reported through EWARS
- Bloody diarrhoea and suspect measles were the most common alerts

Suspect measles & pertussis, in Waat payam, Nyirol county

- On 10 August 2018; CMA reported a cluster of suspect measles and pertussis cases from Waat PHCC, Waat payam, Nyirol county, Jonglei state
- Due to insecurity in the area, no immunization (routine or supplementary) has been implemented in the area for the last one year
- Emergency supportive care is already underway
- Arrangements are underway to line list and collect samples from suspect cases



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

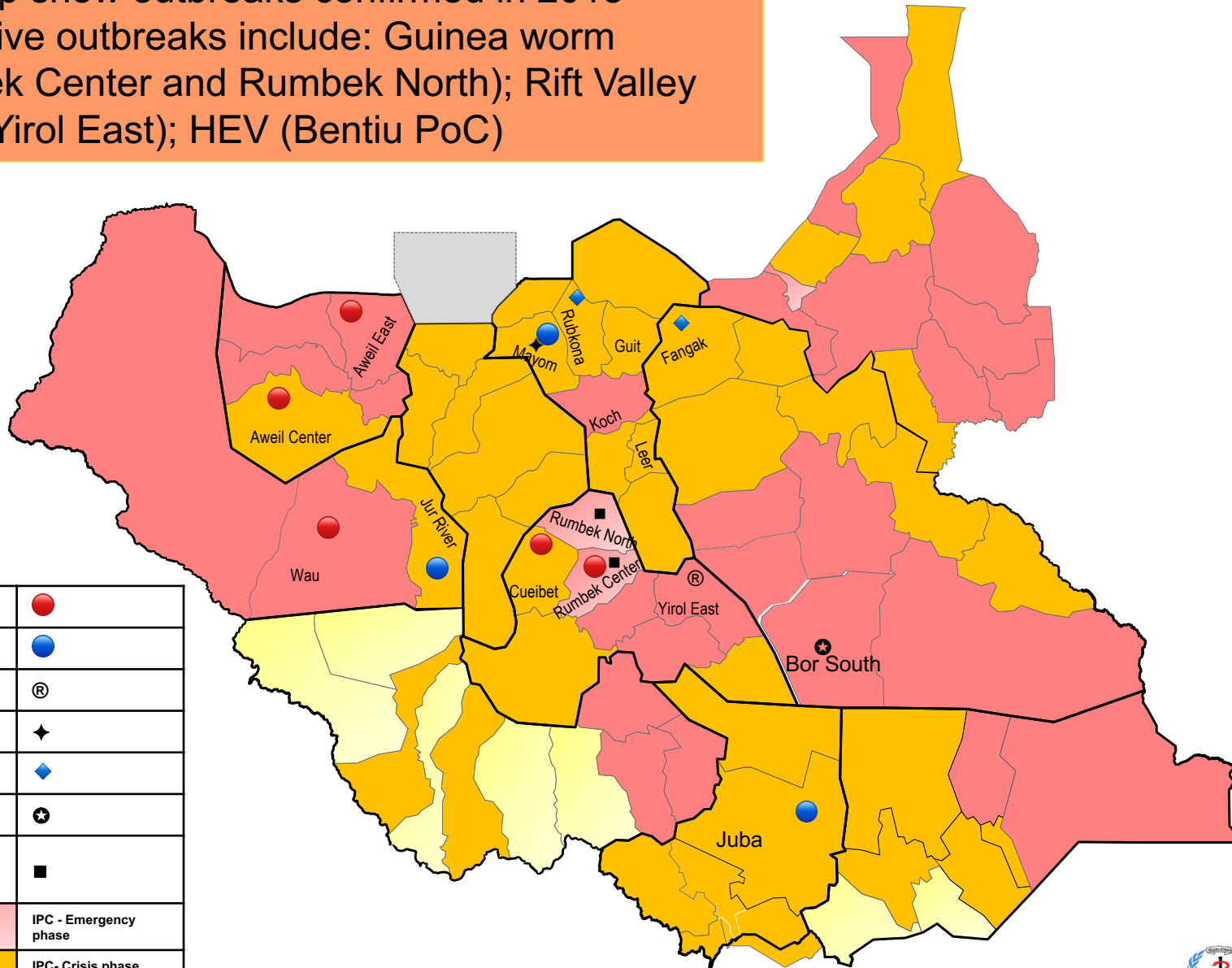
Cumulative alerts by risk assessment stage in 2018

County	OUTCOME	RISK ASSESSED	RISK CHARACTERISED	VERIFICATION	Total Alerts
Acute Watery Diarrhoea	1			93	94
AFP		1		16	17
Bloody Diarrhoea	1			110	111
Cholera	1			1	2
EBS		3		23	26
Guinea Worm	2	1		19	22
Neonatal Tetanus	3			3	6
Viral Haemorrhagic Fever				2	2
Yellow Fever				4	4
Measles	5	6		87	98
Cholera				3	3
Malaria	2	3	1	85	91
Total Alerts	15	14	1	446	476

- The Figures show the cumulative alerts by risk assessment state in 2018
- Of the 476 alerts reported in 2018; a total of 446 alerts have been verified; 14 alerts underwent risk assessment; and 15 alerts have a documented outcome

Confirmed Outbreaks South Sudan – 12 August 2018

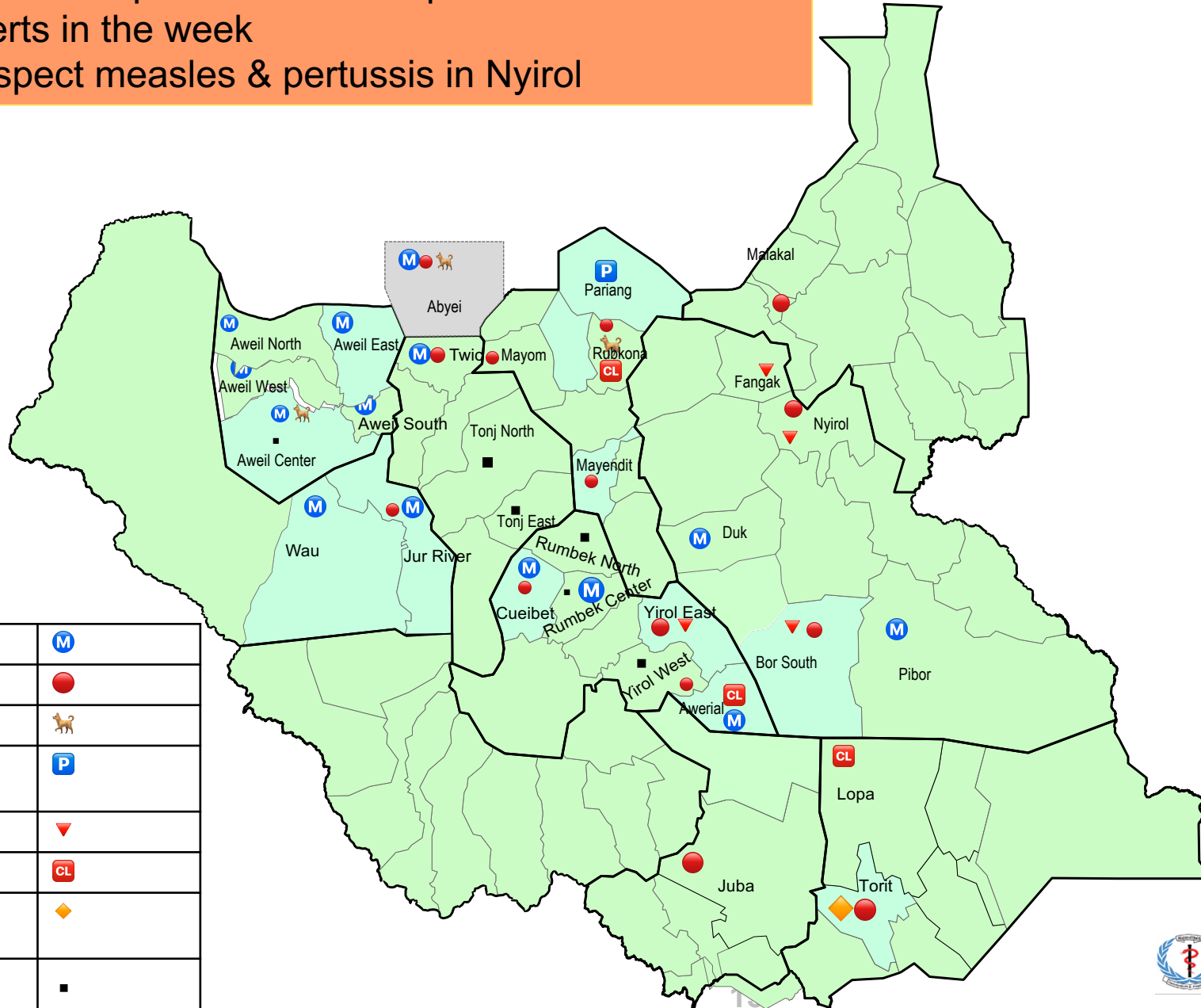
- The map show outbreaks confirmed in 2018
- The active outbreaks include: Guinea worm (Rumbek Center and Rumbek North); Rift Valley Fever (Yirol East); HEV (Bentiu PoC)











