

# South Sudan

## Integrated Disease Surveillance and Response (IDSR)

Epidemiological Bulletin Week 48, 2019 (November 25 – December 01)



## Major Epidemiological Highlights in week 48 of 2019

- In week 48, 2019 IDSR reporting completeness was 70% and timeliness was 53% at health facility level. EWARN reporting completeness and timeliness were both 75%.
- Of the 181 alerts in week 48; 56% were verified 3% were risk assessed and 2% required a response. Malaria (25), AWD (35), malaria (30), AWD (46), measles (18) and bloody diarrhea (40) were the top common alerts generated through the EWARS in week 48, 2019.
- New confirmed measles outbreak in Maban after (11) suspect measles cases tested measles IgM positive.
- New confirmed measles outbreak in Mangateen IDP camp in Juba with (4) cases confirmed measles IgM positive.
- On 25 Nov 2019, a suspect hemorrhagic fever sample of MS a 35-year-old male South Sudanese refugee, a resident of Palorinya refugee camp, Zone 1, Pasu-Block 3; Obongi, Uganda tested positive for Rift Valley Fever at Uganda Virus Research Institute (UVRI). The rapid response team deployed collected four human samples and 19 animal samples for testing.
- Since week 7 of 2019, a total of 229 ILI/SARI samples have been collected and tested in UVRI 192 being negative; 2 (1%) positive for Influenza B (Victoria); 2(1%) positive for Influenza A (H3); and 1(1%) positive for Influenza A (H1)pdm09 and 6 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 48,2019

Completeness Hub/Former States Ranking	Hub/Former States	Supporting Partners	Total No. of Health Facility	No. of HFs Reported on Time	Timeliness Percentage	No. of HFs Reported not on Time	Completeness Percentage
1st	Kwajok	GOAL, CCM, WVI, Malaria Consortium, UNKEA, Save the Children, MSF	125	120	96%	125	100%
2nd	Rumbek	Doctors with Africa (CUAMM), LIVEWELL	116	83	72%	111	96%
3th	Yambio	AMREF, World Vision, CUAMM, CDTY, OPEN	214	123	57%	194	91%
4th	Bentiu	Cordaid, UNIDOR, IRC, CHADO, CARE International, CRADA	87	61	70%	72	83%
5th	Wau	Cordaid, Healthnet TPO, CARE International, IHO	79	32	41%	56	71%
6th	Aweil	Malaria Consortium, Healthnet TPO, IRC, CEDS, IHO	144	55	38%	96	67%
7th	Bor	Nile Hope, MDM, JDF, Livewell, CMD, HFO, EDA, CRADA, Malaria Consortium, CMA	138	88	64%	89	64%
8th	Malakal	Cordaid, WVI, RI, IMC, NIDO, UNKEA, MC, SSAID	99	37	37%	63	64%
9th	Torit	Cordaid,HLSS,CMD	178	68	38%	88	49%
10th	Juba	HLSS, SSUHA, Healthnet TPO, IHO	157	37	24%	38	24%
	South Sudan		1337	704	53%	932	70%

### 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 70%. Reporting performance is highest in Kwajok hub with completeness of 100% followed by Rumbek hub with completeness at 96%, Yambio hub with 91% completeness and Bentiu hub with 83% completeness. while the rest of the state hubs are below the target of 80%.

# IDSR Timeliness and Completeness Performance at County Level for week 48, 2019 (1)

Counties	Supporting Partners	Total No. of Health Facility	No. of HFs Report on Time	Timeliness Percentage	No. of HFs Report not on Time	Completeness Percentage
Rumbek Centre	Doctors with Africa (CUAMM)	23	21	91%	23	100%
Rumbek East	Doctors with Africa (CUAMM)	24	4	17%	20	83%
Rumbek North	Doctors with Africa (CUAMM)	7	4	57%	7	100%
Wulu	Doctors with Africa (CUAMM)	14	14	100%	14	100%
Cueibet	Doctors with Africa (CUAMM)	15	15	100%	15	100%
Yirol East	Doctors with Africa (CUAMM),LIVEWELL	14	14	100%	14	100%
Yirol West	Doctors with Africa (CUAMM)	12	11	92%	11	92%
Awerial	Doctors with Africa (CUAMM)	7	1	14%	7	100%
Yambio	World Vision International	42	37	88%	38	90%
Ibba	AMREF	11	9	82%	10	91%
Maridi	AMREF	26	25	96%	25	96%
Mundri West	CUAMM	21	21	100%	21	100%
Mundri East	CUAMM	20	20	100%	20	100%
Tambura	World Vision International	26	17	65%	21	81%
Mvolo	CUAMM	11	11	100%	11	100%
Nzara	World Vision International	20	20	100%	20	100%
Nagero	World Vision International	10	2	20%	2	20%
Ezo	World Vision International	27	16	59%	26	96%
Abiemnhom	Cordaid	4	4	100%	4	100%
Koch	UNIDOR,CRADA,CARE International,JRC.	6	3	50%	4	67%

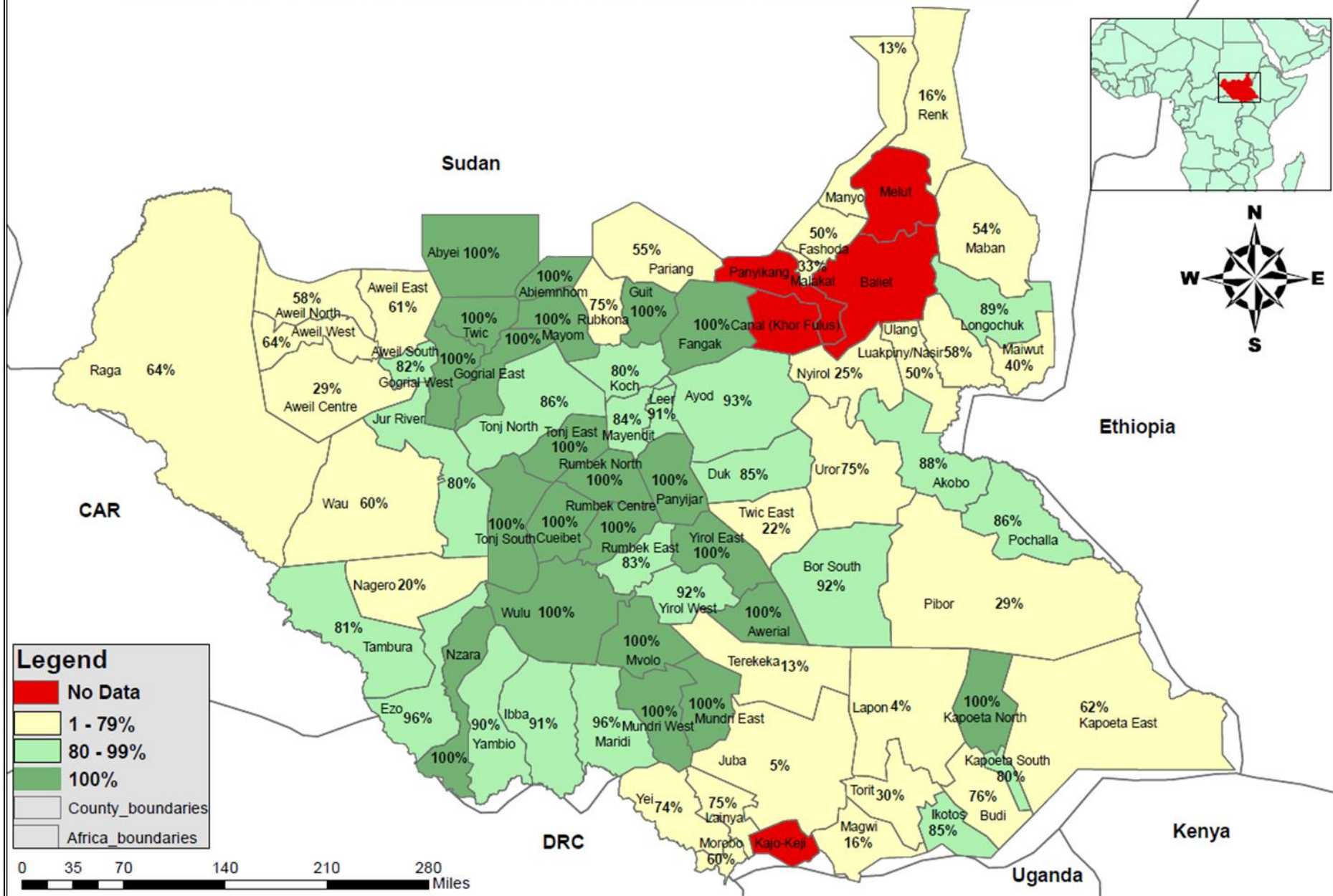
Counties	Supporting Partners	Total No. of Health Facility	No. of HFs Report on Time	Timeliness Percentage	No. of HFs Report not on Time	Completeness Percentage
Gogrial West	GOAL	32	31	97%	32	100%
Gogrial East	GOAL	15	15	100%	15	100%
Abyei	AAA, Save the Children, MSF	15	14	93%	15	100%
Tonj East	CCM	12	12	100%	12	100%
Tonj South	CCM	12	12	100%	12	100%
Tonj North	CCM	14	12	86%	14	100%
Twic Mayardit	GOAL	25	25	100%	25	100%
Bor	MDM + JDF	25	24	96%	22	88%
Duk	MDM + JDF	13	11	85%	11	85%
Pibor	LIVEWELL,CRADA	14	4	29%	4	29%
Akobo	NILE HOPE	8	7	88%	7	88%
Fangak	CMD,HFO	16	15	94%	15	94%
Uror	CMA,Nile Hope,Malaria Consortium	8	6	75%	6	75%
Nviroi	CMA,Nile Hope,Malaria Consortium	8	2	25%	2	25%
Twic East	MDM + JDF	9	2	22%	2	22%
Ayod	CMD,EDA	15	13	87%	13	87%
Pochalla	LIVEWELL	7	6	86%	6	86%
Pigi Canal	IMC	16	0	0%	1	6%
Mayendit	UNIDOR	13	11	85%	11	85%
Guit	Cordaid	5	5	100%	5	100%

# IDSR Timeliness and Completeness Performance at County Level for week 48, 2019 (2)

Counties	Supporting Partners	Total No. of Health Facility	No. of HFs Report on Time	Timeliness Percentage	No. of HFs Report not on Time	Completeness Percentage
Malakal	IMC	4	2	50%	3	75%
Akoka	IMC	5	0	0%	0	0%
Baliet	IMC	4	0	0%	0	0%
Renk	WVI + RI	11	3	27%	4	36%
Melut	WVI + RI	7	0	0%	0	0%
Manyo	CORDAID	6	1	17%	1	17%
Maiwut	RI	3	3	100%	3	100%
Fashoda	CORDAID	9	6	67%	9	100%
Ulang	MC	7	6	86%	7	100%
Maban	WVI + RI	13	13	100%	13	100%
Luakping Nasir	MC	19	15	79%	15	79%
Longechuk	RI	9	8	89%	8	89%
Panyikang	IMC	6	0	0%	0	0%
Aweil West	HealthNetTPO	39	25	64%	26	67%
Aweil East	IRC	44	28	64%	28	64%
Aweil Center	Malaria Consortium(MC)	17	1	6%	13	76%
Aweil South	Malaria Consortium(MC)	11	8	73%	10	91%
Aweil North	HealthNetTPO	33	18	55%	19	58%
Pariang	Cordaid	13	1	8%	9	69%
Panyijiar	IRC	12	12	100%	12	100%

