

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Update W03 2019 (Jan 14, 2018- Jan 20, 2019)



- The completeness for IDSR reporting at the county level was 74% in week 3 of 2019 . The completeness for EWARS reporting from IDPs was 76%.
- A Measles outbreak has been confirmed in Juba after five samples from suspected measles cases from Kator PHCC tested positive for Measles IgM antibodies. A total of 21 cases including two (2) deaths have been reported. The cases are from two payams of Kator and Amarat.
- A reactive vaccination campaign was conducted in Rumammer, Alal, Mijak and Abyei between 23rd January 2019 and 28th January, 2019 where 11132 (73%) children were vaccinated out of the 15205 children that were targeted in the four counties. The campaign was extended beyond the four days that was planned for in Rumammer, Mijak and Abyei to attempt to reach as many children as possible following logistical challenges and insecurity which hampered the teams movement during the campaign.
- A reactive vaccination campaign has been conducted between 16th -21st January, 2019 in eight (8) payams in Rumbek East, three (3) payams in Yirol West, and one (1) payam Wulu. Out of 51, 653 children targeted for vaccination, a total of 50, 433 (98%) children were vaccinated.
- There was no new suspected Rift Valley Fever (RVF) cases reported from Yirol East in week 03. 2019. A total of 58 suspected human cases including 6 confirmed; 3 probable; 48 non-cases; and 01 pending classifications (with no definitive lab. test results) have been reported. Nine confirmed animal cases (cattle).
- Three new HEV cases reported from Bentiu PoC in week 03-04, 2019. A total of 169 HEV cases (18 confirmed by PCR) have been reported in Bentiu PoC in 2018. The new cases tested positive on RDT testing. Current response entails surveillance, case follow up in the communities and access to WASH services
- In light of the confirmed EVD outbreak in North Kivu, the South Sudan EVD contingency plan has been updated and implemented to mitigate the risk of EVD importation and enhance readiness capacities.

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SURVEILLANCE PERFORMANCE

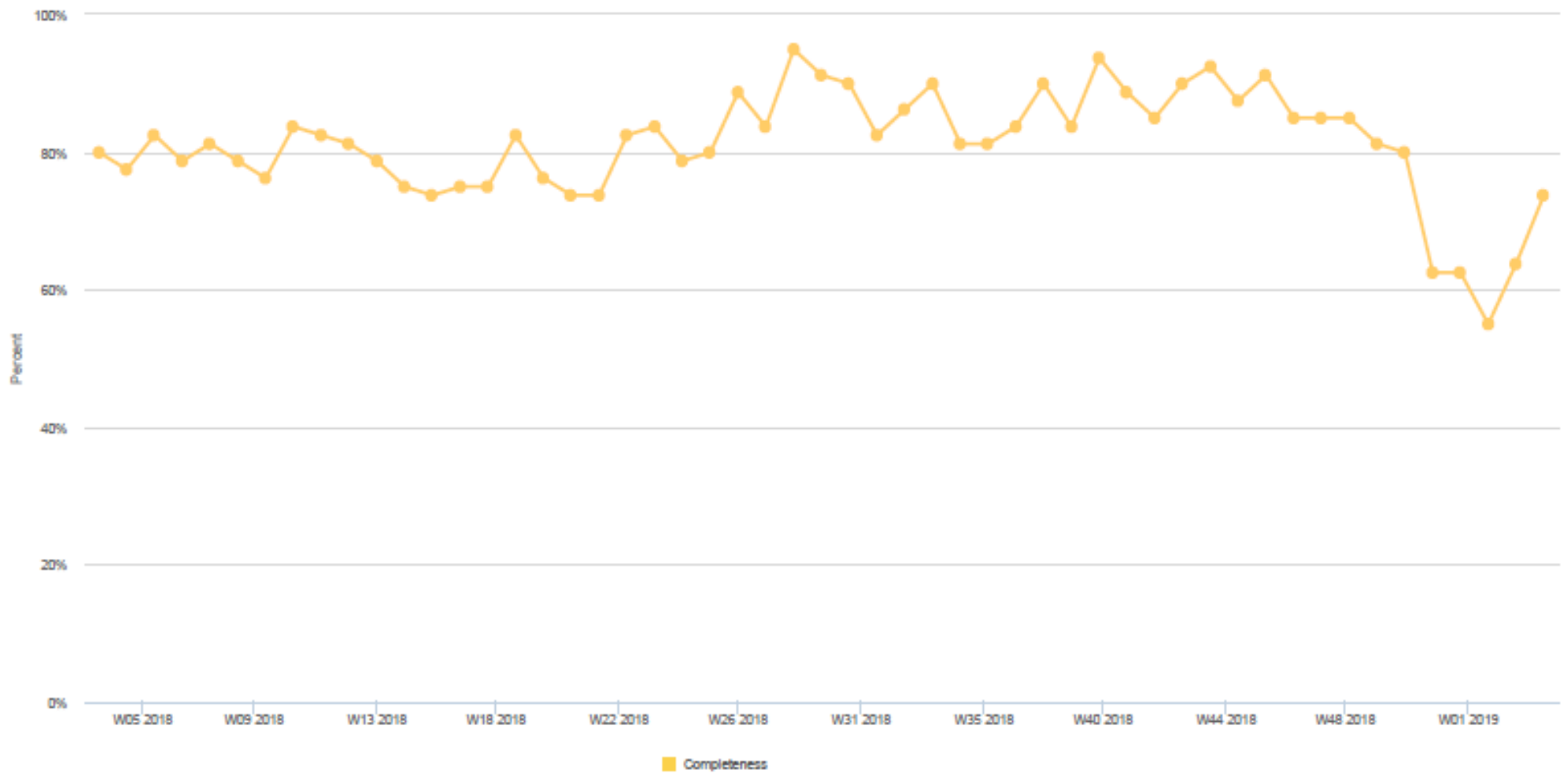
For the Integrated Disease Surveillance (IDSR) network and Early warning alert and response network (EWARN)

Table 1 | IDSR surveillance performance indicators by county (W3 2019)

Hub	Reporting		Performance (W3 2019)		Performance (Cumulative 2019)	
	# counties	# reports received	Completeness	Timeliness	Completeness	Timeliness
Aweil	5	4	80%	80%	70%	70%
Bentiu	9	4	44%	44%	39%	28%
Bor	11	6	55%	55%	25%	25%
Juba	6	5	83%	83%	46%	42%
Kwajok	7	4	57%	57%	43%	32%
Malakal	13	9	69%	69%	38%	25%
Rumbek	8	8	100%	100%	63%	63%
Torit	8	7	88%	88%	50%	50%
Wau	3	2	67%	67%	50%	50%
Yambio	10	10	100%	100%	75%	75%
South Sudan	80	59	74%	74%	48%	74%

- Completeness for IDSR reporting at the county level was 74% in week 3, 2019 and cumulatively at 48% for 2019.
- Timeliness for IDSR reporting at the county level was 74% in week 3 and cumulatively at 74% for 2019.

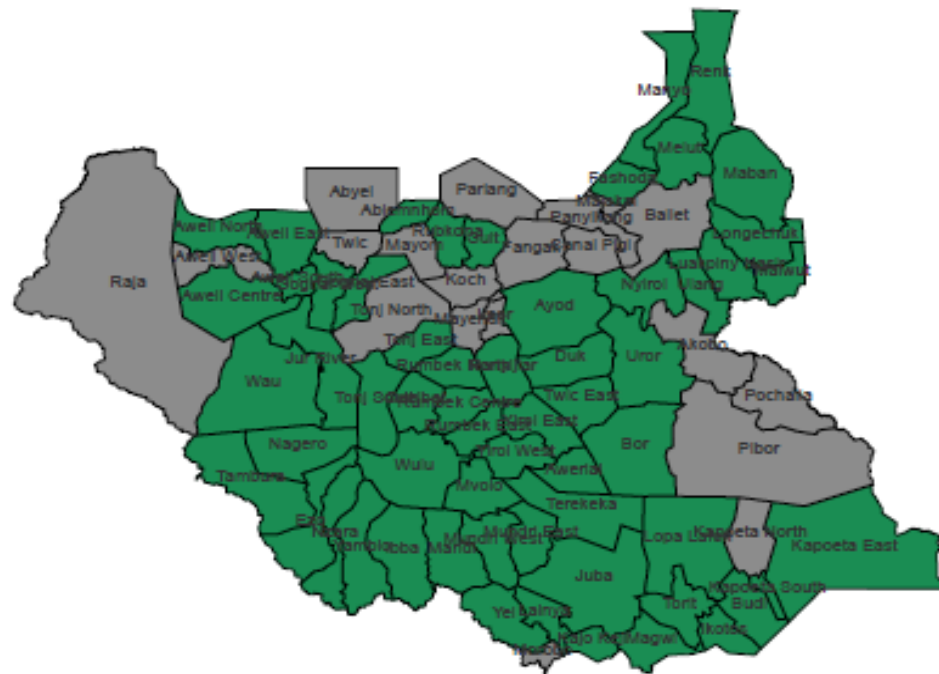
Figure 1 | Trend in IDSR completeness over time¹



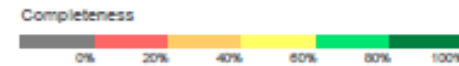
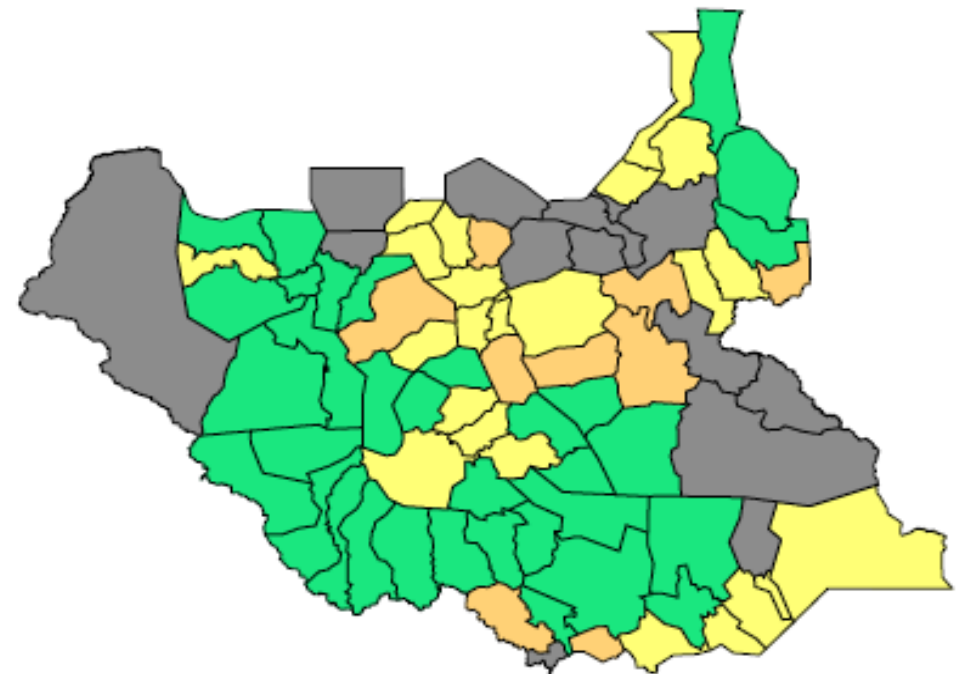
¹ Completeness footnote (to be drafted)

The graph shows completeness for the weekly IDSR reporting at the county level. An improvement is noted in comparison to week 02, 2019.

