South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Bulletin Week 52, 2019 (December 23 – December 29)

Major Epidemiological Highlights in week 52 of 2019

- In week 52, 2019 IDSR reporting completeness was 60% and timeliness was 54% at health facility level. EWARN reporting completeness was 63% and timeliness was 56%

- Of the 93% alerts in week 52; 44% were verified 3% were risk assessed and 2% required a response. Malaria (15), AWD (27), measles (18) and bloody diarrhea (25) were the top common alerts generated through the EWARS in week 52, 2019.

- New measles outbreak confirmed in Boma county after 07 samples out of 08 turned measles IgM positive

- Since week 7 of 2019, a total of 251 ILI/SARI samples have been collected and tested in UVRI 197 being negative; 2 (1%) positive for Influenza B (Victoria); 2(1%) positive for Influenza A (H3); and 1(1%) positive for Influenza A (H1)pdm09 and 17 samples are pending test results .Since the beginning of 2019; Influenza A (H3) has been the predominant isolate. However, Influenza A (H1)pdm09 emerged from week 35 as a new circulating strain.

SURVEILLANCE PERFORMANCE

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

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IDSR Timeliness and Completeness Performance at Facility Level for week 52,2019

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	204	95%	206	96%
2nd	Kuajok	GOAL, CCM, WVI, Malaria Consortium, UNKEA, Save the Children, MSF	125	116	93%	119	95%
3th	Rumbek	Doctors with Africa (CUAMM), LIVEWELL	116	100	86%	106	91%
4th	Bentiu	Cordaid, UNIDOR, IRC, CHADO, CARE International, CRADA	87	54	62%	64	74%
5th	Aweil	Malaria Consortium, Healthnet TPO, IRC, CEDS, IHO	144	80	56%	91	63%
6th	Malakal	Cordaid, WVI, RI, IMC, NIDO, UNKEA, MC, SSAID	99	40	40%	45	45%
7th	Wau	Cordaid, Healthnet TPO, CARE International, IHO	79	24	30%	34	43%
8th	Bor	Nile Hope, MDM, JDF, Livewell, CMD, HFO, EDA, CRADA, Malaria Consortium, CMA.	138	41	30%	52	38%
9th	Torit	Cordaid, HLSS, CMD	178	39	22%	62	35%
10th	Juba	HLSS, SSUHA, Healthnet TPO, IHO	157	28	18%	29	18%
	South Sudan		1337	726	54%	808	60%

Key

		<60%	Poor
		61%-79%	Fair
		80%-99%	Good
		100%	Excellent

The timeliness of IDSR reporting (supported by EWARS mobile) at health facility level was 54% and completeness was 60%. Reporting performance is highest in Yambio hub with completeness of 96% followed by Kwajok hub with completeness at 95% and Rumbek hub with 91% completeness. while the rest of the state hubs are below the target of 80%.

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IDSR Timeliness and Completeness Performance at <u>County</u> Level for week 52, 2019 (1)

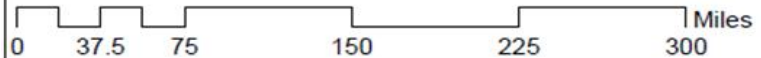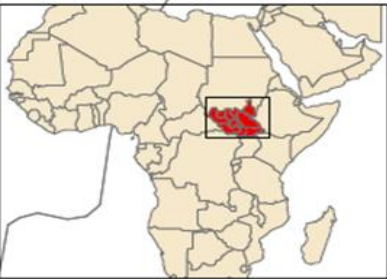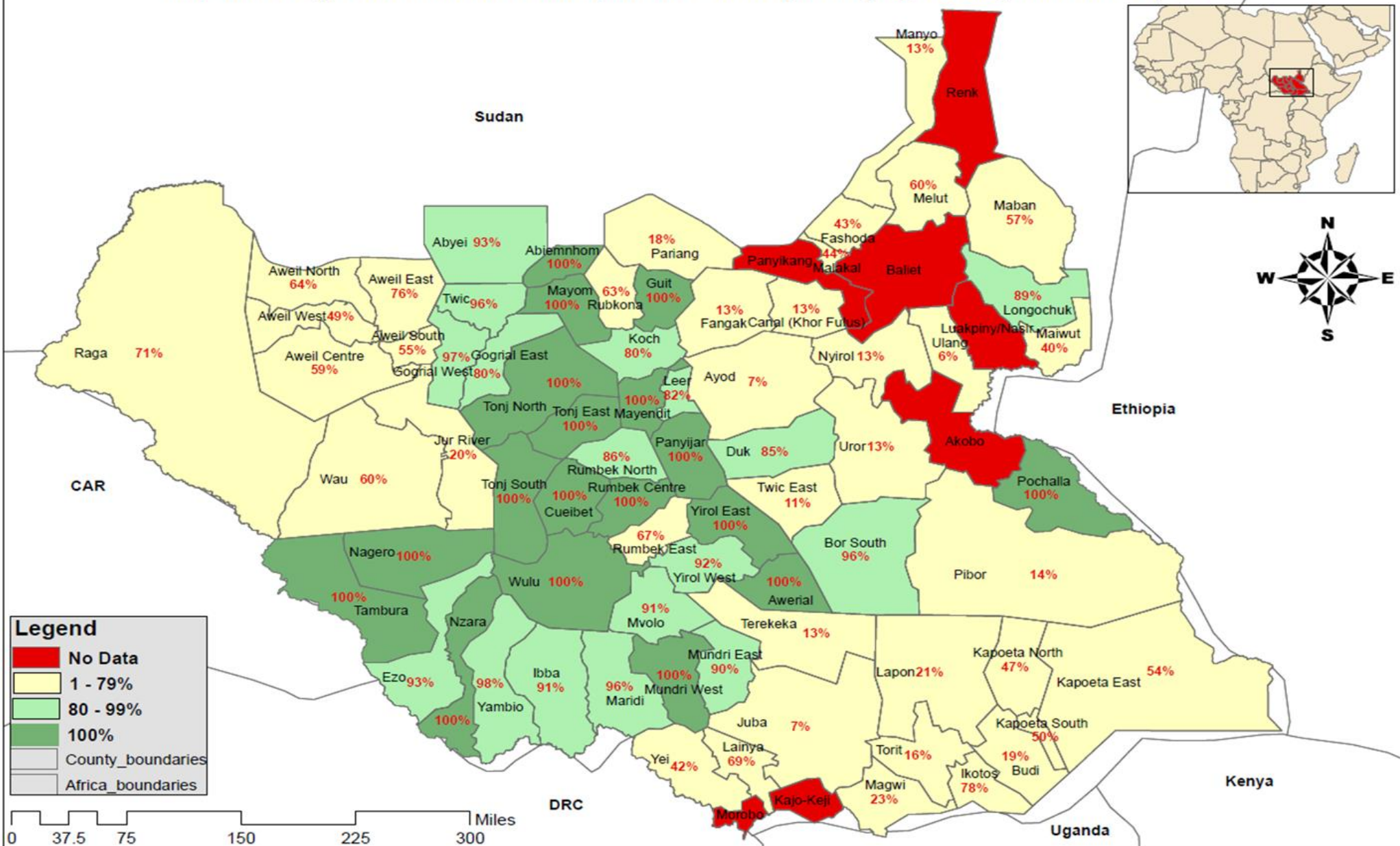| Counties	Supporting Partners	Total No. of Health Facility	No. of HFs Report on Time	Timeliness Percentage	No. of HFs Report not on Time	Completeness Percentage
Rumbek Centre	Doctors with Africa (CUAMM)	23	22	96%	23	100%
Rumbek East	Doctors with Africa (CUAMM)	24	16	67%	16	67%
Rumbek North	Doctors with Africa (CUAMM)	7	6	86%	6	86%
Wulu	Doctors with Africa (CUAMM)	14	14	100%	14	100%
Cueibet	Doctors with Africa (CUAMM)	15	15	100%	15	100%
Yirol East	Doctors with Africa (CUAMM),LIVEWELL	14	14	100%	14	100%
Yirol West	Doctors with Africa (CUAMM)	12	11	92%	11	92%
Awerial	Doctors with Africa (CUAMM)	7	2	29%	7	100%
Yambio	World Vision International	42	41	98%	41	98%
Ibba	AMREF	11	10	91%	10	91%
Maridi	AMREF	26	25	96%	25	96%
Mundri West	CUAMM	21	21	100%	21	100%
Mundri East	CUAMM	20	18	90%	18	90%
Tambura	World Vision International	26	26	100%	26	100%
Mvolo	CUAMM	11	10	91%	10	91%
Nzara	World Vision International	20	20	100%	20	100%
Nagero	World Vision International	10	10	100%	10	100%
Ezo	World Vision International	27	23	85%	25	93%
Abiemnhom	Cordaid	4	4	100%	4	100%
Koch	UNIDOR,CRADA,CARE International,IRC.	5	3	60%	4	80%

