

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Bulletin Week 46, 2019 (November 11 – November 17)



Major Epidemiological Highlights in week 46 of 2019

- In week 46, 2019 both IDSR reporting completeness and timeliness were 68% at health facility level. EWARN reporting completeness and timeliness were both 78%.
- Of the 121 alerts in week 46; 58% were verified 2% were risk assessed and 1% required a response. Malaria (24), AWD (36), measles (14) and bloody diarrhea (13) were the top common alerts generated through the EWARS in week 46, 2019.
- New confirmed measles outbreak in Aweil South after ten (6) suspect measles cases tested measles IgM positive. |
- New confirmed measles outbreak in Mangateen IDP camp in Juba with (3) cases confirmed measles IgM positive cases.
- New Confirmed measles outbreak in Ikotos after five (05) suspect measles cases tested measles IgM positive. |
- Since week 7 of 2019, a total of 216 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 46,2019

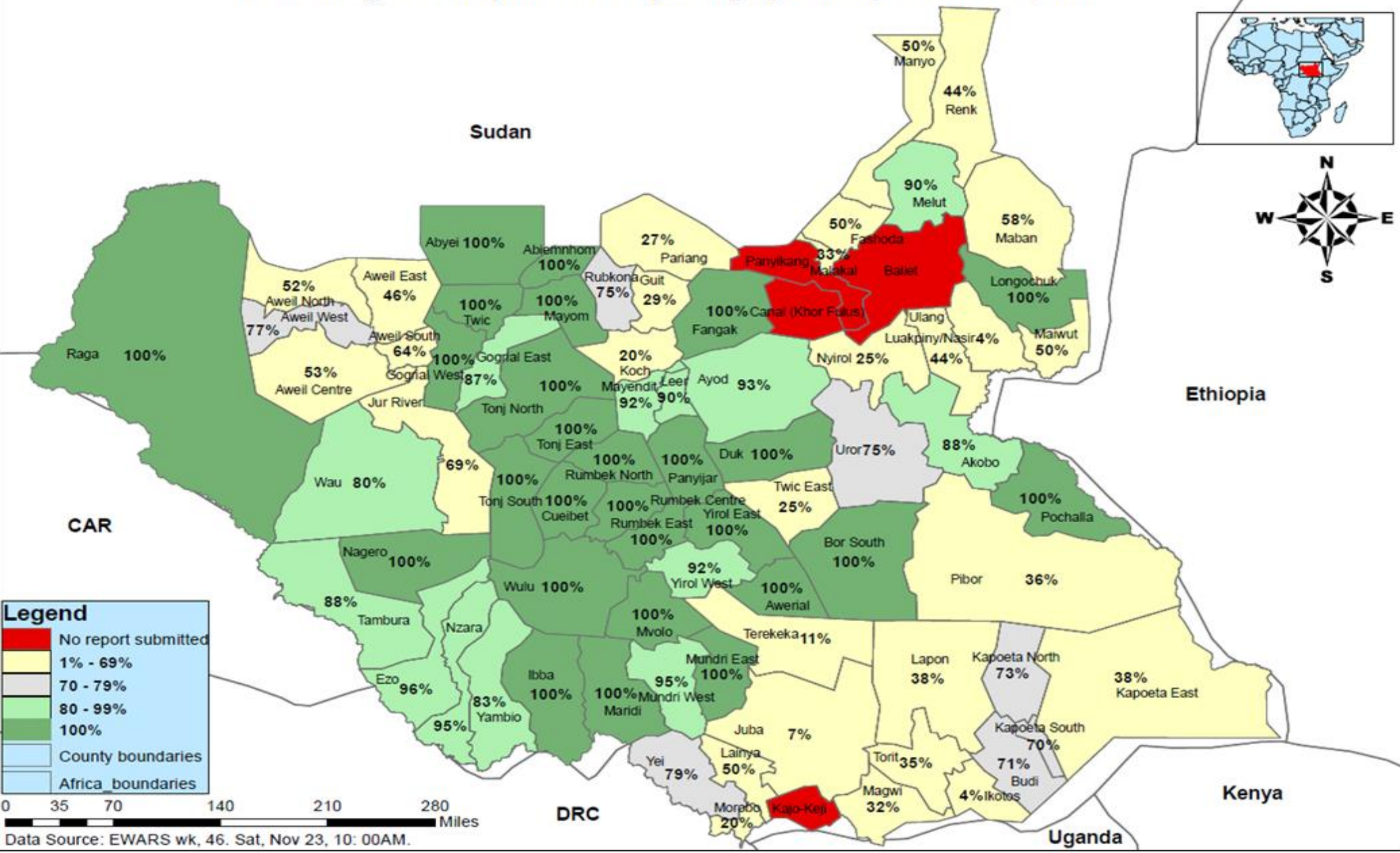
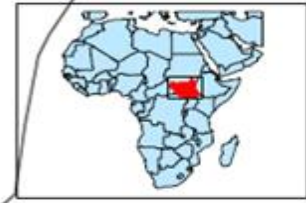
Completeness Hub/Former States Ranking	Hub/Former States	Supporting Partners	Total No. of Health Facility	No. of HFs Reported on Time	Timeliness Percentage	No. of HFs Reported not on Time	Completeness Percentage
1st	Rumbek	Doctors with Africa (CUAMM),LIVEWELL	116	115	99%	115	99%
2nd	Kwajok	GOAL, CCM, WVI, Malaria Consortium, UNKEA	125	122	98%	122	98%
3rd	Yambio	AMREF, World Vision, CUAMM, CDTY, OPEN	214	201	94%	201	94%
4th	Wau	Cordaid, Healthnet TPO, CARE International, IHO	79	61	77%	61	77%
5th	Malakal	Cordaid, WVI, RI,IMC, NIDO, UNKEA, MC, SSAID	98	71	72%	71	72%
6th	Bor	Nile Hope, MDM, JDF, Livewell, CMD, HFO, EDA, CRADA, Malaria Consortium, CMA	138	92	67%	92	67%
7th	Bentiu	Cordaid, UNIDOR, IRC, CHADO, CARE International, CRADA	87	57	66%	57	66%
8th	Aweil	Malaria Consortium, Healthnet TPO, IRC, CEDS, IHO	144	84	58%	84	58%
9th	Torit	Cordaid,HLSS,CMD	178	70	39%	70	39%
10th	Juba	HLSS,SSUHA,HealthnetTPO,IHO	157	32	20%	32	20%
	South Sudan		1336	905	68%	905	68%

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 68% and completeness is 68%. Reporting performance is highest in Rumbek hub with completeness of 99% followed by Kwajok hub with completeness at 98% and Yambio hub with 94% completeness. while the rest of the state hubs are below the target of 80%.

Percentage of completeness reporting by County in week 46, 2019.



Legend

- No report submitted
- 1% - 69%
- 70 - 79%
- 80 - 99%
- 100%
- County boundaries
- Africa boundaries

0 35 70 140 210 280 Miles

Data Source: EWARS wk. 46. Sat, Nov 23, 10: 00AM.

