

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Update W04 2019 (Jan 21, 2018- Jan 27, 2019)



- The completeness for IDSR reporting at the county level was 59% in week 4 of 2019 . The completeness for EWARS reporting from IDPs was 69%.

- A reactive Measles vaccination campaign will be conducted targeting children aged 6-59 months in all payams and IDP sites in Juba starting on 11th February, 2019. Currently, there are 34 cases coming from four payams of Amarat, Khator Munuki and Rejaf. Three (CFR 8.8%) deaths have been reported.

- The two EVD alerts reported on 27th January 2019 and 30th January 2019 have both been investigated and Ebola Zaire virus and other viral hemorrhagic fevers ruled out. .

- Four (4) separate Measles outbreaks have been reported in Gogri West (18 cases, 3 confirmed), Pibor (5 cases, 3 confirmed), Aweil Center (12 cases) and Yirol East (25 cases) counties. The cases from Yirol East County have not been investigated because of insecurity. A response plan including a reactive vaccination campaign is underway for both Gogri West and Pibor counties.

- There were no new suspected Rift Valley Fever (RVF) cases reported from Yirol East in week 04. 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.

SURVEILLANCE PERFORMANCE

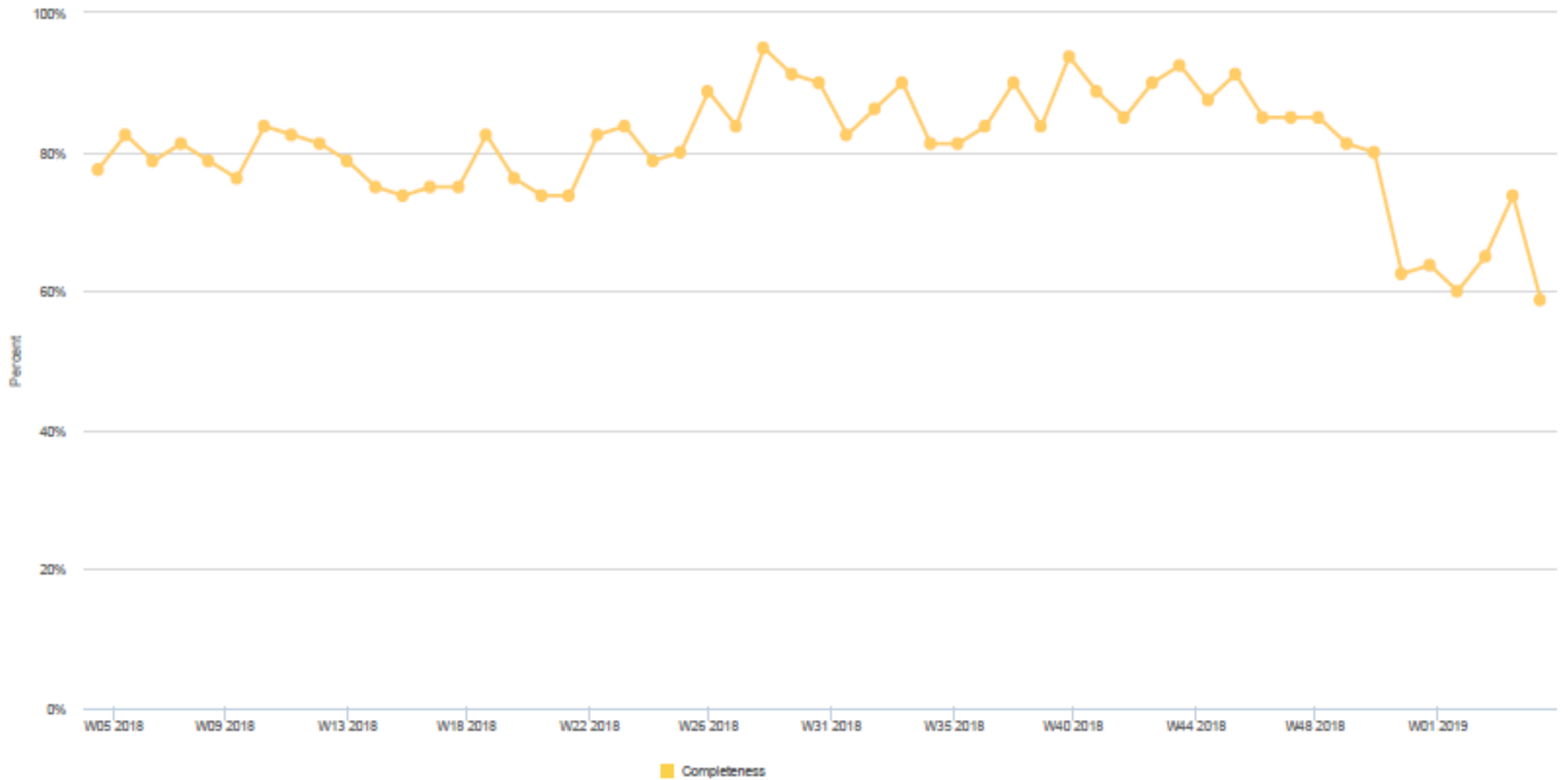
For the Integrated Disease Surveillance (IDSR) network and Early warning alert and response network (EWARN)

Table 1 | IDSR surveillance performance indicators by county (W4 2019)

Hub	Reporting		Performance (W4 2019)		Performance (Cumulative 2019)	
	# counties	# reports received	Completeness	Timeliness	Completeness	Timeliness
Aweil	5	4	80%	80%	80%	80%
Bentiu	9	1	11%	11%	44%	31%
Bor	11	7	64%	64%	41%	41%
Juba	6	2	33%	33%	54%	50%
Kwajok	7	4	57%	57%	57%	46%
Malakal	13	3	23%	23%	44%	31%
Rumbek	8	8	100%	100%	100%	88%
Torit	8	6	75%	75%	69%	69%
Wau	3	2	67%	67%	67%	67%
Yambio	10	10	100%	100%	100%	100%
South Sudan	80	47	59%	59%	64%	59%

- Completeness for IDSR reporting at the county level was 59% in week 4, 2019 and cumulatively at 64% for 2019.
- Timeliness for IDSR reporting at the county level was 59% in week 4 and cumulatively at 59% for 2019.

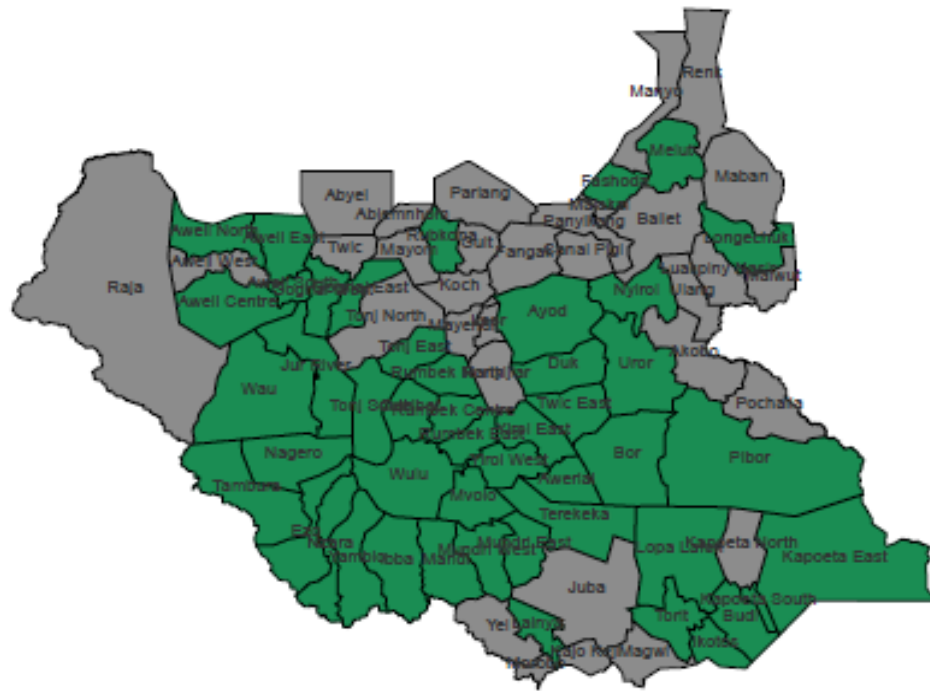
Figure 1 | Trend in IDSR completeness over time¹