Counties	Supporting Partners	Total No. of Health Facility	No. of HFs Report on Time	Timeliness Percentage	No. of HFs Report not on Time	Completeness Percentage
Juba	HLSS	55	3	5%	3	5%
Kajo-Keji	SSUHA	15	0	0%	0	0%
Yei	SSUHA	19	13	68%	14	74%
Lainya	SSUHA	16	12	75%	12	75%
Morobo	SSUHA	4	3	75%	3	75%
Terekeka	HealthNetTPO	47	6	13%	6	13%
Torit	Cordaid	37	10	27%	11	30%
Lopa Lafon	HLSS	24	1	4%	1	4%
Ikotos	HLSS	27	16	59%	23	85%
Magwi	HLSS	31	4	13%	5	16%
Budi	Cordaid	21	16	76%	17	81%
Kapoeta South	CMD	10	5	50%	8	80%
Kapoeta East	CMD	13	8	62%	8	62%
Kapoeta North	CMD	15	13	87%	15	100%
Wau	Cordaid	30	16	53%	17	57%
Raja	HealthNetTPO	14	3	21%	9	64%
Jur River	Cordaid	34	23	68%	30	88%
Rubkona	Cordaid	9	5	56%	5	56%
Mayom	Cordaid	9	9	100%	9	100%
Leer	UNIDOR	10	10	100%	10	100%

# Completeness by County in week 48, 2019 as of friday December, at 10:00 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 48, 2019

## Surveillance | EWARS surveillance indicators

**Table 4 | EWARS surveillance performance indicators by partner (W48 2019)**

Partner	Performance		Reporting	
	# sites	# reports received	Completeness	Timeliness
CMD	0	0		
GOAL	2	2	100%	100%
HLSS	1	0	0%	0%
IMA	8	7	88%	88%
IMC	6	5	83%	83%
IOM	11	7	64%	64%
IRC	1	1	100%	100%
Medair	2	2	100%	100%
MSF-E	2	2	100%	100%
MSF-H	3	1	33%	33%
SMC	0	0		
UNIDO	1	1	100%	100%
UNKEA	1	1	100%	100%
World Relief	1	1	100%	100%
TRI-SS	2	2	100%	100%
LIVEWELL	3	3	100%	100%
<b>Total</b>	<b>64</b>	<b>48</b>	<b>75%</b>	<b>75%</b>

**Table 5 | Summary of key EWARS surveillance indicators**

W48	Cumulative (2019)	
<b>64</b>	-	Number of EWARS reporting sites
<b>75%</b>	<b>60%</b>	Completeness
<b>75%</b>	<b>54%</b>	Timeliness

**Table 6 | EWARS report submissions**

W48	Cumulative (2019)	
<b>48</b>	<b>1,851</b>	total submissions
<b>0</b>	<b>9</b>	submissions by mobile
<b>48</b>	<b>1841</b>	submissions by web

- Both completeness and timeliness for weekly reporting were 75% in week 48 for partner-supported clinics serving IDP sites. The cumulative completeness and timeliness were 60% and 54% respectively for 2019.



# 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	W48		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	18	100%	382	98%
Bentiu	24	0%	491	38%
Bor	42	100%	572	100%
Juba	0	0%	343	38%
Kuajok	22	9%	472	25%
Malakal	12	33%	152	63%
Rumbek	12	25%	729	98%
Torit	18	0%	494	79%
Wau	5	80%	227	75%
Yambio	28	100%	925	86%
<b>South Sudan</b>	<b>181</b>	<b>56%</b>	<b>4787</b>	<b>74%</b>

Table 8 Summary of key alert indicators

W48	Cumulative (2019)	
<b>181</b>	<b>4787</b>	Total alerts raised
<b>56%</b>	<b>74%</b>	% verified
<b>0%</b>	<b>0%</b>	% auto-discarded
<b>0%</b>	<b>3%</b>	% risk assessed
<b>0%</b>	<b>2%</b>	% requiring a response

- A total of 181 alerts were received in week 48, 2019 out of which 56% were verified 3% were risk assessed and 2% required a response.

## Alert | Event risk assessment

**Table 9 | Alert performance indicators by event**

Event	W48		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
<b>Indicator-based surveillance</b>				
Malaria	30	73%	903	77%
AWD	46	52%	1187	73%
Bloody Diarr.	40	57%	827	67%
Measles	18	33%	731	71%
Meningitis	0	0%	0	0%
Cholera	2	50%	124	87%
Yellow Fever	1	100%	23	87%
Guinea Worm	2	50%	95	88%
AFP	2	50%	140	68%
VHF	1	100%	36	83%
Neo. tetanus	3	0%	55	78%
<b>Event-based surveillance</b>				
EBS total	0	0%	32	84%

**Table 10 | Event risk assessment**

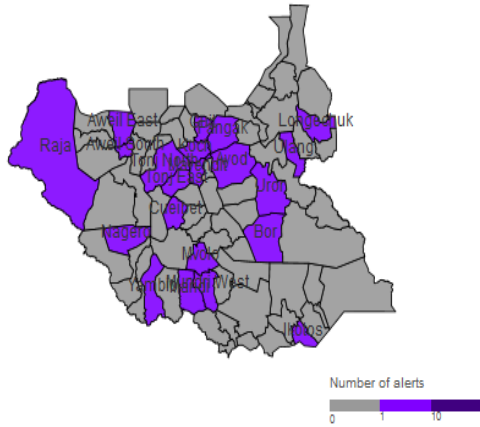
W48	Cumulative (2019)	
0	25	Low risk
30	30	Medium risk
0	38	High risk
0	40	Very high risk

- Malaria (30), AWD (46), measles (18) and bloody diarrhea (40) were the top common alerts generated through the EWARS in week 48, 2019.

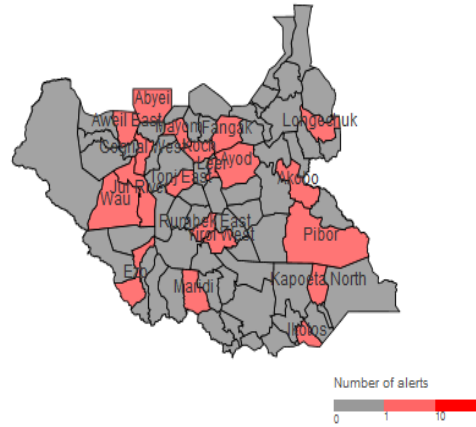
# Alert | Map of key disease alerts by county week 48, 2019

Alert | Maps of key disease alerts by county

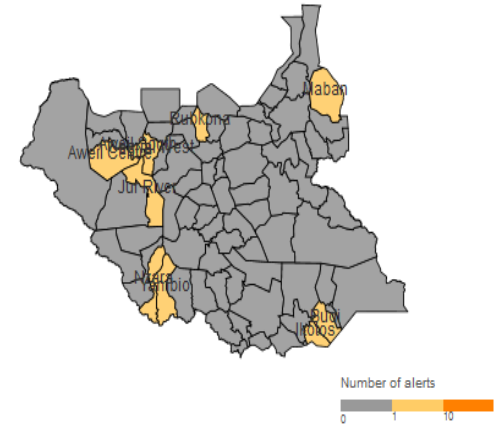
Map 2a | Malaria (W48 2019)



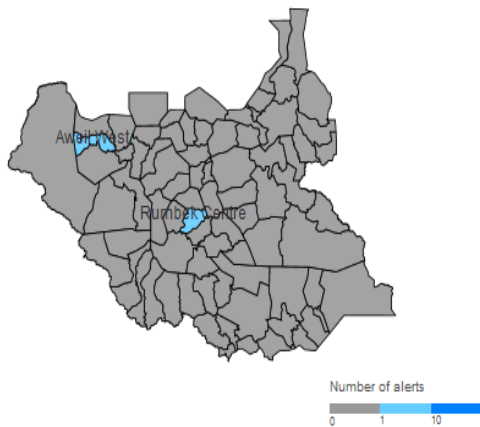
Map 2b | Bloody diarrhoea (W48 2019)



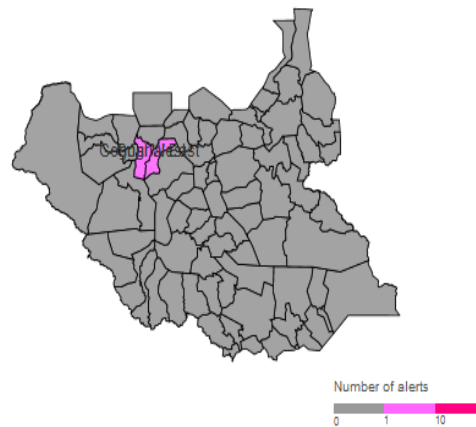
Map 2c | Measles (W48 2019)



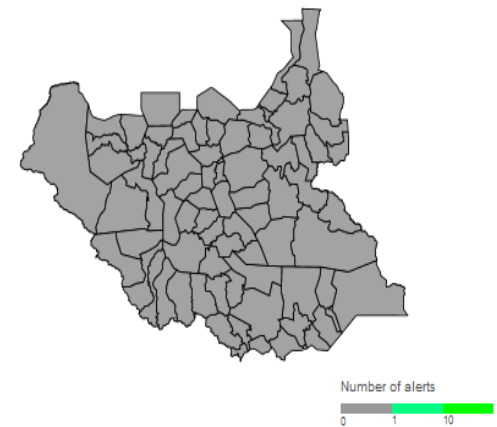
Map 2d | Cholera (W48 2019)



Map 2e | Guinea Worm (W48 2019)



Map 2f | Event-based surveillance (W48 2019)



7 W48 2019 (Nov 25-Dec 01)



## Alert by disease and Hubs in Week 48, 2019 [A total of 198 event specific alerts generated by Hubs]

Hub/Former States	AJS	ARI	Acute Watery Diarrhoea	Bloody Diarrhoea	AFP	Guinea Worm	Cholera	Neonatal Tetanus	Yellow Fever	VHF	Malaria	Measles	Total Alerts
Bor		5	11	13							8	2	39
Kuajok	2	6	7	7	1	1		1			5	5	35
Torit		4	5	3							3	2	17
Bentiu	1	2	6	6			1	2			3	3	24
Yambio		8	5	4					1		8	3	29
Juba											1		1
Aweil		4	6	3	1	1	1					2	18
Rumbek		3	5	4						1	3	1	17
Wau		1	1	1							1		4
Malakal		5	3	1							2	3	14
<b>Total Grand</b>	<b>3</b>	<b>38</b>	<b>49</b>	<b>42</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>1</b>		<b>34</b>	<b>21</b>	<b>198</b>

### During this week:

3 AJS alerts: 2 pending and 1 discarded

38 ARI alerts: 14 pending, 19 discarded and 5 under monitoring

49 AWD alerts: 23 pending, 22 discarded and 4 monitoring

2 AFP alerts: 1 discarded and 1 pending

42 ABD alerts: 18 Pending, 22 discarded and 2 monitoring

2 cholera alerts: 1 discarded and 1 pending

2 G.W alert: 1 under monitoring and 1 pending verification

34 malaria alerts: 10 pending, 13 discarded and 11 under monitoring

21 measles alerts: 12 pending, 4 discarded and 5 under monitoring.