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 46, 2019

Surveillance | EWARS surveillance indicators

Table 4 | EWARS surveillance performance indicators by partner (W46 2019)

Partner	Performance		Reporting	
	# sites	# reports received	Completeness	Timeliness
CMD	0	0		
GOAL	2	2	100%	100%
HLSS	1	0	0%	0%
IMA	8	8	100%	100%
IMC	6	4	67%	67%
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%
Total	64	50	78%	78%

Table 5 | Summary of key EWARS surveillance indicators

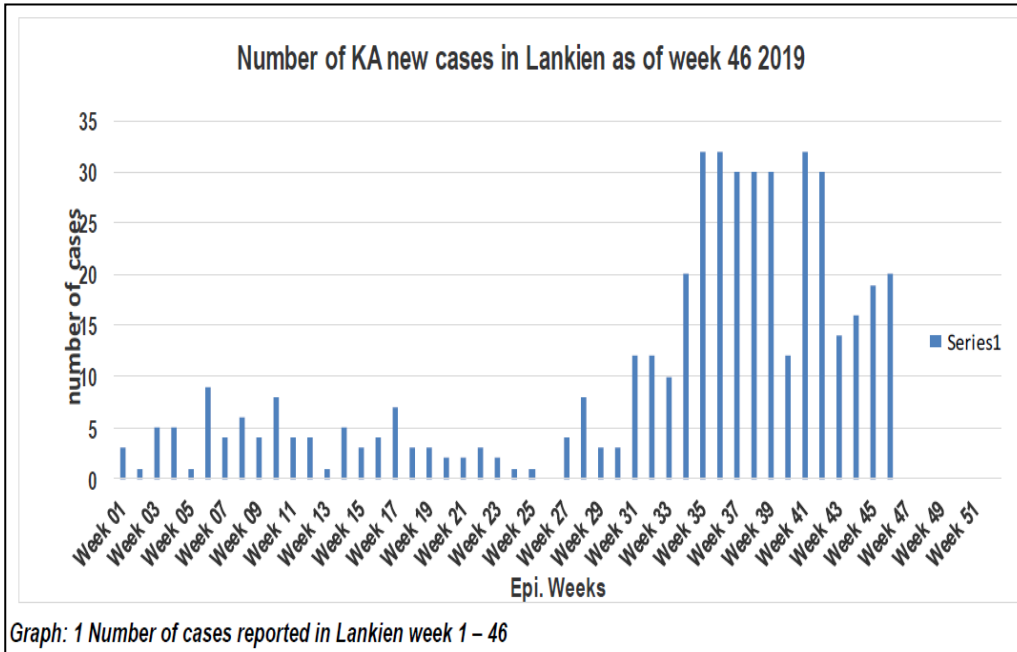
W46	Cumulative (2019)	
64	-	Number of EWARS reporting sites
78%	60%	Completeness
78%	54%	Timeliness

Table 6 | EWARS report submissions

W46	Cumulative (2019)	
50	1,772	total submissions
0	9	submissions by mobile
50	1762	submissions by web

- Both completeness and timeliness for weekly reporting were 78% in week 46 for partner-supported clinics serving IDP sites. The cumulative completeness and timeliness were 60% and 54% respectively for 2019.

Visceral Leishmaniasis | Kala-azar; week 46, 2019 update



- In week 46, four (4) KA treatment centers reported 27 cases, 25 (92.6%) new cases, 0(0.0%) PKDL and 2(7.4%) relapses. One (1) (3.7%) death and no defaulters reported.
- Since the beginning of 2019, a total of 1008 cases including 53 deaths (CFR 5.1%) and 23(2.3%) defaulters have been reported from 16 treatment centers including 1 case treated in Juba teaching Hospital. Of the 1008 cases reported, 880(87.3%) were new cases, 14(1.4%) PKDL and 114(11.3 %) relapses.
- In the corresponding period in 2018, a total of 2,308 cases including 86 deaths (CFR 4%) and 62 (3%) defaulters were reported from 21 treatment centers.

- Majority of cases are reported from Lankien (538) contributing to 53% of the total cases. Followed Kapoeta State Hospital(KSH) (82), Narus (79), Malakal idp (51), Pieri (39), Ulang (37) Chuil (33) Bentiu (28) Adong, (27) and Pagil (27) Old Fangak (23) etc.
- The most affected groups included, males [582 cases (57.7%)], those aged ≥ 15 years and above [461 (45.7%) and 5 - 14 years [2332 cases (32.9%)]. A total of 213 cases (21.1%) occurred in children < 5 years.
- The number of cases reported in 2018 is almost three times the number of cases reported in 2019. However, there is an increase of number of cases since week 25 as compared to cases reported in the previous weeks. This is due to the KA peak season and number of returning internally displaced persons. The number of cases may be higher in 2019 peak compared to those reported in 2018 as seen from week 34.

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	W46		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	13	62%	345	95%
Bentiu	14	7%	446	40%
Bor	22	91%	485	96%
Juba	2	0%	342	38%
Kuajok	5	40%	385	30%
Malakal	3	0%	119	74%
Rumbek	33	100%	696	100%
Torit	7	0%	458	84%
Wau	6	100%	209	74%
Yambio	16	0%	891	86%
South Sudan	121	58%	4375	76%

Table 8 Summary of key alert indicators

W46	Cumulative (2019)	
121	4375	Total alerts raised
58%	76%	% verified
0%	0%	% auto-discarded
2%	3%	% risk assessed
1%	2%	% requiring a response

- A total of 121 alerts were received in week 46, 2019 out of which 58% were verified 2% were risk assessed and 1% required a response.

Alert | Event risk assessment

Table 9 | Alert performance indicators by event

Event	W46		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	24	54%	825	81%
AWD	36	72%	1081	76%
Bloody Diarr.	13	31%	757	69%
Measles	14	57%	659	71%
Meningitis	0	0%	0	0%
Cholera	4	100%	114	89%
Yellow Fever	0	0%	22	86%
Guinea Worm	1	100%	93	89%
AFP	1	100%	136	70%
VHF	0	0%	35	83%
Neo. tetanus	2	100%	51	84%
Event-based surveillance				
EBS total	0	0%	32	84%

Table 10 | Event risk assessment

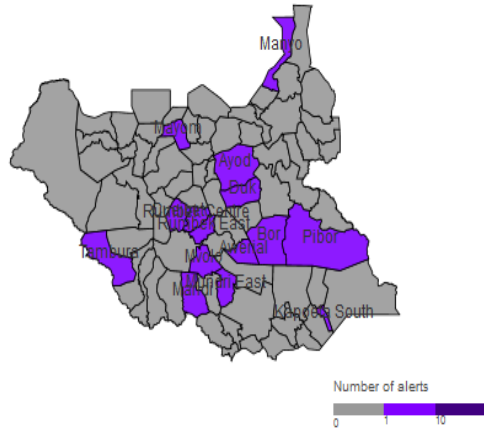
W46	Cumulative (2019)	Risk Level
1	25	Low risk
30	30	Medium risk
0	37	High risk
1	39	Very high risk

- Malaria (24), AWD (36), measles (14) and bloody diarrhea (13) were the top common alerts generated through the EWARS in week 46, 2019.

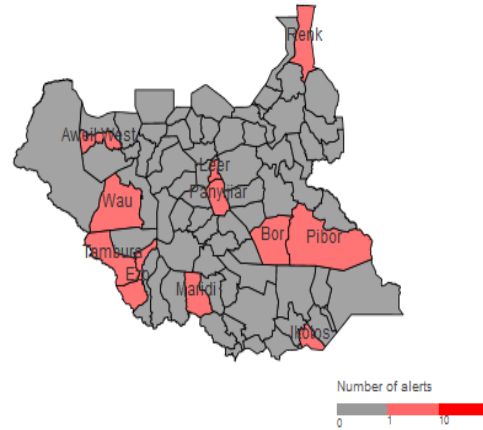
Alert | Map of key disease alerts by county week 46, 2019

Alert | Maps of key disease alerts by county

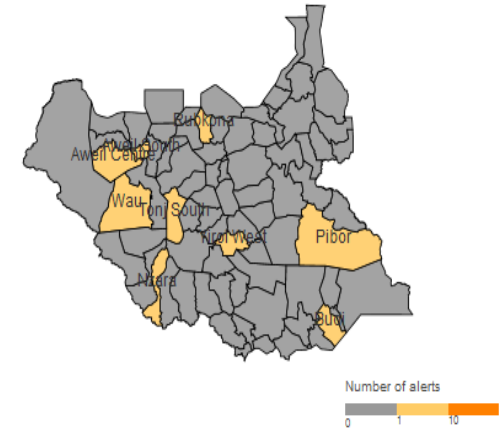
Map 2a | Malaria (W46 2019)



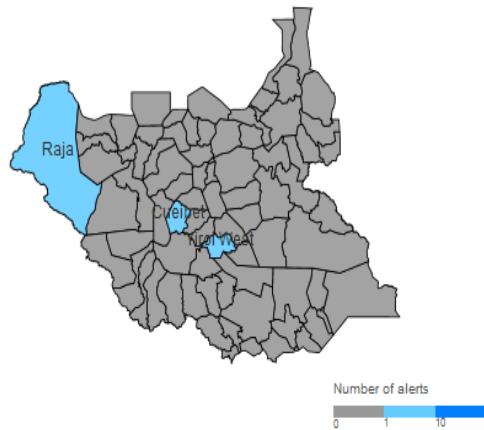
Map 2b | Bloody diarrhoea (W46 2019)



