

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Update W07 2019 (Feb 11, 2018- Feb 17, 2019)



- The completeness for IDSR reporting at the county level was 74% in week 7 of 2019. The completeness for EWARS reporting from IDPs was 87%. Out of the 59 reports submitted by the counties, 9 (15.3%) reports were submitted via mobile phones.

- Three EVD alerts have been reported from Yambio between 21st and 26th February 2019. The latest EVD alert that was on 26th February 2019 has been investigated with samples being expected in Juba on 27th February for GeneXpert. The EVD suspected case reported on 21st February 2019 has tested negative for EVD on both GeneXpert and PCR while the case reported on 25th has tested negative on GeneXpert and awaits PCR result which is expected from Uganda.

- The two (2) Yellow Fever samples collected from Sakure Payam that initially tested presumptively IgM positive for Yellow Fever virus have eventually been confirmed plaque reduction neutralization test (PRNT) positive for Yellow Fever. The other 33 samples tested negative for Yellow Fever. A reactive vaccination campaign targeting 19,578 individuals aged 9 months to 65 years in Sakure payam, Nzara County, Gbudue state is expected to be conducted on 18 - 22 March.

- The confirmed measles outbreak in Mayom is ongoing with a cumulative caseload of 19 suspected cases reported between week 03, 2019 and week 08, 2019. Three cases have been confirmed positive for Measles IgM antibodies. No deaths have been reported. The majority (89.4%) of the cases are children < 5 years of age and only two (10.5%) cases reported ever receiving vaccination against measles before their illnesses.

- About 73 AWD cases have been reported in Old Fangak. Most of the cases, 58 (79.5%) are children < 5 years. Two deaths among adults have been reported in Kuerdeng on 21st February 2019. About 9 cases of bloody diarrhea have also been reported during the same week. The partner on the ground has been advised to collect samples using Cary Blair media for laboratory confirmation.

- A total of 18 suspected HEV cases have been reported in Bentiu PoC since the beginning of 2019. There were three (3) new cases reported in week 7.

Considering 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 (W7 2019)

Hub	Reporting		Performance	
	# counties	# reports received / # reports	Completeness	Timeliness
Aweil	5	5	100%	100%
Bentiu	9	5	56%	56%
Bor	11	10	91%	91%
Juba	6	3	50%	50%
Kwajok	7	6	86%	86%
Malakal	13	5	38%	38%
Rumbek	8	8	100%	100%
Torit	8	7	88%	88%
Wau	3	0	0%	0%
Yambio	10	10	100%	100%
South Sudan	80	59	74%	74%

Table 2 | Summary of key IDSR surveillance indicators

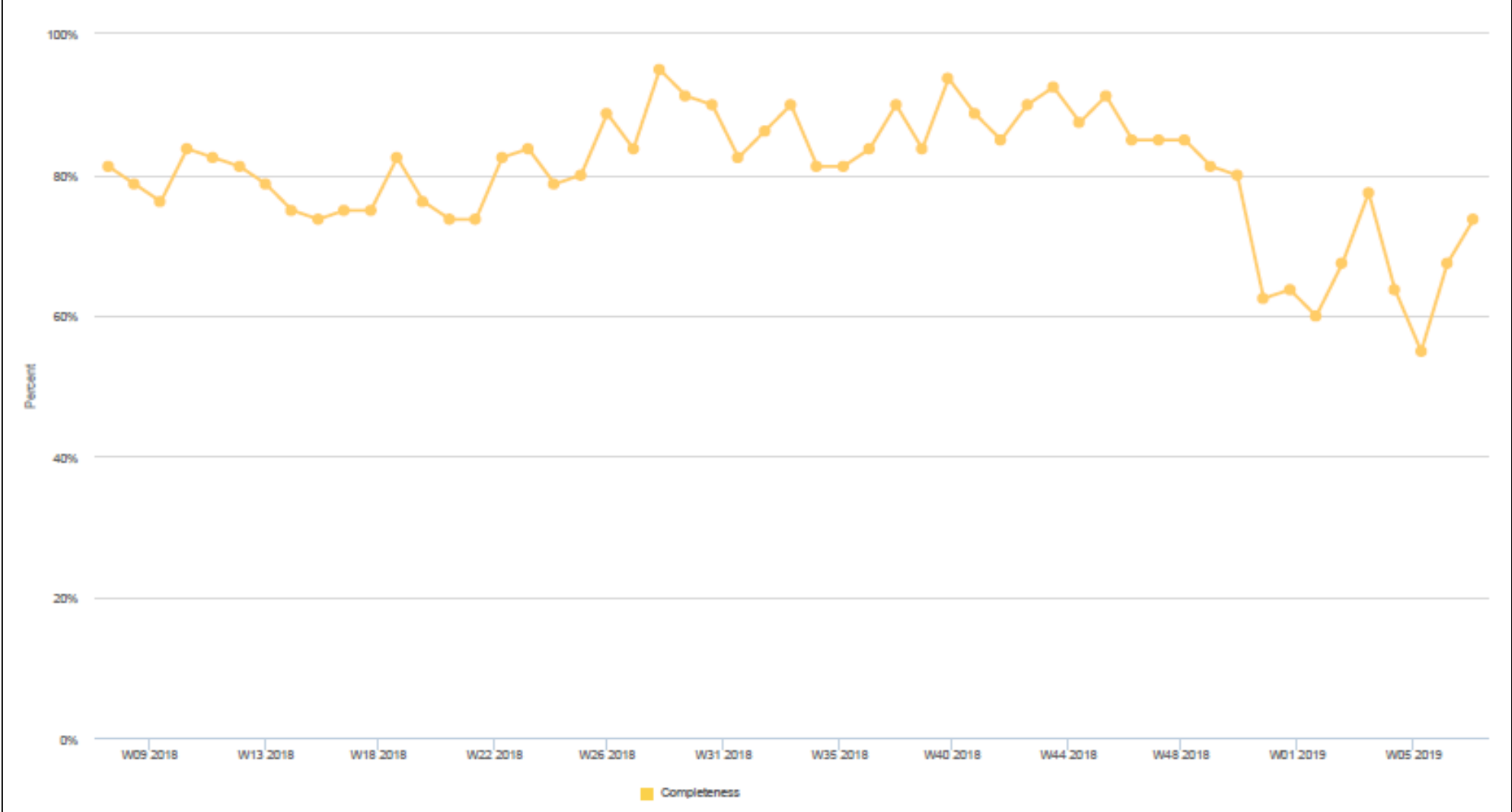
W7	Cumulative (2019)	
80	-	Number of counties
74%	60%	Completeness
74%	54%	Timeliness

Table 3 | IDSR report submissions

W7	Cumulative (2019)	
59	383	total submissions
9	0	submissions by mobile
50	0	submissions by web

- Completeness for IDSR reporting at the county level was 74% in week 7, 2019 and cumulatively at 60% for 2019.
- Timeliness for IDSR reporting at the county level was 74% in week 7 and cumulatively at 54% for 2019.
- Out of the 59 reports submitted, 9 (15.3%) reports were submitted via mobile phones.

