

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Bulletin Week 36, 2019 (September 02 – September 08)



Epidemiological Highlights in week 36 of 2019

- In week 36, IDSR reporting completeness was 49% while timeliness was 43% at health facility level. EWARN reporting completeness and timeliness were both 69%
- Of the 101 alerts in week 36; 71% were verified 4% were risk assessed and 3% required a response. Malaria (25), AWD (22), measles (10) and bloody diarrhea (09) were the most frequent alerts in the week
- Two (2) new measles outbreaks confirmed in Tonj South and Jur River counties
- Since week 12 of 2019, a total of 163 ILI/SARI samples have been collected and tested in UVRI 131 being negative; 2 (1%) positive for Influenza B (Victoria); 11 (7%) positive for Influenza A (H3); and 6 (4%) positive for Influenza A (H1)pdm09. Test results are pending for 11 samples

SURVEILLANCE PERFORMANCE

For the Integrated Disease Surveillance (IDSR)
network and Early warning alert and response
network (EWARN)

IDSR Timeliness and Completeness Performance at Facility Level for week 36,2019

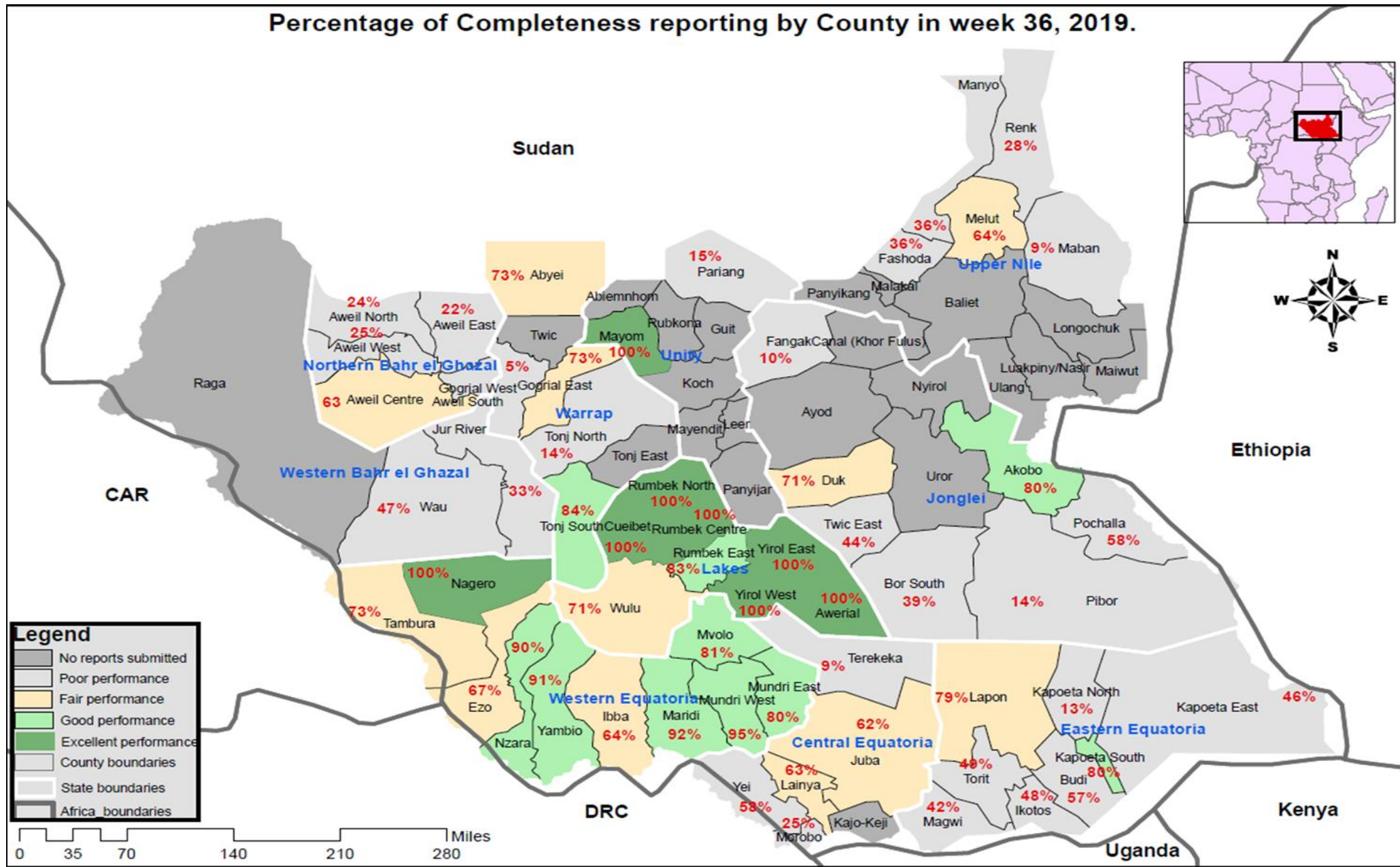
Completeness Hub/Former State Ranking	Hub/Former State	Supporting Partners	Total No. of Health Facility	No. of HFs Reported on Time	Timeliness Percentage	No. of HFs Reported not on Time	Completeness Percentage
1 st	Rumbek	Doctors with Africa (CUAMM)	116	108	93%	116	100%
2 nd	Yambio	AMREF, World Vision, CUAMM, CDTY, OPEN	214	179	84%	181	85%
3 rd	Torit	Cordaid, HLSS, CMD	178	97	54%	106	60%
4 th	Aweil	Malaria Consortium, HealthNetTPO, IRC, CEDS, IHO	145	43	30%	82	57%
5 th	Juba	HLSS, SSUHA, HealthnetTPO, IHO	156	60	38%	69	44%
6 th	Kuajok	GOAL, CCM, WVI, Malaria Consortium, UNKEA	135	39	29%	50	37%
7 th	Wau	Cordaid, HealthNetTPO, CARE International, IHO	78	27	35%	28	36%
8 th	Bor	Nile Hope, MDM, JDF, Livewell	179	51	28%	53	30%
9 th	Malakal	Cordaid, WVI, RI, IMC, NIDO, UNKEA, MC, SSAID	179	28	16%	28	16%
10 th	Bentiu	Cordaid, UNIDOR, IRC, CHADO, CARE International	101	12	12%	13	13%
	South Sudan		1482	644	43%	726	49%

Key

	<60%	Poor
	61%-79%	Fair
	80%-99%	Good
	100%	Excellent

The timeliness of IDSR reporting (supported by EWARS mobile) at health facility level is 43% and completeness is 49%. Reporting performance is highest in Rumbek Hub with completeness of 100% followed by Yambio Hub with completeness at 85% while the rest of the state hubs are below target of 80%.

Percentage of Completeness reporting by County in week 36, 2019.



Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Surveillance | EWARS surveillance performance indicators by partner week 36, 2019

Surveillance | EWARS surveillance indicators

Table 4 | EWARS surveillance performance indicators by partner (W36 2019)

Partner	Performance		Reporting	
	# sites	# reports received	Completeness	Timeliness
CMD	0	0		
GOAL	2	2	100%	100%
HLSS	1	1	100%	100%
IMA	7	5	71%	71%
IMC	4	4	100%	100%
IOM	8	10	125%	125%
IRC	1	1	100%	100%
Medair	2	2	100%	100%
MSF-E	2	2	100%	100%
MSF-H	3	1	33%	33%
SMC	7	0	0%	0%
UNIDO	1	0	0%	0%
UNKEA	2	0	0%	0%
World Relief	1	1	100%	100%
TRI-SS	2	2	100%	100%
LIVEWELL	3	3	100%	100%
Total	65	45	69%	68%