# Media Monitoring

# Animal deaths in Waat-Bieh State

## Background:

Health authorities in Waat County of Bieh State reported livestock deaths over the Radio Tamazuj on Friday, Waat County Commissioner revealed that the cattle have been dying from unknown diseases since September 2019.

The following are the locations with affected number of cattle deaths.

- Wunbil area: 740 cows died.
- Boduot area: 760 cows and 600 goats died,
- Rim area: 4,000 cows and 12 goats died.
- Weideng area: 3,000 cows and 900 goats died
- Dingnyalla area: 800 cows and 1,000 goats died

## Situation update:

The State Minister for Agriculture confirmed the animal deaths happening in Waat County.

Bieh State ministries of Health and Agriculture are calling upon National ministry of Livestock and Fisheries together with Ministry of Health with their Organizations counterparts to rescue the alarming situation.

There is no definitive diagnosis yet, and no human transmission seen or reported in the community as of now,

## Intervention plan

FAO team is in consultation with the implementing partner and will revert with support needed.

# SUSPECTED OUTBREAKS IN 2019

Major suspected outbreaks in South Sudan in  
2019



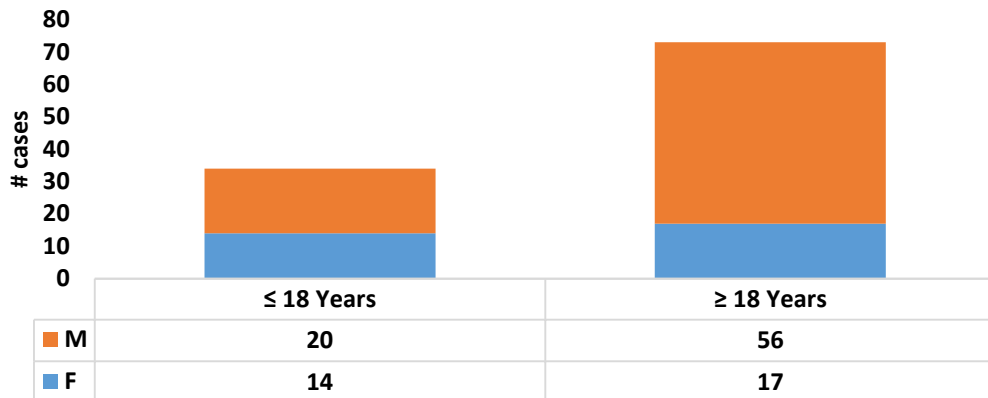
## EVD Suspect cases in South Sudan 2018 and 2019 as of week 48, 2019

Source of Information	Met EVD cases definition		Total cases
	NO	Yes	
<b>2018</b>	<b>30</b>	<b>12</b>	<b>42</b>
Community	3	2	5
Health Worker	9	9	18
Screening point	18	1	19
<b>2019</b>	<b>31</b>	<b>38</b>	<b>69</b>
Community	6	8	14
Health Worker	11	18	29
RRT lead Team	1	1	2
Screening point	4	5	9
State Surveillance Officer	8	4	12
WHO State Coordinator	1	2	3
<b>Grand Total</b>	<b>61</b>	<b>50</b>	<b>111</b>

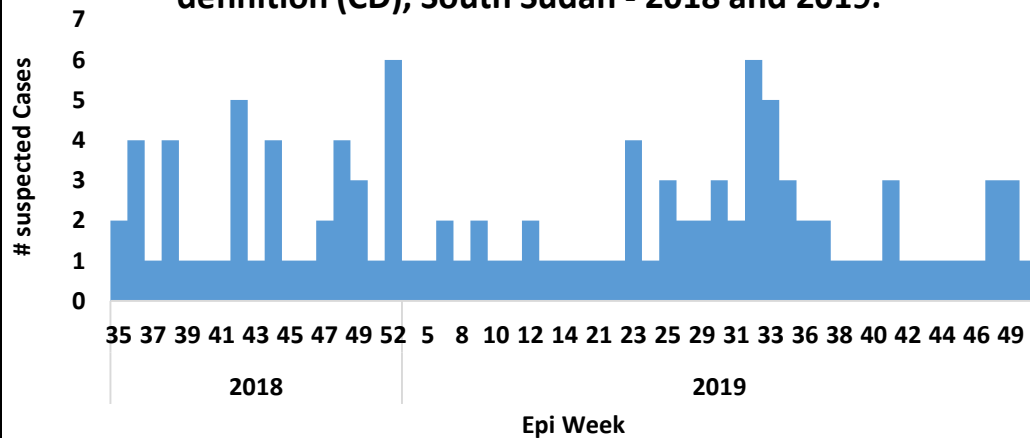
- Since August 2018, at least 111 suspect EVD cases have been reported, of which:
- Most 69 (59.4%) have been reported in 2019
- Most of the suspect EVD cases have been reported by health workers at health facility level

# EVD Suspect cases in South Sudan 2018 and 2019 as of week 48, 2019

Age and Sex distribution of suspected EVD cases South Sudan - 2018 and 2019.

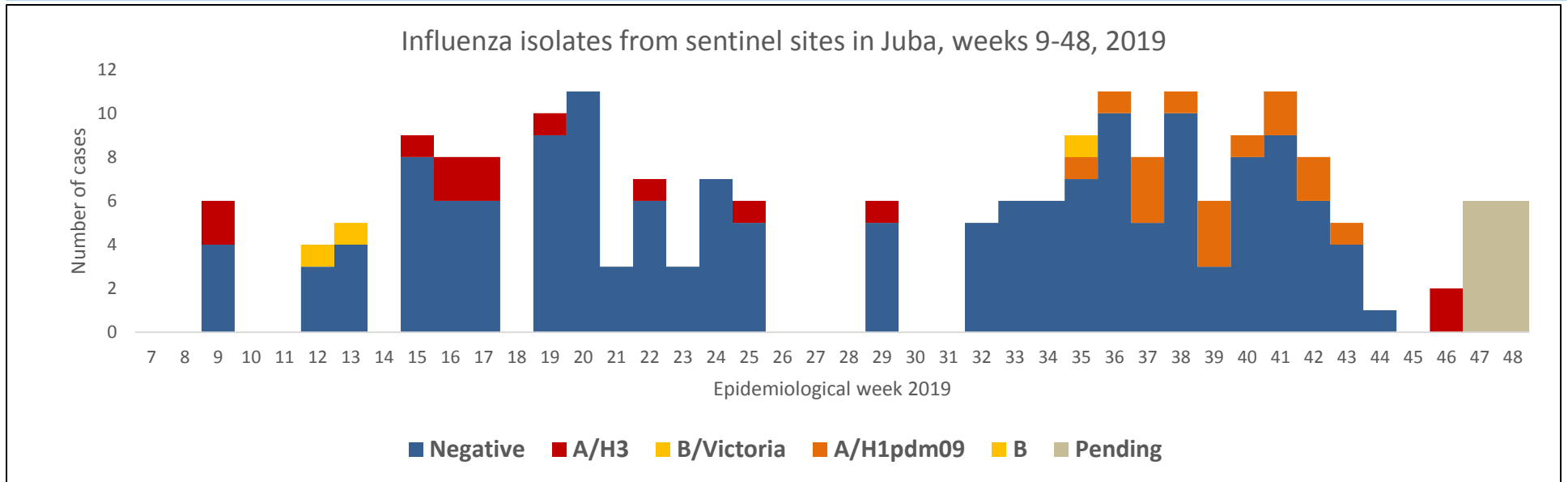


EVD suspected cases by epi week and EVD cases definition (CD), South Sudan - 2018 and 2019.



- Most of the suspect EVD cases have been reported in adults 18 years and above (72%)
- Similarly, most suspect EVD cases have been reported in males (56%)
- 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

## Routine Sentinel Surveillance | Human Influenza



- 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 229 ILI/SARI samples have been collected and tested in UVRI 192 being negative; 2 (1%) positive for Influenza B (Victoria); 2(1%) positive for Influenza A (H3); and 1(1%) positive for Influenza A (H1)pdm09 and 6 samples are pending test results .
- Since the beginning of 2019; Influenza A (H3) has been the predominant isolate. However, Influenza A (H1)pdm09 emerged from week 35 as a new circulating strain.

# Polio Virus Situation & South Sudan

- Globally Type 2 and 3 Wild Polio Virus have been eradicated
  - However 116 confirmed WPV1 cases were reported in 2019: 22 from Afghanistan and 94 Pakistan compared to 33 reported in 2018, in the same time frame. (as at Dec13 2019)
- Africa region is on track to be certified Wild Polio virus free in 2020.
  - South Sudan expected to present Polio free documentation status in March 2020. Team from the Africa Regional Certification Committee expected in the country to verify and validate activities in Jan 21-31 2020
- However in 2019, 208 cVDPV2 were reported from AFP cases: Zambia (1), Chad (1), Angola (71), **Central African Republic-CAR (16)**, China (1), **DRC (53)**, **Ethiopia (5)**, Ghana (9), Nigeria (18), Niger (1), Benin (6), Togo (3), Philippines (9), Pakistan (11), and (3) from Somalia
- In 2019, 121 cVDPV2 were reported from environmental surveillance samples as follows; Nigeria (58), **CAR (9)**, Ghana (11), Philippines (14), Pakistan (19), Angola (7), Côte d'Ivoire (2), and Cameroon and 138 from healthy contacts
- South Sudan
  - South Sudan Reported the last polio case in 2009 and last cVDPV2 in 2014
  - OPV3 immunization coverage is 42% as of October 2019 - improve vaccination coverage
  - Borders & community surveillance areas of concern and need to enhance surveillance
  - What we need from partners - be our eyes on the ground. Look, ask for signs of acute weakness in limbs
  - Report those to WHO or nearest HFs

With all the above South Sudan still remains at risk

# Undiagnosed Animal (Livestock) Deaths in Pibor

## Background

- On 14 Nov 2019 MSF shared a report of animal deaths in Pibor county in the aftermath of floods that devastated the county
- The locations involved include: Lekuangle; Langachot; Lenyeris; Tangajon; Kondako; & Teneth
- The communities reported more than 300 animal deaths including cows, goats and dogs over a three-week period in the aftermath of the floods.
- The state authorities in Boma raised concerns of a possible public health risk and therefore requested support to investigate the deaths
- We present the preliminary verification findings by FAO and VSF-Germany.