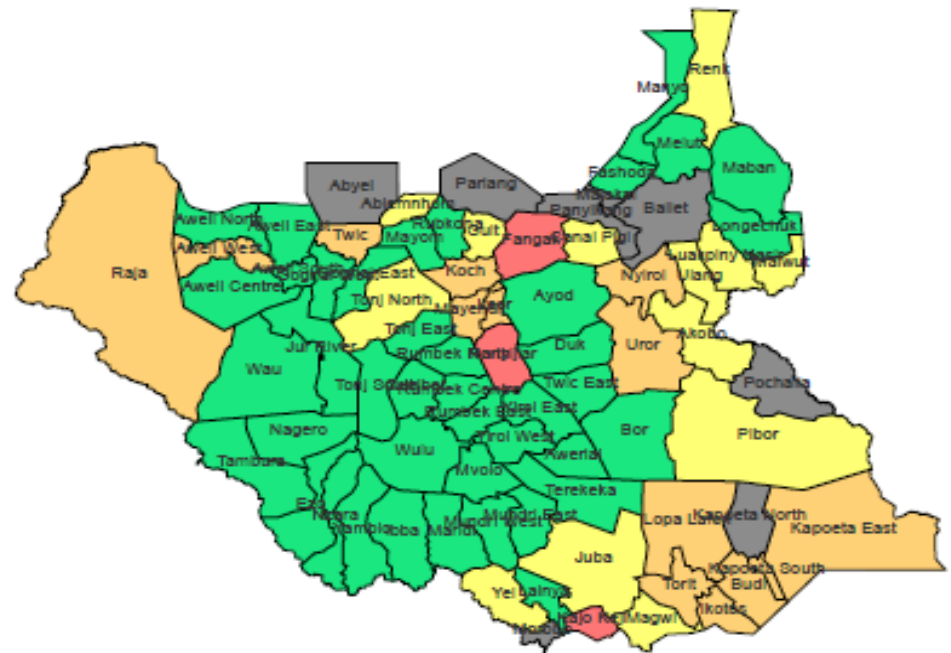
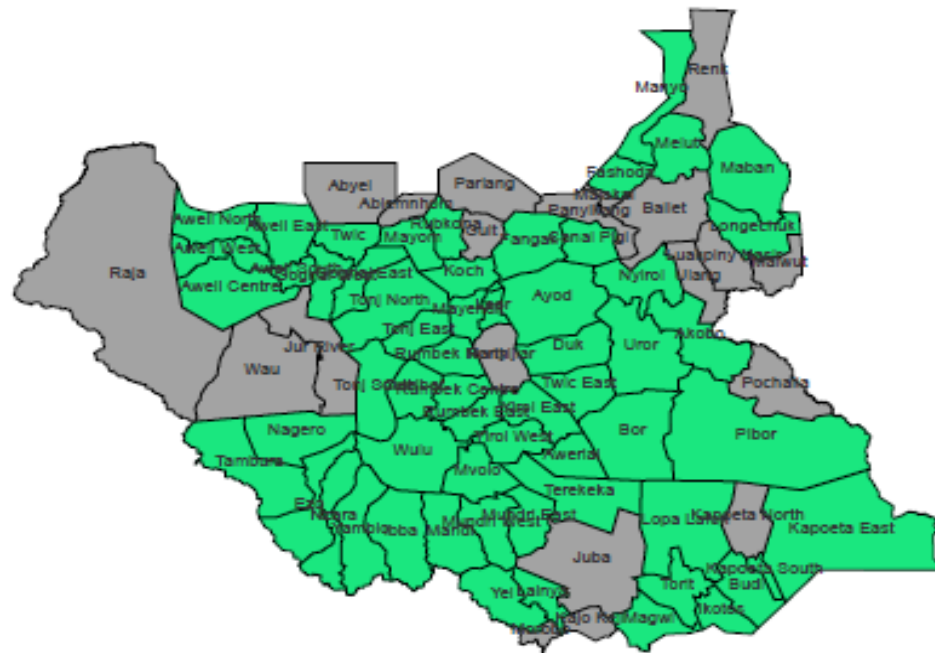
Figure 1 | Trend in IDSR completeness over time



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

Map 1a | Map of IDSR completeness by county (W7 2019)

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



- Counties that submitted their IDSR reports in week 07, 2019 are shown in green in map 1a.
- Counties that did not submit their IDSR reports in week 07, 2019 are shown in grey in map 1a.

Table 4 | EWARS surveillance performance indicators by partner (W7 2019)

Partner	Performance		Reporting	
	# sites	# reports received	Completeness	Timeliness
CMD	3	3	100%	100%
GOAL	2	2	100%	100%
HLSS	1	1	100%	100%
IMA	7	7	100%	100%
IMC	5	5	100%	100%
IOM	10	10	100%	100%
IRC	1	1	100%	100%
Medair	2	2	100%	100%
MSF-E	2	1	50%	50%
MSF-H	3	1	33%	33%
SMC	6	3	50%	50%
UNIDO	1	1	100%	100%
UNKEA	2	2	100%	100%
World Relief	1	1	100%	100%
TRI-SS	7	7	100%	100%
LIVEWELL	4	4	100%	100%
Total	61	53	87%	87%

Table 5 | Summary of key EWARS surveillance indicators

W7	Cumulative (2019)	
61	-	Number of EWARS reporting sites
87%	74%	Completeness
87%	72%	Timeliness

Table 6 | EWARS report submissions

W7	Cumulative (2019)	
53	396	total submissions
2	16	submissions by mobile
51	380	submissions by web

- Both completeness and timeliness for EWARS reporting stand at 87% for week 07, while the cumulative completeness and timeliness are 74% and 72% respectively for 2019

EVENT-BASED SURVEILLANCE

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

Table 7 | Alert performance indicators by Hub

Hub	W7		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Aweil	1	100%	9	78%
Bentiu	5	80%	20	85%
Bor	1	100%	13	54%
Juba	2	0%	35	63%
Kwajok	2	0%	6	50%
Malakal	2	100%	15	73%
Rumbek	2	100%	17	100%
Torit	1	0%	4	25%
Wau	9	58%	28	62%
Yambio	4	50%	23	91%
South Sudan	29	59%	168	73%

Table 8 Summary of key alert indicators

W7	Cumulative (2019)	
29	168	Total alerts raised
59%	73%	% verified
0%	0%	% auto-discarded
0%	2%	% risk assessed
0%	2%	% requiring a response

Out of 29 alerts that were received in week 07, 59% were verified and none were risk assessed or required a response.

Table 9 | Alert performance indicators by event

Event	W7		Cumulative (2019)	
	# alerts	% verif.	# alerts	% verif.
Indicator-based surveillance				
Malaria	3	67%	23	70%
AWD	4	50%	254	65%
Bloody Diarr.	5	0%	24	65%
Measles	10	80%	66	77%
Meningitis	0	0%	0	0%
Cholera	0	0%	4	100%
Yellow Fever	0	0%	1	100%
Guinea Worm	1	0%	5	60%
AFP	0	0%	57	50%
VHF	0	0%	0	0%
Neo. tetanus	0	0%	0	0%
Event-based surveillance				
EBS total	6	83%	10	90%

Table 10 | Event risk assessment

W7	Cumulative (2019)	
0	2	Low risk
0	0	Medium risk
0	1	High risk
0	1	Very high risk

In epi week 7 of 2019, Measles (10), bloody diarrhea (5) and AWD (4) were the three most frequently reported infectious diseases.

Alert by disease and county in W07 2019

Counties/Facilities	AWD	Bloody Diarrhoea	Guinea Worm	EBS	Malaria	Measles	Total Alerts
Yambio	1						1
Mundri East	1						1
Nzara	1						1
Hai Bafra PHCU	1	1					2
UNIDO Leer TPA Clinic		1					1
Agok PHCC		1					1
Muktah PHCC		1					1
Mura Lopit PHCU		1					1
Ibba				1			1
Wau Wild Life PHCU				4			4
Daniel Comboni Hospital				1			1
Tonj East			1				1
IOM Bentiu Sector 5 PoC Clinic					1		1
Mayom					1	1	2
Mokamagor PHCU					1		1
Gogrial West						1	1
Kator PHCC						1	1
Aweil East						1	1
MSF-H Bentiu PoC Hospital						1	1
Rumbek East						1	1
Yirol East						1	1
MSF-E Malakal Town PHCC						1	1
Malakal PoC Hospital MSF SP						1	1
Duk						1	1
Total Alerts	4	5	1	6	3	10	29

Suspected Measles cases in Bentiu PoC

- A total of eight (8) suspected measles cases have been reported from Bentiu PoC. Three new cases were reported in week 07, 2019. All the cases are children <5 years with mean age of 1.7 years (SD = 0.8).

AWD cases in Old Fangak

- About 73 AWD cases have been reported in Old Fangak. Most of the cases, 58 (79.5%) are children < 5 years. Two deaths among adults have been reported in Kuerdeng on 21st February 2019. About 9 cases of bloody diarrhea have also been reported during the same week. The partner on the ground has been advised to collect samples using Cary Blair media for laboratory confirmation. A meeting between MoH and partners have been organized in Juba to advise on the response.