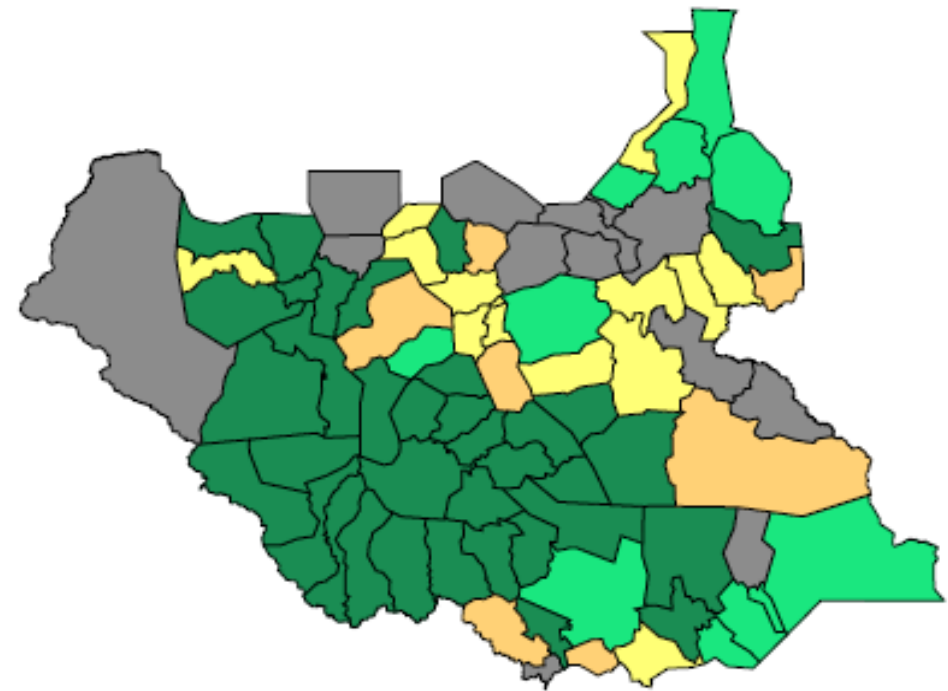
¹ Completeness footnote (to be drafted)

The graph shows completeness for the weekly IDSR reporting at the county level.

Map 1a | Map of IDSR completeness by county (W4 2019)



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



- Counties that submitted their IDSR reports in week 04, 2019 are shown in green in map 1a.
- Counties that did not submit their IDSR reports in week 04, 2019 are shown in grey in map 1a.

Table 4 | EWARS surveillance performance indicators by partner (W4 2019)

Partner	Performance		Reporting (W4 2019)		Reporting (Cumulative 2019)	
	# sites	# reports received	Completeness	Timeliness	Completeness	Timeliness
CMD	3	3	100%	100%	18%	18%
GOAL	2	2	100%	100%	100%	100%
HLSS	2	1	50%	50%	50%	50%
IMA	7	7	100%	100%	100%	96%
IMC	6	5	83%	83%	79%	79%
IOM	10	9	90%	90%	90%	90%
IRC	1	1	100%	100%	100%	75%
Medair	2	2	100%	100%	100%	100%
MSF-E	2	0	0%	0%	13%	13%
MSF-H	3	1	33%	33%	50%	33%
SMC	6	4	67%	67%	58%	58%
UNIDO	1	1	100%	100%	100%	100%
UNKEA	2	0	0%	0%	50%	25%
World Relief	1	0	0%	0%	50%	50%
TRI-SS	7	0	0%	0%	50%	50%
LIVEWELL	4	4	100%	100%	100%	100%
Total	62	43	69%	69%	64%	61%

Both completeness and timeliness for EWARS/IDP reporting stand at 69% for week 04, while the cumulative completeness and timeliness are 64% and 61% respectively for 2019.

EVENT-BASED SURVEILLANCE

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

Table 7 | Alert performance indicators by Hub

Hub	W4		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	1	0%	5	40%
Bentiu	2	50%	5	80%
Bor	3	67%	4	75%
Juba	4	100%	14	93%
Kwajok	1	100%	3	67%
Malakal	1	100%	6	100%
Rumbek	3	100%	12	92%
Torit	0	0%	1	100%
Wau	1	100%	6	83%
Yambio	1	100%	14	100%
South Sudan	17	82%	70	87%

Table 8 Summary of key alert indicators

W4	Cumulative (2019)	
17	70	Total alerts raised
82%	87%	% verified
0%	0%	% auto-discarded
12%	3%	% risk assessed
6%	1%	% requiring a response

Out of 17 alerts that were received in week 04, 82% were verified and 12% were risk assessed. Six percent (6%) of the alerts required a response.

Table 9 | Alert performance indicators by event

Event	W4		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	2	100%	10	80%
AWD	3	100%	241	100%
Bloody Diarr.	1	100%	12	63%
Measles	10	70%	28	75%
Meningitis	0	0%	0	0%
Cholera	0	0%	3	100%
Yellow Fever	0	0%	0	0%
Guinea Worm	0	0%	2	100%
AFP	0	0%	55	100%
VHF	0	0%	0	0%
Neo. tetanus	0	0%	0	0%
Event-based surveillance				
EBS total	1	100%	2	100%

Table 10 | Event risk assessment

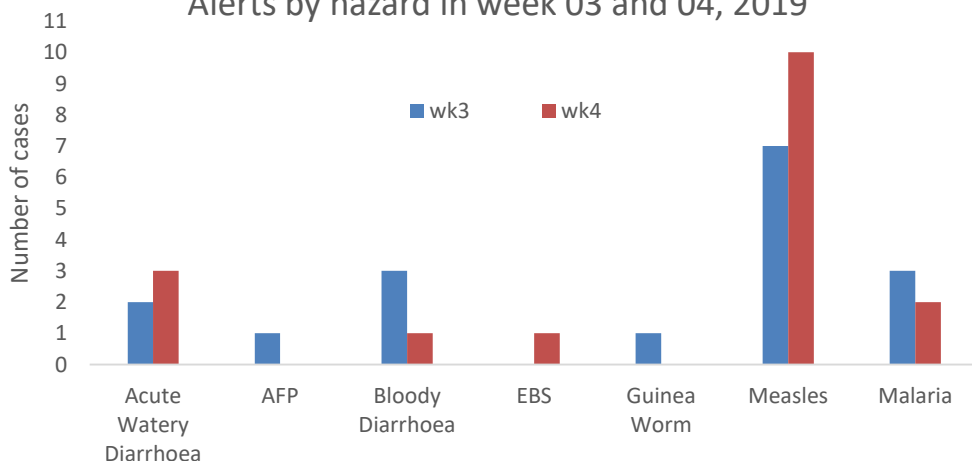
W4	Cumulative (2019)	
1	1	Low risk
0	0	Medium risk
1	1	High risk
0	0	Very high risk

In epi week 4 of 2019, Measles (10), AWD (3) and malaria (2) were the most frequently reported infectious diseases.

Alert by disease and county in W04 2019

County	Acute Watery Diarrhea	Bloody Diarrhoea	Guinea Worm	Measles	Malaria	Total Alerts
Cueibet				1		1
Juba				1		1
Rumbek Centre				1		1
Rumbek North	1	1	1			3
Wau		1				1
Yirol East				1		1
Medair Wonhow Clinic					1	1
IMC UNMISS PoC Clinic	1					1
IOM Farajala PHCU					1	1
Malakal PoC Hospital MSF SP				1		1
GOAL Dethoma Camp 2		1			1	2
Duma PHCU	1	1		1	1	4
Total Alerts	3	4	1	6	4	18

Alerts by hazard in week 03 and 04, 2019



Suspected Measles Outbreak in Gogri West County

- Eighteen (18) suspected cases out of which three (3) have been confirmed positive for Measles IgM antibodies
- Micro-plan for a reactive campaign is underway
- Most of the affected children have no history of Measles vaccination

Suspected Measles cases in Aweil Center

- About 12 suspected Measles cases have been reported from Aweil Center as at 31st January, 2019. The cases came from Awoda and Oroyo payams. Investigation was conducted and four (4) samples were collected and sent to Juba for laboratory confirmation.