Map 1a | Map of IDSR completeness by county (W3 2019)



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



- Counties that submitted their IDSR reports in week 03, 2019 are shown in green in map 1a.
- Counties that did not submit their IDSR reports in week 03, 2019 are shown in grey in map 1a.

Table 4 | EWARS surveillance performance indicators by partner (W3 2019)

Partner	Performance		Reporting (W3 2019)		Reporting (Cumulative 2019)	
	# sites	# reports received	Completeness	Timeliness	Completeness	Timeliness
CMD	3	3	100%	100%	13%	13%
GOAL	2	2	100%	100%	75%	75%
HLSS	2	1	50%	50%	38%	38%
IMA	7	7	100%	100%	75%	71%
IMC	6	5	83%	83%	58%	58%
IOM	9	9	100%	100%	75%	75%
IRC	1	0	0%	0%	50%	50%
Medair	2	2	100%	100%	75%	75%
MSF-E	2	0	0%	0%	13%	13%
MSF-H	3	1	33%	33%	25%	25%
SMC	6	3	50%	50%	42%	42%
UNIDO	3	1	33%	33%	25%	25%
UNKEA	2	0	0%	0%	50%	25%
World Relief	1	0	0%	0%	50%	50%
TRI-SS	7	7	100%	100%	50%	50%
LIVEWELL	4	4	100%	100%	75%	75%
Total	63	48	76%	76%	47%	46%

Both timeliness and completeness for EWARS/IDP reporting stand at 76% for week 03, while the cumulative completeness and timeliness are 47% and 46% respectively for 2019.

EVENT-BASED SURVEILLANCE

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

Table 7 | Alert performance indicators by Hub

Hub	W3		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	3	33%	4	50%
Bentiu	0	0%	3	100%
Bor	1	100%	1	100%
Juba	3	0%	10	20%
Kwajok	1	100%	2	50%
Malakal	1	100%	5	100%
Rumbek	2	50%	10	90%
Torit	0	0%	1	100%
Wau	1	100%	5	80%
Yambio	5	100%	13	100%
South Sudan	17	65%	54	76%

Table 8 Summary of key alert indicators

W3	Cumulative (2019)	
17	54	Total alerts raised
65%	76%	% verified
0%	0%	% auto-discarded
0%	2%	% risk assessed
0%	0%	% requiring a response

Out of 17 alerts that were received in week 03, 65% were verified and 0% were risk assessed. None of the alerts required a response.

Table 9 | Alert performance indicators by event

Event	W3		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	3	67%	8	75%
AWD	2	100%	238	100%
Bloody Diarr.	3	100%	11	63%
Measles	7	29%	18	56%
Meningitis	0	0%	0	0%
Cholera	0	0%	3	0%
Yellow Fever	0	0%	0	0%
Guinea Worm	1	100%	2	100%
AFP	1	100%	55	100%
VHF	0	0%	0	0%
Neo. tetanus	0	0%	0	0%
Event-based surveillance				
EBS total	0	0%	2	100%

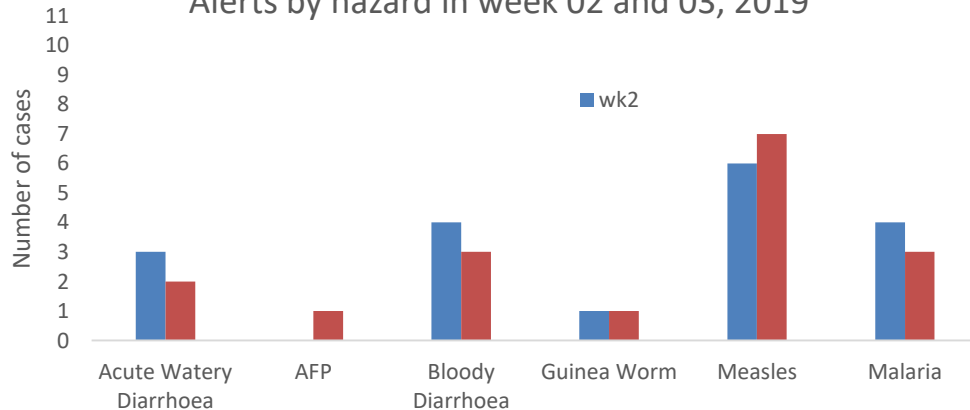
Table 10 | Event risk assessment

W3	Cumulative (2019)	
0	1	Low risk
0	0	Medium risk
0	0	High risk
0	0	Very high risk

In epi week 3 of 2019, Measles (7), malaria (3) and bloody diarrhea (3) were the most frequently reported infectious diseases.

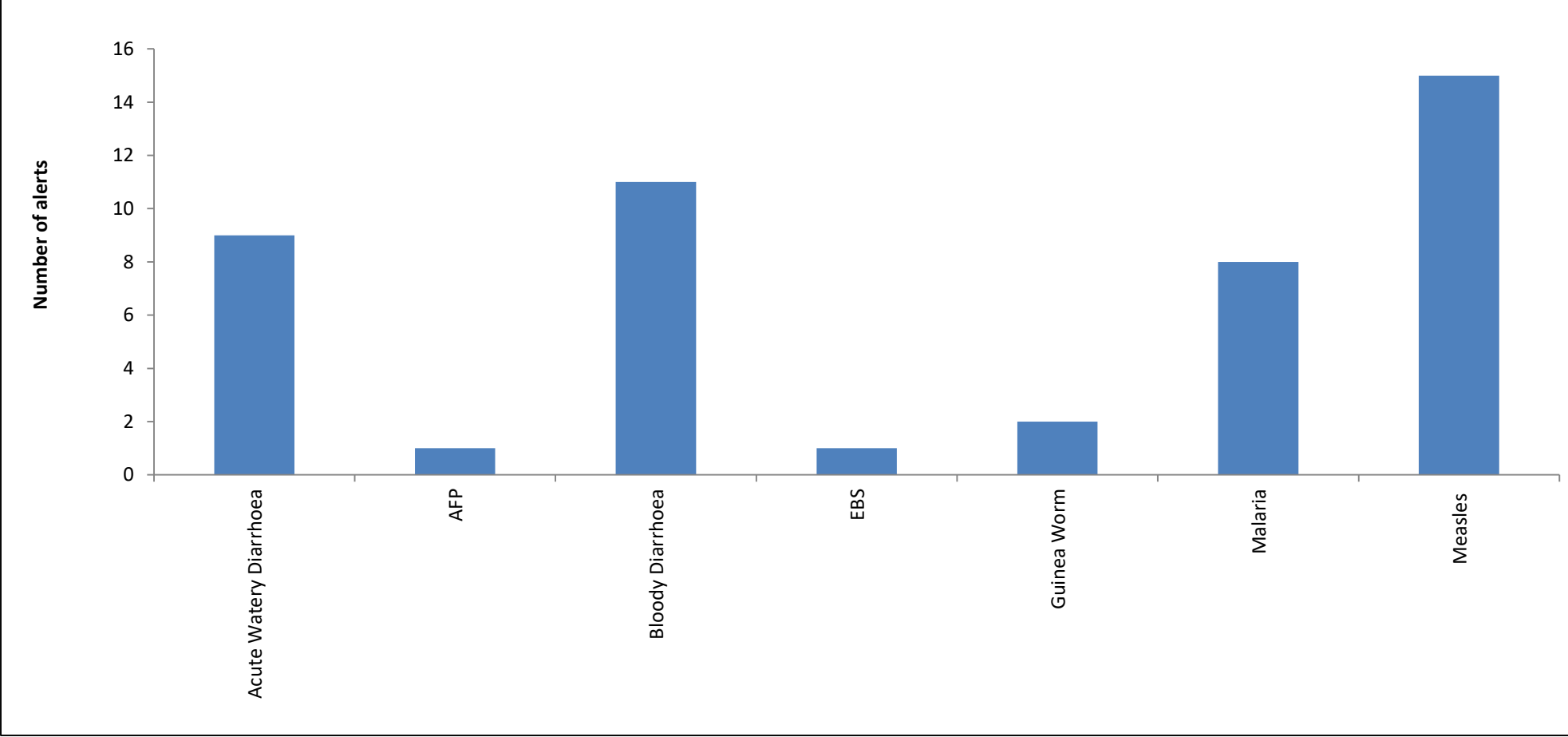
County	Acute Watery Diarrhea	AFP	Bloody Diarrhea	Guinea Worm	Malaria	Measles	Grand Total
Aweil Centre					1	1	2
Aweil South		1					1
Duma PHCU			1		1		2
El-Sabah Children Hospital						1	1
Ezo	1		1		1		3
Gogrial West						1	1
IOM Farajala PHCU	1						1
Juba						1	1
Kator PHCC						1	1
MDM Mainland Mobile Clinic						1	1
Medair Wonhow Clinic			1				1
Rumbek North				1			1
Yirol East						1	1
Grand Total	2	1	3	1	3	7	17

Alerts by hazard in week 02 and 03, 2019



- In week 03, 2019, 17 alerts were reported through EWARS.
 - Measles (7), malaria (3) and bloody diarrhea (3) were the commonly reported causes of alerts.
- An increase in numbers of **chicken pox cases** has been reported in Awerial County. About 30 cases have been reported since week 02, 2019. The median age of the cases was 6 years (1 years- 60 years).All the cases are from Mingkaman in Puluk. No deaths have been reorted. WHO state team will be traveling from Rumbek to conduct a quick assessment of the situation and advise on a recommended response plan.
- A **suspected outbreak of acute watery diarrhea** has been investigated and it appeared that the outbreak started in October 2018. Cases are reportedly going down at the time of investigation. Three (3) deaths among children <5 years have been reported. A sample has been collected for laboratory confirmation.

