

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Bulletin Week 45, 2019 (November 4 – November 10)



Major Epidemiological Highlights in week 45 of 2019

- In week 45, 2019 both IDSR reporting completeness and timeliness were 55% and 63% at health facility level. EWARN reporting completeness and timeliness were both 72%.
- Of the 114 alerts in week 45; 75% were verified 3% were risk assessed and 2% required a response. Malaria (21), AWD (33), measles (14) and bloody diarrhea (17) were the top common alerts generated through the EWARS in week 45, 2019.
- Suspect foodborne disease outbreak involving 127 school children reported in Kuajok on 8 Nov 2019.
- Confirmed measles outbreak in Budi after ten (10) suspect measles cases tested measles IgM positive. At least 28 cases including one death have been line listed. Plans underway for a reactive measles campaign.
- Measles outbreaks confirmed in 2019 in 17 counties and 04 PoC sites. New confirmed measles outbreaks with planned response in Budi and completed response in Jur River, Tonj South, Pibor – Labarab and Maruwa and Yambio
- Since week 7 of 2019, a total of 210 ILI/SARI samples have been collected and tested in UVRI 153 being negative; 2 (1%) positive for Influenza B (Victoria); 11 (6%) 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 45,2019

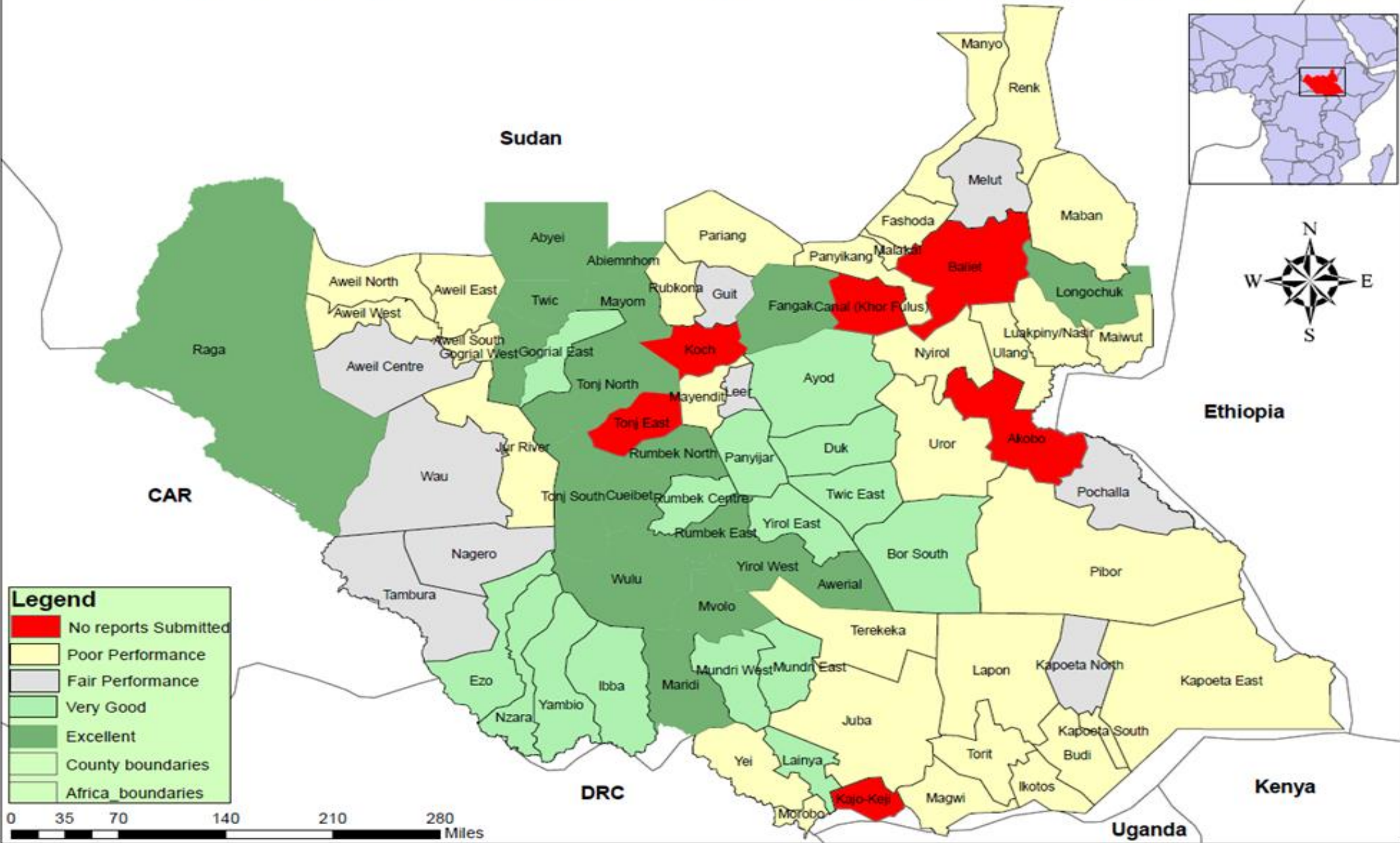
Completeness Hub/Former States Ranking	Hub/Former States	Supporting Partners	Total No. of Health Facility	No. of HFs Reported on Time	Timeliness Percentage	No. of HFs Reported not on Time	Completeness Percentage
1st	Yambio	AMREF, World Vision, CUAMM, CDTY, OPEN	214	192	90%	193	90%
2nd	Kwajok	GOAL, CCM, WVI, Malaria Consortium, UNKEA	125	105	84%	110	88%
3th	Rumbek	Doctors with Africa (CUAMM)	116	84	72%	102	88%
4th	Wau	Cordaid, Healthnet TPO, CARE International, IHO	79	35	44%	58	73%
5th	Bor	Nile Hope, MDM, JDF, Livewell, CMD, HFO, EDA, CRADA, Malaria Consortium, CMA	143	76	53%	88	62%
6th	Bentiu	Cordaid, UNIDOR, IRC, CHADO, CARE International, CRADA	93	48	52%	57	61%
7th	Aweil	Malaria Consortium, Healthnet TPO, IRC, CEDS, IHO	144	80	56%	84	58%
8th	Torit	Cordaid, HLSS, CMD	178	65	37%	84	47%
9th	Juba	HLSS, SSUHA, Healthnet TPO, IHO	157	65	41%	67	43%
10th	Malakal	Cordaid, WVI, RI, IMC, NIDO, UNKEA, MC, SSAID	170	33	19%	53	31%
	South Sudan		1419	783	55%	896	63%

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 55% and completeness is 63%. Reporting performance is highest in Yambio hub with completeness of 90% followed by Kwajok hub with completeness at 88% and Rumbek hub with 88% completeness. while the rest of the state hubs are below the target of 80%.

Percentage of Completeness by county week 45 downloaded on Saturday mid-day 16th Nov 2019.



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

Surveillance | EWARS surveillance performance indicators by partner week 45, 2019

Surveillance | EWARS surveillance indicators

Table 4 | EWARS surveillance performance indicators by partner (W45 2019)

Partner	Performance		Reporting	
	# sites	# reports received	Completeness	Timeliness
CMD	0	0		
GOAL	2	2	100%	100%
HLSS	1	0	0%	0%
IMA	8	6	75%	75%
IMC	6	5	83%	83%
IOM	11	8	73%	73%
IRC	1	1	100%	100%
Medair	2	2	100%	100%
MSF-E	2	0	0%	0%
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%
Total	65	47	72%	72%

Table 5 | Summary of key EWARS surveillance indicators

W45	Cumulative (2019)	
65	-	Number of EWARS reporting sites
72%	61%	Completeness
72%	55%	Timeliness

Table 6 | EWARS report submissions

W45	Cumulative (2019)	
47	1,803	total submissions
0	9	submissions by mobile
47	1793	submissions by web

- Both completeness and timeliness for weekly reporting were 72% in week 45 for partner-supported clinics serving IDP sites. The cumulative completeness and timeliness were 61% and 55% respectively for 2019.

