

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Bulletin Week 40, 2019 (September 30 – October 06)



Major Epidemiological Highlights in week 40 of 2019

- In week 40, 2019 IDSR reporting completeness was 59% and timeliness was 54% at health facility level. EWARN reporting completeness and timeliness were both 75%.
- Of the 126 alerts in week 40; 81% were verified 1% were risk assessed and 1% required a response. Malaria (17), AWD (26), measles (13) and bloody diarrhea (33) were the top common alerts generated through the EWARS in week 40, 2019.
- Two (2) EVD alerts were received from Yei (13th Oct.) and Nimule (22nd Oct), SRRTs were deployed. Samples were collected, both results were negative on Gene Xpert and PCR for EVD.
- A measles outbreak confirmed in Li-bodo, Yambio after four (4) suspect measles cases tested IgM positive. At least 16 cases including one death have been line listed. MSF-E and partners have started a reactive campaign on 21st October targeting 30,000 children aged 6 – 59 months.
- Measles outbreaks confirmed in 2019 in 16 counties and 04 PoC sites. New confirmed measles outbreaks with planned response in; Tonj South and Jur River with ongoing response in Yambio and completed response in Pibor – Labarab and Maruwa
- Since week 7 of 2019, a total of 179 ILI/SARI samples have been collected and tested in UVRI 140 being negative; 4(2%) positive for Influenza B (Victoria); 11 (6%) positive for Influenza A (H3); and 10(6%) positive for Influenza A (H1)pdm09 and 9 samples are pending test results .

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 40,2019

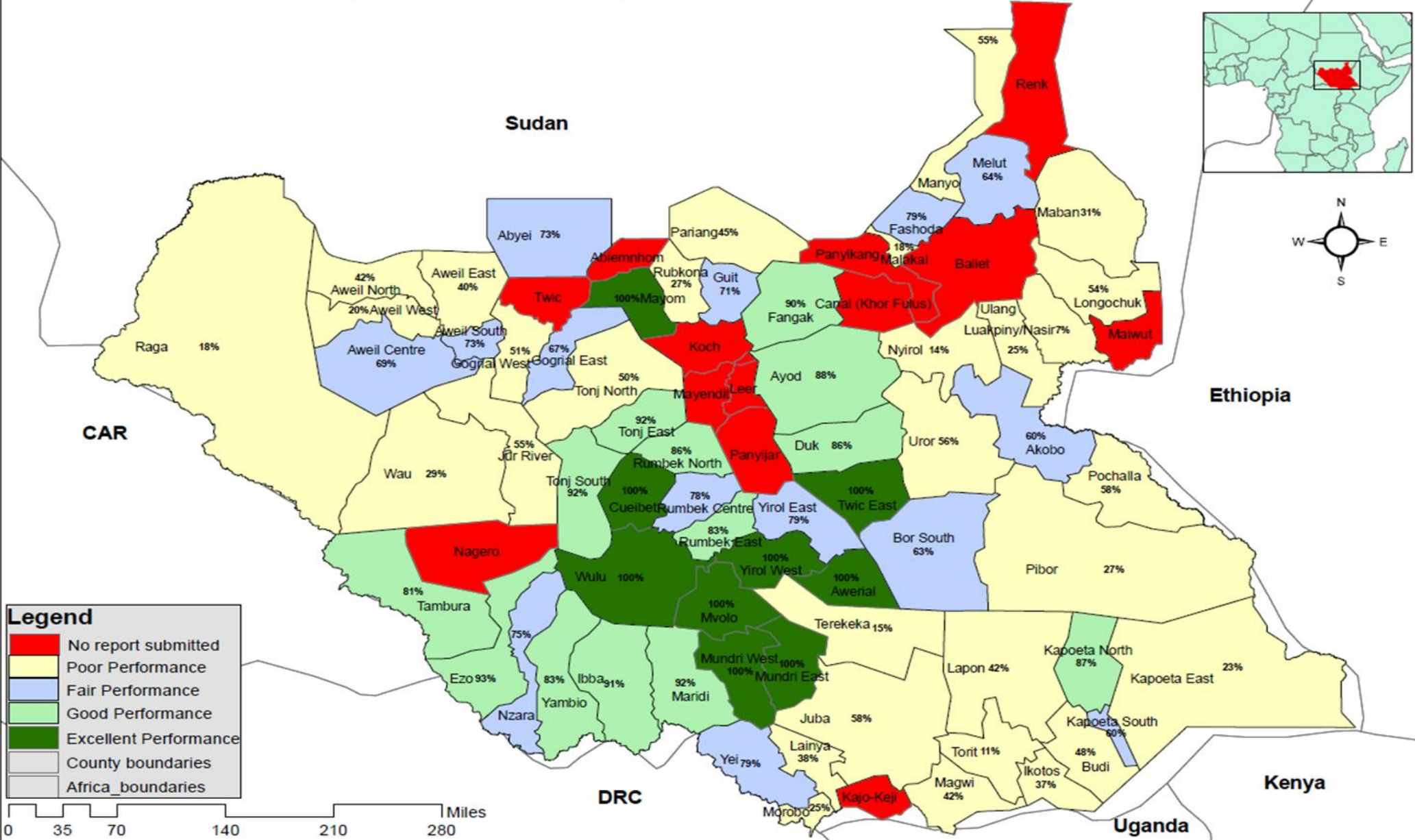
Completeness Ranking	Hub/Former States	Supporting Partners	Total No. of Health Facility	No. of HF's Reported on Time	Timeliness Percentage	No. of HF's Reported not on Time	Completeness Percentage
1 st	Rumbek	Doctors with Africa (CUAMM)	116	109	94%	113	97%
2 nd	Yambio	AMREF,World Vision, CUAMM,CDTY,OPEN,	214	182	85%	186	87%
3 rd	Wau	Cordaid, HealthnetTPO, CARE International, IHO	76	41	54%	52	68%
4 th	Kwajok	GOAL, CCM, WVI, Malaria Consortium, UNKEA	136	74	54%	83	61%
5 th	Bor	Nile Hope, MDM, JDF, Livewell	179	103	58%	105	59%
6 th	Aweil	Malaria Consortium, HealthnetTPO , IRC,CEDS,IHO	144	62	43%	84	58%
7 th	Torit	Cordaid , HLSS,CMD	178	82	46%	101	57%
8 th	Juba	HLSS,SSUHA, HealthnetTPO , IHO	156	65	42%	73	47%
9 th	Bentiu	Cordaid, UNIDOR,I RC, CHADO,CARE International	93	25	27%	31	33%
10 th	Malakal	Cordaid , WVI,RI,I MC,NIDO,UNKEA,MC,SSAID	194	53	27%	54	28%
	South Sudan		1486	796	54%	882	59%

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 54% and completeness is 59%. Reporting performance is highest in Rumbek Hub with completeness of 97% followed by Yambio Hub with completeness at 87% while the rest of the state hubs are below the target of 80%.

Percentage of Completeness by county in week 40 2019 as of Friday 10:AM.