Counties	Supporting Partners	Total No. of Health Facility	No. of HFs Report on Time	Timeliness Percentage	No. of HFs Report not on Time	Completeness Percentage
Gogrial West	GOAL	32	29	91%	31	97%
Gogrial East	GOAL	15	12	80%	12	80%
Abyei	AAA,Save the Children,MSF	15	14	93%	14	93%
Tonj East	CCM	12	12	100%	12	100%
Tonj South	CCM	12	12	100%	12	100%
Tonj North	CCM	14	13	93%	14	100%
Twic Mayardit	GOAL	25	24	96%	24	96%
Bor	MDM + JDF	25	24	96%	24	96%
Duk	MDM + JDF	13	1	8%	11	85%
Pibor	LIVEWELL,CRADA	14	2	14%	2	14%
Akobo	NILE HOPE	8	0	0%	0	0%
Fangak	CMD,HFO	16	2	13%	2	13%
Uror	CMA,Nile Hope,Malaria Consortium	8	1	13%	1	13%
Nyirol	CMA,Nile Hope,Malaria Consortium	8	1	13%	1	13%
Twic East	MDM + JDF	9	1	11%	1	11%
Ayod	CMD,EDA	15	1	7%	1	7%
Pochalla	LIVEWELL	7	7	100%	7	100%
Pigi Canal	IMC	16	1	6%	2	13%
Mayendit	UNIDOR	13	13	100%	13	100%
Guit	Cordaid	5	5	100%	5	100%

IDSR Timeliness and Completeness Performance at <u>County</u> Level for week 52, 2019 (2)

Counties	Supporting Partners	Total No. of Health Facility	No. of HFs Report on Time	Timeliness Percentage	No. of HFs Report not on Time	Completeness Percentage
Malakal	IMC	4	0	0%	4	100%
Akoka	IMC	5	2	40%	2	40%
Baliet	IMC	4	0	0%	0	0%
Renk	WVI + RI	11	0	0%	0	0%
Melut	WVI + RI	7	6	86%	6	86%
Manyo	CORDAID	6	1	17%	1	17%
Maiwut	RI	4	4	100%	4	100%
Fashoda	CORDAID	9	6	67%	6	67%
Ulang	MC	7	1	14%	1	14%
Maban	WVI + RI	13	8	62%	13	100%
Luakping Nasir	MC	19	0	0%	0	0%
Longechuk	RI	9	8	89%	8	89%
Panyikang	IMC	6	0	0%	0	0%
Aweil West	HealthNetTPO	39	16	41%	19	49%
Aweil East	IRC	44	27	61%	35	80%
Aweil Center	Malaria Consortium(MC)	17	10	59%	10	59%
Aweil South	Malaria Consortium(MC)	11	6	55%	6	55%
Aweil North	HealthNetTPO	33	21	64%	21	64%
Pariang	Cordaid	13	0	0%	2	15%
Panyijiar	IRC	13	8	62%	13	100%

Counties	Supporting Partners	Total No. of Health Facility	No. of HFs Report on Time	Timeliness Percentage	No. of HFs Report not on Time	Completeness Percentage
Juba	HLSS	55	4	7%	4	7%
Kajo-Keji	SSUHA	15	0	0%	0	0%
Yei	SSUHA	19	7	37%	8	42%
Lainya	SSUHA	16	11	69%	11	69%
Morobo	SSUHA	4	0	0%	0	0%
Terekeka	HealthNetTPO	47	6	13%	6	13%
Torit	Cordaid	37	6	16%	6	16%
Lopa Lafon	HLSS	24	1	4%	5	21%
Ikotos	HLSS	27	19	70%	21	78%
Magwi	HLSS	31	5	16%	7	23%
Budi	Cordaid	21	3	14%	4	19%
Kapoeta South	CMD	10	3	30%	5	50%
Kapoeta East	CMD	13	0	0%	7	54%
Kapoeta North	CMD	15	2	13%	7	47%
Wau	Cordaid	30	16	53%	17	57%
Raja	HealthNetTPO	14	1	7%	10	71%
Jur River	Cordaid	35	7	20%	7	20%
Rubkona	Cordaid	9	3	33%	4	44%
Mayom	Cordaid	9	9	100%	9	100%
Leer	UNIDOR	10	8	80%	8	80%

South Sudan

Map showing health facilities completeness of reporting by county in week 52, 2019.

Legend

🟥	No Data
🟨	1 - 79%
🟩	80 - 99%
🟩	100%
⬜	County_boundaries
⬜	Africa_boundaries

0 37.5 75 150 225 300 Miles

Sudan
CAR
DRC
Ethiopia
Kenya
Uganda

Manyo 13%
Renk
Melut 60%
Maban 57%
Fashoda 43%
Panyikang 44%
Malakal
Baliet
Longochuk 89%
Luakpiny/Nasir
Ulang 6%
Maiwut 40%
Abyei 93%
Abiemnhom 100%
Pariang 18%
Aweil North 64%
Aweil East 76%
Twic 96%
Mayom 100%
Guit 100%
Rubkona 63%
Aweil West 49%
Aweil South 55%
Aweil Centre 59%
Gogrial West 80%
Gogrial East 97%
Koch 80%
Fangak 13%
Canal (Khor Fulus) 13%
Nyirol 13%
Raga 71%
Leer 82%
Ayod 7%
Tonj North 100%
Tonj East 100%
Mayendit 100%
Panyijar 100%
Duk 85%
Uror 13%
Akobo
Jur River 20%
Rumbek North 86%
Panyijar 100%
Pochalla 100%
Wau 60%
Tonj South 100%
Rumbek Centre 100%
Cueibet 100%
Twic East 11%
Yirol East 100%
Bor South 96%
Rumbek East 67%
Pibor 14%
Nagero 100%
Yirol West 92%
Awerial 100%
Wulu 100%
Tambura 100%
Nzara
Mvolo 91%
Terekeka 13%
Kapoeta North 47%
Kapoeta East 54%
Lapon 21%
Ezo 93%
Ibba 91%
Maridi 96%
Mundri West
Mundri East 90%
Juba 7%
Kapoeta South 50%
Yambio 98%
Yambio 100%
Lainya 69%
Torit 16%
Budi 19%
Ikotos 78%
Yei 42%
Magwi 23%
Morobo
Kajo-Keji

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 indicators

Table 4 | EWARS surveillance performance indicators by partner (W52 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	4	67%	17%
IOM	11	7	64%	64%
IRC	1	1	100%	100%
Medair	2	2	100%	100%
MSF-E	2	2	100%	100%
MSF-H	3	2	67%	0%
SMC	0	0		
UNIDO	1	1	100%	100%
UNKEA	0	0		
World Relief	1	1	100%	100%
TRI-SS	2	2	100%	100%
LIVEWELL	3	3	100%	100%
Total	**63**	**40**	**63%**	**56%**

Table 5 | Summary of key EWARS surveillance indicators

W52	Cumulative (2019)	
63	-	Number of EWARS reporting sites
63%	61%	Completeness
56%	56%	Timeliness

Table 6 | EWARS report submissions

W52	Cumulative (2019)	
40	1,978	total submissions
0	9	submissions by mobile
40	1968	submissions by web

- Completeness was 63% and timeliness was 56% for weekly reporting in week 52 for partner-supported clinics serving IDP sites. The cumulative completeness and timeliness were 61% and 56% respectively for 2019.

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EVENT-BASED SURVEILLANCE

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

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Alert| Alert performance indicators

Table 7 | Alert performance indicators by Hub

Hub	W52		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	12	42%	464	97%
Bentiu	9	22%	543	42%
Bor	10	100%	639	100%
Juba	3	67%	357	37%
Kuajok	12	17%	529	24%
Malakal	1	100%	192	65%
Rumbek	2	100%	767	100%
Torit	7	29%	543	74%
Wau	2	100%	253	79%
Yambio	35	37%	1075	80%
South Sudan	**93**	**44%**	**5362**	**73%**

Table 8 Summary of key alert indicators

W52	Cumulative (2019)	
93	5362	Total alerts raised
44%	73%	% verified
0%	0%	% auto-discarded
0%	3%	% risk assessed
0%	2%	% requiring a response

- A total of 93 alerts were received in week 52, 2019 out of which 44% were verified 3% were risk assessed and 2% required a response.

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Alert| Alert Performance Indicator by Event

Table 9 | Alert performance indicators by event

Event	W52		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	26	27%	1021	75%
AWD	12	50%	1332	73%
Bloody Diarr.	13	54%	919	67%
Measles	20	35%	816	70%
Meningitis	0	0%	0	0%
Cholera	3	100%	133	89%
Yellow Fever	0	0%	26	81%
Guinea Worm	1	100%	102	88%
AFP	2	50%	143	69%
VHF	1	100%	41	78%
Neo. tetanus	1	100%	64	77%
Event-based surveillance				
EBS total	0	0%	32	84%

Table 10 | Event risk assessment

W52	Cumulative (2019)	
0	27	Low risk
30	30	Medium risk
0	38	High risk
0	42	Very high risk

- Malaria (15), AWD (27), measles (18) and bloody diarrhea (25) were the top common alerts generated through the EWARS in week 52, 2019.