Table 5 | Summary of key EWARS surveillance indicators

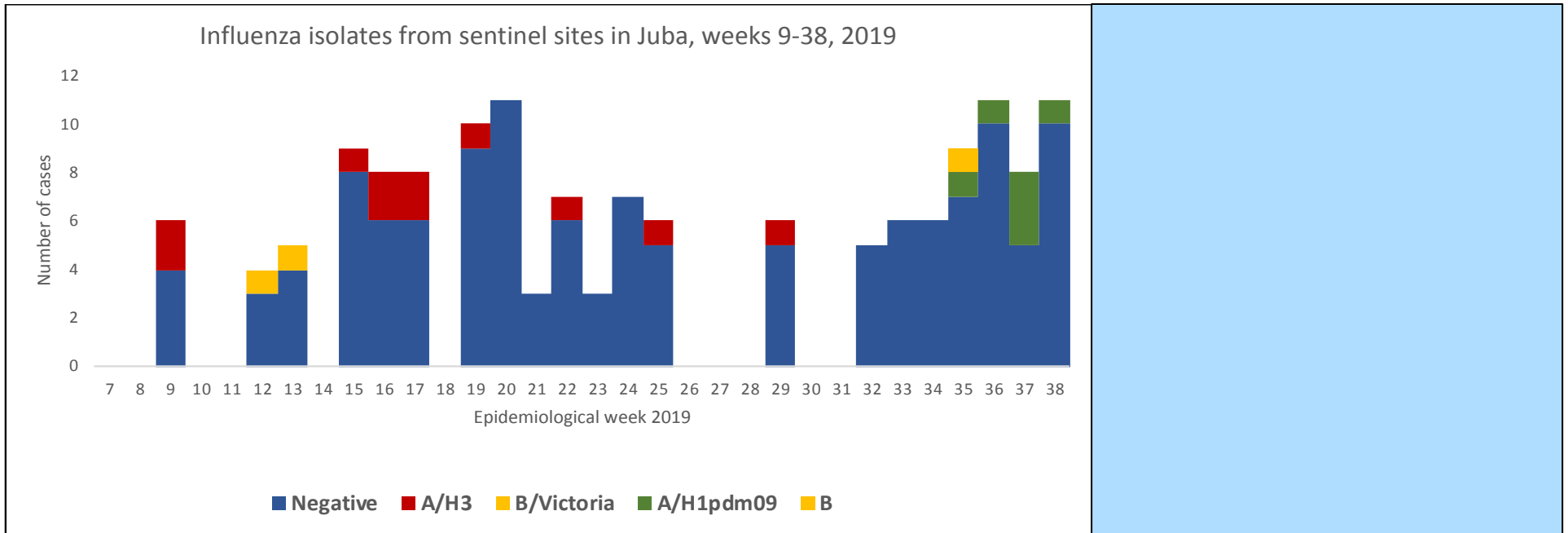
W36	Cumulative (2019)	
65	-	Number of EWARS reporting sites
69%	71%	Completeness
68%	65%	Timeliness

Table 6 | EWARS report submissions

W36	Cumulative (2019)	
45	1,749	total submissions
0	29	submissions by mobile
45	1719	submissions by web

- Both completeness and timeliness for weekly reporting were 69% in week 36 for partner-supported clinics serving IDP. The cumulative completeness and timeliness were 71% and 65% respectively for 2019.

Routine Sentinel Surveillance | Human Influenza



- In week 12, 2019, South Sudan started case-based surveillance for Influenza Like Illness (ILI) and Severe Acute Respiratory Infection (SARI) cases through systematic collection of epidemiological and virological information
- There are currently two designated Influenza sentinel surveillance sites in Juba (Juba Teaching Hospital and Al Sabah Children's Hospital) that are collecting epidemiological data and samples from ILI/SARI cases
- Since week 12 of 2019, a total of 163 ILI/SARI samples have been collected and tested in UVRI 131 being negative; 2 (1%) positive for Influenza B (Victoria); 11 (7%) positive for Influenza A (H3); and 6 (4%) positive for Influenza A (H1)pdm09. Test results are pending for 11 samples
- Since the beginning of 2019; Influenza A (3) has been the predominant isolate. However, Influenza A (H1)pdm09 emerged from week 35 as a new circulating strain.

EVENT-BASED SURVEILLANCE

Alert management including detection;
reporting; verification; risk assessment; & risk
characterization

Alert | Alert performance indicators

Table 7 | Alert performance indicators by Hub

Hub	W36		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	4	100%	238	77%
Bentiu	5	0%	213	69%
Bor	10	100%	204	97%
Juba	8	13%	289	39%
Kuajok	3	100%	204	38%
Malakal	9	100%	141	74%
Rumbek	10	100%	548	83%
Torit	9	56%	352	61%
Wau	4	50%	164	62%
Yambio	39	100%	615	85%
South Sudan	101	82%	2968	71%

Table 8 Summary of key alert indicators

W36	Cumulative (2019)	
101	2968	Total alerts raised
82%	71%	% verified
0%	0%	% auto-discarded
0%	4%	% risk assessed
0%	3%	% requiring a response

- A total of 101 alerts were received in week 36, 2019 out of which 71% were verified 4% were risk assessed and 3% required a response.

Alert | Event risk assessment

Table 9 | Alert performance indicators by event

Event	W36		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	25	92%	542	73%
AWD	22	77%	742	70%
Bloody Diarr.	9	44%	511	65%
Measles	10	70%	489	72%
Meningitis	0	0%	0	0%
Cholera	1	100%	92	82%
Yellow Fever	0	0%	18	100%
Guinea Worm	1	100%	70	67%
AFP	2	100%	132	69%
VHF	0	0%	21	76%
Neo. tetanus	0	0%	36	75%
Event-based surveillance				
EBS total	0	0%	32	81%

Table 10 | Event risk assessment

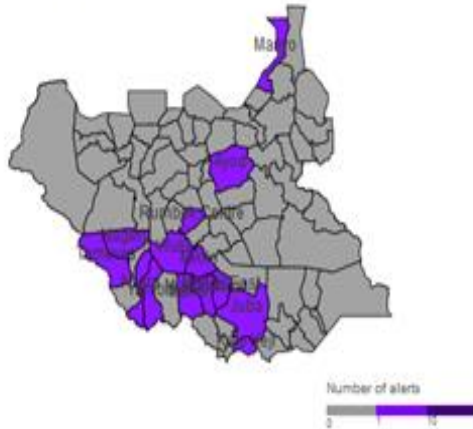
W36	Cumulative (2019)	Risk Level
0	22	Low risk
28	28	Medium risk
0	30	High risk
0	29	Very high risk

- Malaria (25), AWD (22), measles (10) and bloody diarrhea (09) were the top common alerts generated through the EWARS in week 36, 2019.

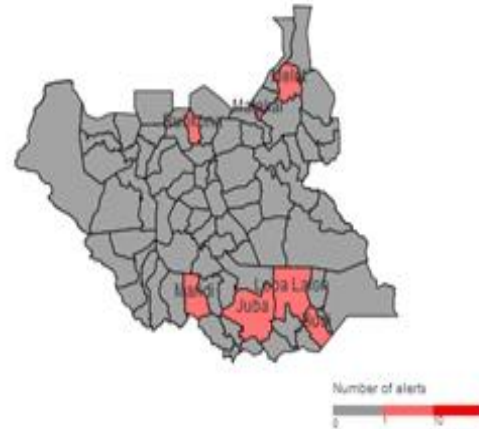
Alert | Map of key disease alerts by county week 36, 2019

Alert | Maps of key disease alerts by county

Map 2a | Malana (W36 2019)



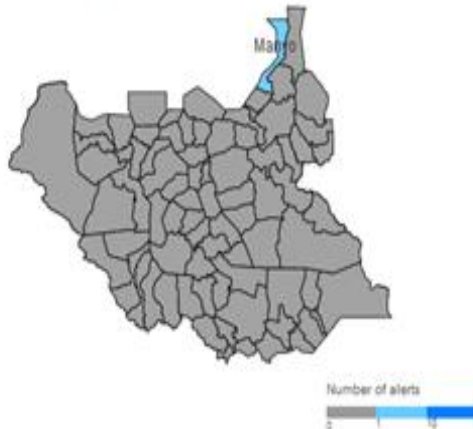
Map 2b | Bloody diarrhoea (W36 2019)



Map 2c | Measles (W36 2019)



Map 2d | Cholera (W36 2019)



Map 2e | Guinea Worm (W36 2019)



Map 2f | Event-based surveillance (W36 2019)



7 W36 2019 (Sep 02-Sep 08)



Alert by disease and Hubs in W36, 2019 [A total of 101 event specific alerts generated by Hubs]

Hubs/ Former State	AJS	ARI	Acute Watery Diarrhea	Bloody Diarrhea	AFP	Guinea Worm	Cholera	Malaria	Relapsing Fever	Measles	Total Alerts
Bor	1	4	1					1		2	9
Kuajok		1	1			1					3
Torit		2	4	3							9
<u>Bentieu</u>	1	1		1						2	5
Yambio		13	6	1				19			39
Juba	1		3	2				2			8
Aweil			2		1					1	4
Rumbek		3	2		1			2		3	11
Wau		1							1	2	4
Malakal		2	3	2			1	1			9
Total Grand	3	27	22	9	2	1	1	25	1	10	101

- Three (3) alerts of AJS; one was discarded, 1 under monitoring and 1 pending verification.
- 22 alerts of AWD; 10 are discarded, 7 under monitoring and 5 pending verification.
- 9 alerts of ABD; one is discarded, 3 under monitoring and 5 pending verification.
- Two AFP , one G.W and one cholera alert; all are discarded and one relapsing fever pending verification
- 10 alerts of measles; 3 are under monitoring, 4 discarded and 2 pending verification.