Number of Alerts by disease, South Sudan, week 3, 2019
n=47 alerts



The Figure shows the cumulative number of alerts triggered in 2019 by hazard.

Cumulative alerts by risk assessment stage in 2019

County	RISK ASSESSED	VERIFICATION	Total Alerts
Acute Watery Diarrhoea	1	8	9
AFP		1	1
Bloody Diarrhoea	1	10	11
EBS		1	1
Guinea Worm		2	2
Measles	1	14	15
Malaria		8	8
Total Alerts	3	44	47

- The Figure shows the cumulative alerts by risk assessment state in 2019
- Of the 47 alerts reported in 2019; 44 (93.6%) alerts were verified and three (6.4%) underwent risk assessment..

OUTBREAKS IN 2019

Major suspect and confirmed outbreaks in
South Sudan in 2019

Confirmed Outbreaks South Sudan – January 2019

- The map show outbreaks confirmed in 2018
- The active outbreaks include: Guinea worm (Rumbek Center and Rumbek North); Rift Valley Fever (Yirol East); HEV (Bentiu PoC); possible malaria upsurge in 8 counties; measles in Bor PoC; Measles in Rumbek East; Yellow Fever in Nzara; Measles in Abyei, Rubella in Malakal PoC and measles in Juba

Outbreak diseases

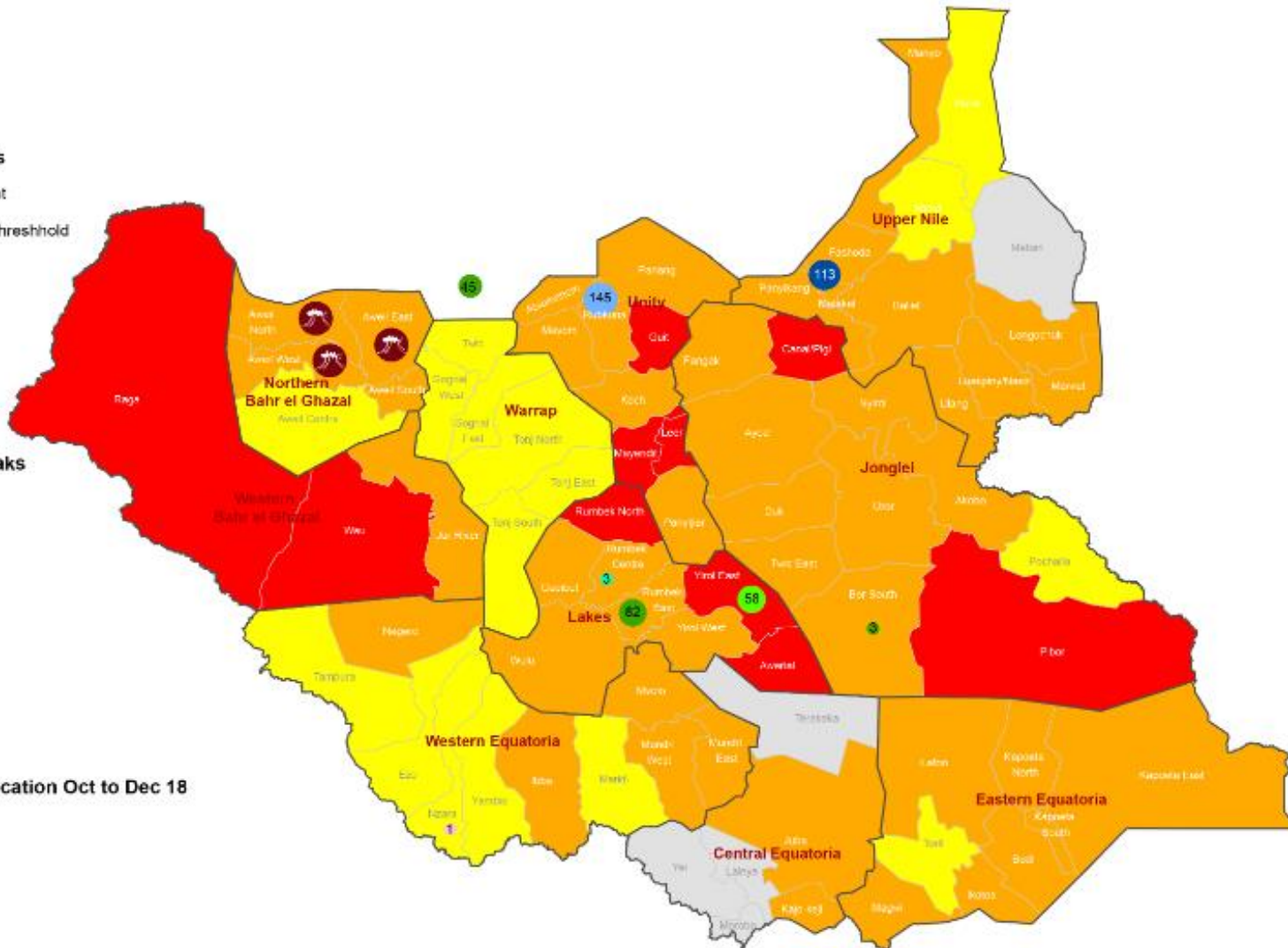
- RRT Deployment
- Malaria -above threshold
- Yellow Fever
- Measles
- Rubella
- Guinea Worm
- Rift valley fever

Number of outbreaks

- 1 - 5
- 6 - 10
- 11 - 50
- 51 - 100
- 101 - 200
- 201 - 300
- 301 - 400
- 401 - 500

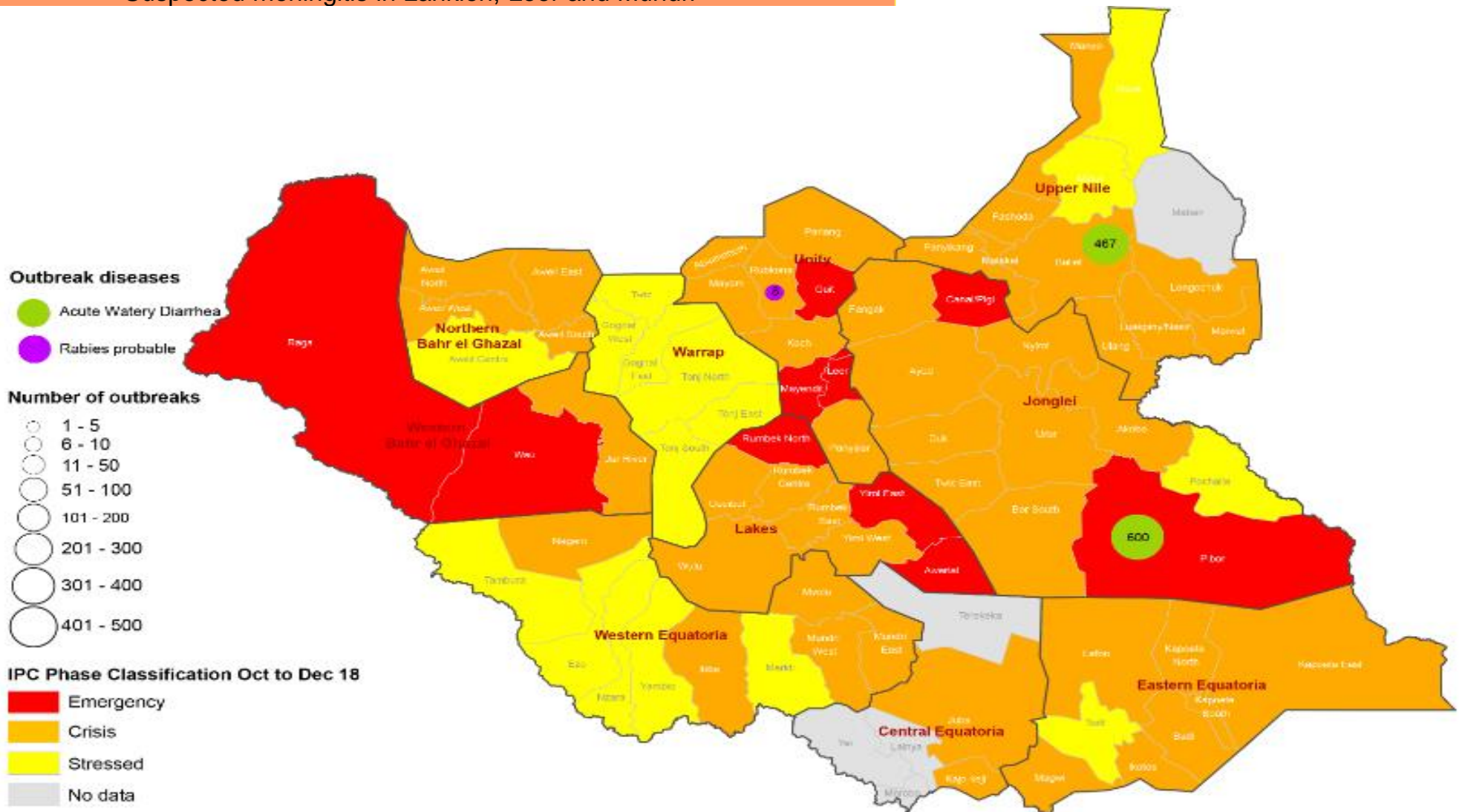
IPC Phase Classification Oct to Dec 18

- Emergency
- Crisis
- Stressed
- No data



Suspect Outbreaks South Sudan – 20th January 2019

- Map shows suspect outbreaks reported in 2018
- New alerts in the week
 - AWD in Malakal
 - Suspected rabies in Bentiu PoC and Nzara
 - AWD in Tambura
 - Suspected meningitis in Lankien, Leer and Mundri