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 – 12 August 2018

- Map shows suspect outbreaks reported in 2018
- New alerts in the week
 - Suspect measles & pertussis in Nyirol



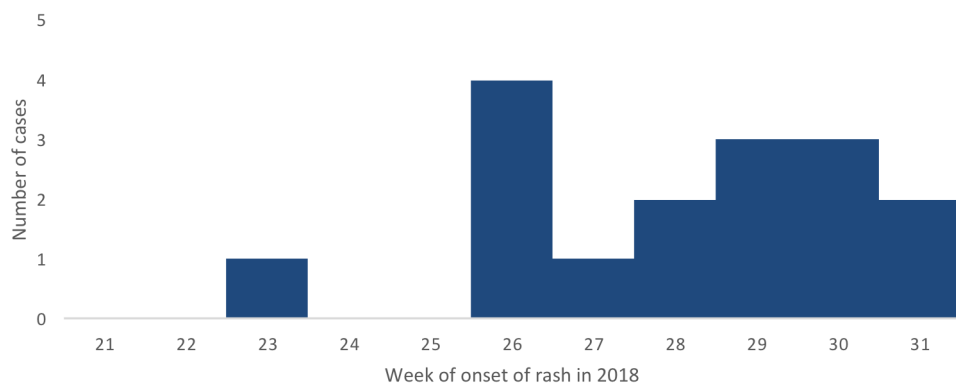
Meningitis	
Measles	
Rabies	
Health effects of petroleum drilling	
Pertussis	
Cholera	
Acute Jaundice Syndrome	
Guinea worm	

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	0	129 (0.11)	Yes	No	Yes	Yes
Rabies probable	Bentiu PoC	06/12/2017	0	270 (0.231)	Yes	Yes	Yes	N/A
Controlled epidemics								
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 - Bentiu PoC

Suspect measles cases Bentiu PoC, week 23-31, 2018



Age	Female	Male	Total cases	Percentage %
<1yr	6	5	11	69%
1-4yrs	3	2	5	31%
Total cases	9	7	16	100%

Suspect measles cases by Sector in Bentiu PoC, week 23-31, 2018



- At least 16 suspect measles cases (with no deaths) have been reported in Bentiu PoC since week 23, 2018.
- All the suspect cases are <5 years with 69% being less than one year of age.
- Most cases 66% (9/16) are from sector 5;
- All the suspect measles cases reported to date have not received any measles vaccine dose

Recommended response

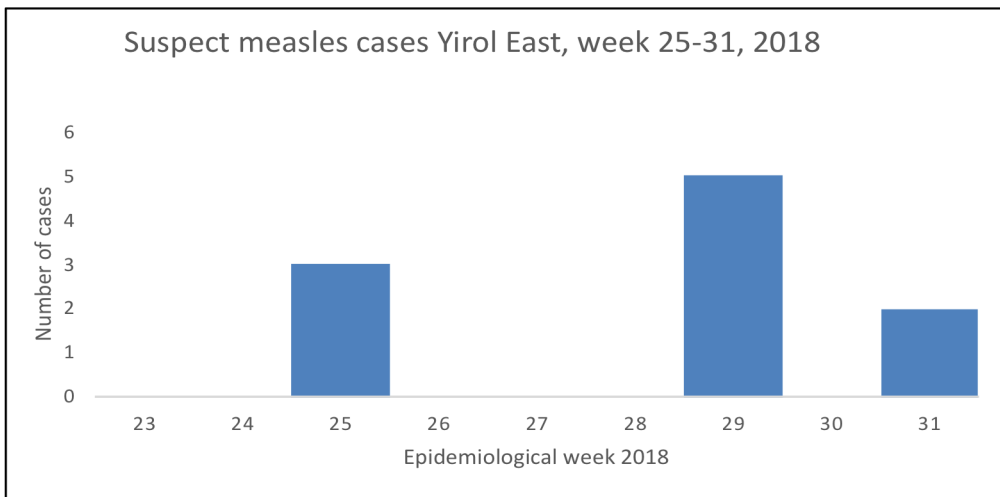
1. Case-based surveillance should continue
2. Ensure adequate clinical management of suspect measles cases (guided by national measles protocols).
3. Due to the absence of measles and rubella ELISA kits to facilitate lab confirmation and since Bentiu PoC hosts IDPs with the risk of amplification; reactive 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 (OPV)
 - b) **Target population for measles:** 6months -15 years
 - c) **Target population for oral polio vaccine:** 0-59 months

Way Forward

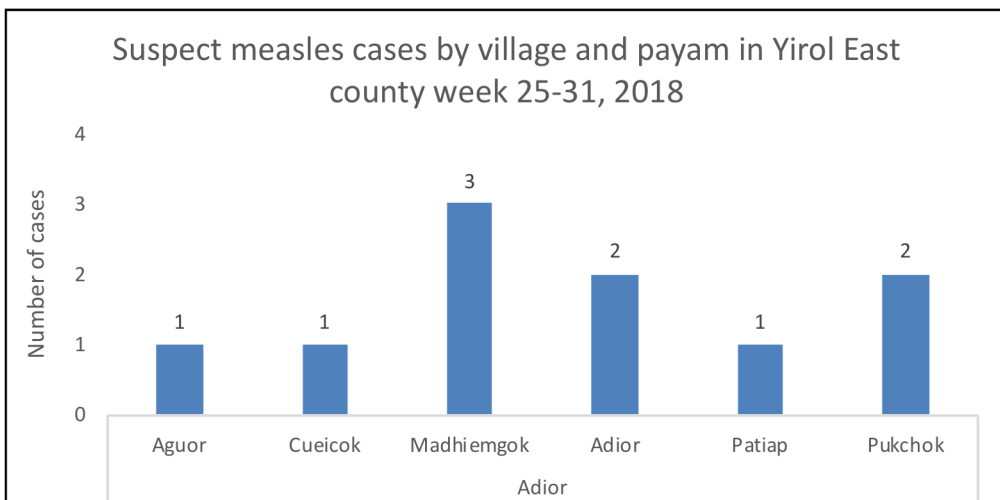
Working with the national and sub-national health cluster; lead health cluster partners are being identified to undertake the following:

- a) Develop microplans for the measles-OPV campaign in Bentiu PoC.
- b) Immediately implement reactive measles-OPV campaign in Bentiu PoC.
- c) Conduct post-campaign evaluation of the campaigns
- d) Strengthen routine immunisation to prevent future outbreaks

Suspect measles outbreak - Yirol East county



Age	Female	Male	Total cases	Percentage %
1-4yrs	2	4	6	60%
5-9 yrs	1	3	4	40%
Total cases	3	7	10	100%