Fig. 1: Map of Pibor County in South Sudan

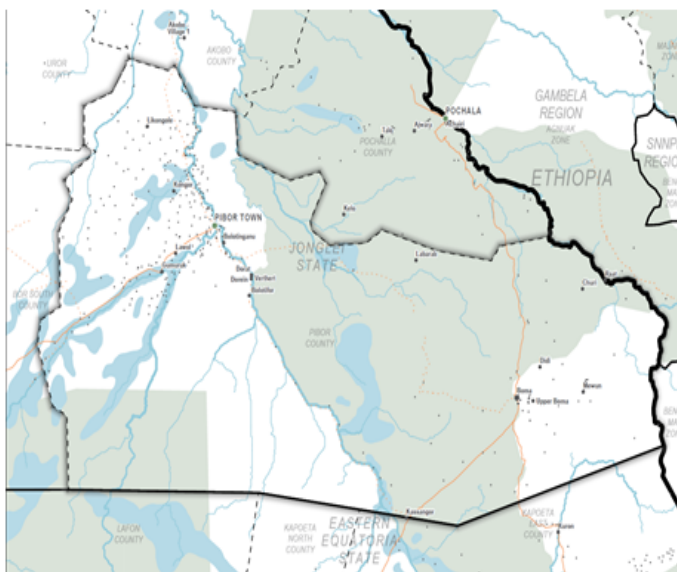
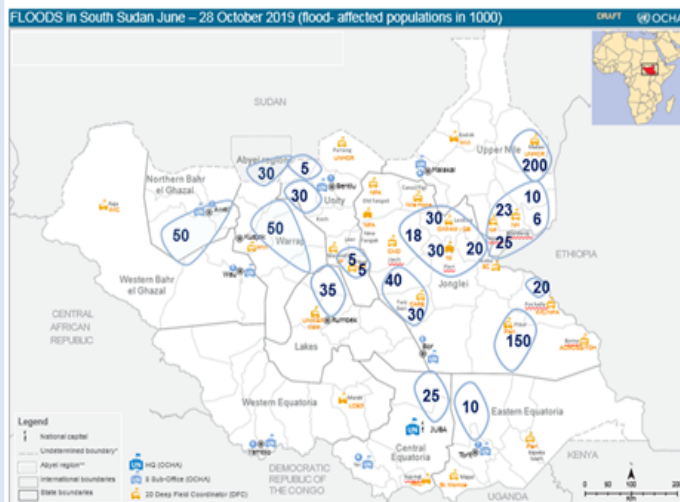


Fig. 2: June – October Flood affected population in 1000



## Situation update

- VSF Germany and FAO have confirmed that there are no outbreaks of priority animal diseases in Pibor due to a consistent vaccination programme over the years.
- The livestock deaths reported in the aftermath of the floods were mainly due to starvation (the rains water covered most part of pastures) and drowning affected the small ruminants.

## Intervention scale-up plan

- Animal treatments and deworming are priority since animals will be affected by internal and ecto-parasites including insect bites. other diseases such as pneumonia, foot rot, and leptospirosis
- Vaccinations particularly against priority animal diseases such as anthrax, blackleg, and PPR.
- Review approach on Carcasses disposal.
- Increased awareness and training of CAHWs on case definition for the zoonoses like Rift Valley Fever and anthrax
- A team from the Ministry of Livestock and Fisheries is being deployed to work with the state Ministry of Agriculture and Animal Resources collecting samples and more epidemiological information.

## Public health implications

- Surveillance for IDSR priority diseases in Pibor is underway.
- There are currently no reports of human cases linked to the human deaths
- Malaria remains the top cause of morbidity, followed by acute respiratory infections and acute watery diarrhoea

## Response | Suspect epidemics; Current Malaria trends 48, 2019

Malaria was the leading cause of morbidity and mortality, accounting for **66.1%** of all morbidities and **48.9%** of all mortalities in week 40, 2019

There are 3 Counties with malaria trends that exceeded the threshold (third quartile of trends for the period 2013-2017) and these include the following:

1. Bentiu hub( Rubkona)
2. Kwajok hub(Abyei)
3. Torit hub (Kapoeta South)

# ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS

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

# Confirmed Rift Valley fever, Obongi, Uganda (ex. Kajo-keji, South Sudan)

## Background

- On 25 Nov 2019, a suspect hemorrhagic fever sample of MS a 35-year-old male South Sudanese refugee, a resident of Palorinya refugee camp, Zone 1, Pasu-Block 3; Obongi, Uganda tested positive for Rift Valley Fever at Uganda Virus Research Institute (UVRI).
- Before the illness started, MS left Palorinya refugee camp and travelled to Ajira village, Kinyiba boma, Kangapo II payam, Kajo-keji county, South Sudan on 11 Nov 2019 to harvest cassava from his garden.
- While in Ajira, MS developed fever and headache on 15 Nov 2019 and was treated for malaria without improvement. MS returned to Palorinya refugee camp (Uganda) from Kajo-keji (South Sudan) on 20 Nov 2019.
- He thereafter received treatment from a native healer; then in Temundi medical clinic; Balemaling HCII; and eventually in Moyo hospital where he was isolated; a blood sample obtained, before he passed away on 21 Nov 2019. A supervised burial was done.

Fig. 1: Map of RVF affected areas at the South Sudan – Uganda border

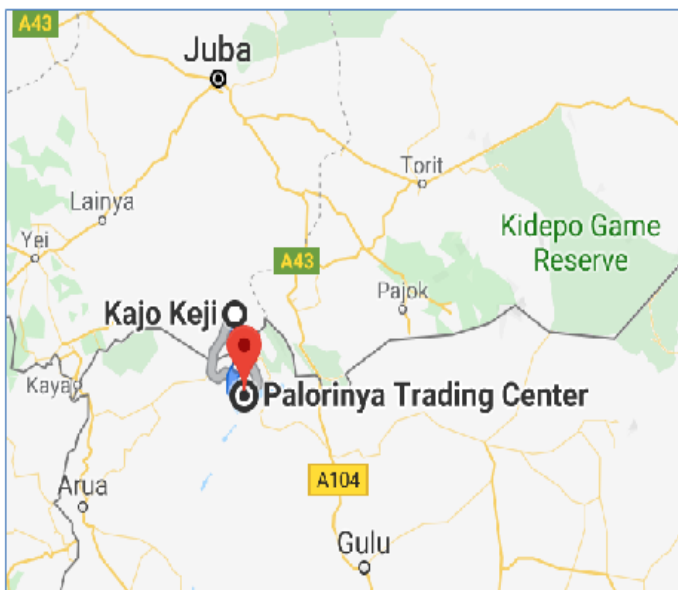


Fig. 2: Common RVF symptoms in affected persons

### RIFT VALLEY FEVER IN PEOPLE

Most people with RVF have no symptoms at all or only mild illness.

RVF does not spread from one person to another person.

People who do become ill might experience:



Typically, patients recover 2-7 days after onset of illness if treatment is sought early. In a small number of patients, more serious illness can happen, including symptoms of:

- Vomiting
- Bleeding (blood in vomit, blood in diarrhoea, bleeding gums)
- Headaches, coma, or seizures
- Blurred vision, reddening of the eyes, decreased vision, and sometimes loss of vision

## Rapid Response Team (RRT) deployment to Kajo-keji

- Based on the RVF incubation period of 2-6 days, it is possible that MS was exposed during his visit to Ajira from 11<sup>th</sup> to 14<sup>th</sup> Nov 2019.
- WHO and FAO supported the Min. of Health and Min. of Livestock and Fisheries to deploy a multidisciplinary team with a medical officer; veterinary officer; two laboratory experts, an entomologist; communications expert, and IPC expert
- The team departed from Juba for Kajo-keji on 5 Dec 2019.

## Findings from the field investigations

- The deceased MS visited Bori PHCC two day after development of the sign and symptoms
- No flooding in the area (Ajira)
- Presence of 4 instars larvae in one of the water point visited
- No sign and symptoms have developed among all the contacts
- There is no any abnormal abortion/mortality seen or reported in livestock
- Ajira PHCU not functional
- Presence of community, Human and animal health workers and community mobilizers
- No any new RVF case or death reported
- Four human samples and 19 animal samples were collected for testing

## Additional context information

- Nearly one million people in South Sudan have been affected by Floods. However, Kajo-keji has not reported any flooding.
- South Sudan confirmed a RVF outbreak in Eastern Lakes state in 2018. At least 58 cases (4 deaths) were reported.
- In Sudan an ongoing floods-precipitated RVF outbreak has registered 345 cases (11deaths) from six states.



# 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
<b>Ongoing epidemics</b>								
Measles	Wau County and PoC-AA	28/1/2019	NR	653 (0.0015)	yes	Yes	yes	N/A
Rubella	Wau PoC-AA	25/3/2019	NR	11(0)	yes	No	yes	N/A
Hepatitis E	Bentiu PoC	03/01/2018	5	113 (0.044)	Yes	No	Yes	Yes
Measles	Pibor	17/01/2019	NR	2073 (4.82)	yes	No	yes	N/A
Measles	Bentiu PoC	24/04/2019	26	223(0.0117)	Yes	Yes	Yes	N/A
Measles	Budi	03/10/2019	2	31(0.165)	Yes	No	Yes	N/A
Measles	Ikotos	15/11/2019	9	91(0.099)	Yes	No	Yes	N/A
Measles	Aweil South	15/03/2019	NR	94(0.032)	Yes	No	Yes	N/A
Measles	Jur River	06/02/2019	64	197(0.324)	Yes	Yes	Yes	N/A
Measles	Juba	21/11/2019	NR	6( 0.1667)	Yes	No	Yes	N/A
Measles	Yambio	6/1/2019	2	72(0.23)	yes	Yes	yes	N/A
Measles	Maban	1/11/2019	7	34(204)	yes	No	Yes	N/A
Measles	Aweil East	19/2/2019	2	74(0.27)	yes	No	Yes	N/A

## ● Measles outbreaks confirmed in 2019

- **21 counties** – Pibor; Abyei; Mayom; Gogrial West; Aweil South; Melut; Gogrial East; Juba; Tonj North; Aweil West; Aweil East; Renk; Wau; Tonj North; Jur River; Yambio, Budi, Ikotos, Maban and Aweil East.
- **4 PoC/IDP sites** – Wau PoC AA; Bentiu PoC; Malakal PoC; & Juba PoC; Mangateen IDPs.
- **New confirmed measles outbreaks and response dates:**
  - Ikotos: **planned campaign on 9<sup>th</sup> Dec, 2019**
  - Aweil South; **planned campaign**
  - Budi; **planned campaign on 9<sup>th</sup> Dec, 2019**
  - Mangateen IDPs/ Juba: **planned campaign**
  - Maban: **campaign started on 5<sup>th</sup> Dec, 2019**