Total Number of Rumors/ Alerts Reported by Reporting Structures for the 45th Week of 2019, N=2209

IDSR/EWARS: 2 Rumors

Yirol East: 1 Rumor

Terekeka: 1 Rumor (Entry Error from Gemeza HF need to be discarded)

Completeness of IDSR Reporting at health facility Level for Week 45 stands at 59%

4 hotline rumors

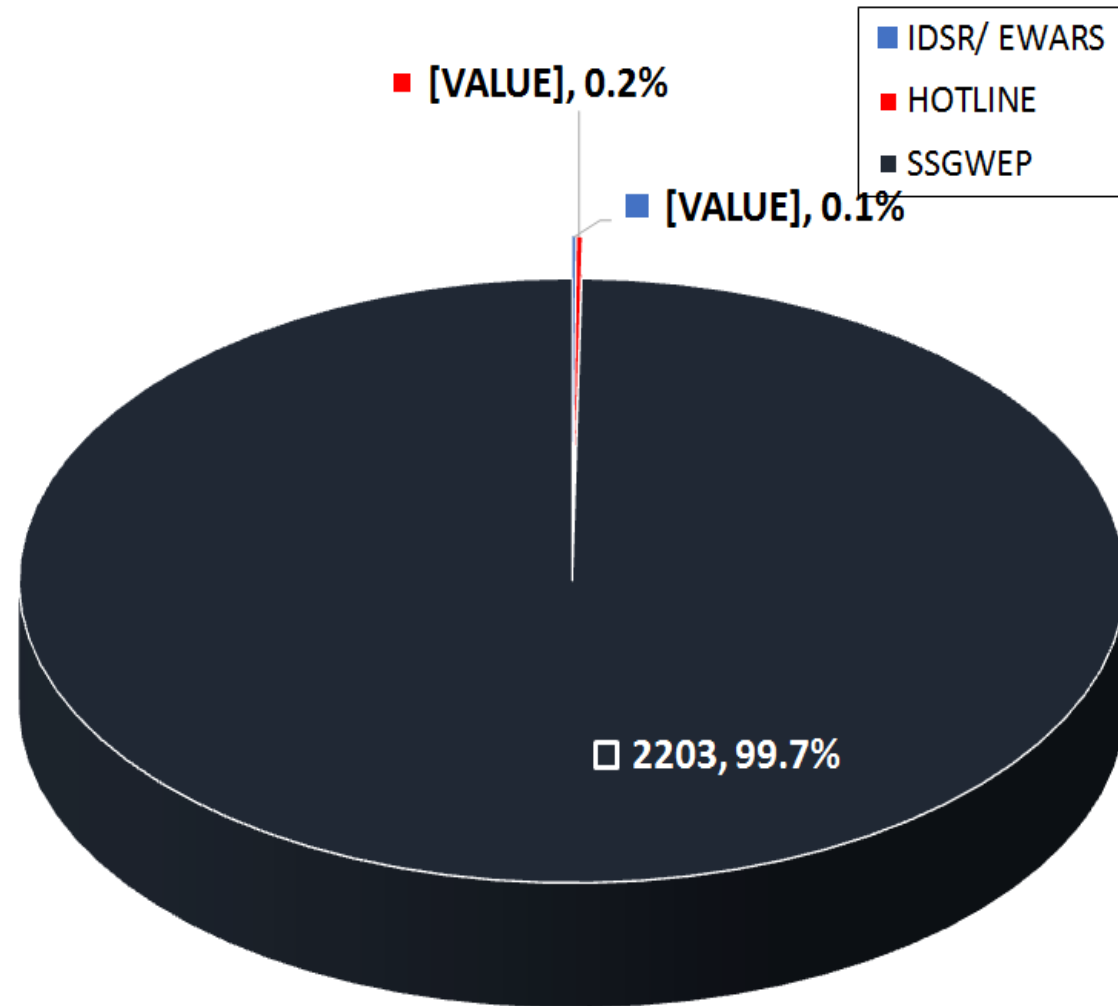
Reports by Former Counties

Juba: 1 Rumors

Wau: 1 Rumor

Gogrial West: 1 Rumor

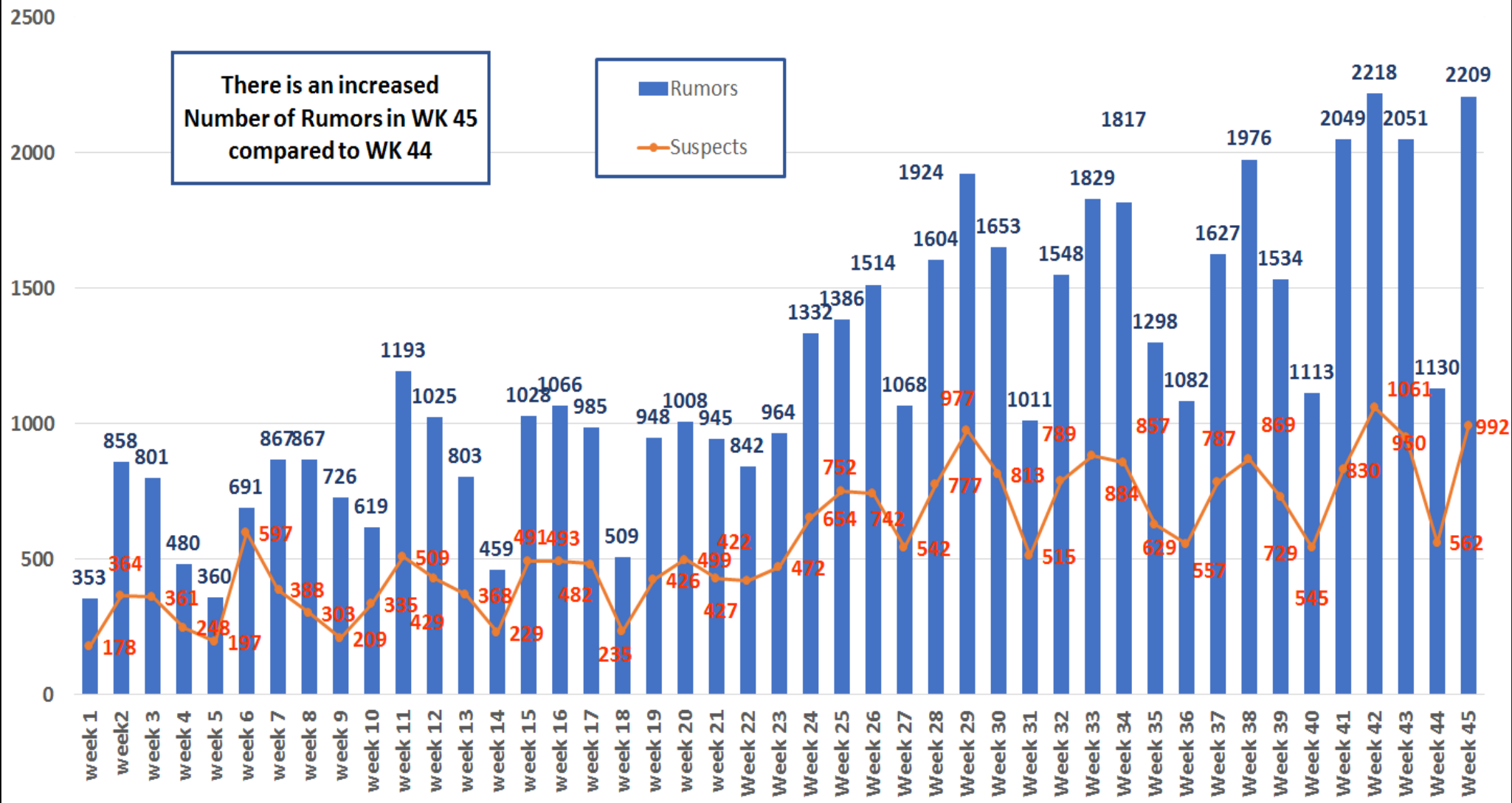
Yambio: 1 Rumor



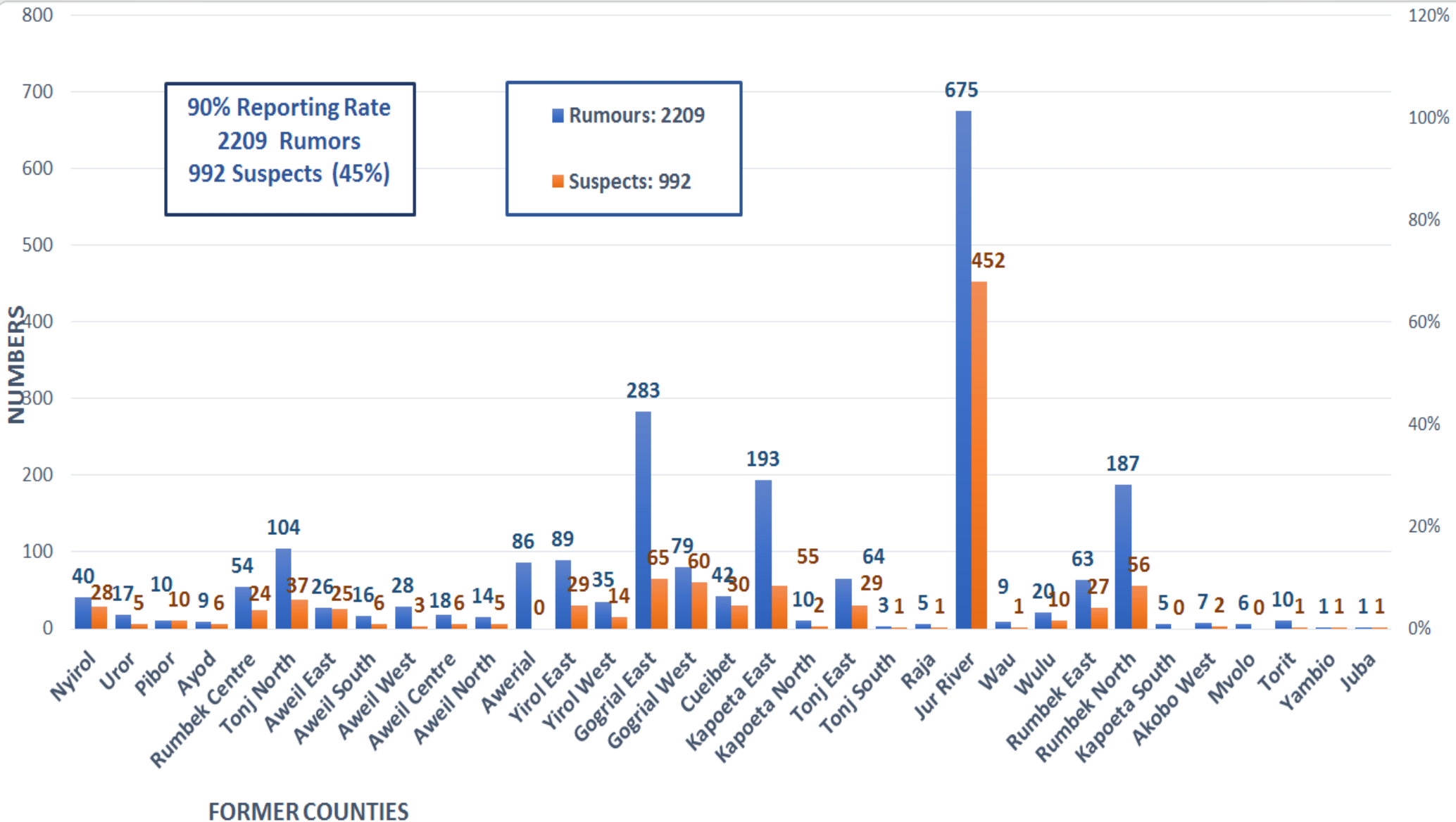
CUMULATIVE: Guinea Worm Rumors and Suspects

Week1-Week 45, 2019 (N=53,370 Rumors, 25,475 Suspects (47.7%))

There is an increased Number of Rumors in WK 45 compared to WK 44



Former Counties that reported Rumors, and Suspects during 03th Nov - 09th Nov, 2019 (45th. Week) of the Year. (n=32)



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	W45		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	9	56%	333	95%
Bentiu	11	27%	370	48%
Bor	26	100%	452	99%
Juba	3	33%	340	39%
Kuajok	9	0%	303	36%
Malakal	2	50%	115	77%
Rumbek	19	100%	671	99%
Torit	8	0%	449	86%
Wau	6	100%	202	74%
Yambio	21	100%	876	87%
South Sudan	114	72%	4110	79%

Table 8 Summary of key alert indicators

W45	Cumulative (2019)	
114	4110	Total alerts raised