Suspected Measles cases in Bor

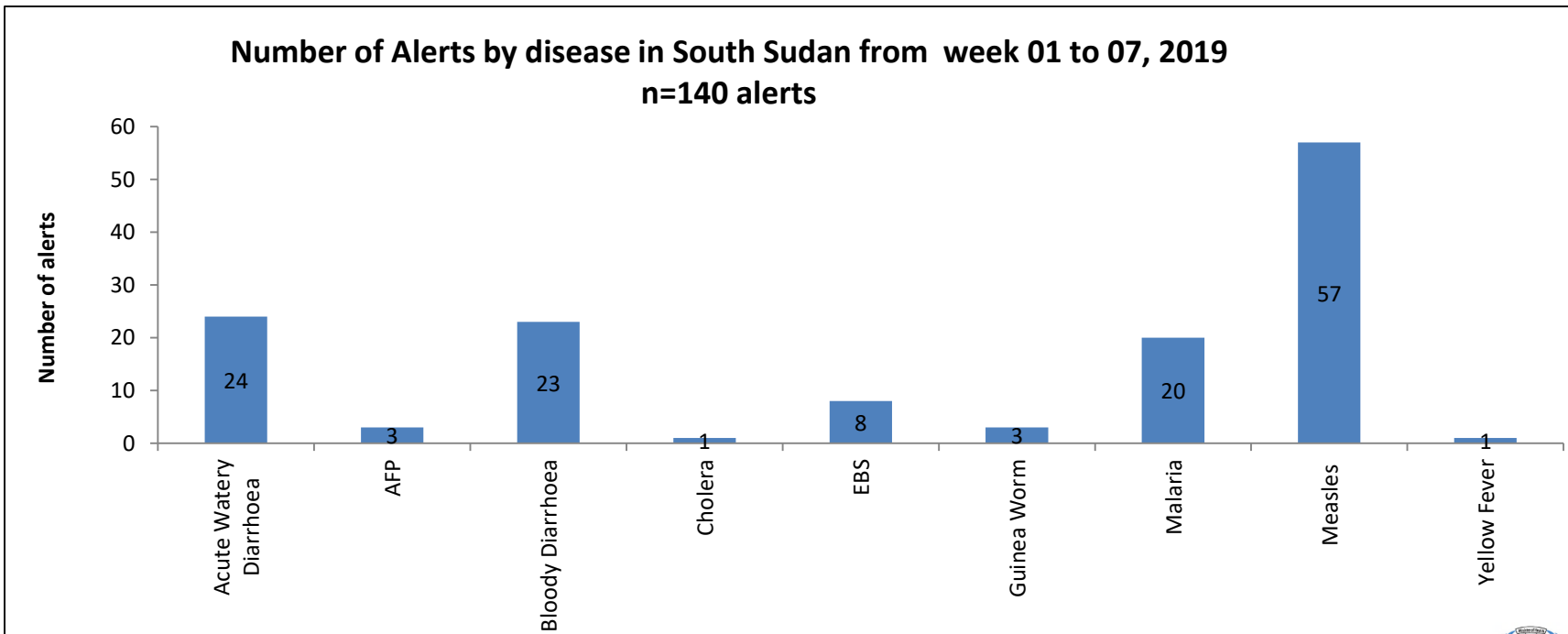
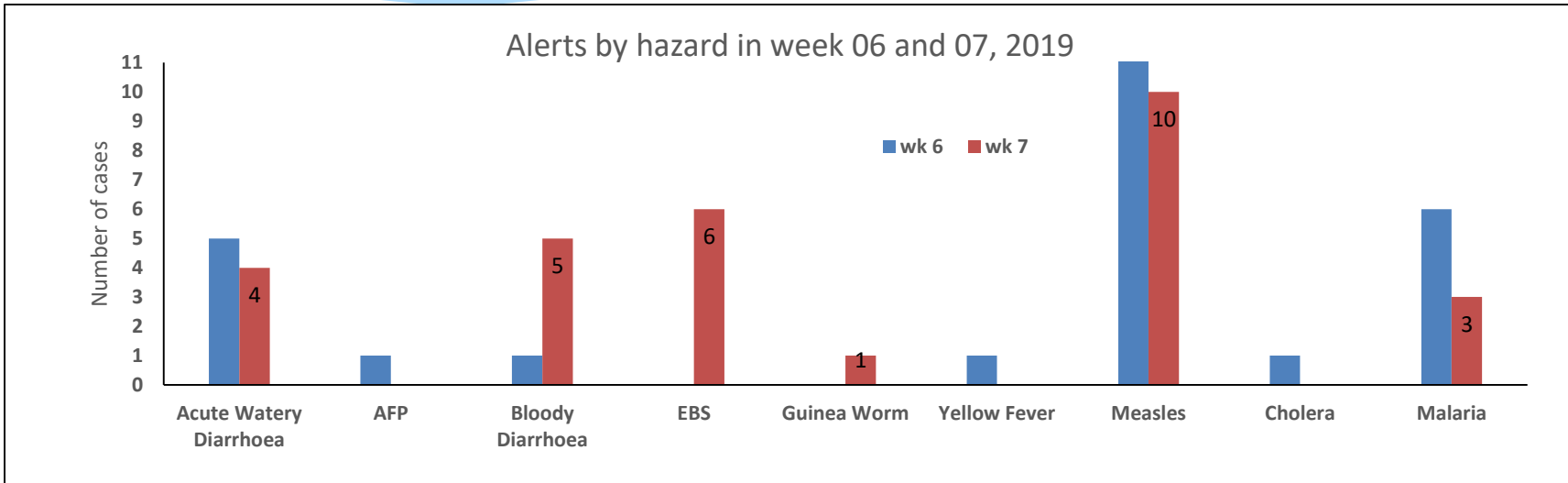
- Ten (10) suspected measles cases have been reported in Bor. Eight cases were reported in week 7, 2019. Half of the cases are children < 5 years. The mean age of the cases was 5.5 years (SD=3.5. The cases are from Malual Chaat in Kolnyang (5), Ngeil in Bor town (3) and Anyidi (2). Five samples have been collected with pending results.

Chicken Pox in Pochalla

- Nine (9) Chicken Pox cases have been reported from Pochalla PHCC. Eight cases are from Ajwara Village while the other case is from Pochalla Town. The ages of the affected ranged from 2 to 40 years. The recommended approach includes supportive case management and health education.

Pertussis in Awerial

- Five suspected cases of Pertussis have been reported in Awerial in W8/2019. The cRRT team investigated and line-listed the cases. The line list has shown three cases had its onset of illness in W45/2018, one in W52/2018 and the last one in W07/2019.



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

County	OUTCOME	RISK ASSESSED	VERIFICATION	Total Alerts
Acute Watery Diarrhoea		1	23	24
AFP			3	3
Bloody Diarrhoea		1	22	23
EBS	1		7	8
Guinea Worm			3	3
Yellow Fever			1	1
Measles	2	2	53	57
Cholera			1	1
Malaria			20	20
Total Alerts	3	4	133	140

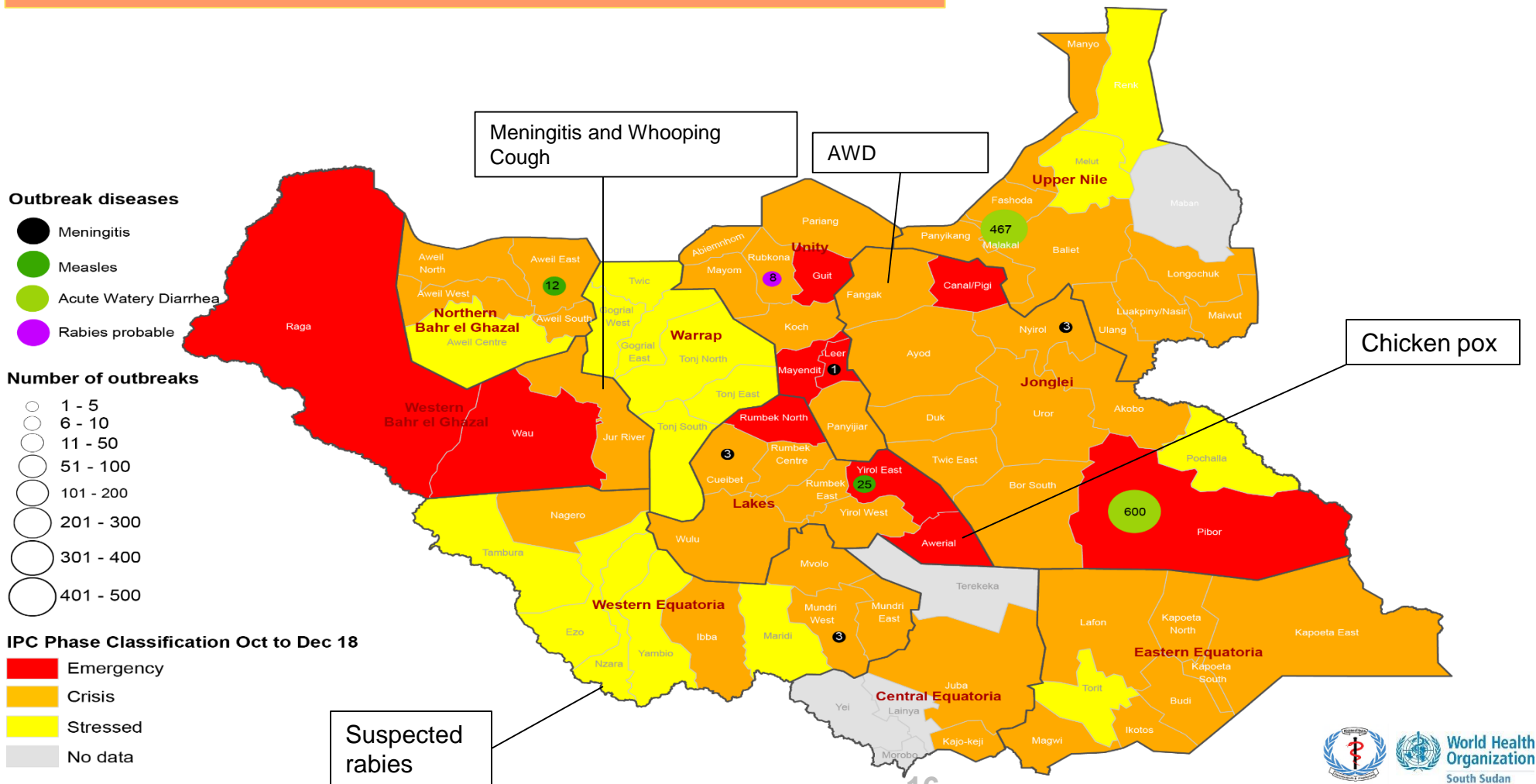
- The table shows the cumulative alerts by risk assessment state in 2019
- Of the 140 alerts reported in 2019; 133 (95%) alerts were verified and three (2.9%) underwent risk assessment..