Suspected Chicken Pox cases in Awerial

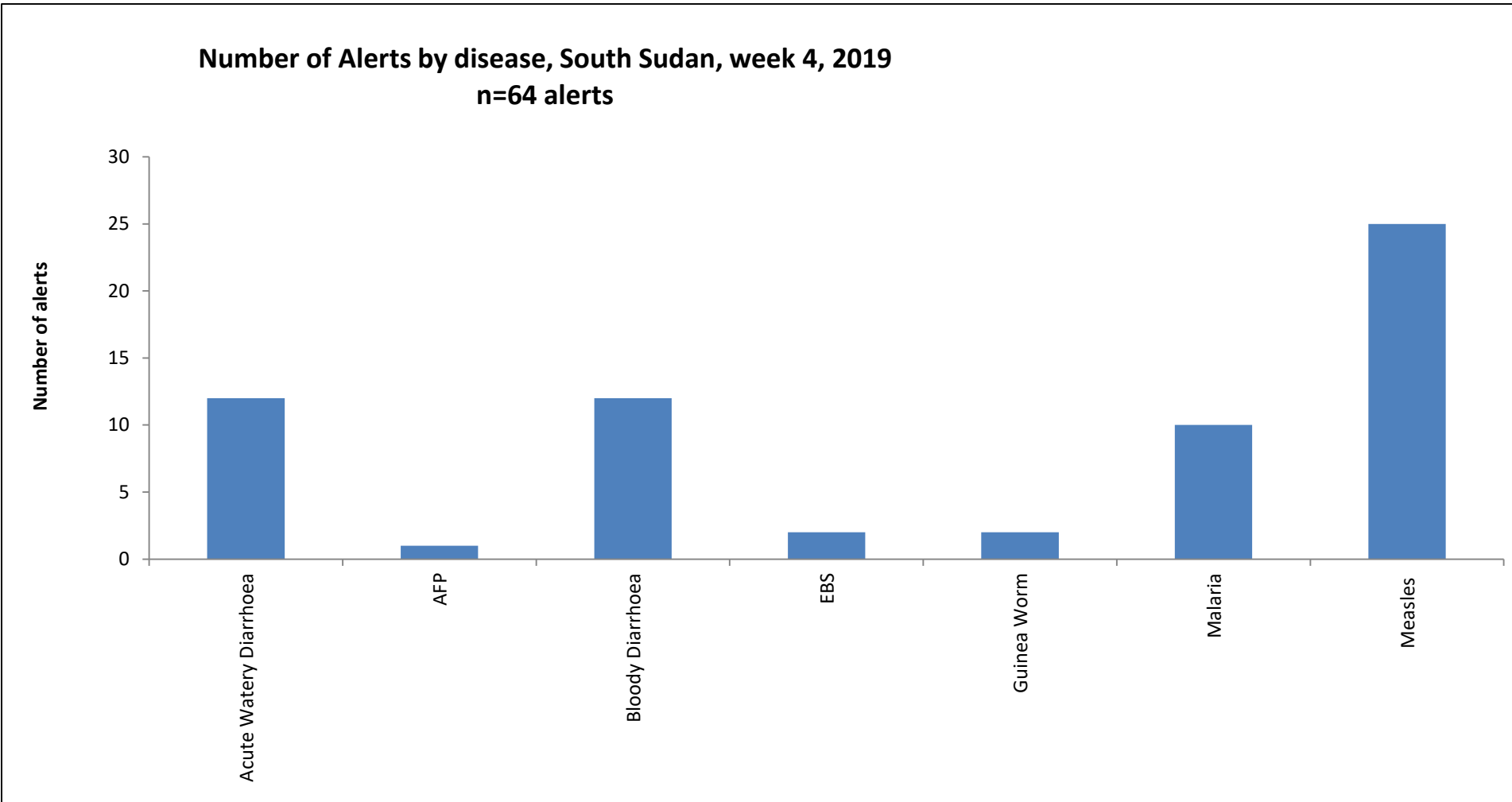
- An increase in numbers of chicken pox cases has been reported in Awerial County. Eight (8) new cases were reported bringing the total to 38 suspected case since week 02, 2019. All the cases are from Mingkaman in Puluk. No deaths have been reported. WHO state team will be traveling from Rumbek to conduct a quick assessment of the situation and advise on a recommended response plan.

Suspected Measles cases in Yirol East

- 25 suspected Measles cases have been reported in Shambe in Yirol East. They have not been investigated or sample collected because of insecurity in the area. This area has not been accessed by partners since 2017. A team consisting of SMOH, WHO and CUAMM will be escorted by UNMISS protection forces to access the area and assess the situation on the ground.

Suspected Measles cases in Pibor

- Five suspected cases out of which three tested positive for Measles IgM antibodies.
- Mean age of cases is 7.2 years. No deaths reported.
- Response plan including a vaccination campaign is underway



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

Cumulative alerts by risk assessment stage in 2019

County	OUTCOME	RISK ASSESSED	VERIFICATION	Total Alerts
Acute Watery Diarrhoea		1	11	12
AFP			1	1
Bloody Diarrhoea		1	11	12
EBS	1		1	2
Guinea Worm			2	2
Measles		1	24	25
Malaria			10	10
Total Alerts	1	3	60	64

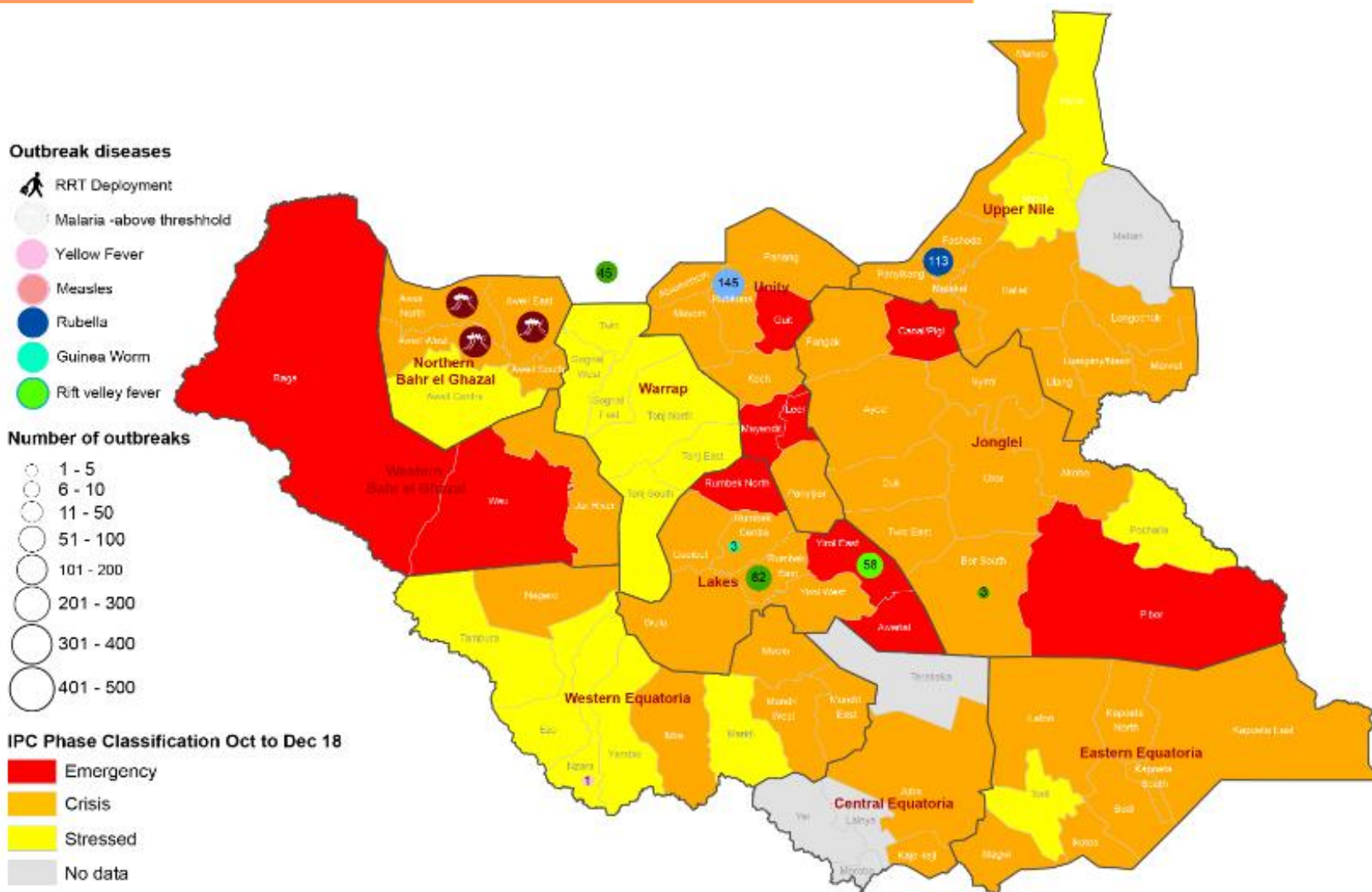
- The Figure shows the cumulative alerts by risk assessment state in 2019
- Of the 64 alerts reported in 2019; 60 (93.8%) alerts were verified and three (4.7%) underwent risk assessment..