# Measles Outbreak situation & response by county as of week 48, 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%	2-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%	2-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%	2-Apr-19	Done	44,400 (91%)	controlled	
7	Tonj South	131,857	6	41	47	35.6	0	0.0%	30-Jul-19	Done	30,903(118%)	active	
8	Jur River	192,937	7	190	197	54.4	1	1.0%	3-Feb-19	Done	35%	active	mop up underway
9	Wau	256,363	13	641	653	254.7	5	0.8%	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%	4-Apr-19	Done	26477 (97%)	controlled	
12	Aweil South	112,162	10	84	94	94.0	0	0.0%	15-Mar-19	Done	24,261 (116%)	reactive	
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	2065	2073	922.9	9	0.4%	12-Jan-19	Done	13,965 (30%)	controlled	mop up underway
15	Renk	218,083	3	4	7	3.2	0	0.0%	9-Jan-19	Done	7,712 (79.8%)	controlled	
16	Juba PoC	38,500	2	3	5	13.0	0	0.0%	5-Apr-19	Done	74%	controlled	
17	Bentiu PoC	103,424	45	178	223	178.9	1	0.5%	1-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	0.1	1	6.3%	5-Sep-19	Done	63.00%	controlled	
21	Budi	12,986	5	18	31	283.7	0	0.0%	1-Oct-19	pending		active	
22	Ikotos		5	87	91		7	0.3%	15-Nov-19	pending		active	
23	Juba/Mangateen		4	2	6		0	0.0%	1-Nov-2019	pending		active	
24	Maban		32	2	34		0	0.0%		pending	7394.00%	active	
	<b>Total</b>	<b>4,289,360</b>	<b>169</b>	<b>3,795</b>	<b>3,963</b>	<b>92.4</b>	<b>23</b>	<b>0.6%</b>					

## Measles and Rubella Laboratory Test Results, week 48 of 2019 (1)

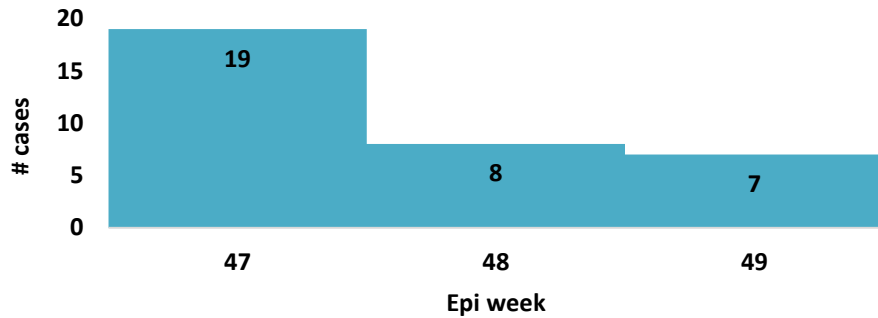
Location/Health Facility	Date sent to Juba	Date Received at PHL	Suspected Disease	Lab results
Juba/ Oasis Rejaf	11/30/2019	12/4/2019	measles	Measles IgM positive
Juba/ Oasis Rejaf	11/30/2019	11/4/2019	measles	Measles IgM positive
Juba/ Oasis Rejaf	11/30/2019	12/4/2019	measles	Measles IgM positive
Juba na Bari / Al sabah	11/25/2019	12/4/2019	measles	Measles IgM positive
Jur River/ Tella	11/29/2019	12/4/2019	measles	Measles IgM positive
Jur River/ Tella	11/30/2019	12/4/2019	measles	Measles IgM positive
Jur River/ Tella	11/30/2019	12/4/2019	measles	Measles IgM positive
Jur River/ Tella	11/30/2019	12/4/2019	measles	Measles& Rubella IgM negative
Lotukei (Budi)/ Kikilai PHCC	11/25/2019	12/4/2019	measles	Measles IgM positive
Lotukei (Budi)/ Kikilai PHCC	11/25/2019	12/4/2019	measles	Measles IgM positive
Lotukei (Budi)/ Kikilai PHCC	11/25/2019	12/4/2019	measles	Measles&Rubella IgM negative
Lotukei (Budi)/ Kikilai PHCC	11/25/2019	12/4/2019	measles	Measles IgM positive
Lotukei (Budi)/ Kikilai PHCC	11/25/2019	12/4/2019	measles	Measles IgM positive

### During this week 27 sample results were released as follows :

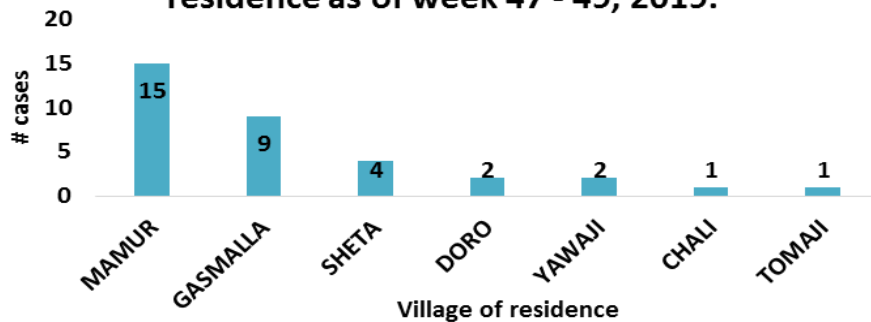
- Juba Oasis/Rejaf (3) samples:
  - (3) measles IgM positive
- Juba na Bari / Al sabah (1) sample
  - (1) measles IgM positive
- Jur River/ Tella (4) samples:
  - (3) measles IgM positive
  - (1) measles/rubella IgM negative
- Aweil East (2) samples:
  - (2) measles IgM positive
- Lotukei (Budi)/ Kikilai PHCC (5) samples:
  - (4) measles IgM positive
  - (1) measles & rubella IgM negative

# Confirmed Measles Outbreak in Maban County

Epi curve for measles cases in maban county as of week 47 - 49, 2019.



Measles cases in maban county by village of residence as of week 47 - 49, 2019.



Age group	Cases	Percentage	Cum. %
0 - 4 Years	28	82%	82%
10 - 14 Years	2	6%	88%
5 - 9 Years	4	12%	100%
<b>Grand Total</b>	<b>34</b>	<b>100%</b>	

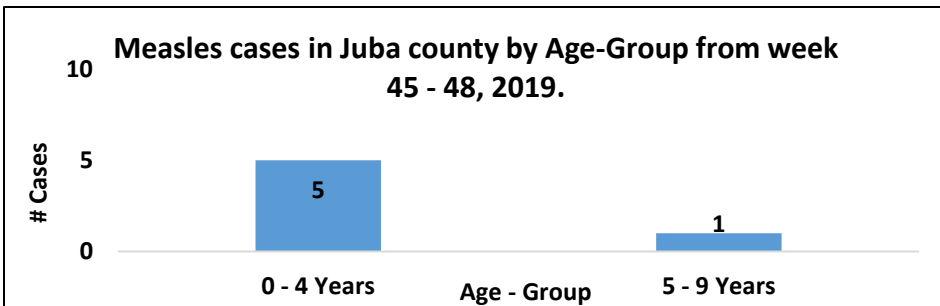
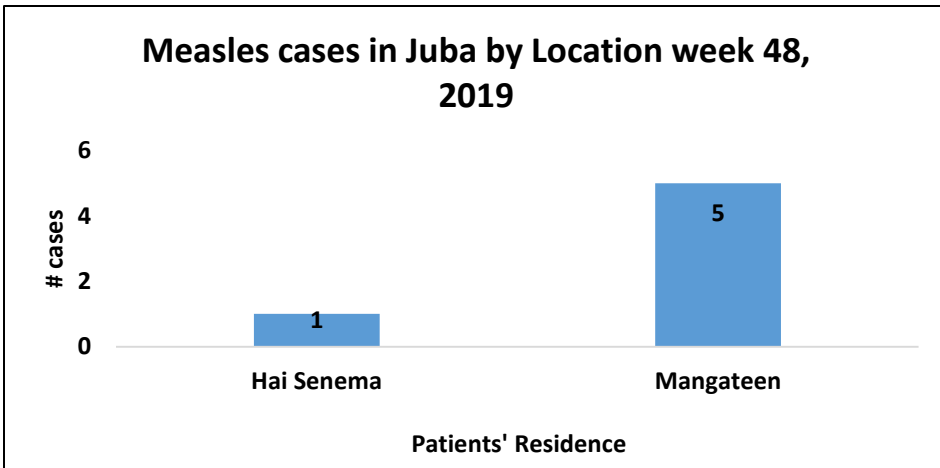
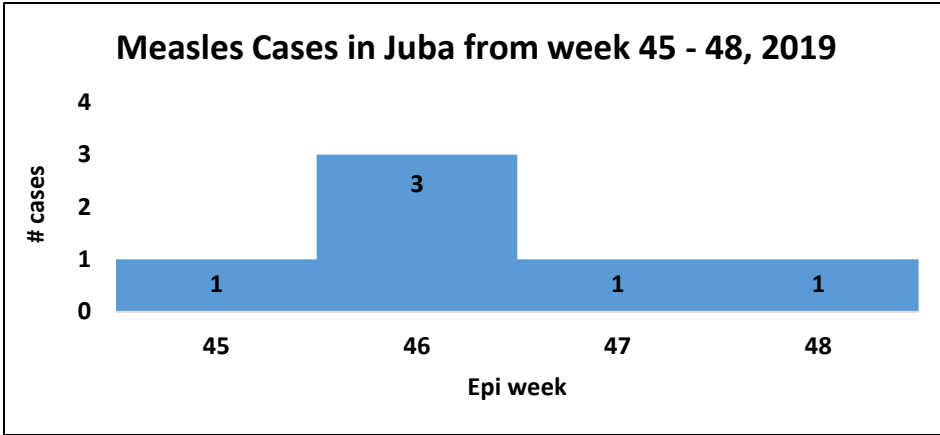
## Descriptive Epidemiology:

- Initial cases were reported on 1<sup>th</sup> November 2019
- A total of 34 Suspected Measles case have been line listed in Maban county
- 07 new cases were reported in week 49, 2019
- 12 samples were collected of which, 11 samples tested positive for measles and (1) positive for Rubella IgM
- The most affected payams are: Mamur and Gasmalla
- 82% of the cases are less than 5 years of age
- 32% of cases are females while 62% are male
- No deaths reported

## Response and Recommendations:

- Rapid response team deployed to support the response
- Reactive campaign micro plan has been developed
- Surveillance and line-listing are ongoing
- Case management underway
- SMOH, MSF-B are conducting a reactive campaign from 4<sup>th</sup> Dec, targeting 7394 children age 6 months to 15 years in the affected areas in Maban.