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								
Rubella	Malakal PoC	25/10/2018	20	113 (0.09)	Yes	No	Yes	N/A
Yellow Fever	Nzara	23/11/2018	0	1 (0.001)	Yes	No	Yes	N/A
Measles	Rumbek East	09/10/2018	0	82 (0.002)	Yes	No	Yes	N/A
Measles	Bor PoC	20/10/2018	0	3 (0.15)	Yes	No	Yes	N/A
Guinea worm	Rumbek Center & Rumbek North	27/05/2018	0	3 (0.001)	Yes	N/A	Yes	Yes
RVF	Yirol East	28/12/2017	0	58 (0.054)	Yes	N/A	Yes	N/A
Hepatitis E	Bentiu PoC	03/01/2018	4	159 (0.123)	Yes	No	Yes	Yes
Possible malaria upsurge	9 counties	01/07/2018			Yes	N/A	Yes	N/A
Measles	Abyei	12/02/2018	56	99 (0.06)	Yes	No	Yes	N/A
Measles	Juba	15/01/2019	21	21	Yes	Yes	Yes	N/A

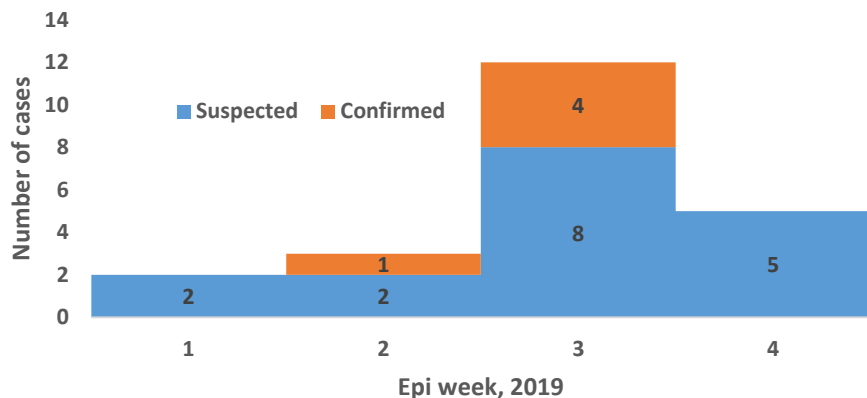
- Ongoing outbreaks in week 01, 2019**
1. Rubella Malakal PoC
 2. Yellow Fever in Nzara county
 3. Measles in Rumbek East county
 4. Measles in Bor PoC
 5. Guinea worm (Rumbek Center and Rumbek North);
 6. Rift Valley Fever (Yirol East);
 7. Hepatitis E Virus (Bentiu PoC);
 8. Possible malaria upsurge in 9 counties
 9. Measles in Abyei

ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS

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

Measles outbreak – Juba

Measles in Juba, week 01-04, 2019



Age groups	Female	Male	Total	Percentage, %	Cumulative %
<1	2	7	9	42.9	42.9
1-4	2	7	9	42.9	85.8
5-9		1	1	4.8	90.5
10-14	1		1	4.8	95.3
15+		1	1	4.8	100.0
Total cases	5	16	21	100.0	

iptive Epidemiology

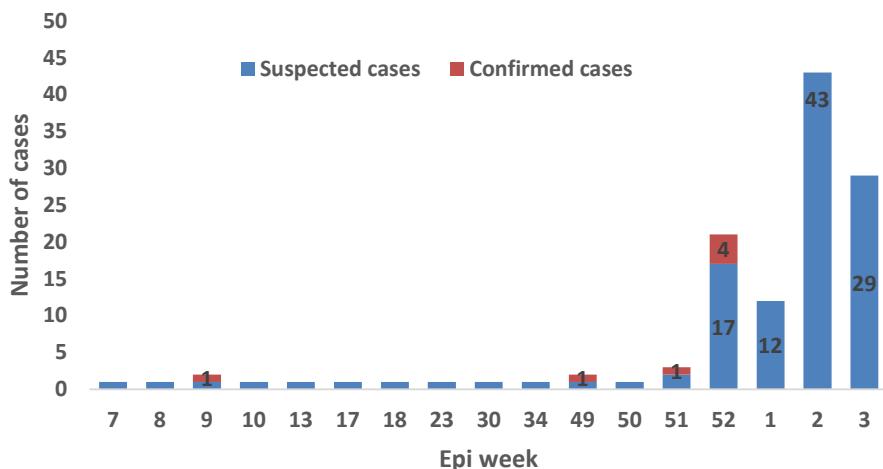
- A total of 21 suspected measles cases were reported from Juba between week 01 and week 04, 2019r
 - Five (5) samples from suspected cases from Kator PHCC tested positive for Measles IgM antibodies
 - Results for four (4) samples from cases in Hai-Amarat are pending
 - Two (2) deaths reported
- Thirteen (13) cases from Amarat while 8 cases are from Kator
- A majority of the cases are children < 5 years, 18 (85.8%) while 16 (76.2%) are male

Recommended response

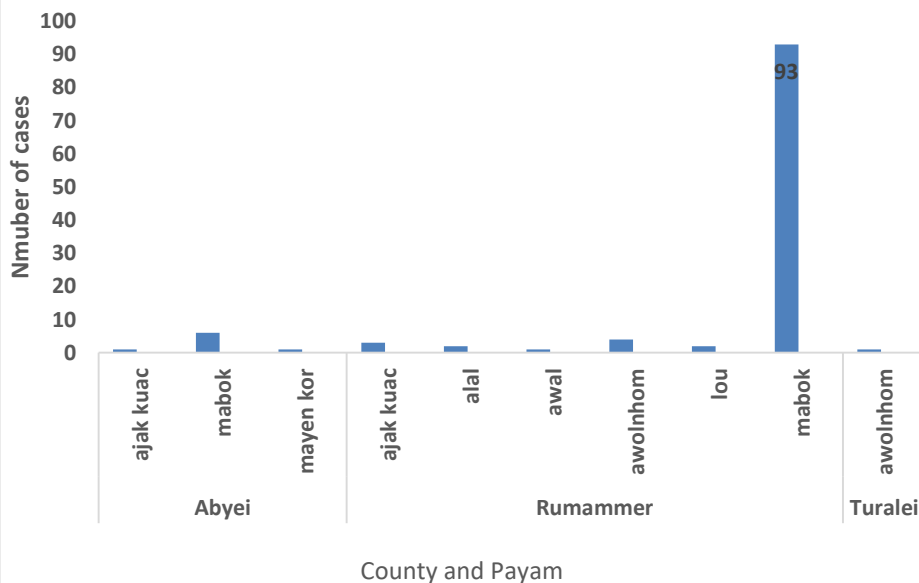
1. A comprehensive outbreak response plan by MoH and the health partners
2. Active case search in the health facilities and communities
3. Distribution of case definitions to health facilities and health workers
4. Increase community awareness through social mobilization
5. Continue with surveillance and routine immunization

Confirmed Measles outbreak – Abyei

Measles cases reported at Agok Hospital, week 7, 2018 - 03, 2019



Measles cases in Abyei, week 7, 2018 to week 3, 2019



Age groups	Female	Male	Total	Percentage, %	Cumulative %
<1		18	21	39	34.2
1-4		4	6	10	8.8
5-9		14	22	36	31.6
10-14		11	16	27	23.7
15+		1	1	2	1.8
Total cases	48	66	114	100.0	

Background

- Measles has been present in the area throughout the year, with about one suspected seen per week

Descriptive Epidemiology

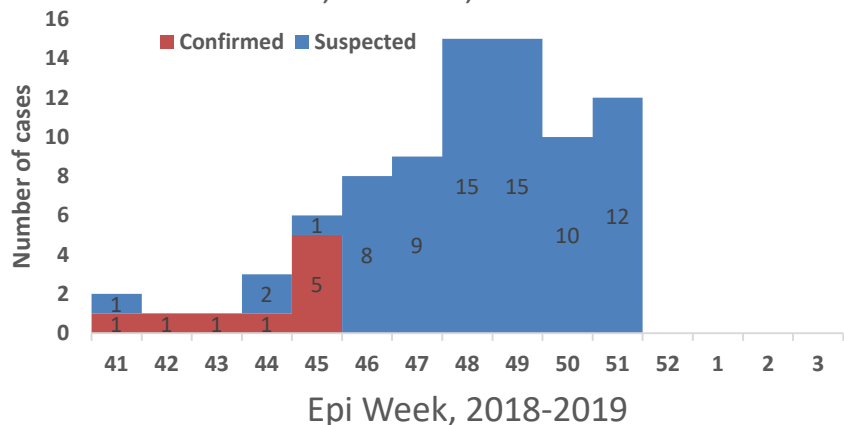
- A total of 115 suspected cases reported between week 7, 2018 and week 03, 2019. Of all the cases, 103 (89.6%) were reported between week 51, 2018-03, 2019. Five (5) cases were confirmed between week 51-52, 2018.
- No deaths reported
- 49 (43%) cases are children <5 years; males are more than female, 66 (57.9%)
- Rumammer county had most cases with Mabok Payam having the most cases, 93 (80.9%)

Recommended response

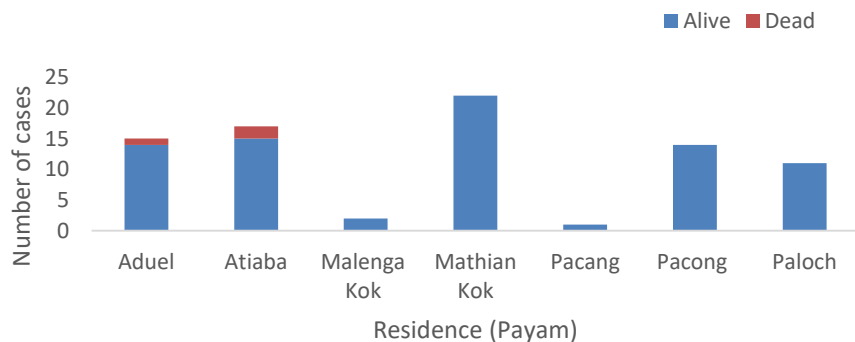
- Reactive measles vaccination targeted 15 205 children 6-59 months
- The vaccination campaign started on 23rd Jan 2019 in Rumammer; on 24th for Alal, Mijak and Abyei
- As of 28th Jan: 11, 132 (73%) children were vaccinated in the four counties;
- Lowest coverage in Abyei: 27% (1917/7154) because of insecurity in areas out of town. Coverage in Rumammer was 121% (4933/4071), 198% (2525/1276) in Mijak and 65% (1757/2704) in Alal.
- Campaign was extended in Rumammer, Mijak and Abyei beyond the four days that was planned for to attempt to reach all the children
- Challenges experienced included transportation, inaccessibility due to insecurity