OUTBREAKS IN 2019

Major suspected and confirmed outbreaks in
South Sudan in 2019

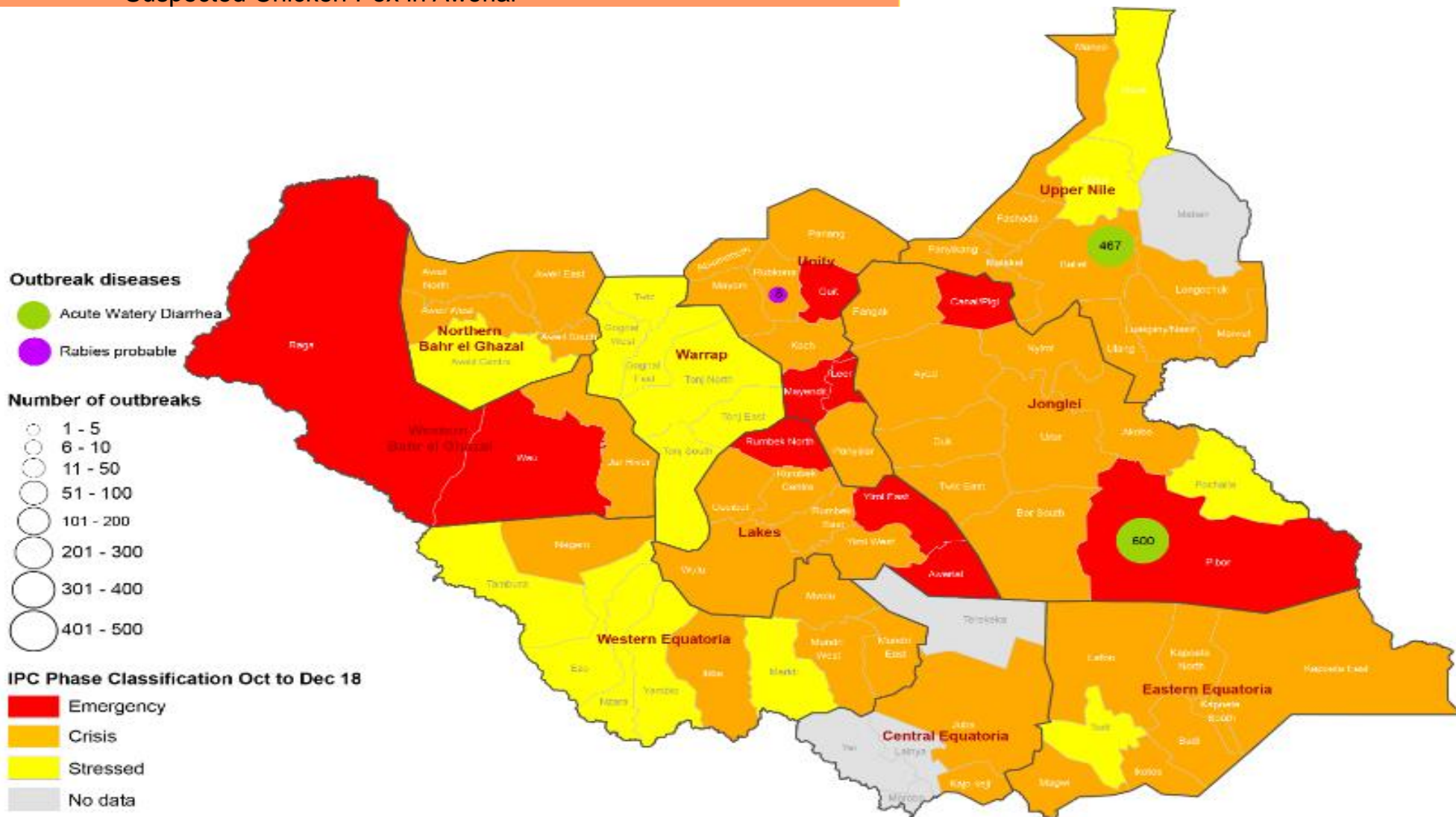
Confirmed Outbreaks South Sudan – 05th February 2019

- 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 6 counties; measles in Bor PoC; Measles in Rumbek East; Yellow Fever in Nzara; Measles in Abyei, Rubella in Malakal PoC and measles in Juba, Pibor and Gogriek West



Suspected Outbreaks South Sudan – 05th February 2019

- Map shows suspect outbreaks reported in 2018
- New alerts in the week
 - Suspected rabies in Bentiu PoC and Nzara
 - Suspected meningitis in Lankien, Leer, Mundri, Cuei-Bet
 - Suspected Measles outbreak in Yirol East, Aweil Center
 - Suspected Chicken Pox in Awerial



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	12	155 (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	2	169 (0.123)	Yes	No	Yes	Yes
Possible malaria upsurge	6 counties	01/07/2018			Yes	N/A	Yes	N/A
Measles	Abyei	12/02/2018	87	202 (0.06)	Yes	No	Yes	N/A
Measles	Juba	15/01/2019	13	34	Yes	Yes	Yes	N/A
Measles	Pibor	17/01/2019	5	5	Yes	Yes	Yes	N/A
Measles	Gogri West		18	18	Yes	Yes	Yes	N/A

Ongoing outbreaks in week 04, 2019

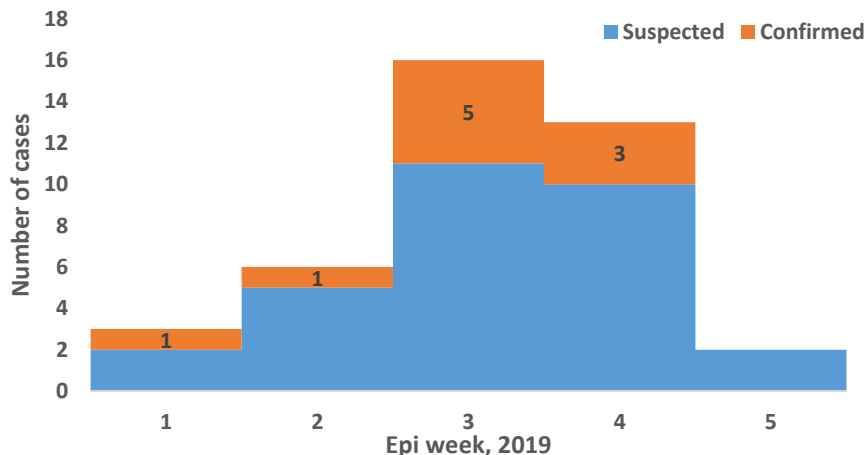
1. Rubella Malakal PoC
2. Yellow Fever in Nzara county
3. Measles in Rumbek East county
4. Measles in Bor PoC
5. Guinea worm (Rumbek Center and Rumbek North);
6. Rift Valley Fever (Yirol East);
7. Hepatitis E Virus (Bentiu PoC);
8. Possible malaria upsurge in 6 counties
9. Measles in Abyei
10. Measles in Juba
11. Measles in Pibor
12. Measles in Gogri West

ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS

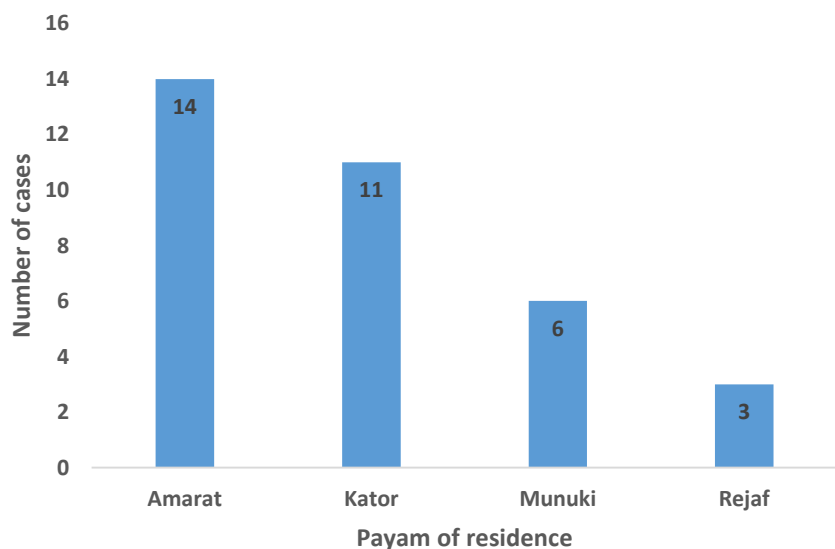
Brief epidemiological description and public health response for active outbreaks and public health events