72%	79%	% verified
0%	0%	% auto-discarded
2%	3%	% risk assessed
1%	2%	% requiring a response

- A total of 114 alerts were received in week 45, 2019 out of which 72% were verified 2% were risk assessed and 1% required a response.

Alert | Event risk assessment

Table 9 | Alert performance indicators by event

Event	W45		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	21	95%	780	84%
AWD	33	79%	1021	78%
Bloody Diarr.	17	65%	702	72%
Measles	14	36%	622	73%
Meningitis	0	0%	0	0%
Cholera	1	100%	109	90%
Yellow Fever	0	0%	22	86%
Guinea Worm	2	100%	93	88%
AFP	0	0%	135	69%
VHF	0	0%	35	83%
Neo. tetanus	1	100%	49	82%
Event-based surveillance				
EBS total	0	0%	32	84%

Table 10 | Event risk assessment

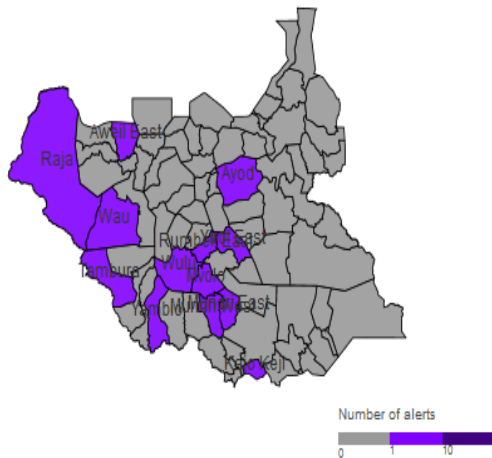
W45	Cumulative (2019)	
0	24	Low risk
30	30	Medium risk
2	37	High risk
0	37	Very high risk

- Malaria (21), AWD (33), measles (14) and bloody diarrhea (17) were the top common alerts generated through the EWARS in week 45, 2019.

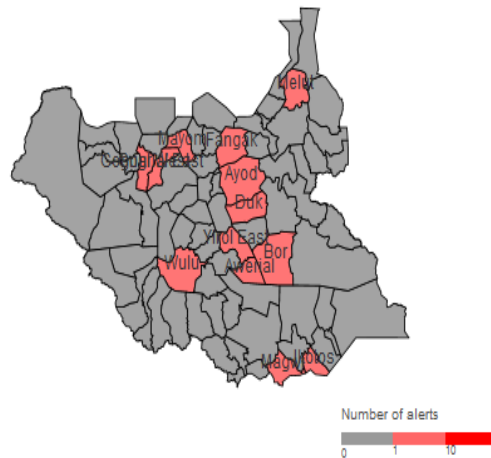
Alert | Map of key disease alerts by county week 45, 2019

Alert | Maps of key disease alerts by county

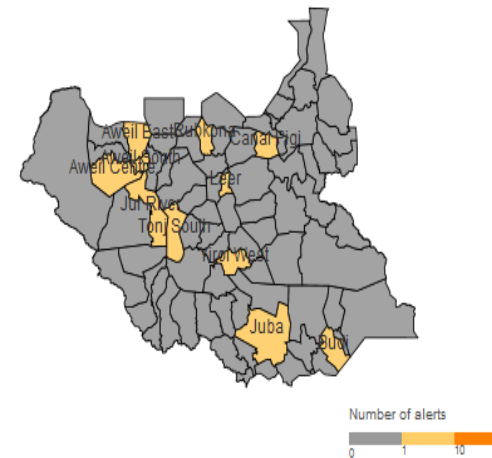
Map 2a | Malaria (W45 2019)



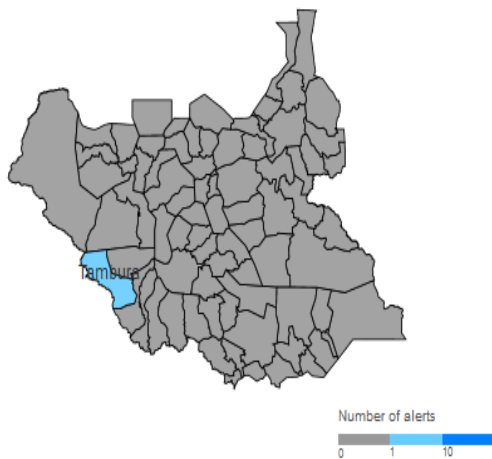
Map 2b | Bloody diarrhoea (W45 2019)