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Alert| Map of key disease alerts by county week 52, 2019

Alert | Maps of key disease alerts by county

Map 2a | Malaria (W52 2019)
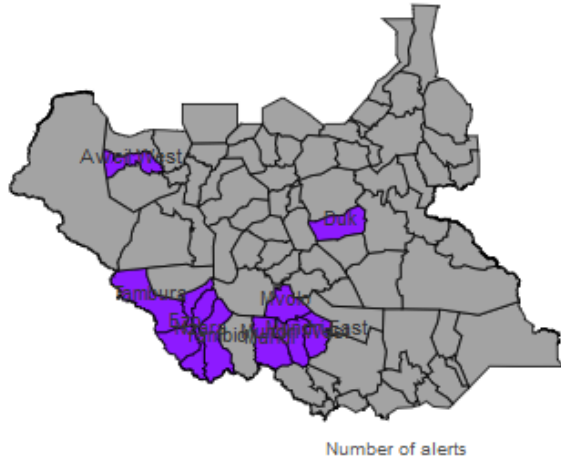
Map 2b | Bloody diarrhoea (W52 2019)
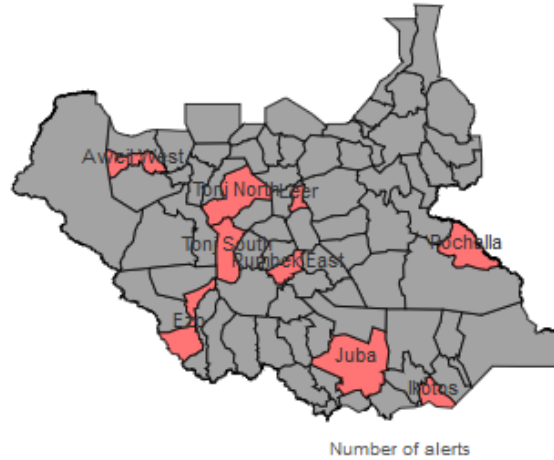
Map 2c | Measles (W52 2019)
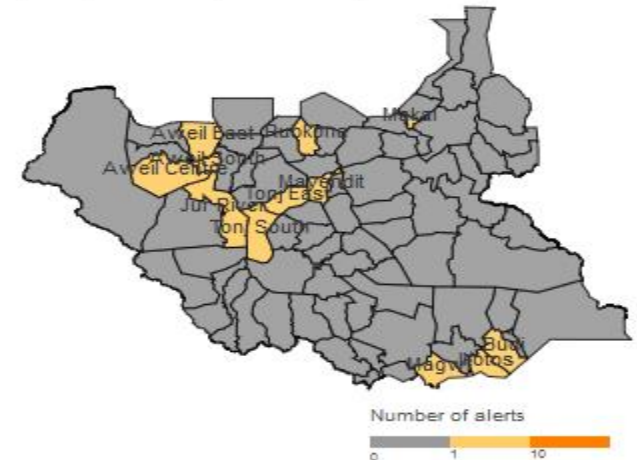
Map 2d | Cholera (W52 2019)
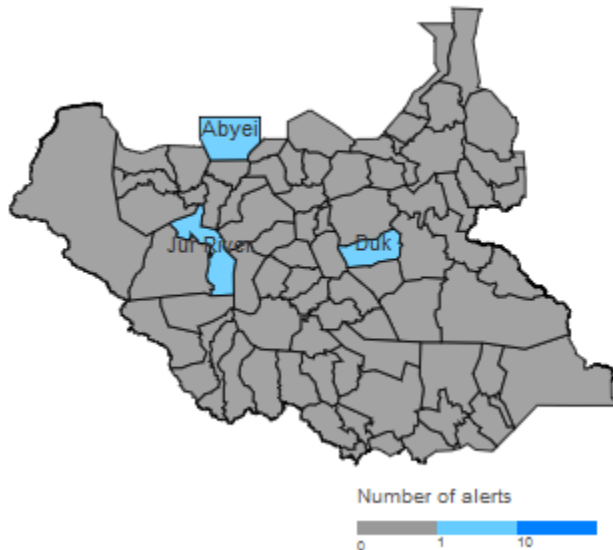
Map 2e | Guinea Worm (W52 2019)

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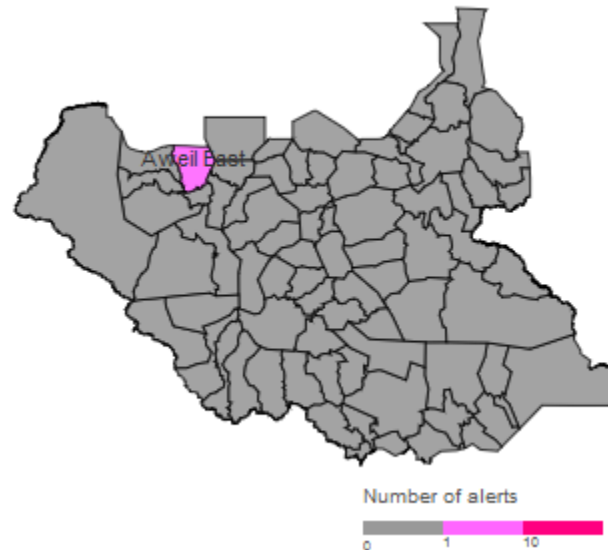
Alert by disease and Hubs in Week 51, 2019 [A total of 93 event specific alerts generated by Hubs]

Hub/Former States	AJS	ARI	Acute Watery Diarrhea	Bloody Diarrhea	Guinea Worm	Neonatal Tetanus	AFP	Meningitis	VHF	Cholera	Malaria	Measles	Total Alerts
Bor		2	2	4						1	1		10
Kuajok			5	2						1		4	12
Torit				1								6	7
Bentiu	1	1		1			2					4	9
Yambio		7	3	2							23		35
Juba			1	1					1				3
Aweil		2		1	1	1		1			2	4	12
Rumbek			1	1									2
Wau										1		1	2
Malakal												1	1
Total Grand	1	12	12	13	1	1	2	1	1	3	26	20	93

During this week:

1 AJS alert: pending verification

12 ARI: 6 are pending verification, 3 been monitored and 3 discarded

12 AWD alert: 6 pending, 2 been monitored and 4 discarded.

13 ABD: 6 pending verification,1 been monitored and 6 discarded

2 AFP alert: 1 pending and 1 discarded

1 G.W alert: discarded

26 Malaria alerts: 19 pending verification ,6 under monitoring and 1discarded

20 Measles alert: 14 are pending verification, 4 been monitored and 2 discarded

1 Neonatal Tetanus alert: discarded

1 VHF alert: discarded

3 Cholera alerts: discarded

1 Meningitis alert: discarded

SUSPECTED OUTBREAKS IN 2019

Major suspected outbreaks in South Sudan in 2019

EVD Suspect cases in South Sudan 2018 and 2019 as of week 50, 2019

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

- Since August 2018, at least 111 suspect EVD cases have been reported, of which:

- Most 69 (59.4%) have been reported in 2019

- Most of the suspect EVD cases have been reported by health workers at health facility level

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EVD Suspect cases in South Sudan 2018 and 2019 as of week 50, 2019

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

	≤ 18 Years	≥ 18 Years
■ M	20	56
■ F	14	17
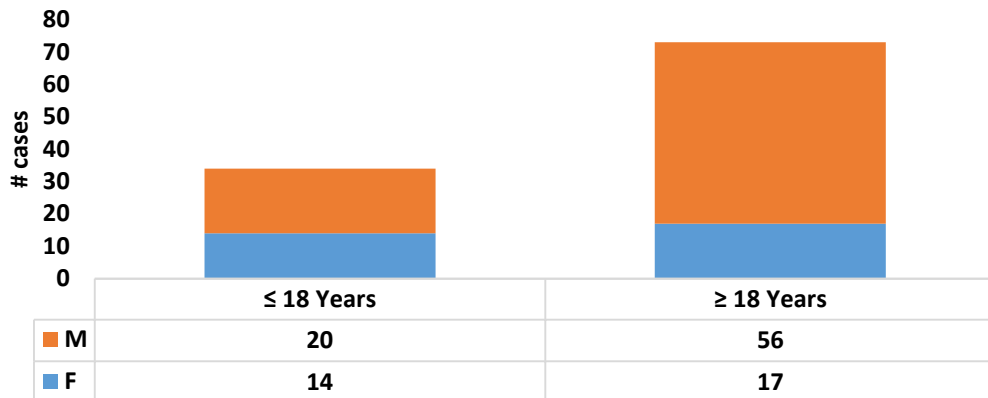
EVD suspected cases by epi week and EVD cases definition (CD), South Sudan - 2018 and 2019.
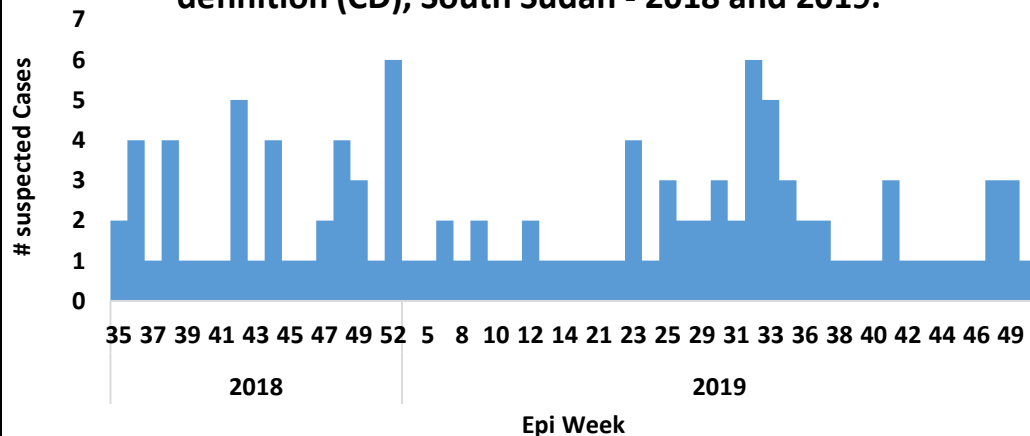
- Most of the suspect EVD cases have been reported in adults 18 years and above (72%)

- Similarly, most suspect EVD cases have been reported in males (56%)

- The distribution suspect EVD cases in both children <18years and adults ≥18yrs is skewed towards the males