Confirmed Measles outbreak – Rumbek East

Measles cases by status in Rumbek East, Week 41, 2018-03, 2019



Measles cases by Payam in Rumbek East, Week 41, 2018-03, 2019



Age groups	Male	Female	Total	Percentage, %	Cumulative %
<1		5	5	6.1	6.1
1-4	25	25	50	61.0	67.1
5-9	8	7	15	18.3	85.4
10-14	2	3	5	6.1	91.5
15+	4	3	7	8.5	100.0
Total cases	39	43	82	100.0	

Background

- Suspect measles cases reported from Mabor Duang village, Aduel payam in Rumbek East where the initial suspect case was a 38 year female whose illness started on 12 October 2018 in week 41.
- The affected village is served by Mabor Duang PHCC

Descriptive Epidemiology

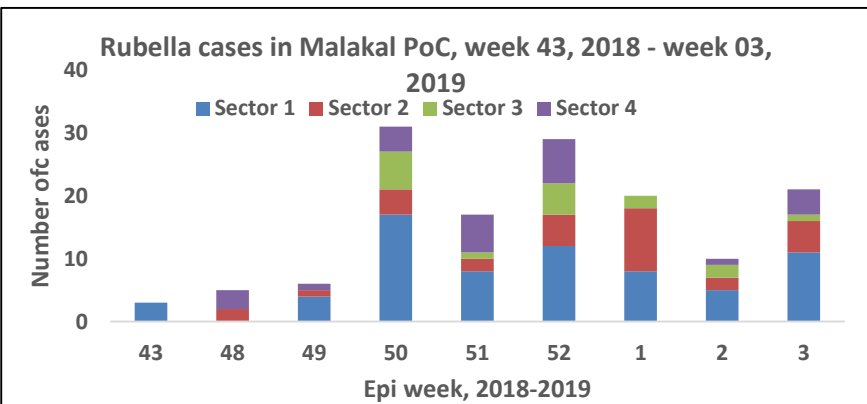
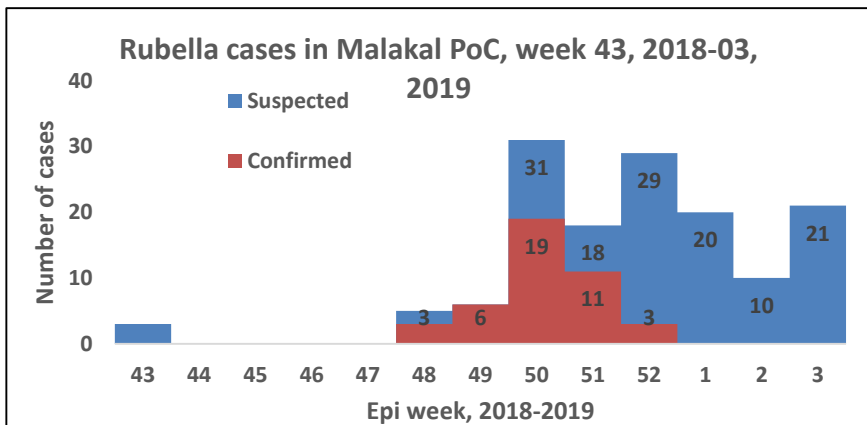
- 82 cases including 9 confirmed cases and 3 death (CFR 3.6%) reported
- Majority of the cases, 55 (67%), were children < 5 years of age
- A total of 9 samples tested positive for measles IgM on 22 November 2018

Recommended response

- Reactive campaign conducted between 16th - 21st Jan 2019, targeting 51,653 6-59 months old children
 - SMoH with support from CUAMM, WHO, IOM and UNICEF
- Campaign conducted in 8 payams in Rumbek Eat, 3 payams in Yirol West and 1 payam in Wulu.
- About 50,433 (98%) were vaccinated
- Partners provided technical support and conducted supportive supervision
- Continue with surveillance and routine immunization

No new cases reported from Rumbek East since week 51, however 13 suspected cases were reported from Yirol East in week 03, 2019. The cases are being investigated.

Confirmed Rubella outbreak – Malakal PoC



Age Groups	Female, n(%)	Male, n(%)	Total, n(%)
<5	36 (28.3)	52 (40.9)	88 (69.3)
5-9	21 (16.5)	11 (8.7)	32 (25.2)
10-14	2 (1.6)	4 (3.1)	6 (4.7)
15+	0 (0.0)	1 (0.8)	1 (0.8)
Total	59 (46.5)	68 (53.5)	127 (100.0)

Background

- Suspect measles cases reported from Sector 1; Block 1 of Malakal PoC starting 27 Oct 2018. The initial three samples were IgM negative for measles and rubella.

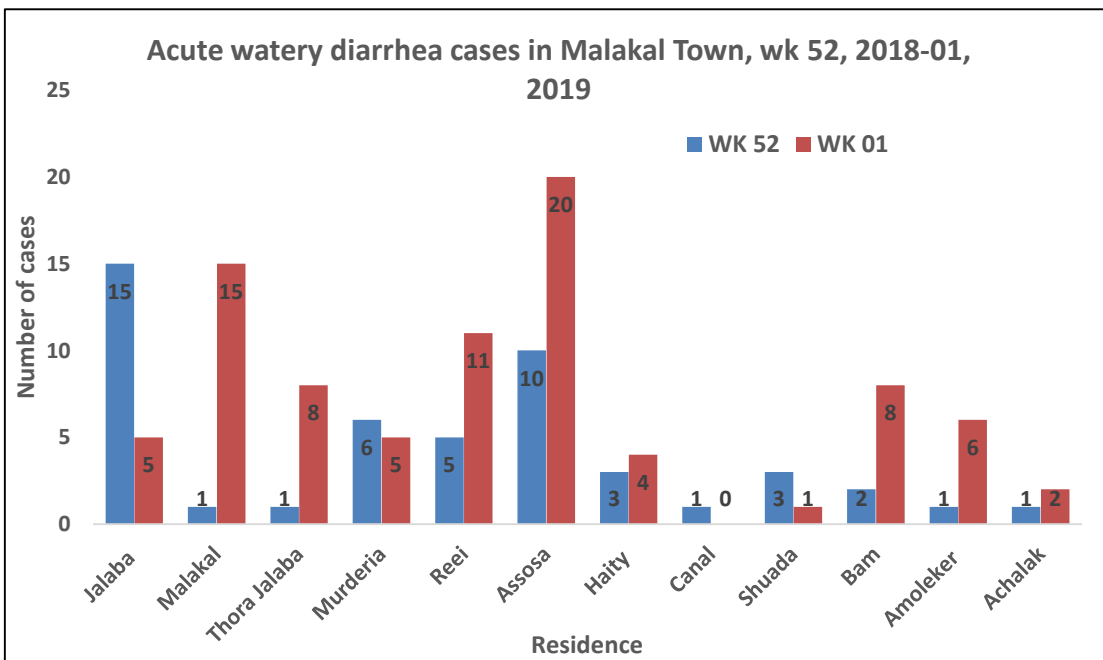
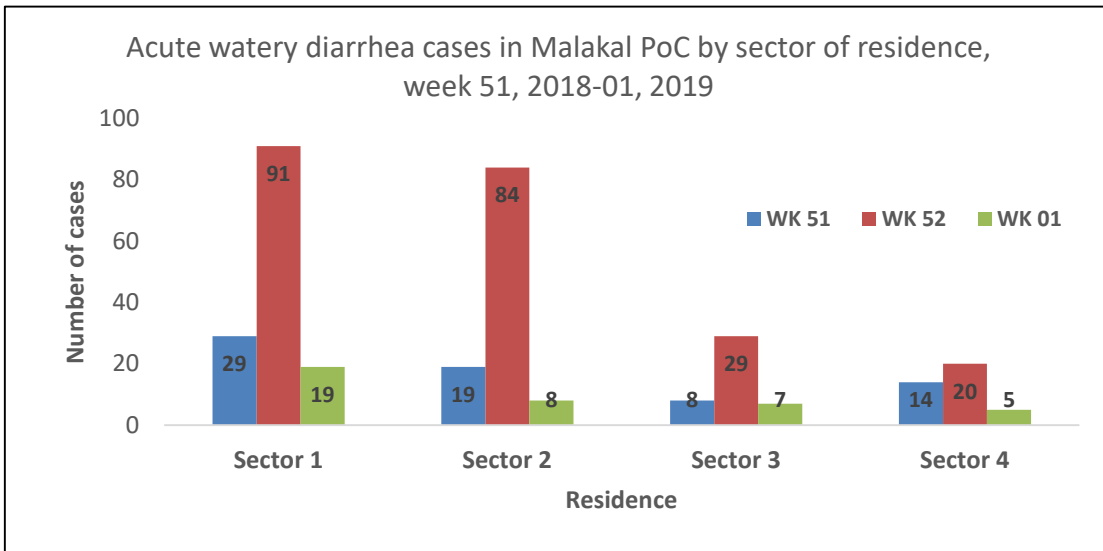
Descriptive Epidemiology

- A total of 142 suspected rubella cases have been reported since week 43
- No deaths reported
- More males, 68 (53.3%) than females affected. Sex variable missing for 15 cases.
- There no cases reported among females within reproductive age groups (15-49 years)
 - Rubella infection in pregnancy associated with congenital rubella syndrome,
 - The outbreak started in sector 1 which remains the most affected sector
- 41 cases are laboratory confirmed

Recommended response

1. Continue line listing and analyzing the epidemiology to describe the high-risk groups
 1. Women of reproductive age group, 15-49 years
2. Provide supportive symptomatic care to new cases
3. Sensitize the communities to enhance routine immunization.