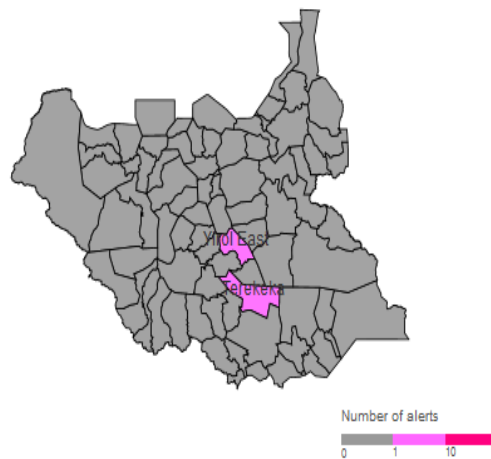
Map 2c | Measles (W45 2019)



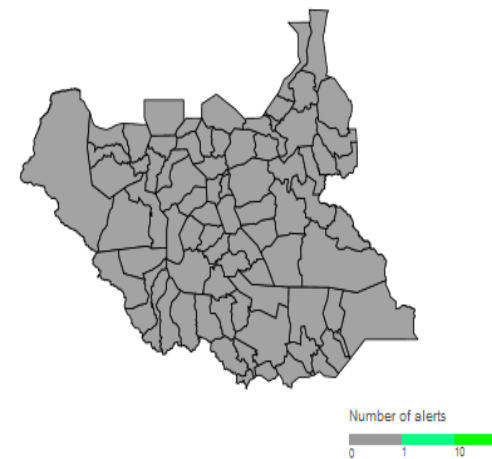
Map 2d | Cholera (W45 2019)



Map 2e | Guinea Worm (W45 2019)



Map 2f | Event-based surveillance (W45 2019)



SUSPECTED OUTBREAKS IN 2019

Major suspected outbreaks in South Sudan in
2019

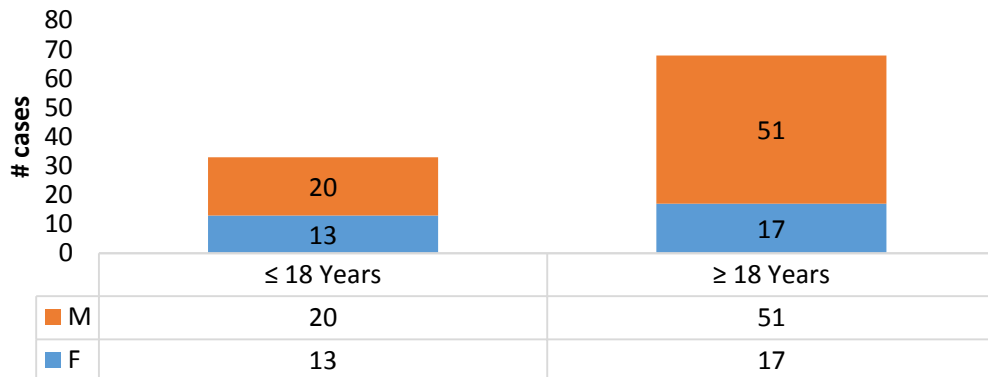
EVD Suspect cases in South Sudan 2018 and 2019 as of week 45, 2019

Source of Information	Met EVD cases definition		Total cases
	NO	Yes	
2018	27	14	41
Community	3	3	6
Health Worker	7	9	16
Screening point	17	2	19
2019	24	37	61
Community	6	6	12
Health Worker	8	15	23
RRT lead Team	1	1	2
Screening point	3	6	9
State Surveillance Officer	6	6	12
WHO State Coordinator		3	3
Grand Total	51	51	102

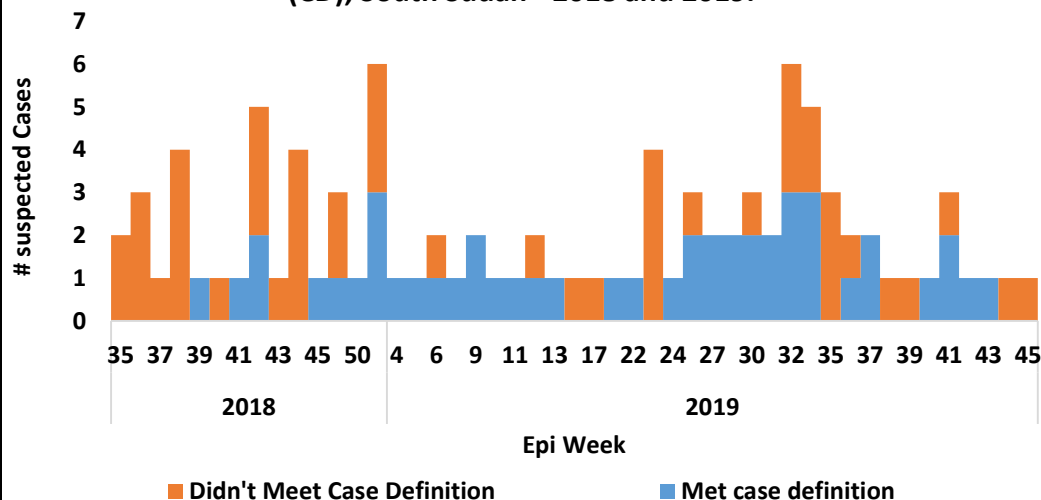
- Since August 2018, at least 102 suspect EVD cases have been reported, of which:
- Most, 61 (59.8%) have been reported in 2019
- Most of the suspect EVD cases have been reported by health workers at health facility level
- Three suspect EVD cases were reported from screening points

EVD Suspect cases in South Sudan 2018 and 2019 as of week 45, 2019

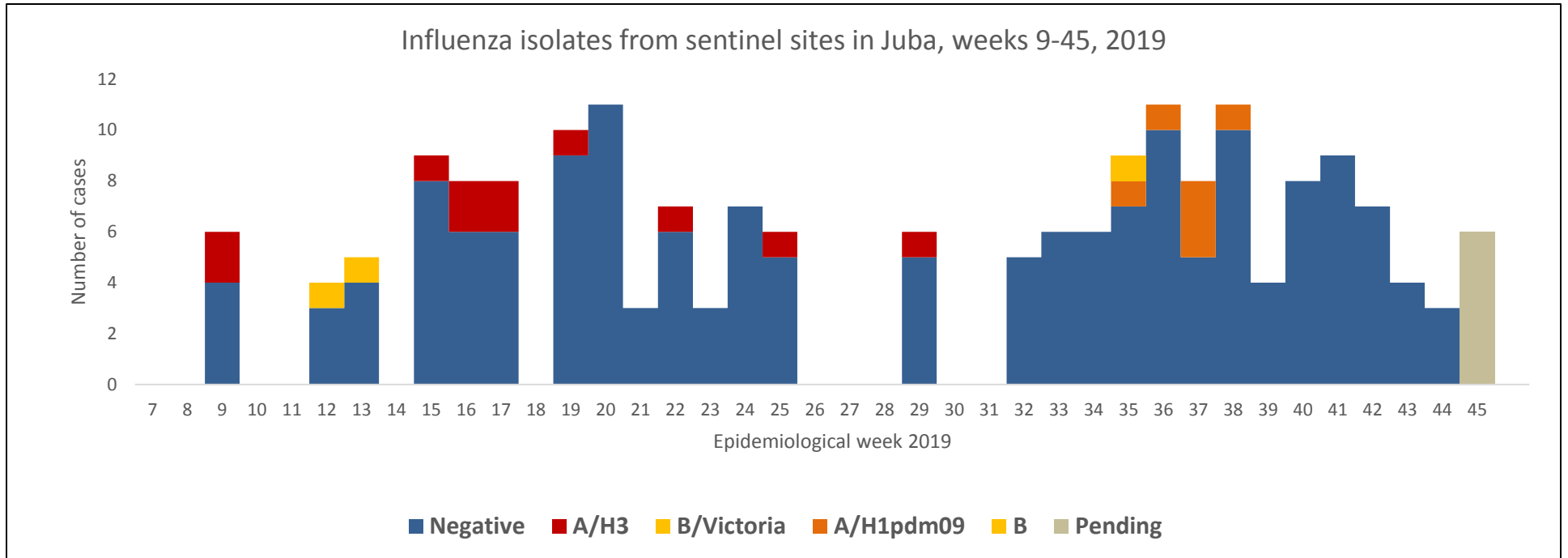
Age and Sex distribution of suspected EVD cases South Sudan - 2018 and 2019.