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 40, 2019

Surveillance | EWARS surveillance indicators

Table 4 | EWARS surveillance performance indicators by partner (W41 2019)

Partner	Performance		Reporting	
	# sites	# reports received	Completeness	Timeliness
CMD	0	0		
GOAL	2	2	100%	100%
HLSS	1	1	100%	0%
IMA	7	7	100%	100%
IMC	4	4	100%	100%
IOM	6	6	100%	100%
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	1	100%	100%
UNKEA	2	2	100%	100%
World Relief	1	1	100%	100%
TRI-SS	2	2	100%	100%
LIVEWELL	3	3	100%	100%
Total	63	47	75%	73%

Table 5 | Summary of key EWARS surveillance indicators

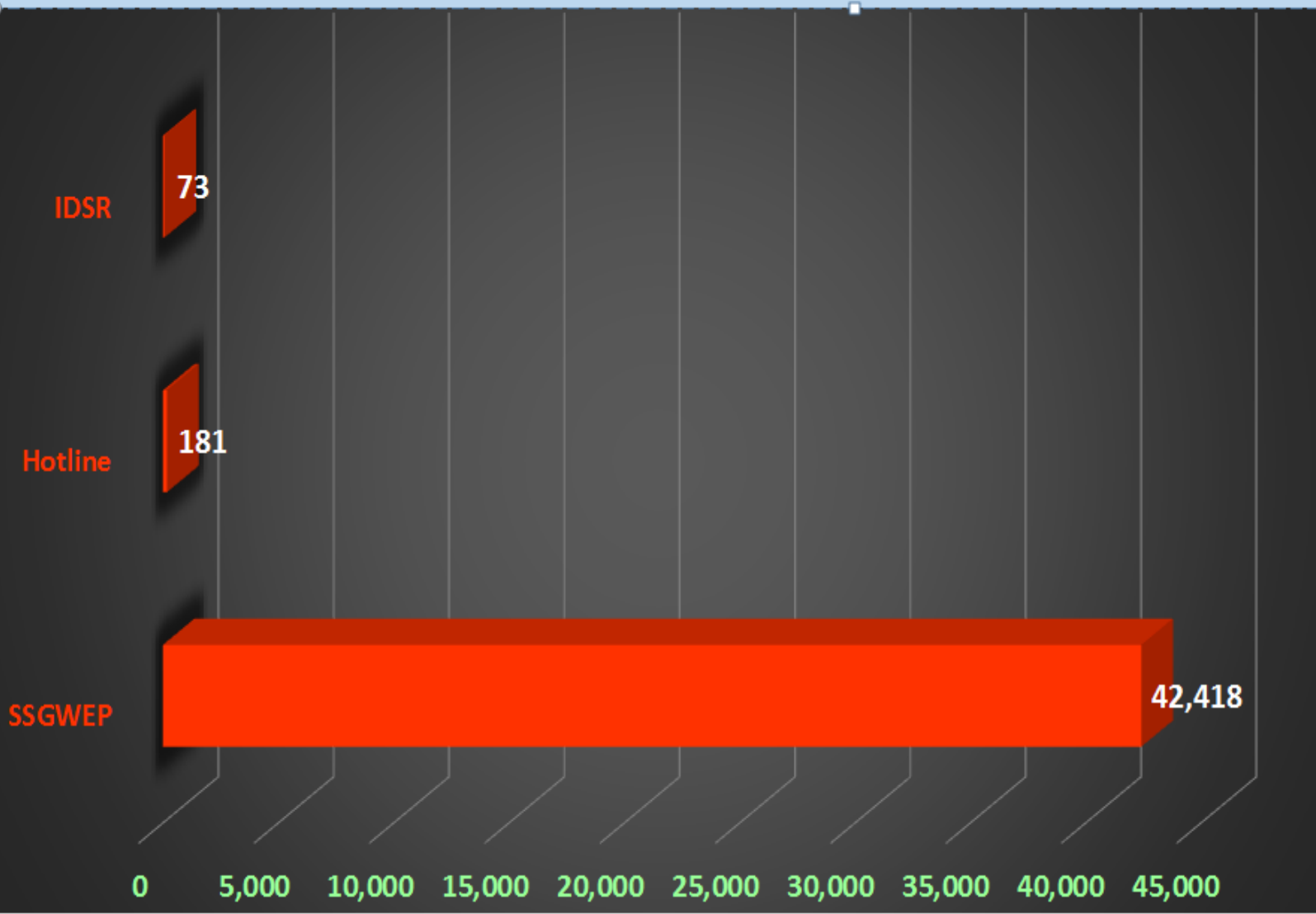
W41	Cumulative (2019)	
63	-	Number of EWARS reporting sites
75%	70%	Completeness
73%	64%	Timeliness

Table 6 | EWARS report submissions

W41	Cumulative (2019)	
47	1,870	total submissions
0	29	submissions by mobile
47	1840	submissions by web

- Both completeness and timeliness for weekly reporting were 75% in week 40 for partner-supported clinics serving IDP sites. The cumulative completeness and timeliness were 70% and 64% respectively for 2019.

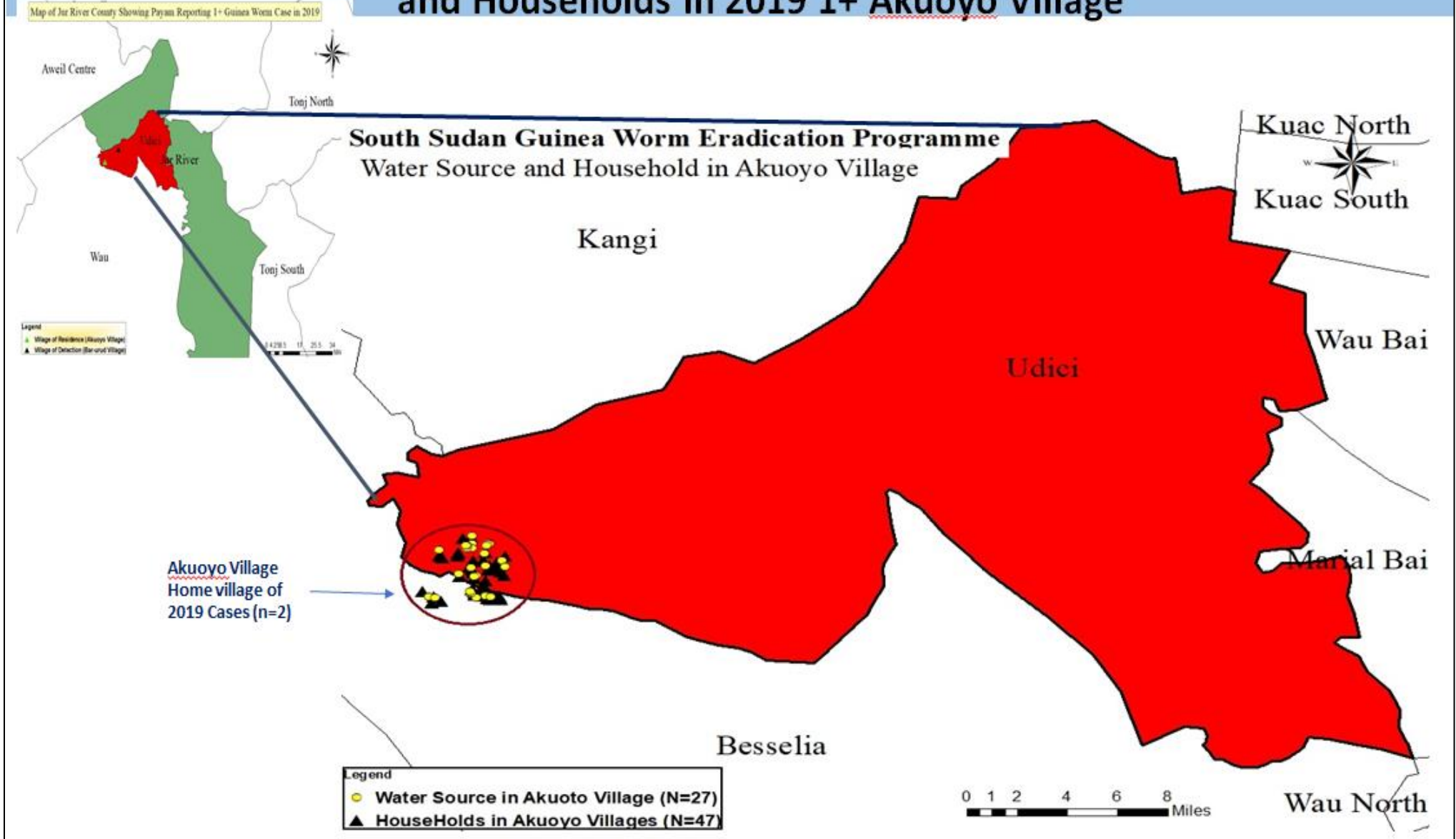
Table Showing Guinea Worm Alerts/Rumours Reported Through the Different Reporting Structures: YTD (N=42,672)



Alerts through IDSR that are false and are not included in the graph (n=2):
Verified IDSR Alerts were received from:

- **Renk County** in week 5
- **Tonj East** in week 25 needs to be removed
- **Ezo** in week 23
- **Mayom** in week 27 is entry error.