SUSPECTED OUTBREAKS IN 2019

Major suspected outbreaks in South Sudan in
2019

Alert: Potentially Zoonotic Hemorrhagic illness in Livestock, Fashoda

Cluster of cattle deaths in Aburoc & Ditwok, Fashoda, 26th August 2019

Background: On 26th August 2019 ICRC reported a cluster of deaths among cattle in Aburoc and Ditwok settlement

Response actions: Following a request for support from State Authorities to investigate the event; the National Ministry of health, national Ministry of livestock and fisheries, WHO and FAO deployed on 13th September

Findings: The NRRT confirmed death of more than 30 heads cattle though no animal samples had been collected. The animal symptoms include abdominal swelling, drooling of saliva, weight loss, nasal discharge and generalized weakness. Hemorrhagic Septicemia is suspected but laboratory confirmation is pending. There were no human cases or deaths linked to the sick animals.

Response actions: Animal sample collection and testing has been prioritized. IDSR orientation done for two health facilities serving the affected community. In addition, community engagement and risk communication has been initiated. Active human and animal surveillance is underway in the affected population



Suspect EVD case, Makpandu, Yambio county

Brief Epidemiological description

- Sudden death of one-year old child B.B. a Congolese who resides with his family at Makpandu refugee camp. Child developed fever, cough, diarrhea on the 9th September 2019. Patient was admitted twice at Makpandu PHCC and Yambio hospital for pneumonia and malaria
- He received medication at health facility for both conditions with improvement and was discharged on the 9th September. Patient suddenly developed higher fever, vomited blood on 10th September and died at 10:00pm
- The diseased family has no history of travel to DRC or receiving a visitor from EVD affected areas.

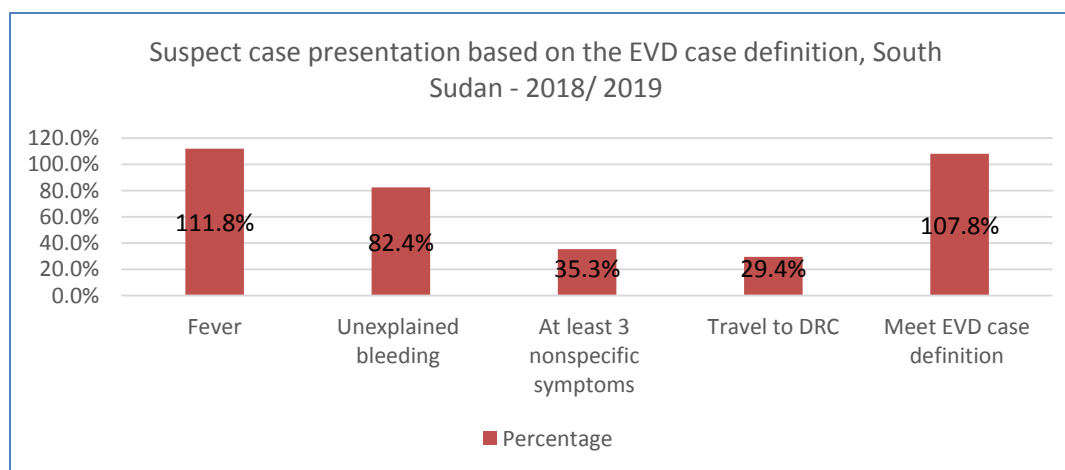
Response actions

- Rapid response team mobilized to investigate and collect samples
- Burial team was mobilized for the safe and dignified burial, family members line listed.
- Sample collected and tested negative for EVD and other common hemorrhagic illnesses

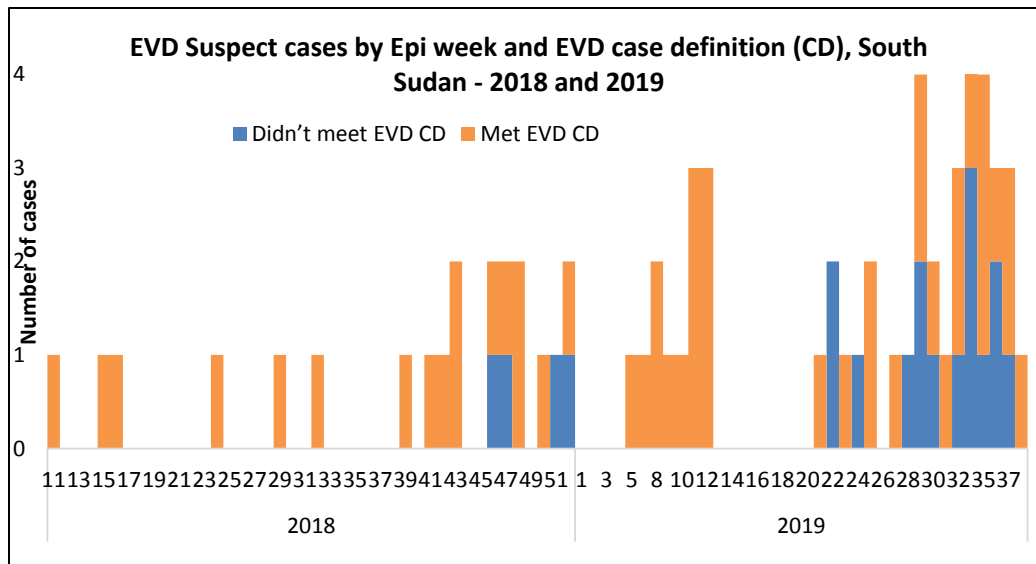
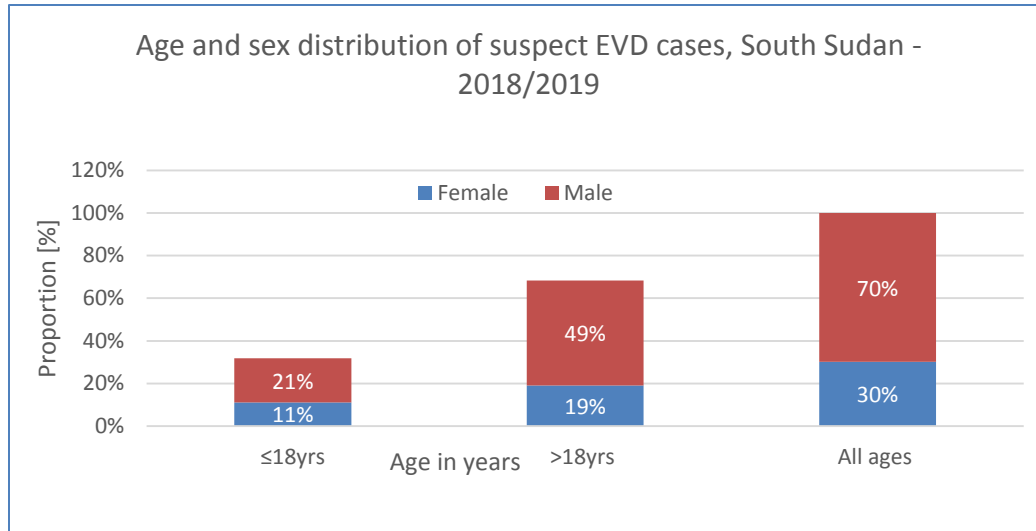
EVD Suspect cases in South Sudan 2018 and 2019

- Since Aug 2018, at least 66 suspect EVD cases have been reported
- Most 46 (69,6%) have been reported in 2019
- 56 (84,8%) met the EVD case definition – with fever (111,8%) and unexplained bleeding (82,4%) being the most frequent symptoms
- Most of the suspect EVD cases have been reported by health workers at health facility level
- Three suspect EVD cases were reported from screening points

Source of information	Met the EVD case definition		Total cases
	No	Yes	
2018	3	17	20
Community		5	5
Health Worker	3	11	14
Screening point			
2019	9	39	46
Community		6	6
Health Worker	6	21	27
MSF Swiss		1	1
PHO	1		1
Red Cross		1	1
Screening point		3	3
Surveillance officer	2	3	3
UNHCR Focal Person		1	1
6666		2	2
Yirol Hospital		1	1
Total cases	12	56	66



