

# South Sudan

## Integrated Disease Surveillance and Response (IDSR)

Epidemiological Bulletin Wk 25, 2019 (June 17 - June 23)



# Major Epidemiological Developments W25, 2019

- In week 25, Completeness for IDSR reporting at county level was 60% . Completeness for EWARS reporting from IDP sites was 85% .

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- A total of 105 alerts were reported, of which 70% have been verified. 1 alert was risk assessed and 1 required a response.

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- Acute watery diarrhea (24), Malaria (22) and Bloody diarrhea (16) were the top common alerts generated through the EWARS in week 24, 2019.

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- EVD alert on the 4th of July from Yei River state, a 23 yrs old female, complains of vomiting blood , abdominal pain, joint and body pain, sample was collected and tested negative on PCR.
- EVD alert on 6<sup>th</sup> June, 2019 from Yei River state, a 27yrs old Male form Atende, Gimiru Yei River, sample was collected and tested negative on PCR

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- EVD alert from Maridi, A Fifty (50) years old male a farmer from Napere , presented with fever, generalized body pain and loss of appetite and body rash (tested positive for malaria and typhoid, sero Positive and on ARV's), sample was not collected. patient later died.

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- Considering the confirmed EVD outbreak in North Kivu and recently Uganda, the South Sudan EVD contingency plan has been updated and implemented to mitigate the risk of EVD importation and enhance readiness capacities.

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- Since week 12 of 2019, a total of 82 ILI/SARI samples have been collected and tested at Uganda Virus Research Institute (UVRI) with 31 being negative; two (2) positive for Influenza B (Victoria); and seven (7) positive for Influenza A (H3), test result is pending for 42 samples.

(H3)' test result is pending for 42 samples.

institute (UVRI) with 31 being negative; two (2) positive for influenza B (Victoria); and seven (7) positive for influenza A

# SURVEILLANCE PERFORMANCE

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

Table 1 | IDSR surveillance performance indicators by county (W25 2019)

Hub	Reporting		Performance	
	# counties	# reports received / # reports	Completeness	Timeliness
Aweil	5	1	20%	20%
Bentiu	9	6	67%	44%
Bor	11	2	18%	18%
Juba	6	2	33%	17%
Kuajok	7	3	43%	29%
Malakal	13	11	85%	85%
Rumbek	8	7	88%	88%
Torit	8	7	88%	75%
Wau	3	0	0%	0%
Yambio	10	9	90%	90%
<b>South Sudan</b>	<b>80</b>	<b>48</b>	<b>60%</b>	<b>54%</b>

Table 2 | Summary of key IDSR surveillance indicators

W25	Cumulative (2019)	
<b>80</b>	-	Number of counties
<b>60%</b>	<b>71%</b>	Completeness
<b>54%</b>	<b>55%</b>	Timeliness

Table 3 | IDSR report submissions

W25	Cumulative (2019)	
<b>48</b>	<b>1,539</b>	total submissions
<b>6</b>	<b>0</b>	submissions by mobile
<b>42</b>	<b>0</b>	submissions by web

- In this week 25,2019 the Completeness is **60%** and the Timeliness is **54%** while the cumulative completeness and timeliness was **71%** and **55%** respectively for 2019.
- The rolling out of the mobile phones for reporting to the health facilities is ongoing, this has affected the completeness of the surveillance system as the reports from the health facilities are captured separately.

## Timeliness and completeness for IDSR reporting at health facility level for week 25

Hub	Supporting Partners	Total No. of Health Facility	No. of Facilities Reported on Time	Timeliness %	No. of Facilities Reported not on Time	Completeness %
<u>Rumbek Hub</u>	Doctors with Africa (CUAMM)	120	55	46%	66	55%
<u>Aweil Hub</u>	Malaria Consortium, HealthNetTPO, IRC, CEDS, IHO,	145	38	26%	61	42%
<u>Bentiu Hub</u>	Cordaid, UNIDOR, IRC, CHADO, CARE International	99	9	9%	9	9%
<u>Wau Hub</u>	Cordaid, HealthNetTPO, CARE International, IHO	85	12	14%	20	24%
<u>Yambio Hub</u>	AMREF, World Vision, CUAMM, CDTY, OPEN,	214	156	73%	166	78%
<u>Bor Hub</u>		168	26	15%	30	18%
<u>Kuajok Hub</u>	GOAL, CCM, WVI, Malaria Consortium, UNKEA	137	23	17%	38	28%
<u>Torit Hub</u>	Cordaid, HLSS, CMD	177	103	58%	124	70%
<u>Juba Hub</u>	HLSS, SSUHA, HealthNetTPO, IHO	155	62	40%	67	43%
<u>Malakal Hub</u>		160	0	0%	0	0%
<b>South Sudan</b>		<b>1461</b>	<b>484</b>	<b>33%</b>	<b>581</b>	<b>40%</b>
<b>Key</b>						
				<b>Poor</b>		
				<b>Fair</b>		
				<b>Good</b>		

Above table is the IDSR data from the health facilities following the EWARS rollout to Health facilities in all 10 state Hubs. State MoH; CHD; health cluster partners; HPF partners; UNICEF/WB partners are to support the health facilities to submit their reports on time.

Figure 1 | Trend in IDSR completeness over time



2 W25 2019 (Jun 17-Jun 23)



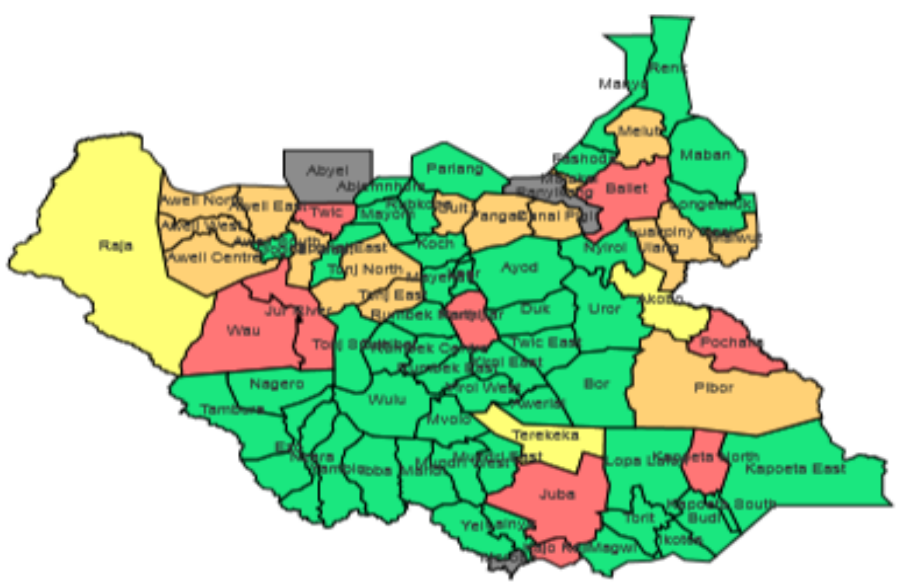
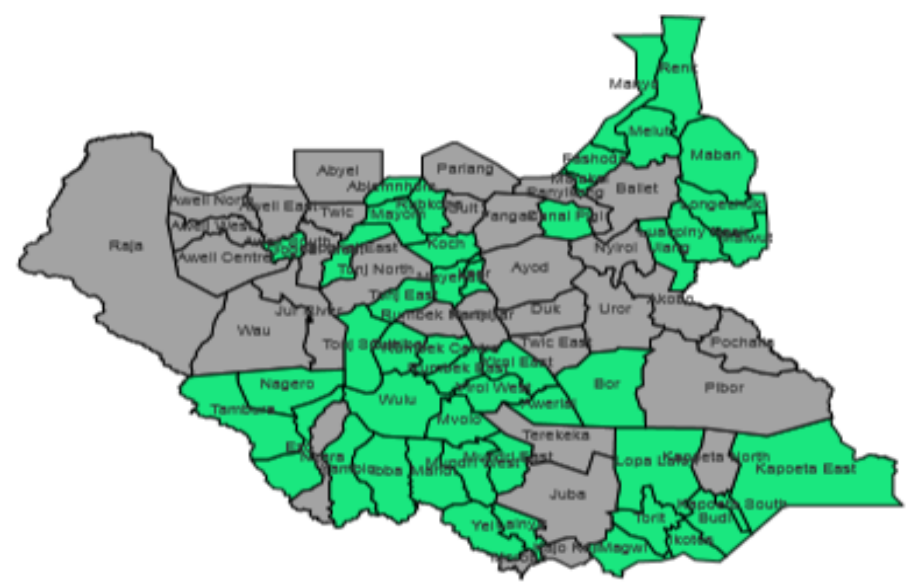
The graph shows completeness for the weekly IDSR reporting at the county level over time from 2018 to week 25, 2019.



# Surveillance | Maps of IDSR completeness by county

Map 1a | Map of IDSR completeness by county (W25 2019)

Map 1b | Map of IDSR completeness by county (2019)



3 W25 2019 (Jun 17-Jun 23)



- Counties that submitted their IDSR reports in week 25, 2019 are shown in green in map 1a.
- Counties that did not submit their IDSR reports in week 25, 2019 are shown in grey in map 1a.



Table 4 | EWARS surveillance performance indicators by partner (W25 2019)

Partner	Performance		Reporting	
	# sites	# reports received	Completeness	Timeliness
CMD	2	2	100%	100%
GOAL	2	2	100%	100%
HAA	2	2	100%	100%
HFO	2	2	100%	100%
HLSS	1	1	100%	100%
IMA	7	7	100%	100%
IMC	5	5	100%	100%
IOM	11	11	100%	100%
IRC	1	1	100%	100%
LIVEWELL	2	2	100%	100%
Medair	2	2	100%	100%
MSF-E	2	2	100%	100%
MSF-H	3	1	33%	33%
RHS	2	2	100%	100%
SMC	7	6	86%	86%
TADO	3	3	100%	100%
TRI-SS	2	2	100%	100%
UNIDO	1	0	0%	0%
UNKEA	2	0	0%	0%
World Relief	1	1	100%	100%
<b>Total</b>	<b>68</b>	<b>58</b>	<b>85%</b>	<b>85%</b>

Table 5 | Summary of key EWARS surveillance indicators

W25	Cumulative (2019)	
<b>68</b>	-	Number of EWARS reporting sites
<b>85%</b>	<b>71%</b>	Completeness
<b>85%</b>	<b>65%</b>	Timeliness

Table 6 | EWARS report submissions

W25	Cumulative (2019)	
<b>58</b>	<b>1,281</b>	total submissions
<b>0</b>	<b>29</b>	submissions by mobile
<b>58</b>	<b>1252</b>	submissions by web

4 W25 2019 (Jun 17-Jun 23)



- Completeness was **85%** and timeliness was **85%** for EWARS reporting by partners for week 25, 2019, while the cumulative completeness and timeliness were **71%** and **65%** respectively for 2019





# EVENT-BASED SURVEILLANCE

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

**Table 7 | Alert performance indicators by Hub**

Hub	W25		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	18	39%	115	68%
Bentiu	5	60%	132	86%
Bor	9	0%	108	33%
Juba	6	0%	164	53%
Kuajok	7	57%	135	26%
Malakal	11	0%	94	56%
Rumbek	18	78%	367	81%
Torit	9	33%	235	66%
Wau	4	100%	147	70%
Yambio	18	56%	288	84%
<b>South Sudan</b>	<b>105</b>	<b>43%</b>	<b>1785</b>	<b>67%</b>

**Table 8 Summary of key alert indicators**

W25	Cumulative (2019)	
<b>105</b>	<b>1785</b>	Total alerts raised
<b>43%</b>	<b>67%</b>	% verified
<b>0%</b>	<b>0%</b>	% auto-discarded
<b>1%</b>	<b>5%</b>	% risk assessed
<b>0%</b>	<b>4%</b>	% requiring a response

- A total of **105** alerts received in week 25, 2019 out of which **43%** were verified. **1%** was risk assessed and 0 required a response.

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

Event	W25		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
<b>Indicator-based surveillance</b>				
Malaria	30	50%	270	70%
AWD	21	38%	511	66%
Bloody Diarr.	16	31%	343	64%
Measles	11	45%	380	66%
Meningitis	0	0%	0	0%
Cholera	1	0%	49	82%
Yellow Fever	1	0%	17	94%
Guinea Worm	2	50%	44	61%
AFP	3	33%	102	67%
VHF	1	0%	16	75%
Neo. tetanus	3	33%	24	63%
<b>Event-based surveillance</b>				
EBS total	0	0%	30	80%

**Table 10 | Event risk assessment**

W25	Cumulative (2019)	
0	20	Low risk
26	26	Medium risk
0	30	High risk
1	13	Very high risk