Map of Udici Payam Showing Water Source and Households in 2019 1+ Akuoyo Village



Akuoyo village is the village where we have reported cases of guinea worm this year. The water sources shown are being abated.

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	W41		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	2	100%	271	100%
Bentiu	12	8%	282	57%
Bor	59	100%	352	100%
Juba	5	0%	318	40%
Kuajok	6	33%	242	37%
Malakal	1	100%	150	74%
Rumbek	3	100%	601	85%
Torit	9	78%	400	71%
Wau	4	100%	189	68%
Yambio	25	92%	769	89%
South Sudan	126	81%	3574	76%

Table 8 Summary of key alert indicators

W41	Cumulative (2019)	
126	3574	Total alerts raised
81%	76%	% verified
0%	0%	% auto-discarded
1%	3%	% risk assessed
1%	2%	% requiring a response

• A total of 126 alerts were received in week 40, 2019 out of which 81% were verified 1% were risk assessed and 1% required a response.

Alert | Event risk assessment

Table 9 | Alert performance indicators by event

Event	W41		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	17	94%	674	80%
AWD	26	85%	858	74%
Bloody Diarr.	33	76%	607	68%
Measles	13	62%	560	74%
Meningitis	0	0%	0	0%
Cholera	2	100%	100	85%
Yellow Fever	0	0%	22	86%
Guinea Worm	2	100%	83	76%
AFP	3	33%	140	68%
VHF	0	0%	25	76%
Neo. tetanus	0	0%	42	81%
Event-based surveillance				
EBS total	0	0%	32	84%

Table 10 | Event risk assessment

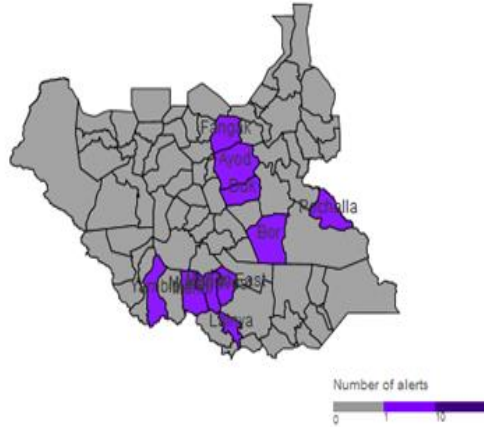
W41	Cumulative (2019)	
0	24	Low risk
30	30	Medium risk
0	33	High risk
1	30	Very high risk

- Malaria (17), AWD (26), measles (13) and bloody diarrhea (33) were the top common alerts generated through the EWARS in week 40, 2019.

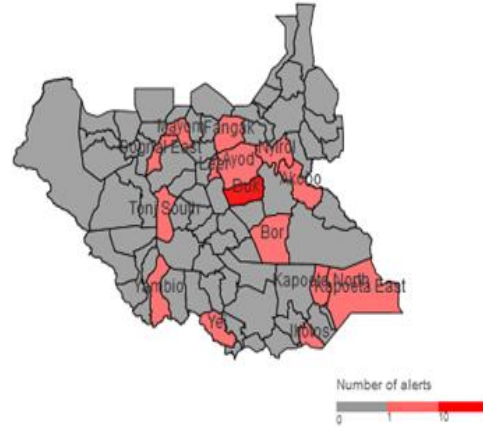
Alert | Map of key disease alerts by county week 40, 2019

Alert | Maps of key disease alerts by county

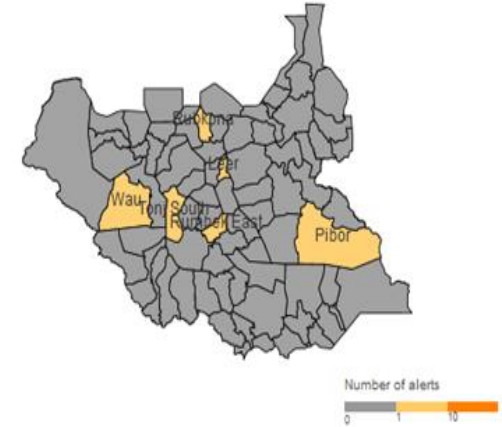
Map 2a | Malaria (W41 2019)



Map 2b | Bloody diarrhoea (W41 2019)



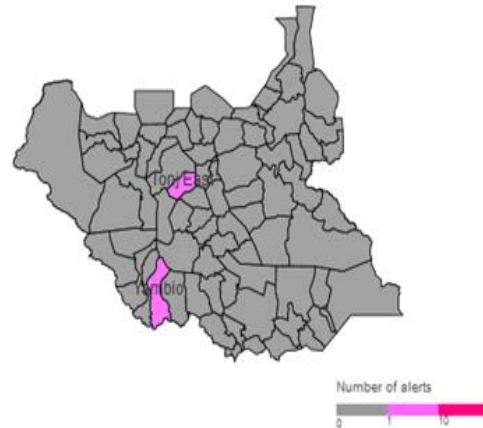
Map 2c | Measles (W41 2019)



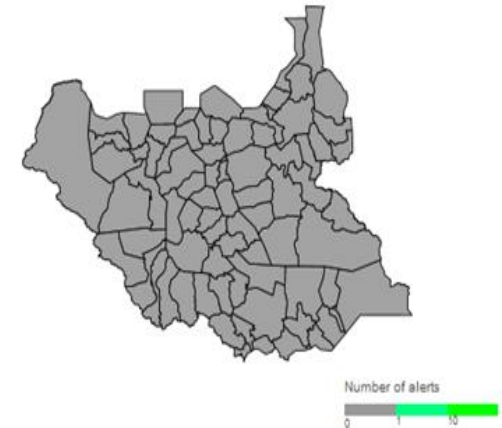
Map 2d | Cholera (W41 2019)



Map 2e | Guinea Worm (W41 2019)



Map 2f | Event-based surveillance (W41 2019)



7 W41 2019 (Oct 07-Oct 13)



Alert by disease and Hubs in Week 40, 2019 [A total of **126** event specific alerts generated by Hubs]

Hubs	ARI	Acute Watery Diarrhea	Bloody Diarrhea	cholera	AJS	G. Worm	Malaria	NT	VHF	Measles	Total Alerts
Bor	3	4	5		1		9			2	24
Kwajok		1	3		1					1	6
Torit	1	2					2	1		1	7
Bentiu	1		3		1					3	8
Yambio	17	6	1				36			1	61
Juba		2					1			2	5
Aweil										1	1
Rumbek		2	1	1		2			1		7
Wau		2								2	4
Malakal			1							2	3
Total Grand	22	19	15	1	3	2	48	1	1	14	126

- 3 AJS generated; 1 pending verification, 2 discarded
- 22 ARI alerts triggered; 11 under monitoring, 9 discarded and 2 pending verification
- 15 ABD alerts triggered; 7 pending verification and 8 discarded
- 19 AWD alerts generated; 4 under monitoring, 11 discarded and 4 pending verification
- 1 cholera alerts was triggered; and it was discarded
- 2 Guinea worm alerts triggered; and all were discarded
- 48 Malaria alerts were raised; 32 are under monitoring, 1 pending verification and 15 discarded
- 14 measles alerts triggered; 4 pending verification, 4 under monitoring and 6 discarded
- 1 Neonatal tetanus was triggered; and is under monitoring
- 1 VHF alert was triggered; and was discarded

SUSPECTED OUTBREAKS IN 2019

Major suspected outbreaks in South Sudan in
2019

Suspect case description

- County surveillance officer reported a community death of 47 years old male, who was complaining of fatigue, fever and vomiting blood. Patient received medication with no improvement. No history of travel to EVD affected areas.