Suspected AWD Outbreak- Malakal



Descriptive Epidemiology

- An increase in AWD cases in Malakal PoC and Malakal Town reported from week 51, 2018
- Overall, 467 AWD cases to date
- In Malakal PoC, a total of 333 cases (70 in week 51, 224 in week 52 and 39 in week 01)
- In Malakal Town, 134 cases (49 in week 52 and 85 in week 01)
- Assosa, Jalaba and Malakal Payams had the most number of cases
- Majority of the cases are <5 children
- No mortalities reported

Recommended Responses

- Samples have been collected for testing for cholera and other differentials
- Results are pending
- Continue case management and line listing
- Engaging WASH partners to fill in the gaps in WASH services and increase awareness about the underlying cause of the outbreak

Suspected Meningitis

- Cuei-Bet
 - No new cases have been reported from Cuei-Bet since 11th January
 - **Three cases (2 deaths)** were reported between week 52, 2018 and week 02, 2019
- Lankien
 - Reported from MSF Lankien Facility
 - **Three (3) cases**; One (1) in week 02, 2019 and two (2) week 03, 2019
 - Cases are from Lankien payam
 - Two children aged 6 months and 2.5 years, and an adult aged 43 years
 - First case reported onset of illness as 6th Jan, 2019
 - Latest case reported onset of illness as 18th Jan, 2019
 - **One** child died on 20th Jan, 2019
 - One sample (from the last case) collected
- Leer
 - **One** suspected case of meningitis reported from MSF ICCM
 - 10 years old male from Gueny village
 - Date of onset of illness was 18 Jan, 2019
 - Patient is reported to have recovered
 - No sample was collected
- Mundri
 - **Three (3)** cases from Mundri ER; 1 from Kotobi and 2 cases from Mundri West counties
 - Cases aged between 6 months and 13 years
 - First case's date of onset was 27th Dec, 2018 and 20th Jan, 2019 for the last two cases
 - No samples collected

Yellow Fever Update: Sakure Payam, Nzara county, Gbudue state

Epidemiological update

- As of 19 Dec 2018, only one (1) PCR confirmed Yellow Fever case in the country
- Out of 35 samples collected by investigation team during active case search and contact tracing, two (2) samples tested presumptively yellow fever IgM positive

Entomological update

- Overall, the entomological assessments in Sakure, Nzara, and Yambio towns showed no evidence of *Aedes species* mosquitoes and the stegomyia entomological outbreak indices for the three towns were all below the WHO epidemic thresholds. This is attributed to the current dry season and hence the greatly reduced breeding and mosquito populations at this time of the year.

Laboratory update

- Out of the 36 samples tested;
 - One (1) sample was PCR confirmed for yellow fever virus.
 - Two (2) samples were presumptively yellow fever IgM positive (PRNT underway)
 - Conclusive testing underway for the remaining 33 samples (presumptively negative or inconclusive on preliminary serological testing).
- The yellow fever PCR positive case and the two presumptive yellow fever IgM positive cases all originate from Sakure payam in Nzara Payam, Gbudue state

Recommendations and Ongoing Activities

- Surveillance and laboratory investigation of new suspect cases
- Definitive laboratory results from the samples collected in Sakure during investigation are expected at the end of the month
- The decision on conducting a rapid risk assessment will be based on additional information indicating active transmission
- Microplan for Sakure is currently being updated by WCO in consultation with Afro Office.

Ebola alerts investigated from May 2018 to date

Date	Cases	Deaths	Payam	County	eRDT	eGeneXpert	ePCR	Comments
28May	1	0	Makpandu	Yambio	ND	ND	-ve	Reported in refugee camp
8Sep	1	1	Bakiwiri	Yambio	ND	ND	-ve	Did not meet case definition
26Sep	1	1	N/Bari	Juba	ND	ND	-ve	Community death
30Oct	1	1	Yei town	Yei	ND	ND	ND	Never traced (?false alert)
12Oct	1	0	Rumbek	Rumbek Center	ND	-ve	-ve	Recent travel from DR Congo
14Oct	1	0	Gumbo	Juba	ND	-ve	-ve	Did not meet case definition
18Oct	1	1	Mundri East	Mundri East		ND	-ve	Reported by Lui hospital
21Oct	1	1	Yambio	Yambio	ND	ND	-ve	Recovered & discharged
29Oct	2	0	Nimule	Pageri	ND	ND	ND	Alerts discarded
11Nov	1	1	Loka	Lainya	ND	-ve	-ve	Investigated 11 Nov
23 Nov	1	0	Sakure	Nzara	ND	-ve	-ve	Confirmed for Yellow Fever
29 Nov	1	1	Yambio	Yambio	ND	-ve	-ve	Investigated on 29 Nov
03 Dec	1	0	Renk South	Renk	ND	-ve	-ve	Investigated 4 Dec
15 Dec	1	0	Rejaf	Rejaf	ND	-ve	-ve	Investigated 15 Dec
25 Dec	1	0	Yambio Town		ND	-ve	-ve	Investigated 25 Dec
27 Jan 19	1	0	Nimule		ND	-ve	Pending	Investigated on 27 Jan 2019

- The latest EVD suspect case that was reported from Nimule on 27th Jan 2019 has tested negative on GeneXpert. Samples have sent been to UVRI in Entebbe, Uganda for PCR testing.
- Samples obtained from 14 Ebolavirus alerts; 13 samples tested negative for Ebolavirus and 1 sample tested positive for Yellow Fever on PCR; test result for one sample is pending.

Malaria trends

Current malaria trends

Malaria was the leading cause of morbidity accounting for 50.3% of all cases in week 03, 2019. The trend analyses showed at least 9 counties in four state hubs having malaria trends that are significantly higher than expected. Counties with malaria trends that exceeded the threshold (third quartile of trends for the period 2013-2017) include:

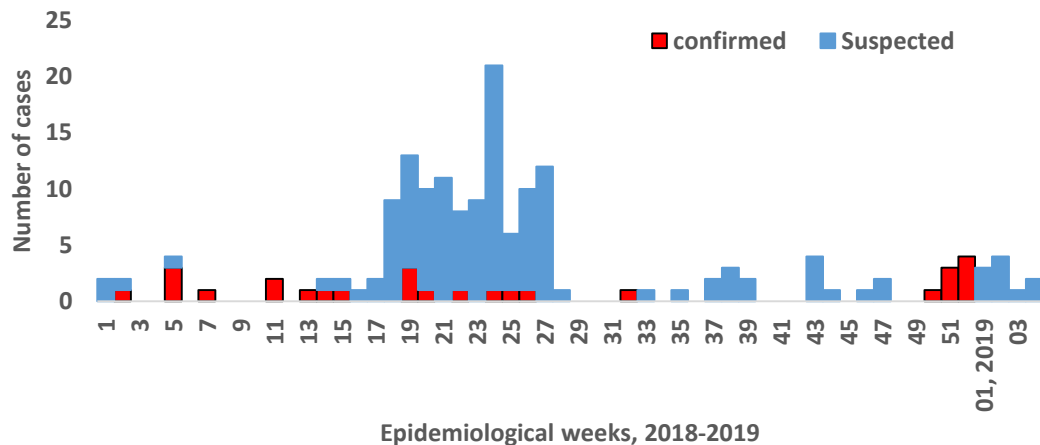
1. **Aweil hub** (Aweil East, Aweil Center)
2. **Juba hub** (juba)
3. **Rumbek hub** (Rumbek center, Rumbek East)
4. **Kwajok hub** (Gogrial West, Tonj South, Gogrial East, Tonj East)

Proposed public health actions

1. Convene malaria taskforce or malaria technical working group meeting to ensure that operational readiness for malaria prevention, diagnosis, and treatment are optimized.
2. Field missions to conduct technical verification of the trends in the affected counties
3. Assessment of current stock levels of malaria diagnostics (RDTs), medicines (ACTs), and LLINs in the affected counties.
4. Stocking up on malaria prevention (LLINs), diagnostics (RDTs), medicines (ACTs), and enhancing behavioral change communication for malaria prevention, prompt investigation and initiation of treatment

Hepatitis E, Bentiu PoC

Hepatitis E cases reported by Epi Classification, week 1, 2018-04, 2019

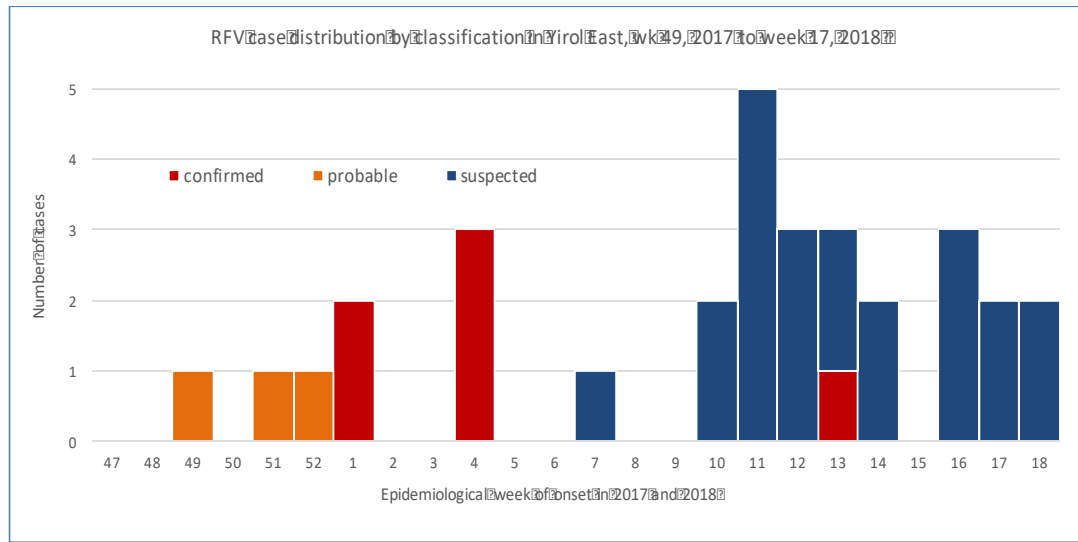
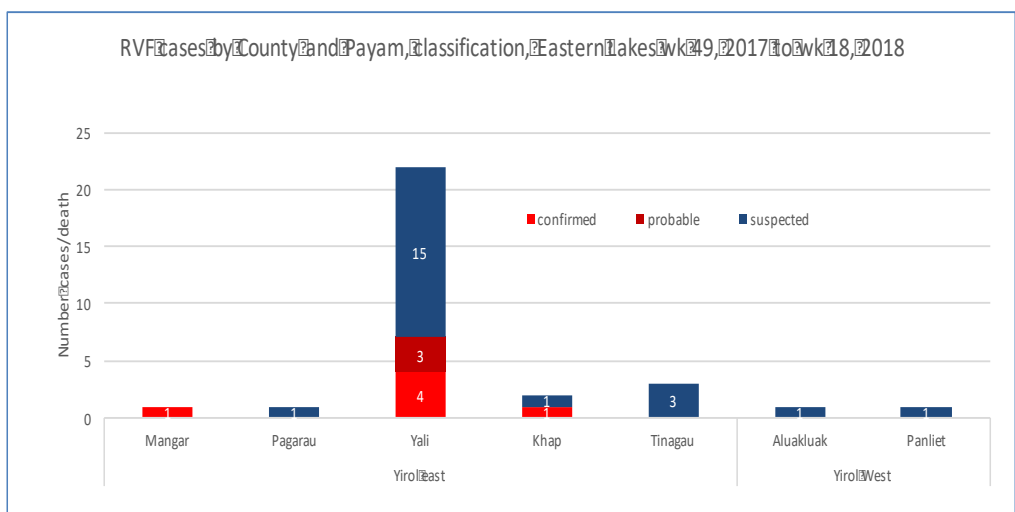
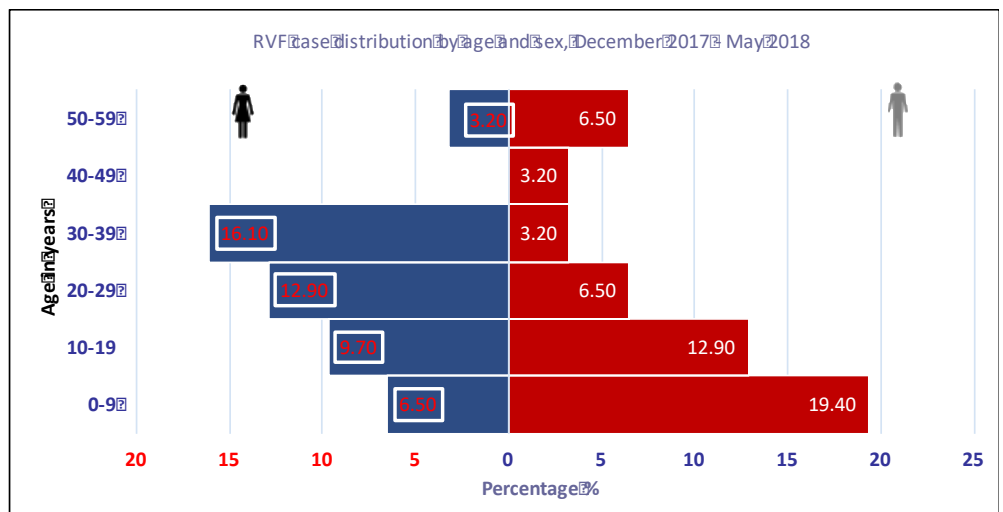