- At least 10 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 60% being 1-4 years of age.
- All the cases are from Adior payam with most cases reported from Madhiemgok village
- 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

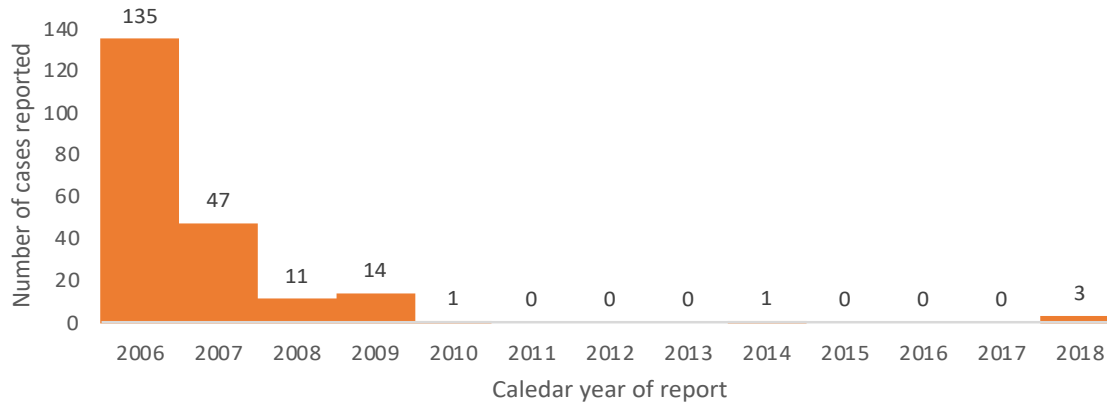
Way Forward

Working with the national and sub-national health cluster; lead health cluster partners are being identified to undertake the following:

- a) Develop microplan for the measles-OPV campaigns in Yirol East.
- b) Immediately implement reactive measles-OPV campaign in Yirol East.
- c) Conduct post-campaign evaluation of the campaigns
- d) Strengthen routine immunisation to prevent future outbreaks

Confirmed Guinea worm - Rumbek Center & Rumbek North, Western Lakes state

Western Lakes state Number of Confirmed Dracunculiasis cases January 2006 to July 2018



Confirmed Guinea worm cases by state hub, Jan 2006- Jul 2018

State hub	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Central Equatoria	290	210	376	275	45	12	0	0	0	0	0	0	0
Eastern Equatoria	13835	3127	1350	675	667	775	452	85	58	1	0	0	0
Western Equatoria	0	0	2	19	0	0	0	0	0	0	0	0	0
Lakes	659	396	467	494	270	59	7	9	12	2	0	0	3
Warrap	2942	930	1157	1193	675	116	37	4	0	1	2	0	0
Jonglei	1922	857	88	9	26	62	24	14	0	0	0	0	0
Western Bahr el Ghazal	197	162	160	62	15	4	1	0	0	1	4	0	0
Northern Bahr el Ghazal	727	129	18	6	0	0	0	1	0	0	0	0	0
Unity	0	0	0	0	0	0	0	0	0	0	0	0	0
Upper Nile	9	4	0	0	0	0	0	0	0	0	0	0	0
Total	20581	5815	3618	2733	1698	1028	521	113	70	5	6	0	3

SSGWEP - South Sudan Guinea worm eradication program; GW - Guinea worm

- The SSGWEP was established in 2006 with 20,581 cases being reported the same year but consistent case declines were reported with no cases in 2017
- Western Lakes state comprises of the former Wulu, Rumbek Center, Rumbek East, and Rumbek North counties in former Lakes state
- Western Lakes state has a village surveillance system since the SSGWEP started in 2006 with confirmed Guinea worm cases declining from 135 out of 20,581 cases countrywide to 14 cases in 2009, the year the last indigenous cases were reported in Western Lakes. The 2010 case was imported and the 2014 case originated from Wulu county
- From 2015-2017; Western Lakes reported no confirmed GW cases however, three GW cases were confirmed in 2018. The source of these three new cases is still being investigated
- Two of the 2018 cases originate from Rumbek Center while the third is from Rumbek North. They are all from the cattle camps and are uncontained.
- The affected cattle camp populations of the Pakam and Rup communities have in the past several years been engaged in communal violence which had hindered the work of the SSGWEP. The ongoing disarmament of civilians has created the necessary environment for the SSGWEP to reach all the cattle camps inhabited by these communities.
- The current investigations entail detailed investigations into the 3 cases to map their close contacts (in search for additional cases), open water sources visited after the worms emerged; abating all the open water sources in the outbreak area; improving access to safe water; public awareness through the cash reward campaign; and countrywide surveillance to detect additional cases.

Acute Jaundice Syndrome (AJS) [suspect Hepatitis E, Leer TPA]

Descriptive case series

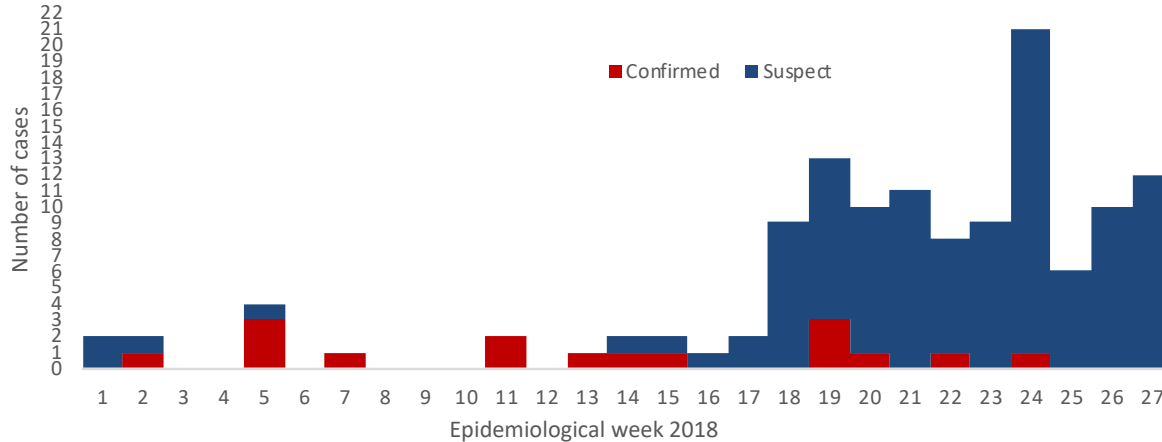
- On 25 July 2018 two AJS (suspect HEV) deaths were reported in Leer TPA by UNIDO, the implementing health cluster partner.
- The presenting complaints included fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, jaundice, and dark urine.
- The first case was 29-year old pregnant mother brought to the clinic on 13/07/2018, the clinician suspected malaria but RDT was negative, she was then treated clinically on malaria, unfortunately she died on 14/07/2018.
- The second case was 8-year old girl brought to the clinic on 25/07/2018 with the above signs and symptoms, she was admitted with suspected malaria, but RDT was also negative, unfortunately she died 26/07/2018.
- The girl was recently from Bentiu PoC and the woman was from Koch County thus no one knows whether she visited Bentiu PoC sometime this year.
- Serum samples were not collected from the two cases.