- The number of suspect EVD cases reported per week range from 0-4 cases

16

Influenza isolates from sentinel sites in Juba, weeks 9-52, 2019

Legend: ■ Negative ■ A/H3 ■ B/Victoria ■ A/H1pdm09 ■ B ■ Pending

Axis labels: Number of cases (y-axis); Epidemiological week 2019 (x-axis)
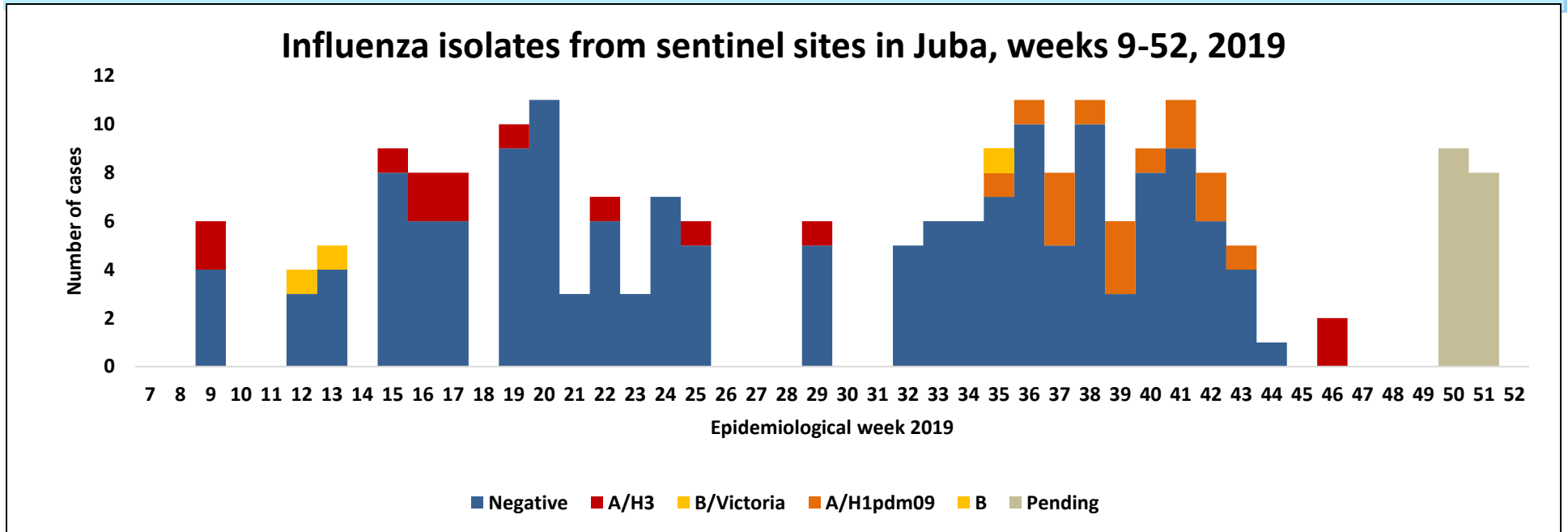
- o **In week 7, 2019, South Sudan started case-based surveillance for Influenza Like Illness (ILI) and Severe Acute Respiratory Infection (SARI) cases through systematic collection of epidemiological and virological information**

- o **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**

- o **Since week 7 of 2019, a total of 251 ILI/SARI samples have been collected and tested in UVRI 197 being negative; 2 (1%) positive for Influenza B (Victoria); 2(1%) positive for Influenza A (H3); and 1(1%) positive for Influenza A (H1)pdm09 and 17 samples are pending test results .**

- o **Since the beginning of 2019; Influenza A (H3) has been the predominant isolate. However, Influenza A (H1)pdm09 emerged from week 35 as a new circulating strain.**

ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS

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

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Map showing counties with confirmed measles outbreak (controlled and Active) in South Sudan, 2019 and 2020.

Legend
- No outbreak
- Controlled
- Active
- County_boundaries
- Africa_boundaries

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	NR	653 (0.0015)	yes	Yes	yes	N/A
Rubella	**Wau PoC-AA**	25/3/2019	NR	11(0)	yes	No	yes	N/A
Hepatitis E	**Bentiu PoC**	03/01/2018	3	125 (0.024)	Yes	No	Yes	Yes
Measles	**Pibor**	17/01/2019	NR	2073 (4.82)	yes	No	yes	N/A
Measles	**Bentiu PoC**	24/04/2019	20	304(0.066)	Yes	Yes	Yes	N/A
Measles	**Budi**	03/10/2019	2	31(0.165)	Yes	No	Yes	N/A
Measles	**Ikotos**	15/11/2019	3	169(0.018)	Yes	No	Yes	N/A
Measles	**Aweil South**	15/03/2019	NR	94(0.032)	Yes	No	Yes	N/A
Measles	**Jur River**	06/02/2019	64	197(0.324)	Yes	Yes	Yes	N/A
Measles	**Juba**	21/11/2019	NR	6(0.1667)	Yes	No	Yes	N/A
Measles	**Yambio**	6/1/2019	2	72(0.23)	yes	Yes	yes	N/A
Measles	**Maban**	1/11/2019	7	34(204)	yes	No	Yes	N/A
Measles	**Aweil East**	19/2/2019	2	74(0.27)	yes	No	Yes	N/A
Measles	**Tonj East**	12/12/2019	23	30(0.78)	yes	No	Yes	N/A

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Measles Highlights in 2019

- **Measles outbreaks confirmed in 2019**
  - **24 counties** – Pibor; Abyei; Mayom; Gogrial West; Aweil South; Melut; Gogrial East; Juba; Tonj North; Aweil West; Aweil East; Renk; Wau; Tonj North; Jur River; Yambio, Budi, Ikotos, Maban and Aweil East, Ikotos, Tonj East, Magwi and Boma
  - **4 PoC/IDP sites** – Wau PoC AA; Bentiu PoC; Malakal PoC; & Juba PoC; Mangateen IDPs.

  - **New confirmed measles outbreaks and response dates:**
  - Magwi: **Micro plan under development**
  - Tonj East: **Micro plan under development**
  - Ikotos: **completed**
  - Aweil South; **planned for mass campaign in February 2020**
  - Budi; **completed**
  - Mangateen IDPs/ Juba: **planned for mass campaign in February 2020**
  - Maban: **completed**

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Measles Outbreak situation & response by county as of week 52, 2019

No	County	Population	Confirmed cases	Probable cases	Total cases	Cases per 100,000	Total deaths	CFR %	Date first reported	Emergency Campaign	Admin Coverage	Status	Comments
1	Abyei	79,854	9	297	306	383.2	0	0.0%	2-Jan-19	Done	13,335 (88%)	controlled	
2	Mayom	197,510	3	16	19	9.6	0	0.0%	17-Jan-19	Done	56,647 (152%)	controlled	
3	Juba	597,171	12	51	63	10.5	3	4.8%	15-Jan-19	Done	96,180 (99%)	controlled	
4	Gogrial West	388,469	4	152	156	40.2	0	0.0%	2-Jan-19	Done	193,958 (97.2%)	controlled	6m-15yrs targeted
5	Gogrial East	157,422	4	26	30	19.1	1	3.3%	10-Mar-19	Done	56,423 (94.93%)	controlled	
6	Tonj North	249,895	6	14	20	8.0	2	10.0%	2-Apr-19	Done	44,400 (91%)	controlled	
7	Tonj South	131,857	6	41	47	35.6	0	0.0%	30-Jul-19	Done	30,903(118%)	active	
8	Jur River	192,937	7	190	197	54.4	1	1.0%	3-Feb-19	Done	35%	active	mop up underway
9	Wau	256,363	13	641	653	254.7	5	0.8%	26-Jan-19	Done	23,018 (85%)	active	
10	Aweil East	489,714	7	15	22	4.5	0	0.0%	23-Feb-19	Done	71,460 (93%)	controlled	
11	Aweil West	258,616	16	32	48	18.6	0	0.0%	4-Apr-19	Done	26477 (97%)	controlled	
12	Aweil South	112,162	10	84	94	94.0	0	0.0%	15-Mar-19	Done	24,261 (116%)	reactive	
13	Melut	323,920	3	6	9	2.8	0	0.0%	15-Mar-19	Done	12,035 (78%)	controlled	
14	Pibor	224,613	8	2065	2073	922.9	9	0.4%	12-Jan-19	Done	13,965 (30%)	controlled	mop up underway
15	Renk	218,083	3	4	7	3.2	0	0.0%	9-Jan-19	Done	7,712 (79.8%)	controlled	
16	Juba PoC	38,500	2	3	5	13.0	0	0.0%	5-Apr-19	Done	74%	controlled	
17	Bentiu PoC	103,424	45	259	304	178.9	1	0.5%	1-Jan-19	Done	19084 (112%)	active	
18	Malakal PoC	24,402	2	0	2	8.2	0	0.0%	11-Apr-19	Done	112%	controlled	
19	Wau PoC	12,959	5	98	103	794.8	0	0.0%	23-Feb-19	Done	85.00%	active	
20	Yambio	231,489	4	12	16	0.1	1	6.3%	5-Sep-19	Done	63.00%	controlled	
21	Budi	12,986	5	18	31	283.7	0	0.0%	1-Oct-19	pending		active	
22	Ikotos		5	165	169		7	0.3%	15-Nov-19	pending		active	
23	Juba/Mangateen		4	2	6		0	0.0%	1-N0v-2019	pending		active	
24	Maban		32	2	34		0	0.0%		pending	7394.00%	active	
	Total	**4,302,346**	**215**	**4,193**	**4,414**	92.4	**23**	**0.6%**					