Confirmed Measles outbreak – Juba

Measles cases in Juba, week01-05, 2019



Measles cases in Juba, wek 01-05, 2019



Age groups	Female	Male	Total	Percentage, %	Cumulative %
<1	3	11	14	41.2	41.2
1-4	4	12	16	47.1	88.3
5-9		1	1	2.9	91.2
10-14	1	1	2	5.9	97.1
15+		1	1	2.9	100.0
Total cases	8	26	34	100.0	

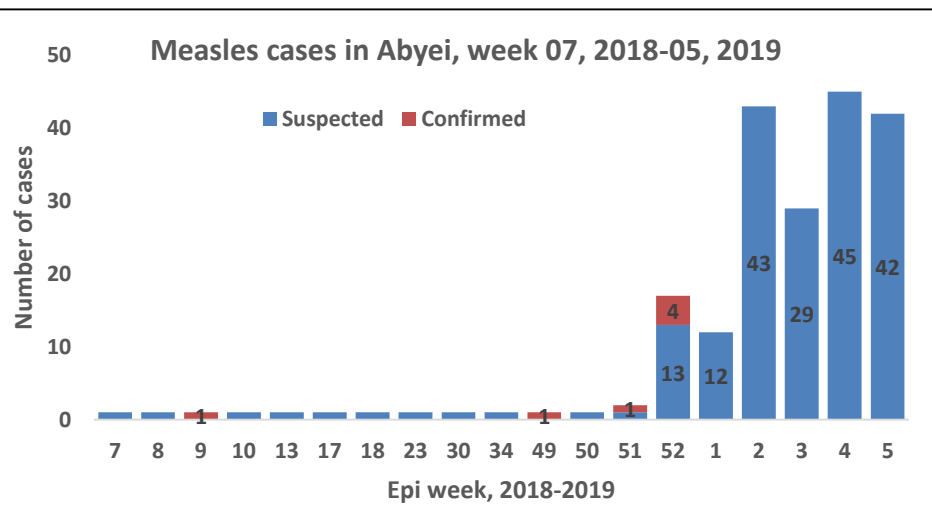
Descriptive Epidemiology

- A total of 34 suspected measles cases were reported from Juba between week 01 and week 05, 2019r
 - Most cases are from Amarat 14 (41.2%) and Khator 11 (32.4) payams
 - Ten (10) confirmed cases; 6 from Khator, 3 from Amarat and 1 from Rejaf
 - Three (CFR 8.8%) deaths reported; two (2) from Amarat and One (1) from Khator. All the deaths are among <5 children.
- A majority of the cases are children < 5 years, 30 (88.3%) while 26 (76.5%) are male

Recommended response

- A reactive vaccination campaign covering all the payams and IDP sites will begin on 11th January, 2019
- Active case search in the health facilities and communities
- Distribution of case definitions to health facilities and health workers
- Increase community awareness through social mobilization
- Continue with surveillance and routine immunization

Confirmed Measles outbreak – Abyei



Age groups	Female	Male	Total	Percentage, %	Cumulative %
<1	38	36	74	36.8	36.8
1-4	31	46	77	38.3	75.1
5-9	3	3	6	3.0	78.1
10-14	5	8	13	6.5	84.6
15+	13	18	31	15.4	100.0
Total cases	90	111	201	100.0	

Background

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

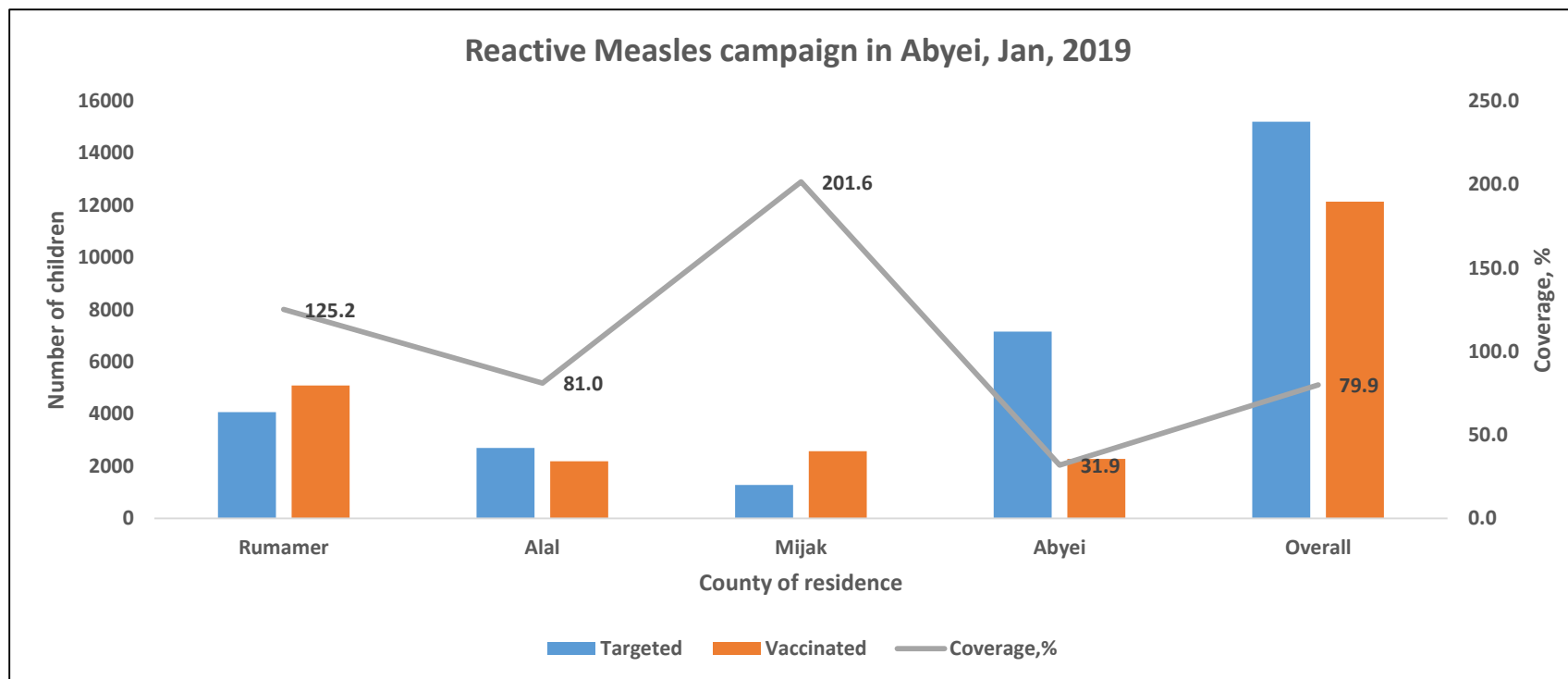
Descriptive Epidemiology

- A total of 202 suspected cases reported between week 7, 2018 and week 03,2019. Of all the cases, 192 (95.0%) were reported between week 49, 2018-05, 2019.
- Six (6) cases were confirmed between week 49-52, 2018, triggering declaration of an outbreak
- No deaths reported
- Majority of the cases are children <5 years accounting for 75.1% (151). Males are more than female accounting for 55.2% (111). Sex variable was missing for One case.
- Among the 192 cases reported since week 49 of 2018; 143 (74.5%) of the cases are children <5 years
- Rumammer county had the most cases with 170 (84.2%)
 - Mabok Payam contributed the most of the cases from Rumammer County with 146 (85.9%) cases.