Response actions to date

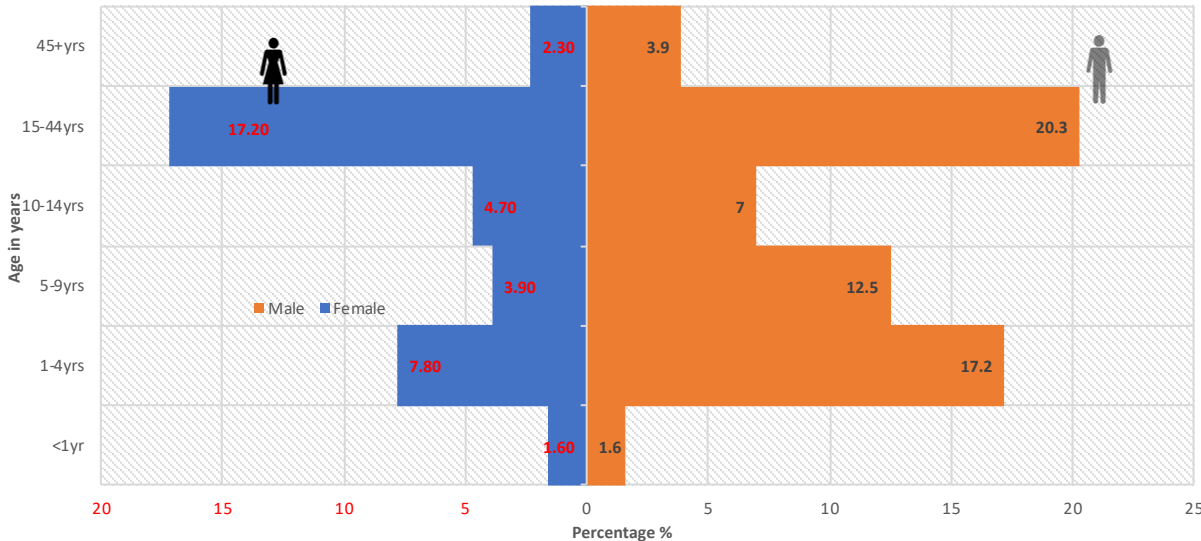
1. UNIDO is the health implementing partner that is providing health services and currently leading case surveillance and clinical care.
2. Active surveillance initiated in the health facility and community using the AJS case definitions
3. WHO has shared the HEV case investigation guidelines (case form, line list, serum collection and transportation)
4. The WHO protocol for HEV case triage and supportive care has been shared.
5. Concern Worldwide has connected a borehole with a pipeline system to the Leer TPA with a total of 12 taps and a 30m³ bladder tank. Concern Worldwide has also conducted capacity building on some local staff on operation and maintenance of the system.
6. UNIDO who are based at the TPA site are supporting hygiene promotion and sanitation activities.
7. Plans underway to conduct case investigations and collect serum samples from subsequent suspect AJS cases.
8. The state hub and Juba have been alerted to provide technical and logistical support
9. Further updates to follow.

Hepatitis E, Bentiu PoC and Old Fangak

Hepatitis E cases reported in by Epi classification, week 1-28, 2018

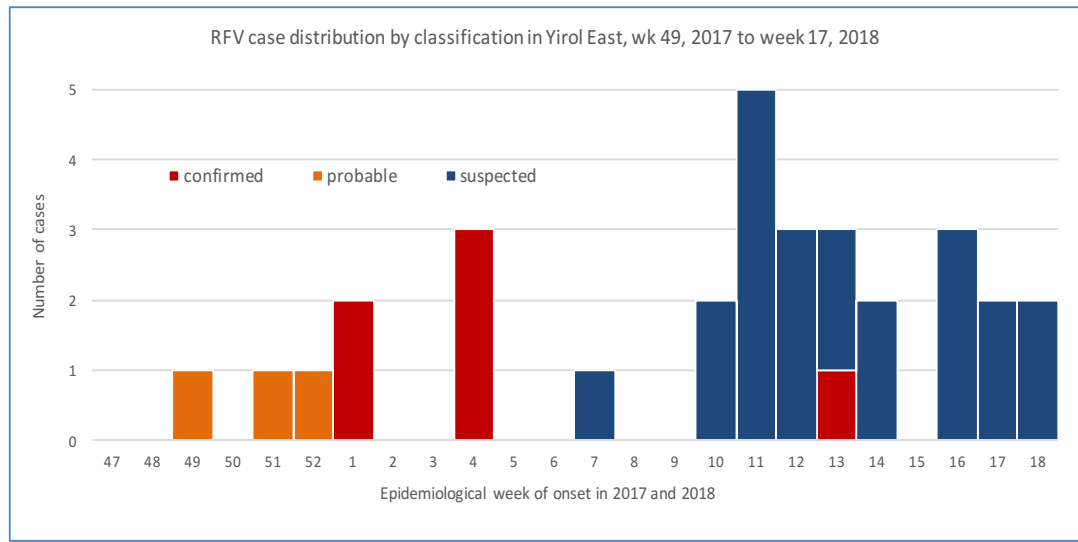
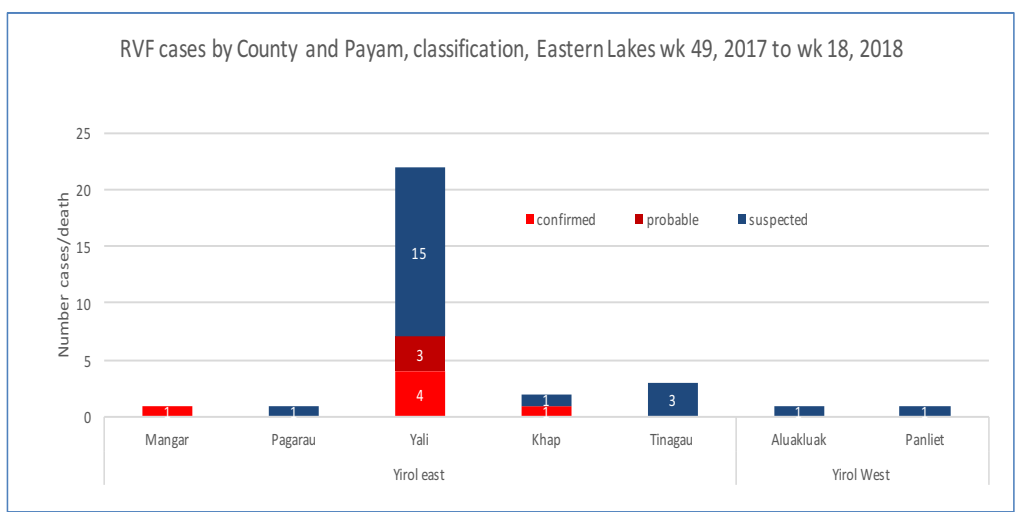
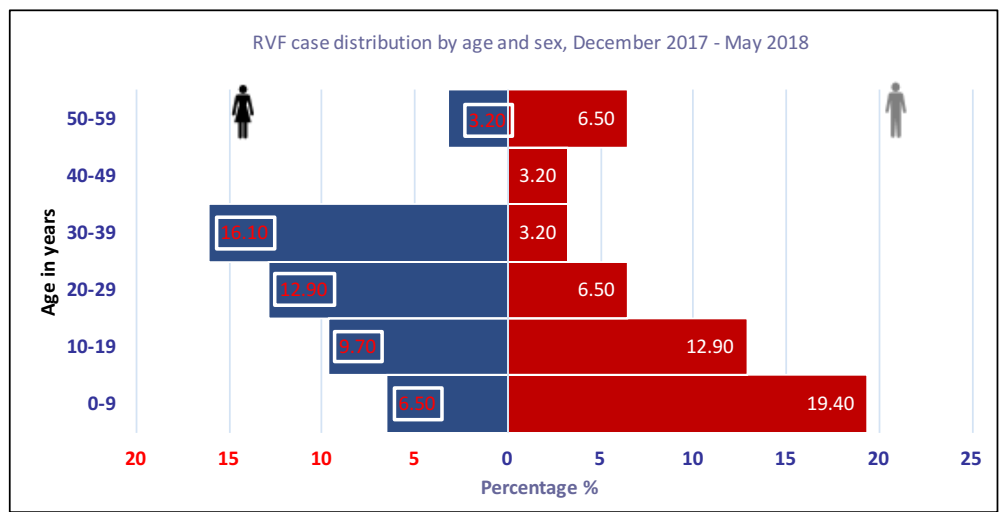


HEV case distribution by age & sex, Bentiu PoC Jan-July 2018



- At least 129 suspect cases of Hepatitis E (HEV) have been reported in 2018. Of the 129 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 5 HEV cases have been admitted.
- At least 45% 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 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 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.