OUTBREAKS IN 2019

Major suspected and confirmed outbreaks in
South Sudan in 2019

Suspected Outbreaks South Sudan – As at 26th February 2019

- Map shows suspect outbreaks reported in 2018-2019
- New alerts in the week
 - Suspected rabies in Bentiu PoC and Nzara
 - Suspected meningitis in Lankien, Leer, Mundri, Cueli-Bet, Jur River County
 - Suspected Measles outbreak in Yriol East, Bentiu PoC, Bor and Twic
 - Suspected Chicken Pox in Awerial
 - Whooping Cough in Jur River County and Awerial
 - AWD in Old Fangak
 - Chicken Pox in Pochalla



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	19	174 (0.079)	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 (0.043)	Yes	No	Yes	N/A
Measles	Bor PoC	20/10/2018	0	3 (0.15)	Yes	No	Yes	N/A
Hepatitis E	Bentiu PoC	03/01/2018	3	18 (0.010)	Yes	No	Yes	Yes
Measles	Abyei	12/02/2018	0	221 (0.28)	Yes	No	Yes	N/A
Measles	Juba	15/01/2019	0	39 (0.006)	Yes	Yes	Yes	N/A
Measles	Pibor	17/01/2019	27	61 (0.015)	Yes	Yes	Yes	N/A
Measles	Gogriell West		20	87 (0.022)	Yes	Yes	Yes	N/A
Rubella	Aweil Center/NBG		0	35 (0.028)	Yes	No	Yes	N/A
Measles	Mayom	17/01/2019	14	19 (0.010)	Yes	Yes	Yes	N/A

Ongoing outbreaks in week 06, 2019

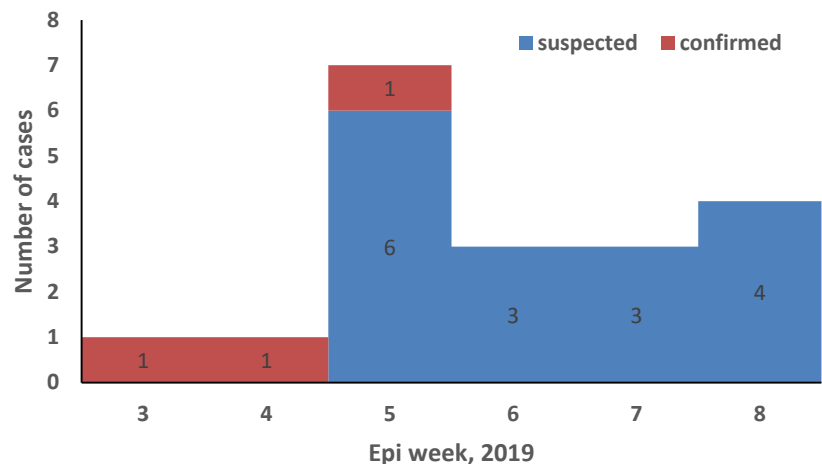
1. Rubella Malakal PoC
2. Yellow Fever in Nzara county
3. Measles in Rumbek East county
4. Measles in Bor PoC
5. Hepatitis E Virus (Bentiu PoC);
6. Measles in Abyei
7. Measles in Juba
8. Measles in Pibor
9. Measles in Gogriell West
10. Rubella in NBG
11. Measles in Mayom

ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS

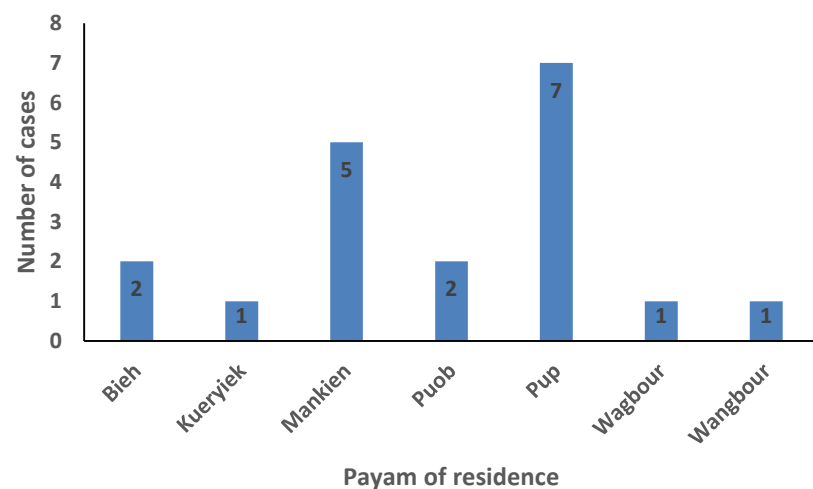
Brief epidemiological description and public health response for active outbreaks and public health events

Confirmed Measles outbreak – Mayom

Measles cases in Mayom, week 03-08, 2019



Measles cases in Mayom, week 03-08, 2019



Age groups	Female	Male	Total	Percentage, %	Cumulative %
<1	1	1	2	10.5	10.5
1-4	9	6	15	78.9	89.4
5-9	2	0	2	10.5	100.0
10-14	0	0	0	0.0	100.0
15+	0	0	0	0.0	
Total cases	12	7	19	100.0	

Descriptive Epidemiology

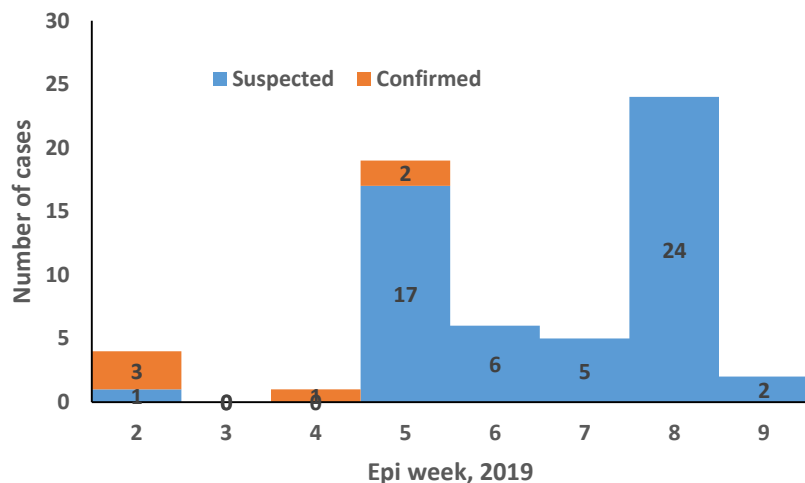
- Nineteen (19) suspected measles cases were reported in Mayom between week 03, 2019 and week 08, 2019.
 - Three cases have been confirmed positive for Measles IgM antibodies
 - No deaths have been reported
- The payams with the most cases are Pup (7) and Mankien (5) Payam
- Majority (89.4%) of the cases are children < 5 years of age
- Only two (10.5%) cases reported ever receiving a vaccination against measles before their illnesses