EVD Suspect cases in South Sudan 2018 and 2019



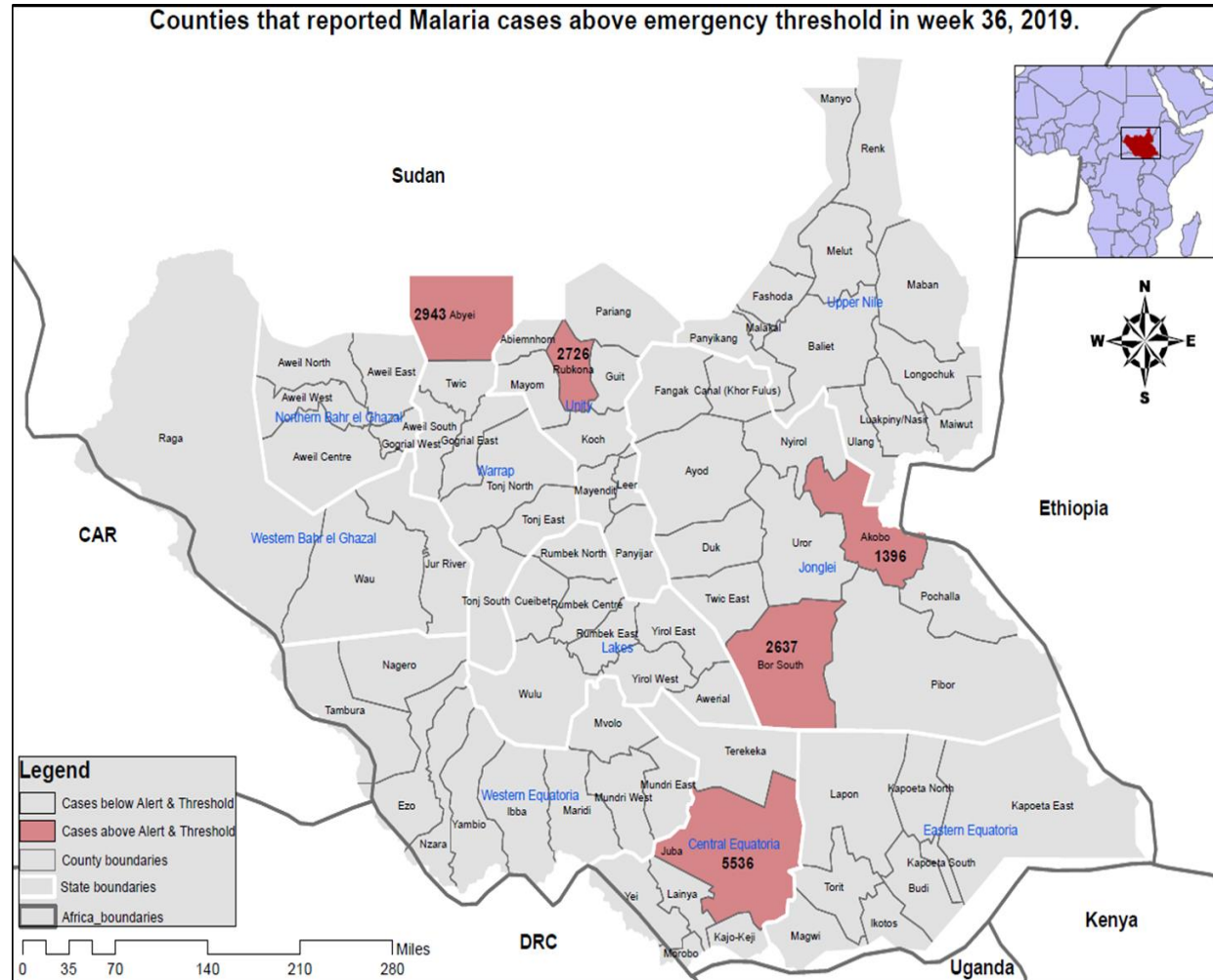
- Most of the suspect EVD cases have been reported in adults 18 years and above (49%)
- Similarly, most suspect EVD cases have been reported in males (70%)
- The distribution suspect EVD cases in both children <18years and adults ≥18yrs is skewed towards the males
- The number of suspect EVD cases reported per week range from 0-4 cases
- The following map shows the distribution of suspect EVD cases by county

Response | Suspect epidemics; Current Malaria trends 36, 2019

Malaria was the leading cause of morbidity and mortality, accounting for **69.0%** of all morbidities and **11.6%** of all mortalities in week 33, 2019

There were 5 Counties with malaria trends that exceeded the threshold (third quartile of trends for the period 2013-2017) and these include the following:

- **Juba hub(Juba)**
- **Bor hub(Bor ,Akobo)**
- **Bentiu hub(Robkona)**
- **Kuajok hub(Abeyi)**



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ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS

Brief epidemiological description and public health response for active outbreaks and public health events

Response | Summary of major ongoing outbreaks in 2019

Aetiological agent	Location (county)	Date first reported	New cases since last bulletin	Cumulative cases to date (attack rate %)	Interventions			
					Case management	Vaccination	Health promotion	WASH
Ongoing epidemics								
Measles	Wau County and PoC-AA	28/1/2019	1	454 (0.002)	yes	Yes	yes	N/A
Rubella	Wau PoC-AA	25/3/2019	0	11(0)	yes	No	yes	N/A
Hepatitis E	Bentiu PoC	03/01/2018	3	79 (0.037)	Yes	No	Yes	Yes
Measles	Pibor	17/01/2019	31	1972 (0.015)	yes	No	yes	N/A
Measles	Bentiu PoC	24/04/2019	7	98 (0.07)	Yes	Yes	Yes	N/A
Rubella	Yirol West	06/08/2018	4	19(0.21)	Yes	No	Yes	N/A
Measles	Tonj South	30/07/2019	18	39(0.46)	Yes	No	Yes	N/A
Measles	Jur River	06/02/2019	1	61(0.016)	Yes	No	Yes	N/A

Measles Highlights in 2019

● Measles outbreaks confirmed in 2019

- 15 counties – Pibor; Abyei; Mayom; Gogrial West; Aweil South; Melut; Gogrial East; Juba; Tonj North; Aweil West; Aweil East; Renk; Wau; Tonj North; and Jur River
- 4 PoC sites – Wau PoC AA; Bentiu PoC; Malakal PoC; & Juba PoC

● New confirmed measles outbreaks pending response

- Tonj South
- Jur River
- Pibor – *Labarab and Maruwa*

Measles Outbreak situation & response by county as of week 36, 2019

No	County (or location)	Population	Confirmed cases	Probable cases	Total cases	Cases per 100,000	Total deaths	CFR %	Date first reported	Emergency Campaign	Admin Coverage	Status	Comments
1	Abyei	79,854	9	297	306	383.2	0	0.0%	02-Jan-19	Done	13,335 (88%)	controlled	
2	Mayom	197,510	3	16	19	9.6	0	0.0%	17-Jan-19	Done	56,647 (152%)	controlled	
3	Juba	597,171	12	51	63	10.5	3	4.8%	15-Jan-19	Done	96,180 (99%)	controlled	
4	Gogrial West	388,469	4	152	156	40.2	0	0.0%	02-Jan-19	Done	193,958 (97.2%)	controlled	6m-15yrs targeted
5	Gogrial East	157,422	4	26	30	19.1	1	3.3%	10-Mar-19	Done	56,423 (94.93%)	controlled	
6	Tonj North	249,895	6	14	20	8.0	2	10.0%	02-Apr-19	Done	44,400 (91%)	controlled	
7	Tonj South	131,857	6	33	39	29.6	0	0.0%	30-Jul-19	pending		active	
8	Jur River	192,937	7	54	61	31.6	1	1.6%	03-Feb-19	pending		active	
9	Wau	256,363	13	507	520	202.8	5	1.0%	26-Jan-19	Done	23,018 (85%)	active	
10	Aweil East	489,714	7	15	22	4.5	0	0.0%	23-Feb-19	Done	71,460 (93%)	controlled	
11	Aweil West	258,616	16	32	48	18.6	0	0.0%	04-Apr-19	Done	26477 (97%)	controlled	
12	Aweil South	112,162	4	42	46	41.0	0	0.0%	15-Mar-19	Done	24,261 (116%)	controlled	
13	Melut	323,920	3	6	9	2.8	0	0.0%	15-Mar-19	Done	12,035 (78%)	controlled	
14	Pibor	224,613	8	1964	1972	878.0	9	0.5%	12-Jan-19	Done	13,965 (30%)	controlled	mop up underway
15	Renk	218,083	3	4	7	3.2	0	0.0%	09-Jan-19	Done	7,712 (79.8%)	controlled	
16	Juba PoC	38,500	2	3	5	13.0	0	0.0%	05-Apr-19	Done	74%	controlled	
17	Bentiu PoC	103,424	45	52	97	93.8	1	1.0%	01-Jan-19	Done	19084 (112%)	active	
18	Malakal PoC	24,402	2	0	2	8.2	0	0.0%	11-Apr-19	Done	112%	controlled	
19	Wau PoC	12,959	5	98	103	794.8	0	0.0%	23-Feb-19	Done	85.00%	active	
	Total	4,057,871	159	3,366	3,525	86.9	22	0.6%					

