

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Bulletin Week 37, 2019 (September 09 – September 15)



Major Epidemiological Highlights in week 37 of 2019

- In week 37, 2019 IDSR reporting completeness was 47% while timeliness was 46% at health facility level. EWARN reporting completeness and timeliness were both 68%
- Of the 96 alerts in week 37; 71% were verified 4% were risk assessed and 3% required a response. Malaria (19), AWD (21), measles (12) and bloody diarrhea (16) were the the most frequent alerts in the week
- A suspect EVD death reported and investigated in Yubu, Tambura county
- A cluster of 10 suspect measles cases reported in Li-bodo, Asanza, Yambio town. Two (2) of the four (4) measles samples collected tested measles IgM positive
- Measles outbreaks confirmed in 2019 in 15 counties and 04 PoC sites. New confirmed measles outbreaks pending response in; Tonj South, Jur River and Pibor – Labarab and Maruwa
- 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 37,2019

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 Hub	Doctors with Africa (CUAMM)	116	109	94%	115	99%
2 nd	Yambio Hub	AMREF, World Vision, CUAMM,CDTY,OPEN,	214	195	91%	195	91%
3 rd	Aweil Hub	Malaria Consortium, <u>HealthNet TPO</u> , IRC, CEDS, IHO,	145	60	41%	68	47%
4 th	Juba Hub	HLSS, SSUHA, <u>Healthnet TPO</u> , IHO	156	63	40%	65	42%
5 th	Kuajok Hub	GOAL, CCM, WVI, Malaria Consortium, UNKEA	135	52	39%	55	41%
6 th	Wau Hub	<u>Cordaid</u> , <u>HealthNet TPO</u> , CARE International, IHO	78	30	38%	31	40%
7 th	Bor Hub	Nile Hope, MDM, JDF, <u>Livewell</u>	179	61	34%	61	34%
8 th	Torit Hub	<u>Cordaid</u> , HLSS, CMD	178	52	29%	58	33%
9 th	Malakal Hub	<u>Cordaid</u> , WVI, RI, IMC, NIDO, UNKEA, MC, SSAID	188	47	25%	47	25%
10 th	Bentiu Hub	<u>Cordaid</u> ,UNIDOR,IRC,CHADO,CARE International	101	13	13%	13	13%
	South Sudan		1491	682	46%	708	47%

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 46% and completeness is 47%. Reporting performance is highest in Rumbek Hub with completeness of 99% followed by Yambio Hub with completeness at 91% while the rest of the state hubs are below target of 80%.

Surveillance | EWARS surveillance performance indicators by partner week 37, 2019

Surveillance | EWARS surveillance indicators

Table 4 | EWARS surveillance performance indicators by partner (W37 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	2	100%	100%
World Relief	1	0	0%	0%
TRI-SS	2	0	0%	0%
LIVEWELL	3	3	100%	100%
Total	65	44	68%	68%

Table 5 | Summary of key EWARS surveillance indicators

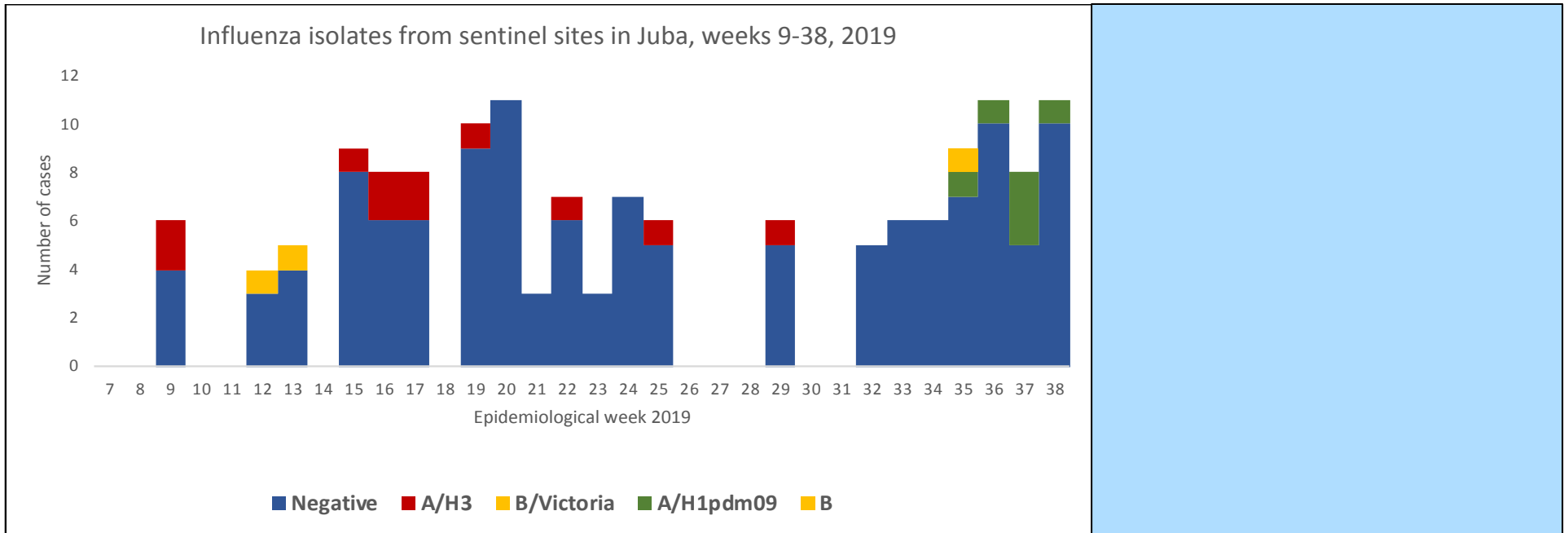
W37	Cumulative (2019)	
65	-	Number of EWARS reporting sites
68%	71%	Completeness
68%	65%	Timeliness

Table 6 | EWARS report submissions

W37	Cumulative (2019)	
44	1,749	total submissions
0	29	submissions by mobile
44	1719	submissions by web

- Both completeness and timeliness for weekly reporting were 68% in week 37 for partner-supported clinics serving IDP. The cumulative completeness and timeliness were 71% and 65% respectively for 2019.