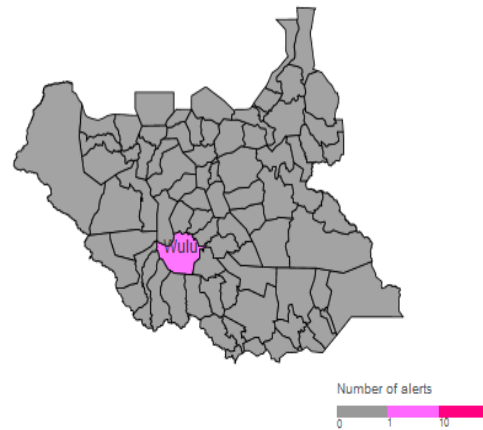
Map 2c | Measles (W46 2019)



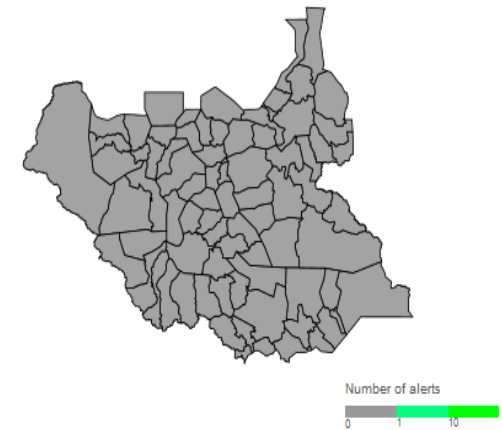
Map 2d | Cholera (W46 2019)



Map 2e | Guinea Worm (W46 2019)



Map 2f | Event-based surveillance (W46 2019)



7 W46 2019 (Nov 11-Nov 17)



Alert by disease and Hubs in Week 46, 2019 [A total of **119** event specific alerts generated by Hubs]

Hub/Former States	AJS	ARI	Acute Watery Diarrhoea	Bloody Diarrhoea	AFP	Guinea Worm	Cholera	Neonatal Tetanus	Relapsing Fever	Malaria	Measles	Total Alerts
Bor	1	6	6	1						4	2	20
Kuajok		1	3								1	5
Torit		1	3	1						1	1	7
Bentiu	1	4	1	2						2	5	15
Yambio		3	1	4						7	1	16
Juba		2										2
Aweil		4	4	3							3	14
Rumbek		3	15		1	1	3	1		9		33
Wau			2	1			1	1			1	6
Malakal			1	1						1		3
Total Grand	2	24	36	13	1	1	4	2	0	24	14	121

During this week:

- 2 AJS Alerts: both pending verification
- 24 ARI alerts: 11 discarded and 13 pending verification.
- 36 AWD alerts: 25 discarded and 1 under monitoring .
- 13 ABD alerts: 4 discarded and 9 pending verification.
- 1 AFP: discarded
- 1 G.W alert: discarded
- 4 cholera alerts: all were discarded.
- 2 N.T alerts: all discarded
- 24 malaria alerts: 11 pending and 13 discarded.
- 14 Measles alerts: 7 pending verification and 1 under response and 6 discarded.

Polio Virus Situation Globally & in South Sudan

- **Globally** Type 2 and 3 Wild Polio Virus have been eradicated
 - However **107 confirmed WPV1 cases were reported in 2019: 21 from Afghanistan and 86 Pakistan compared to 27 reported in 2018, in the same time frame.**
- 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 2020**
- However in 2019, 151 cVDPV2 were reported from AFP cases: Zambia (1), Chad (1), Angola (42), **Central African Republic-CAR (37)**, China (3), **DRC (45)**, **Ethiopia (3)**, Ghana (5), Nigeria (18), Niger (1), Benin (2), Togo (1), Philippines (3), Pakistan (9), and (3) from Somalia
- In 2019, 97 cVDPV2 were reported from environmental surveillance samples as follows; Nigeria (57), CAR (9), Ghana (9), Philippines (11), Pakistan (9), Angola (1), Côte d'Ivoire (2), and Cameroon and 134 from healthy contacts
- **South Sudan**
 - South Sudan Reported the last polio case in 2009 and last cVDPV2 in 2014
 - OPV3 immunization coverage is 32% as of September 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

With all the above South Sudan is at risk

SUSPECTED OUTBREAKS IN 2019

Major suspected outbreaks in South Sudan in
2019

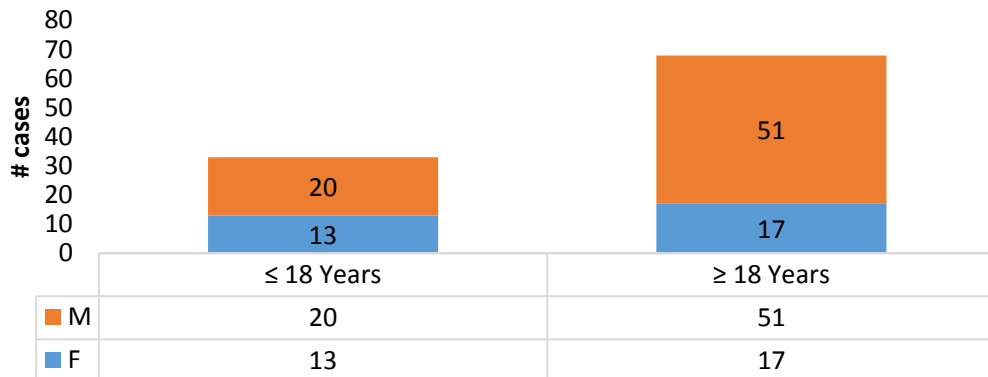
EVD Suspect cases in South Sudan 2018 and 2019 as of week 45, 2019

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

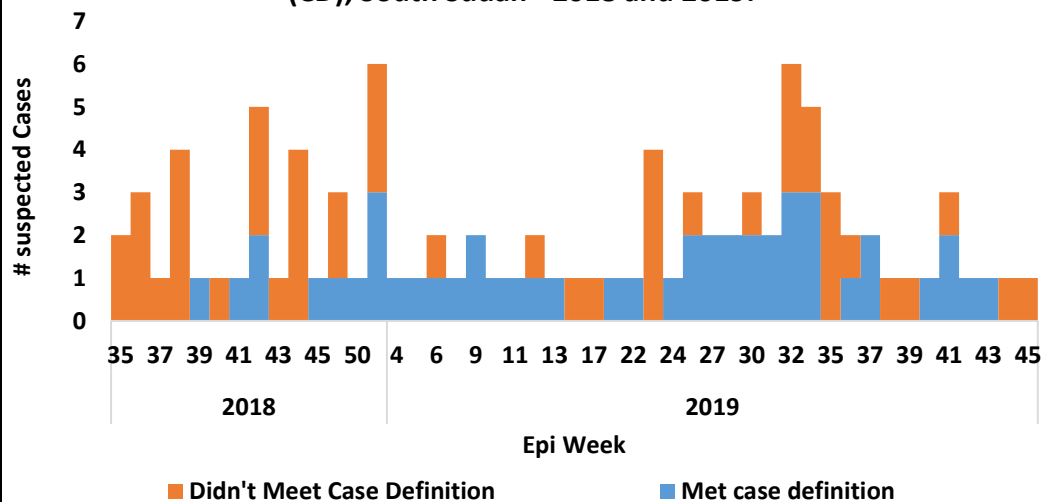
- Since August 2018, at least 102 suspect EVD cases have been reported, of which:
- Most, 61 (59.8%) have been reported in 2019
- Most of the suspect EVD cases have been reported by health workers at health facility level
- Three suspect EVD cases were reported from screening points

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.