Response actions

- RRT was activated; information revealed was short febrile illness not responding to medicine with unexplained bleeding. SDB was activated; sample was collected and was negative on gene Xpert and PCR for EVD.

Suspect case description

- Sudden unexplained death of an adult male, reported by community chief through 6666. Deceased was found dead on 22nd October. No history of travel to EVD affected areas.

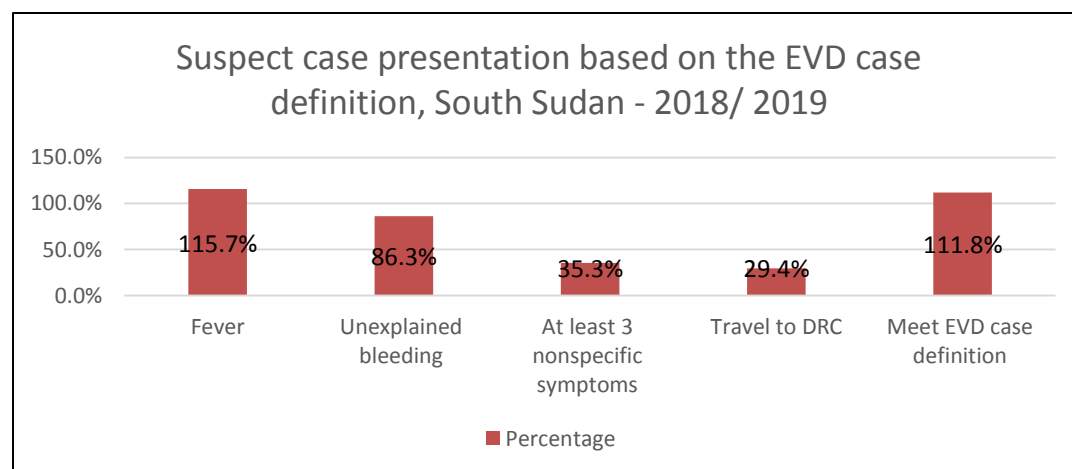
Response actions

- RRT was activated and SDB was activated; sample was collected with negative result on gene Xpert and PCR for EVD.

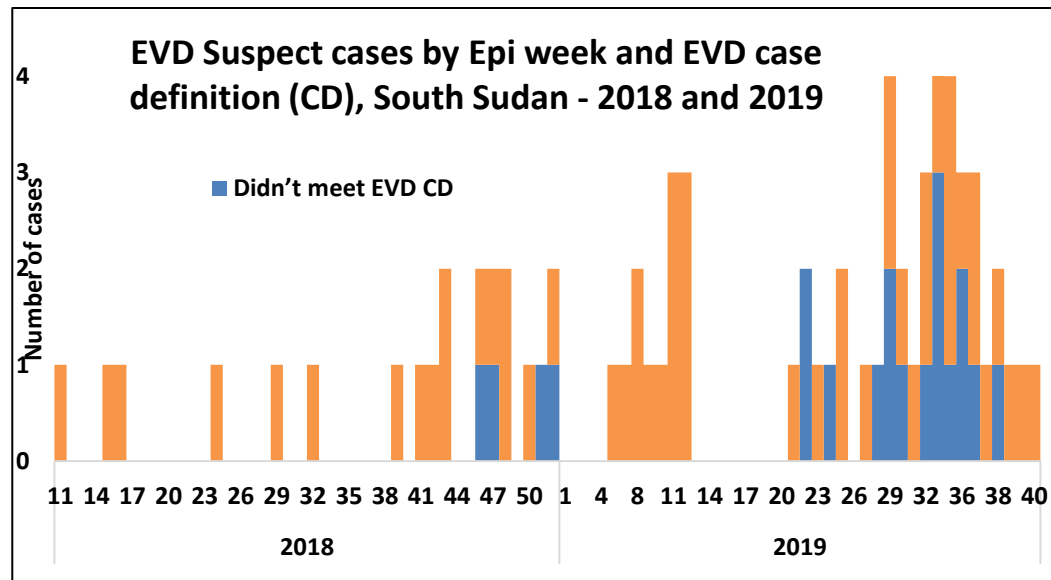
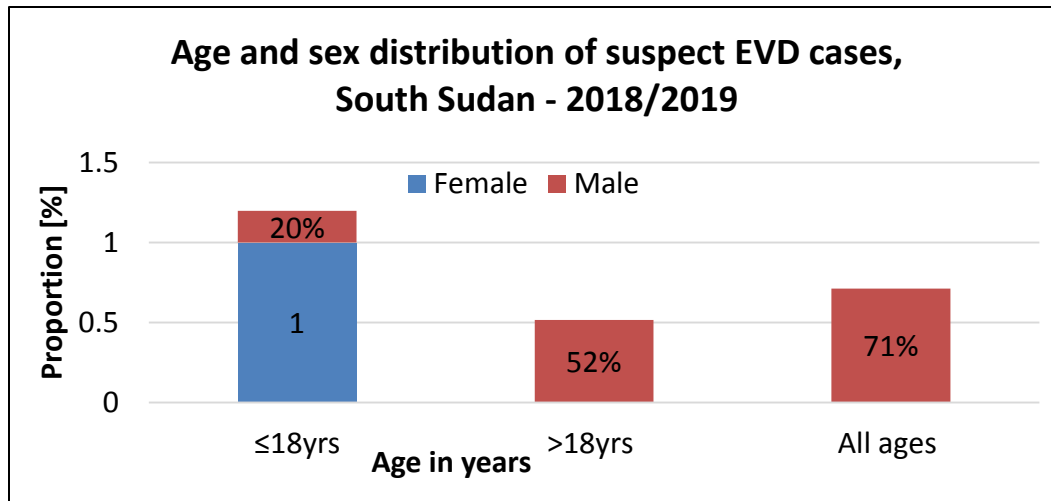
EVD Suspect cases in South Sudan 2018 and 2019

- Since August 2018, at least 67 suspect EVD cases have been reported, of which:
- Most, 51 (75.3%) have been reported in 2019
- 67 (82.3%) met the EVD case definition – with fever (115,7) and unexplained bleeding (86,3%) 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

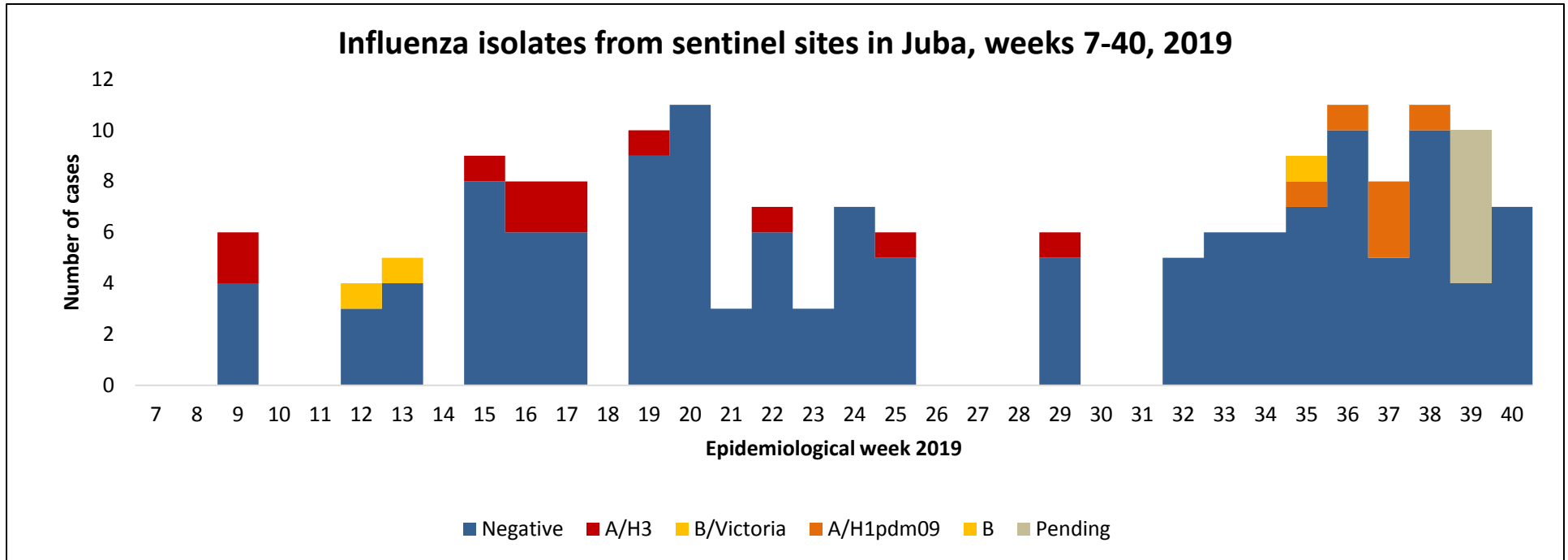
Source of information	Met the EVD case definition		Total cases
	No	Yes	
2018	3	17	20
Community		5	5
Health Worker	3	11	14
Screening point			
2019	11	50	61
Community		6	6
Health Worker	8	29	37
MSF Swiss		1	1
PHO	1		1
Red Cross		1	1
Screening point		3	3
Surveillance officer	2	5	7
UNHCR Focal Person		1	1
6666		3	3
Yirol Hospital		1	1
Total cases	14	67	81