Measles and Rubella Laboratory Test Results, week 36 of 2019

Location/Health Facility	Date sent to Juba	Date Received at PHL	Suspected Disease	Lab results
Tonj South Hospital	8/17/2019	8/29/2019	Measles	Measles IgM Positive
Tonj South Hospital	8/17/2019	8/29/2019	Measles	Measles IgM Positive
Tonj South Hospital	8/17/2019	8/29/2019	Measles	Measles IgM Positive
Tonj South Hospital	8/23/2019	8/29/2019	Measles	Rubella IgM Positive
Tonj South Hospital	8/23/2019	8/29/2019	Measles	Measles IgM Positive
MSF Malakal Hospital	8/29/2019	8/29/2019	Measles	Rubella IgM Positive
Yirol West/Anuol PHCC	8/29/2019	8/29/2019	Measles	Rubella IgM Positive
Yirol West/Anuol PHCC	8/29/2019	8/29/2019	Measles	Rubella IgM Positive
Yirol West/Anuol PHCC	8/29/2019	8/29/2019	Measles	Measles IgM Positive
Yirol West/Anuol PHCC	8/29/2019	8/29/2019	Measles	Measles IgM Positive
Guit/MSF Hospital	8/21/2019	8/29/2019	Measles	Measles IgM Positive
Guit/MSF Hospital	8/24/2019	8/29/2019	Measles	Rubella IgM Positive
Rubkona/MSF Hospital	8/24/2019	8/29/2019	Measles	Measles IgM Positive

- During the week, four(4) samples from Tonj hospital (Tonj South county) tested measles IgM positive and one Rubella IgM positive. This makes a total of 6 measles IgM positive cases in Tonj South county in three weeks thus confirming a new measles outbreak (Epi description on slide 23)
- In Yirol West (Anuol PHCC) two samples tested measles IgM positive and 2 rubella IgM positive. The same county has a confirmed rubella outbreak that is already ongoing
- The other measles IgM positive cases were from Bentiu PoC where ongoing transmission is associated with a surge in movement of returnee refugees and congestion in Bentiu PoC (Epi description on slide 26)

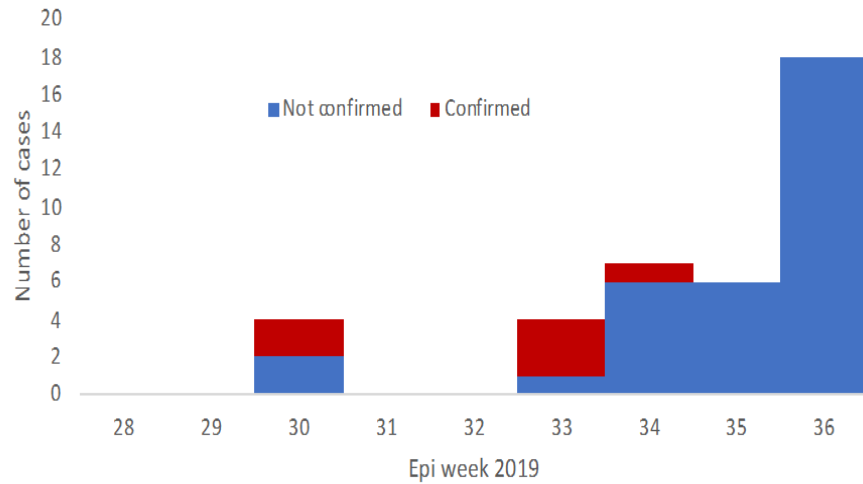
Measles and Rubella Laboratory Test Results, week 36 of 2019

Location/Health Facility	Date sent to Juba	Date Received at PHL	Suspected Disease	Lab results
Jur River/Tharkueng PHCC	8/29/2019	9/9/2019	Measles	Measles IgM Positive
Jur River/Kangi PHCC	8/29/2019	9/9/2019	Measles	Measles IgM Positive
Jur River/Kangi PHCC	8/29/2019	9/9/2019	Measles	Measles IgM Positive
Jur River/Kangi PHCC	8/29/2019	9/9/2019	Measles	Measles IgM Positive
Rubkona/Bentiu POC/ MSF OCA	8/29/2019	9/9/2019	Measles	Rubella IgM Positive
Rubkona/Bentiu POC	8/31/2019	9/9/2019	Measles	Measles IgM Positive
Rubkona/Bentiu POC	9/1/2019	9/9/2019	Measles	Measles IgM Positive
Rubkona/Bentiu POC	9/1/2019	9/9/2019	Measles	Measles IgM Positive
Rubkona/Bentiu POC	9/1/2019	9/9/2019	Measles	Measles IgM Positive
Rubkona/Bentiu POC/ MSF OCA	8/29/2019	9/9/2019	Measles	Measles IgM Positive
Rubkona/Bentiu POC	8/29/2019	9/9/2019	Measles	Measles IgM Positive
Guit/Bentiu POC/MSF	9/29/2019	9/9/2019	Measles	Measles IgM Positive
Koch/Bentiu POC	8/29/2019	9/9/2019	Measles	Measles IgM Positive

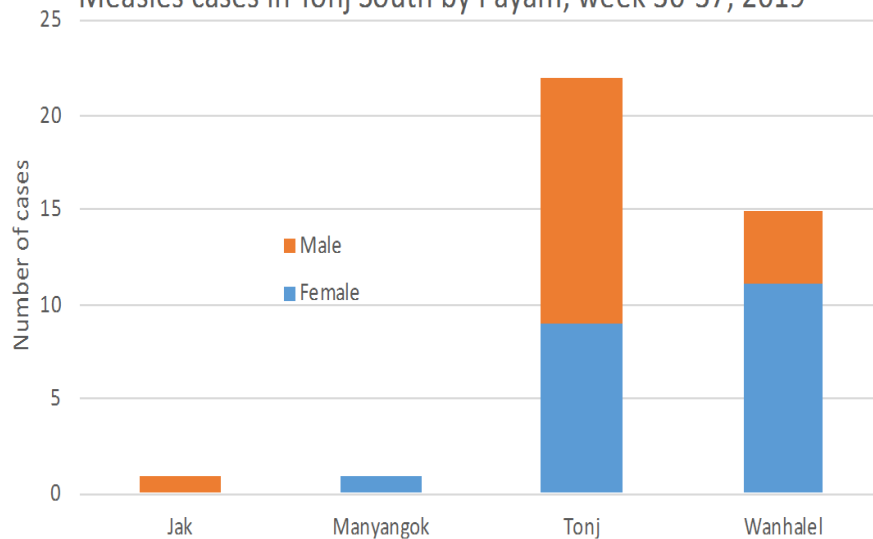
- During the week, four (04) samples from Jur River tested measles IgM positive thus confirming a new outbreak of measles in the county (Epi description on slide 24)
- Nine (09) samples from Bentiu POC tested measles IgM positive and one tested Rubella IgM positive. This is part of the ongoing transmission that is related to an upsurge in returnee refugees and congestion in the PoC (Epi description on slide 26)

Measles cases in Tonj South County

Measles cases Tonj South, week 30-36, 2019



Measles cases in Tonj South by Payam, week 30-37, 2019



Descriptive Epidemiology:

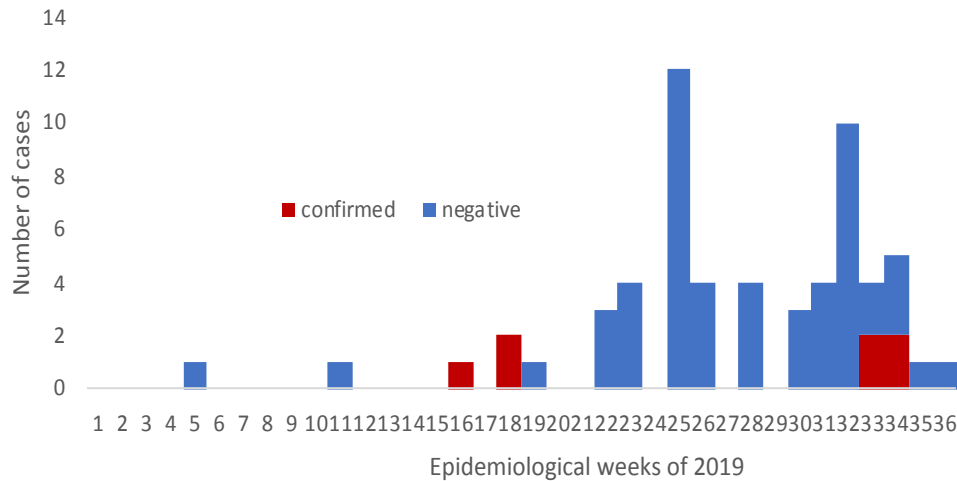
- The initial suspect measles case was detected by Tonj hospital in a 10-month-old female on 30th July 2019
- A total of eight (8) samples collected (6 measles IgM positive & 1 rubella IgM positive) this confirming an outbreak of measles in the county
- 39 measles cases (0 death) reported since week 30
- 4/5 Payams affected; with Tonj & Wanhalel Payams being the most affected. Most of the cases have been reported from Tonj and Wanhalel payam
- 56% of the cases are less than 5 years of age, 82% of the cases are less than 10 years of age and 85% of cases are under 15 years of age
- 31 % of the cases reported are not vaccinated against measles