Ongoing epidemics - Epidemic description - RVF Eastern Lakes state

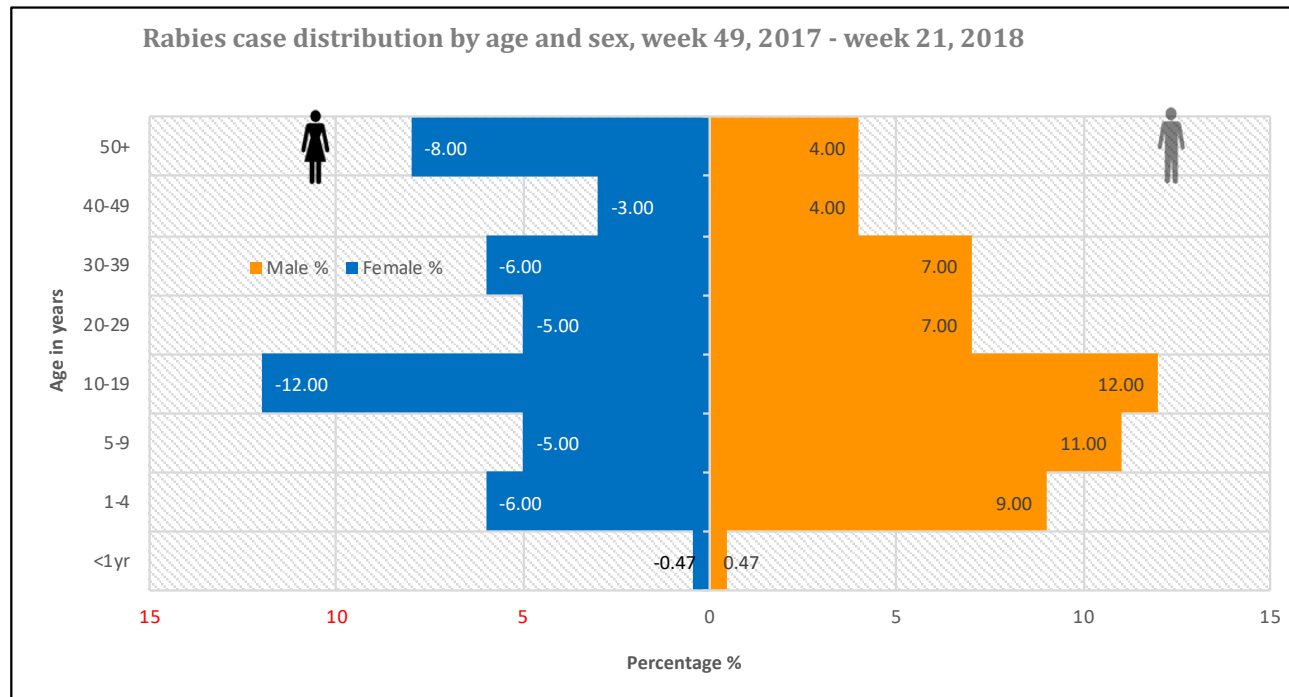
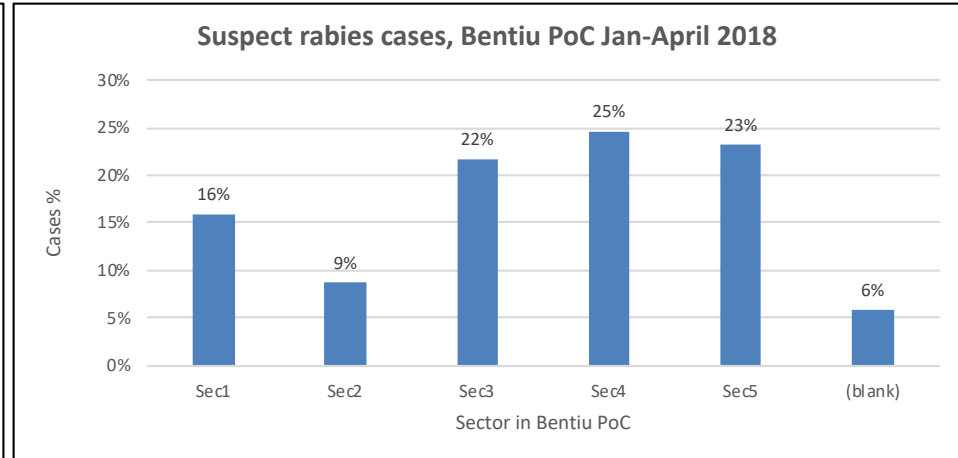
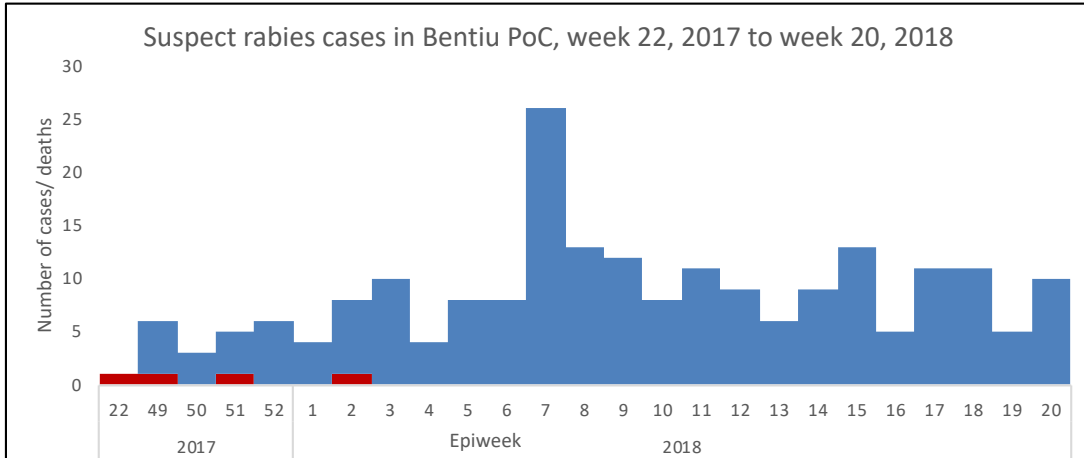


Sno.	Description	Number
1	Suspect cases	58
2	Total deaths	4
3	Confirmed cases	6
4	Probable cases	3
5	Cases pending testing	01
6	Non-cases	48
7	Cases on admission	01
8	Total human samples collected	39
9	Total animal samples collected	28
10	Positive animal cases	9

- No new suspect RVF case reported from Yirol East in week 31.
- In the period 7 December 2017 to 22 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 22nd 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



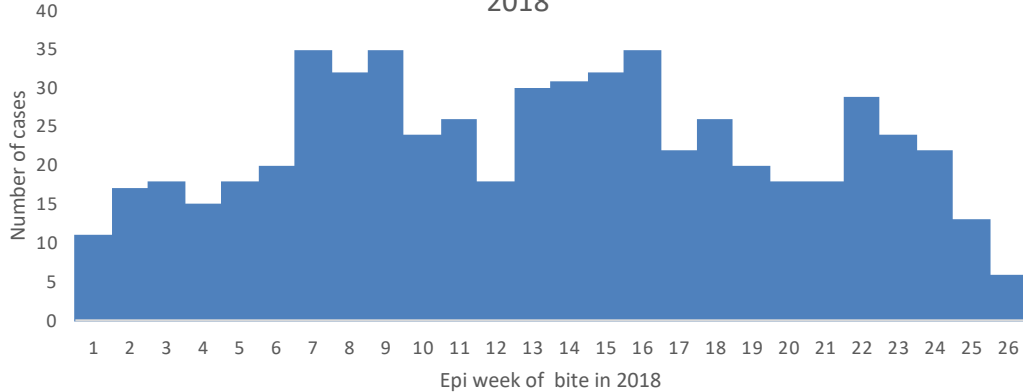
Animal bites - suspect rabies, Bentiu PoC