Routine Sentinel Surveillance | Human Influenza

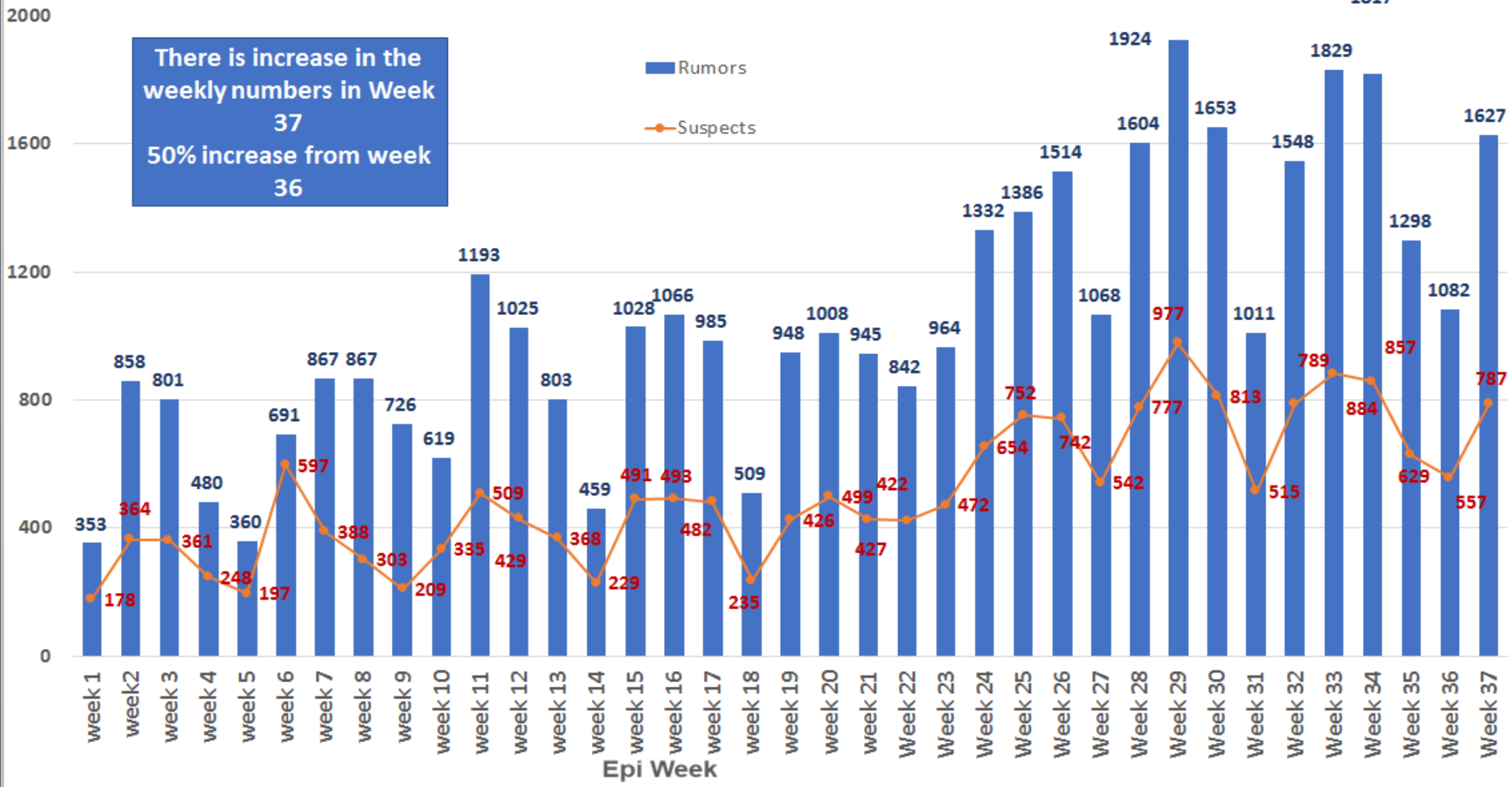


- In week 12, 2019, South Sudan started case-based surveillance for Influenza Like Illness (ILI) and Severe Acute Respiratory Infection (SARI) cases through systematic collection of epidemiological and virological information
- There are currently two designated Influenza sentinel surveillance sites 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.

Guinea Worm

CUMULATIVE: Guinea Worm Rumors and Suspects
 Week1-Week 37, 2019 (N=39,090 Rumors, 18,937 Suspects (53%))

There is increase in the weekly numbers in Week 37
 50% increase from week 36



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	W37		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	6	0%	238	77%
Bentiu	7	0%	213	69%
Bor	13	69%	204	97%
Juba	4	0%	289	39%
Kuajok	3	67%	204	38%
Malakal	4	100%	141	74%
Rumbek	16	100%	548	83%
Torit	6	0%	352	61%
Wau	7	57%	164	63%
Yambio	30	60%	615	85%
South Sudan	96	55%	2968	71%

Table 8 Summary of key alert indicators

W37	Cumulative (2019)	
96	2968	Total alerts raised
55%	71%	% verified
0%	0%	% auto-discarded
0%	4%	% risk assessed
0%	3%	% requiring a response

- A total of 96 alerts were received in week 37, 2019 out of which 55% were verified 0% were risk assessed and 0% required a response.

Alert | Event risk assessment

Table 9 | Alert performance indicators by event

Event	W37		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	19	63%	542	73%
AWD	21	48%	763	70%
Bloody Diarr.	16	56%	511	65%
Measles	12	67%	489	72%
Meningitis	0	0%	0	0%
Cholera	2	50%	92	82%
Yellow Fever	0	0%	18	100%
Guinea Worm	2	50%	70	67%
AFP	2	50%	134	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

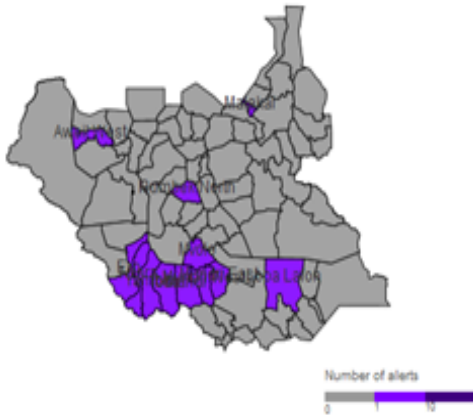
W37	Cumulative (2019)	
0	22	Low risk
28	28	Medium risk
0	30	High risk
0	29	Very high risk

- Malaria (19), AWD (21), measles (12) and bloody diarrhea (16) were the top common alerts generated through the EWARS in week 37, 2019.