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Measles and Rubella Laboratory Test Results, week 52 of 2019 (1)

Location/Health Facility	Date sent to Juba	Date Received at PHL	Suspected Disease	Lab results
Maban/MSF Doro	12/17/2019	12/18/2019	Measles	Measles IgM positive
Maban/MSF Doro	12/17/2019	12/18/2019	Measles	Measles &Rubella Negative
Pigi/Canal PHCC	12/6/2019	12/18/2019	Measles	Measles IgM positive
Boma	12/10/2019	12/18/2019	Measles	Measles IgM positive
Boma	12/10/2019	12/18/2019	Measles	Measles IgM positive
Boma	12/10/2019	12/18/2019	Measles	Measles IgM positive
Boma	12/10/2019	12/18/2019	Measles	Measles IgM positive
Boma	12/10/2019	12/18/2019	Measles	No resuslts
Boma	12/10/2019	12/18/2019	Measles	Measles IgM positive
Boma	12/10/2019	12/18/2019	Measles	Measles IgM positive
Boma	12/10/2019	12/18/2019	Measles	Measles IgM positive
Aweil East/Malualkon	12/9/2019	12/18/2019	Measles	Measles IgM positive
Aweil East/Malualkon	12/9/2019	12/18/2019	Measles	Measles IgM positive
Aweil West/Aweil Hospital	12/14/2019	12/18/2019	Measles	Measles & Rubella IgM negative
Aweil West/Aweil Hospital	12/14/2019	12/18/2019	Measles	measles IgM positive
Aweil West/Aweil Hospital	12/14/2019	12/18/2019	Measles	measles IgM positive
Aweil West/Aweil Hospital	12/14/2019	12/18/2019	Measles	measles IgM positive
Aweil West/Aweil Hospital	12/14/2019	12/18/2019	Measles	measles IgM positive
Aweil West/Aweil Hospital	12/14/2019	12/18/2019	Measles	measles IgM positive
Kapoeta/Palakal	12/9/2019	12/18/2019	Measles	measles IgM positive
Kapoeta East/Lokichikio	12/6/2019	12/18/2019	Measles	Measles & Rubella IgM negative
Budi/Chukudum Hospital	12/6/2019	12/18/2019	Measles	measles IgM positive
Kapoeta/KMH-CDOT	12/6/2019	12/18/2019	Measles	measles IgM positive
Wulu/Wulu PHCC	12/17/2019	12/18/2019	Measles	Rubella IgM positive
Wulu/Wulu PHCC	12/17/2019	12/18/2019	Measles	Rubella IgM positive
Wulu/Domulolo PHCC	12/17/2019	12/18/2019	Measles	Rubella IgM positive
Wulu/Domulolo PHCC	12/17/2019	12/18/2019	Measles	Rubella IgM positive
Wulu/Domulolo PHCC	12/17/2019	12/18/2019	Measles	Measles &Rubella IgM Negative
Nzara/St. Teresa Hospital	12/14/2019	12/18/2019	Measles	measles IgM positive
Yei/YSH	12/14/2019	12/18/2019	Measles	measles IgM positive
Juba/Al Sabah Hospital	11/29/2019	12/18/2019	Measles	measles IgM positive

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Measles and Rubella Laboratory Test Results, week 52 of 2019 (2)

During this week 31 sample results were released as fellows :

- **Maban/MSF Doro (2) samples:**
    - (1) measles IgM positive
    - (1) measles &Rubella IgM Negative

- **Pigi/Canal PHCC (1) sample:**
    - (1) measles IgM positive

- **Boma (8) samples:**
    - (5) measles IgM positive
    - (1) no result

- **Aweil East/Malualkon:**
    - (1) measles IgM positive

- **Aweil West/Aweil Hospital (8) samples:**
    - (7) measles IgM positive
    - (1) measles &Rubella Igm Negative

- **Kapoeta/Palakal (1) samples:**
    - (1) measles IgM negative

- Kapoeta East/Lokichikio (1) samples:
    - (1) measles & rubella IgM negative

- **Budi/Chukudum Hospital (1) sample:**
    - (1) measles IgM positive

- **Kapoeta/KMH-CDOT (1) samples:**
    - (1) measles IgM positive

- **Wulu/Wulu PHCC (2) samples:**
    - (2) Rubella IgM positive

- Wulu/Domulolo PHCC (3) samples:
    - (2) Rubella IgM positive
    - (1) Measles &Rubella IgM Negative

- **Nzara/St. Teresa Hospital (1) sample:**
    - (1) measles IgM positive

- **Yei/YSH (1) sample:**
    - (1) measles IgM positive

- **Juba/Al Sabah Hospital(1) sample:**
    - (1) measles IgM positive

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Confirmed Measles Outbreak in Tonj East County

Epi-curve for Suspected Measles, Tonj East, 2019,Wrp

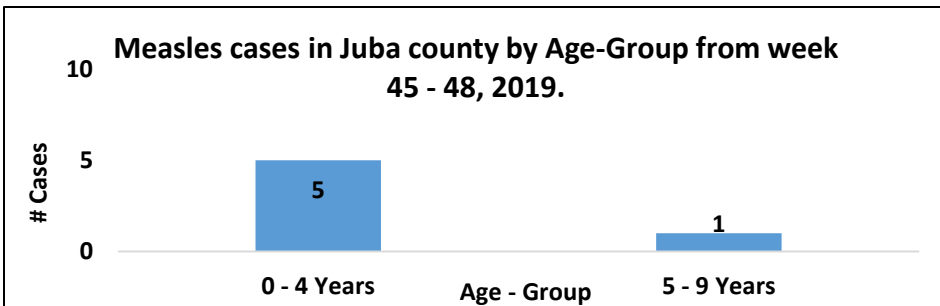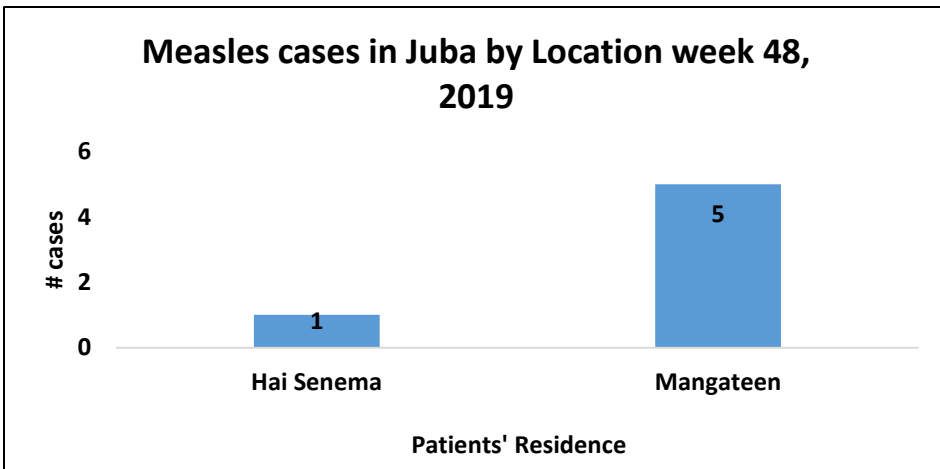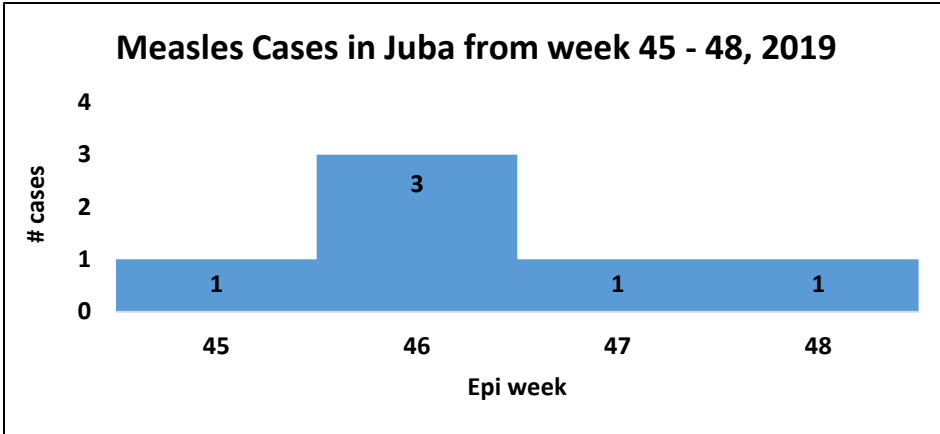**Suspected Measles Outbreak by location, Tonj East, Warrap.**
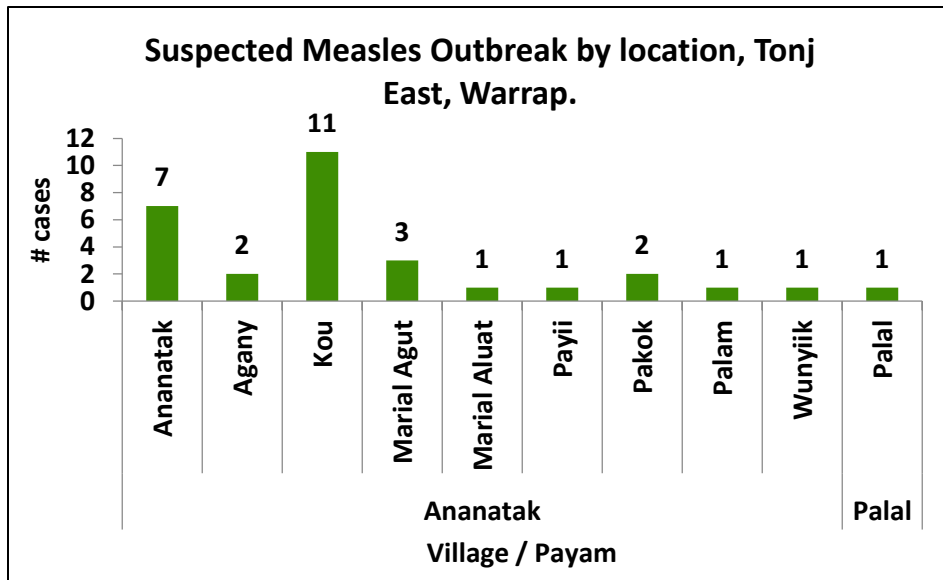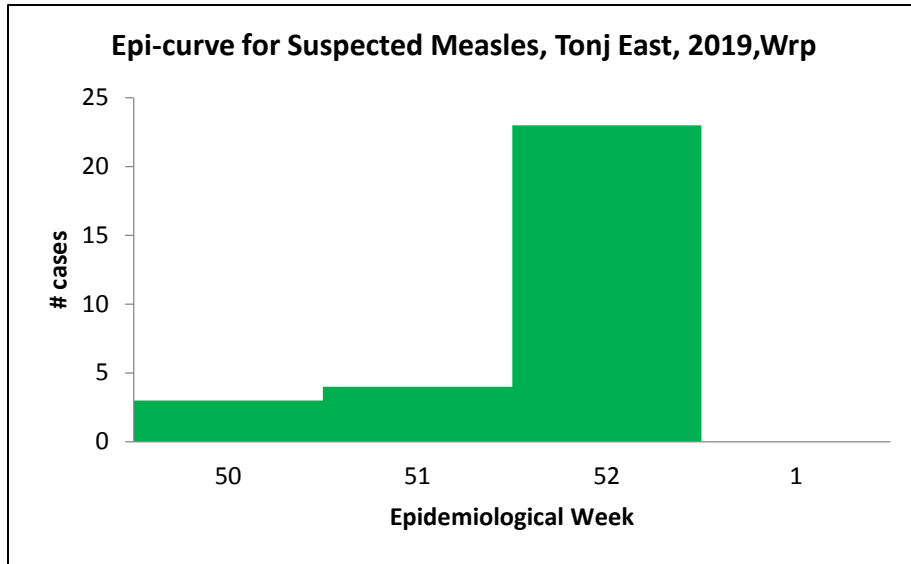
Descriptive Epidemiology:

- Initial cases were reported on 12th December 2019
- A total of 30 Suspected Measles case have been line listed in Tonj East county
- 23 new cases were reported in week 52, 2019
- 15 samples were collected of which, 13 samples tested positive for measles, (1) positive for Rubella IgM and (1) negative for both measles and rubella
- The most affected payams are: Ananatak and Agany
- (12) 40% of the cases are less than 5 years of age
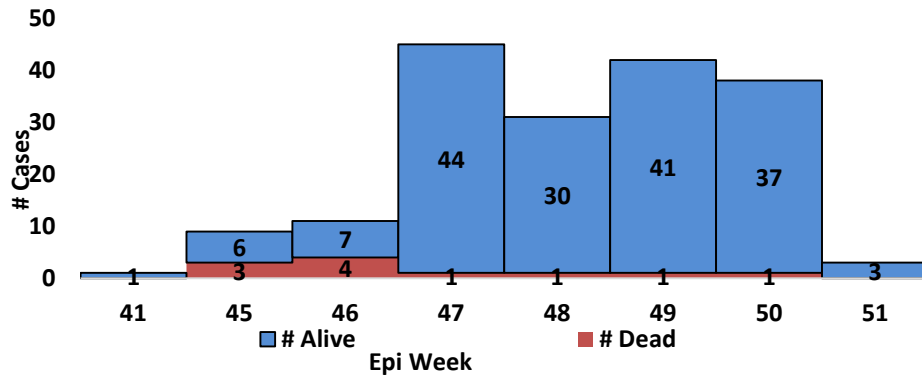- 67% of cases are females while 33% are male
- No deaths reported

Response and Recommendations

- Rapid response team deployed to support the response
- Reactive campaign micro plan is been developed
- Surveillance and line-listing are ongoing
- Case management underway
- Reactive campaign will wait for the mass measles campaign in February 2020.

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Confirmed Measles Outbreak in Maban County

Epi curve for measles cases in maban county as of week 47 - 49, 2019.
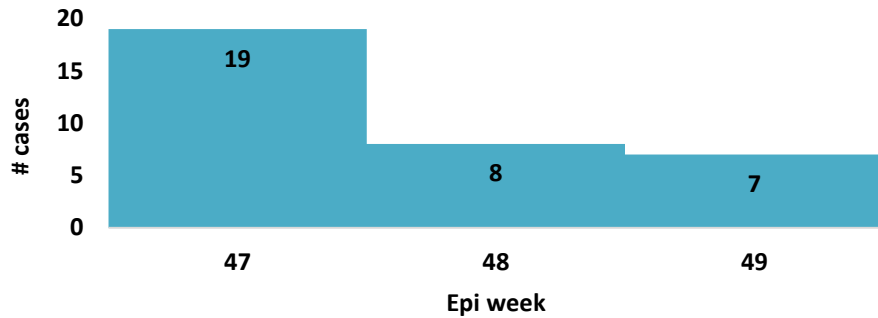
Measles cases in maban county by village of residence as of week 47 - 49, 2019.
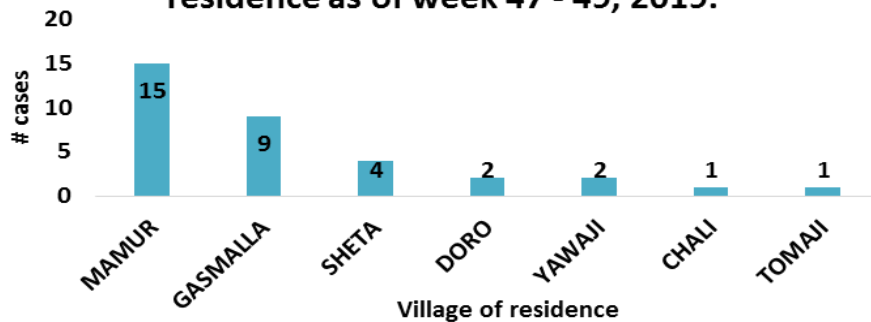
Age group	Cases	Percentage	Cum. %
0 - 4 Years	28	82%	82%
10 - 14 Years	2	6%	88%
5 - 9 Years	4	12%	100%
Grand Total	34	100%	

Descriptive Epidemiology:

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

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

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Confirmed Measles Outbreak in Juba County / Mangateen IDP Camp

Measles Cases in Juba from week 45 - 48, 2019

Measles cases in Juba by Location week 48, 2019

Measles cases in Juba county by Age-Group from week 45 - 48, 2019.

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

Response and Recommendations:
- Rapid response team deployed to support the response
- Micro plan has been developed, campaign will wait for the mass measles campaign in February.
- Surveillance and line-listing are ongoing
- Case management underway

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

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Confirmed Measles Outbreak in Ikotos County

Measles cases in Ikotos from week 40 to week 50, 2019

Y-axis: # Cases (0–50)
X-axis: Epi Week (41, 45, 46, 47, 48, 49, 50, 51)

Values shown: 1, 6/3, 7/4, 44/1, 30/1, 41/1, 37/1, 3

Legend: # Alive, # Dead

Measles cases in Ikotos by Village week 40 to 50, 2019

Y-axis: # Cases (0, 50, 100, 150)
X-axis: Town (Ikotos, Ramula, Huma, Tsere.., Loyoro, Isoke, Niteuso, Mad.., Askali, Hirafit, Woro.., Keker.., Lohiri..)