Recommended response

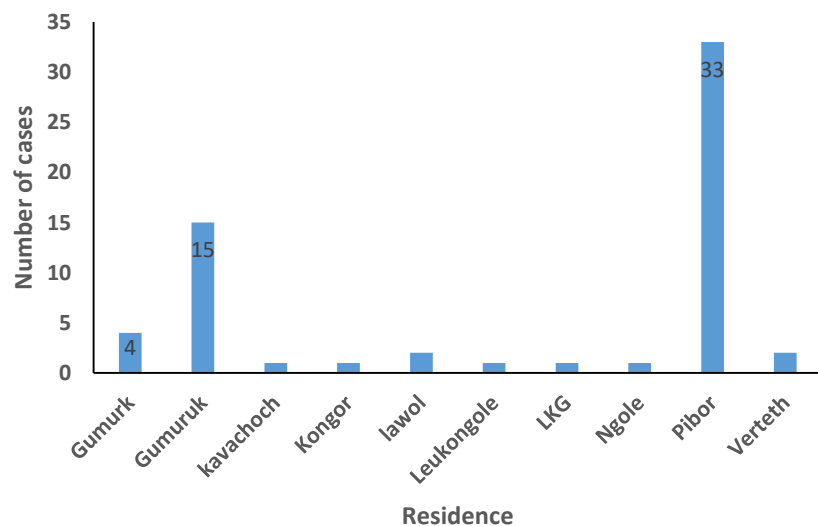
1. A micro-plan for reactive vaccination campaign targeting 37, 193 children aged 6-59 months in 10 payams in Mayom has been finalized
 1. Vaccines for the campaign have been approved
2. Other recommended interventions include active case search in the health facilities and communities, improving case management and routine surveillance through training of health workers, and quality social mobilization
3. Continuation with routine surveillance and immunization

Confirmed Measles outbreak – Pibor

Measles cases in Pibor, week 02-09, 2019



Measles cases in Pibor, week 02-09, 2019



Age groups	Female	Male	Total	Percentage, %	Cumulative %
<1	1	2	3	4.9	4.9
1-4	13	21	34	55.7	60.6
5-9	13	6	19	31.1	91.8
10-14	1	2	3	4.9	96.7
15+		2	2	3.3	100.0
Total cases	28	33	61	100.0	

Descriptive Epidemiology

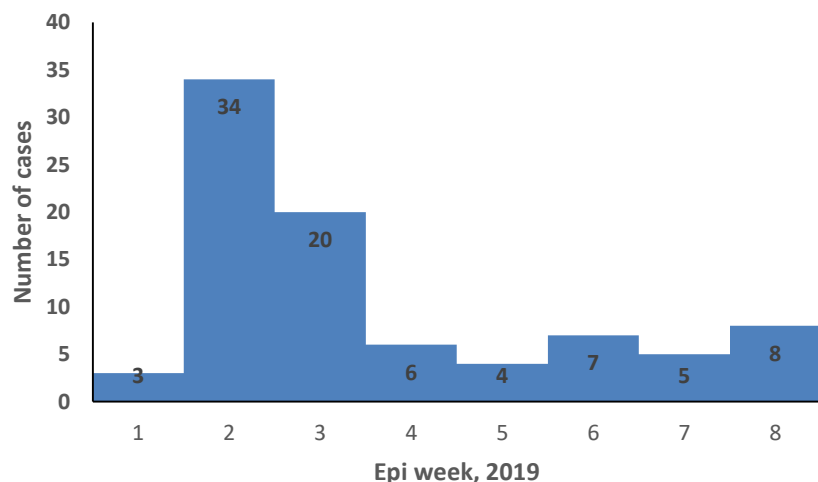
- A total of 61 suspected measles cases have been reported as at mid week 9, 2019.
 - Six cases have been confirmed positive for Measles IgM antibodies
 - No deaths have been reported
- Most of the cases are from Gumuruk (15) and Pibor (33) contributing about 79% (48) of all the cases
- About 61% (37) of the cases are children <5 years
- Majority of the cases (86.7%) of all the cases have either no history of prior vaccination against Measles or don't know their vaccination status.

Recommended response

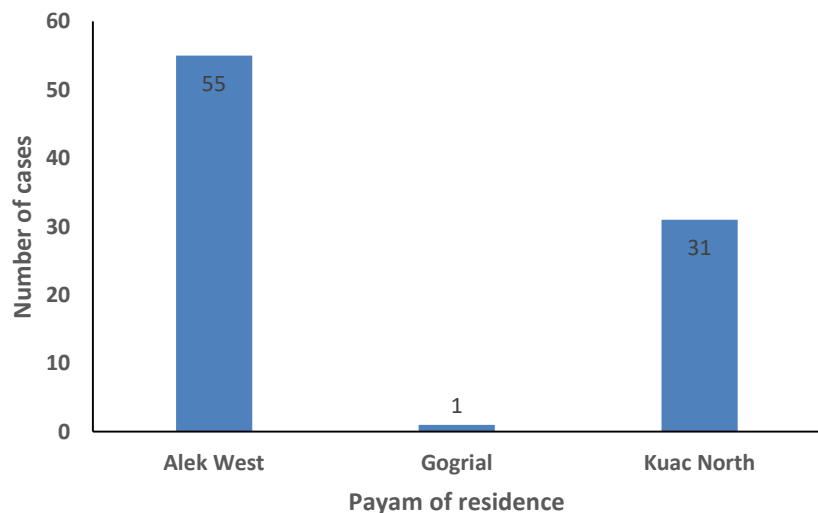
- A reactive vaccination campaign targeting 47,328 children aged 6 months to 15 years in all the payams will be conducted starting on 02nd March, 2019.
- Active case search in the health facilities and communities
- Training of health workers on surveillance and case management
- Continue with surveillance, routine immunization and increasing community awareness

Confirmed Measles outbreak – Gogrial West

Measles cases in Gogrial West, week 01-08, 2019



Measles cases in Gogrial West, week 01-08, 2019



Age groups	Female	Male	Total	Percentage, %	Cumulative %
<1	7	6	13	14.9	14.9
1-4	10	21	31	35.6	50.5
5-9	13	13	26	29.9	80.4
10-14	6	5	11	12.6	93.1
15+	5	1	6	6.9	100.0
Total cases	41	46	87	100.0	

Descriptive Epidemiology

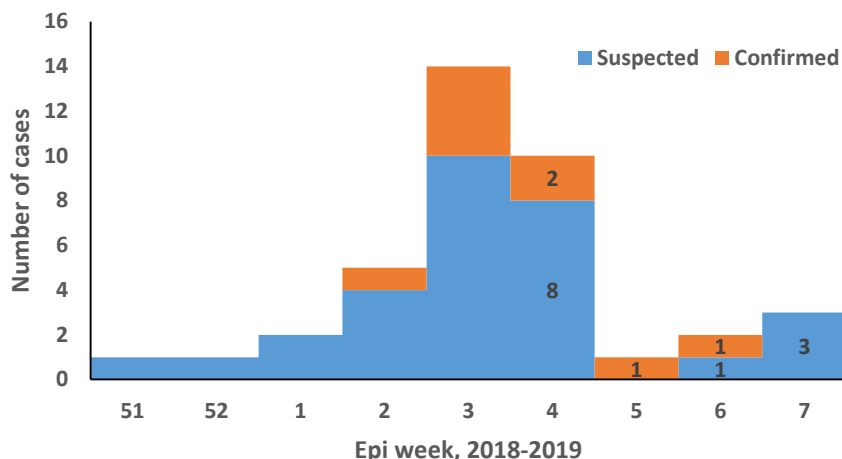
- About 87 suspected Measles cases reported between week 01, 2019 and week 08, 2019.
 - Three (3) cases are laboratory-confirmed
 - No deaths reported
- Most of the cases are from Alek West Payam with 55 (63.2%) suspected cases.
- About half (49.5%) of the cases are older than 5 years
- Most (95.4%) of the cases reported no history of receiving Measles vaccination prior to the illness

Recommended response

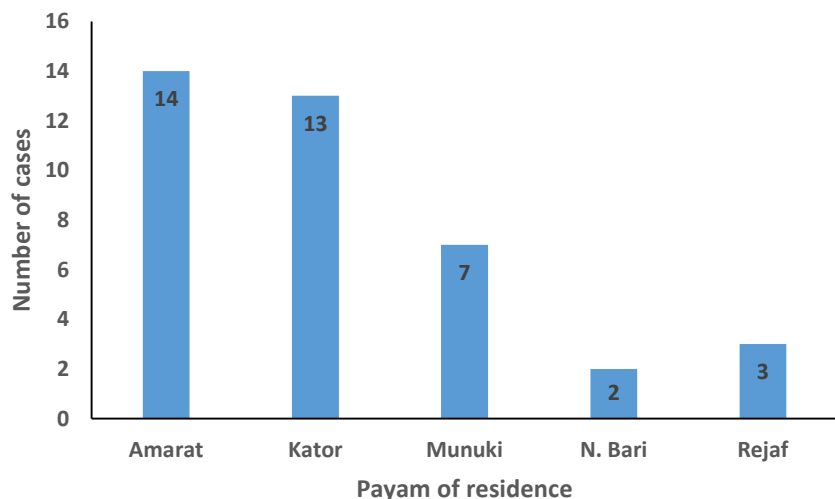
1. A reactive vaccination campaign targeting 188 061 children aged between 6 months and 15 years of age in the 9 payams is planned to start with training of the vaccinators on 27th Feb 2019 and the campaign 2-3 days later.
2. Active case search in the health facilities and communities
3. Increase community awareness through social mobilization
4. Continue with surveillance, case management and routine immunization