# Confirmed Measles Outbreak in Juba County / Mangateen IDP Camp



## Descriptive Epidemiology:

- Initial cases were reported on 11<sup>th</sup> November 2019
- A total of 06 suspected measles case have been in Juba county since week 45 of 2019.
- 01 new cases were reported in week 48, 2019
- 04 samples were collected and all tested positive for measles IgM
- The most affected payam is Mangateen
- 83% of the cases are less than 5 years of age
- 17% of cases are females while 83% are male
- No deaths were reported

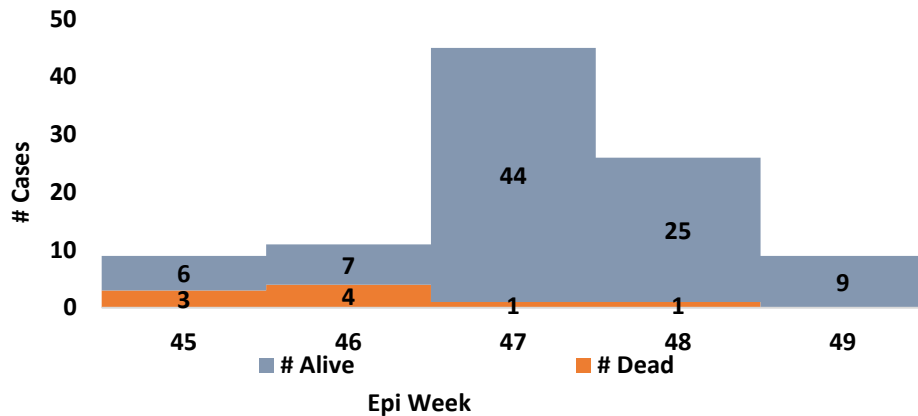
## Response and Recommendations:

- Rapid response team deployed to support the response
- Reactive campaign micro plan has been developed , SMOH, IMC and partners are planning to conduct a reactive campaign next week
- Surveillance and line-listing are ongoing
- Case management underway

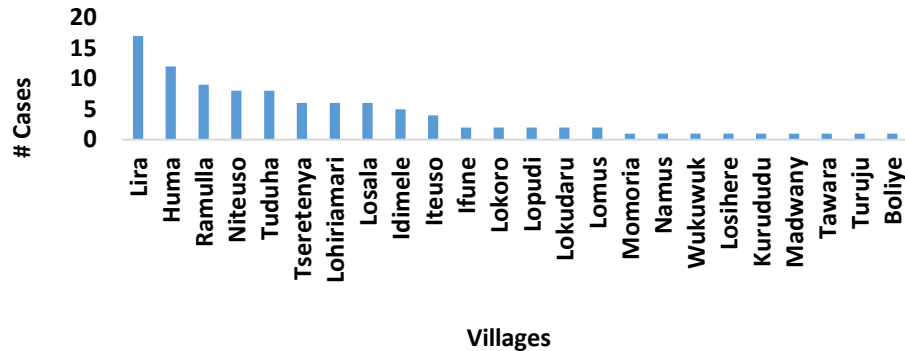
Age-Group	Cases	Percentage	Cum. %
0 - 4 Years	5	83%	83%
5 - 9 Years	1	17%	100%
<b>Grand Total</b>	<b>6</b>	<b>100%</b>	

# Confirmed Measles Outbreak in Ikotos County

Measles cases in Ikotos from week 40 to week 49, 2019



Measles cases in Ikotos by Village week 40 to 49, 2019



Age Group	Cases	Deaths	Percentage	CFR	Cum. %
0 - 4 Years	71	8	78%	11.3%	78%
5 - 9 Years	9	1	10%	11.1%	88%
15+ Years	10	0	11%		99%
10 - 14 Years	1	0	1%		100%
<b>Grand Total</b>	<b>91</b>	<b>9</b>	<b>100%</b>		

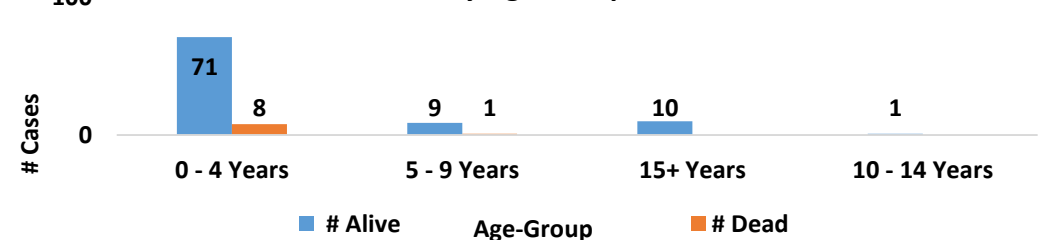
## Descriptive Epidemiology:

- Initial cases were reported on 15<sup>th</sup> November 2019
- A total of 91 Suspected Measles case have been in Ikotos county since week 45 of 2019.
- 09 new cases were reported in week 49, 2019
- 06 samples were collected initially of which, 05 samples tested positive for measles and (1) negative for measles/Rubella IgM negative
- The most affected payams are: Lira, Huma and Tuduha
- 78% of the cases are less than 5 years of age
- 54% of cases are females while 46% are male
- Total of 9 deaths reported CFR of (9.9%)

## Response and Recommendations:

- Rapid response team deployed to support the response
- Reactive campaign micro plan has been developed, SMOH, HLSS are planning to initiate the campaign by 16<sup>th</sup> Dec 2019
- Surveillance and line-listing are ongoing
- Case management underway

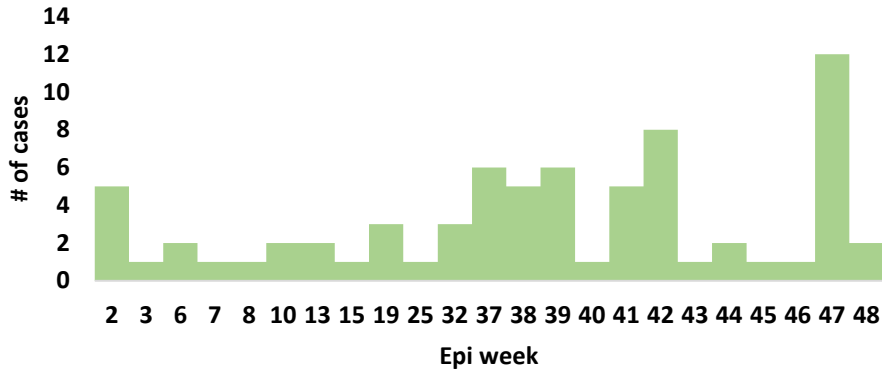
Measles cases in Ikotos by Age Group from week 45 - 49, 2019.



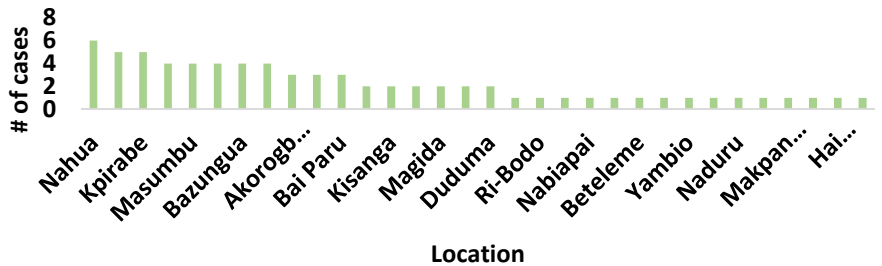


# Confirmed Measles Outbreak in Yambio County

Measles cases in Yambio from week 2 - 48, 2019.



Measles cases in Yambio by location week 2 to 48, 2019.



## Descriptive Epidemiology:

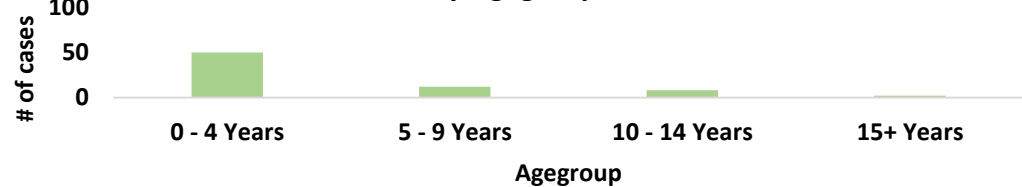
- Initial cases were reported in week 2, 2019
- A total of 72 Suspected Measles case have been in Yambio county since week 2 of 2019.
- 02 new cases were reported in week 48, 2019
- Initially (4) suspect measles cases tested IgM positive.
- The most affected payams are: Nahura and Kpirable
- 69% of the cases are less than 5 years of age
- 50% of cases are females and 50% are male
- No deaths reported

## Response and Recommendations:

- MSF-E and partners conducted a reactive campaign on 21th October targeting 30,000 children aged 6 – 59 months with a coverage of 63% . NMoH and WHO conducted a PCE with coverage of 51%
- Reactive campaign micro plan has been developed, SMOH, HLSS are planning to conduct another campaign by 14<sup>th</sup> Dec 2019
- Surveillance and line-listing are ongoing
- Case management underway

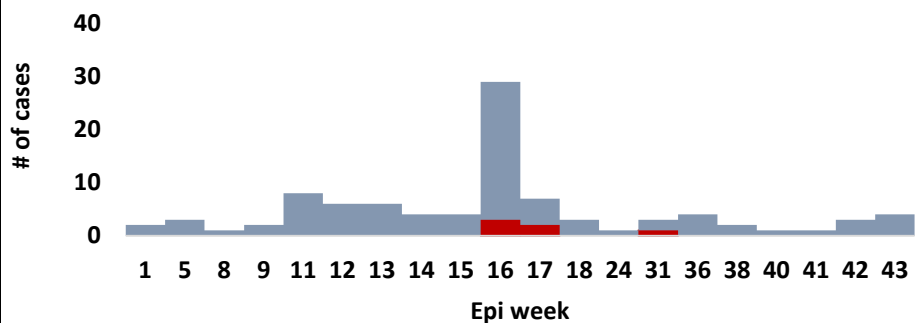
Age-Group	Cases	Percentage	Cum. %
0 - 4 Years	50	69%	69%
10 - 14 Years	8	11%	81%
15+ Years	2	3%	83%
5 - 9 Years	12	17%	100%
Grand Total	72	100%	

Measles cases in Yambio by Agegroup from week 2 to 48, 2019.

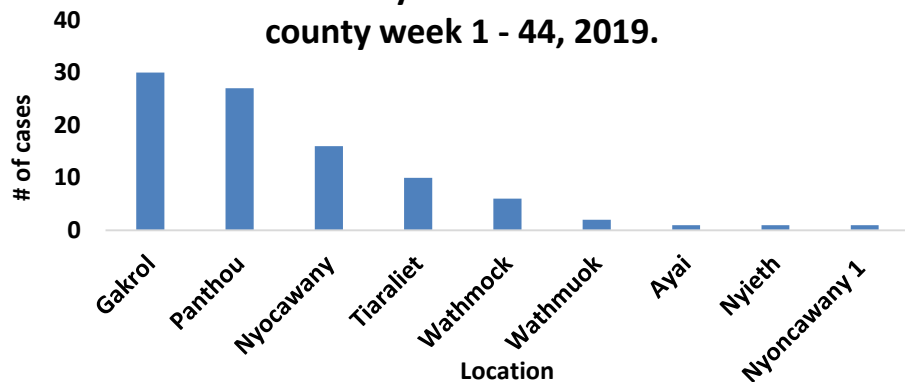


# Confirmed Measles Outbreak in Aweil South County

Measles cases in Aweil South week 1 to 43, 2019.