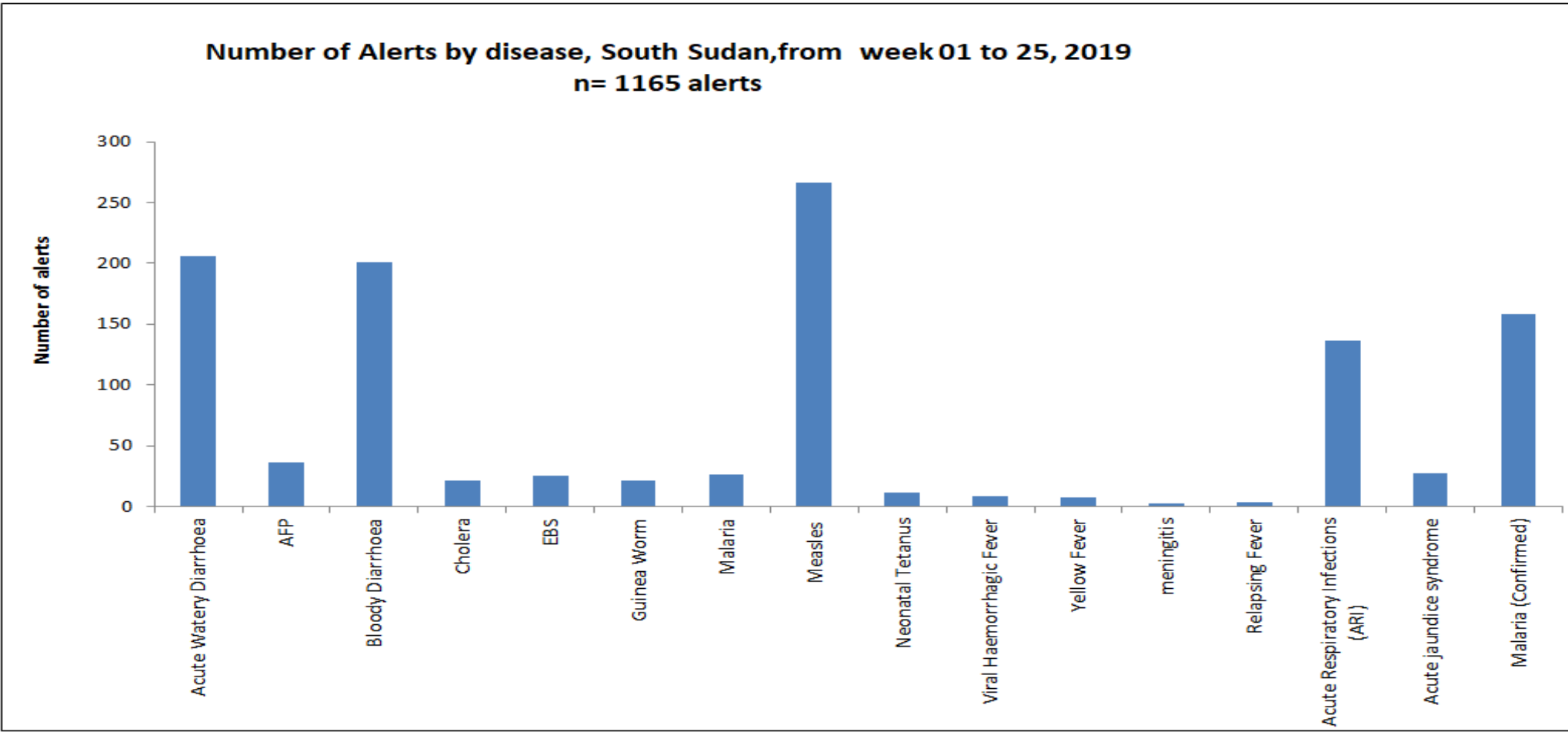
- Malaria (30), Acute watery diarrhea (21) and bloody diarrhea (16) were the top common alerts generated through the EWARS in week 25, 2019.

Alert by disease and Hubs in W25, 2019 [A total of 105 event specific alerts generated by Hubs]

Hubs	AJS	ARI	Viral Haemorrhagic Fever	Acute Watery Diarrhoea	Bloody Diarrhoea	AFP	Guinea Worm	Yellow Fever	EBS	Cholera	Malaria	Meningitis	Neonatal Tetanus	Measles	Total Alerts
Bor- Hub	1	3								1	1			3	9
Kuajok Hub					1		1				3		1	2	8
Torit Hub		1		3	3						2				9
Bentieu Hub	1				1						3				5
Yambio Hub		5		4	1						7			1	18
Juba Hub				3	1						1		1		6
Aweil Hub		2		8	2						5				17
Rumbek Hub		3		3	4	1	1				6				18
Wau Hub														4	4
Malakal Hub			1		3	2		1			2		1	1	11
Total Grand	2	14	1	21	16	3	2	1	0	1	30	0	3	11	105

Malakal alerts of VHF and Neonatal Tetanus were discarded while ABD, AFP and measles were verified. Cholera and AJS from Bor were all discarded.

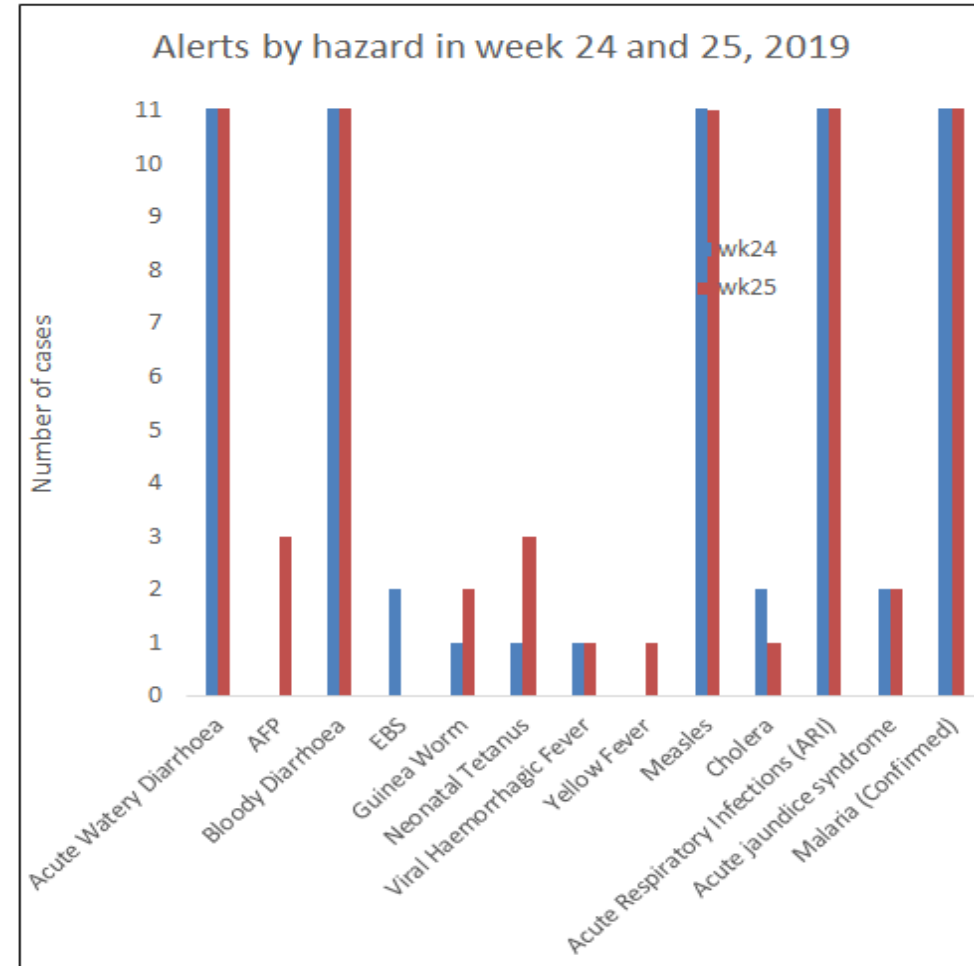
# Alerts by disease from week 1 to 25, 2019



The graph shows number of cumulative alerts from week 1 to week 25, 2019. Most common alerts generated since the beginning of the year were Measles, Bloody diarrhea, Acute watery diarrhea, Acute respiratory illness and Malaria.

## Comparison between alerts received in week 24 and 25, by disease

Row Labels	wk24	wk25	Total alerts
Acute Watery Diarrhoea	21	21	42
AFP		3	3
Bloody Diarrhoea	15	16	31
EBS	2		2
Guinea Worm	1	2	3
Neonatal Tetanus	1	3	4
Viral Haemorrhagic Fever	1	1	2
Yellow Fever		1	1
Measles	14	11	25
Cholera	2	1	3
Acute Respiratory Infections (ARI)	20	14	34
Acute jaundice syndrome	2	2	4
Malaria (Confirmed)	17	30	47
<b>Total alerts</b>	<b>96</b>	<b>105</b>	<b>201</b>



No Much difference between week 24 and week 25 alerts. Acute watery diarrhea is the same in week 24 and week 25, same as bloody diarrhea alerts and malaria

# Cumulative alerts by risk assessment stage in 2019

County	OUTCOME	RISK ASSESSED	VERIFICATION	Total Alerts
Acute Watery Diarrhoea	6	1	199	206
AFP	2		34	36
Bloody Diarrhoea	3	2	196	201
EBS	4		22	26
Guinea Worm			22	22
Neonatal Tetanus			12	12
Viral Haemorrhagic Fever			9	9
Yellow Fever			8	8
Measles	24	5	237	266
Cholera			22	22
Malaria			27	27
meningitis	2		1	3
Relapsing Fever			4	4
Acute Respiratory Infections (ARI)	6	2	129	137
Acute jaundice syndrome	3		25	28
Malaria (Confirmed)	3	1	154	158
<b>Total Alerts</b>	<b>53</b>	<b>11</b>	<b>1101</b>	<b>1165</b>

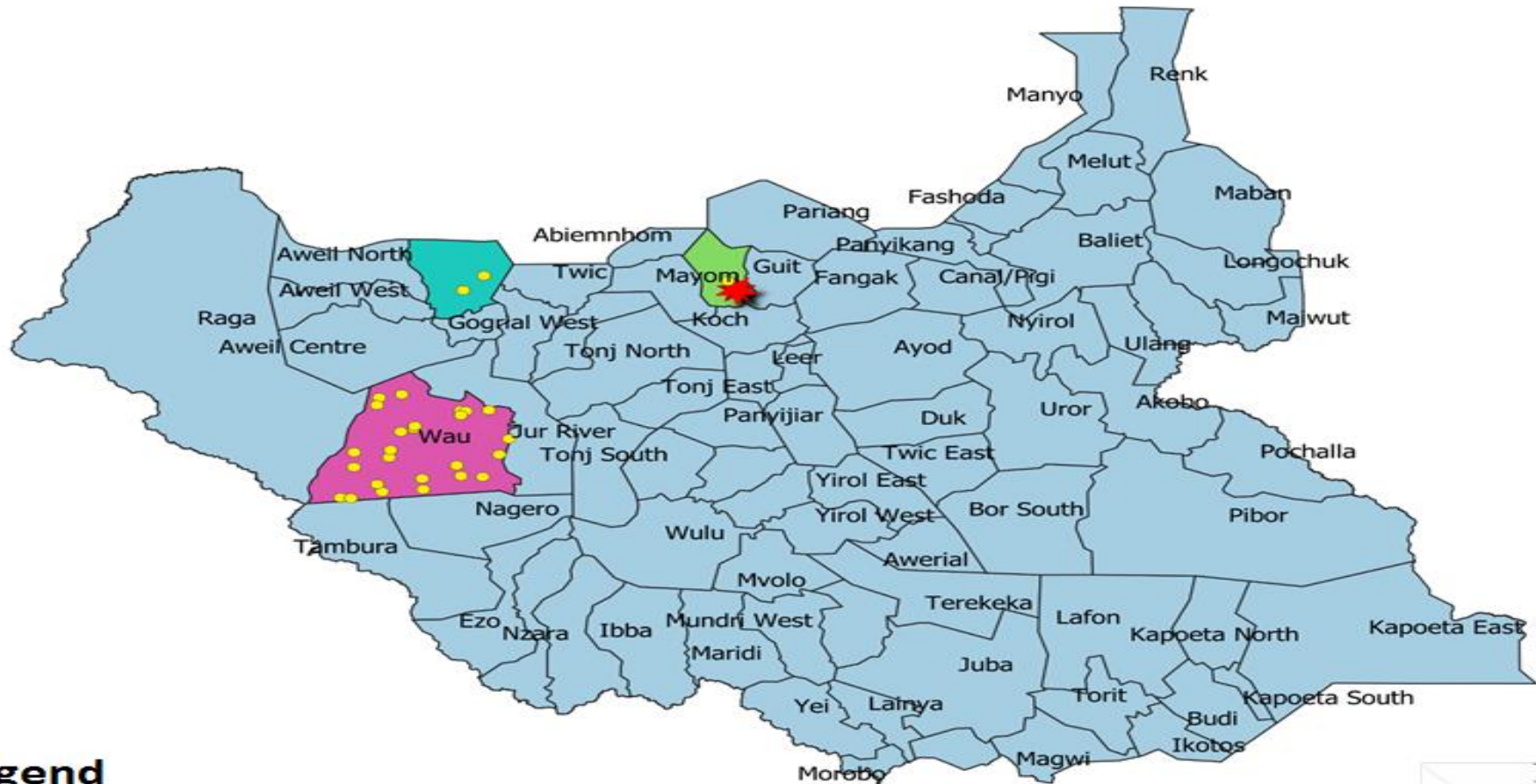
- The table shows the cumulative alerts by risk assessment status in 2019
- Of the 1165 alerts reported in 2019; 1101 (94.5%) alerts were verified and 11 (0.94%) underwent risk assessment.

# OUTBREAKS IN 2019

Major suspected and confirmed outbreaks in  
South Sudan in 2019

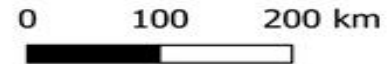


# Map of ongoing outbreak in 2019 (Measles and Hepatitis E)



## Legend

- Measles Cases
- ★ Hepatitis E.