EVD Suspect cases in South Sudan 2018 and 2019



- Most of the suspect EVD cases have been reported in adults 18 years and above (52%)
- Similarly, most suspect EVD cases have been reported in males (71%)
- 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



- In week 7, 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 7 of 2019, a total of 179 ILI/SARI samples have been collected and tested in UVRI 140 being negative; 4 (2%) positive for Influenza B (Victoria); 11 (6%) positive for Influenza A (H3); and 10(6%) positive for Influenza A (H1)pdm09 and 9 samples are pending test results .
- 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.

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	520 (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	5	94 (0.053)	Yes	No	Yes	Yes
Measles	Pibor	17/01/2019	17	2054 (0.008)	yes	No	yes	N/A
Measles	Bentiu PoC	24/04/2019	11	155 (0.070)	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	338(0.003)	Yes	No	Yes	N/A
Measles	Yambio	06/09/2019	3	16(0.186)	Yes	No	Yes	N/A

● Measles outbreaks confirmed in 2019

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

● New confirmed measles outbreaks and response dates:

- Tonj South; **4th week October, 2019**
- Jur River; **4th week October, 2019**
- Pibor – *Labarab and Maruwa*; **completed**
- Yambio; **21th October, 2019: ongoing**

Measles Outbreak situation & response by county as of week 40, 2019

No	County	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	41	47	35.6	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	2054	2054	914.5	9	0.43%	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	53	155	149.9	1	0.6%	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	
20	Yambio	231,489	4	12	16	6.9	1	6.3%	05-Sep-19	pending		active	
	Total	4,289,360	163	3,477	3,632	84.7	23	0.6%					

Measles and Rubella Laboratory Test Results, week 40 of 2019

S/N	Location/Health Facility	Date sent to Juba	Date Received at PHL	Suspected Disease	Lab results
1	Wau North/POC AA	NA	5/10/2019	Measles	Measles&Rubella IgM negative
2	Wau North/POC AA	NA	5/10/2019	Measles	Measles IgM positive
3	Wau North/POC AA	NA	5/10/2019	Measles	Measles &Rubella IgM negative
4	Wau South/WTH	NA	5/10/2019	Measles	Measles IgM positive
5	Wau North/sika hadid PHCC	NA	5/10/2019	Measles	Rubella IgM positive
6	Wau North	N/A	NA	Measles	Rubella IgM positive
7	Wau North	N/A	NA	Measles	Rubella IgM positive
8	Wau South/WTH	N/A	NA	Measles	Measles IgM positive
9	Wau North	N/A	5/10/2019	Measles	Measles&Rubella IgM negative

During the week;

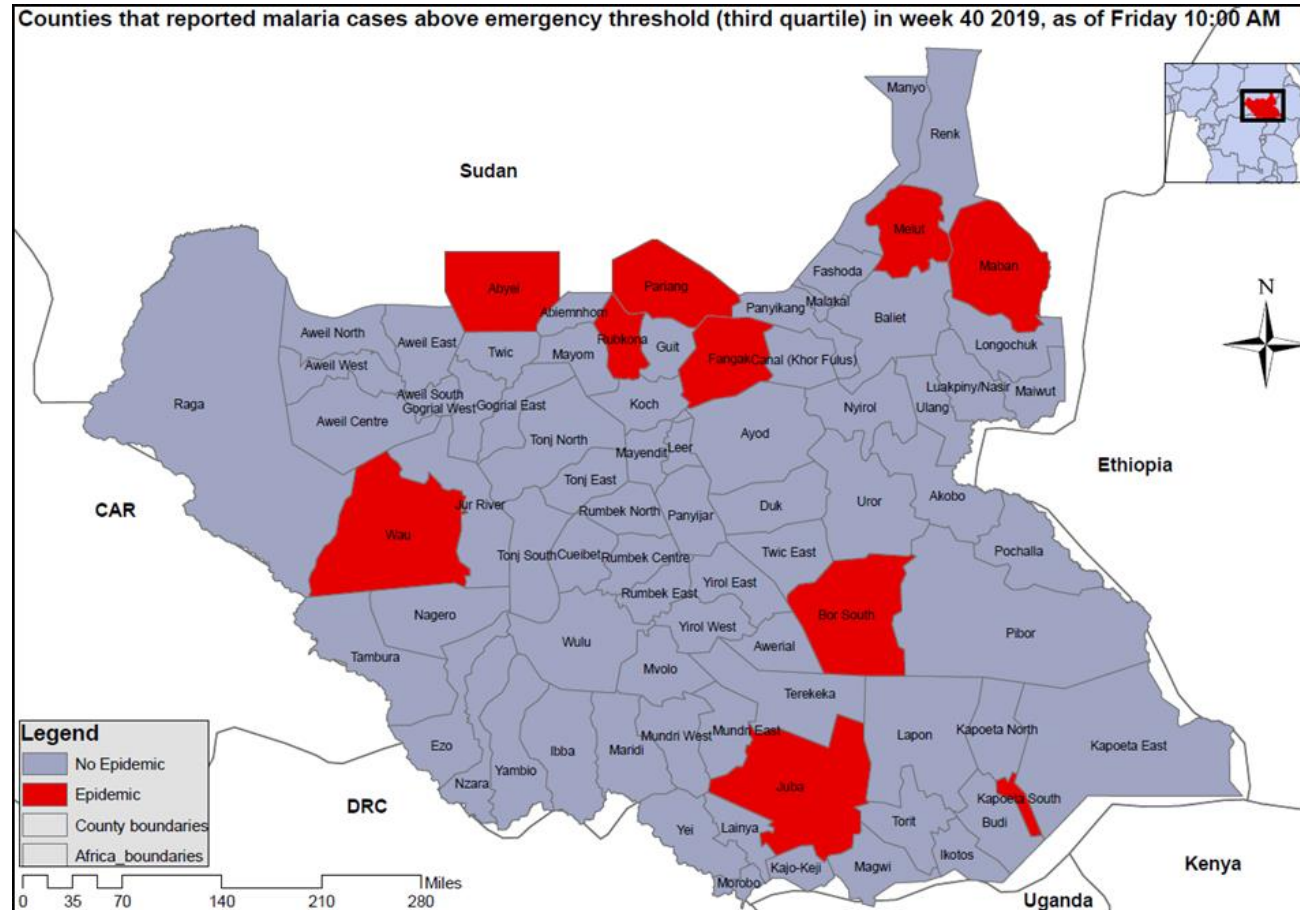
- Nine (9) samples from Wau:
 - Three (3) from Wau PoC AA: two (2) tested measles IgM +ve and one tested negative for measles and rubella
 - Two (2) from Wau teaching hospital ; both tested measles IgM +ve
 - One (1) samples from Sika Haded PHCCC; tested rubella IgM positive
 - Three (3) sample from Wau North; two (2)samples tested rubella IgM positive and one (1) tested negative for measles and rubella .