Response actions:

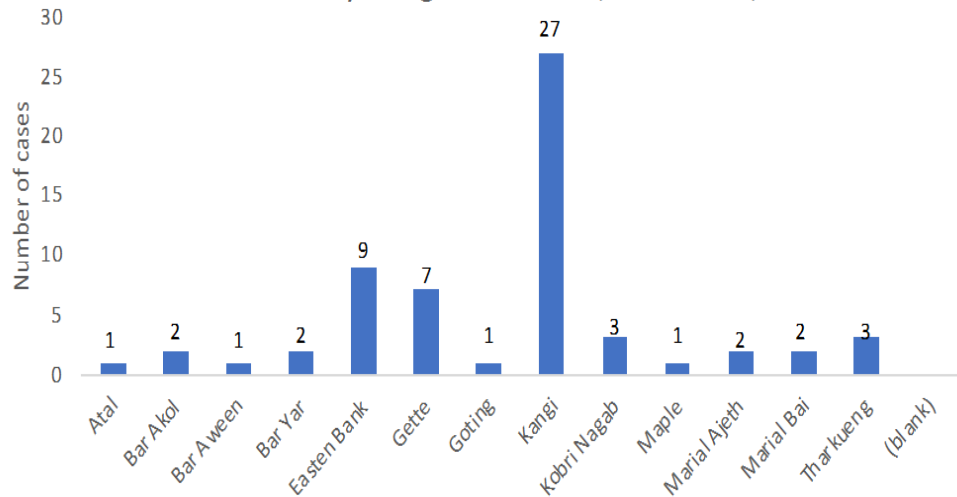
- Following the confirmation of a measles outbreak in the county, a reactive vaccination microplan targeting 26,244 children 6-59 months in five payams of Jak; Thiet; Manyang Ngok; Tonj; and Wanh Alel has been developed.
- *The other interventions include:*
- Intensified surveillance and line-listing of new measles cases
- Treating suspect cases with oral rehydration, vitamin A, and antibiotics for suprainfections
- Social mobilization and health education on measles case symptoms; prompt health care seeking; and routine immunization.

Measles cases in Jur River

Measles cases Jur River County week 5-36, 2019



Measles cases by village in Jur River, week 5-36, 2019



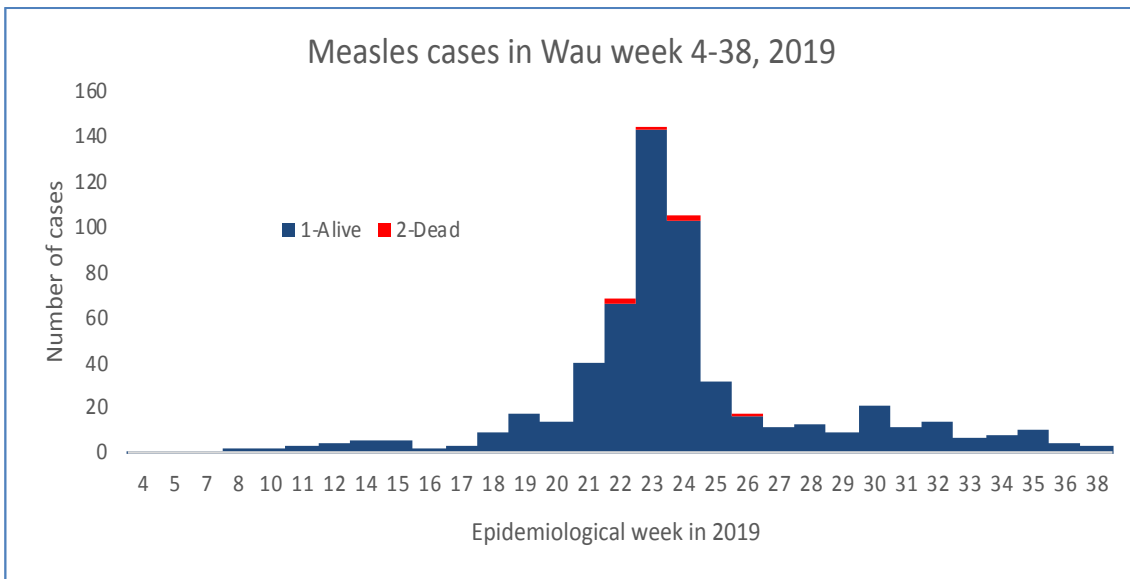
Descriptive Epidemiology:

- Initial cases were reported on 6 Feb from Marialbai PHCC from Bar Aween village
- Total of 61 measles cases (1 death CFR 1.6%) reported since week 5 of 2019
- 7 measles IgM positive cases recorded since outbreak onset
- 75% of the cases are less than 5 years of age, 92% of the cases are less than 10 years of age and 95% of cases are under 15 years of age
- Most of the cases have been reported from Kingi; Eastern Bank and Gette
- 69 % of the cases reported are not vaccinated against measles

Response and Recommendations:

- Following the confirmation of a measles outbreak in the county, a reactive vaccination microplan targeting 60,435 children 6-59 months in five payams of Rocroc; Kuajina; Udici; Kangi; and Marial Bai/ Wau Bai has been developed.
- *The other interventions include:*
- Intensified surveillance and line-listing of new measles cases
- Treating suspect cases with oral rehydration, vitamin A, and antibiotics for suprainfections
- Social mobilization and health education on measles case symptoms; prompt health care seeking; and routine immunization.

Confirmed Measles Outbreak in Wau County and Wau POCAA



Age (yrs)	Alive	Died	Total cases	Percent age	Cum.%
<1yr	116	4	120	23%	23%
1-4yrs	267	2	269	52%	75%
5-9yrs	71	0	71	14%	88%
10-14yrs	33	0	33	6%	95%
15+yrs	27	0	27	5%	100%
Total cases	514	6	520	100%	

Introduction

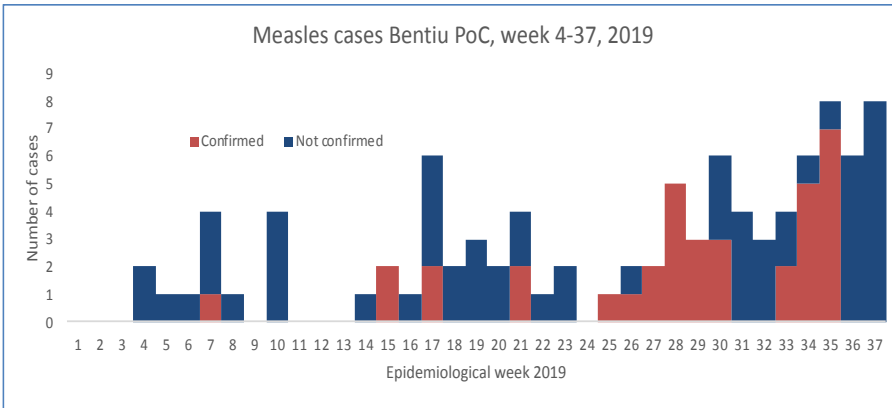
- In week 19, 2019 a measles outbreak was confirmed in Wau county & Wau POC AA.
- Of the 46 samples tested in 2019; a total of 13 tested measles IgM positive while 15 tested rubella IgM positive
- The outbreak of measles was confirmed in May 2019.

Descriptive Epidemiology:

- Since week 4 of 2019; a total of 520 cases including 6 deaths (CFR 1.2%) have been reported from Wau County. The outbreak peaked in week 22, 23 and 24 and later came down to 2 cases in week 33, 2019
- 75% of the cases are under the age of 5years with 85 % of the cases not vaccinated against measles.
- **Response and recommendations**
- IOM, UNICEF and partners conducted a campaign covered Wau municipality and extended to some IDPs collective sites in Jur River from 3rd – 10th June
- Target populations (27,166) child from 6-59 months, the coverage was 85% as (23,028) child vaccinated including (1,628) child from IDPs collective site in Jur River County. PCE by MoH and WHO showed a coverage of 89.15%.
- Vaccination post for measles has been fixed at the entrance of the POC-AA is continuing with vaccination for the new arrivals and children who missed vaccination during the reactive campaign.