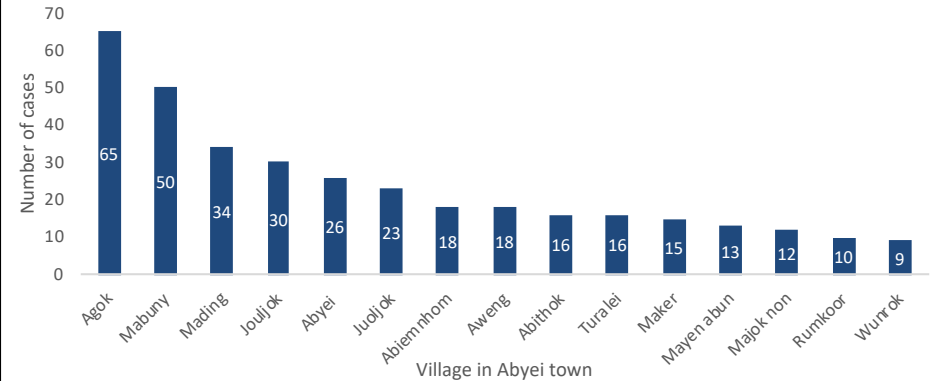
- During week 29, a total of 4 animal bite cases were reported and treated in Bentiu PoC
- A cumulative of 270 animal bite cases including 4 deaths have been reported since 6 Dec 2017.
- Sectors 3,4, &5 have reported most cases and children <19yrs constitute more than 56% of the cases with males affected 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
- Dog curling underway by VSF

Animal bites - suspect rabies, Agok hospital, Abyei Town

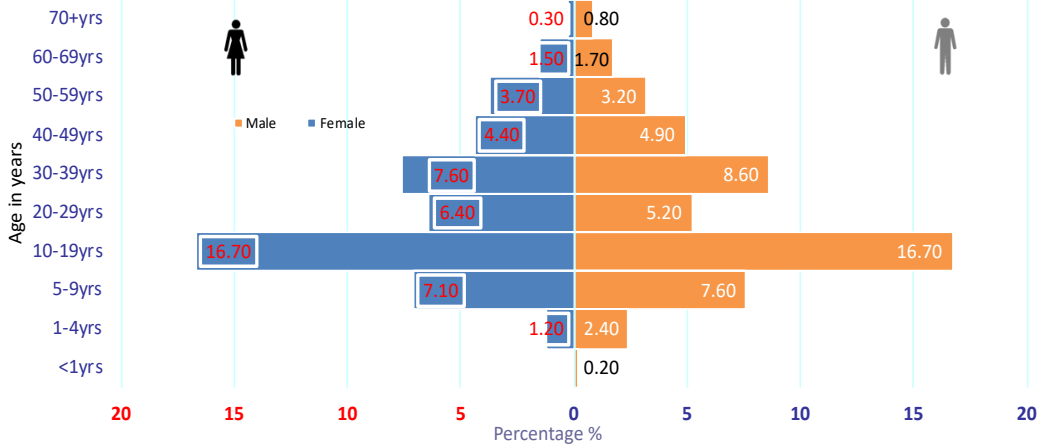
Dog bite cases treated in Agok hospital, Abyei town, week 1-26, 2018



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

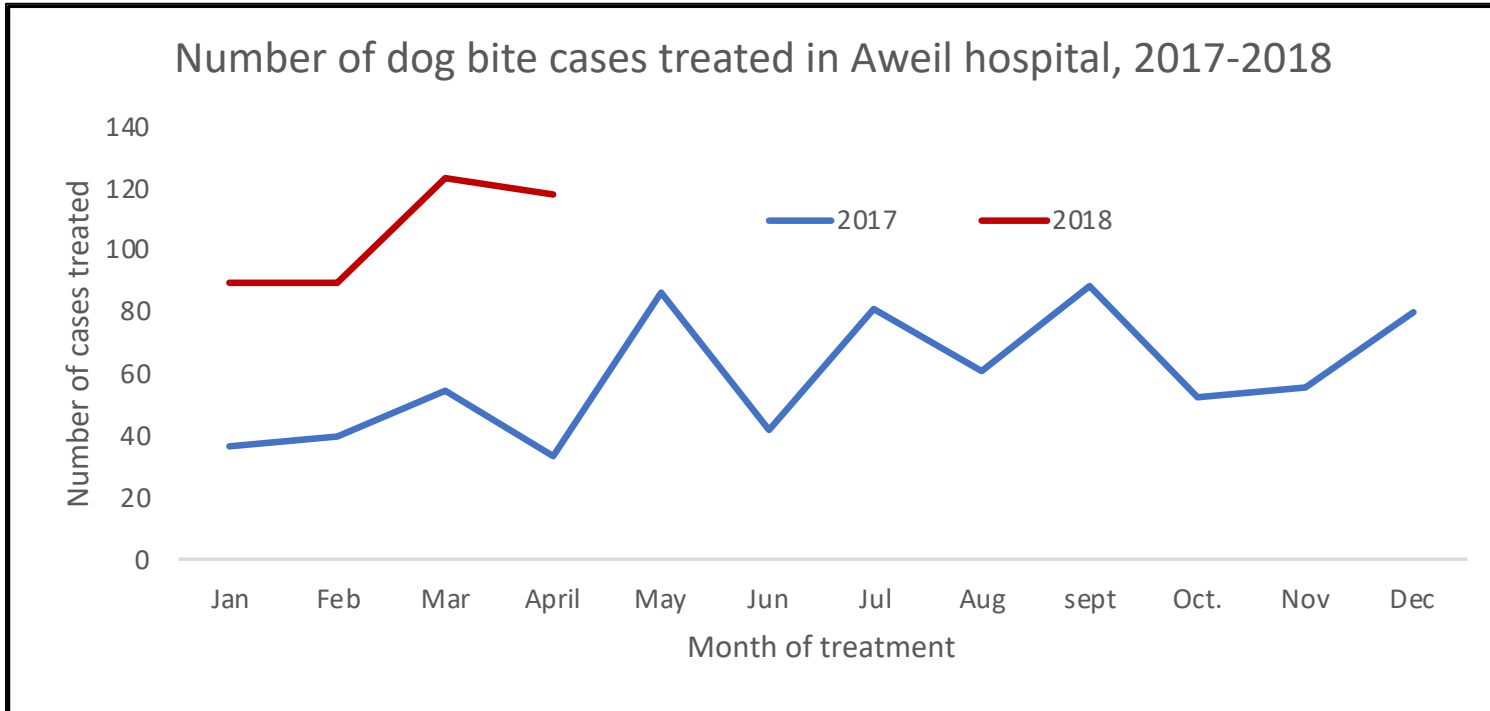


Suspect rabies case distribution by age and sex, Bentiu PoC Jan-July 2018



- 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 7th June 2018.
- Follow up meetings planned to mobilize resources required for a comprehensive response

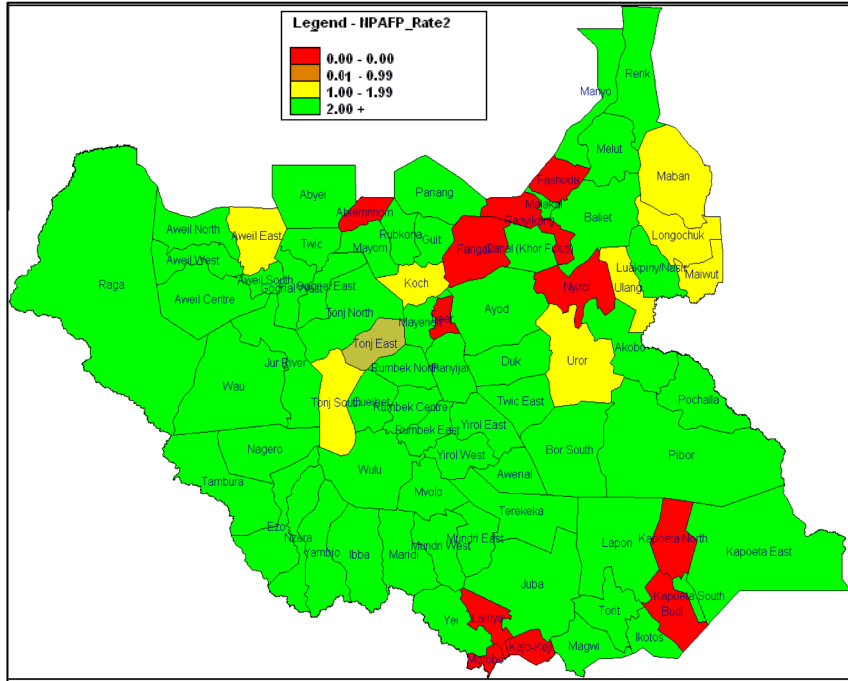
Animal bites - suspect rabies, Aweil hospital, Aweil Town



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

- 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.