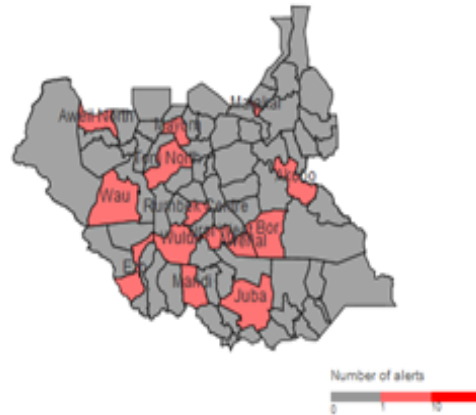
Alert | Map of key disease alerts by county week 37, 2019

Alert | Maps of key disease alerts by county

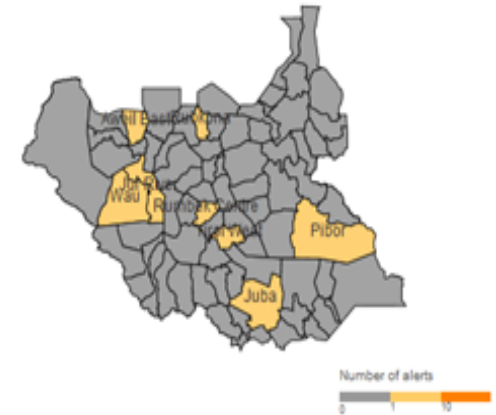
Map 2a | Malaria (W37 2019)



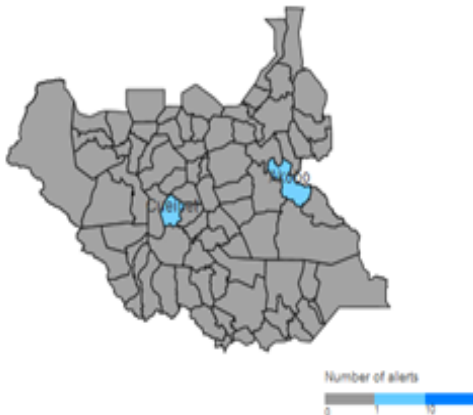
Map 2b | Bloody diarrhoea (W37 2019)



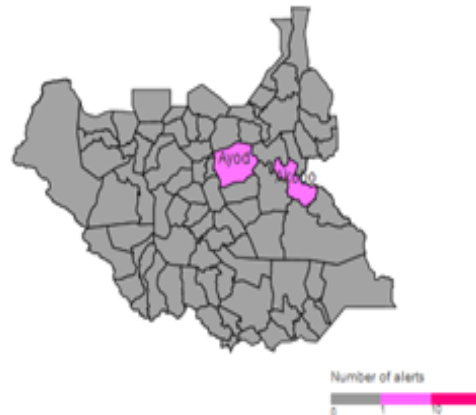
Map 2c | Measles (W37 2019)



Map 2d | Cholera (W37 2019)



Map 2e | Guinea Worm (W37 2019)



Map 2f | Event-based surveillance (W37 2019)



7 W37 2019 (Sep 09-Sep 15)



Alert by disease and Hubs in W37, 2019 [A total of 96 event specific alerts generated by Hubs]

Hubs/Former States	AJS	ARI	Acute Watery Diarrhea	Bloody Diarrhea	AFP	Guinea Worm	Cholera	Malaria	Measles	Total Alerts
Bor		4		2		2	1		3	12
Kwajok		1	1	1	1					4
Torit	1	3	1					1		6
Bentiu	2		2	1					2	7
Yambio		3	11	2				14		30
Juba	1		1						1	3
Aweil		2		1	1			1	1	6
Rumbek		4	3	6			1	1	2	17
Wau			2	2					3	7
Malakal		1		1				2		4
Total Grand	4	18	21	16	2	2	2	19	12	96

- Four alerts of AJS are all pending verification
- 21 AWD alerts where 11 pending verification, 3 under monitoring and 7 discarded.
- 21 ABD alerts where 2 under monitoring, 7 discarded and 7 pending verification.
- One G.W discarded, 1 pending verification, 1 cholera alert discarded and 1 pending verification, 1 AFP discarded and 1 pending verification.
- 12 measles alert where 3 are under monitoring, 4 discarded and 5 pending verification.

SUSPECTED OUTBREAKS IN 2019

Major suspected outbreaks in South Sudan in
2019

Case series description

- A cluster of six children from the same family with measles-like rash, red eyes, chest infection (one with severe pneumonia) were reported on 20 Sep 2019 from Li-bodo, a Yambio town suburb. All children were not vaccinated against measles

Response actions

- Cases were isolated in Yambio hospital
- Four samples were collected and sent to Juba for testing out of which, two (2) tested measles IgM positive
- Supportive treatment with Vitamin A; Tetracycline eye ointment, and antibiotics for the chest infections and pneumonia were initiated
- Active case search initiated with four (4) additional cases identified in the village and referred to Yambio hospital for treatment

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 case description

- Patient had epigastric pain with bleeding from the mouth, nose, ear, and anus on the 14th September later died the same day.

Response actions

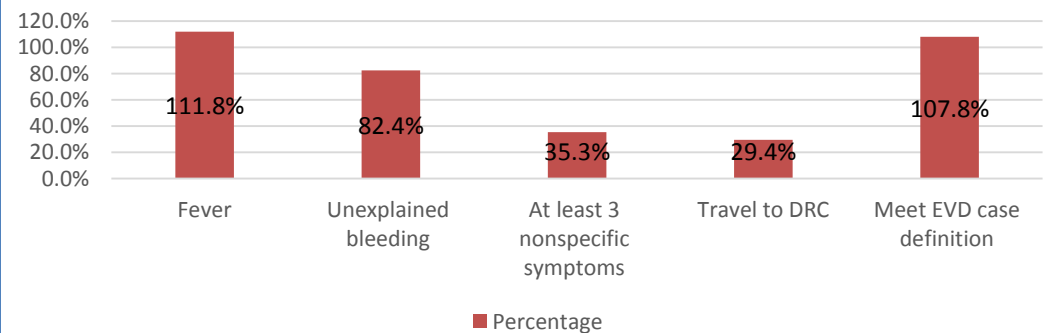
- RRT was deployed on 15th September, sample was not collected because the body was buried before RRT reached the location
- Contacts listed and follow up initiated
- Community alerted to report cases with suspect EVD symptoms to the EVD hotline