Recommended response

- A reactive vaccination was conducted between week week 04 and 05, 2019 targeting four counties of Abyei, Rumammer, Alal and Mijak.
- Active case search, continue with routine immunization and surveillance

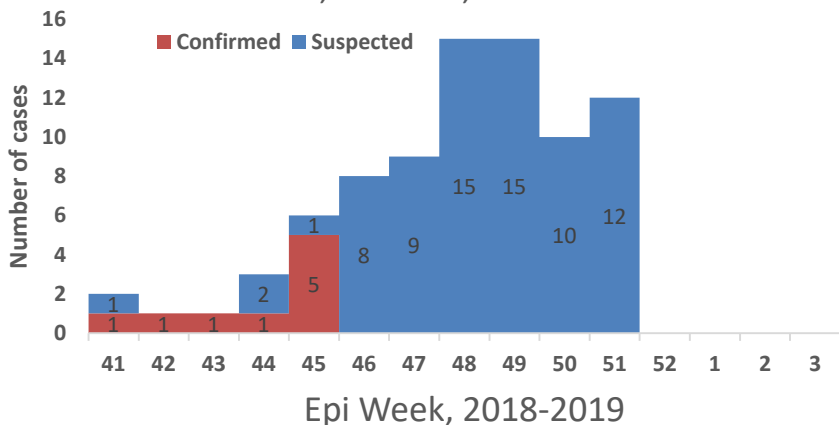
Reactive Measles Vaccination Campaign in Abyei



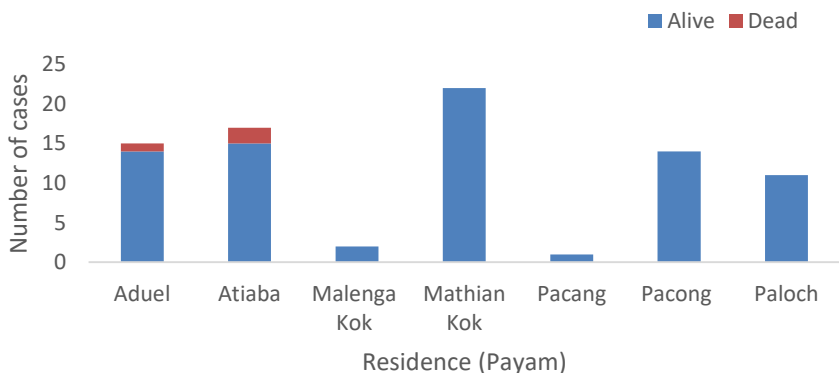
1. Reactive measles vaccination targeted 15 205 children 6-59 months
2. The vaccination campaign started on 23rd Jan 2019 in Rumammer; on 24th for Alal, Mijak and Abyei, and ended on
3. A total of 12, 143 (80%) children were vaccinated in the four counties at the end of the campaign
4. The coverages achieved are 32% (2283/7154) in Abyei, 125% (5096/4071) in Rumammer, 202% (2573/1276) in Mijak, and 81% (2191/2704) in Alal.
5. Campaign was extended in all the four counties beyond the four days that was planned for to attempt to reach all the children
6. Challenges experienced included transportation, inaccessibility due to insecurity
7. Discussion on expanding the campaign to older children, >5, is ongoing through EPI WG
8. Partners who supported SMOH include SCI (lead), WHO, MSF, TOCH, GOAL.

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

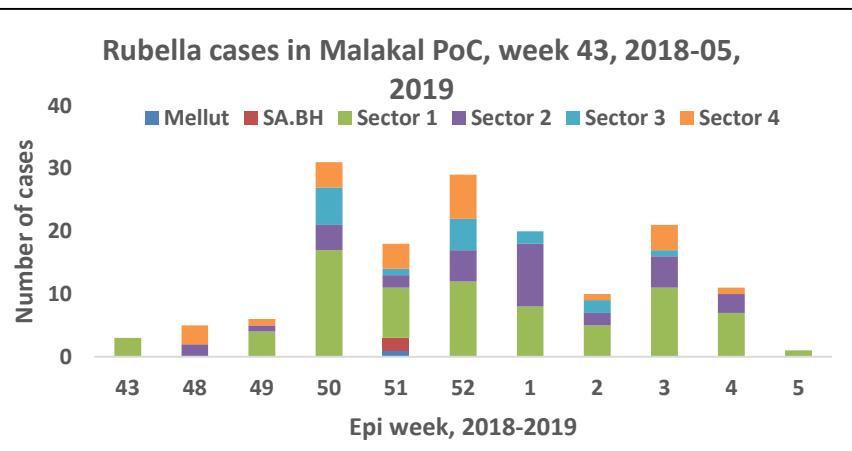
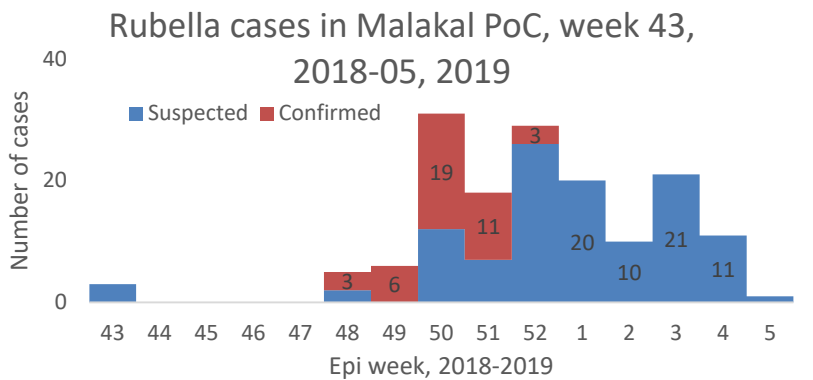
- 82 cases including 9 confirmed cases and 3 death (CFR 3.6%) reported
- Majority of the cases, 55 (67%), were children < 5 years of age
- A total of 9 samples tested positive for measles IgM on 22 November 2018

Recommended response

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

No new cases reported from Rumbek East since week 51

Confirmed Rubella outbreak – Malakal PoC



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 155 suspected rubella cases have been reported since week 43-05, 2019
- No deaths reported
- A majority of cases are children <5 years, 96 (69.1%)
- More males, 73 (52.5%) than females affected. Sex variable missing for 15 cases.
- There are 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
- 42 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.

Age Groups	Female, n	Male, n	Total, n	Percent, %	Cumulative %
<5	39	57	96	69.1	69.1
5-9	25	11	36	25.9	95.0
10-14	2	4	6	4.3	99.3
15+		1	1	0.7	100.0
Total	66	73	139	100.0	

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

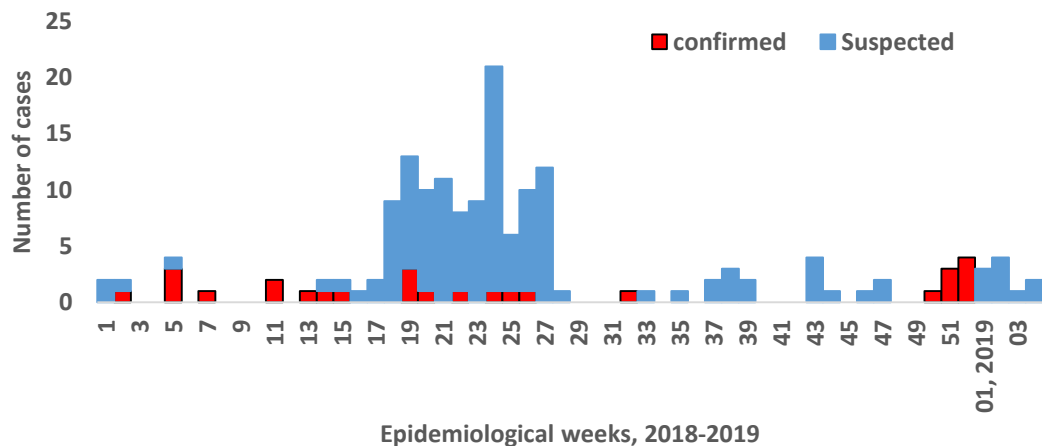
- Surveillance and laboratory investigation of new suspect cases
- Definitive laboratory results from the samples collected in Sakure during investigation are expected at the end of the month
- The decision on conducting a rapid risk assessment will be based on additional information indicating active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