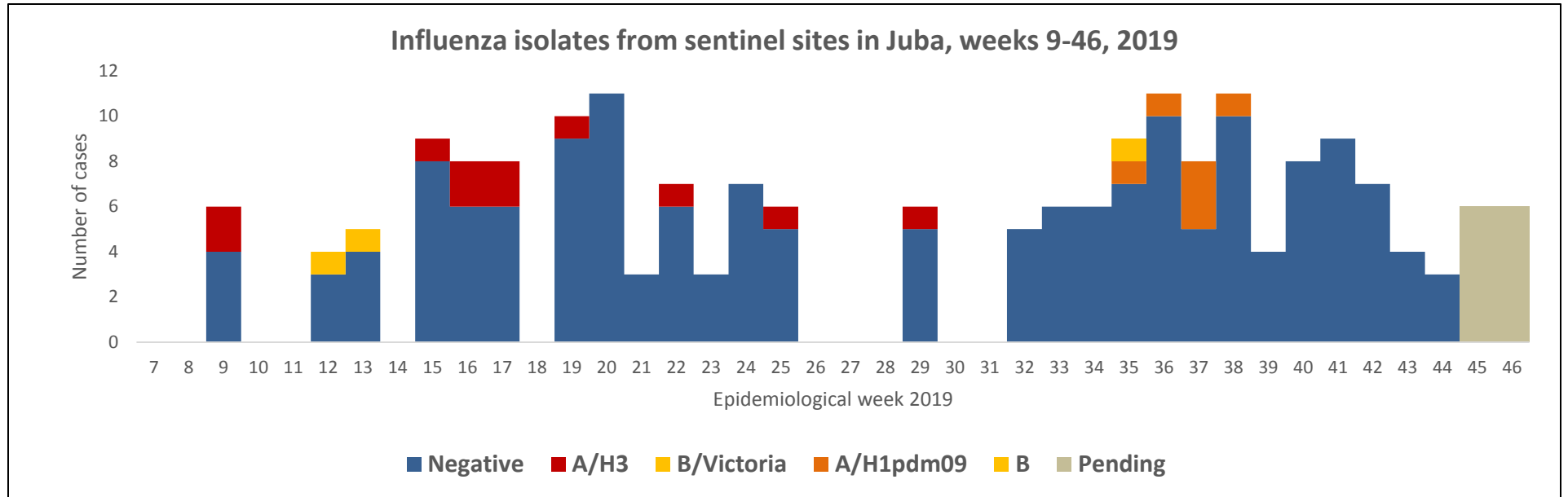


EVD suspected cases by epi week and EVD cases definition (CD), South Sudan - 2018 and 2019.



- 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

Routine Sentinel Surveillance | Human Influenza

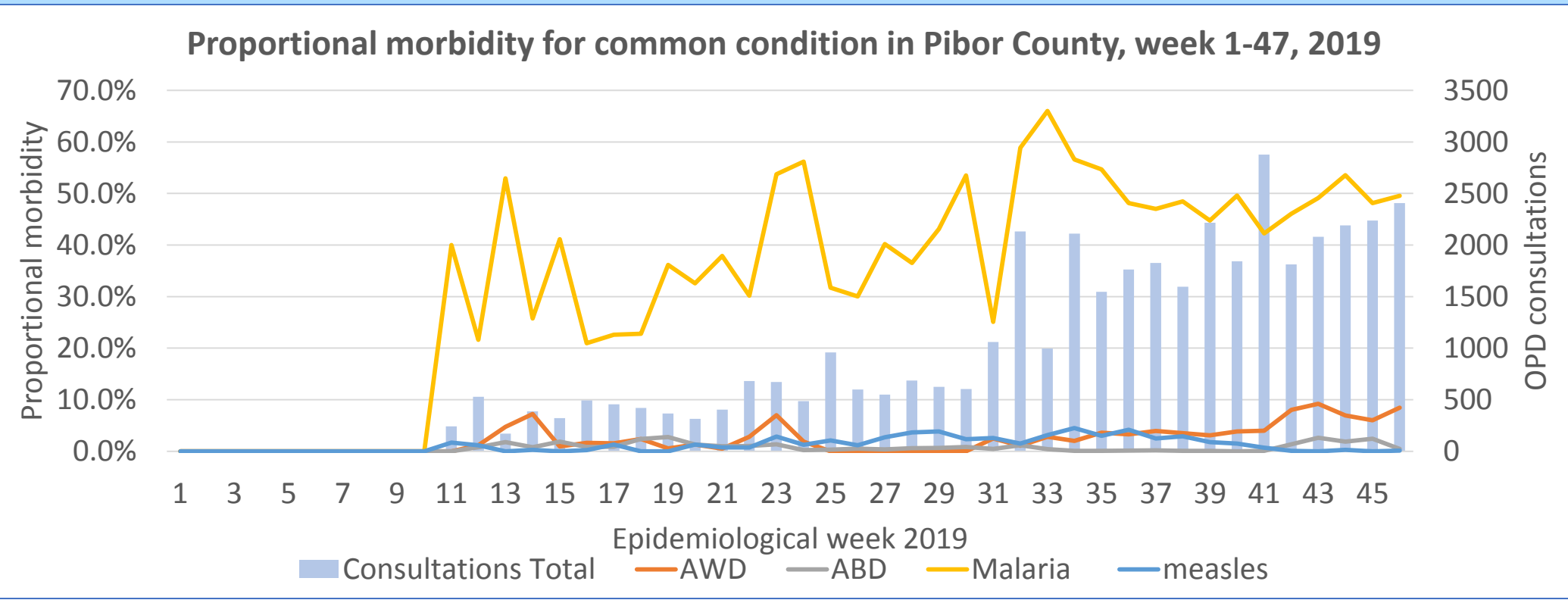


- In week 7, 2019, South Sudan started case-based surveillance for Influenza Like Illness (ILI) and Severe Acute Respiratory Infection (SARI) cases through systematic collection of epidemiological and virological information
- There are currently two designated Influenza sentinel surveillance sites in 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 216 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.

FLOOD UPDATES

Pibor

Proportional Morbidity: Pibor County week 1- 47, 2019

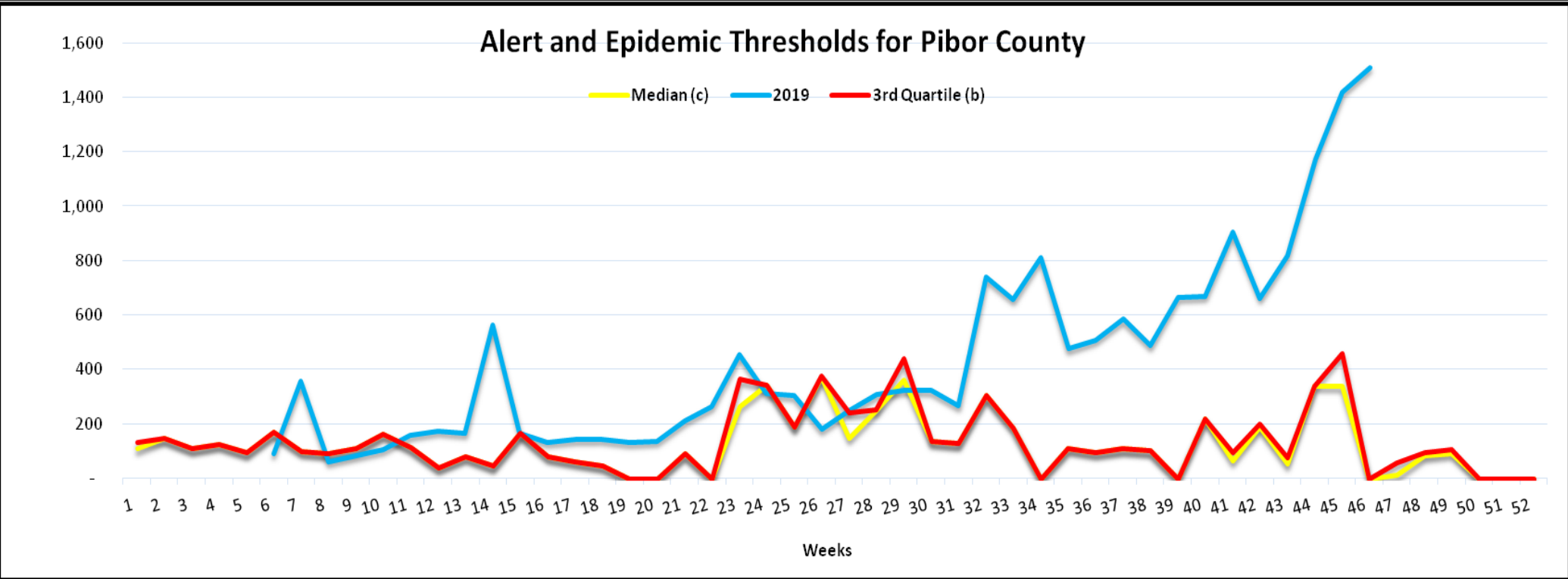


- Increasing malaria trends above threshold
- Increasing acute watery diarrhoea trends