EVD Suspect cases in South Sudan 2018 and 2019

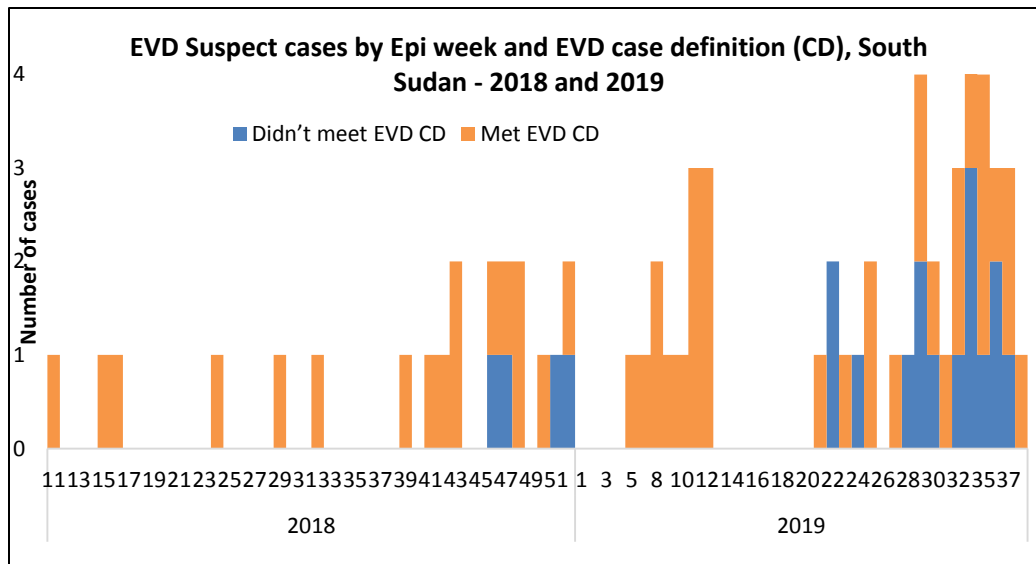
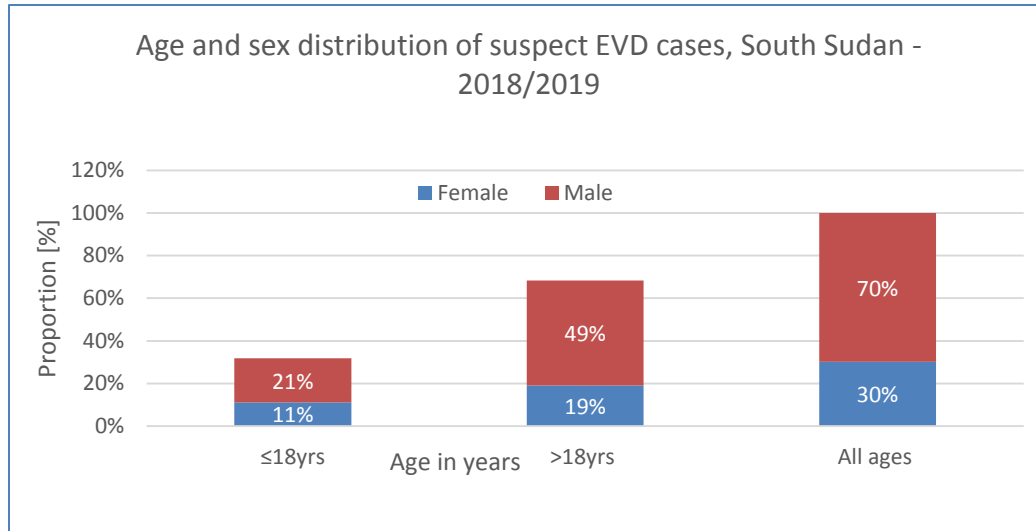
- Since Aug 2018, at least 66 suspect EVD cases have been reported
- Most 46 (69,6%) have been reported in 2019
- 56 (84,8%) met the EVD case definition – with fever (111,8%) and unexplained bleeding (82,4%) being the most frequent symptoms
- Most of the suspect EVD cases have been reported by health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

Suspect case presentation based on the EVD case definition, South Sudan - 2018/ 2019



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 37, 2019

Malaria was the leading cause of morbidity and mortality, accounting for **69.9%** of all morbidities and **66.0%** of all mortalities in week 33, 2019

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

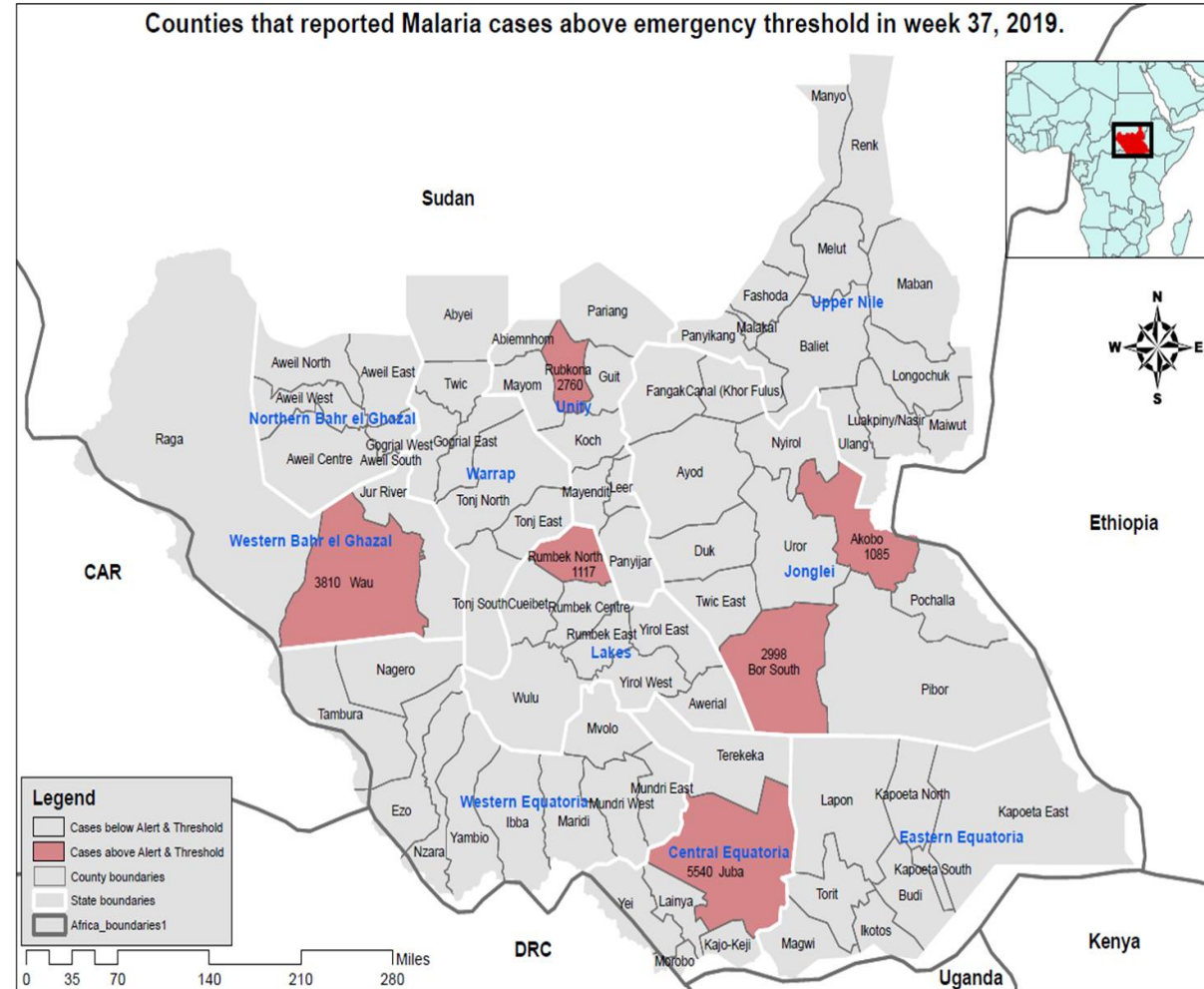
Juba hub (Juba)