Bentiu PoC

- At least 169 suspect cases of Hepatitis E (HEV) have been reported in Bentiu PoC since early 2018. Of all the cases, 18 suspect cases were confirmed using PCR.
- One (1) case was reported in week 3 while four (4) were reported in week 04, 2019
- All the recent cases have recovered and discharged
- One (1) mortality (CFR 0.60%)
- Only 11 HEV cases have been admitted.
- Males were more affected accounting for 56.8% (96) of all the cases
- Age group 15-44 years had the most cases, 58 (34.3%)
- Out of the 73 females cases that were reported, 27 (37.0%) were aged 15-44 years
 - At risk of adverse outcomes if infected in the 3rd trimester of pregnancy
- Use of stagnant water likely to be source of infection
- UNICEF has disseminated key HEV messages - on radio [Kondial FM & Bentiu FM] and through community sensitizations.
- Case identification and follow up in the communities and WASH interventions are ongoing.

Age groups	Female, n	Male, n	Total, n	Percent, %	Cumulative %
<1 year	1	3	4	2.3	2.3
1-4 years	16	24	40	23.7	26.0
5-9 years	10	20	30	17.8	43.7
10-14 years	11	12	23	13.6	57.3
15-44 years	27	31	58	34.3	91.7
45+years	8	6	14	8.3	100.0
Total cases	73	96	169	100.0	

Ongoing epidemics - Epidemic description - RVF Eastern Lakes state



Sno.	Description	Number
1	Suspect cases	58
2	Total deaths	4
3	Confirmed cases	6
4	Probable cases	3
5	Cases pending testing	01
6	Non-cases	48
7	Cases on admission	01
8	Total human samples collected	39
9	Total animal samples collected	28
10	Positive animal cases	9

- No new suspect RVF case reported from Yiol East in week 01, 2019.
- In the period 7 December 2017 to 16 Dec 2018, a total of 58 suspect RVF cases were reported in Eastern Lakes.
- These were reclassified based on investigations and laboratory results, such that as of 16^h Dec 2018, there were a total of six (6) RVF confirmed cases, three (3) probable, and 01 suspect RVF cases (either no samples collected or samples collected and test results are pending).
- Forty eight (48) cases were discarded as non-cases following negative laboratory results for RVF and other common causes of viral haemorrhagic fever.
- A total of nine animal samples have been confirmed serologically (3IgM and 6IgG).
- Current response entails surveillance, laboratory testing, supportive care for suspect cases, and community sensitization on hygienic animal handling

OTHER PUBLIC HEALTH THREATS

Brief epidemiological description and public health preparedness and response to select public health threats

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 22 Jan 2019

Current situation

- Currently in 25th week of the outbreak
- **713** Cases [664 confirmed & 49 probable]
- **439** Deaths [390 confirmed & 49 probable]
- **61** Health workers [54 confirmed; 20 dead]

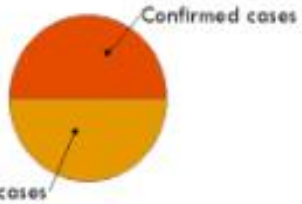
Response update

- **4634** contacts under surveillance [81-92% followed up]; **60 460** vaccinated

Affected health zones

- **2** provinces [North Kivu & Ituri]
- **17** health zones [13 North Kivu & 4 Ituri]
- **102** cases in last 21 days: Katwa (62), Beni (2), Komanda (1), Butembo (12), Mabalako (1), Oicha (6), Kalungata (2), Musinene (2), Kyondo (3), Manguredjipa (3), Biena (2), Vuhovi (1), Mangurujipa (1), Kanyina (5)

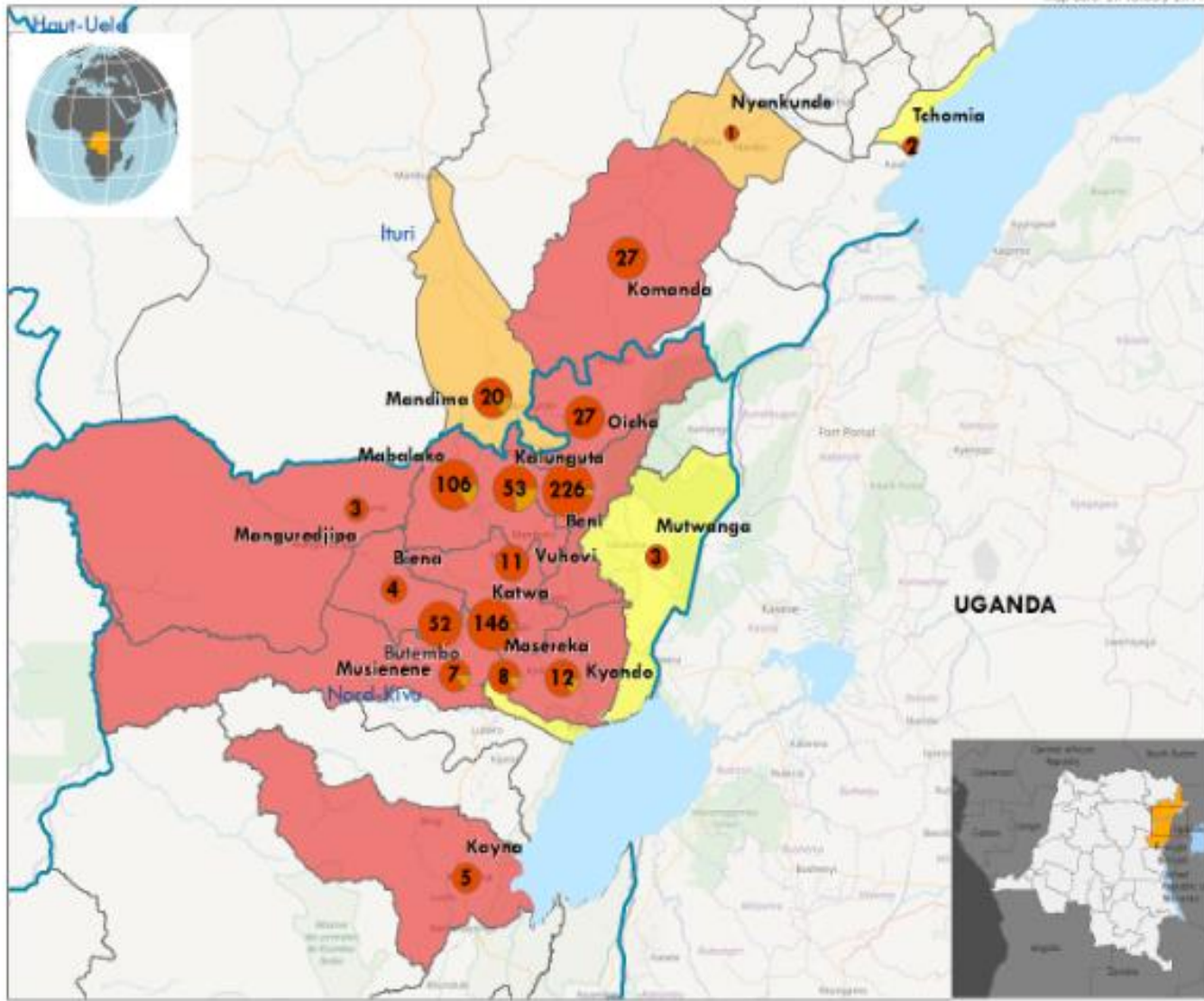
Boundaries and Locations Subject to Confirmation