Recommendations:

- Calls for enhancement of malaria prevention (behavioral change communication on bednet use and prompt seeking of care for fevers; improve access to LLINs; ensure clinics have access to malaria RDTs and ACTs)
- Consider IRS

Malaria Trends in Pibor County for week 1-47, 2019



Recommended malaria intervention package:

- Assessment of malaria prevention and response needs Behavioral change communication on sleeping under LLINs
- Household distribution of LLINs
- Stock all clinics with ample malaria RDTs and ACTs

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	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	1	106 (0.009)	Yes	No	Yes	Yes
Measles	Pibor	17/01/2019	1	2073 (4.82)	yes	No	yes	N/A
Measles	Bentiu PoC	24/04/2019	10	185(0.054)	Yes	Yes	Yes	N/A
Measles	Budi	03/10/2019	5	31(0.161)	Yes	No	Yes	N/A
Measles	Ikotos	15/11/2019	5	28(0.062)	Yes	No	Yes	N/A
Measles	Aweil South	15/03/2019	6	94(0.063)	Yes	No	Yes	N/A
Measles	Jur River	06/02/2019	2	105(0.016)	Yes	No	Yes	N/A

● Measles outbreaks confirmed in 2019

- **18 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.
- **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**
 - Aweil South; **planned campaign**
 - Budi; **campaign underway**
 - Mangateen IDPs

Measles Outbreak situation & response by county as of week 46, 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	98	105	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	140	185	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	6.9	1	6.3%	5-Sep-19	Done	63.00%	controlled	mop up underway
21	Budi	12,986	5	18	31	283.7	0	0.0%	1-Oct-19	pending		active	
	Ikotos		5	23	28		7		15-Nov-19	pending		active	
	Total	4,289,360	169	3,795	3,963	92.4	23	0.6%					

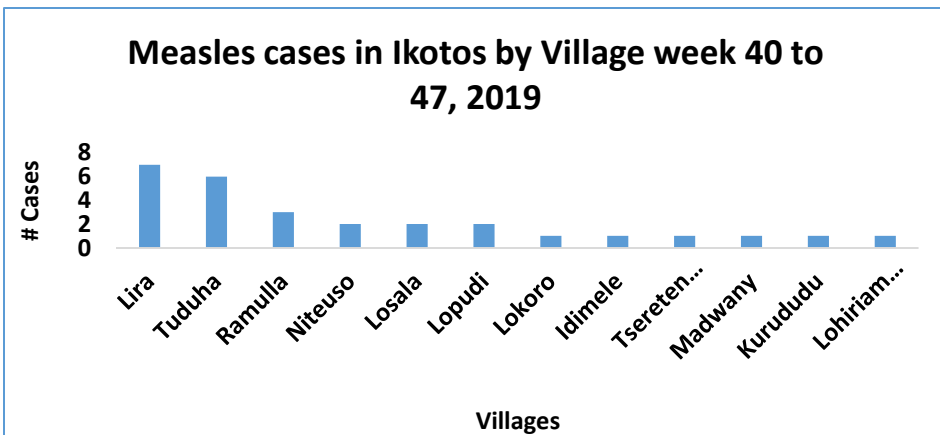
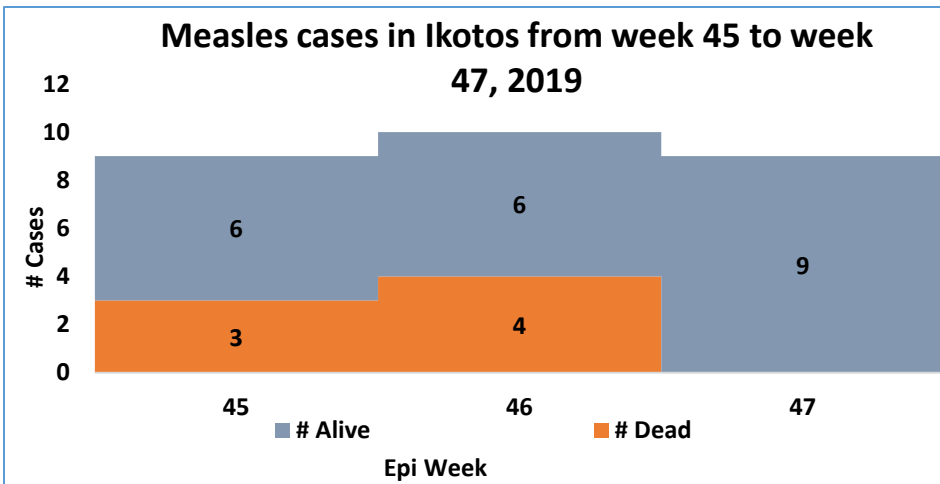
Measles and Rubella Laboratory Test Results, week 46 of 2019 (1)

Location/Health Facility	Date sent to Juba	Date Received at PHL	Suspected Disease	Lab results
Juba (Mangateen) Al-Sabah	11/19/2019	11/19/2019	measles	Measles IgM positive
Juba (Mangateen) Al-Sabah	11/19/2019	11/19/2019	measles	Measles IgM positive
Juba Al-Sabah	11/19/2019	11/19/2019	measles	Measles IgM positive
Juba (Mangateen) Al-Sabah	11/19/2019	11/19/2019	measles	Measles IgM positive
Ikotos/ Lira	11/18/2019	11/20/2019	measles	Measles/Rubella IgM negative
Ikotos/ Lira	11/18/2019	11/20/2019	measles	Measles IgM positive
Ikotos/ Lira	11/18/2019	11/20/2019	measles	Measles IgM positive
Ikotos/ Lira	11/18/2019	11/20/2019	measles	Measles IgM positive
Ikotos/ Lira	11/18/2019	11/20/2019	measles	Measles IgM positive
Ikotos/ Lira	11/18/2019	11/20/2019	measles	Measles IgM positive
Aweil North/Mayen Ulem	11/18/2019	11/19/2019	measles	Measles IgM positive
Aweil North/Mayen Ulem	11/18/2019	11/19/2019	measles	Rubella IgM Indeterminate
Aweil Centre/Alok	11/18/2019	11/19/2019	measles	Measles IgM positive
Aweil South/Nyeith	11/18/2019	11/19/2019	measles	Measles IgM positive
Aweil South/Nyeith	11/18/2019	11/19/2019	measles	Measles IgM positive
Aweil South/Tiaraliet	11/18/2019	11/19/2019	measles	Measles IgM positive
Aweil South/Wunagel	11/18/2019	11/19/2019	measles	Measles IgM positive
Aweil South/Wunagel	11/18/2019	11/19/2019	measles	Measles IgM positive
Aweil South/Tiaraliet	11/19/2019	11/20/2019	measles	Measles/Rubella IgM negative
Aweil South/Panthou	11/20/2019	11/21/2019	measles	Measles IgM Indeterminate
Aweil South/Panthou	11/21/2019	11/22/2019	measles	Measles IgM positive
Ibba PHCC	11/13/2019	11/18/2019	measles	Measles/Rubella IgM negative
Nzara PHCC	11/18/2019	11/18/2018	measles	Measles/Rubella IgM negative
Nzara/Yabua PHCC	11/18/2019	11/18/2019	measles	Measles/Rubella IgM negative
Nzara/St. Theresa Hospital	11/18/2019	11/18/2019	measles	Measles/Rubella IgM negative
Nzara PHCC	11/18/2019	11/18/2019	measles	Rubella IgM Indeterminate
Nzara/Ringazi	11/18/2019	11/18/2019	measles	Measles/Rubella IgM negative

During this week:

- Juba (Mangateen) Al-Sabah: 4 measles IgM positive
- Ikotos/ Lira: 6 samples: one measles/rubella IgM negative and 5 (five) measles IgM positive
- Aweil North/Mayen Ulem: one measles IgM positive and one rubella IgM Indeterminate
- Aweil Centre/Alok: one measles IgM positive
- Aweil South/Nyeith: two measles IgM positive
- Aweil South/Tiaraliet: one measles IgM positive and one measles/Rubella IgM negative
- Aweil South/Wunagel; two measles IgM positive
- Aweil South/Panthou: one measles IgM Indeterminate and one measles IgM positive
- Ibba PHCC: one measles/Rubella IgM negative
- Nzara PHCC: one measles/Rubella IgM negative and Rubella IgM Indeterminate
- Nzara/Yabua PHCC: one measles/Rubella IgM negative
- Nzara/St. Theresa Hospital: one measles/Rubella IgM negative
- Nzara/Ringazi: one measles/Rubella IgM negative

Confirmed Measles Outbreak in Ikotos County



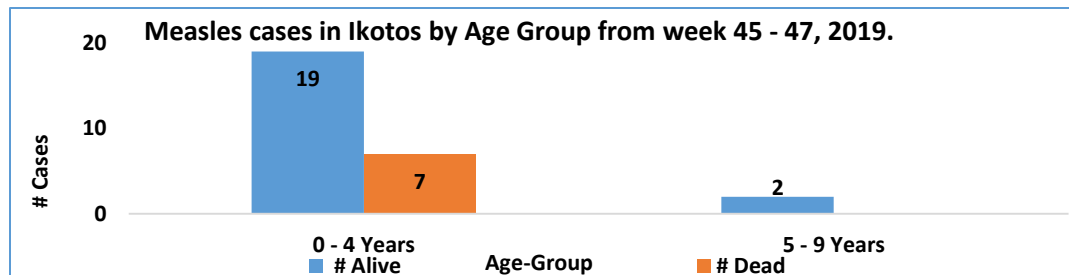
Age-Group	Cases	Percentage	Cum. %
0 - 4 Years	26	93%	93%
5 - 9 Years	2	7%	100%
Grand Total	28	100%	

Descriptive Epidemiology:

- Initial cases were reported on 15th November 2019
- A total of 28 Suspected Measles case have been in Ikotos county since week 45 of 2019.
- 09 new cases were reported in week 47, 2019
- 06 samples were collected last week of which, 05 samples tested positive for measles and (1) negative for measles/Rubella IgM negative
- The most affected payams are: Lira and Tuduha
- 93% of the cases are less than 5 years of age
- 57% of cases are females while 43% are male
- Total of 7 deaths reported CFR of (25%)

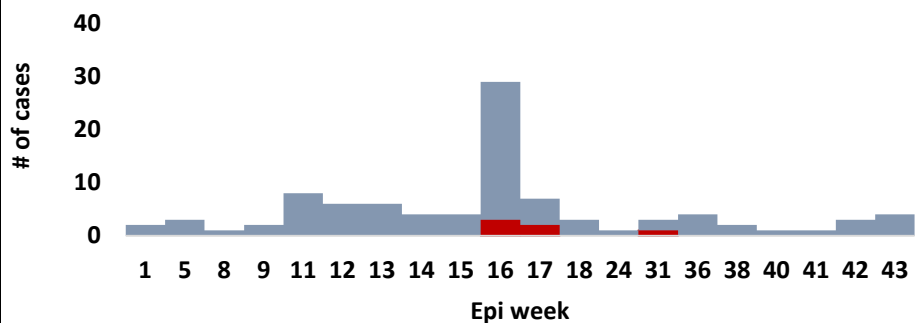
Response and Recommendations:

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

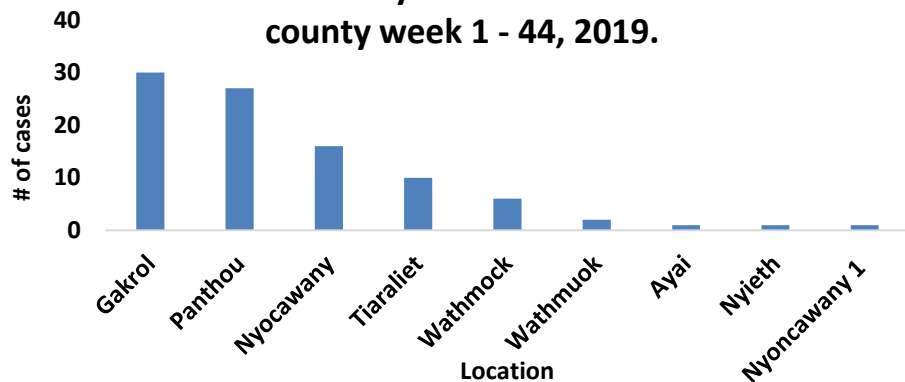


Confirmed Measles Outbreak in Aweil South County

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%
Grand Total	94	100%	

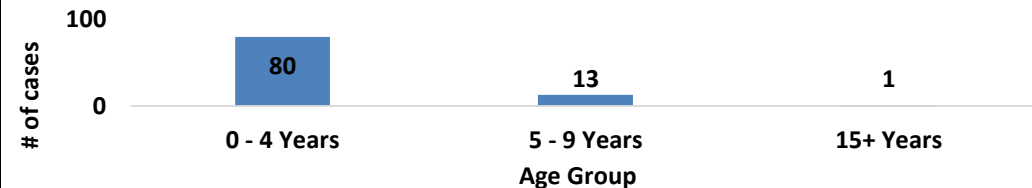
Descriptive Epidemiology:

- 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 and
- 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:

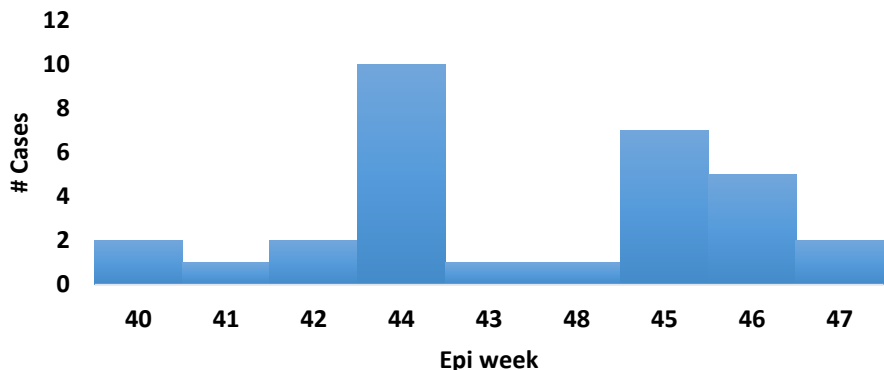
- Rapid response team deployed to support the response
- Reactive campaign micro plan development is ongoing
- Surveillance and line-listing are ongoing
- Case management underway

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



Confirmed Measles Outbreak in Budi County

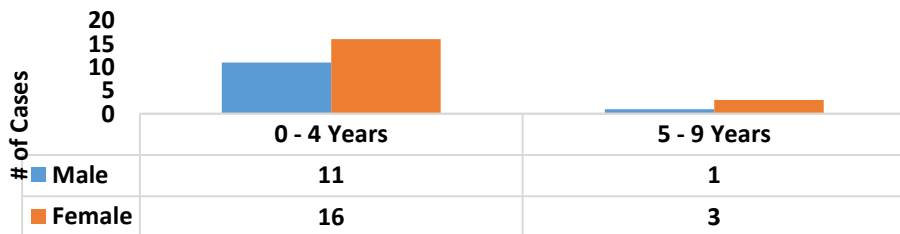
Measles cases in Budi from week 40 to week 47, 2019



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



Measles cases in Budi from week 40 – 47, 2019



Descriptive Epidemiology:

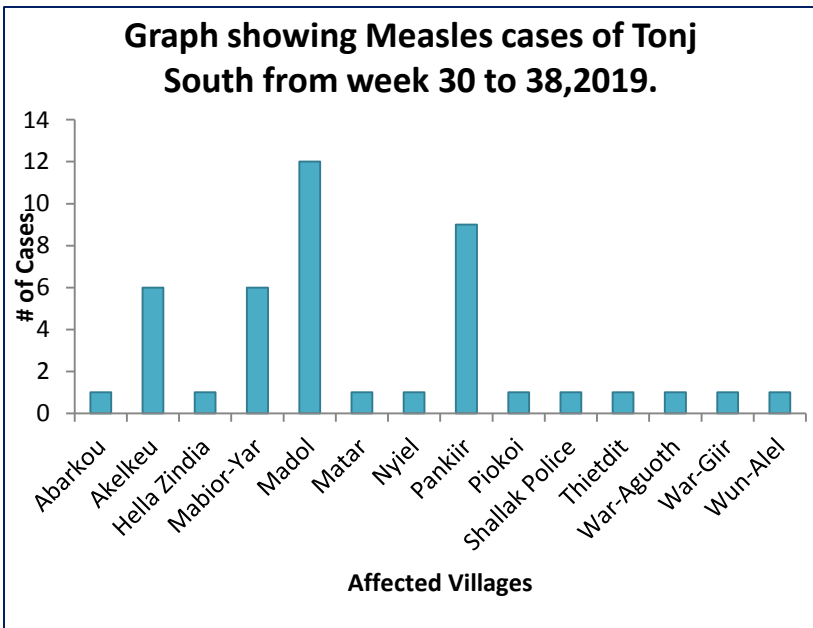
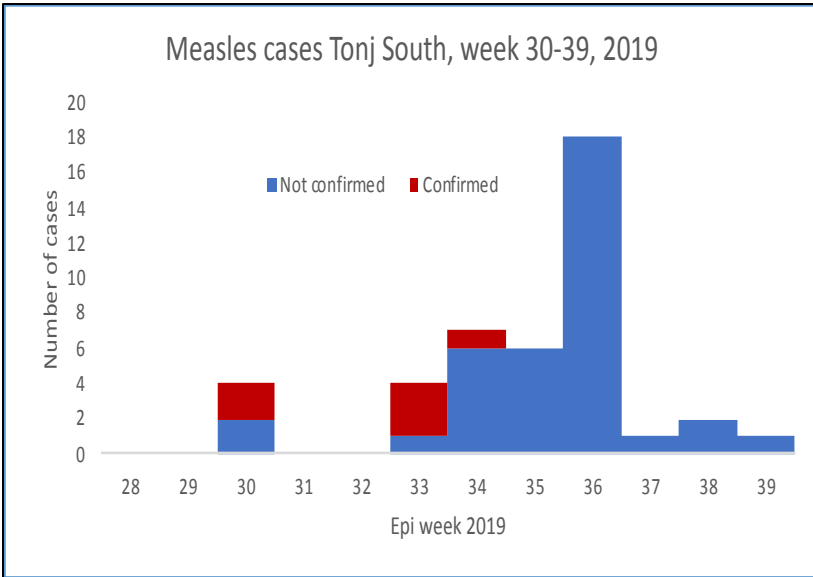
- A total of 31 Suspected Measles case have been in Budi county since week 40 of 2019.
- 2 new cases were reported in week 47, 2019
- Initially 3 samples were collected for testing in which 2 samples tested positive for measles and 1 negative
- 10 samples were collected last week of which (8) samples 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
- 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%
Grand Total	31	100%	

Measles cases in Tonj South County



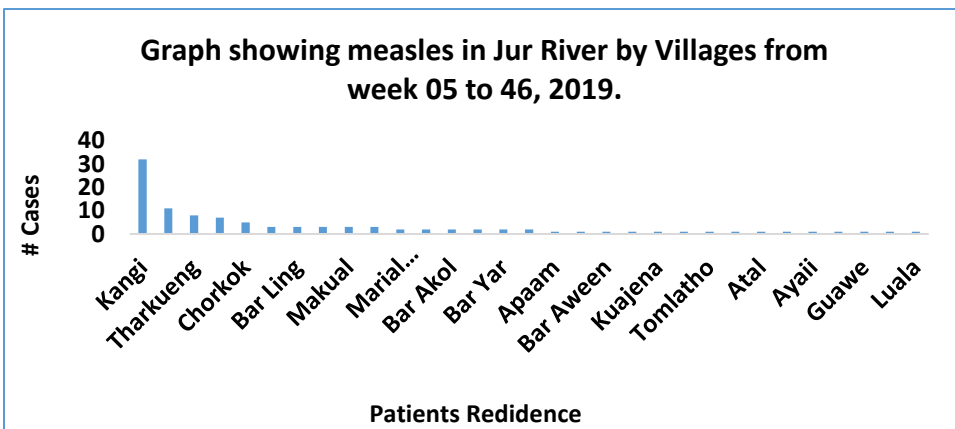
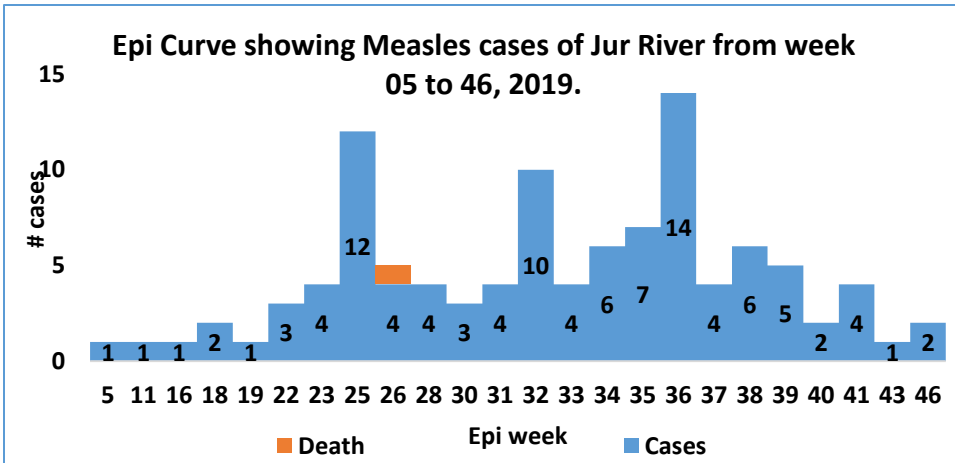
Descriptive Epidemiology:

- 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.**
- **No new cases reported since week 39, 2019**

Measles cases in Jur River



Age-Group	Cases	Percentage	Cum. %
10 - 14 Years	4	4%	4%
15+ Years	11	10%	14%
5 - 9 Years	17	16%	30%
0 - 4 Years	73	70%	100%
Grand Total	105	100%	

Descriptive Epidemiology:

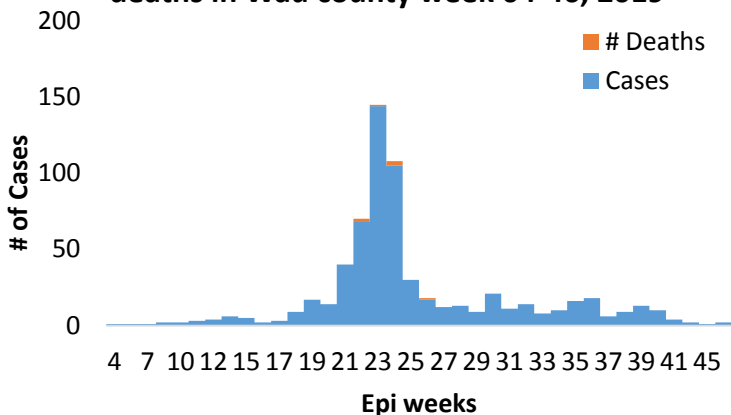
- Initial cases were reported on 6 Feb from Marialbai PHCC from Bar Aween village
- 7 measles IgM positive cases recorded since outbreak onset
- 105 cases in total were reported since the beginning of the outbreak. Most of the cases have been reported from Kingi; Tharkueng and Chorok
- 2 new cases were reported in week 46, 2019
- 70% of cases were under 5 yrs old of age
- 51% are female and 49% male
- 69 % of the cases reported are not vaccinated against measles

Response and Recommendations:

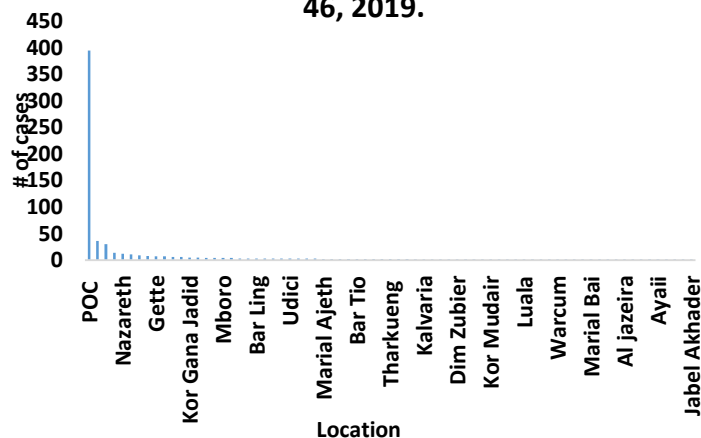
- Following the confirmation of a measles outbreak in the county, a reactive vaccination microplan targeting 60,435 children 6-59 months in five payams of Rocroc; Kuajina; Udici; Kangi; and Marial Bai/ Wau Bai has been developed.
- The other interventions include:*
- Intensified surveillance and line-listing 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%
Grand Total	653	7	100%	1.4%	

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.