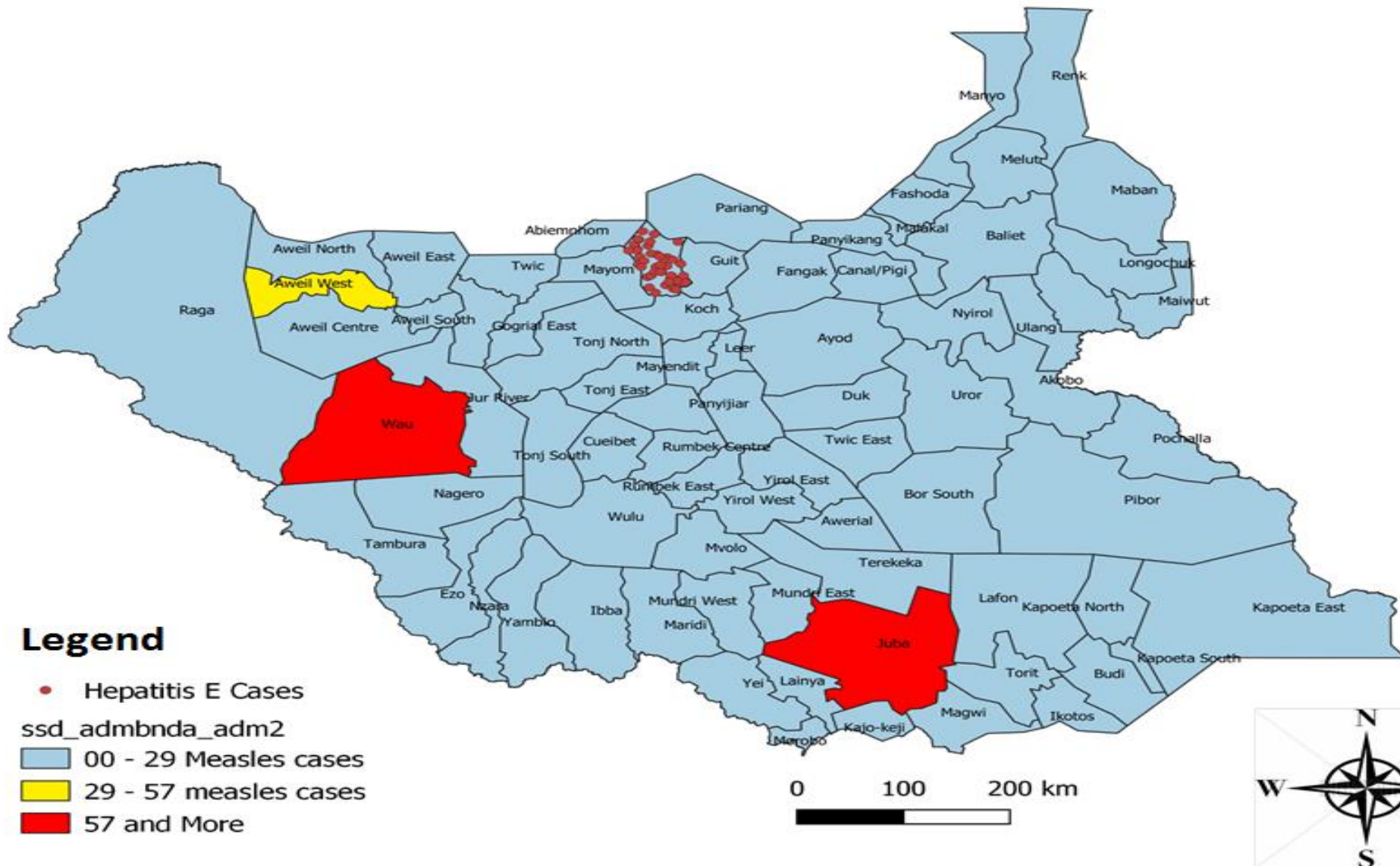


Disclaimer: The boundaries and names shown on this map do not imply official endorsement by the United Nations

# 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	Renk County	28/2/2019	0	7(0)	yes	Yes	Yes	N/A
Hepatitis E	Lankein	28/2/2019	1	10(0.1)				
Measles	Wau County and PoC-AA	28/1/2019	15	415(0.036)	yes	Yes	yes	N/A
Rubella	Wau PoC-AA	25/3/2019	0	11(0)				
Hepatitis E	Bentiu PoC	03/01/2018	1	45 (0.11)	Yes	No	Yes	Yes
Measles	Juba & PoC	15/01/2019	0	68 (0.01)	Yes	Yes	Yes	N/A
Rubella	Bentiu Poc	-	4	51(0.078)				
Measles	Tonj North	2/04/2019	0	20 (0.01)	Yes	Yes	Yes	N/A
Measles	Pibor	17/01/2019	17	822(0.020)				
Measles	Aweil West	4/04/2019	0	48 (0.02)	Yes	Yes	Yes	N/A
Measles	Bentiu PoC	24/04/2019	1	24 (0.01)	Yes	Yes	Yes	N/A
Measles	Aweil East	13/05/2019	2	19 (0.004)	Yes	Yes	Yes	N/A

# A map of cumulative outbreaks in 2019



Disclaimer: The boundaries and names shown on this map do not imply official endorsement by the United Nations.

# Response | Summary of major Controlled outbreaks in 2019

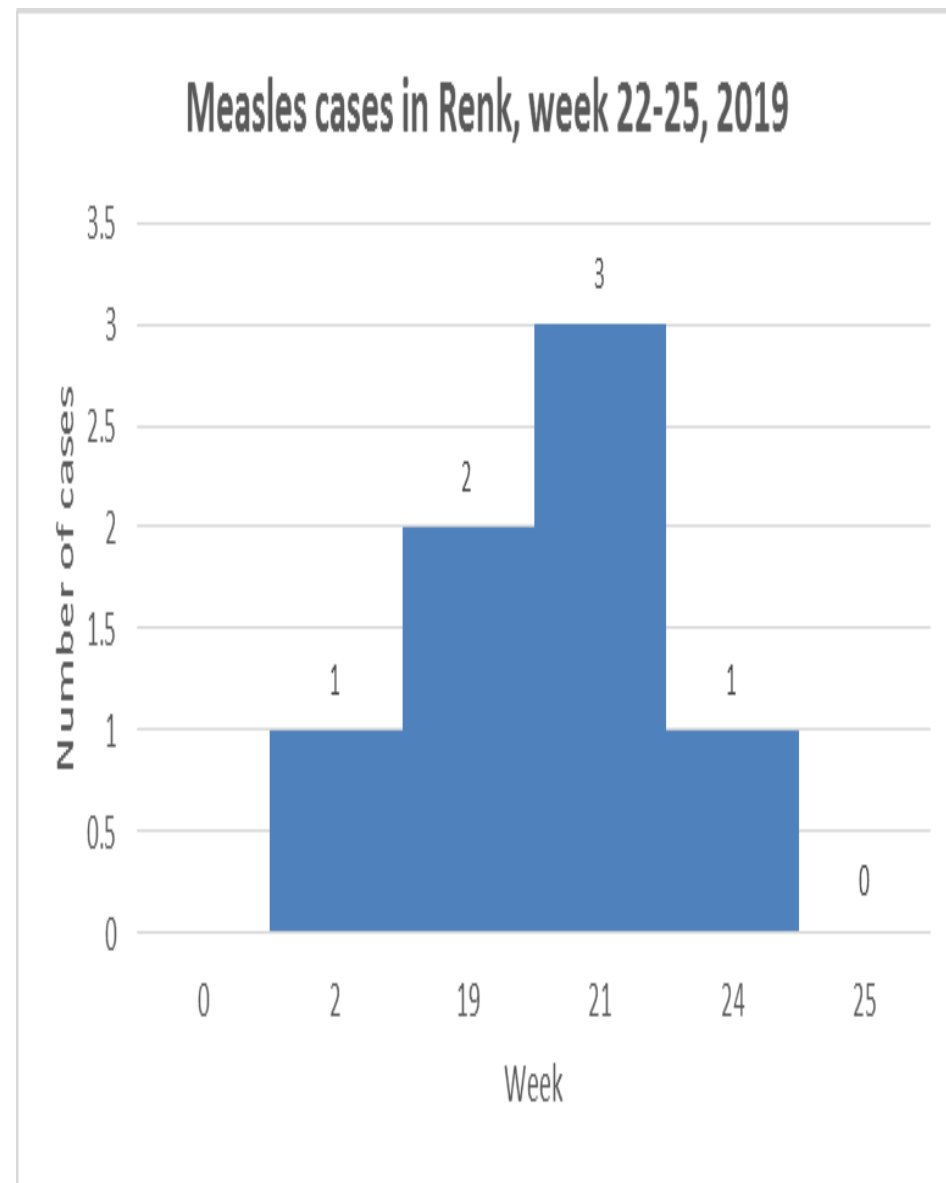
Aetiological agent	Location (county)	Date first reported	New cases since last bulletin	Cumulative cases to date (attack rate %)	Interventions			
					Case management	Vaccination	Health promotion	WASH
Rubella	Malakal PoC	25/10/2018	0	178 (0.08)	Yes	No	Yes	N/A
Yellow Fever	Nzara	23/11/2018	0	3 (0.001)	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

# ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS

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

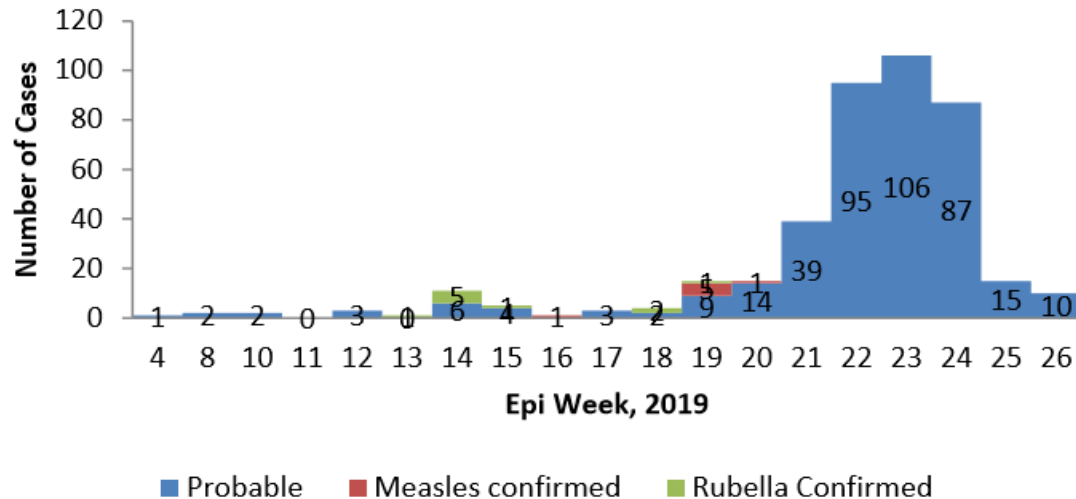
## Simple Descriptive Epidemiology and Recommendations

- As of 30<sup>th</sup> May, a new measles outbreak has been confirmed in Renk County
- Renk County is a border town in former upper Nile state. it is bordering Melut county which had measles outbreak in the beginning of the year (March 2019)
- The first suspected case was reported way back in week 2, 2019
- No new cases since week 21 and only one case in week 24
- 5 (83%) of the 6 cases are age less than 5 years
- All cases are from Renk north Payam with 3 of the cases from Saraya village and 2 from imtidad Jadid
- No new cases reported in week 25, 2019
- World Vision have conducted vaccination Campaign from 24 June 2019. A total of 16,680 children aged 6-59 months are targeted during the the campaign.
- PCE was done by MoH and WHO, coverage was 89,15%.



# Confirmed Measles Outbreak in Wau County and POCAA

Measles cases in Wau County and POCAA from week 4 to 26, 2019



## Introduction

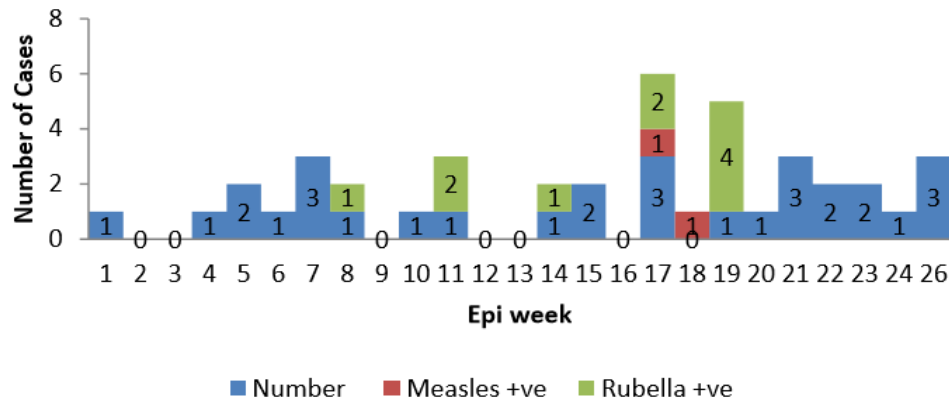
- In week 19, 2019 a measles outbreak was confirmed in Wau county following the confirmation of 3 measles samples tested positive for IgM Wau county and 1 in the POC AA.
- Wau county started seeing measles cases from as early as week 4 in 2019.
- Out of all the samples sent to the lab, 10 tested positive for Rubella IgM and 7 for Measles IgM

## Descriptive Epidemiology:

- A total of 415 cases from week 4 to week 26, 2019, 80%(335) are from the POCAA
- During the Campaign cases peaked in week 22, 23 and 24 and later came down to 15 cases in week 25
- Total of 5 deaths giving the CFR at 1.20%
- 79.2% of the cases are under the age of 5 years with only 19.9% of cases received at least 1 dose of measles vaccine
- **Response and recommendations**
- IOM just concluded a vaccination Campaign in collaboration with WHO, UNICEF and other health partners
- The 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.
- Post Campaign evaluation was done.

## Confirmed Measles and Rubella outbreak in Bentiu PoC

**Measles and Rubella cases in Bentiu POC from week 1 to week 26**



### • Response and Recommendations

- IOM completed a reactive vaccination campaign in Bentiu POC on 31 May 2019.
- During the reactive measles campaign 21,285 children 6-59 months (126%) received measles vaccination
- PCE was done by MoH & WHO , coverage was 74.6%.