Bor hub (Bor ,Akobo)

Bentiu hub (Robkona)

Rumbek hub (Rumbek North)

5Wau hub (Wau)



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.

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	2	41(0.048)	Yes	No	Yes	N/A
Measles	Jur River	06/02/2019	1	62(0.016)	Yes	No	Yes	N/A

● 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%					

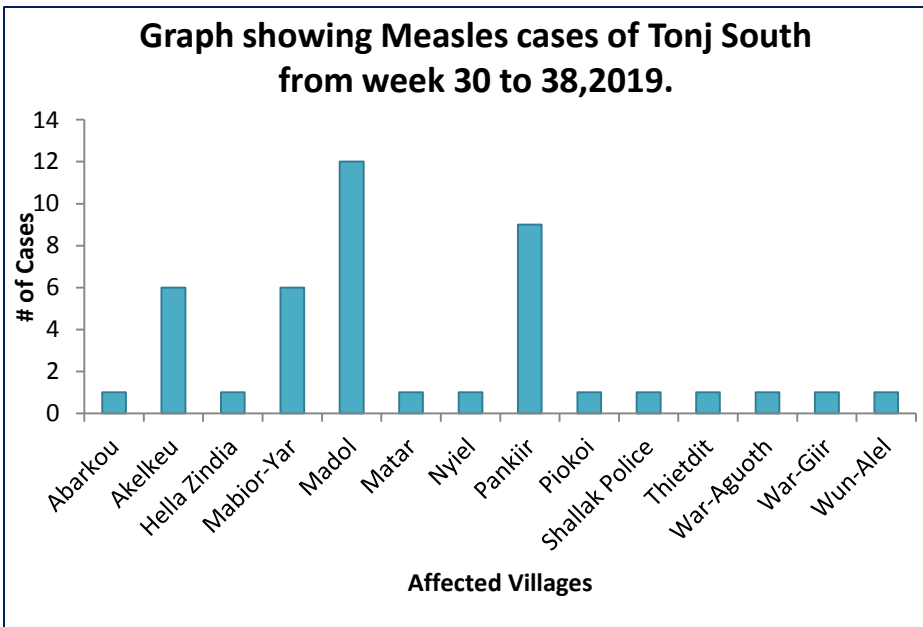
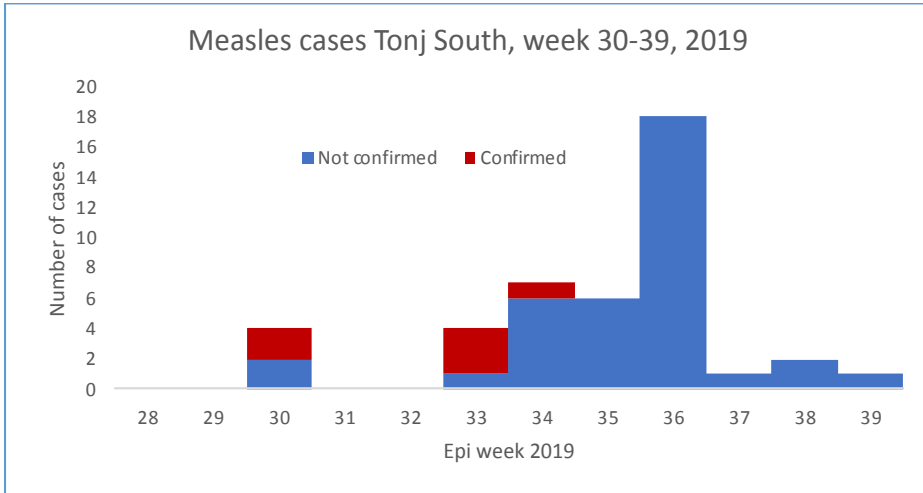
Measles and Rubella Laboratory Test Results, week 37 of 2019

Location/Health Facility	Date sent to Juba	Date Received at PHL	Suspected Disease	Lab results
Rubkona/MSF Hospital	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona/Bentiu POC/MSF Hosp	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona/Bentiu POC/MSF Hosp	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona/Bentiu POC/MSF Hosp	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona/Bentiu POC/MSF Hosp	8/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona/Kochethiey/MSF Hosp	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona/Bentiu POC/MSF Hosp	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona /Bentiu POC/MSF HOSP	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona/Dhorbor/MSF Hospital	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona/Kaljak/Bentiu POC/Hosp	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Rubkona/Bentiu POC/MSF Hosp	9/28/2019	9/23/2019	Measles	Measles Igm Positive
Yambio/Hospital	9/18/2019	9/23/2019	Measles	Measles & Rubella Negative
Yambio/Hospital	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Yambio/Hospital	9/18/2019	9/23/2019	Measles	Measles & Rubella Negative
Yambio/PHCC	9/18/2019	9/23/2019	Measles	Measles Igm Positive
Juba/Al- Sabbah Children Hosp	9/20/2019	9/23/2019	Measles	Measles Igm Positive
Juba/Munuki PHCC	9/18/2019	9/23/2019	Measles	Measles & Rubella Negative

During the week;