Confirmed Measles outbreak – Juba

Measles cases in Juba, week 51, 2018-07, 2019



Measles cases in Juba, week 51, 2018-07, 2019



Age groups	Female	Male	Total	Percentage, %	Cumulative %
<1	4	11	15	38.5	38.5
1-4	5	15	20	51.3	89.8
5-9		1	1	2.6	92.3
10-14	1	1	2	5.1	97.5
15+		1	1	2.6	100.0
Total cases	10	29	39	100.0	

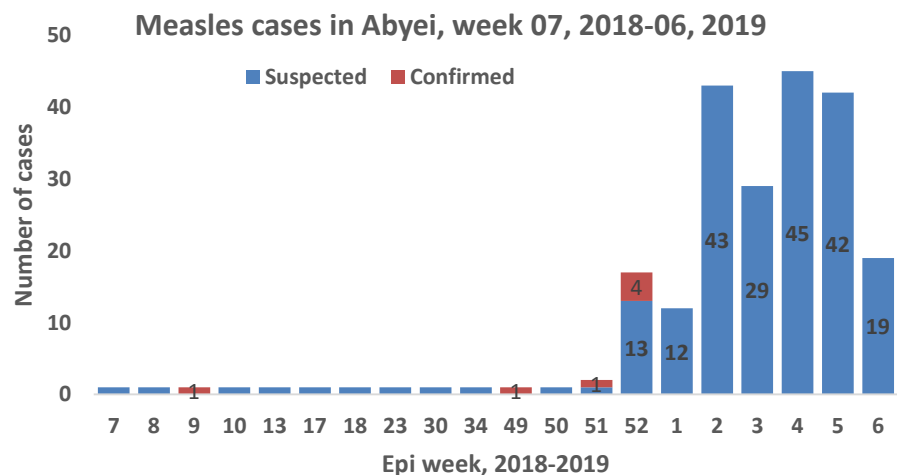
Descriptive Epidemiology

- A total of 39 suspected measles cases were reported from Juba as at end of week 7.
 - Most cases are from Amarat 14 (35.9%) and Khator 13 (33.3%) payams
 - Ten (10) confirmed cases; 6 from Khator, 3 from Amarat and 1 from Rejaf
 - Three (CFR 7.7%) 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, 35 (89.8%) while 29 (74.4%) are male

Recommended response

- A reactive vaccination campaign covering three payams of Amarat, Khator and Rejaf started on 11th February, 2019 and ended on 17th February, 2019
 - Plans to conduct an expanded campaign covering other payams is being finalized with support from MSF-F.
- 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	42	36	78	35.5	35.5
1-4	36	47	83	37.7	73.2
5-9	4	3	7	3.2	76.4
10-14	5	9	14	6.4	82.8
15+	16	22	38	17.3	100.0
Total cases	103	117	220	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 221 suspected cases reported between week 7, 2018 and week 03, 2019. Of all the cases, 211 (95.5%) were reported between week 49, 2018-06, 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 73.2% (161). Males are more than female accounting for 53.2% (117). Sex variable was missing for one case.
- Among the 211 cases reported since week 49 of 2018; 153 (72.5%) of the cases are children <5 years
- Rumammer county had the most cases with 180 (81.4%)
 - The villages with most cases include Agok (20), Mabony (20), Juoljok (19) and Mading (14).

Recommended response

- A reactive vaccination was conducted between week 04 and 05, 2019 targeting four counties of Abyei, Rumammer, Alal and Mijak achieving an overall coverage of 88% (13335/15204).
- A mop plans for the counties with low coverages achieved during the campaign are underway

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.

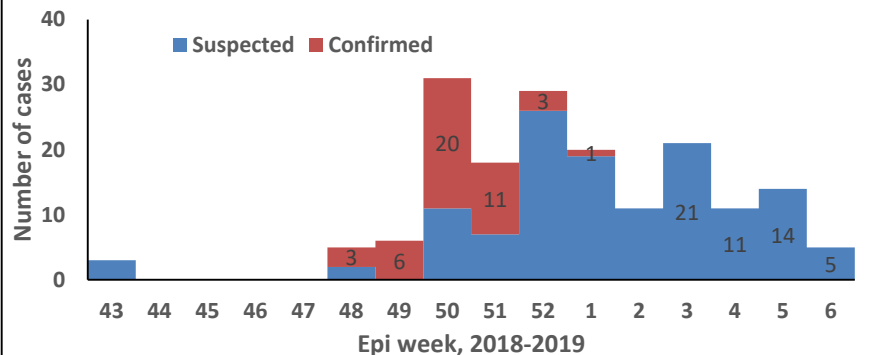
Descriptive Epidemiology

- A total of 174 suspected rubella cases have been reported since week 43-05, 2019
- No deaths reported
- A majority of cases are children <5 years, 102 (66.2%)
- More males, 82 (53.2%) than females affected. Sex variable missing for 20 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
- 44 cases are laboratory confirmed

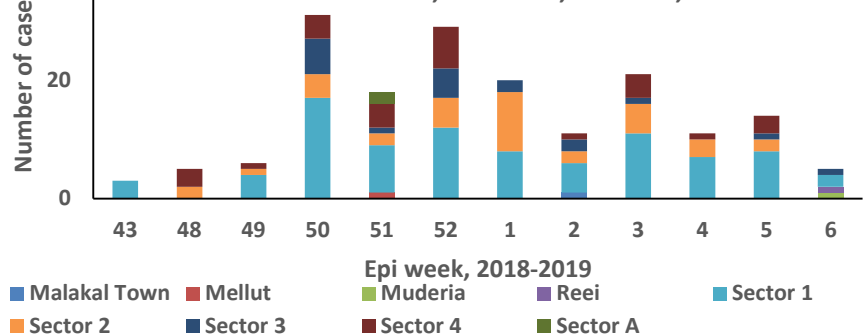
Recommended response

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.

Rubella cases in Malakall PoC, week 43, 2018-06, 2019

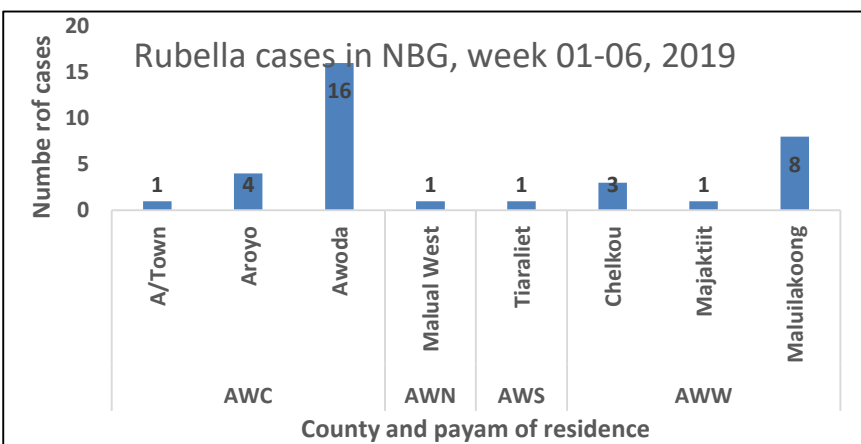
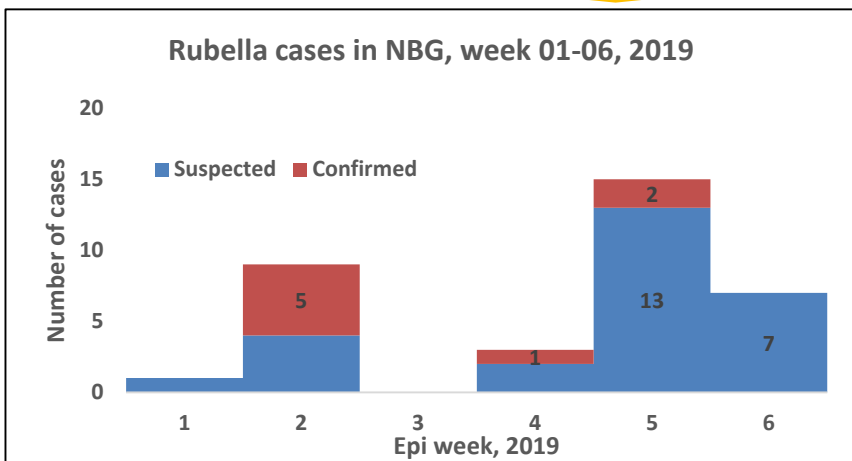


Rubella cases in Malakal, week 43, 2018-06, 2019



Age Groups	Female, n	Male, n	Total, n	Percent, %	Cumulative %
<5	42	60	102	66.2	66.2
5-9	28	15	43	27.9	94.1
10-14	2	6	8	5.2	99.3
15+	0	1	1	0.6	100.0
Total	72	82	154	100.0	

Rubella outbreak – Aweil Center County



Background

- Suspected Measles cases were reported from Aweil Center of Aweil state. As at end of week 6, 2019 there were 35 suspected cases. Eight (8) samples have tested positive for rubella IgM antibodies.