### Bentiu PoC

- Bentiu PoC has been reporting suspected measles/rubella cases since beginning of the year
  - A total of 42 suspected measles cases reported since January 2019
    - Three (3) suspected measles cases reported in week 26, 2019
    - Out of the 42 cases 2 tested positive for measles IgM
  - And 10 confirmed Rubella cases since week 8
  - All the cases are children <5 years except for two cases



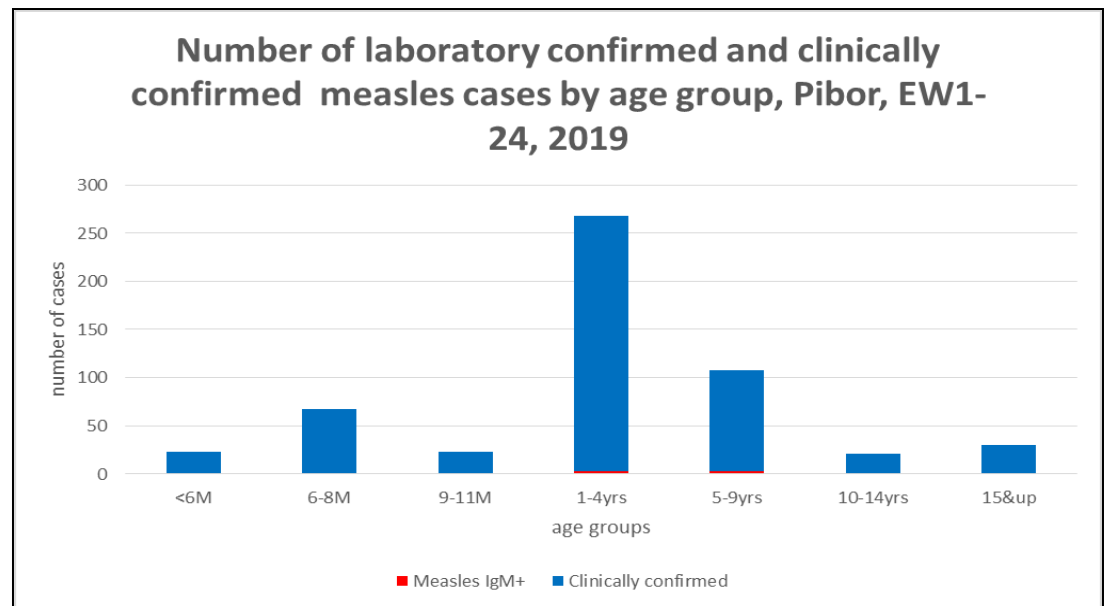
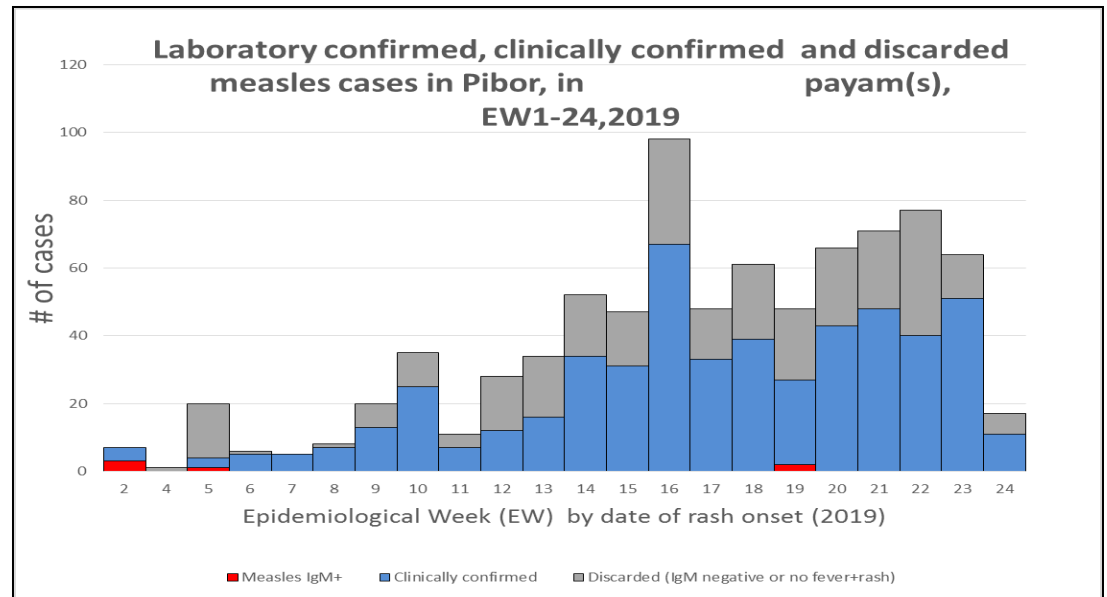
# Measles in Pibor County

There is an ongoing transmission of measles in Pibor County inspite of the vaccination campaign conducted in February and March.

This may be influenced by the semi-nomadic nature of the population in Pibor. As the rainy season starts there are a lot of Movements with high number of unvaccinated population coming in the communities.

In May two suspected cases tested positive for Measles IgM and MSF with partners proposed to do a mop up campaign where cases are coming from

MoH/CHD, live well and partners have developed a micro plan targetig 28,549 children aged 6 month-15yrs in four payams of Pibor.



## Updates on other Confirmed Measles Outbreaks in 2019

### ● **Tonj North:**

- Since the confirmation of Measles outbreak in Tonj North nearly 2 months ago, reactive Vaccination campaign completed by UNKEA, the coverage was 91%. Target was 48,904 children and 44,400 were vaccinated. PCE was not done due to insecurity

### ● **Malakal PoC:**

- MSF-Spain Completed reactive vaccination campaigns in both Malakal POC and town on the 31<sup>st</sup> May and achieved a coverage of 100.1% and 112% in Malakal town and POC respectively. PCE teams from MoH and WHO are on ground.

### ● **Aweil Town (Aweil Town and Aweil West):**

- MSF-France covering Aweil town and surrounding villages only, not entire Aweil west, ministry has decided the campaign to be conducted in the missed 14 villages. The coverage achieved was 97% 26,477 (children vaccinated). PCE coverage is 63.5%

# Updates on other Confirmed Measles Outbreaks in 2019

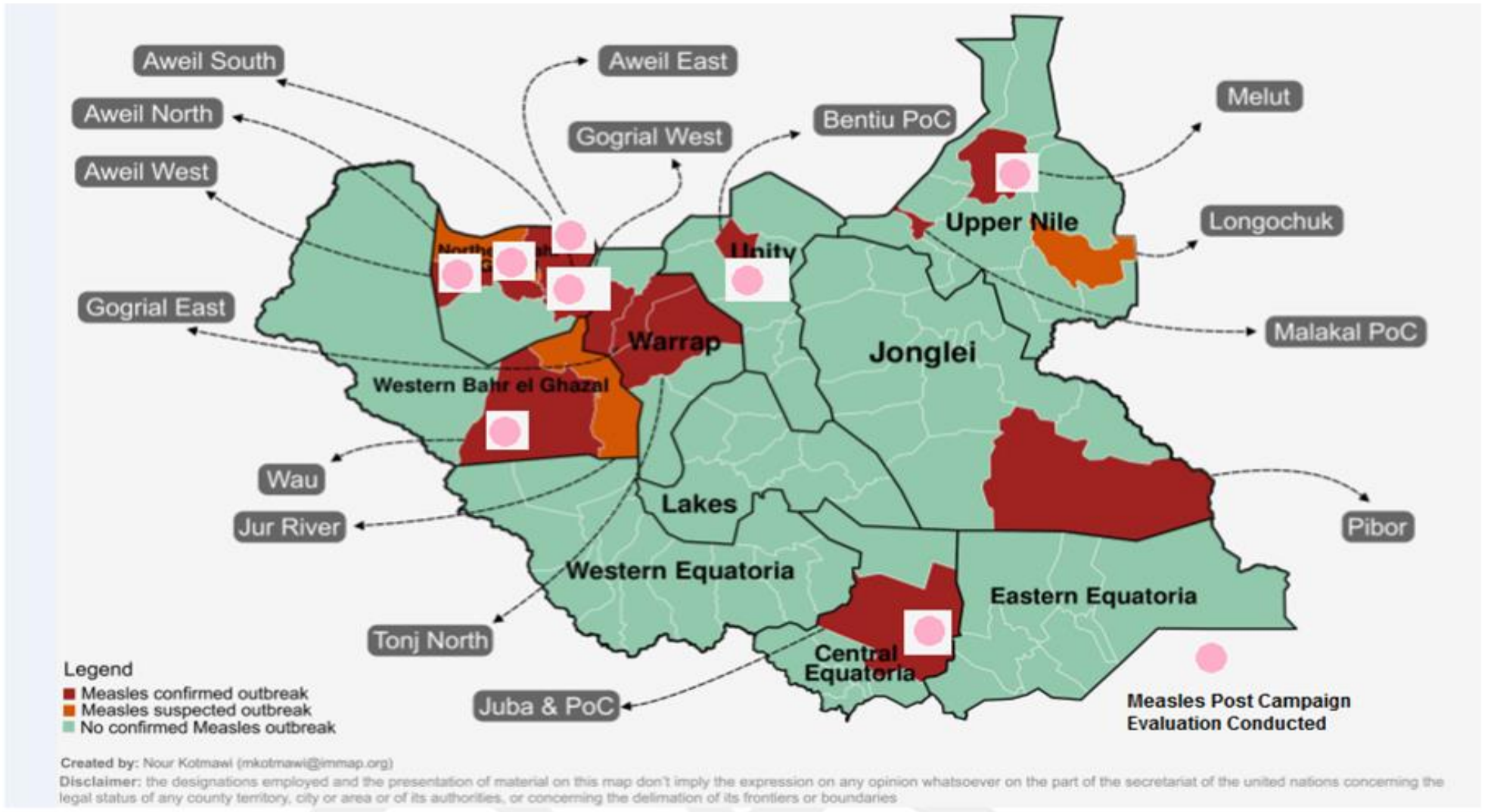
- **Aweil East County:**

- Aweil East confirmed a measles outbreak as of 13th May 2019, Reactive vaccination campaign was conducted by IRC and MoH and WHO did the Post Campaign Evaluation which was 52.3%

- **Gogrial East County:**

- MEDAIR conducted a mop-up campaign in 5 payams and it raised the coverage to 95%. There has been suspected measles cases still seen after the reactive campaign and the team decided to collect more samples to determine whether they are measles

Fig 1. Map of Measles Outbreaks and Post Campaign Measles Evaluation, 2019



## PCE Results: Measles coverage among children aged 6-59 months per counties

Table 1. MEASLES COVERAGE AND POST CAMPAIGN EVALUATION 2019

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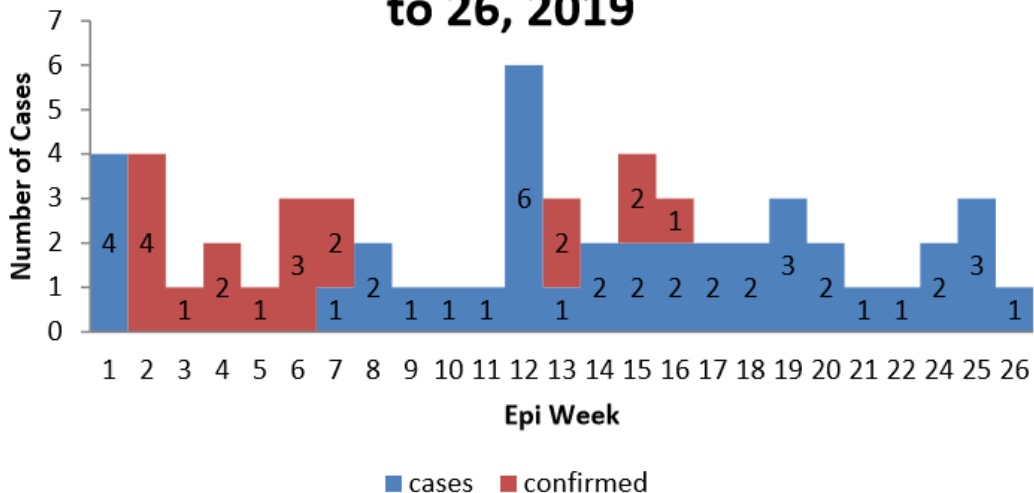
S/N	County	Dates of Measles SIAS	Dates PCE Conducted	Admin Cov	PCE Cov
1	Gogrial West	April 2019	April 2019- Med Air		97.2%
2	Aweil South	April 2019	April 2019- WHO	116%	98%
3	Melut	April 2019	April 2019- WHO	78%	65.7%
4	Juba	May 2019	5 <sup>th</sup> -10 <sup>th</sup> June 2019-WHO		81.9%
5	Malakal PoC	June 2019	16 <sup>th</sup> -18 <sup>th</sup> July 2019-WHO		Pending
6	Wau	June 2019	29 <sup>th</sup> June -4 <sup>th</sup> July 2019-WHO		89.15
7	Bentiu PoC	June 2019	29 <sup>th</sup> June -4 <sup>th</sup> July 2019-WHO		74.6%
8	Tonj North	June 2019	29 <sup>th</sup> June -4 <sup>th</sup> July 2019-WHO		Shelved -clan clashes
9	Aweil West/Town	June 2019	29 <sup>th</sup> June -4 <sup>th</sup> July 2019-WHO		63.5%
10	Aweil East	June 2019	29 <sup>th</sup> June -4 <sup>th</sup> July 2019-WHO		52.3%

Finger mark evidence

Based on verbal report

## Hepatitis E, Bentiu PoC

**HEV Cases in Bentiu POC from week 1 to 26, 2019**



### Bentiu PoC

- The persistent transmission of HEV in Bentiu PoC continues with 58 cases since beginning of 2019
  - Eighteen (18) cases confirmed by PCR testing
  - There were no cases reported in week 23.
- All the cases were managed as outpatient cases except for two cases who were admitted on 23<sup>rd</sup> February, 2019 and 11<sup>th</sup> April, 2019
- One death on 12<sup>th</sup> April 2019
- Over half (51.3%) of the cases are male.
- Age group 15-44 years had the most cases with 14 (34.1%) cases.
- Of the 23 female cases, 7 (30%) are aged 15-44 years
  - At risk of adverse outcomes when infected in the 3<sup>rd</sup> trimester of pregnancy
- Use of unsafe drinking water likely to be source of infection
- Recommended response
  - Social mobilization to raise awareness on modes of transmission, symptoms and where to seek for care
  - Case identification and follow up in the communities and WASH interventions are recommended.