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 (68%)
- Similarly, most suspect EVD cases have been reported in males (51%)
- The distribution suspect EVD cases in both children <18years and adults ≥18yrs is skewed towards the males
- The number of suspect EVD cases reported per week range from 0-4 cases



- In week 7, 2019, South Sudan started case-based surveillance for Influenza Like Illness (ILI) and Severe Acute Respiratory Infection (SARI) cases through systematic collection of epidemiological and virological information
- There are currently two designated Influenza sentinel surveillance sites in Juba (Juba Teaching Hospital and Al Sabah Children’s Hospital) that are collecting epidemiological data and samples from ILI/SARI cases
- Since week 7 of 2019, a total of 210 ILI/SARI samples have been collected and tested in UVRI 153 being negative; 2 (1%) positive for Influenza B (Victoria); 11 (6%) 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 (3) has been the predominant isolate. However, Influenza A (H1)pdm09 emerged from week 35 as a new circulating strain.

Suspect foodborne outbreak in Don Bosco primary school, Kwajok, Gogrial State

- On 8th November 2019, Kwajok hospital admitted a total of one hundred and twenty-seven (127) children from Don Bosco primary school with suspect foodborne outbreak
- The children presented with fever, vomiting diarrhoea, mental confusion, abdominal distention, puffy face, abdominal cramps and body swelling
- Cases were managed with intravenous fluids and antibiotics
- Food contamination was suspected and hence blood and food (Sorghum, oil, beans) samples were collected and shipped to Nairobi for analysis in microbiology and toxicology Laboratories. |



Picture of admitted Don Bosco school pupils receiving medication at Kwajok hospital

ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS

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

Response | Summary of major ongoing outbreaks in 2019

Aetiological agent	Location (county)	Date first reported	New cases since last bulletin	Cumulative cases to date (attack rate %)	Interventions			
					Case management	Vaccination	Health promotion	WASH
Ongoing epidemics								
Measles	Wau County and PoC-AA	28/1/2019	1	645 (0.0016)	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	1	105 (0.009)	Yes	No	Yes	Yes
Measles	Pibor	17/01/2019	NR	2054 (0.008)	yes	No	yes	N/A
Measles	Bentiu PoC	24/04/2019	11	175(0.063)	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	Jur River	06/02/2019	NR	102(0.003)	Yes	No	Yes	N/A
Measles	Yambio	06/09/2019	NR	16(0.186)	Yes	No	Yes	N/A
Measles	Budi	03/10/2019	10	28(0.357)	Yes	No	Yes	N/A

● Measles outbreaks confirmed in 2019

- **17 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 and Budi
- **4 PoC sites** – Wau PoC AA; Bentiu PoC; Malakal PoC; & Juba PoC

● New confirmed measles outbreaks and response dates:

- Budi; **campaign underway**
- Tonj South; **completed**
- Jur River; **completed**
- Pibor – *Labarab and Maruwa*; **completed**
- Yambio; **completed**

Measles Outbreak situation & response by county as of week 45, 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	95	102	52.9	1	1.0%	3-Feb-19	Done	35%	active	mop up underway
9	Wau	256,363	13	632	645	251.6	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	4	42	46	41.0	0	0.0%	15-Mar-19	Done	24,261 (116%)	controlled	
13	Melut	323,920	3	6	9	2.8	0	0.0%	15-Mar-19	Done	12,035 (78%)	controlled	
14	Pibor	224,613	8	2046	2054	914.5	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	130	175	169.2	1	0.6%	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	6.9	1	6.3%	5-Sep-19	Done	63.00%	controlled	mop up underway
21	Budi	12,986	10	18	28	215.6	0	0.0%	1-Oct-19	pending		active	
	Total	4,289,360	163	3,712	3,875	90.3	23	0.6%					

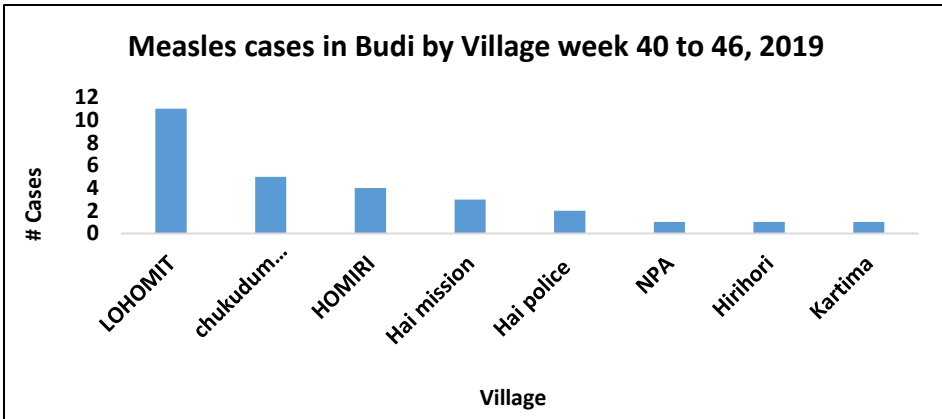
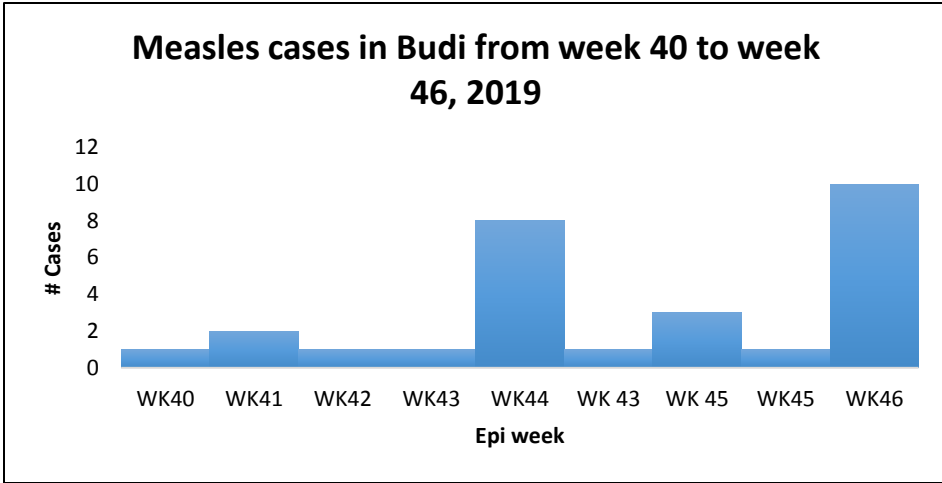
Measles and Rubella Laboratory Test Results, week 44 of 2019

Location/Health Facility	Date sent to Juba	Date Received at PHL	Suspected Disease	Lab results
Budi	10/23/2019	11/6/2019	Measles	Measles IgM positive
Budi	10/23/2019	11/6/2019	Measles	Measles IgM positive
Budi	10/23/2019	11/6/2019	Measles	Measles IgM positive
Budi	10/23/2019	11/6/2019	Measles	Measles IgM positive
Budi	10/23/2019	11/6/2019	Measles	Measles IgM positive
Budi	10/23/2019	11/6/2019	Measles	Measles IgM positive
Budi	10/23/2019	11/6/2019	Measles	Measles IgM positive
Budi	10/23/2019	11/6/2019	Measles	Measles IgM positive
Budi	10/23/2019	11/6/2019	Measles	Measles IgM positive
Budi	10/23/2019	11/6/2019	Measles	Measles & rubella IgM Negative
Budi	10/23/2019	11/6/2019	Measles	Measles & rubella IgM Negative

During the week;

- Ten (10) samples from Budi:
 - Eight (8) were measles IgM positive while two (2) tested negative for measles and rubella