- Eleven (11) samples from Bentiu PoC tested measles IgM positive
- Two samples out of 4 samples tested measles IgM positive from Yambio.
- One sample out of two from tested positive for measles IgM positive in Alsabah Children Hospital

Measles cases in Tonj South County



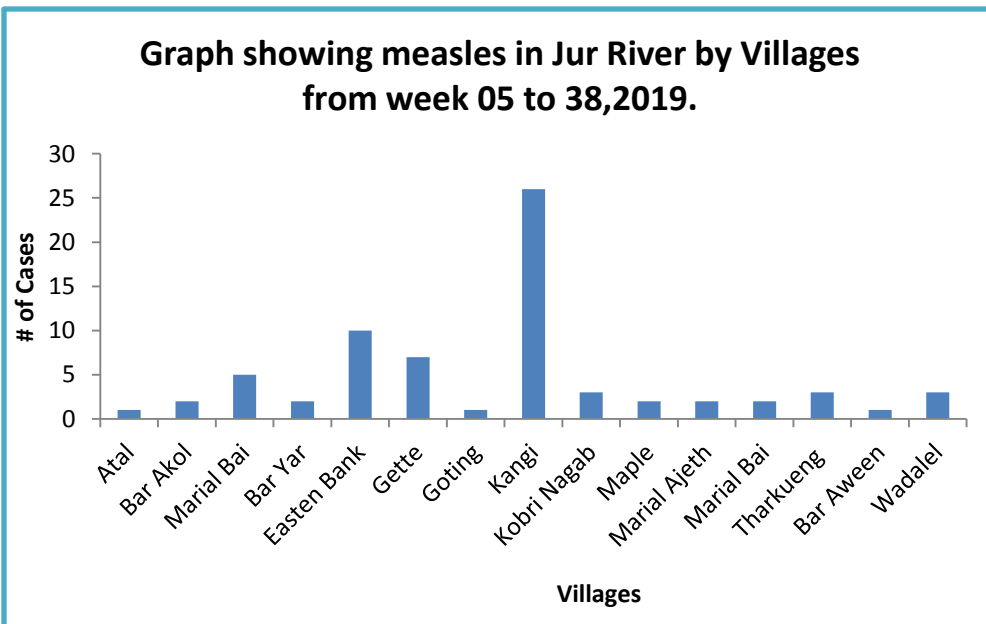
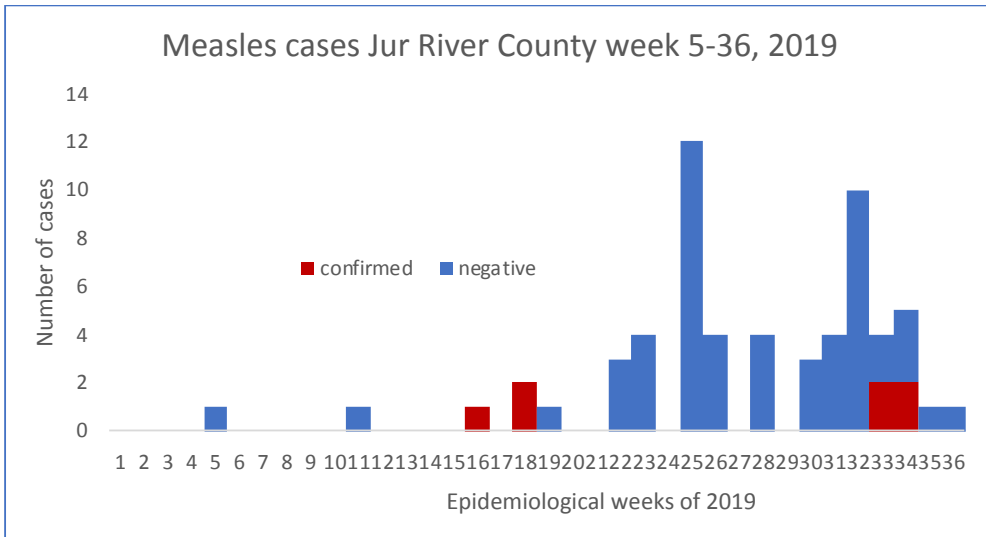
Descriptive Epidemiology:

- Suspected measles case was initially detected at 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) thus confirming a measles outbreak
- 41 measles cases (0 death) reported since week 30
- Four (4) out of five (5) Payams are affected; with Tonj & Wanhalel Payams being the most affected. Most cases originate from Tonj and Wanhalel payam
- 56% of the cases are less than 5 years of age and 31 % of the cases reported have not received measles vaccine

Response and Recommendations:

- 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



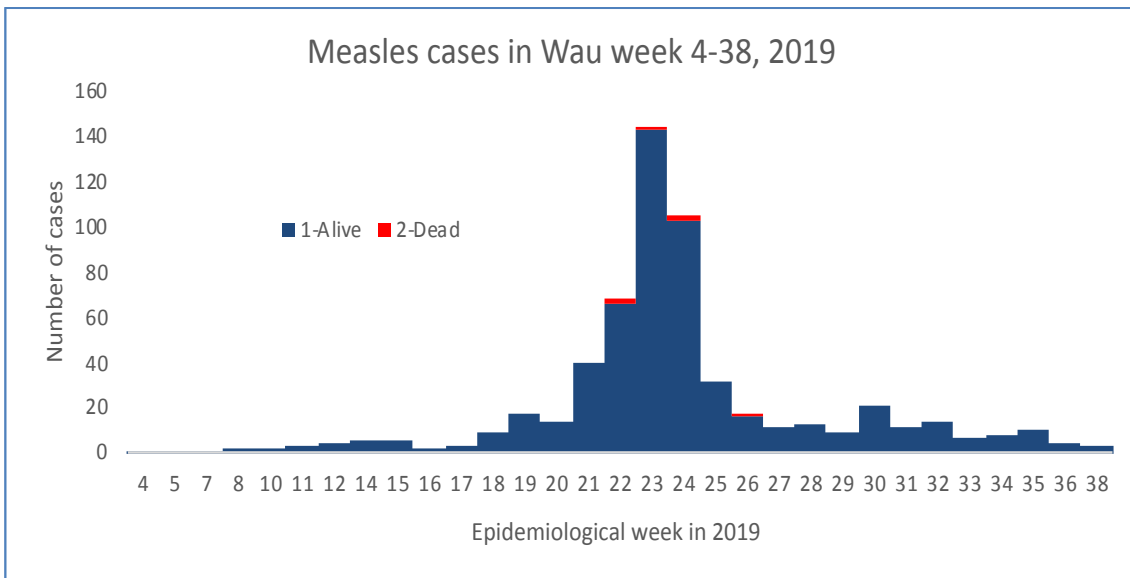
Descriptive Epidemiology:

- Initial cases were reported on 6 Feb from Marialbai PHCC from Bar Aween village
- Total of 62 measles cases (1 death) reported since week 5 of 2019
- 7 measles IgM positive cases recorded since outbreak onset
- 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

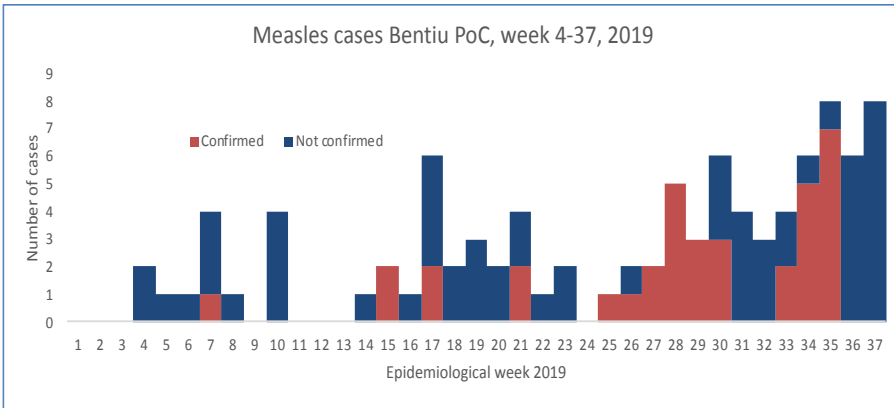
- In week 19, 2019 a measles outbreak was confirmed in Wau county & Wau POC AA.
- Of the 46 samples tested in 2019; a total of 13 tested measles IgM positive while 15 tested rubella IgM positive
- The outbreak of measles was confirmed in May 2019.

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

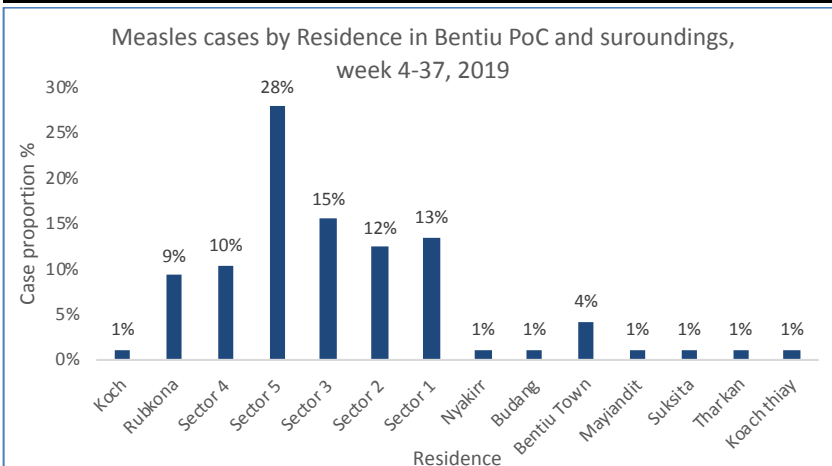
Confirmed Measles and Rubella outbreak in Bentiu PoC



Epidemiological description

- Bentiu PoC has been reporting suspected measles/rubella cases since week 4 of 2019
- At least 98 measles cases including 1 death (CFR 1.03%) reported since then.
- Cumulatively, 36 tested cases have tested measles IgM positive while 15 tested rubella IgM positive. During the week; nine (9) measles IgM positive and one (1) rubella IgM positive cases were reported
- 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.

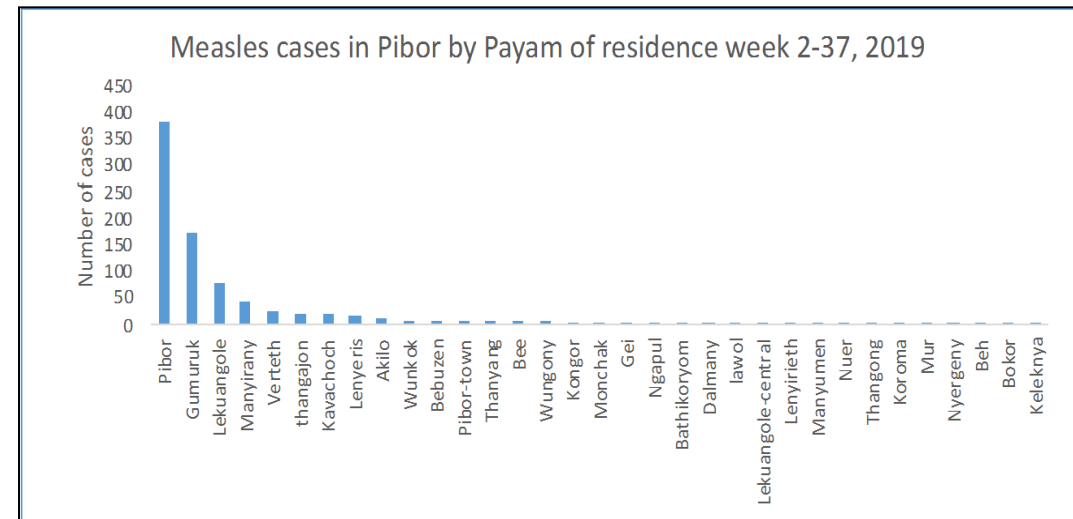
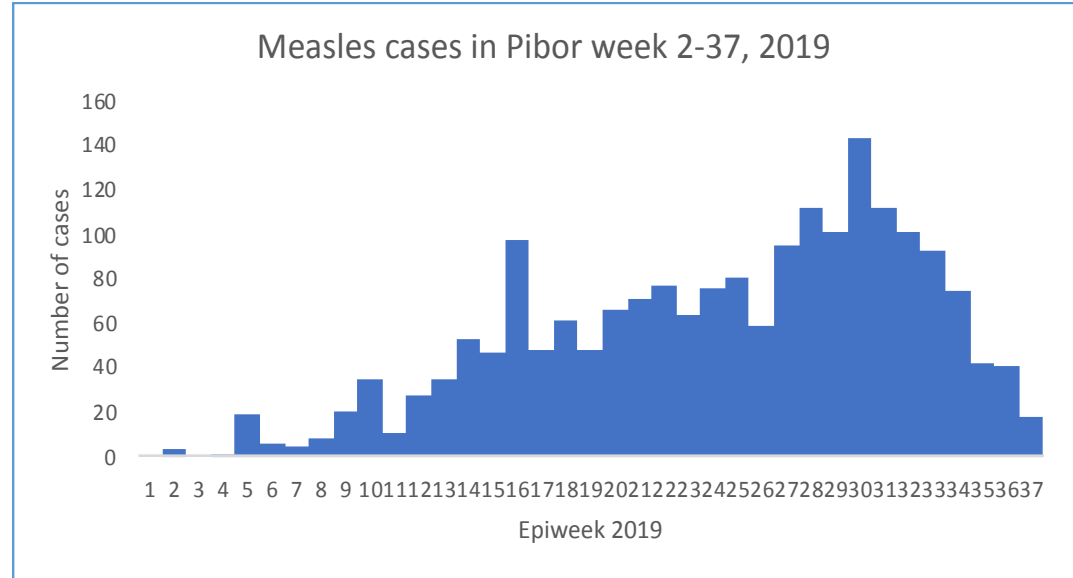
Measles in Pibor County