Response | Suspect epidemics; Current Malaria trends 40, 2019

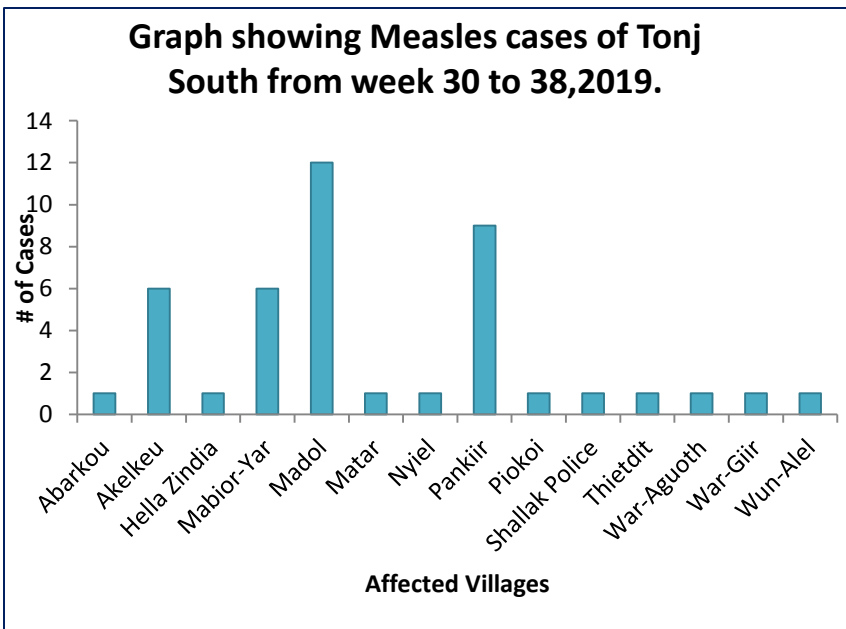
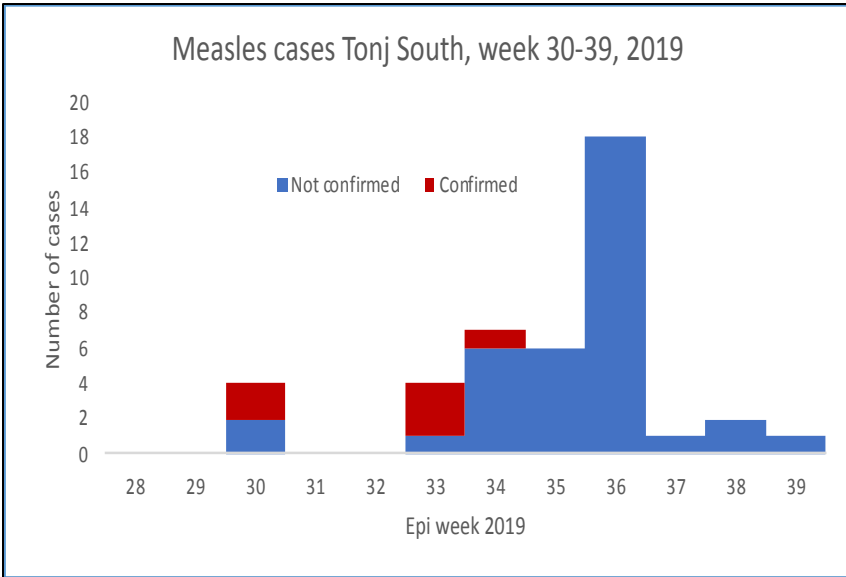
Malaria was the leading cause of morbidity and mortality, accounting for **68.6%** of all morbidities and **28.9%** of all mortalities in week 40, 2019

There were **11 Counties** with malaria trends that exceeded the threshold (third quartile of trends for the period 2013-2017) and these include the following:

1. Juba hub (Juba)
2. Kwajok hub (Abyei)
3. Bentiu hub (Rubkona, Pariang)
4. Bor hub (Bor, Fangak)
5. Wau Hub (Wau, Jur River)
6. Torit Hub (Kapoeta South)
7. Malakal Hub (Maban, Melut)



Measles cases in Tonj South County



Descriptive Epidemiology:

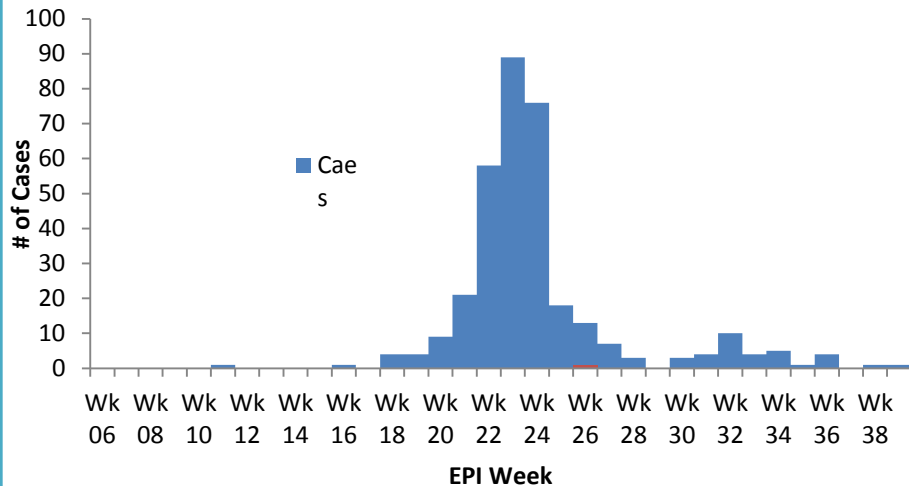
- Suspected measles case was initially detected at Tonj hospital in a 10-month-old female on 30th July 2019
- A total of eight (8) samples collected (6 measles IgM positive & 1 rubella IgM positive) thus confirming a measles outbreak
- 47 measles cases (0 death) reported since week 30
- Four (4) out 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:

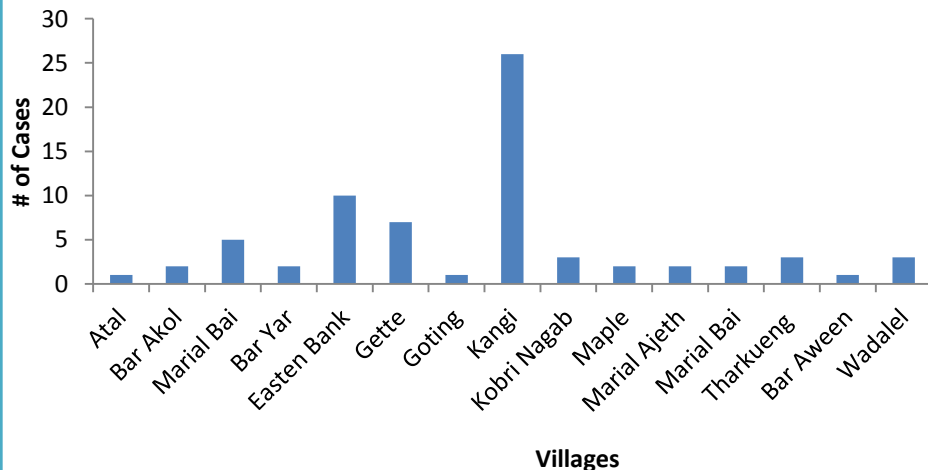
- Following the confirmation of a measles outbreak in the county, a reactive vaccination microplan targeting 26,244 children 6-59 months in five payams of Jak; Thiet; Manyang Ngok; Tonj; and Wanh Alel has been developed.
- The other interventions include:
- Intensified surveillance and line-listing of 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.
- SMoH, CCM and partners are planning a reactive campaign on the 3rd week of October
- WHO is planning for the PCE
- **No new cases reported since week 38, 2019**

Measles cases in Jur River

Epi Curve showing Measles cases of Jur River from week 05 to 39,2019.