Descriptive Epidemiology

- A total of 35 cases as at the end of 6, 2019. All the cases are children < 15 years of age.
- More males than females as 63% (22) of cases are males
- No deaths reported
- There are no cases reported among females within the reproductive age groups (15-49 years)
- Awoda Payam in Aweil Center had the most cases with 16 (45.7%) cases

Recommended response

1. Supportive symptomatic management of the cases
2. Continue with routine immunization and community awareness.
3. Perform descriptive analysis to monitor for infection among pregnant mothers and females in the reproductive age.

Age Groups	Female, n	Male, n	Total, n	Percent, %	Cumulative %
<5	6	12	18	51.4	51.4
5-9	4	6	10	28.6	80.0
10-14	3	4	7	20.0	100.0
15+	0	0	0	0.0	
Total	13	22	35	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 initially presumptively yellow fever IgM positive were eventually confirmed PRNT positive for yellow fever.
 - 33 samples tested negative for Yellow Fever
- The yellow fever PCR positive case and the two YF PRNT positive cases all originate from Sakure payam in Nzara Payam, Gbudue state

Recommendations and Ongoing Activities

- Surveillance and laboratory investigation of new suspect cases
- WHO developed a reactive yellow fever vaccination campaign microplan targeting 19,578 individuals aged 9 months to 65 years in Sakure payam, Nzara county, Gbudue state.
- The vaccination microplan was submitted to the ICG on 19th February and approved on 21st Feb 2019
- A total of 21,416 doses of yellow fever vaccines are expected to arrive in South Sudan on 6th March 2019.
- The tentative date for the campaign is 18 - 22 March – awaits MoH confirmation

Suspected Meningitis

Jur River

- **One case** from Kuarjena PHCC in January, 2018; **five cases** from Mapel PHCC with the latest being on 5th Feb, 2019.
- **Three deaths** reported from Maple PHCC
- Cases at Maple PHCC are from Akaow and Mathwoni which are under opposition group
- Preliminary investigation conducted on 9th Feb, 2019

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) was collected for testing.

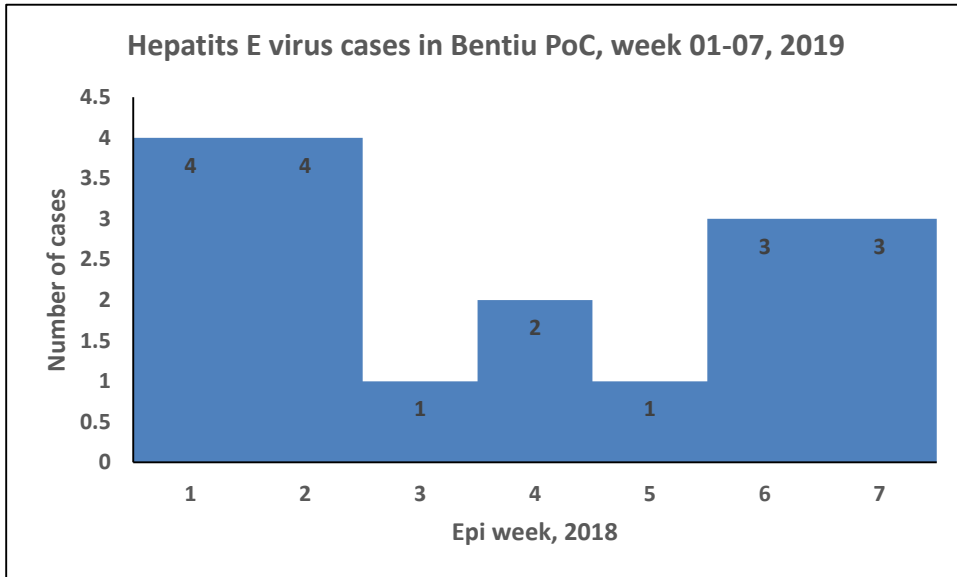
Leer

- **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

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

Hepatitis E, Bentiu PoC



Bentiu PoC

- There has been persistent transmission of HEV in Bentiu PoC
- A total of 18 suspected HEV cases have been reported in Bentiu PoC since the beginning of 2019. Three (3) new cases reported in week 7.
- There were 159 HEV cases reported in 2018
- All the recent cases have recovered and discharged
- Equal number of females and males were affected
- Age groups 1-4 years had the most cases with 6 (33.3%) cases.
- Out of the 9 females cases that were reported, one(1) cases is aged 15-44 years
 - At risk of adverse outcomes when 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	0	0	0	0.0	0
1-4 years	4	2	6	33.3	33.3
5-9 years		1	1	5.6	38.9
10-14 years	2	2	4	22.2	61.1
15-44 years	1	4	5	27.8	88.9
45+years	2		2	11.1	100.0
Total cases	9	9	18	100.0	

Malaria trends

Current malaria trends

Malaria was the leading cause of morbidity and mortality accounting for 73.6% of all morbidities and 20.8% of all mortalities in week 07, 2019. The trend analyses showed at least 9 counties in four 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. **Unity hub (Mayom)**
2. **Aweil hub(Aweil Center)**
3. **Kwajok hub (Twic, Gogrial East, Tonj South, Gogrial West ,Tonj East)**
4. **Rumbek hub (Rumbek Center ,Rumbek 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 in 2018

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

- In 2018, at least 16 alerts met the case definition and therefore underwent verification and follow up investigation by the rapid response teams.
- During 2018, at least 13 alerts that met the case definition were investigated and had samples obtained for laboratory testing with testing negative for Ebola virus disease and other hemorrhagic fevers save for one alert in Sakure, Nzara county that was confirmed yellow fever positive.

Ebola alerts investigated in 2019

Date	Cases	Deaths	Payam	County	eRDT	eGeneXpert	ePCR	Comments
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
09 Feb 19	1	0	Juba		Nd	-ve	-ve	Investigated on 09 th Feb 2019
21 st Feb 19	1	1	Yambio		Nd	-ve	-ve	Investigated on 21 st Feb 19
25 rd Feb 19	1	0	Yambio		Nd	-ve	Pending	Investigated on 25 th Feb 19
26 th Feb 16	1	0	Yambio		Nd	Pending	Pending	Investigated on 26 th Feb 19

- The latest EVD alert that was reported from Yambio on 26th February 2019 has been investigated with samples being expected in Juba on 27th February for GeneXpert and referral of the second sample for PCR testing in Uganda.
- The EVD suspected case reported from Yambio on 21st February 2019 has tested negative for EVD on GeneXpert and PCR while the suspected case that was reported on 25th has tested negative on GeneXpert but awaits PCR result which is expected from Uganda.
- Blood samples have been obtained from six (6) Ebolavirus alerts; four (4) samples tested negative for Ebolavirus and other viral hemorrhagic fevers including RVF, Marburg; Yellow Fever; and CCHF; results for the other two cases are pending.