Acute Flaccid Paralysis - suspect Polio



In week 31, 2018, a total of 11 new AFP cases were reported from Eastern Equatoria, Jonglei, Lakes, Northern Bahr el Ghazal, and Warrap hubs. This brings the cumulative total for 2018 to 249 AFP cases.

The annualized non-Polio AFP (NPAFP) rate (cases per 100,000 population children 0-14 years) in 2018 is 5.08 per 100,000 population of children 0-14 years (target ≥ 2 per 100,000 children 0-14 years).

Stool adequacy was 84% 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 one (31) 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	15	13	0	0	0	1	0	1	3.5	15	13	87%	0	0%	0	0%
EASTERN EQUATORIA HUB	674008	23	22	1	0	0	1	0	0	5.7	23	23	100%	3	14%	2	11%
JONGLEI HUB	982693	27	20	1	0	0	4	0	3	4.6	27	21	78%	3	12%	1	8%
LAKES HUB	791864	30	29	1	0	0	1	0	0	6.4	30	30	100%	2	7%	0	0%
NORTHERN BAHR EL GHAZAL HUB	987309	27	25	1	0	0	2	0	0	4.6	27	24	89%	4	17%	3	15%
UNITY HUB	864151	22	16	0	0	0	1	0	5	4.6	22	17	77%	3	13%	1	7%
UPPER NILE HUB	895541	32	21	0	0	0	0	0	11	6.2	32	18	56%	5	16%	3	14%
WARRAP HUB	1456973	36	26	7	0	0	8	0	2	3.5	36	33	92%	4	14%	0	0%
WESTERN BAHR EL GHAZAL HUB	316372	13	8	0	0	0	3	0	2	7.1	13	8	62%	1	10%	0	0%
WESTERN EQUATORIA HUB	516397	24	20	0	0	0	2	0	2	8.1	24	22	92%	3	13%	2	11%
SOUTH SUDAN	8222455	249	200	11	0	0	23	0	26	5.08	249	209	84%	28	12%	12	7%

2018*

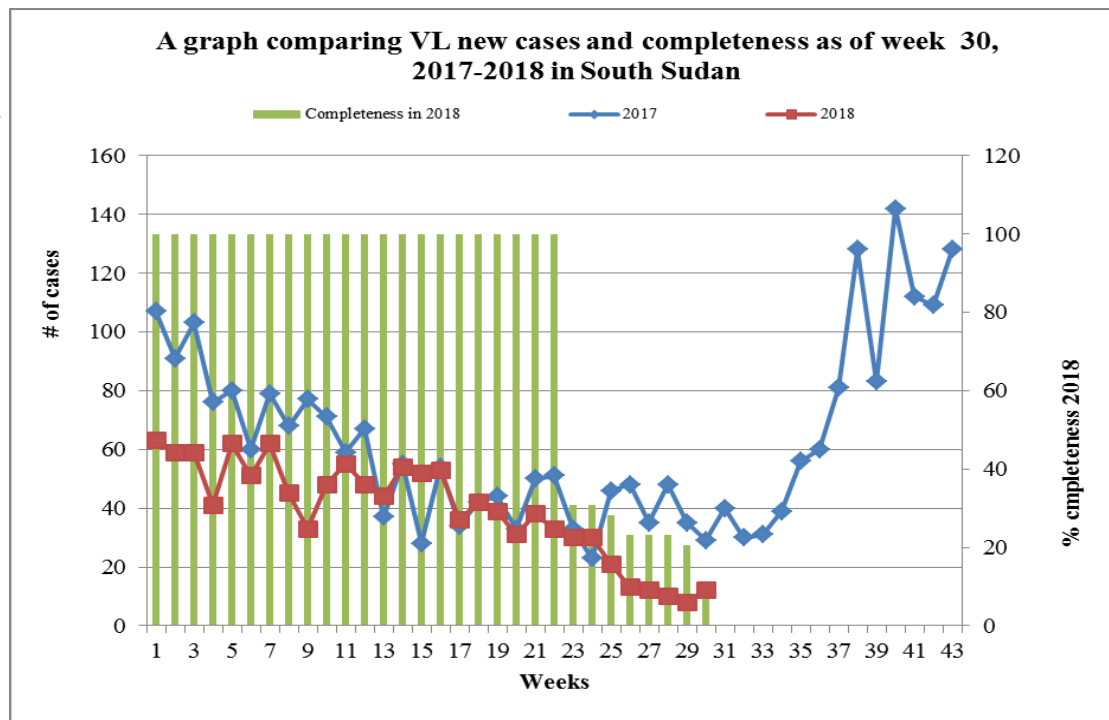
Visceral Leishmaniasis | Kala-azar

Kala-azar is endemic in Upper Nile, Unity, Jonglei, & Kapoeta. Response interventions have been complicated by insecurity, population displacement, poor living conditions, increasing food insecurity, closure of treatment facilities; and low treatment completion rates.

In week 30, four health facilities reported 18 cases (12 (66.7%) new cases, 1 (5.6%), PKDL, and 5 (27.8%) relapses).

Since the beginning of 2018, a total of **1,559 cases** including **44 deaths (CFR 2.8%)**; **34 (2.2%) defaulters**; **1,184 (75.9%) new cases**; **78(5.0%) PKDL**; and **288(19.1%) relapses** - all reported from **39** treatment centers.

In the corresponding period of 2017, a total of **2,059 cases** including **36 deaths (CFR 1.7%)** and **66(3.2%) defaulters** were reported from 21 treatment centers.



The majority of cases in 2018 have been reported from Lankien (**826**), Kurwai (**149**), Old Fangak (94), Walgak (65), Ulang (54), Malakal IDP (54), Narus (61), Pieri (38), KCH (28), Pagil (64), Doma (21), KMH (15), Bentiu (20) and Adong (13).

The most affected groups include, males [**765 cases (49.1%)**], those aged ≥ 15 years and above [**676 cases (43.4%)**] and 5 - 14 years [**624(40.0%)**]. A total of **246 cases (15.8%)** occurred in children < 5 years.

Low reporting rates currently impede meaningful trend interpretations however the major concern currently is seen from the high relapse rates; suggesting the need to improve treatment compliance through regular availability of testing and treatment kits and provision of food rations for cases on treatment.