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.

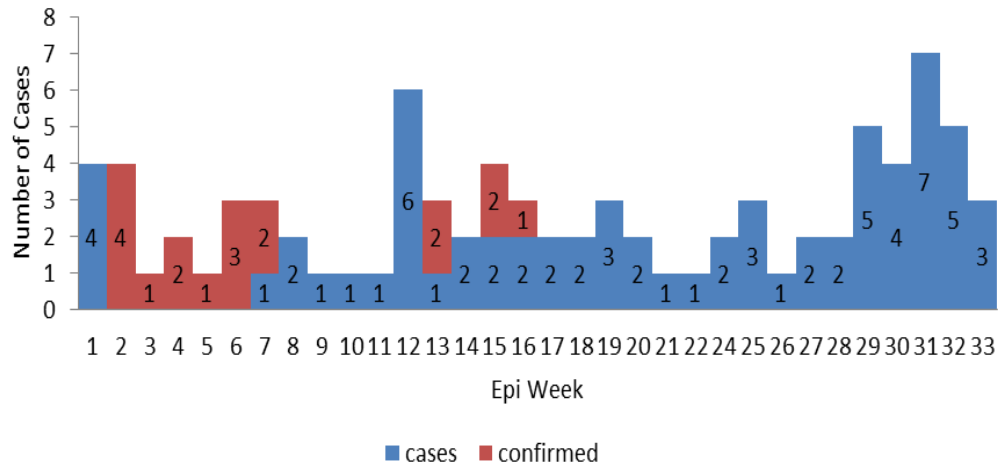
Response actions:

- 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



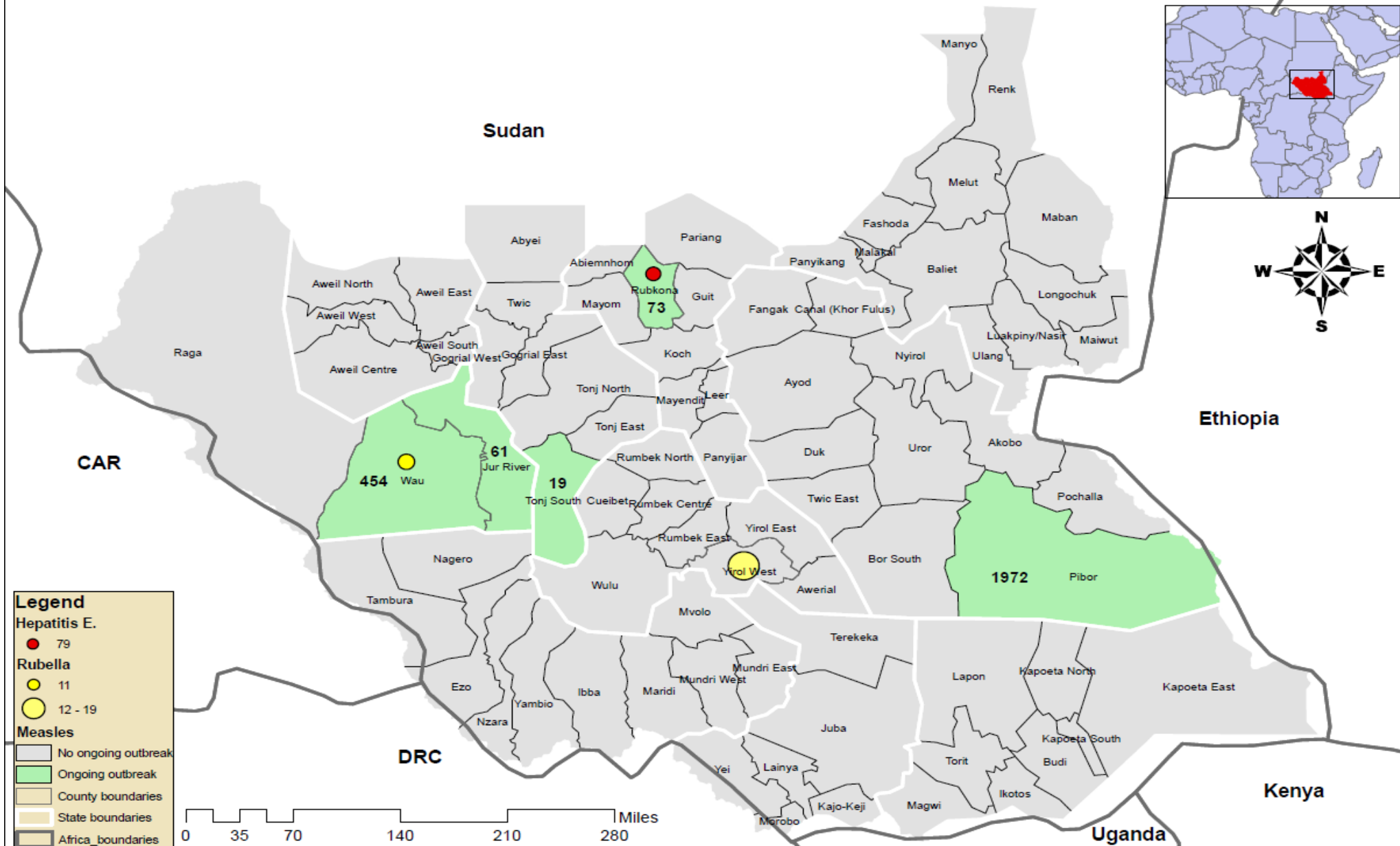
Descriptive epidemiology

- 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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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>