Age groups	Female, n	Male, n	Total, n	Percent, %
1-4 years	7	7	14	27.4
5-9 years	2	5	7	13.7
10-14 years	5	3	8	15.7
15-44 years	7	14	21	41.1
45+years	2	0	2	3.9
<b>Total cases</b>	<b>23</b>	<b>28</b>	<b>51</b>	<b>100</b>

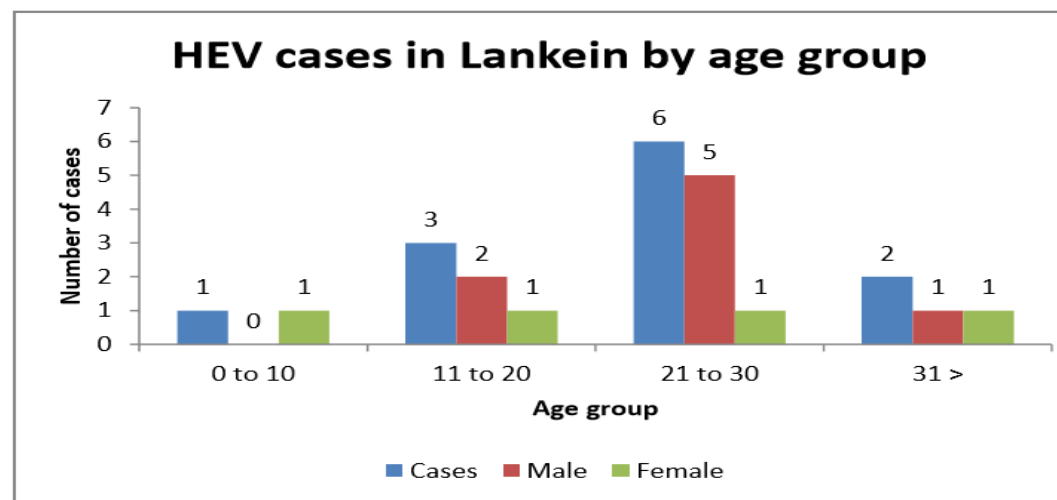
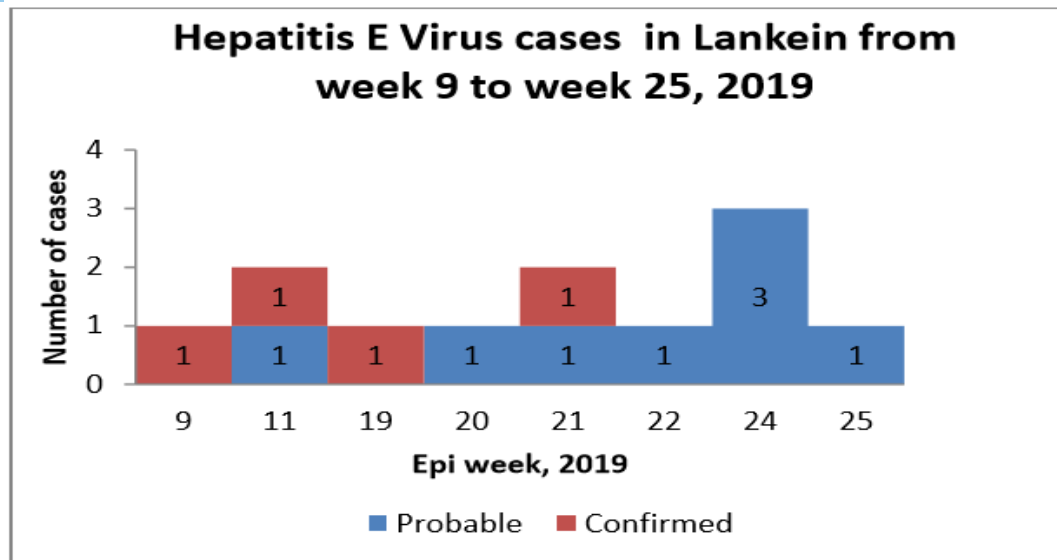
# Hepatitis E cases in Lankein, 2019

## Descriptive Epidemiology

- First case of Hepatitis E virus was confirmed in Lankein as of week 9, 2019
- A total of 12 cases since week 9 with 4 confirmed through PCR
- 50% (6) of the cases are between the age group of 21 to 30years
- Of the 12 cases (8) 66.6% are Males
- 58.3% of the cases are internally displaced persons (IDPs)

## Recommended response

- Social mobilization to raise awareness on modes of transmission, symptoms and where to seek for care
- Case identification and follow up in the communities and WASH interventions are recommended.



# Laboratory Results for Epi week 26, 2019

S/N	Location/Health Facility	Date sent to Juba	Date Received at PHL	Suspected Disease	Lab results
1	Rubkona/Bentiu POC	6/29/2019	6/29/2019	Measles	Measles Igm Postitive
2	Rubkona/Bentiu POC	6/29/2019	6/29/2019	Measles	Measles & Rubella Negative
3	Lopua / PHCC	6/20/2019	6/20/2019	Measles	Measles & Rubella Negative
4	Payinjiar/Bentiu POC	6/29/2019	6/29/2019	Measles	Measles & Rubella Negative
5	Torit /TSH	6/24/2019	6/26/2019	Measles	Measles & Rubella Negative
6	Yambio/PHCC	6/20/2019	6/29/2019	Measles	Measles & Rubella Negative
7	Renk/Hospital	6/10/2019	6/11/2019	Measles	Rubella IgM Positive
8	Yambio/ Hospital	6/19/2019	6/20/2019	Measles	Measles & Rubella Negative



# Malaria trends

## Current malaria trends

- Malaria was the leading cause of morbidity and mortality, accounting for 58.8% of all morbidities and 13.4% of all mortalities in week 24, 2019.
- In week 25, atleast 20 Counties with malaria trends that exceeded the threshold (third quartile of trends for the period 2013-2017) and these include:
  - Juba hub(,Juba,Yei)
  - Torit hub(.Budi,Magwi,Torit,Ikotos,Iopalafon)
  - Wau hub(Wau)
  - Rumbek hub(Rumbek Center,Wulu, Cueibet,Rumbek East,Yirol East)
  - Aweil hub (Aweil East,Aweil North)
  - Kwajok hub(Gogrial East,Abyei)
  - Yambio hub(Tambura)
  - Malakal hub(Renk)
  - Bor hub(Twic East)

# Routine Sentinel Surveillance | Human Influenza

- In week 12, 2019, South Sudan started conducting case-based investigation for Influenza Like Illness (ILI) and Severe Acute Respiratory Infection (SARI) cases through systematic collection of epidemiological and virological information
- There are currently three designated Influenza sentinel surveillance sites in Juba (Juba Teaching Hospital, Al Sabah Children's Hospital and UNMISS POC3 clinic) that are collecting epidemiological data and samples from ILI/SARI cases for virological testing.
- Since week 12 of 2019, a total of 82 ILI/SARI samples have been collected and tested at Uganda Virus Research Institute (UVRI) with 40 being negative; two (2) positive for Influenza B (Victoria); and seven (8) positive for Influenza A (H3). Test results pending for 42 samples.

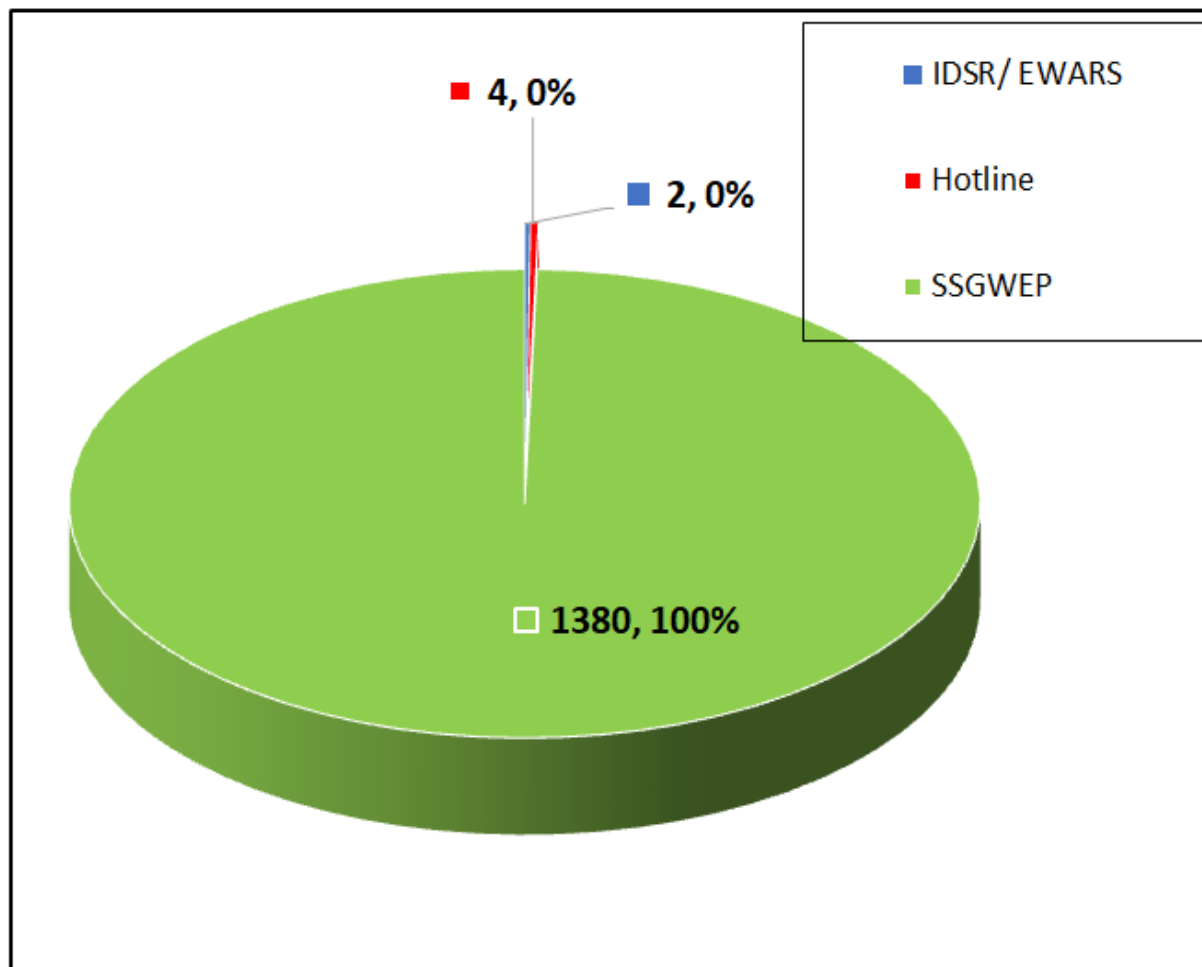
# Response to Suspected Outbreaks Guinea Worm

## Total Number of Rumors/ Alerts Reported by Reporting Structures for the 25<sup>th</sup> Week of 2019, N=1386

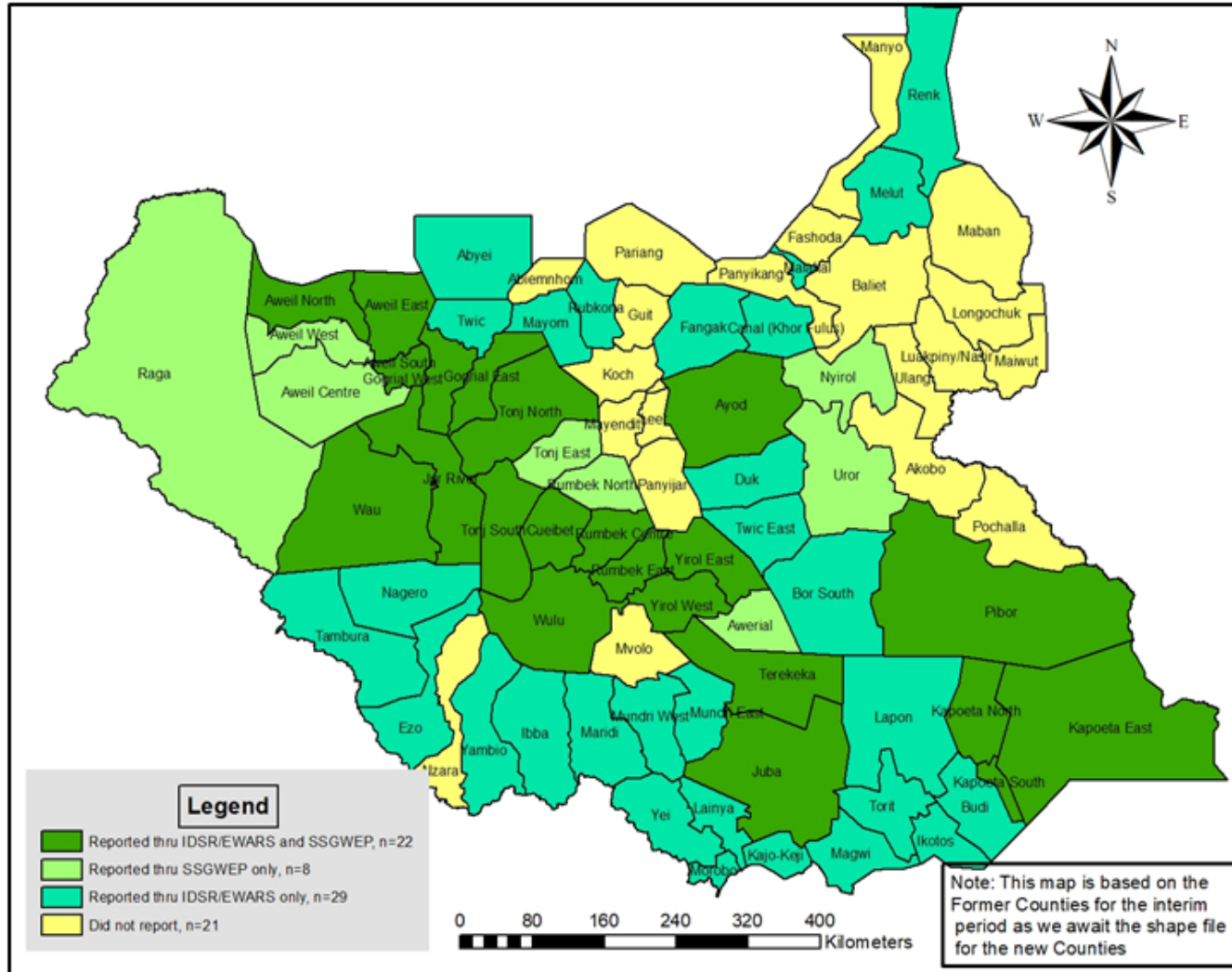
2 suspects from IDSR was reported from Tonj East and Yirol East Counties. The one from Tonj East has been discarded as false alert. Yirol East was reported from Machuor Mobile clinic, Pagarau Payam.