Measles cases in Ikotos by age group in 2019

Y-axis: # cases (0–120)

	0 - 4 Years	5 - 9 Years	15+ Years	10 - 14 Years
# Alive	114	30	18	7
# Dead	8	3		

Age - Group
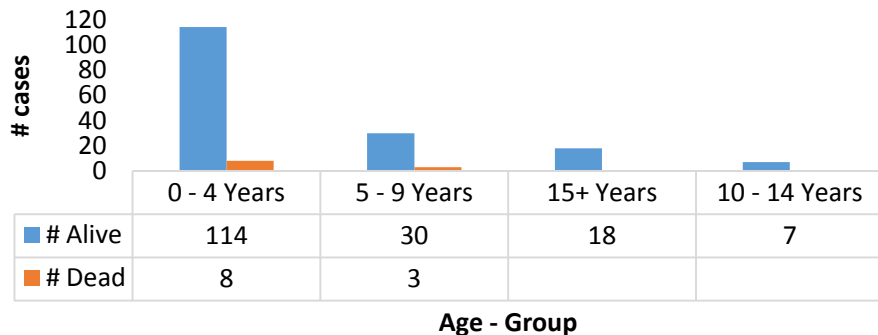
Descriptive Epidemiology:

- Initial cases were reported on 15th November 2019
- A total of 169 Suspected Measles case have been in Ikotos county since week 45 of 2019.
- 03 new cases were reported in week 51, 2019
- 06 samples were collected initially of which, 05 samples tested positive for measles and (1) negative for measles/Rubella IgM negative
- The most affected payams are: Ikotos, Ramula and Huma
- 67% of the cases are less than 5 years of age
- 58% of cases are females while 42% are male
- Total of 9 deaths reported CFR of (9.9%)

Response and Recommendations:

- Rapid response team deployed to support the response
- Reactive campaign was conducted by; SMoH, HLSS are partners with coverage of 87%, NMOH and WHO is planning for the PCE
- Surveillance and line-listing are ongoing
- Case management underway

Age Group	Cases	Deads	Percentage	CFR	Cum. %
0 - 4 Years	114	8	67%	7.0%	67%
5 - 9 Years	30	3	18%	10.0%	85%
15+ Years	18		11%		96%
10 - 14 Years	7		4%		100%
Grand Total	169	11	100%	6.5%	

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Confirmed Measles Outbreak in Aweil South County

Measles cases in Aweil South week 1 to 43, 2019.
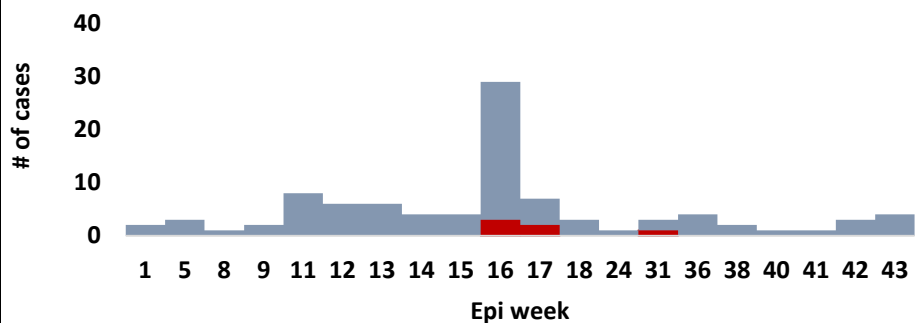
Measles cases by location in Aweil South county week 1 - 44, 2019.
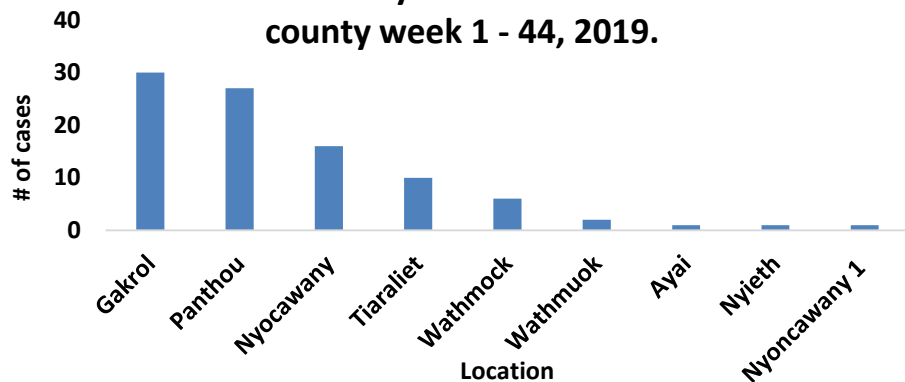
Age Group	Cases	Percentage	Cum. %
0 - 4 Years	80	85%	85%
5 - 9 Years	13	14%	99%
15+ Years	1	1%	100%
Grand Total	94	100%	

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 IgM
- The most payams affected are; Gakrol and Panthou
- 85% of the cases are less than 5 years of age
- 44% of cases are females while 58% are male
- **Outbreak was detected earlier, and campaign was conducted in June with coverage of 24,261 (116%)**

Response and Recommendations:

- Rapid response team deployed to support the response
- Reactive campaign micro plan development, campaign will wait for the mass measles campaign in February 2020
- Surveillance and line-listing are ongoing
- Case management underway

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

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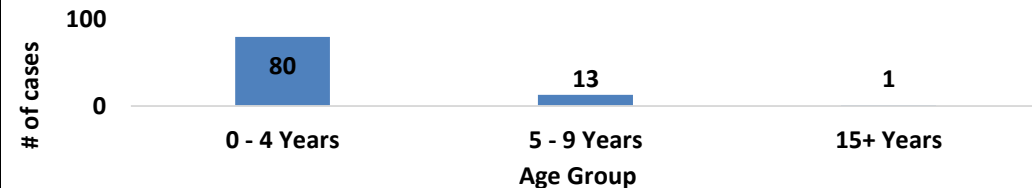
Confirmed Measles Outbreak in Budi County

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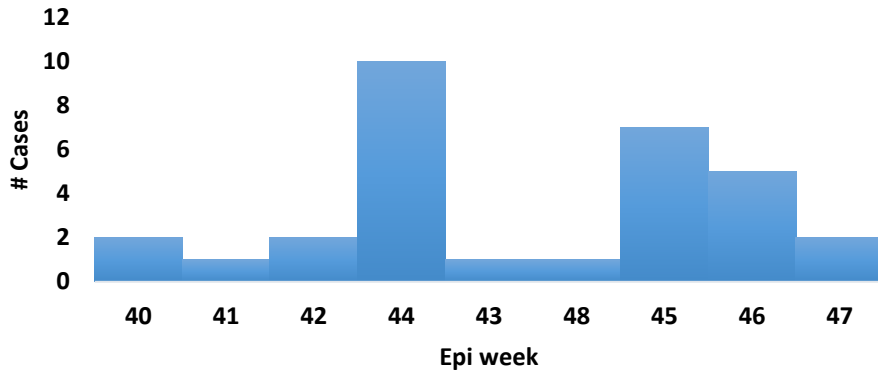
Measles cases in Budi by Village week 40 to 47, 2019
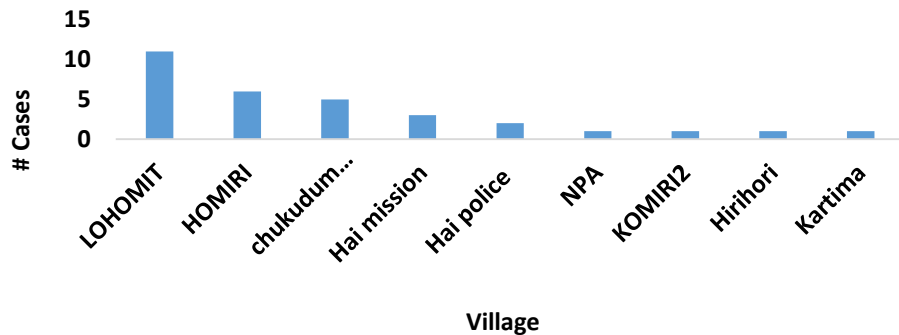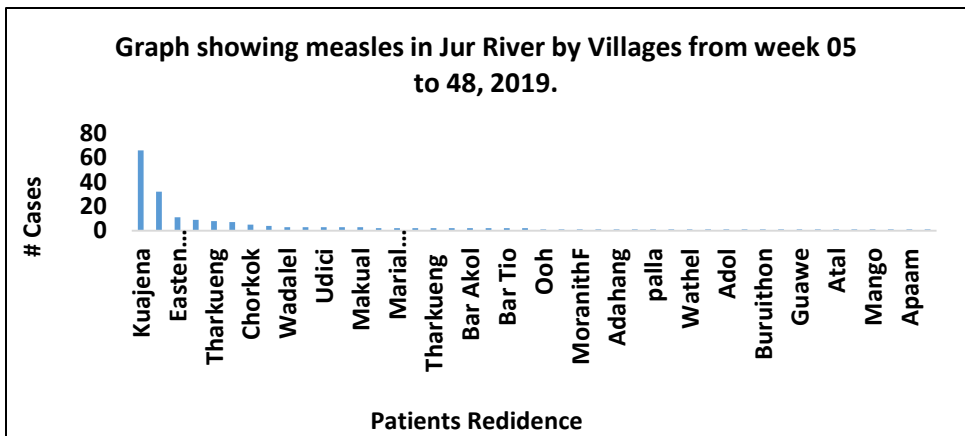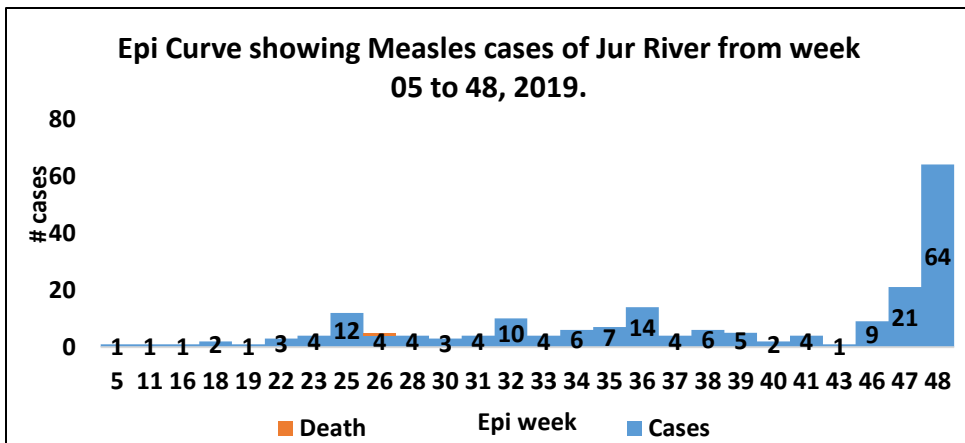