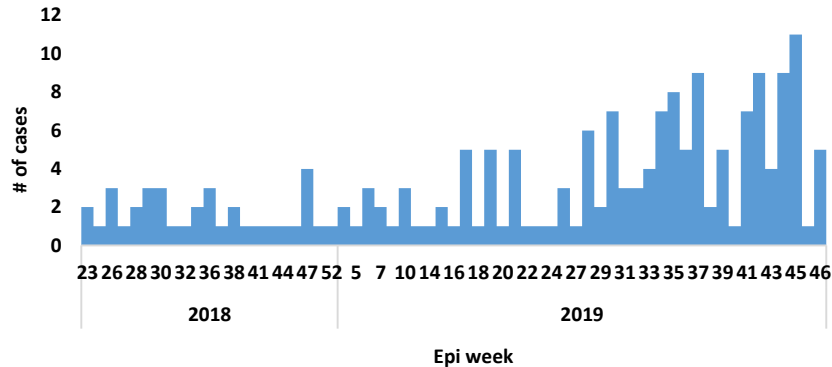
Descriptive Epidemiology:

- 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 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.

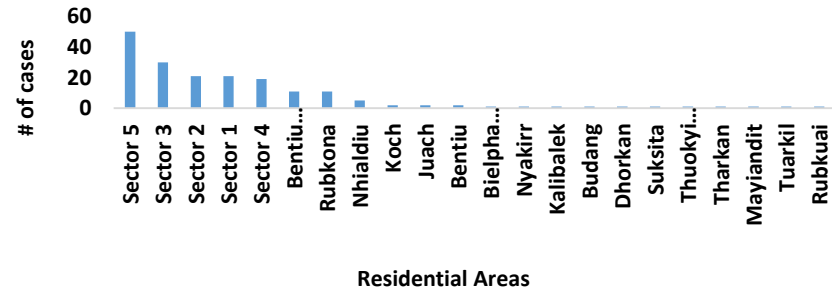
Response | Confirmed epidemics

Confirmed Measles and Rubella outbreak in Bentiu PoC

Measles cases in Bentiu from week 4 to week 46, 2019



Measles cases in Bentiu by Location week 4 to 46, 2019.



Epidemiological description

- Bentiu PoC has been reporting suspected measles/rubella cases since week 4 of 2019.
- Ten (10) new cases reported in week 46, 2019
- At least 185 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.
- 51% of cases are female and 49% are male
- 92% are under 5 yrs old, 8% 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.

AgeGroup	Cases	Percentage	Cum. %
10 - 14 Years	4	2%	2%
15+ Years	2	1%	3%
5 - 9 Years	8	4%	8%
0 - 4 Years	171	92%	100%
Grand Total	185	100%	

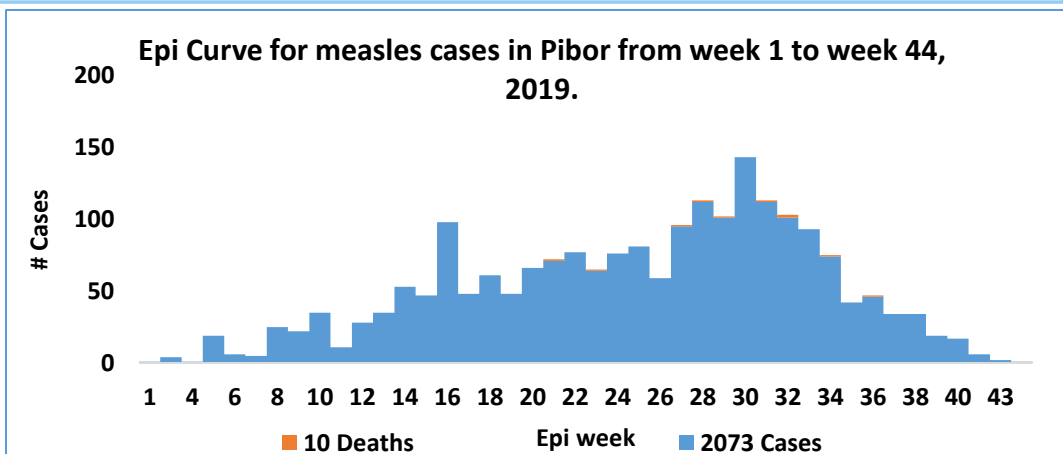
Measles in Pibor County

Background and descriptive epidemiology

- Measles transmission has persisted in Pibor County despite of the vaccination campaign conducted in February and March and October, 2019
- A total of 2073 measles cases (9 deaths – [CFR 0.43%] reported since week 2 of 2019
- A total of eight (8) measles IgM positive cases recorded since outbreak onset
- 70.% of the cases are less than 5 years of age
- 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

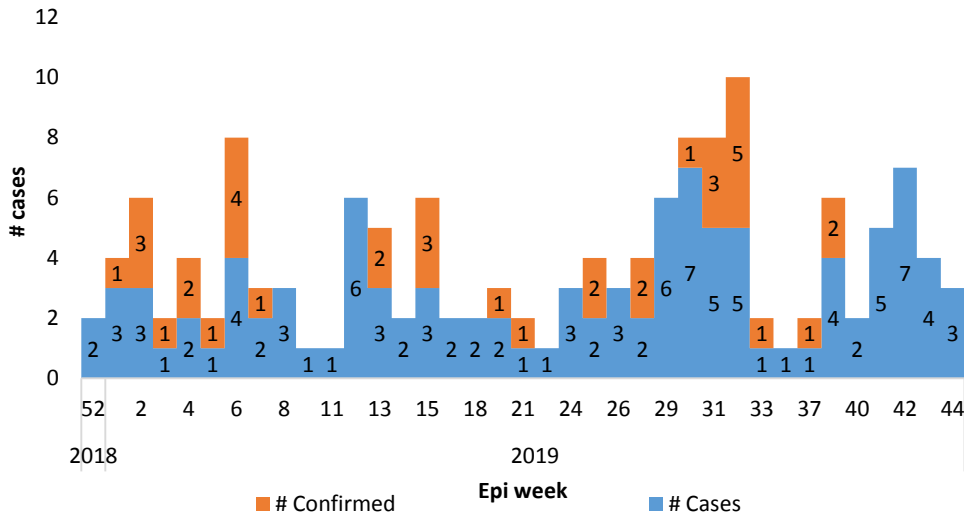


Age-Group	Cases	Percentage	Cum. %
0 - 4 Years	1453	70%	70%
5 - 9 Years	453	22%	92%
10 - 14 Years	88	4%	96%
15+ Years	79	4%	100%
Grand Total	2073	100%	

- **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 46, 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 106 cases since beginning of 2019
- Total of (106) cases line listed
- There was (01) cases reported in week 45; & one (01) case in week 46, 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 106 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 46, 2019; there were 106 cases of HEV in Bentiu PoC including 2 deaths (CFR 1.88%)

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	28%	78%
5 - 9 Years	22	1	23	22%	100%
Grand Total	104	2	106	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
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 19 November 2019

Current situation

- Currently as of **17 November 2019**
- **3296** Cases [3178 confirmed & 118 probable]
- **2198** Deaths [2100 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 28 October to 17 November 2019, 12 health areas and five health zones have reported cases.
- During this period, a total of 31 confirmed cases were reported, with Mabalako (45%; n=14 cases), Beni (29%; n=9) and Mandima (19%; n=6) cases 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>

**This bulletin is produced by the
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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>