Graph showing measles in Jur River by Villages from week 05 to 38,2019.



Descriptive Epidemiology:

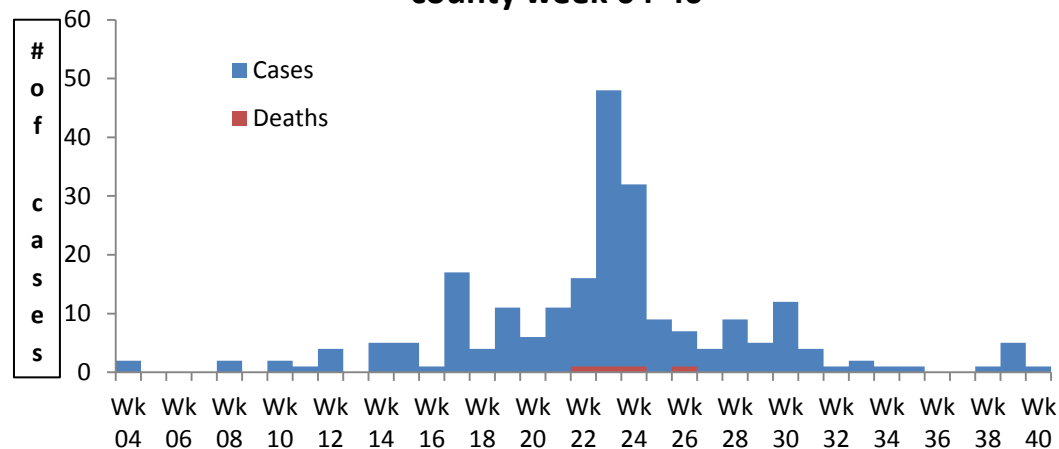
- Initial cases were reported on 6 Feb from Marialbai PHCC from Bar Aween village
- Total of 338 measles cases (1 death) reported since week 5 of 2019
- 7 measles IgM positive cases recorded since outbreak onset
- Most of the cases have been reported from Kingi; Eastern Bank and Gette
- 69 % of the cases 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.
- SMOH, Cordaid and partners are planning a reactive campaign on the 3rd week of October
- WHO is planning for the PCE

Confirmed Measles Outbreak in Wau County and Wau POCAA

Epi curve Showing Measles cases and deaths in Wau county week 04-40



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		71	14%	88%
10-14yrs	33		33	6%	95%
15+yrs	27		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.

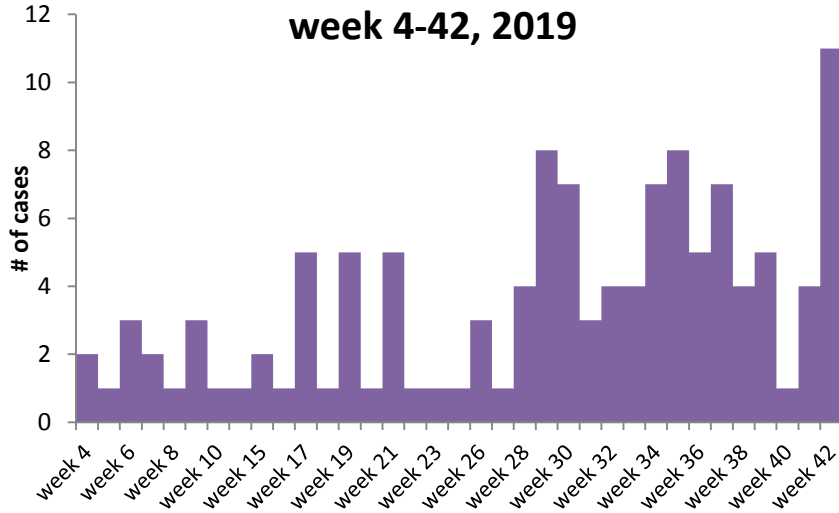
Descriptive Epidemiology:

- Since week 4 of 2019; a total of 536 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 1 cases in week 40, 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

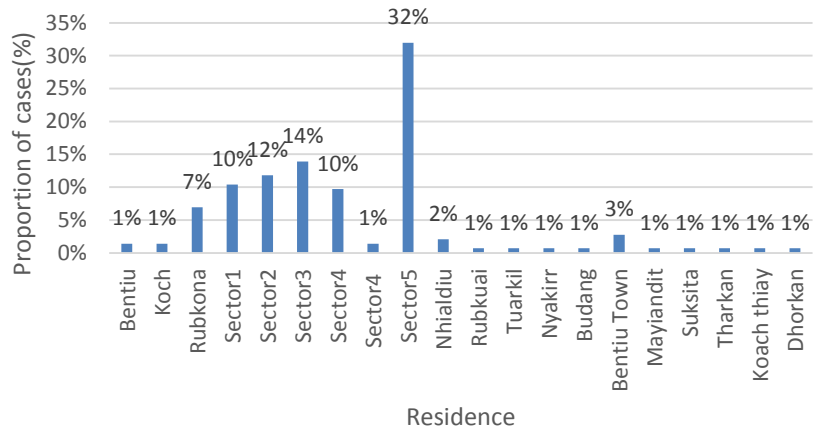
Measles cases in Bentiu POC from week 4-42, 2019



Epidemiological description

- Bentiu PoC has been reporting suspected measles/rubella cases since week 4 of 2019. 11 new cases reported in week 42, 2019
- At least 155 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 111 (97%) of the cases are children <5 years.
- 97% are under 5 yrs old, 3% are 5 yrs old and above
- 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).

Measles cases by Residence in Bentiu POC and Surrounding, Week 4-38



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.

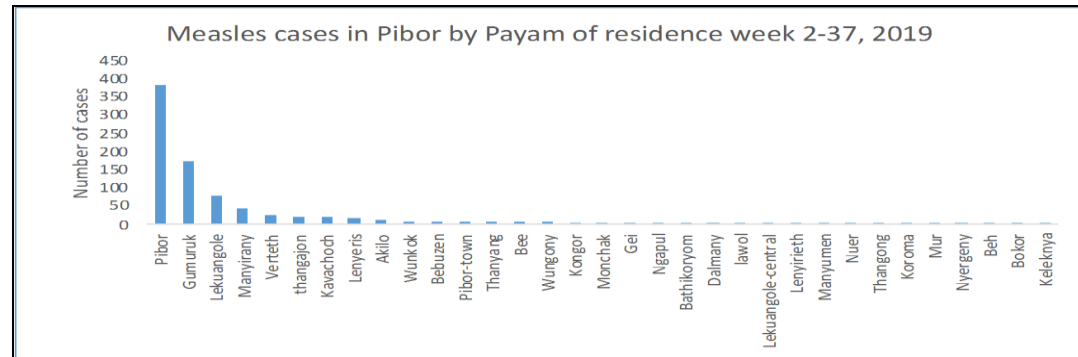
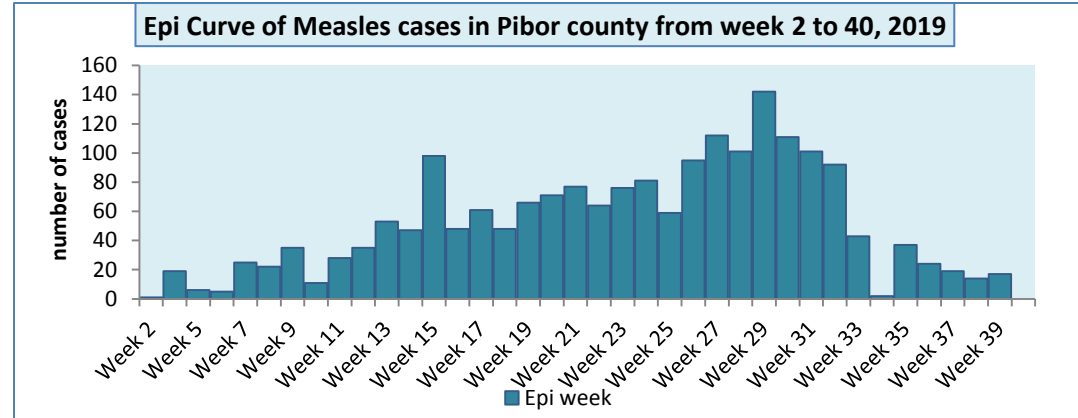
Measles in Pibor County