4 hotline rumors were reported from Former Juba County (3) and Terekeka payam (1)

As of Week 25, there have been 21,115 rumors reported in South Sudan. 39/ 21,115 (0.2%) have been reported through IDSR/EWAR as alerts, 2 false alerts have not be included, 83/21,115 (%0.4) have been reported by Hotline, and 20,993/21,115 (99.4%) have been reported by SSGWEP



## Health facility reporting on Guinea Worm disease through IDSR/ EWARS and reports received through SSGWEP during week 25 of the year, N=80



**Reporting**

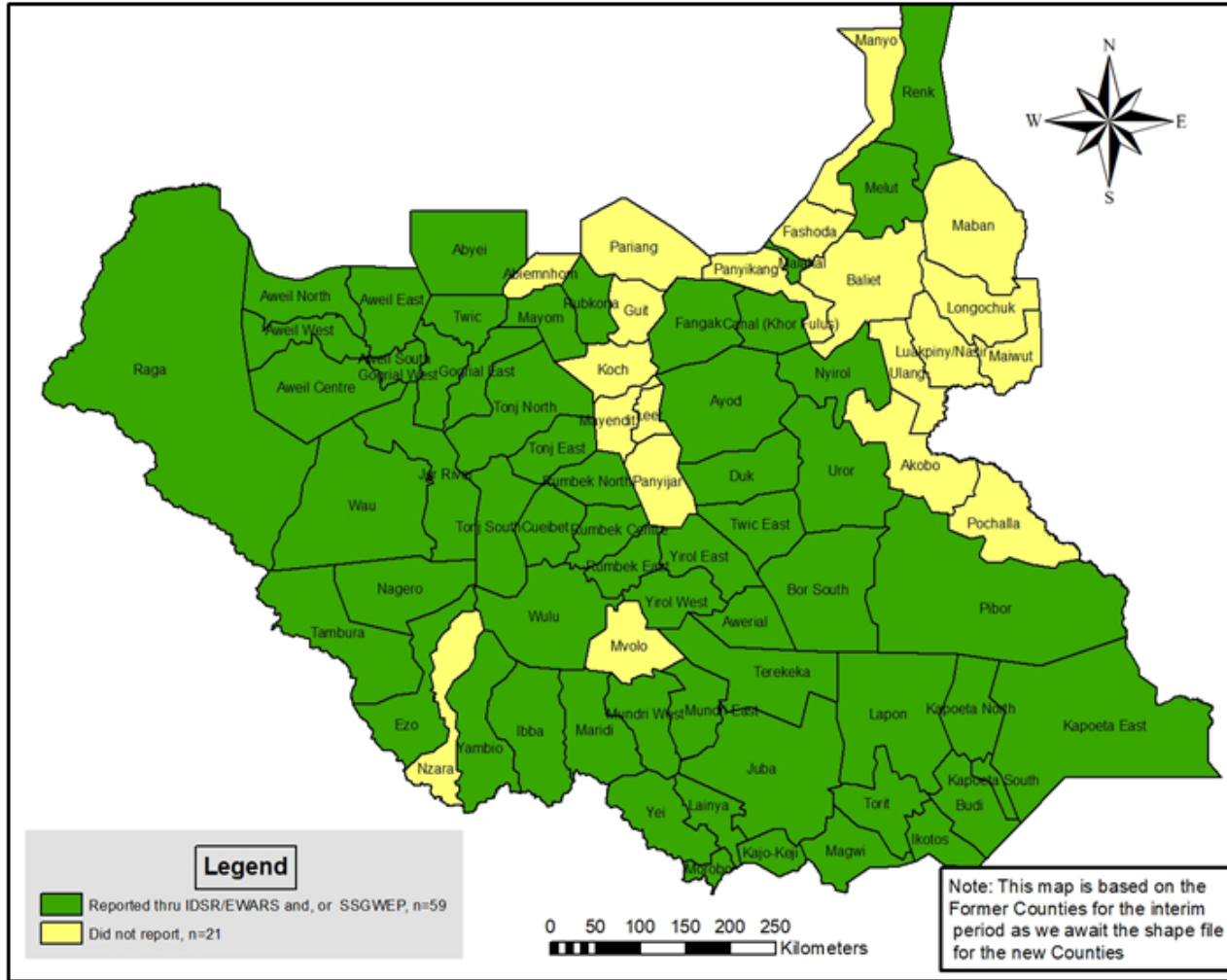
22 Counties reporting at least once from the health facilities/ reporting units through IDSR/EWARS and South Sudan Guinea worm Eradication programme (SSGWEP)

8 Counties reported through reporting units from SSGWEP only

29 Counties reported through health facilities from IDSR only

21 Counties did not report from any of the health facilities through SSGWEP and IDSR/ EWARS

## Guinea Worm disease reports received through IDSR/ EWARS and or South Sudan Guinea Worm Eradication programme (SSGWEP) during week 25 of the year, N=80



### Reporting

**59 Counties reported at least once from the health facilities/ reporting units through IDSR/ EWARS and or South Sudan Guinea worm Eradication programme (SSGWEP)**

**21 Counties did not report from any of the health facilities**

## **YEI Alert One; 4<sup>th</sup> July 2019:**

On Thursday, 4th July 2019 around 4:30 pm, Yei Hospital EVD Isolation Center received a call from Lomuku PHCU who reported an EVD alert; 23 yrs old female residence of Luparate, Yei, complains of vomiting blood , abdominal pain, joint and body pain. Travel History she came from Aba DRC 7 days ago through Lasu point of entry stayed home until she presented to Lomuku PHCU on 4/7/2019 with above mentioned symptoms. While in Aba, DRC she attended a funeral (no details). She was treated for Malaria and Gastric Ulcer two weeks ago at Nyalanyala Health Facility in Aba. RRT was deployed immediately to the site, patient was picked with an ambulance to the hospital. Sample was collected and sent to Juba on 5<sup>th</sup> July. Lab results: NEGATIVE for Ebola, Marburg, CCHF and RVF viruses by PCR by UVRI

## **YEI Alert Two: Saturday 6th July 2019**

A 27yrs old Male form Atende, Gimiru Yei River. Rapid response team was deployed. Patient died. Sample was collected and sent to Juba. Lab results: NEGATIVE for Ebola, Marburg, CCHF and RVF viruses by PCR by UVRI

# EVD Maridi Alert

- A Fifty (50) years old male, farmer from Napere with no history of travel to an Ebola affected area in the last three weeks. Travelled to Madebe (Nabanga County) on the 24th June 2019 to visit his family. Developed fever, generalized body pain and loss of appetite that lasted four days prior to admission. Upon arrival to Napere on the 28th June 2019; he become feverish and had generalized body rash that appeared like chicken pox. He was transferred to Maridi Hospital by the ambulance. The patient was diagnosed with Malaria and typhoid. Patient is a sero Positive and on ARV's
- On the third day of admission, he developed abdominal distention, seizures and hematemesis and later become unconscious and had bloody discharge from the mouth therefore patient was discharged. On the 4th July 2019, the patient was taken home where he died on the 5th of July 2019 at 2pm and was buried the 6th of July at 4pm at his house-hold compound.
- No sample was taken to test for VHF

- 3 years old male presented to Mayom PHCC/Northern Liech State on 7<sup>th</sup> July, 2019 with epistaxis/ bleeding from the nose which started the night before and fever for the last one week. Patient also develop bleeding from the mouth when on admission. Patient have no history of travel to DRC. RDT for malaria was negative. Patient was isolated in a Tukul.

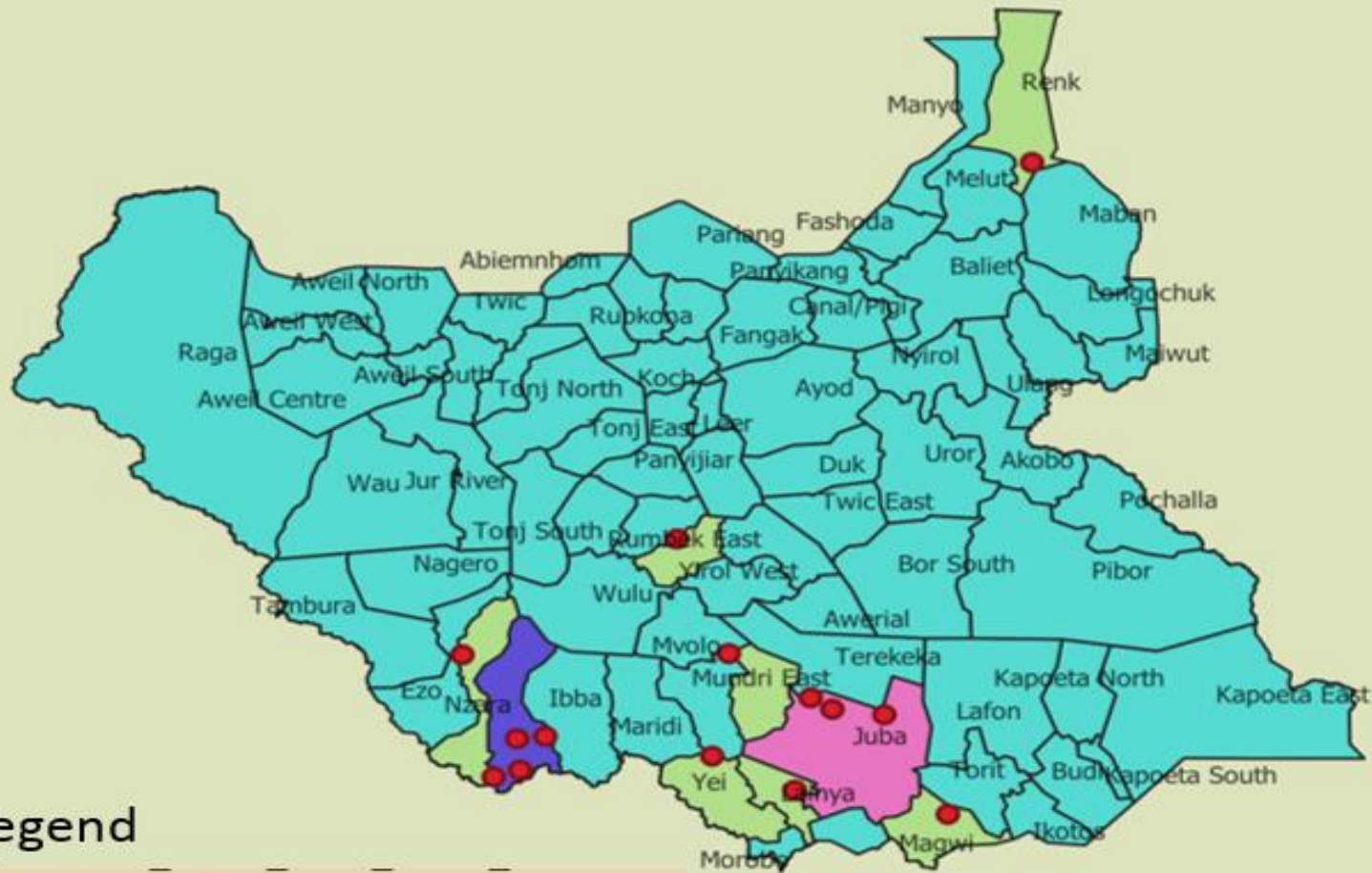


## Ebola alerts investigated in 2018

Date	Cases	Deaths	Payam	County	eRDT	eGeneXpert	ePCR	Comments
28May	1	0	Makpandu	Yambio	ND	ND	-ve	Reported in refugee camp
8Sep	1	1	Bakiwiri	Yambio	ND	ND	-ve	Did not meet case definition
26Sep	1	1	N/Bari	Juba	ND	ND	-ve	Community death
30Oct	1	1	Yei town	Yei	ND	ND	ND	Never traced (?false alert)
12Oct	1	0	Rumbek	Rumbek Center	ND	-ve	-ve	Recent travel from DR Congo
14Oct	1	0	Gumbo	Juba	ND	-ve	-ve	Did not meet case definition
18Oct	1	1	Mundri East	Mundri East		ND	-ve	Reported by Lui hospital
21Oct	1	1	Yambio	Yambio	ND	ND	-ve	Recovered & discharged
29Oct	2	0	Nimule	Pageri	ND	ND	ND	Alerts discarded
11Nov	1	1	Loka	Lainya	ND	-ve	-ve	Investigated 11 Nov
23 Nov	1	0	Sakure	Nzara	ND	-ve	-ve	Confirmed for Yellow Fever
29 Nov	1	1	Yambio	Yambio	ND	-ve	-ve	Investigated on 29 Nov
03 Dec	1	0	Renk South	Renk	ND	-ve	-ve	Investigated 4 Dec
15 Dec	1	0	Rejaf	Rejaf	ND	-ve	-ve	Investigated 15 Dec
25 Dec	1	0	Yambio Town		ND	-ve	-ve	Investigated 25 Dec

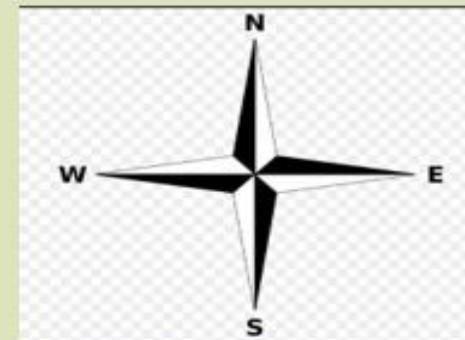
- In 2018, at least 16 alerts met the case definition and therefore underwent verification and follow up investigation by the rapid response teams.
- During 2018, at least **13** alerts that met the case definition were investigated and had samples obtained for laboratory testing will testing negative for Ebola virus disease and other hemorrhagic fevers safe for one alert in Sakure, Nzara county that was confirmed yellow fever positive. |