Response | Confirmed epidemics

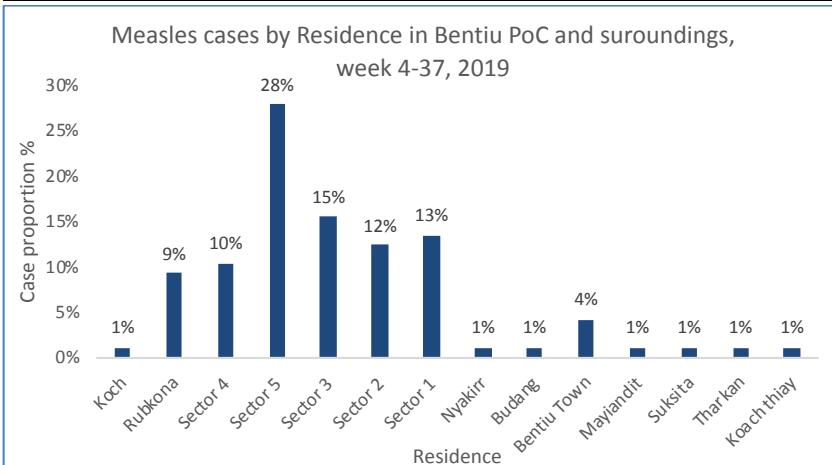
Confirmed Measles and Rubella outbreak in Bentiu PoC



Epidemiological description

- Bentiu PoC has been reporting suspected measles/rubella cases since week 4 of 2019
- At least 97 measles cases including 1 death (CFR 1.03%) reported since then.
- A total of 36 tested cases tested positive for measles IgM while 15 tested rubella IgM positive.
- Majority 69 (71%) of the cases are children <5 years.
- The majority of the cases 443 (85%) have not received measles vaccine
- Cases have been reported from inside and outside the PoC with most of the cases originating from the PoC (most cases from sector 5 but generally all the sectors are affected).

Age (yrs)	Confirmed	Not confirmed	Total Cases	Percentage	Cum.%
<1yr	25	42	67	69%	69%
1-4yrs	1	1	2	2%	71%
5-9yrs	8	13	21	22%	93%
10-14yrs	1	4	5	5%	98%
(blank)	1	1	2	2%	100%
Total Cases	36	61	97	100%	



Response actions

- IOM completed a reactive campaign in Bentiu POC on 31 May 2019. with 21,285 children 6-59 months (126%) receiving measles vaccination
- PCE was done by MoH & WHO, coverage was 74.6%.
- Bentiu has continued to experience an upsurge of returnee refugees many of whom have ended up in Bentiu PoC. Hence the increased movements and congestion have precipitated and facilitated the current transmission of measles in Bentiu PoC.
- Consequently, measles vaccination posts have been mounted at bus stops and at the entrance to the PoC to ensure that all children under 15 years that are arriving in Bentiu receive measles vaccine.

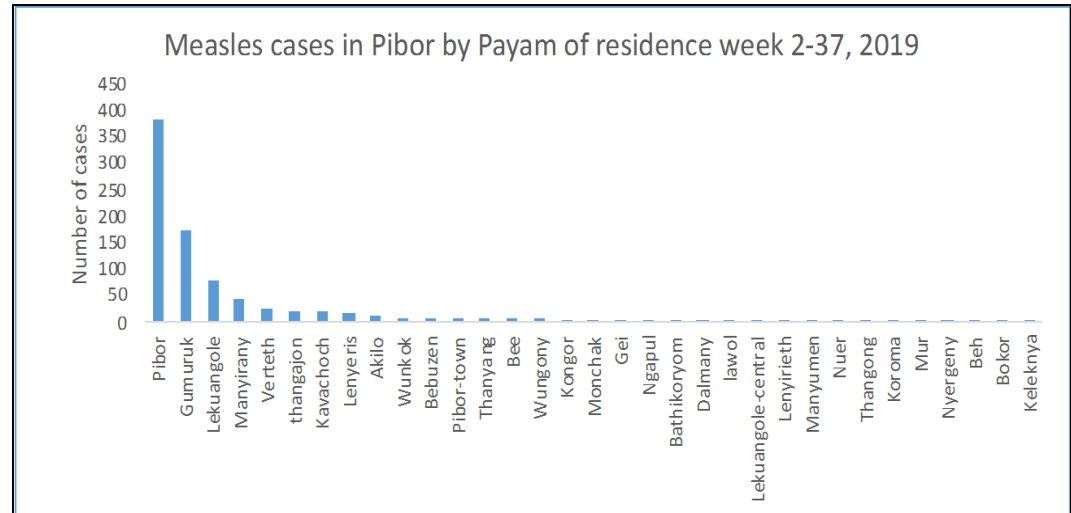
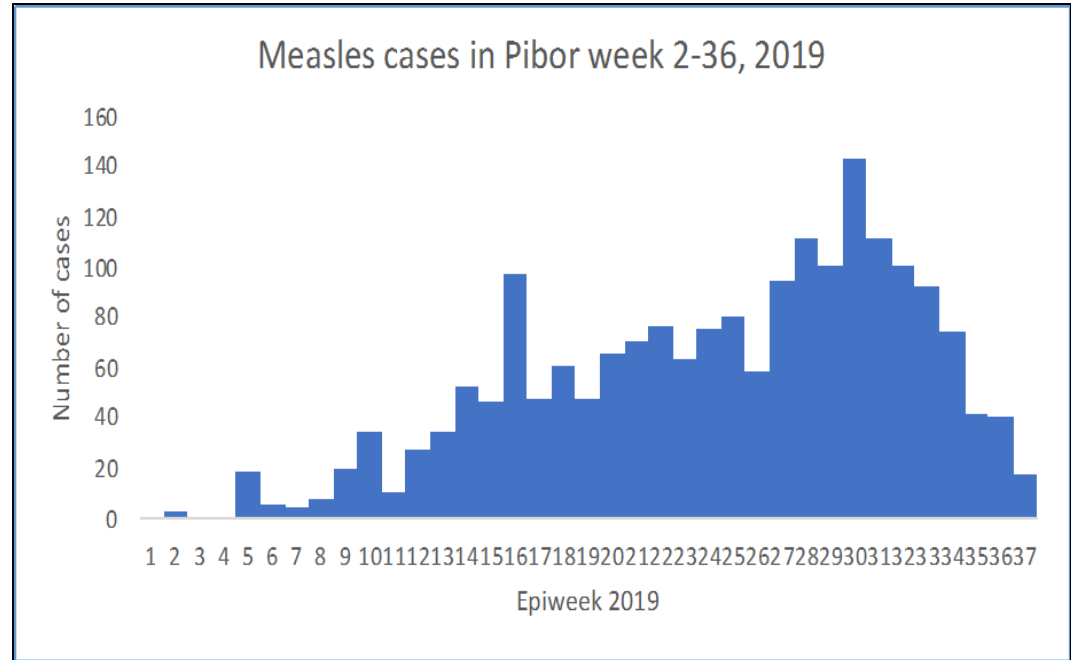
Measles in Pibor County

Background and descriptive epidemiology

- Measles transmission has persisted in Pibor County despite of the vaccination campaign conducted in February and March 2019.
- A total of 1972 measles cases (9 deaths – [CFR 0.46%]) reported since week 2 of 2019
- A total of eight (8) measles IgM positive cases recorded since outbreak onset
- 70% of the cases are less than 5 years of age
- 33 % of the cases reported are not vaccinated against measles
- Most of the cases shave been reported from Pibor; Gumruk; Lekuangole; Verteth. In addition, cases were recently confirmed in Labarab & Marua.

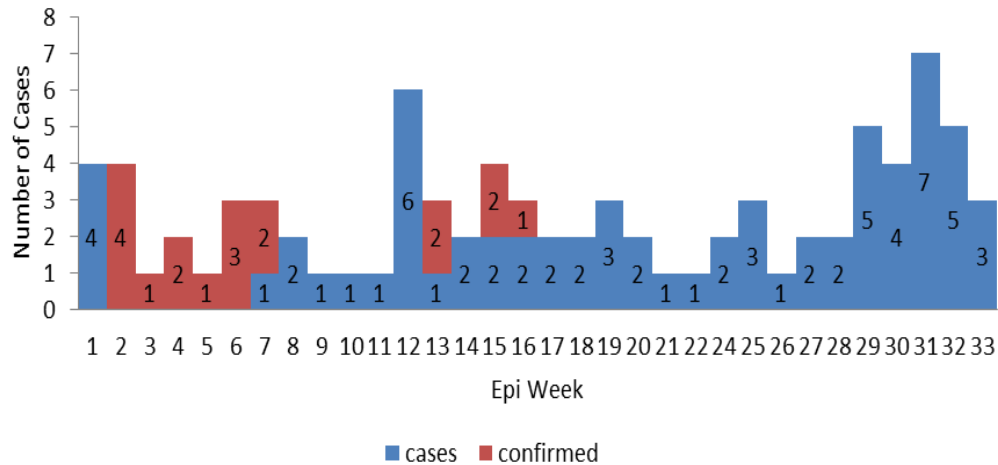
Response actions:

- Due to persistent transmission; MedAir and LiveWell implemented a measles campaign in Pibor; Lekuangole; Verteth; Gumuruk to interrupt transmission.
- The campaign started on 1st September 2019, targeting 27,122 (6-59 months and 5-15 years combined).
- LiveWell and WHO eMMT are planning to conduct the vaccination campaign targeting at least 3,200 children aged 6 – 59 months in Marua and Labarab