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 2056 measles cases (9 deaths – [CFR 0.44%]) reported since week 2 of 2019
- A total of eight (8) measles IgM positive cases recorded since outbreak onset
- 70.5% of the cases are less than 5 years of age
- 32.3 % 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:

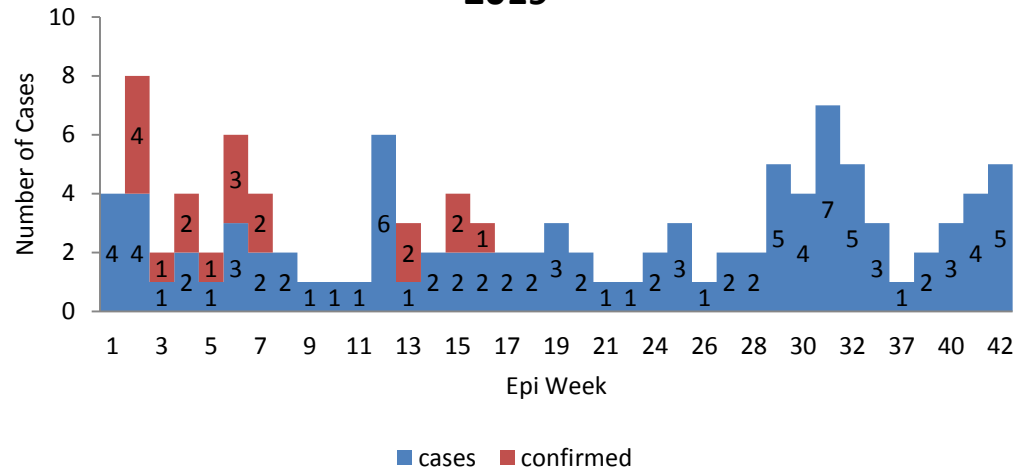
- Due to persistent transmission; MedAir and LiveWell implemented a measles campaign in Pibor; Lekuangole; Verteth; Gumuruk to interrupt transmission.
- The campaign started on 1st September 2019, targeting 27,122 (6-59 months and 5-15 years combined).
- LiveWell and WHO eMMT started on 7th October a vaccination campaign targeting at least 3,200 children aged 6 – 59 months in Marua and Labarab



- **Labarab: Target population: 1,574; children age 6 months to 15 years (45%). The total number vaccinated is 592 with coverage of 38%**
- **Marua: Target Population: 1712, children age 6 months to 15 years (45%). Total number Vaccinated is 1,783 with coverage of 104%**
- **No reported AEFIs in both areas**

Hepatitis E, Bentiu PoC

HEV Cases in Bentiu POC from week 1 to 42, 2019



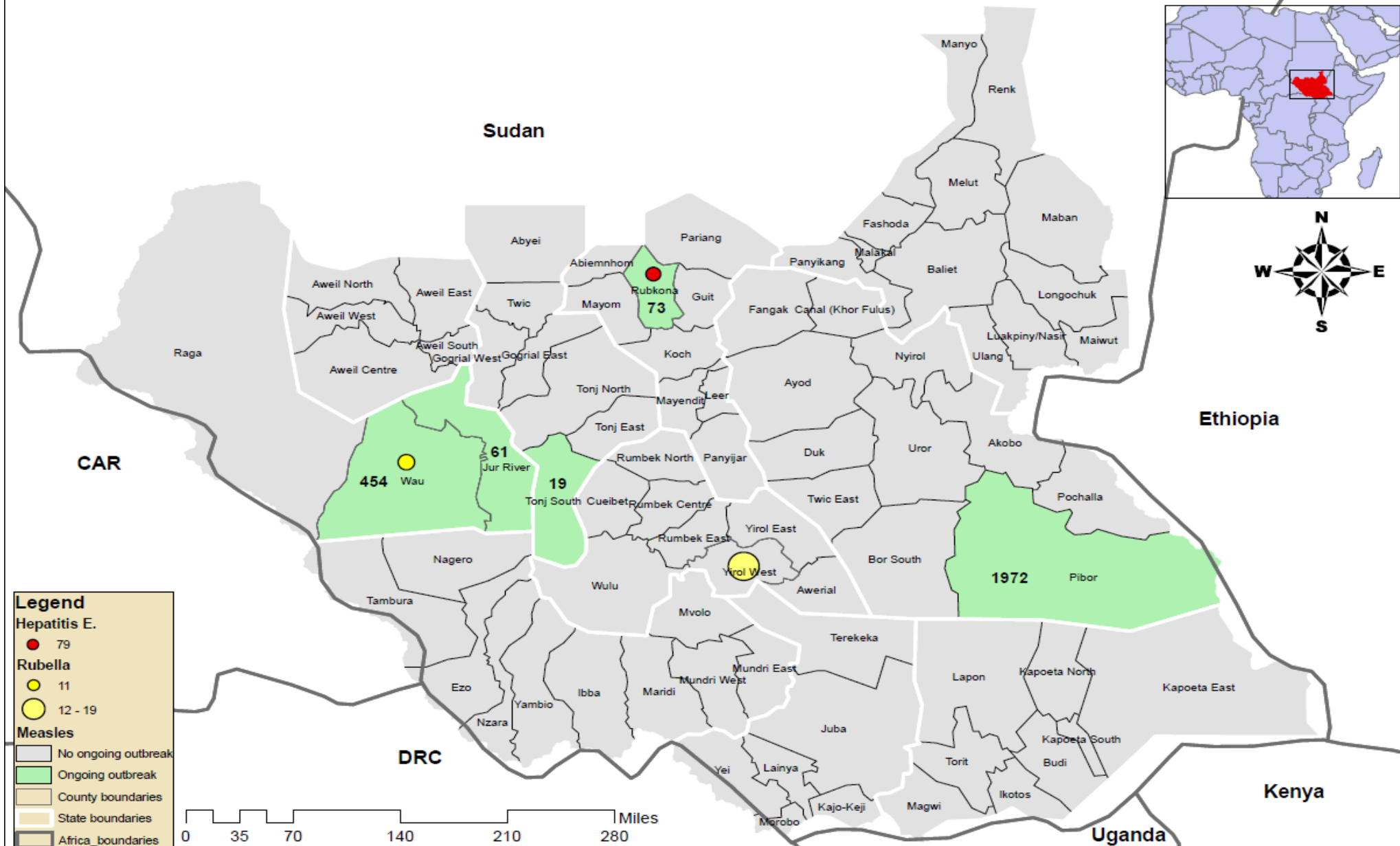
Descriptive epidemiology

- The persistent transmission of HEV in Bentiu PoC continues with 80 cases since beginning of 2019
- Total of eighty-six (82) cases line listed
- There were (4) cases reported in week 410; & five (5) case in week 42, 2019.
- 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 (51%) out of 94 cases are female.
- Age group less than 15 years had the most cases with 62 (65.9%) cases.
- 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 42, 2019; there were 94 cases of HEV in Bentiu PoC including 2 deaths (CFR 2.13%)

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 8th October 2019

Current situation

- Currently as of **6th October, 2019**
- **3205** Cases [3091 confirmed & 114 probable]
- **2142** Deaths [2048 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 16 September to 6 October, 28 health areas in 11 health zones reported new cases. During this period, a total of 73 confirmed cases were reported, with the majority coming from the health zones of Mambasa (30%; n=22 cases), and Mandima (23%; n=17 cases).

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>