# Counties that reported Ebola Alerts in year 2018



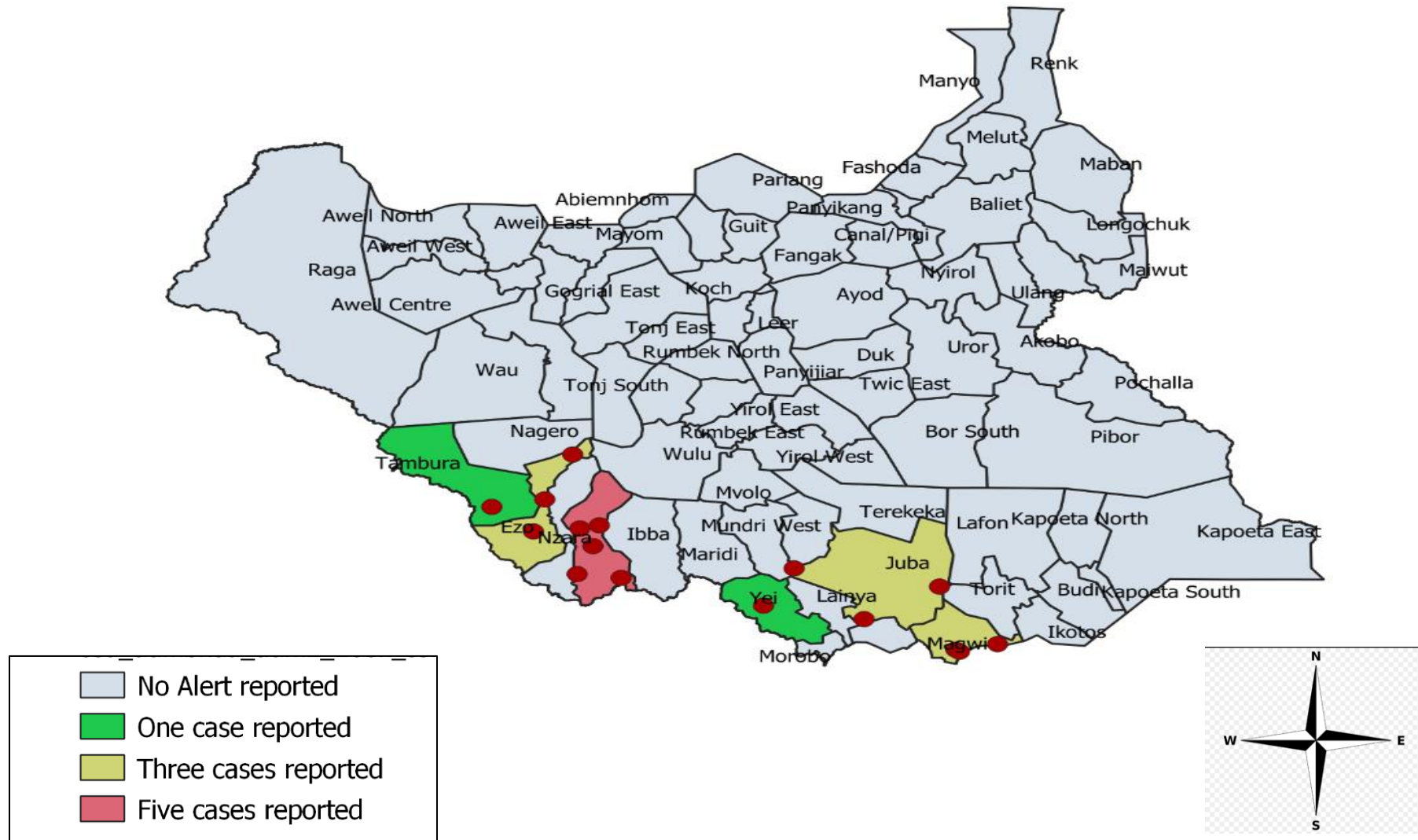
## Legend

- Counties with No Alerts
- One Alert
- Two Alerts
- Four Alerts



Disclaimer: The boundaries and names shown on this map do not imply official endorsement by the United Nations

# Counties that reported Ebola Alerts in 2019



Disclaimer: The boundaries and names shown on this map do not imply official endorsement by the United Nations

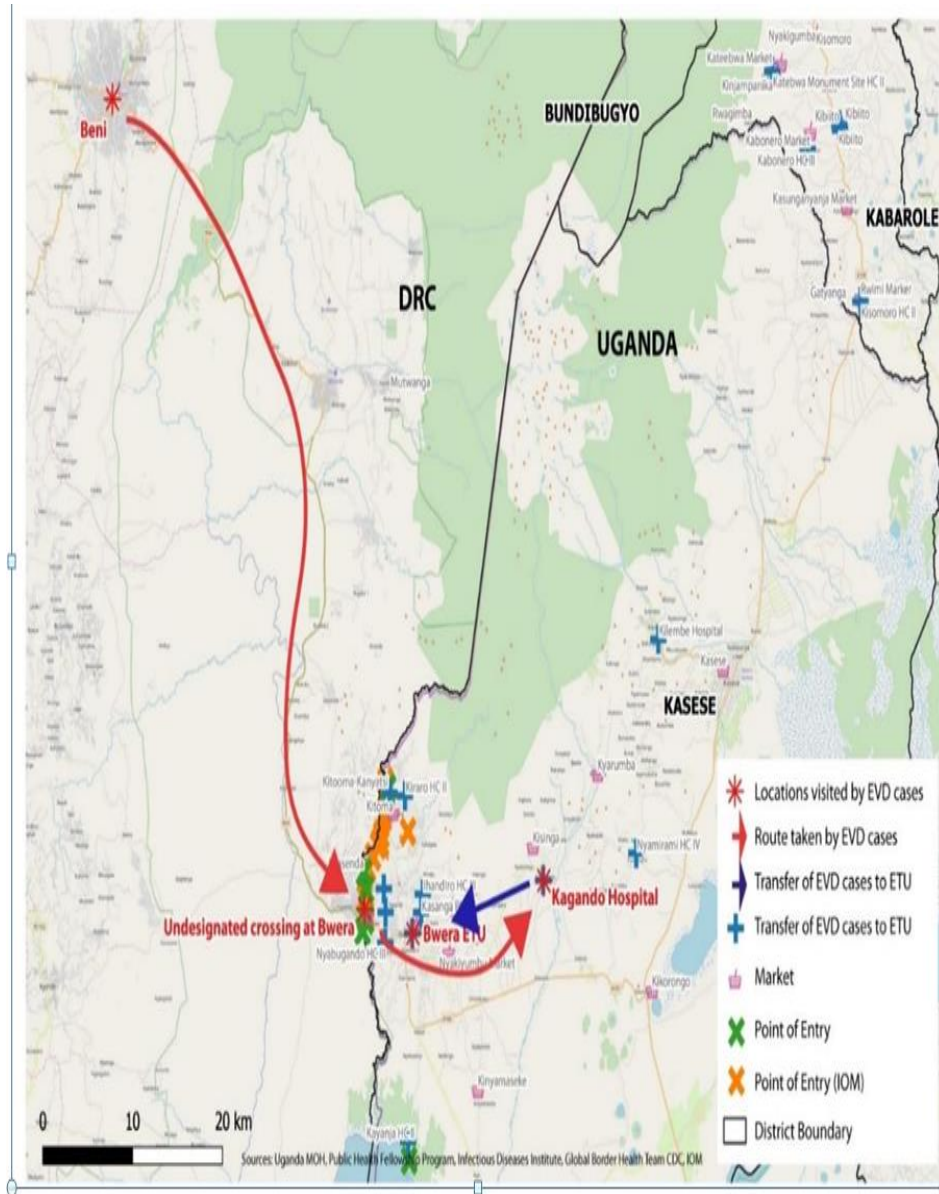
Date	Cases	Deaths	Payam	County	eRDT	eGeneXpert	ePCR	Comments
27 Jan 19	1	0	Nimule		ND	-ve	-ve	Investigated on 27 Jan 2019
30 Jan 19	1	0	Nimule		ND	-ve	-ve	Investigated on 30 <sup>th</sup> Jan 2019
09 Feb 19	1	0	Juba		Nd	-ve	-ve	Investigated on 09 <sup>th</sup> Feb 2019
21 <sup>st</sup> Feb 19	1	1	Yambio		Nd	-ve	-ve	Investigated on 21 <sup>st</sup> Feb 19
25 <sup>rd</sup> Feb 19	1	0	Yambio		Nd	-ve	-ve	Investigated on 25 <sup>th</sup> Feb 19
26 <sup>th</sup> Feb 19	1	0	Yambio		Nd	-ve	-ve	Investigated on 26 <sup>th</sup> Feb 19
14 <sup>th</sup> Mar 19	1	0	Tambura		Nd	-ve	-ve	Investigated on 14 <sup>th</sup> Mar 19
22 <sup>nd</sup> Mar 19	1	0	Juba		Nd	-ve	-ve	Investigated on 22 <sup>nd</sup> Mar 19
26 <sup>th</sup> Mar 19	1	0	Ezo		Nd	-ve	-ve	Investigated on 26 <sup>th</sup> Mar 19
22 <sup>nd</sup> Apr 19	1	0	Ezo		Nd	-ve	-ve	Investigated on 22 <sup>nd</sup> Apr 19
21 <sup>st</sup> May 19	1	0	Yambio		ND	-ve	-ve	Investigated 21 <sup>st</sup> May 19
7 <sup>th</sup> June 19	1	0	EZO		ND	-Ve	-Ve	Investigated 8 <sup>th</sup> June 19
13 <sup>th</sup> June 19	1	0	Yambio		ND	pending	pending	Investigated 13 <sup>th</sup> June 19
13 <sup>th</sup> June 19	1	1	Juba		ND	Not Done	Not Done	Investigated 13 <sup>th</sup> June 19
19 <sup>th</sup> June 19	1	0	Nimule		ND	Not Done	Not Done	Investigated 19 <sup>th</sup> June 19
25 <sup>th</sup> June 19	1	0	Yei		ND	Not done	Not done	Investigated 25 <sup>th</sup> June 19

- Blood samples have been obtained from (13) Ebolavirus alerts; all tested negative for Ebolavirus and other viral hemorrhagic fevers including RVF, Marburg; Yellow Fever; and CCHF.

# 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 confirmed in Uganda border district of Kasese



- An Ebola Outbreak was confirmed in Uganda on the 9<sup>th</sup> of June 2019
- 5-year-old from DRC (Index case) , plus to other family members travelled with parents through the market at Mpondwe by passing the official border post on 9th June. The child presented at Kagando hospital with vomiting blood, bloody diarrhea, muscle pain, headache, fatigue and abdominal pain
- Case transferred to Kagando Hospital ETU
- 3 Case confirmed by UVRI on 11th June, Child died together with grandmother at Bwera ETU. Five cases (one confirmed and four suspected) have been repatriated back to DR Congo on request from DRC.
- The third case died on arrival at the ETU in Beni, DR Congo
- A total of 106 contacts are under follow up with a cumulative of 181 contacts vaccinated against Ebola virus disease.

# Ebola update DRC 7<sup>th</sup> July, 2019

## Current situation

- Currently as of 7<sup>th</sup> July, 2019
- 2418 Cases [2324 confirmed & 94 probable]
- 1680 Deaths [1536 confirmed & 94 probable]
- 131 Health workers

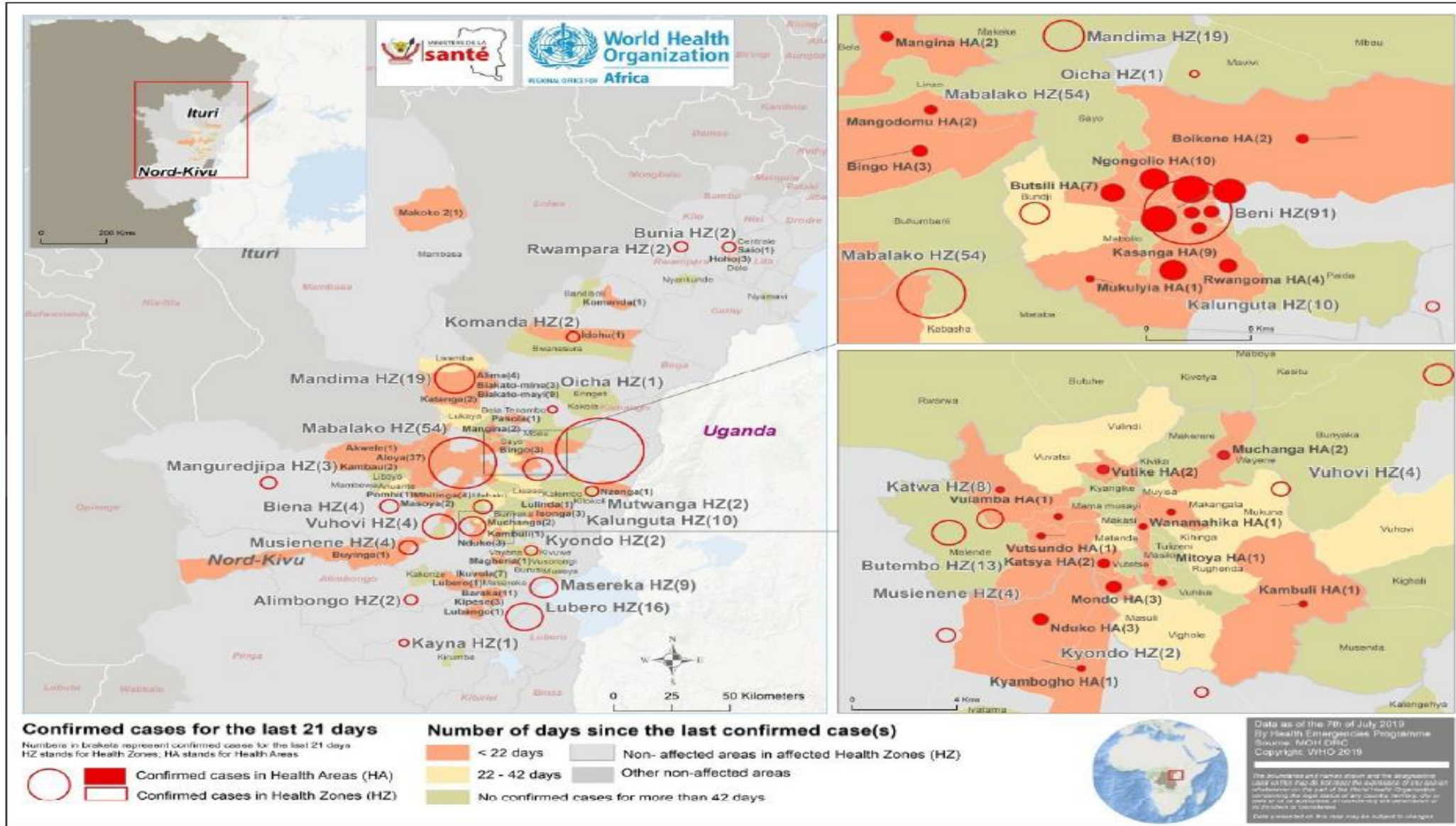
## Response update

- 16708 contacts under surveillance as of 23<sup>th</sup> June [88% followed up]; As of 6 July 2019, 154 037 vaccinated