Confirmed Measles Outbreak in Budi County



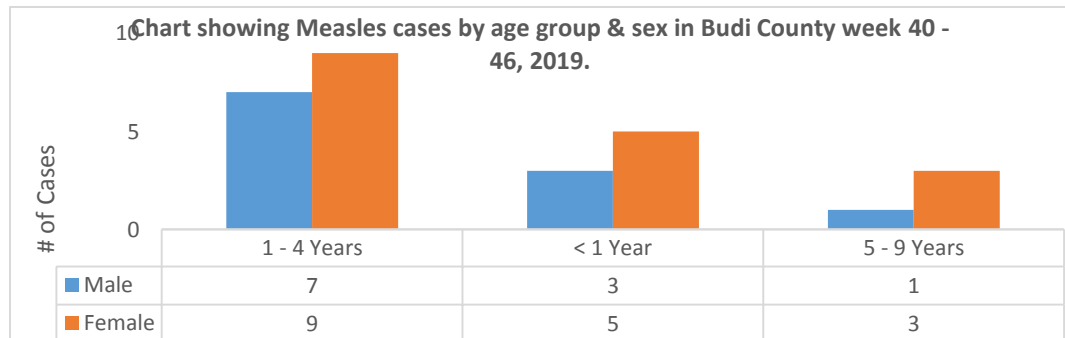
Age Group	Cases	Percentage	Cum. %
< 1 Year	8	29%	29%
1 - 4 Years	16	57%	86%
5 - 9 Years	4	14%	100%
Grand Total	28	100%	

Descriptive Epidemiology:

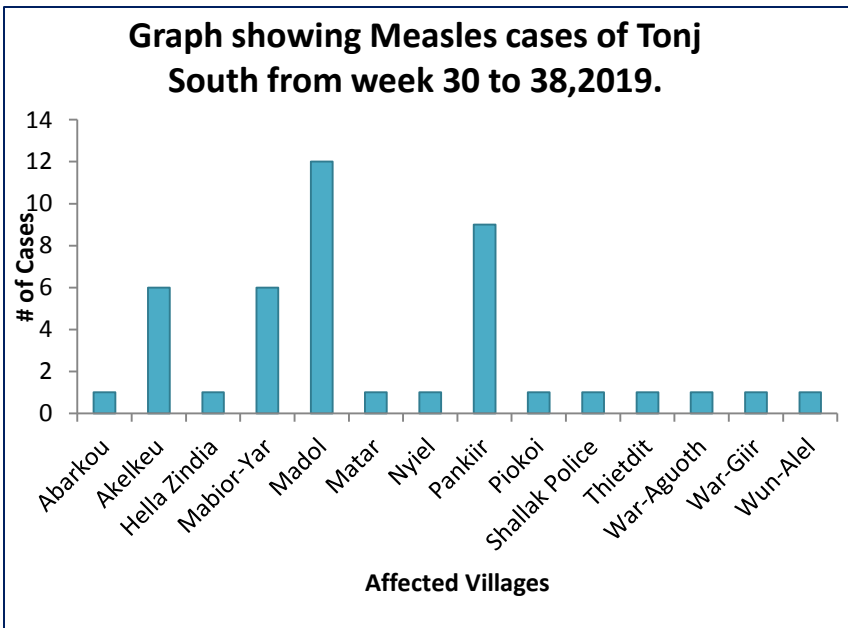
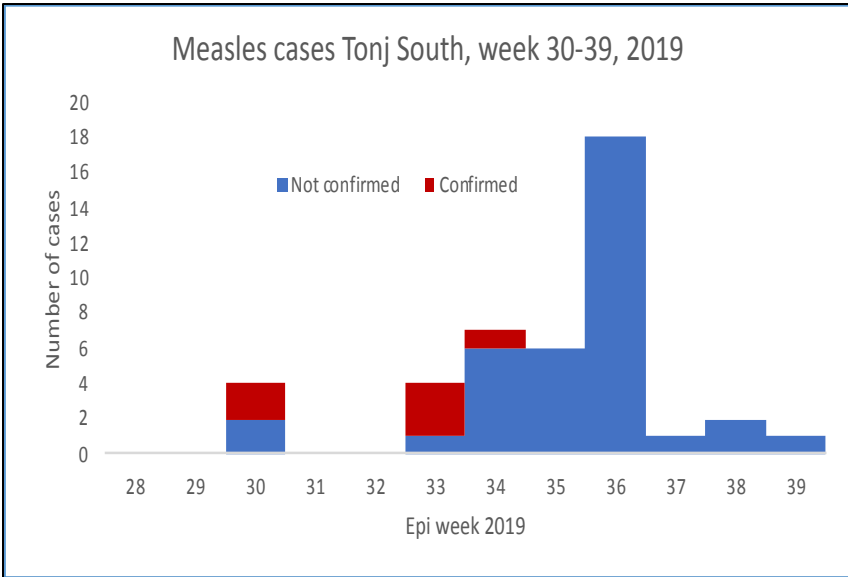
- A total of 28 Suspected Measles case have been in Budi county since week 45 of 2019.
- 10 new cases were reported in week 46, 2019
- Initially 3 samples were collected for testing in which 2 samples tested positive for measles and 1 negative
- 10 samples were collected last week of which (8) samples tested positive for measles and (2) negative
- The most payams affected are; Chukudum town, Chukudum and Homiri
- 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 in Chukudum hospital



Measles cases in Tonj South County



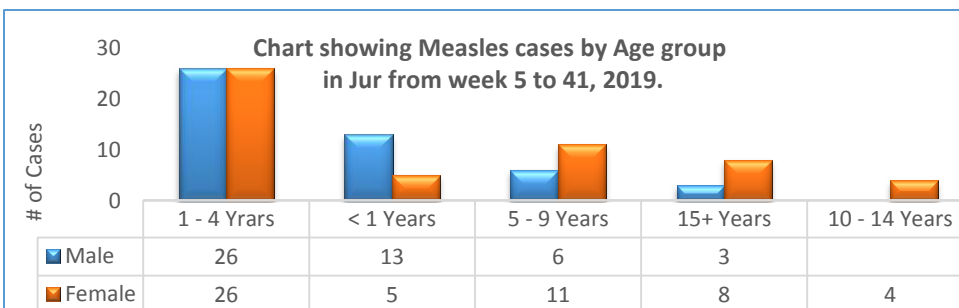
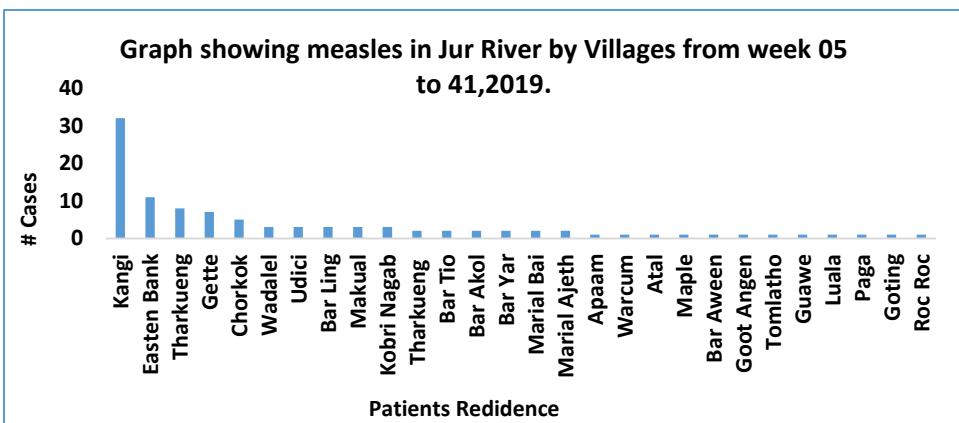
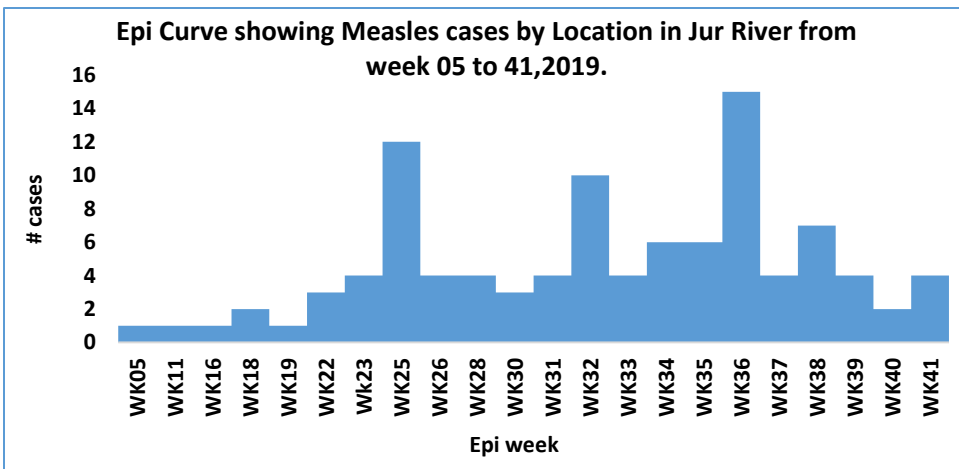
Descriptive Epidemiology:

- Suspected measles case was initially detected at Tonj hospital in a 10-month-old female on 30th July 2019
- A total of eight (8) samples collected (6 measles IgM positive & 1 rubella IgM positive) thus confirming a measles outbreak
- 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 %**
- **Teams have been deployed to conduct the PCE.**

Measles cases in Jur River



Descriptive Epidemiology:

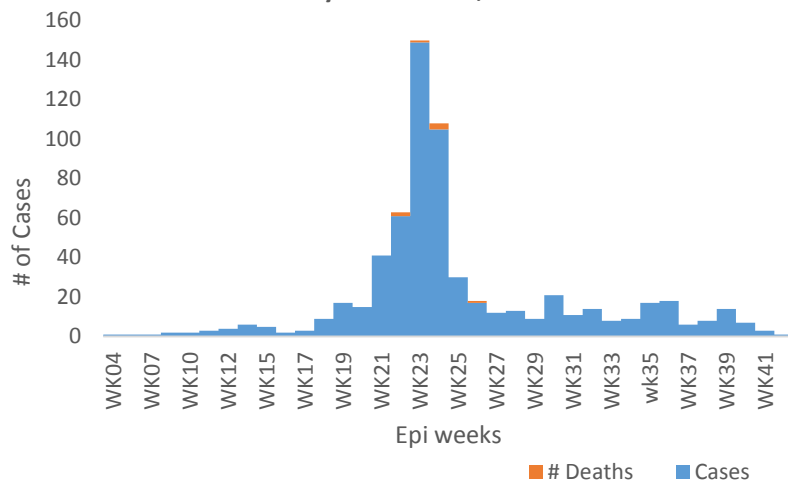
- Initial cases were reported on 6 Feb from Marialbai PHCC from Bar Aween village
- 7 measles IgM positive cases recorded since outbreak onset
- Most of the cases have been reported from Kingi; Eastern Bank and Gette
- 69 % of the cases reported are not vaccinated against measles

Response and Recommendations:

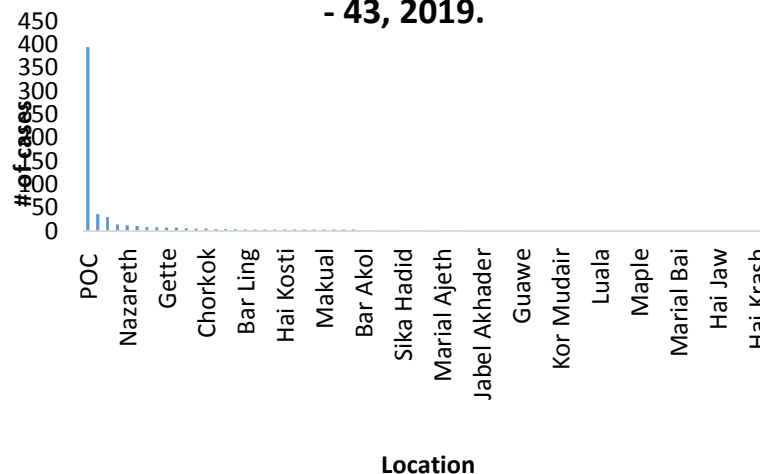
- Following the confirmation of a measles outbreak in the county, a reactive vaccination microplan targeting 60,435 children 6-59 months in five payams of Rocroc; Kuajina; Udici; Kangi; and Marial Bai/ Wau Bai has been developed.
- *The other interventions include:*
- Intensified surveillance and line-listing of new measles cases
- Treating suspect cases with oral rehydration, vitamin A, and antibiotics for suprainfections
- Social mobilization and health education on measles case symptoms; prompt health care seeking; and routine immunization.
- **SMoH, Cordaid and partners finalised a reactive campaign conducted with (35%) coverage (preliminary report)**

Confirmed Measles Outbreak in Wau County and Wau POCAA

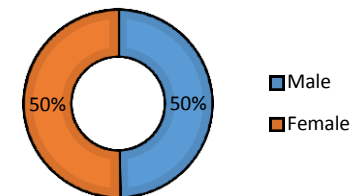
Epi curve Showing Measles cases and deaths in Wau county week 04-43, 2019



Measles cases in Wau by location week 4 - 43, 2019.



Pie-chart showing measles cases by Gender in Wau, week 4 to 43, 2019.



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.

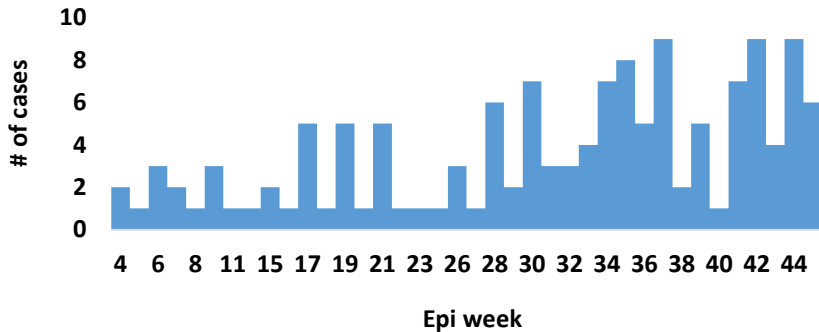
Descriptive Epidemiology:

- Since week 4 of 2019; a total of 645 cases including 6 deaths (CFR 1.2%) have been reported from Wau County. The outbreak peaked in week 22, 23 and 24 and later came down to 1 cases in week 43, 2019
- 74% of the cases are under the age of 5years with 85 % of the cases not vaccinated against measles.
- **Response and recommendations**
- IOM, UNICEF and partners conducted a campaign covered Wau municipality and extended to some IDPs collective sites in Jur River from 3rd – 10th June
- Target populations (27,166) child from 6-59 months, the coverage was 85% as (23,028) child vaccinated including (1,628) child from IDPs collective site in Jur River County. PCE by MoH and WHO showed a coverage of 89.15%.
- Vaccination post for measles has been fixed at the entrance of the POC-AA is continuing with vaccination for the new arrivals and children who missed vaccination during the reactive campaign.

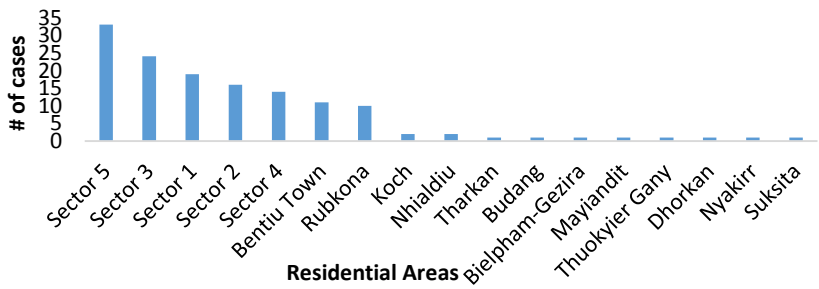
Response | Confirmed epidemics

Confirmed Measles and Rubella outbreak in Bentiu PoC

Measles cases in Bentiu from week 4 to week 45, 2019



Measles cases in Bentiu by Location week 4 to 45, 2019.



Epidemiological description

- Bentiu PoC has been reporting suspected measles/rubella cases since week 4 of 2019.
- Eleven (11) new cases reported in week 45, 2019
- At least 175 measles cases including 1 death (CFR 0.59%) reported since then.
- Cumulatively, 36 tested cases have tested measles IgM positive while 15 tested rubella IgM positive. During the week; nine (9) measles IgM positive and one (1) rubella IgM positive cases were reported
- Majority 96% of the cases are children <5 years.
- 96% are under 5 yrs old, 4% 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).