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

Hepatitis E, Bentiu PoC

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

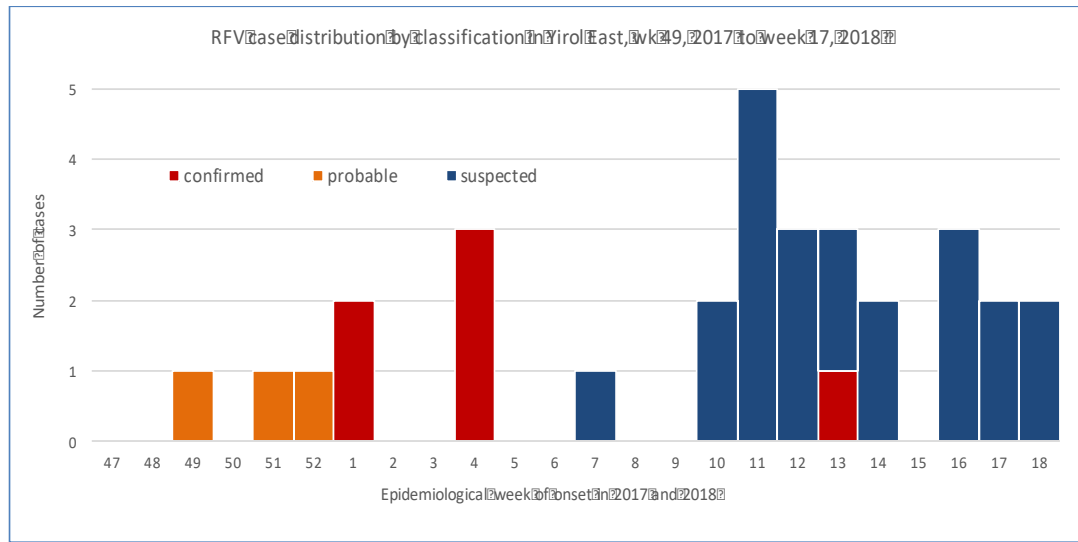
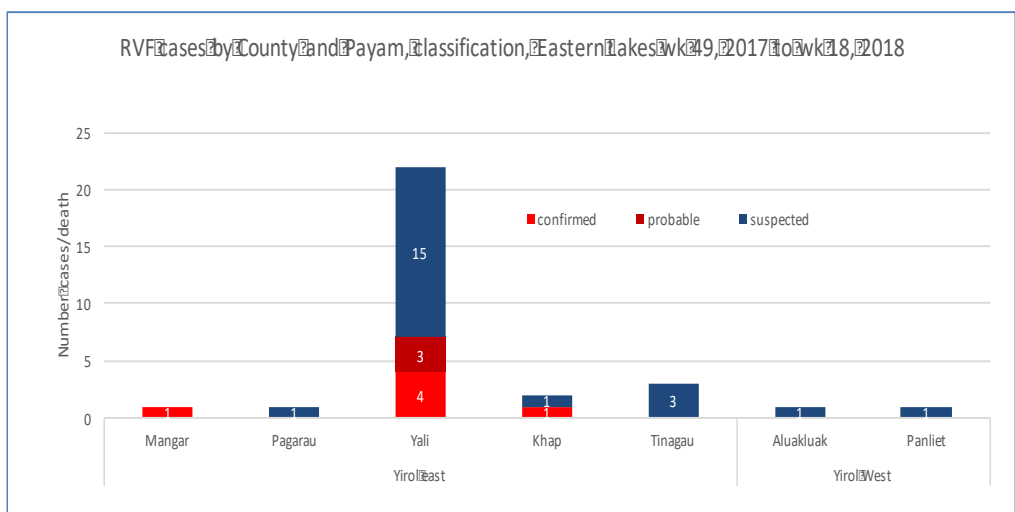
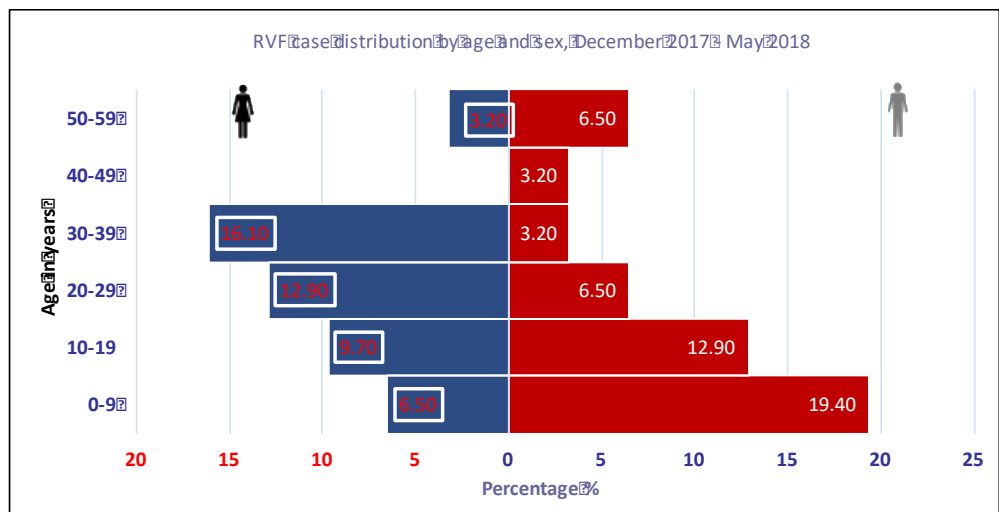


Bentiu PoC

- 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 two (2) cases 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

Malaria trends

Current malaria trends

Malaria was the leading cause of morbidity accounting for 50.3% of all cases in week 04, 2019. The trend analyses showed at least 6 counties in two state hubs having malaria trends that are significantly higher than the expected levels. Counties with malaria trends that exceeded the threshold (third quartile of trends for the period 2013-2017) include:

1. **Rumbek hub (Rumbek center, Rumbek East)**
2. **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

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
3Oct	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	-ve	Investigated on 27 Jan 2019
30 Jan 19	1	0	Nimule		ND	-ve	-ve	Investigated on 30 th Jan 2019

- The latest EVD suspect case that was reported from Nimule on 30th Jan 2019 has tested negative on both GeneXpert and PCR.
- Samples obtained from 15 Ebolavirus alerts; 14 samples tested negative for Ebolavirus and 1 sample tested positive for Yellow Fever on PCR.

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 28 Jan 2019

Current situation

- Currently in 25th week of the outbreak
- **743** Cases [689 confirmed & 54 probable]
- **461** Deaths [407 confirmed & 54 probable]
- **63** Health workers [54 confirmed; 21 dead]

Response update

- **6437** contacts under surveillance [82-88% followed up]; **69 231** vaccinated