## Affected health zones

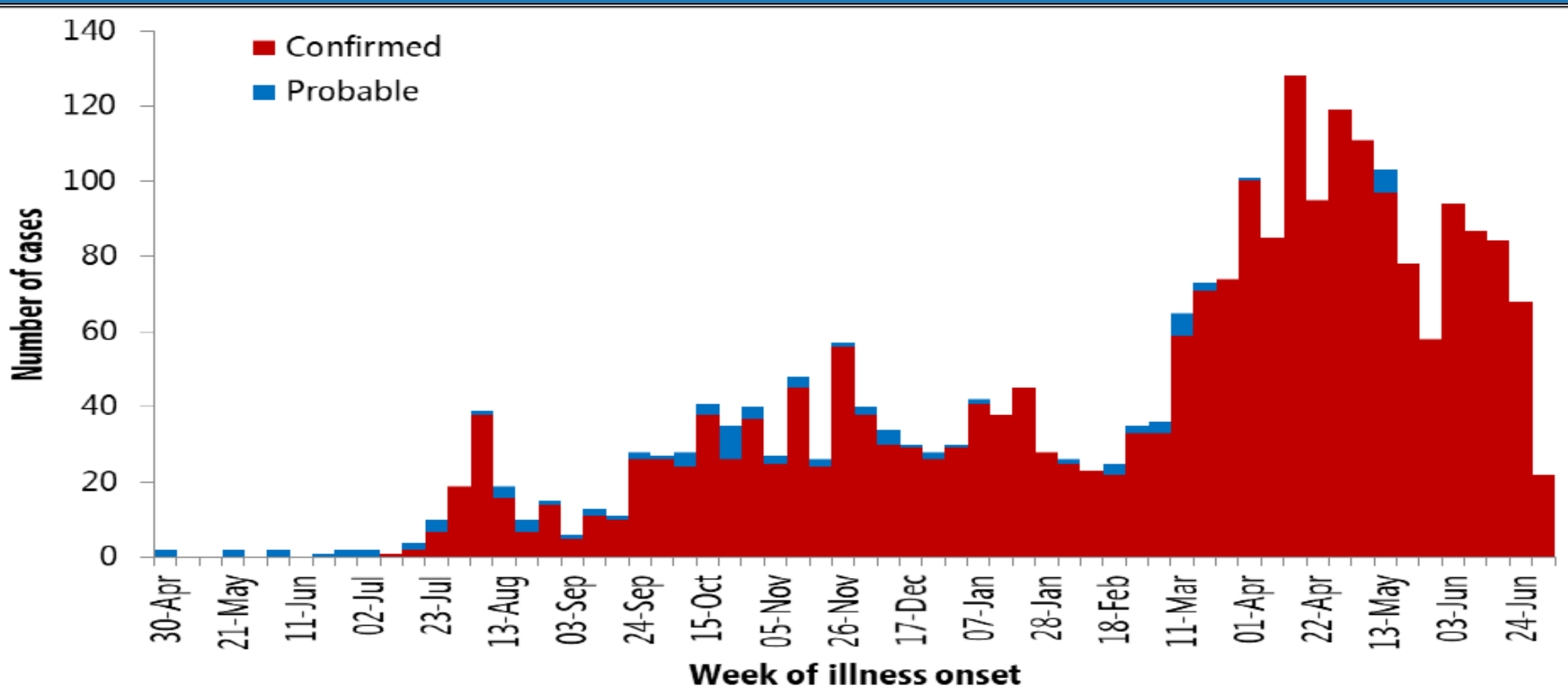
- In the 21 days between 17 June to 7 July 2019, 70 health areas within 21 health zones reported new cases, representing 11% of the 664 health areas within North Kivu and Ituri provinces
- During this period, a total of 250 confirmed cases were reported, the majority of which were from the health zones of Beni (36%, n=91) and Mabalako (22%, n=54), which are the main active areas in the outbreak.

# Democratic Republic of Congo EVD Spot map





# EVD Epi-curve by week of illness in DR Congo

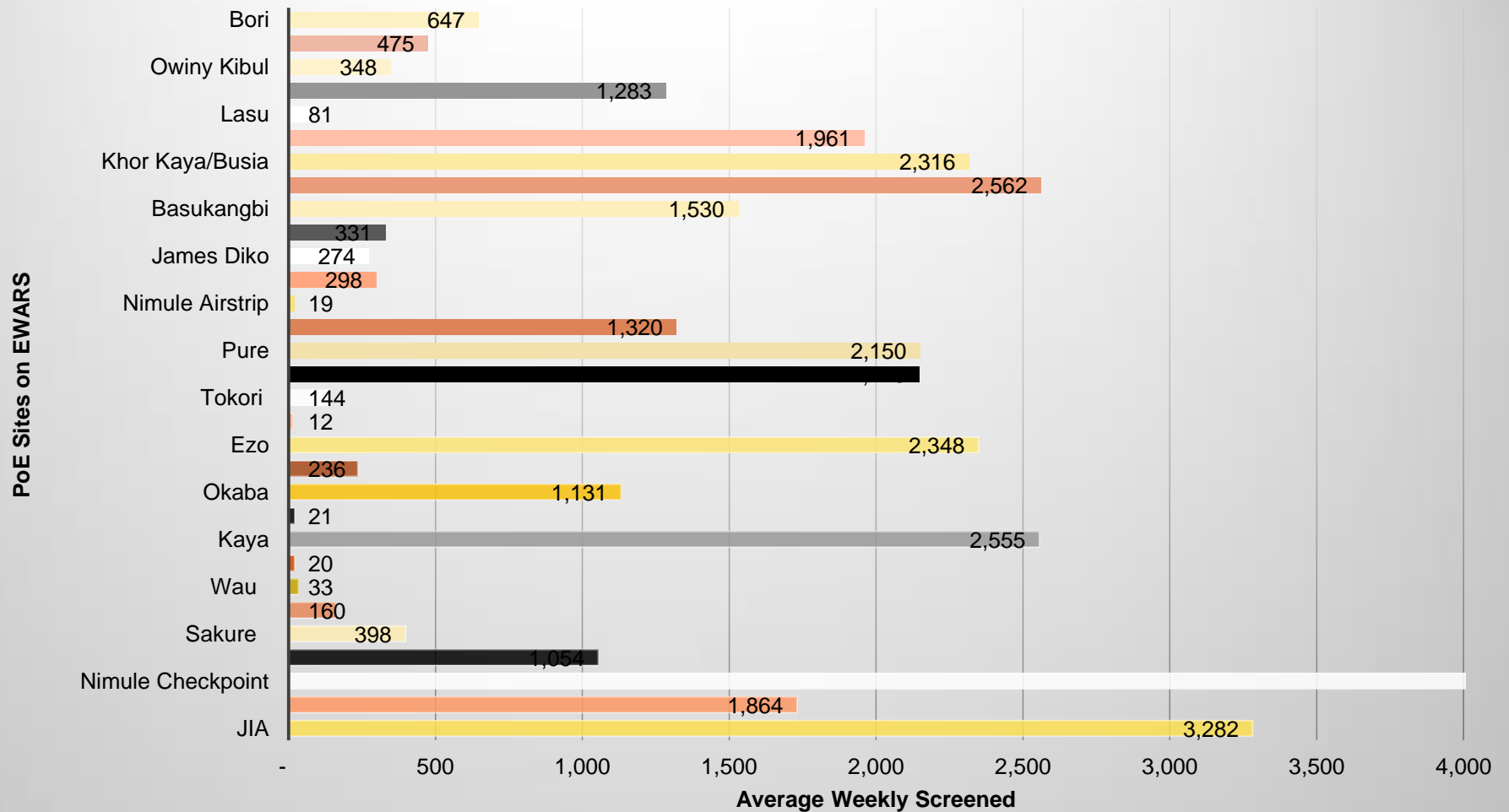


- Active transmission with continued increase in the number of new Ebola virus disease (EVD) cases in the affected geographical regions. █

# *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>



The electronic EWARS platform captures points of entry screening data and enables summarizing number of travelers screened on weekly basis. In week 24, A total of 60,043 travellers were screened at various screening points in the country.

# MAJOR SUSPECTED AND CONFIRMED OUTBREAKS & EVENTS REPORTED IN 2019

Listing of all major suspected and confirmed  
outbreaks and public health events reported in  
2018-2019

# Outbreaks in 2019

Date of report	Disease suspected	Number cases (deaths )	County	Payam	Status of investigations
20/10/2018	Measles	3	Bor South	Bor PoC	At least three suspect measles cases reported from Bor PoC since 20/10/2018. All tested measles IgM positive following tests done in Juba. Reactive measles campaign planned.
24/11/2018	Yellow Fever	1	Nzara	Sakure	A suspect Ebola case was reported from Sakure on 23/11/2018 and investigated by the rapid response team on 24/11/2018. Preliminary testing in Juba on 24/11/2018 were negative for Ebola Zaire following GeneXpert testing. Further testing of the sample was PCR negative for all Ebola species; Marburg; Rift Valley Fever, Crimean Congo Hemorrhagic Fever, and Sosuga viruses. The sample eventually tested PCR positive for Yellow Fever.
12/10/2018	measles	82 (3)	Rumbek East		Suspect measles cases reported from Mabor Duang village, Aduel payam in Rumbek East where the initial suspect case was a 38 year female whose illness started on 12 October 2018 in week 41. The affected village is served by Mabor Duang PHCC . 82 cases including 9 confirmed cases and 3 death (CFR 3.6%) reported . Cases reported from six payams with most originating from Aduel; Atiaba, and Mathian kok. Majority of the cases, 55 (67%), were children < 5 years of age A total of 9 samples tested positive for measles IgM on 22 November 2018
24/12/2018	Dog bites	8	Bentiu	Bentiu PoC	A cluster of cases of dog bites has been reported in Bentiu PoC. Eight (8) cases have been seen at health facilities between 24 <sup>th</sup> Dec 2018 and 28 <sup>th</sup> Dec 2018. Majority (75%) of the cases are children aged 5-12 years. None of the cases are symptomatic and no deaths were reported. Most of the dogs implicated are stray dogs who attacked unprovoked. Four (4) of the dogs were reported as being acting suspiciously and died within 15 days of the attacks. Of all the 8 cases reported, 5 (63%) received passive immunization with immunoglobulins, 2 (25%) received rabies vaccine and 6 (75%) received tetanus toxoid

# Outbreaks in 2019

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
06/01/2019	Malaria alerts	counties with trends significantly higher than expected	6		Counties with malaria trends that exceed the threshold (third quartile of trends for the period 2013-2017) include: Aweil hub (Aweil East, Aweil West and Aweil North)
27/10/2018	Rubella	155	Malakall PoC		A total of 155 suspected rubella cases have been reported since week 43. No deaths reported. 41 cases are laboratory confirmed
31/12/2019	HEV	169	Bentiu PoC		At least 169 suspect cases of Hepatitis E (HEV) have been reported in Bentiu PoC in 2018. Of all the cases, 18 suspect cases were confirmed using PCR. The eight (8) cases were reported between week 50-52 tested positive on RDT testing. One (1) mortality (CFR 0.65%) in 2018. Result are pending.
06/01/2019	Acute Watery Diarrhea	467	Malakal PoC & Malakal Town		An increase in AWD cases in Malakal PoC and Malakal Town reported from week 51, 2018. Overall, 467 AWD cases to date. In Malakal PoC, a total of 333 cases (70 in week 51, 224 in week 52 and 39 in week 01). In Malakal Town, 134 cases (49 in week 52 and 85 in week 01). Assossa, Jalaba and Malakal Payams had the most number of cases. No mortalities reported.
06/01/2019	Measles	202	Abyei		Measles has been present in the area throughout the year, with about one suspected seen per week. A total of 45 suspected cases reported between week 7, 2018 and week 02,2019. The number of cases increased from week 50, 2018. Of all the cases, 35 (76%) were reported between week 51, 2018-02, 2019. Five (5) confirmed cases between week 51-52, 2018. No deaths reported
27/01/2019	EVD	1	Nimule		An alert was reported on 27 <sup>th</sup> Jan, 2019. The cases, 30year old male, was investigated, sample collected which tested negative on GneneXpert and PCR testing.
27/01/2019	Measles	3	Juba	Kator and Amarat	Twenty-one (21) cases reported as from week 01, 2019. Five cases confirmed

# Outbreaks in 2019

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
21/01/2019	Chicken Pox	0	Awerial	Puluk	38 suspected cases of chicken pox all coming from Mingkaman in Puluk Payam.
30/01/2019	EVD	1	Nimule		An alert was reported on 30 <sup>th</sup> Jan, 2019. The cases, 30year old patient, was investigated, sample collected which tested negative on GneXePert and PCR testing.
17/01/2019	Measles	1	Gogriol West		97 suspected, three positive for IgM
31/01/2019	Measles	0	Aweil Center		About 12 suspected Measles cases have been reported from Aweil Center as at 31 <sup>st</sup> January, 2019. Eight cases tested positive for rubella. There are now 35 cass.
	Measles	0	Yirol East	Shambe	25 suspected Measles cases have been reported in Shambe in Yirol East. They have not been investigated or sample collected because of insecurity in the area
17/01/2019	Measles	0	Pibor	Gumuruk	Five suspected cases out of which three tested positive for Measles IgM antibodies
17/01/2019	Measles	0	Mayom		Five suspected cases out of which three tested positive for Measles IgM antibodies
15/03/2019	Measles	0	Aweil South		Twelve (12) suspected cases reported in the county, following which 4 samples tested positive for measles
15/03/2019	Measles	0	Melut		Three samples tested positive for measles out of six samples tested
4/04/2019	Measles	0	Gogriol East		11 cases out of which four were laboratory confirmed for measles
4/04/2019	Measles	0	Aweil Centre		Five cases tested positive for measles

# Outbreaks in 2019

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
2/04/2019	Measles	2	Tonj North		Six tested positive for measles
4/04/2019	Measles	0	Aweil West		10 positive for measles
24/04/2019	Measles	0	Bentiu PoC		Two tested positive for measles
24/04/2019	Measles	0	Malakal PoC		Two tested positive for measles
19/05/2019	Measles	300(1)	Wau		3 tested positive for measles
24/05/2019	Measles	6(0)	Renk		3 tested positive for Measles IgM



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## Notes

WHO and the Ministry of Health gratefully acknowledge the surveillance officers [at state, county, and health facility levels], health cluster and health pooled fund (HPF) partners who have reported the data used in this bulletin. We would also like to thank ECHO and USAID for providing financial support.

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>