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.

Cummulative cases by AgeGroup, 2018 and 2019.

AgeGroup	Cases	Percentage	Cum. %
< 1 Year	76	43%	43%
1 - 4 Years	85	49%	92%
10 - 14 Years	4	2%	94%
15+ Years	2	1%	95%
5 - 9 Years	8	5%	100%
Grand Total	175	100%	

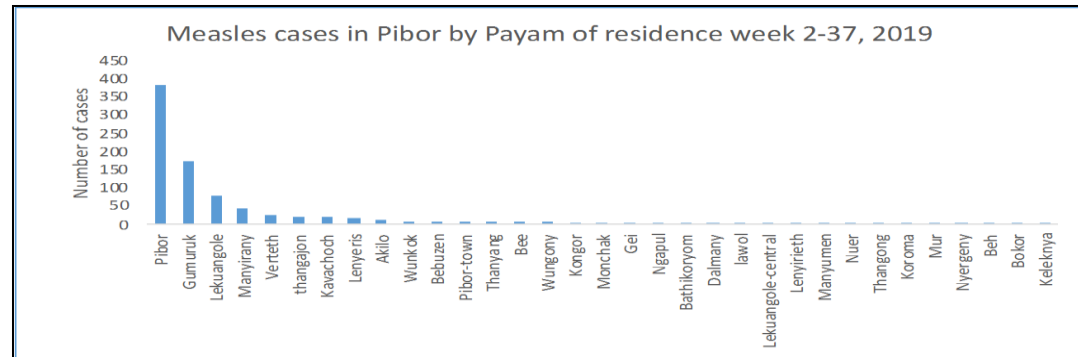
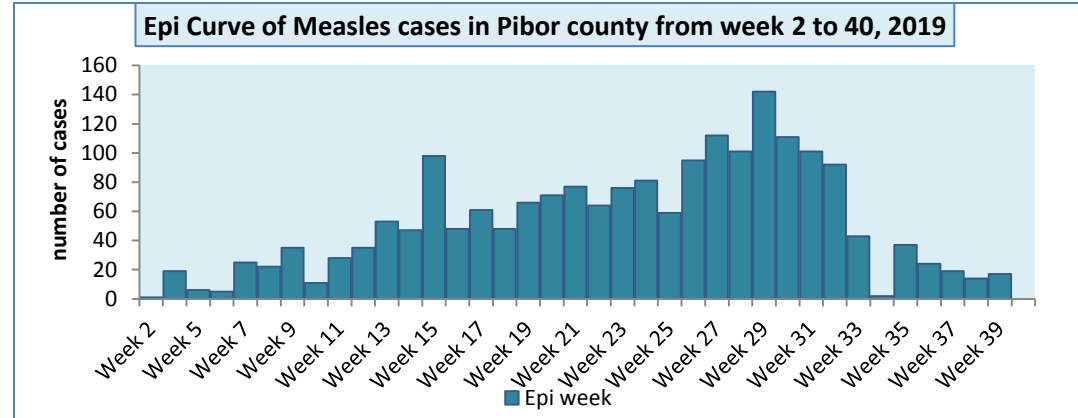
Measles in Pibor County

Background and descriptive epidemiology

- Measles transmission has persisted in Pibor County despite of the vaccination campaign conducted in February and March 2019.
- A total of 2056 measles cases (9 deaths – [CFR 0.44%]) reported since week 2 of 2019
- A total of eight (8) measles IgM positive cases recorded since outbreak onset
- 70.5% of the cases are less than 5 years of age
- 32.3 % of the cases reported are not vaccinated against measles
- Most of the cases shave been reported from Pibor; Gumruk; Lekuangole; Verteth. In addition, cases were recently confirmed in Labarab & Marua.

Response actions:

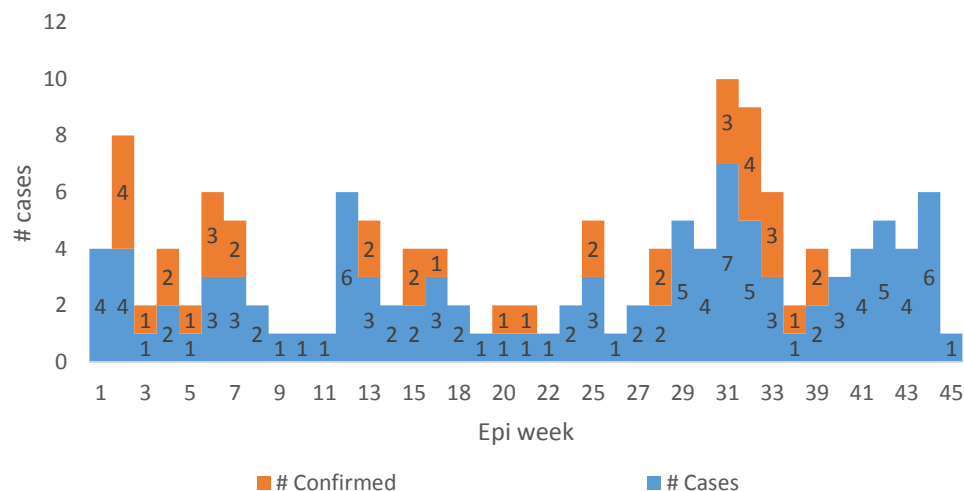
- Due to persistent transmission; MedAir and LiveWell implemented a measles campaign in Pibor; Lekuangole; Verteth; Gumuruk to interrupt transmission.
- The campaign started on 1st September 2019, targeting 27,122 (6-59 months and 5-15 years combined).
- LiveWell and WHO eMMT started on 7th October a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



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

Hepatitis E, Bentiu PoC

HEV Cases in Bentiu from week 1 to 45, 2019



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

Descriptive epidemiology

- The persistent transmission of HEV in Bentiu PoC continues with 105 cases since beginning of 2019
- Total of (105) cases line listed
- There were (6) cases reported in week 44; & one (1) case in week 45, 2019.
- All the cases were managed as outpatient cases except for seven cases who were admitted
- Two deaths one on 12th, April 2019 and the second on 11th July 2019
- Over half (51%) out of 105 cases are male.
- Age group less than 15 years had the most cases with 53 (50%) 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 45, 2019; there were 105 cases of HEV in Bentiu PoC including 2 deaths (CFR 1.90%)

Age Group	Alive	Dead	Total Cases	Percentage	Cum. %
1 - 4 Years	32		32	30%	30%
10 - 14 Years	21		21	20%	50%
15+ Years	29	1	30	29%	79%
5 - 9 Years	21	1	22	21%	100%
Grand Total	102	2	105	100%	

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

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

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

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

EBOLA VIRUS DISEASE[EVD] PREPAREDNESS IN SOUTH SUDAN

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

Ebola update DRC 12 November 2019

Current situation

- Currently as of **10 November 2019**
- **3287** Cases [3169 confirmed & 118 probable]
- **2193** Deaths [2091 confirmed & 94 probable]

Response update

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

Affected health zones

- In the 21 days from 21 October to 10 November 2019, 15 health areas and five health zones have reported cases (Table 1, Figure 2). During this period, a total of 42 confirmed cases were reported, with Mabalako (38%; n=16 cases), Mandima (36%; n=15 cases), and Beni (14%; n=6) as the principal hot spots.

Ebola preparedness in South Sudan

EVD preparedness activities undertaken in South Sudan

- South Sudan, as a priority one (1) country for Ebola virus disease outbreak (EVD) preparedness continues to make progress to enhance capacities for EVD case detection, investigation, response, and prevention.
- The national Ebola taskforce continues to meet twice weekly and is coordinating the implementation of the EVD contingency plan. The Ebola taskforce working groups have finalized the EVD contingency plan for the next six months of EVD preparedness and readiness in the country.
- Detailed preparedness update can be accessed <https://www.afro.who.int/publications/weekly-update-ebola-virus-disease-evd-preparedness-south-sudan>

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Notes

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The data has been collected with support from the EWARS project. This is an initiative to strengthen early warning, alert and response in emergencies. It includes an online, desktop and mobile application that can be rapidly configured and deployed in the field. It is designed with frontline users in mind, and built to work in difficult and remote operating environments. This bulletin has been automatically published from the EWARS application.

More information can be found at <http://ewars-project.org>