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 23rd Feb 2019

Current situation

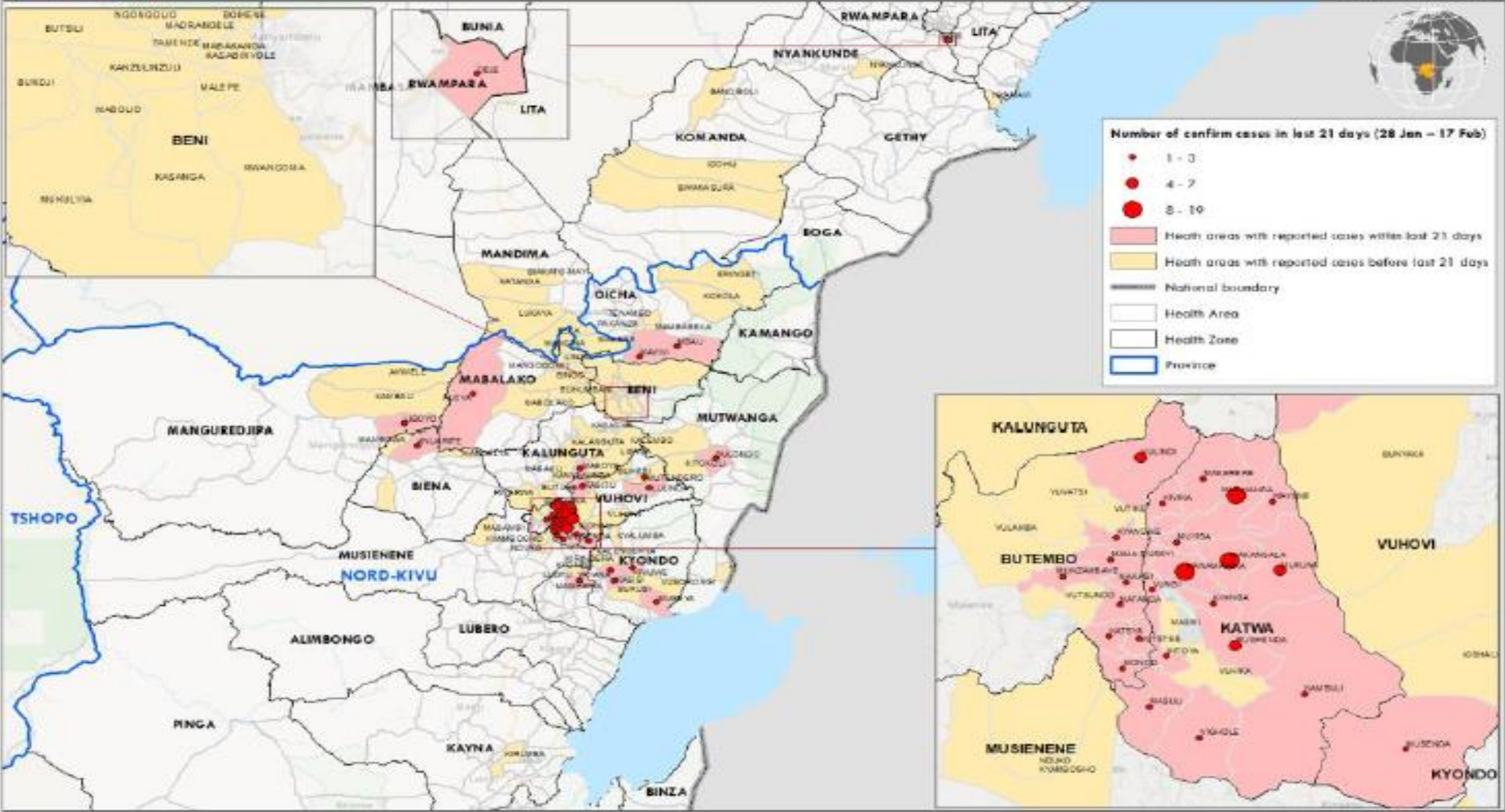
- Currently in 28th week of the outbreak
- **869** Cases [804 confirmed & 65 probable]
- **546** Deaths [481 confirmed & 65 probable]
- **68** Health workers [54 confirmed; 21 dead]

Response update

- **6849** contacts under surveillance [82-85% followed up]; 80 989 vaccinated

Affected health zones

- **2** provinces [North Kivu & Ituri]
- **19** health zones [14 North Kivu & 5 Ituri]
- **88** cases in last 21 days; Katwa (55), Butembo (15), Kyondo (4), Vuhovi (4), Kalunguta (2), Biena (1), Komanda (1), Mabalako (1), Manguredjipa (1), Masereka (1), Mutwanga (1), Oicha (1), and Bunia (1)



Number of confirm cases in last 21 days (28 Jan – 17 Feb)

- 1 - 3
- 4 - 7
- 8 - 10

Health areas with reported cases within last 21 days
 Health areas with reported cases before last 21 days
 National boundary
 Health Area
 Health Zone
 Province

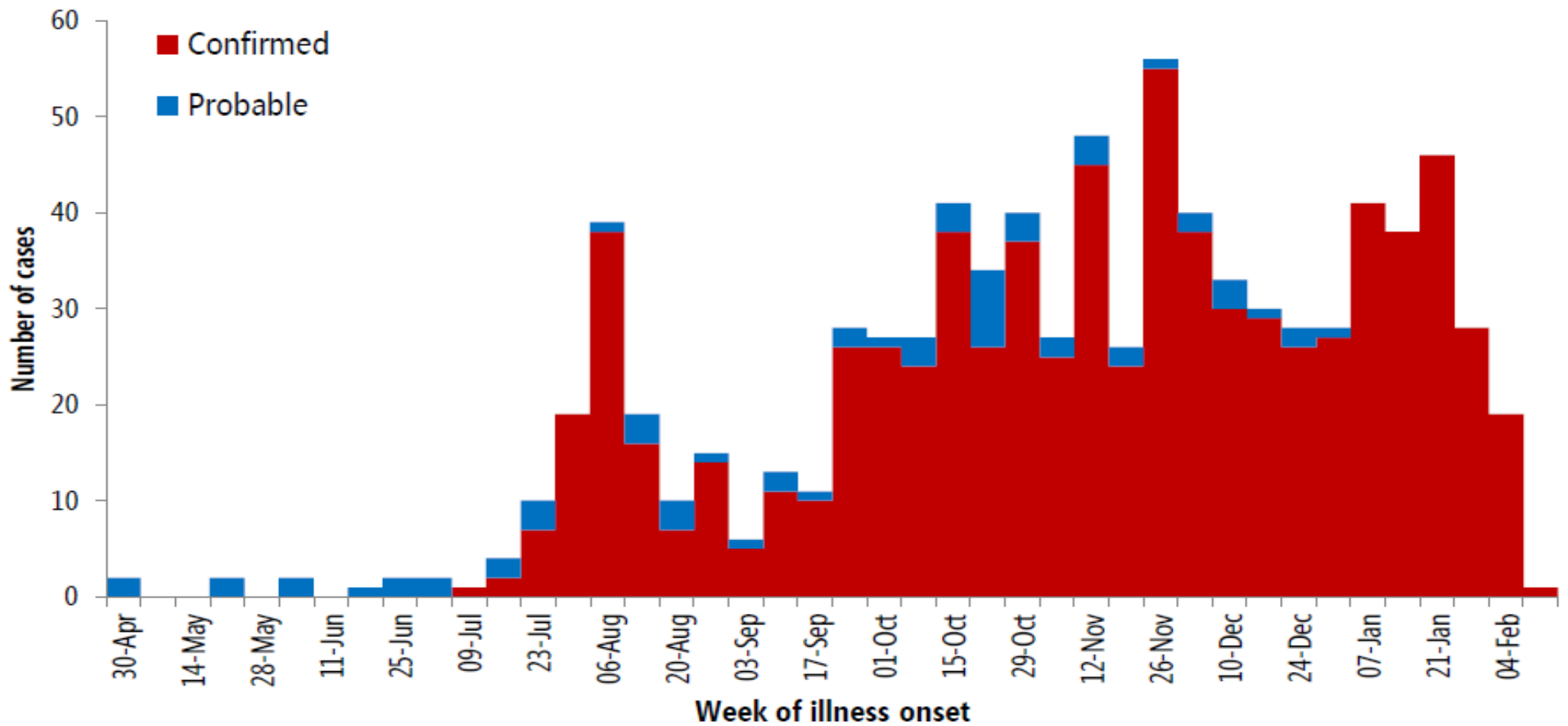


Data Source: World Health Organization, The Ministry of Health, Democratic Republic of the Congo, OpenStreetMap
 Map Production: WHO Health Emergencies Programme
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EVD trends & case distribution in DR Congo



- Trends in case incidence show that the outbreak is continuing, with lower transmission intensity across geographically dispersed areas

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: W7

From: 2019-02-11

To: 2019-02-17

Name of PoE	Passengers Screening Information			EVD Alerts		
	# screened	# Isolated	# under Voluntary Home Quarantine	# reported	# validated	# suspects
Bazi Border	954	0	0	0	0	0
Ezo	0	0	0	0	0	0
Gangura Border	13	0	0	0	0	0
Juba International Airport	3,385	0	0	0	0	0
Kaya	2,818	0	0	0	0	0
Kaya Border	0	0	0	0	0	0
Khortjo	3,055	0	0	0	0	0
Makpandu	0	0	0	0	0	0
Maridi Airstrip	22	0	0	0	0	0
Nimule Border	0	0	0	0	0	0
Okaba	846	0	0	0	0	0
Panjala Docking River	0	0	0	0	0	0
Pure	3,699	0	0	0	0	0
Sakure Border	21	0	0	0	0	0
Tikori	155	0	0	0	0	0
Wau Airport	0	0	0	0	0	0
Yambio Airport	18	0	0	0	0	0
Yei Airport	14	0	0	0	0	0
Yei RRC	6	0	0	0	0	0
South Sudan	16,008	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 06 of 2019, 16, 008 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
17/01/2019	Measles	0	Mayom		Five suspected cases out of which three tested positive for Measles IgM antibodies

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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>