Measles cases in Budi from week 40 – 47, 2019

	0 - 4 Years	5 - 9 Years
Male	11	1
Female	16	3
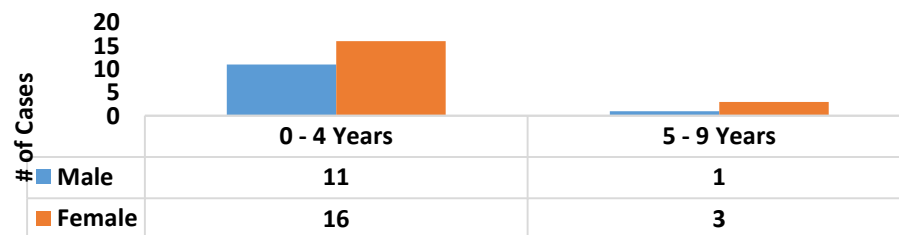
Descriptive Epidemiology:
- A total of 31 Suspected Measles case have been in Budi county since week 40 of 2019.
- 2 new cases were reported in week 47, 2019
- Initially 3 samples were collected for testing in which 2 samples tested positive for measles and I negative
- 10 samples were collected last week of which(8) samples tested positive for measles and (2) negative
- 87% of the cases are less than 5 years of age
- 61% of cases are females while 39% are male
- The most affected payams are; Lohomit, Homiri and Chukudum
- One deaths reported in week 44 from Chukudum with CFR (3.22)%

Response and Recommendations:
- Rapid response team deployed to support the response
- Reactive campaign micro plan has been developed, SMoH, Cordaid and partners completed the campaign, results will be shared. NMoH and WHO are planning for the PCE
- 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%	

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Measles cases in Jur River

Epi Curve showing Measles cases of Jur River from week 05 to 48, 2019.

Graph showing measles in Jur River by Villages from week 05 to 48, 2019.

Age-Group	Cases	Percentage	Cum. %
10 - 14 Years	8	4%	4%
15+ Years	25	13%	17%
5 - 9 Years	34	17%	34%
0 - 4 Years	130	66%	100%
Grand Total	197	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
- 197 cases in total were reported since the beginning of the outbreak. Most of the cases have been reported from Kingi and Tharkueng
- 64 new cases were reported in week 48, 2019
- 66% of cases were under 5 yrs old of age
- 52% are female and 48% male
- 69 % of the cases reported are not vaccinated against measles

Response and Recommendations:

- Following the confirmation of a measles outbreak in the county, a reactive vaccination microplan targeting 60,435 children 6-59 months in five payams of Rocroc; Kuajina; Udici; Kangi; and Marial Bai/ Wau Bai has been developed.
- The other interventions include:
  - Intensified surveillance and line-listing of new measles cases
  - Treating suspect cases with oral rehydration, vitamin A, and antibiotics for suprainfections
  - Social mobilization and health education on measles case symptoms; prompt health care seeking; and routine immunization.
- **SMoH, Cordaid and partners finalized a reactive campaign conducted with (92.4%) coverage**
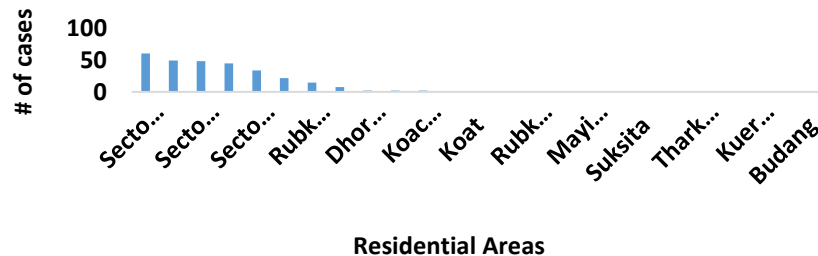
Confirmed Measles and Rubella outbreak in Bentiu PoC

Measles cases in Bentiu from week 4 to week 52, 2019
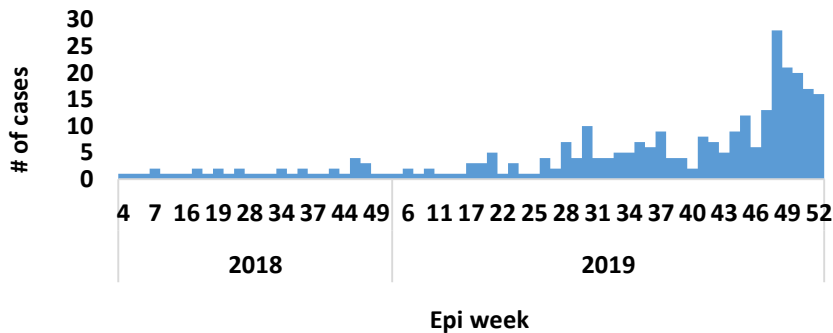
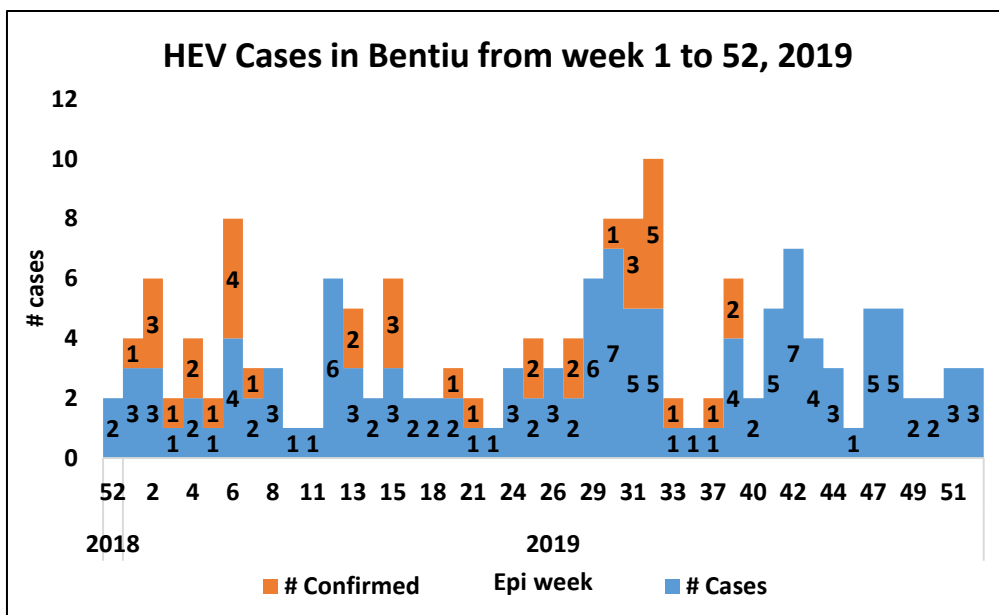

Measles cases in Bentiu by Location week 4 to 52, 2019.

Age Group	Cases	Percentage	Cum. %
0 - 4 Years	288	95%	95%
5 - 9 Years	9	3%	98%
10 - 14 Years	5	2%	99%
15+ Years	2	1%	100%
Grand Total	304	100%	

Epidemiological description

- Bentiu PoC has been reporting suspected measles/rubella cases since week 4 of 2019.
- 20 new cases reported in week 52, 2019
- At least 304 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.
- 47% of cases are female and 53% are male
- 95% are under 5 yrs old, 5% 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.

Hepatitis E, Bentiu PoC

HEV Cases in Bentiu from week 1 to 52, 2019

Descriptive epidemiology

- The persistent transmission of HEV in Bentiu PoC continues with 125 cases since beginning of 2019
- There were (03) cases reported in week 51; & (03) case in week 52, 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
- Half (50%) out of 125 cases are male.
- Age group less than 15 years had the most cases with 66 (72%) cases.
- At risk of adverse outcomes when infected in the 3rd trimester of pregnancy
- Use of unsafe drinking water likely to be source of infection
- Up to week 52, 2019; there were 125 cases of HEV in Bentiu PoC including 2 deaths (CFR 0.16%)

Recommended actions

- Supportive case management guided by the HEV protocol is ongoing
- Social mobilization to raise awareness on modes of transmission, symptoms and where to seek for care
- Case identification and follow up in the communities is ongoing
- The other WASH interventions entail provision of safe water and water quality surveillance along the water chain

Age-Group	Alive	Dead	Grand Total	Percentage	CFR	Cum. %2
1 - 4 Years	40		40	31%	0%	31%
10 - 14 Years	22		22	17%	0%	49%
15+ Years	33	1	34	27%	3%	76%
5 - 9 Years	30	1	31	24%	3%	100%
Grand Total	125	2	127	100%	0.02	

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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

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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

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EBOLA VIRUS DISEASE[EVD] PREPAREDNESS IN SOUTH SUDAN

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

World Health Organization
South Sudan

Ebola update DRC   24 December 2019

Current situation

- Currently as **of 22 December 2019**
- **3362** Cases [3244 confirmed &118 probable]
- **2226** Deaths [2134 confirmed & 94 probable]

Response update

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

Affected health zones

- In the past 21 days (2 to 22 December 2019), 49 confirmed cases were reported from 12 health areas within six neighbouring active health zones in North Kivu and Ituri provinces. Mabalako (76%; n=37 cases), Beni (12%; n=6), Mandima (4%; n=2), Butembo (4%; n=2), Oicha (2%; n=1), and Biena (2%; n=1).

Source: WHO Ebola situation report

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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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