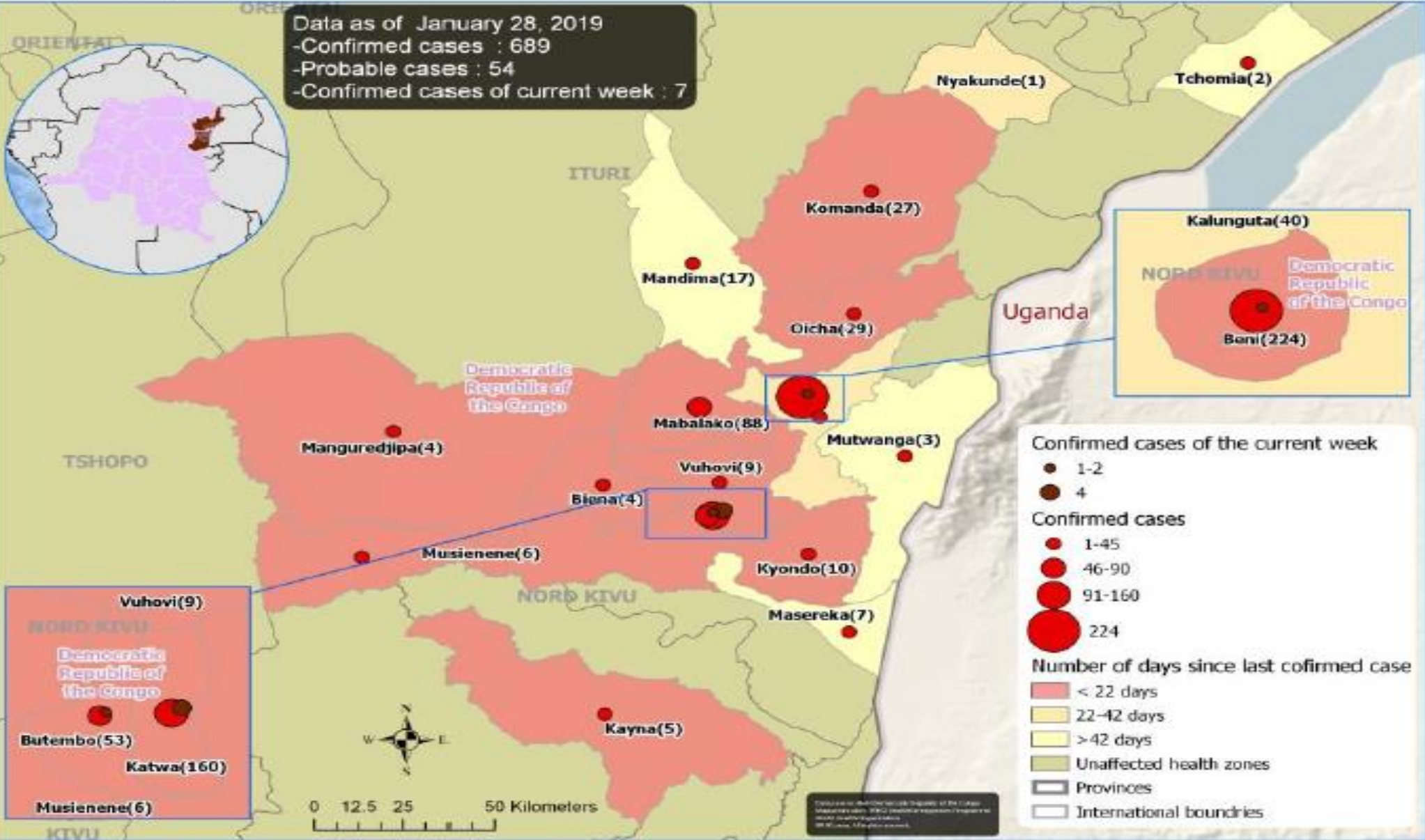
Affected health zones

- **2** provinces [North Kivu & Ituri]
- **17** health zones [13 North Kivu & 4 Ituri]
- **114** cases in last 21 days; 72 (63%) from Katwa, Beni (8), Butembo (7), Komanda (6), Kayna (5), Oicha (4), Manguredjipa (4), Biena (3), Kyondo (2), Musienene (2), and Vuhovi (1).

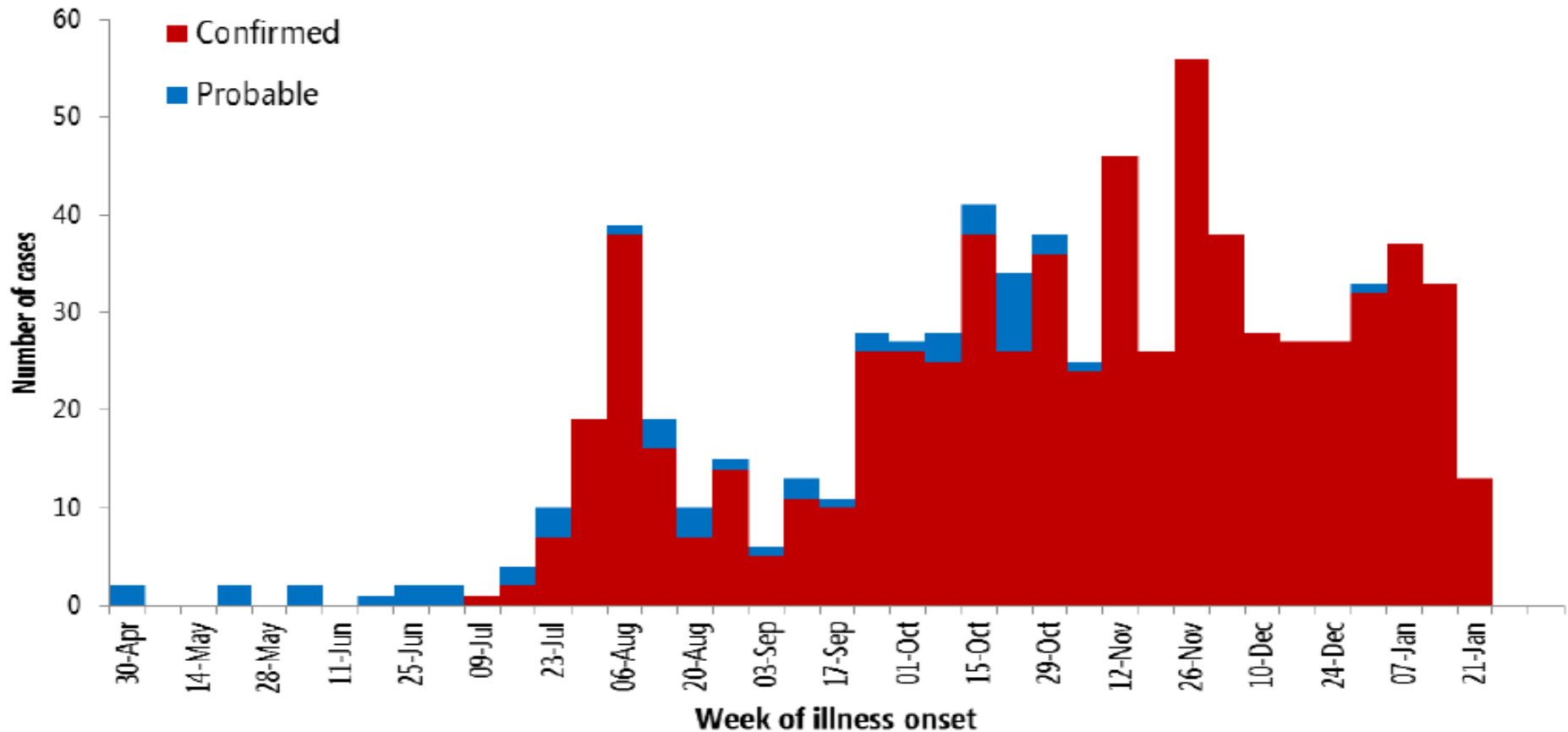
Distribution of new confirmed and cumulative EVD cases by health zone

Democratic Republic of Congo

Data as of January 28, 2019
 -Confirmed cases : 689
 -Probable cases : 54
 -Confirmed cases of current week : 7



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: W4

From: 2019-01-21

To: 2019-01-27

Name of PoE	Passengers Screening information			EVD Alerts		
	# screened	# isolated	# under Voluntary Home Quarantine	# reported	# validated	# suspects
Bazi Border	939	0	0	0	0	0
Ezo	98	0	0	0	0	0
Gangura Border	54	0	0	0	0	0
Juba International Airport	3,897	0	0	0	0	0
Kaya	2,691	0	0	0	0	0
Kaya Border	0	0	0	0	0	0
Khorjo	3,181	0	0	0	0	0
Makpandu	0	0	0	0	0	0
Maridi Airstrip	0	0	0	0	0	0
Nimule Border	0	0	0	0	0	0
Okaba	776	0	0	0	0	0
Panjala Docking River	0	0	0	0	0	0
Pure	1,686	0	0	0	0	0
Sakure Border	124	0	0	0	0	0
Tikor	125	0	0	0	0	0
Wau Airport	52	0	0	0	0	0
Yambio Airport	24	0	0	0	0	0
Yei Airport	30	0	0	0	0	0
Yei RRC	11	0	0	0	0	0
South Sudan	13,688	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 04 of 2019, 13,688 individuals were screened at various screening points in the country.

MAJOR SUSPECTED AND CONFIRMED OUTBREAKS & EVENTS REPORTED IN 2019

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

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%) of the cases are children aged 5-12 years. None of the cases are symptomatic and no deaths were reported. Most of the dogs implicated are stray dogs who attacked unprovoked. Four (4) of the dogs were reported as being acting suspiciously and died within 15 days of the attacks. Of all the 8 cases reported, 5 (63%) received passive immunization with immunoglobulins, 2 (25%) received rabies vaccine and 6 (75%) received tetanus toxoid

Outbreaks in 2019

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

Outbreaks in 2019

Date of report	Disease suspected	Number cases (deaths)	County	Payam	Status of investigations
21/01/2019	Chicken Pox	0	Awerial	Puluk	38 suspected cases of chicken pox all coming from Mingkaman in Puluk Payam.
30/01/2019	EVD	1	Nimule		An alert was reported on 30 th Jan, 2019. The cases, 30year old patient, was investigated, sample collected which tested negative on GgeneXpert and PCR testing.
17/01/2019	Measles	0	Gogriol West		18 suspected, three positive for IgM
31/01/2019	Measles	0	Aweil Center		About 12 suspected Measles cases have been reported from Aweil Center as at 31 st January, 2019
	Measles	0	Yirol East	Shambe	25 suspected Measles cases have been reported in Shambe in Yirol East.They have not been investigated or sample collected because of insecurity in the area
17/01/2019	Measles	0	Pibor	Gumuruk	Five suspected cases out of which three tested positive for Measles IgM antibodies

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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>