No. days since last confirmed case reported



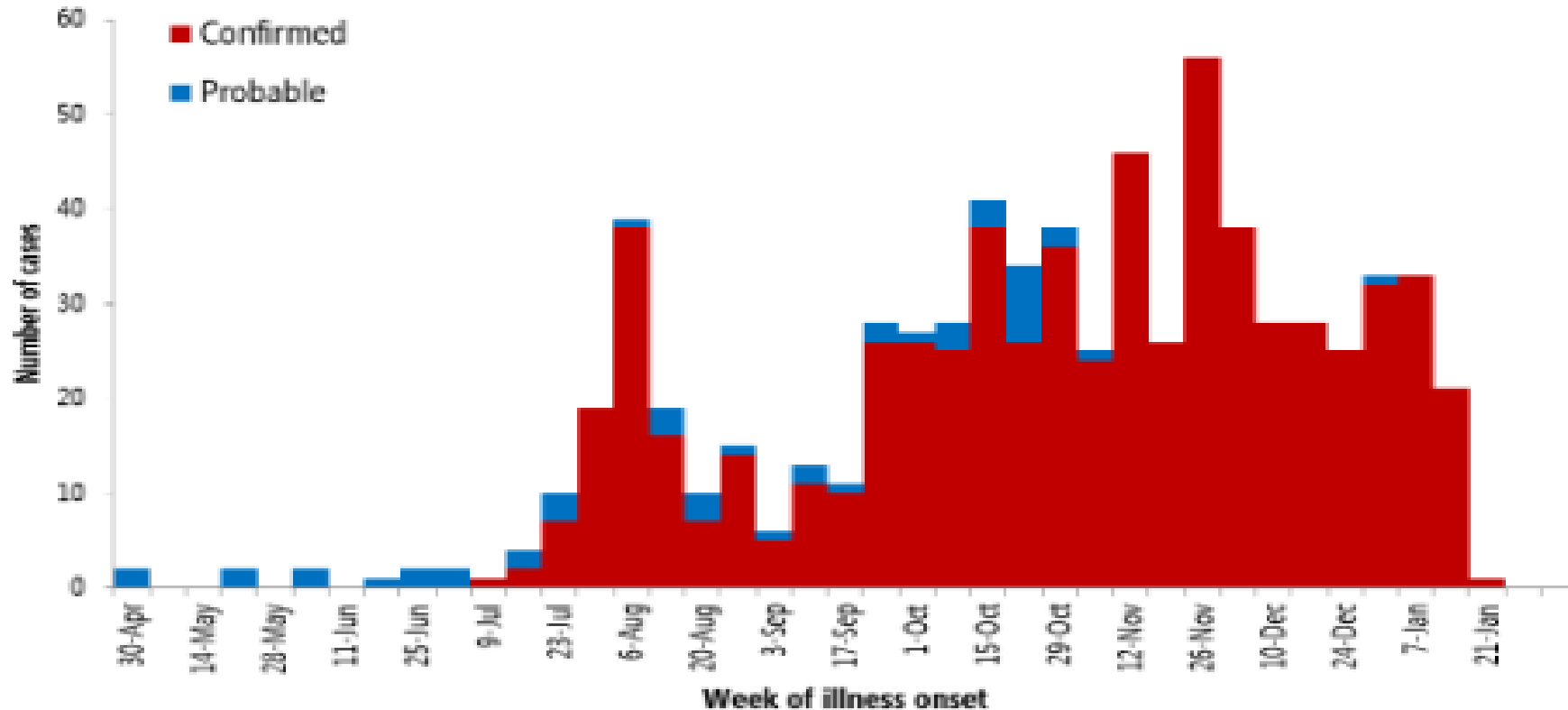
Province	ZS	Date of last reported confirmed case	No. of days since last case
NORD KIVU	Biena	22/01/2019	0
NORD KIVU	Butembo	22/01/2019	0
NORD KIVU	Katwa	22/01/2019	0
NORD KIVU	Kayna	22/01/2019	0
NORD KIVU	Manguredjipa	22/01/2019	0
NORD KIVU	Oicha	21/01/2019	1
NORD KIVU	Vuhovi	21/01/2019	1
NORD KIVU	Mabalako	20/01/2019	2
NORD KIVU	Beni	18/01/2019	4
NORD KIVU	Kyondo	17/01/2019	5
NORD KIVU	Musienene	17/01/2019	5
ITURI	Komanda	11/01/2019	11
NORD KIVU	Kalunguta	5/01/2019	17
ITURI	Nyankunde	22/12/2018	31
ITURI	Mandima	11/12/2018	42
NORD KIVU	Masereka	1/12/2018	52
NORD KIVU	Mutwanga	30/11/2018	53
ITURI	Tchomia	23/09/2018	121
NORD KIVU	Goma		



Data Source: World Health Organization, The Ministry of Health Democratic Republic of the Congo, OpenStreetMap
 Map Production: WHO Health Emergencies Programme
 Review ID: DRCE_HK_001

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 its authority, or concerning the delimitation of its borders or jurisdiction. Dotted and dashed lines on maps represent approximate borders lines for which there may not yet be full agreement.

EVD trends & case distribution in DR Congo



- Trends in case incidence reflects **continuation** of the outbreak
- **Multiple peaks** have been recorded since the outbreak was declared

EVD risk assessment

- Very high-risk of regional spread to priority 1 countries like South Sudan
- On 17 Oct 2018; Emergency committee determined that **EVD outbreak in DRC does not constitute** a Public Health Emergency of International Concern (PHEIC)
- Priority 1 countries like South Sudan urged to:
 - Accelerate **preparedness & surveillance**
 - Strengthen **risk communications**
 - **Vaccinating frontline HCWs** in areas bordering DRC

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 are currently updating and implementing the EVD contingency plan to enhance readiness capacities for EVD response.
- Detailed preparedness update can be accessed <https://www.afro.who.int/publications/weekly-update-ebola-virus-disease-evd-preparedness-south-sudan>

Year: 2019

Week number: W3

From: 2019-01-14

To: 2019-01-20

Name of PoE	Passengers Screening Information			EVD Alerts		
	# screened	# isolated	# under Voluntary Home Quarantine	# reported	# validated	# suspects
Bazi Border	952	0	0	0	0	0
Ezo	0	0	0	0	0	0
Gangura Border	0	0	0	0	0	0
Juba International Airport	4,104	0	0	0	0	0
Kaya	2,769	0	0	0	0	0
Kaya Border	0	0	0	0	0	0
Khorjo	2,322	0	0	0	0	0
Makpandu	0	0	0	0	0	0
Mardi Airstrip	0	0	0	0	0	0
Nimule Border	0	0	0	0	0	0
Okaba	839	0	0	0	0	0
Panjala Docking River	0	0	0	0	0	0
Pure	2,459	0	0	0	0	0
Sakure Border	0	0	0	0	0	0
Tikori	207	0	0	0	0	0
Wau Airport	55	0	0	0	0	0
Yambio Airport	0	0	0	0	0	0
Yei Airport	33	0	0	0	0	0
Yei RRC	14	0	0	0	0	0
South Sudan	13,754	0	0	0	0	0

The electronic EWARS platform captures points of entry screening data and enables summarizing number of travelers screened on weekly basis. In week 03 of 2019, 13,754 individuals were screened at various screening points in the country.

MAJOR SUSPECT OUTBREAKS & EVENTS REPORTED IN 2019

Listing of the major suspect outbreaks and public health events reported in 2018-2019

Response | Suspect outbreaks in 2019

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
20/10/2018	Measles	3	Bor South	Bor PoC	At least three suspect measles cases reported from Bor PoC since 20/10/2018. All tested measles IgM positive following tests done in Juba. Reactive measles campaign planned.
24/11/2018	Yellow Fever	1	Nzara	Sakure	A suspect Ebola case was reported from Sakure on 23/11/2018 and investigated by the rapid response team on 24/11/2018. Preliminary testing in Juba on 24/11/2018 were negative for Ebola Zaire following GeneXpert testing. Further testing of the sample was PCR negative for all Ebola species; Marburg; Rift Valley Fever, Crimean Congo Hemorrhagic Fever, and Sosuga viruses. The sample eventually tested PCR positive for Yellow Fever.
12/10/2018	measles	82 (3)	Rumbek East		Suspect measles cases reported from Mabor Duang village, Aduel payam in Rumbek East where the initial suspect case was a 38 year female whose illness started on 12 October 2018 in week 41. The affected village is served by Mabor Duang PHCC . 82 cases including 9 confirmed cases and 3 death (CFR 3.6%) reported . Cases reported from six payams with most originating from Aduel; Atiaba, and Mathian kok. Majority of the cases, 55 (67%), were children < 5 years of age A total of 9 samples tested positive for measles IgM on 22 November 2018
24/12/2018	Dog bites	8	Bentiu	Bentiu PoC	A cluster of cases of dog bites has been reported in Bentiu PoC. Eight (8) cases have been seen at health facilities between 24 th Dec 2018 and 28 th Dec 2018. Majority (75%)

Response | Suspect outbreaks in 2019

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
06/01/2019	Malaria alerts	counties with trends significantly higher than expected	9		Counties with malaria trends that exceed the threshold (third quartile of trends for the period 2013-2017) include: Aweil hub (Aweil East, Aweil West and Aweil North)
27/10/2018	Rubella	142	Malakall PoC		A total of 113 suspected rubella cases have been reported since week 43. No deaths reported. 41 cases are laboratory confirmed
31/12/2019	HEV	159	Bentiu PoC		At least 155 suspect cases of Hepatitis E (HEV) have been reported in Bentiu PoC in 2018. Of all the cases, 18 suspect cases were confirmed using PCR. The eight (8) cases were reported between week 50-52 tested positive on RDT testing. One (1) mortality (CFR 0.65%) in 2018. Result are pending.
06/01/2019	Acute Watery Diarrhea	467	Malakal PoC & Malakal Town		An increase in AWD cases in Malakal PoC and Malakal Town reported from week 51, 2018. Overall, 467 AWD cases to date. In Malakal PoC, a total of 333 cases (70 in week 51, 224 in week 52 and 39 in week 01). In Malakal Town, 134 cases (49 in week 52 and 85 in week 01). Assossa, Jalaba and Malakal Payams had the most number of cases. No mortalities reported.
06/01/2019	Measles	115	Abyei		Measles has been present in the area throughout the year, with about one suspected seen per week. A total of 45 suspected cases reported between week 7, 2018 and week 02,2019. The number of cases increased from week 50, 2018. Of all the cases, 35 (76%) were reported between week 51, 2018-02, 2019. Five (5) confirmed cases between week 51-52, 2018. No deaths reported
27/01/2019	EVD	1	Nimule		An alert was reported on 27 th Jan, 2019. The cases was investigated, sample collected which tested negative on GneneXpert testing. PCR results are pending.
27/01/2019	Measles	2	Juba	Kator and Amarat	Twenty-one (21) cases reported as from week 01, 2019. Five cases confirmed positive for Measles IgM antibodies. Two deaths have been reported.

Response | Suspect outbreaks in 2019

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
21/01/2019	Chicken Pox	0	Awerial	Puluk	30 suspected cases of chicken pox all coming from Mingkaman in Puluk Payam.

**This bulletin is produced by the Ministry of Health with
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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>