Measles cases by location in Aweil South county week 1 - 44, 2019.



Age Group	Cases	Percentage	Cum. %
0 - 4 Years	80	85%	85%
5 - 9 Years	13	14%	99%
15+ Years	1	1%	100%
<b>Grand Total</b>	<b>94</b>	<b>100%</b>	

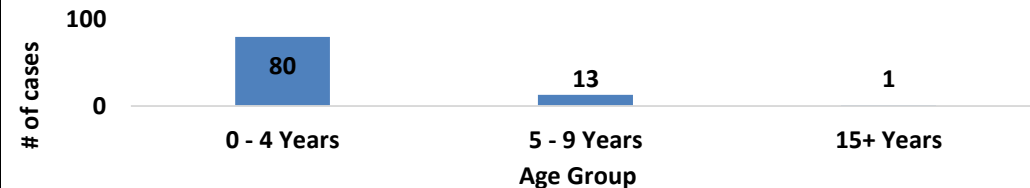
## Descriptive Epidemiology:

- Initial cases were reported on 15/03/2019
- A total of 94 Suspected Measles case have been line listed since week 01 of 2019.
- 03 new cases were reported in week 43, 2019
- Six (6) samples tested positive for measles IgM
- The most payams affected are; Gakrol and Panthou
- 85% of the cases are less than 5 years of age
- 44% of cases are females while 58% are male
- **Outbreak was detected earlier, and campaign was conducted in June with coverage of 24,261 (116%)**

## Response and Recommendations:

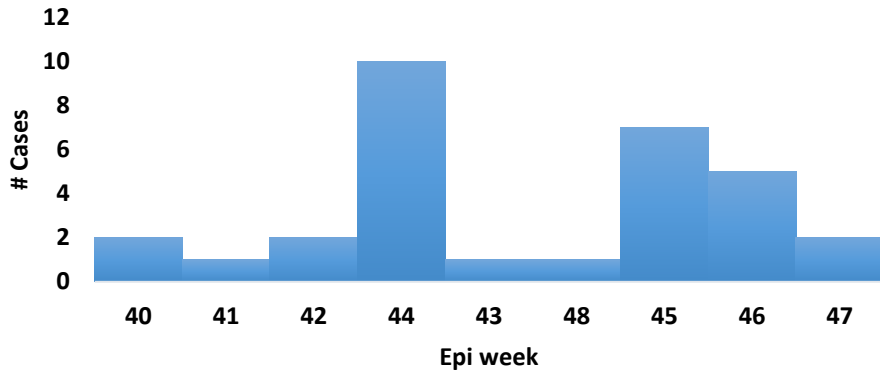
- Rapid response team deployed to support the response
- Reactive campaign micro plan development is ongoing
- Surveillance and line-listing are ongoing
- Case management underway

Measles case in Aweil South by Age Group from week 1 - 44, 2019.



# Confirmed Measles Outbreak in Budi County

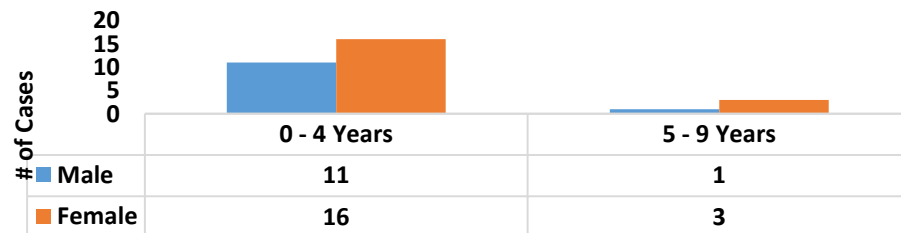
Measles cases in Budi from week 40 to week 47, 2019



Measles cases in Budi by Village week 40 to 47, 2019



Measles cases in Budi from week 40 – 47, 2019



## Descriptive Epidemiology:

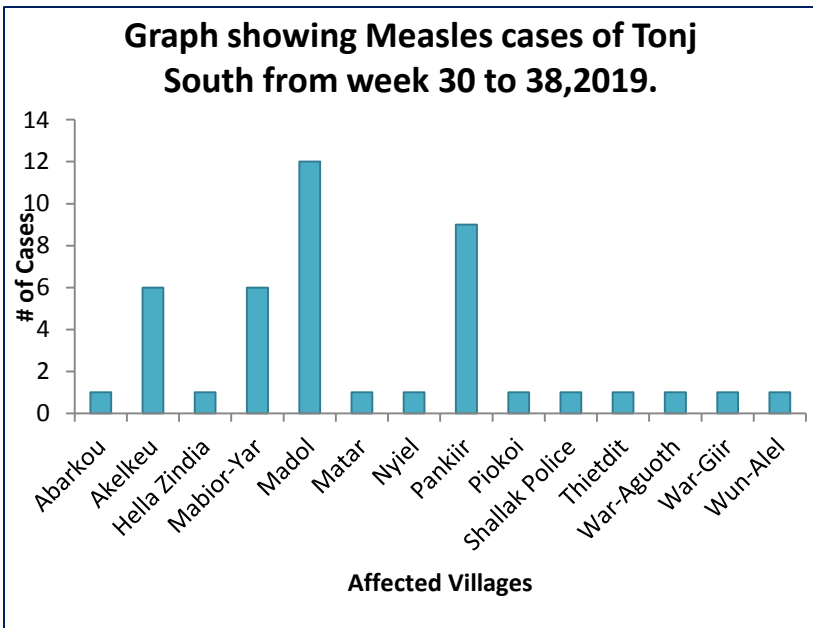
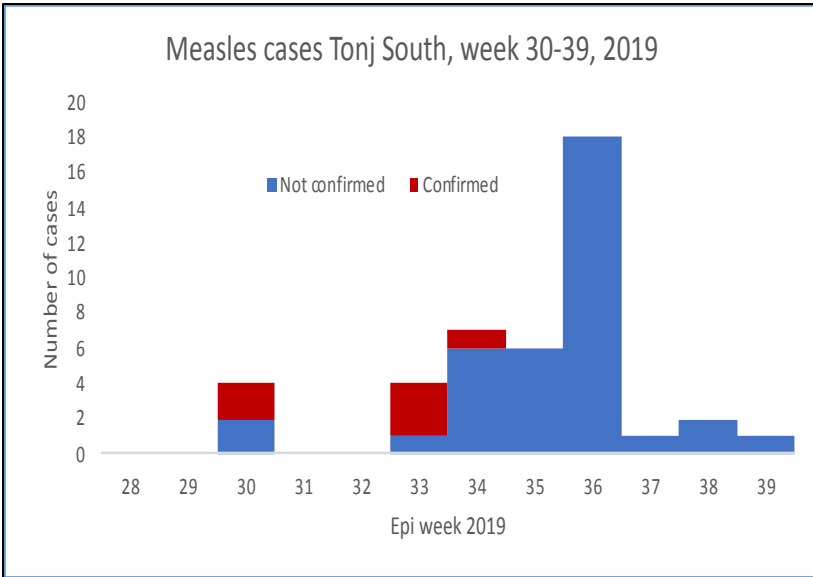
- A total of 31 Suspected Measles case have been in Budi county since week 40 of 2019.
- 2 new cases were reported in week 47, 2019
- Initially 3 samples were collected for testing in which 2 samples tested positive for measles and 1 negative
- 10 samples were collected last week of which ( 8) samples tested positive for measles and (2) negative
- 87% of the cases are less than 5 years of age
- 61% of cases are females while 39% are male
- The most affected payams are; Lohomit, Homiri and Chukudum
- One deaths reported in week 44 from Chukudum with CFR (3.22)%

## Response and Recommendations:

- Rapid response team deployed to support the response
- Reactive campaign micro plan has been developed, SMOH, Cordaid and partners are conducting the on 16<sup>th</sup> Dec, 2019
- Surveillance and line-listing are ongoing
- Case management underway in Chukudum hospital

Age Group	Cases	Percentage	Cum. %
5 - 9 Years	4	13%	13%
0 - 4 Years	27	87%	100%
<b>Grand Total</b>	<b>31</b>	<b>100%</b>	

# Measles cases in Tonj South County



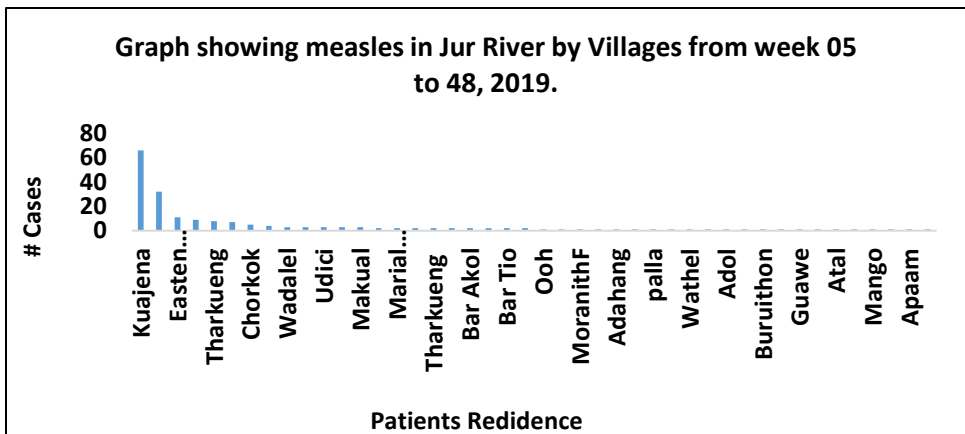
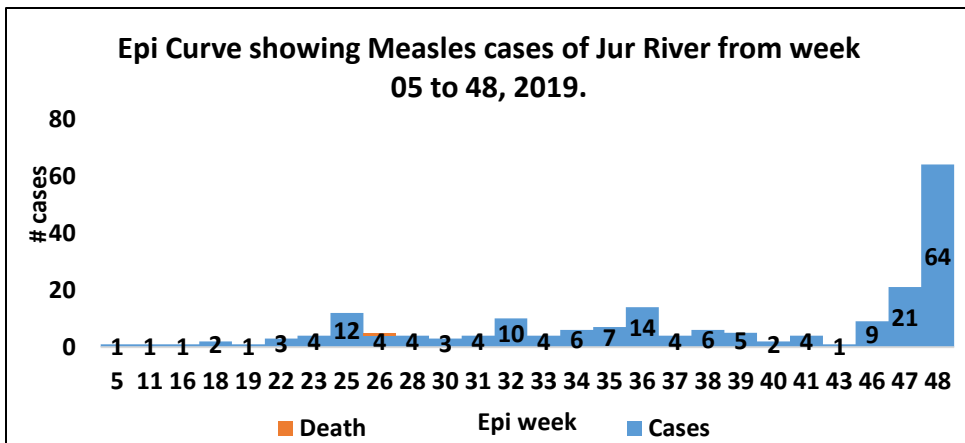
## Descriptive Epidemiology:

- 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. No new cases reported as of week 38, 2019.
- 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 conducted a reactive campaign on the 3rd week of October with total of 30,903 children vaccinated and coverage of 118 %**
- **PCE coverage in Tonj South is 96%**
- **No new cases reported since week 39, 2019**

# Measles cases in Jur River



Age-Group	Cases	Percentage	Cum. %
10 - 14 Years	8	4%	4%
15+ Years	25	13%	17%
5 - 9 Years	34	17%	34%
0 - 4 Years	130	66%	100%
<b>Grand Total</b>	<b>197</b>	<b>100%</b>	

## Descriptive Epidemiology:

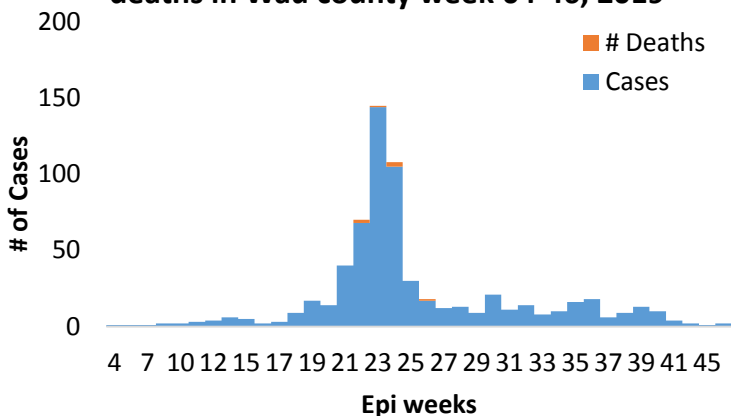
- Initial cases were reported on 6 Feb from Marialbai PHCC from Bar Aween village
- 7 measles IgM positive cases recorded since outbreak onset
- 197 cases in total were reported since the beginning of the outbreak. Most of the cases have been reported from Kingi and Tharkueng
- 64 new cases were reported in week 48, 2019
- 66% of cases were under 5 yrs old of age
- 52% are female and 48% male
- 69 % of the cases reported are not vaccinated against measles

## Response and Recommendations:

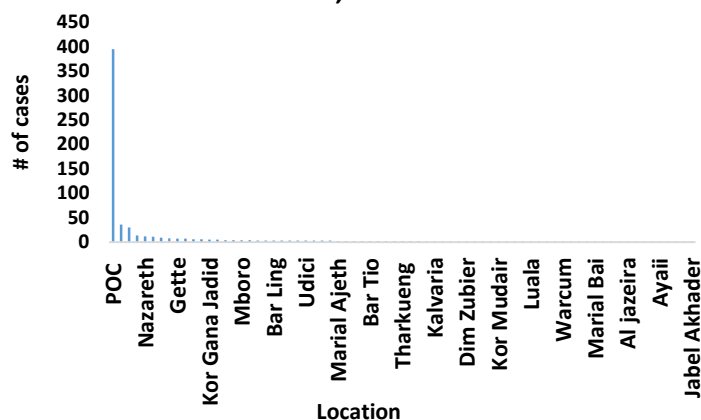
- Following the confirmation of a measles outbreak in the county, a reactive vaccination microplan targeting 60,435 children 6-59 months in five payams of Rocroc; Kuajina; Udici; Kangi; and Marial Bai/ Wau Bai has been developed.
- The other interventions include:*
- Intensified surveillance and line-listing 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 finalized a reactive campaign conducted with (92.4%) coverage**

# Confirmed Measles Outbreak in Wau County and Wau POCAA

Epi curve Showing Measles cases and deaths in Wau county week 04-46, 2019



Measles cases in Wau by location week 4 - 46, 2019.



Age-Group	Cases	# Deaths	Percent age	CFR	Cum. %
0 - 4 Years	487	7	75%	1.4%	75%
5 - 9 Years	89	0	14%	0.0%	88%
15+ Years	39	0	6%	0.0%	94%
10 - 14 Years	38	0	6%	0.0%	100%
<b>Grand Total</b>	<b>653</b>	<b>7</b>	<b>100%</b>	<b>1.4%</b>	

## 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.

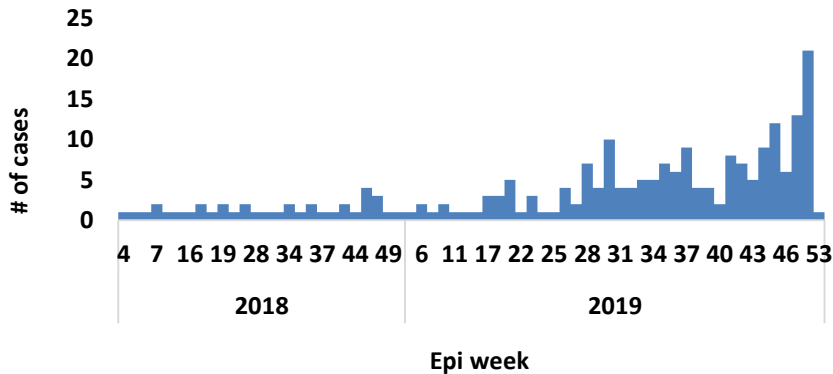
## Descriptive Epidemiology:

- Since week 4 of 2019; a total of 653 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 45 and 1 case in week 46, 2019
- 75% of the cases are under the age of 5 years 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 3<sup>rd</sup> – 10<sup>th</sup> 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

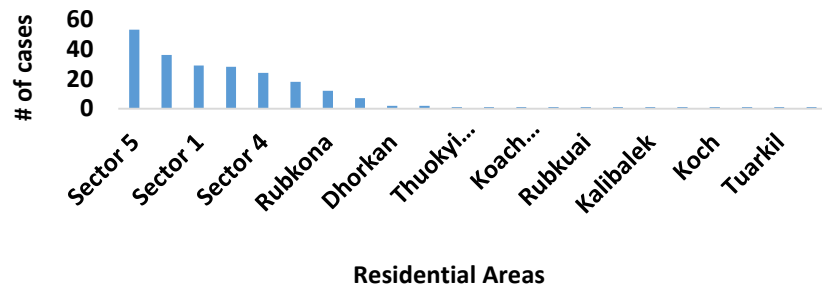
Measles cases in Bentiu from week 4 to week 48, 2019



### Epidemiological description

- Bentiu PoC has been reporting suspected measles/rubella cases since week 4 of 2019.
- 26 new cases reported in week 48, 2019
- At least 223 measles cases including 1 death (CFR 0.54%) reported since then.
- Cumulatively, 36 tested cases have tested measles IgM positive while 15 tested rubella IgM positive.
- 50% of cases are female and 50% are male
- 93% are under 5 yrs old, 7% 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 in Bentiu by Location week 4 to 48, 2019.

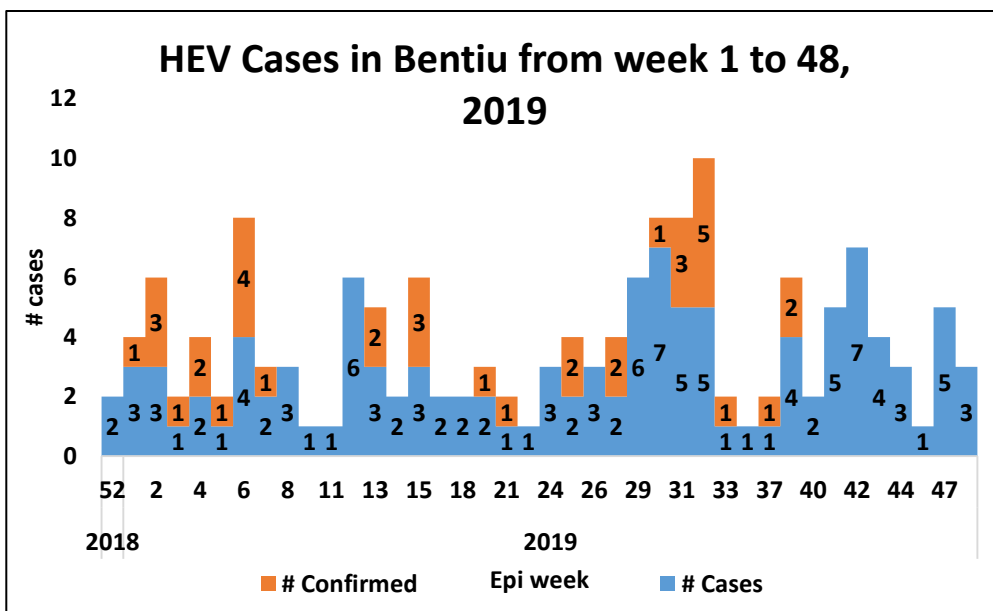


### Response actions

- 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.

AgeGroup	Cases	Percentage	Cum. %
10 - 14 Years	4	2%	2%
15+ Years	2	1%	3%
5 - 9 Years	9	4%	7%
0 - 4 Years	208	93%	100%
Grand Total	223	100%	

## Hepatitis E, Bentiu PoC



### Descriptive epidemiology

- The persistent transmission of HEV in Bentiu PoC continues with 108 cases since beginning of 2019
- Total of (113) cases line listed
- There were (05) cases reported in week 47; & (03) case in week 48, 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 (52%) out of 108 cases are male.
- Age group less than 15 years had the most cases with 83 (72%) 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 48, 2019; there were 113 cases of HEV in Bentiu PoC including 2 deaths (CFR 0.18%)

### 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

Age-Group	Alive	Dead	Grand Total	Percentage	CFR	Cum. %2
1 - 4 Years	36	0	36	31%	0%	31%
10 - 14 Years	21	0	21	18%	0%	50%
15+ Years	31	1	32	28%	3%	77%
5 - 9 Years	25	1	26	23%	4%	100%
<b>Grand Total</b>	<b>113</b>	<b>2</b>	<b>115</b>	<b>100%</b>	<b>0.02</b>	



## 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
Rubella	Yirol West	06/08/2018	NR	19(0.21)	Yes	No	Yes	N/A
Measles	Tonj South	30/07/2019	0	47(0.021)	Yes	No	Yes	N/A
Measles	Yambio	06/09/2019	NR	16(0.186)	Yes	No	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 26 November 2019

## Current situation

- Currently as of **24 November 2019**
- **3303** Cases [ 3185 confirmed & 118 probable]
- **2199** Deaths [2105 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 past 21 days (from 4 to 24 November 2019), 12 health areas and four health zones have reported cases.
- During this period, a total of 28 confirmed cases were reported, with the majority reported from Mabalako (54%; n=15 cases) and Beni (32%; n=9).
- There have been no new confirmed cases in Nyakunde Health Zone for 42 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>