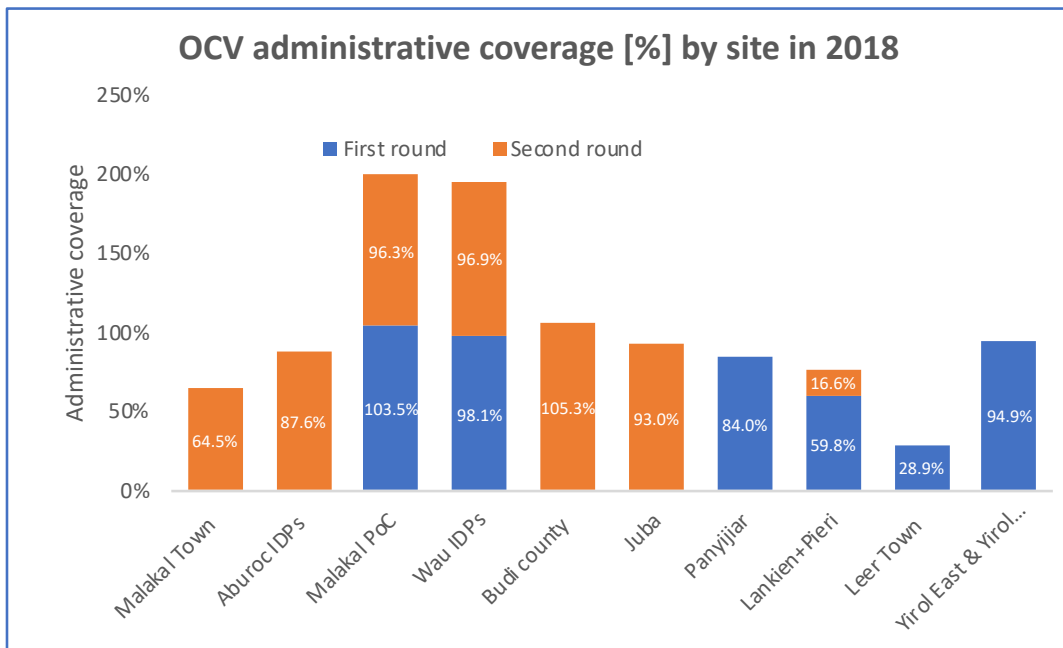
Cholera preparedness and preventive activities - Oral cholera vaccine campaigns - 2018

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	TBD	MoH, WHO, Unicef, LiveWell
Lankien	38,000	36,860	36,860	36,860	73,720	28May -13Jun2018	TBD	MoH, WHO, Unicef, MSF-H
Panyijiar	75,000	72,750	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
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 round)
 - Leer Town (1st round)
 - Yirol East and Yirol West (1st round)
- **Upcoming campaigns for 2018**
 - Panyijiar (2nd round)
 - Torit (1st round)
 - Yirol East and Yirol West (2nd round)
- **Currently ongoing campaigns in July 2018**
 - Leer county outside Leer town (1st round)

Oral cholera vaccine campaigns administrative coverage - 2018



The following OCV campaigns have been completed in 2018:

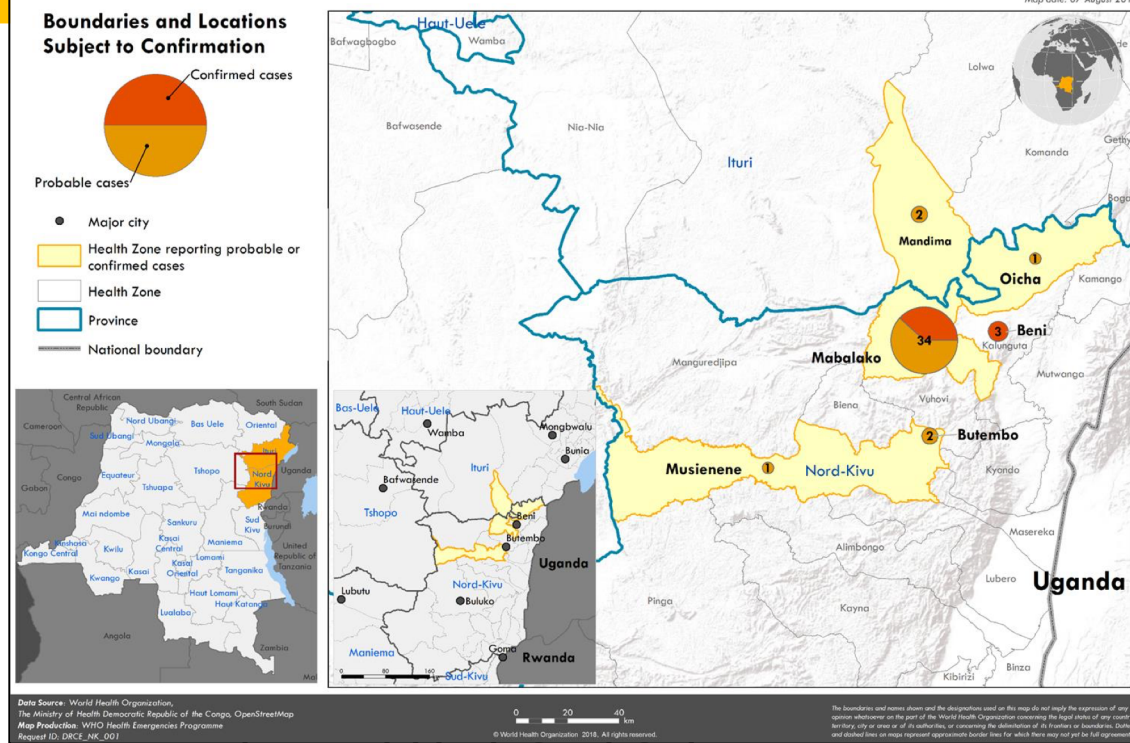
1. Malakal Town (2nd round)
2. Aburoc IDPs (2nd round)
3. Budi county (2nd round)
4. Malakal PoC (1st & 2nd round)
5. Wau PoC+IDPs (1st & 2nd round)
6. Juba (2nd round)
7. Panyijiar (1st round)
8. Leer town (1st round)
9. Lankien (1st round)
10. Pieri (1st & 2nd round)
11. Yirol East & Yirol West (1st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

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	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	22,712	59.8%	6,294	16.6%
9 Leer Town	10,000	2,892	28.9%		
10 Yirol East & Yirol West	165,081	156,682	94.9%		
Total	348,576	305,900	87.8%	381,511	96.4%

Ebola DR Congo update & risk to South Sudan

Situation as of 5 August 2018

- The DR Congo Minister of Health declared an outbreak of Ebola virus disease (EVD) on 1 Aug 2018. A total of four cases were initially confirmed in Mabalako health zone in Beni, North Kivu province.
- As of 5 Aug 2018, a total of 43 cases including 27 probable cases; 16 confirmed cases; and 34 deaths have been reported. Another 31 suspect cases are being investigated. Two health workers have been affected including one death.
- Six health zones in two provinces have reported confirmed and probable EVD cases, including Mabalako, Beni, Butembo, Oicha, and Musienene health zones in North Kivu Province and Mandina Health Zone in Ituri Province
- The affected locations are insecure due to armed conflict. North Kivu hosts over 1 million displaced people. The province shares borders with Rwanda and Uganda with a great deal of cross border movement due to the trade activities.
- National and field level coordination structures have been established in Kinshasa and Beni to oversee the response with the first meeting held on 1 Aug 2018.
- A comprehensive strategy has been rolled out to enhance surveillance and laboratory capacities; case isolation and provision of supportive care; optimising infection prevention and control; community engagement, social mobilisation and health education; contact listing and tracing; safe and dignified burials; logistics and operational support; and availing the needed resources for implementation of prevention and response activities



EVD Preparedness activities in South Sudan

In light of the recent EVD outbreak in North Kivu; a meeting was held with stakeholders to review and update the EVD preparedness checklist and identify priorities from the contingency plan for enhancing preparedness and these include:

1. Ebola treatment center site mapping and securing tents to allow rapid establishment of treatment center in the event suspect EVD cases are detected.
2. Secure a consultant to support the development of IPC guidelines and training a national team of IPC trainers.
3. Develop a comprehensive manual of SoPs for Ebola, Marburg and other VHF.
4. Conduct a simulation to pretest the EVD contingency plan for South Sudan
5. Review and update strategy for PoE screening and risk communication based on the renewed outbreak of Ebola in North Kivu.

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

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	10	Yirol East		Ten 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	16	Bentiu PoC		16 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	2 (02)	Leer TPA	Leer Town	Two 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).

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.

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**For more help and support,
please contact:**

Dr. Pinyi Nyimol Mawien
Director General Preventive Health Services
Ministry of Health
Republic of South Sudan
Telephone: +211916285676

Dr. Mathew Tut Moses
Director Emergency Preparedness and Response (EPR)
Ministry of Health
Republic of South Sudan
Telephone: +211922202028

Notes

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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>