Hepatitis E, Bentiu PoC

HEV Cases in Bentiu POC from week 1 to 33, 2019



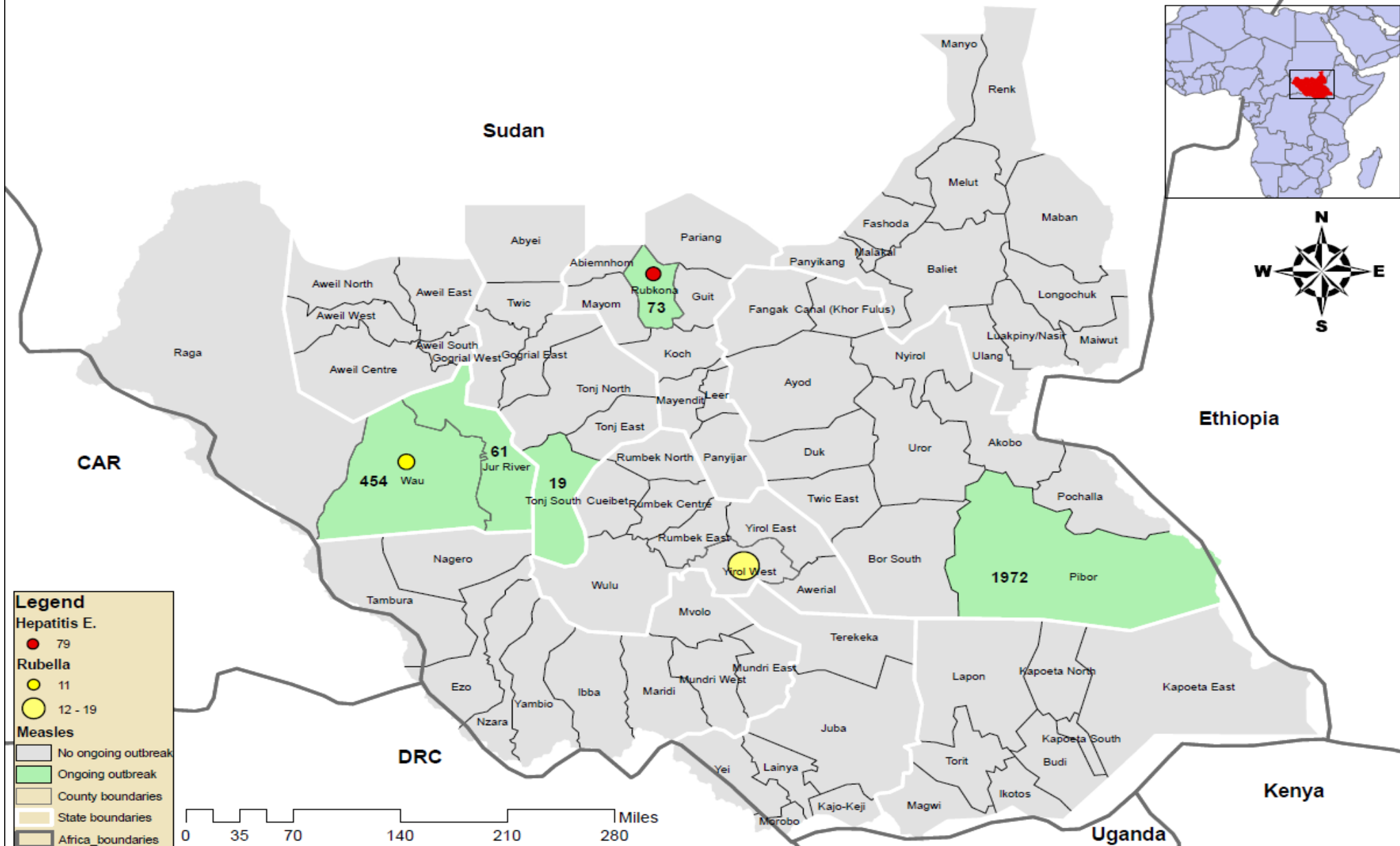
Descriptive epidemiology

- The persistent transmission of HEV in Bentiu PoC continues with 79 cases since beginning of 2019
- Fifty-six (56) cases confirmed by PCR testing
- There were 3 cases reported in week 33.
- All the cases were managed as outpatient cases except for seven cases who were admitted
- Two deaths one on 12th, April 2019 and the second on 11th July 2019
- Over half (53%) out of 79 cases are male.
- Age group less than 15 years had the most cases with 48 (60.7%) cases.
- Of the 37 female cases, 9 (24,3%) are aged above 15-44 years
- At risk of adverse outcomes when infected in the 3rd trimester of pregnancy
- Use of unsafe drinking water likely to be source of infection
- Up to week 33, 2019; there were 79 cases of HEV in Bentiu PoC

Recommended actions

- Supportive case management guided by the HEV protocol is ongoing
- Social mobilization to raise awareness on modes of transmission, symptoms and where to seek for care
- Case identification and follow up in the communities is ongoing
- The other WASH interventions entail provision of safe water and water quality surveillance along the water chain

The Ongoing epidemics in south Sudan, 2019.



Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Response | Summary of major Controlled outbreaks in 2019 (1)

Aetiological agent	Location (county)	Date first reported	New cases since last bulletin	Cumulative cases to date (attack rate %)	Interventions			
					Case management	Vaccination	Health promotion	WASH
Rubella	Malakal PoC	25/10/2018	0	178 (0.08)	Yes	No	Yes	N/A
Yellow Fever	Nzara	23/11/2018	0	3 (0.001)	Yes	Yes	Yes	N/A
Measles	Abyei	12/02/2018	0	306 (0.40)	Yes	Yes	Yes	N/A
Measles	Mayom	17/01/2019	0	19 (0.010)	Yes	Yes	Yes	N/A
Measles	Gogrial West	04/02/2019	0	156 (0.025)	Yes	Yes	Yes	N/A
Rubella	Aweil Center/NBG		0	35 (0.028)	Yes	No	Yes	N/A
Measles	Aweil South	15/03/2019	0	46 (0.012)	Yes	Yes	Yes	N/A
Measles	Melut	15/03/2019	0	9(0.008)	Yes	Yes	Yes	N/A
Rubella	Bor South		0	4 (0.001)	Yes	No	Yes	N/A
Rubella	Gogrial West		0	5 (0.001)	Yes	No	Yes	N/A
Rubella	Yirol East		0	3 (0.003)	Yes	No	Yes	N/A
Measles	Gogrial East	4/04/2019	0	30 (0.003)	Yes	Yes	Yes	N/A
Measles	Malakal PoC	24/04/2019	0	2 (0.01)	Yes	Yes	Yes	N/A

Response | Summary of major Controlled outbreaks in 2019 (2)

Aetiological agent	Location (county)	Date first reported	New cases since last bulletin	Cumulative cases to date (attack rate %)	Interventions			
					Case management	Vaccination	Health promotion	WASH
Hepatitis E	Lankein	28/2/2019	0	10 (0.1)	yes	No	yes	N/A
Measles	Juba & PoC	15/01/2019	0	68 (0)	Yes	Yes	Yes	N/A
Rubella	Bentiu Poc	-	0	51 (0)	yes	No	yes	N/A
Measles	Tonj North	2/04/2019	0	20 (0)	Yes	Yes	Yes	N/A
Measles	Aweil West	4/04/2019	0	48 (0)	Yes	Yes	Yes	N/A
Measles	Aweil East	13/05/2019	2	19 (0.14)	Yes	Yes	Yes	N/A
Measles	Renk County	28/2/2019	0	7(0)	yes	Yes	Yes	N/A

EBOLA VIRUS DISEASE[EVD] PREPAREDNESS IN SOUTH SUDAN

Brief on the Ebola situation in DR Congo and updates on EVD preparedness in South Sudan

Ebola update DRC 10th September 2019

Current situation

- Currently as of 10th September, 2019
- 3081 Cases [2871 confirmed & 111 probable]
- 2070 Deaths [1976 confirmed & 94 probable]

Response update

- 1 August 2019 marked one year since the Government of the Democratic Republic of the Congo declared the Ebola outbreak

Affected health zones

- In the 21 days from 19 August to 8 September 2019, 57 health areas in 17 health zones reported new cases. During this period, a total of 175 confirmed cases were reported, with the majority coming from the health zones of Kalunguta (17%; n=30), Beni (17%; n=29), Mambasa (13%; n=23), and Mandima (13%; n=22). Twelve health areas that have previously been reporting cases of EVD since the beginning of the outbreak have not reported a case in more than 21 days.

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 have finalized the EVD contingency plan for the next six months of EVD preparedness and readiness in the country.
- Detailed preparedness update can be accessed <https://www.afro.who.int/publications/weekly-update-ebola-virus-disease-evd-preparedness-south-sudan>

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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>

