

South Sudan

Integrated Disease Surveillance and Response (IDSR)

Epidemiological Update W43 2018 (Oct22- Oct28)



Ministry of Health
Republic of South Sudan



World Health
Organization

South Sudan

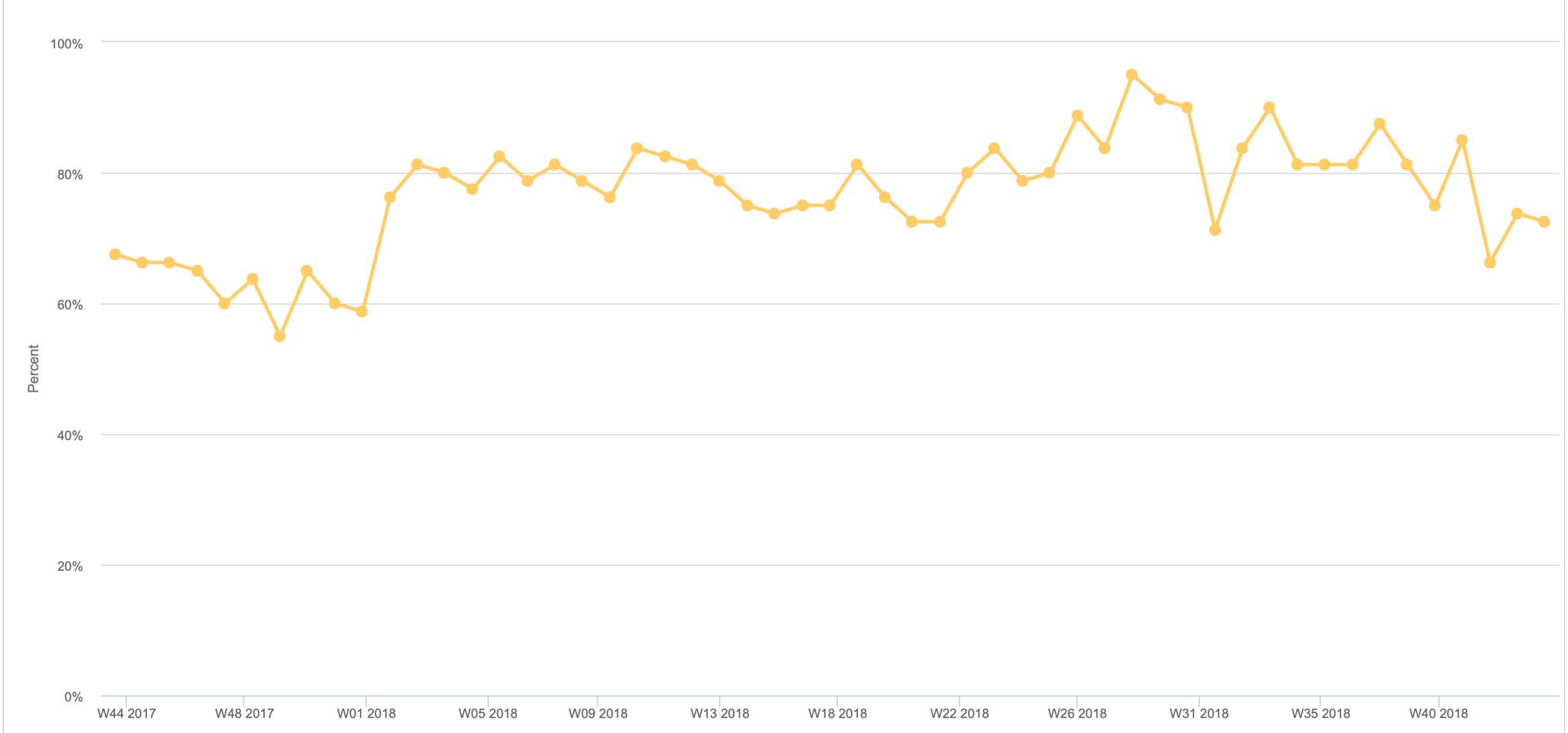
- Completeness for IDSR reporting at county level was 73% . Completeness for EWARS reporting from IDPs was 93%.
- A total of 12 alerts were reported, of which 92% were verified. 0 alerts risk assessed & 0 required a response.
- Two Ebola alerts were reported from Nimule checkpoint but were discarded as they did not meet the case definition.
- Suspect measles cases reported in Malakal PoC; Bentiu PoC; and Bor PoC.
- Two suspect Guinea worm cases reported in Mabior yar Payam in Tonj South County.
- There was no new suspect Rift Valley Fever (RVF) case reported from Yirol East in week 43. A total of 58 suspect human cases including 6 confirmed; 3 probable; 48 non-cases; and 01 pending classification (with no definitive lab. test results) have been reported. Nine confirmed animal cases (cattle).
- Four new HEV cases were reported in week 43. A total of 143 HEV cases (18 confirmed by PCR) have been reported in Bentiu PoC in 2018. Current response entails surveillance, case follow up, WASH and discouraging communities from using stagnant water for domestic and recreational purposes.
- 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.

Table 1 | IDSR surveillance performance indicators by county (W43 2018)

| Hub | Reporting | | Performance (W43 2018) | | Performance (Cumulative 2018) | |
|--------------------|------------|--------------------|------------------------|------------|-------------------------------|------------|
| | # counties | # reports received | Completeness | Timeliness | Completeness | Timeliness |
| Aweil | 5 | 5 | 100% | 100% | 88% | 87% |
| Bentiu | 9 | 7 | 78% | 78% | 72% | 55% |
| Bor | 11 | 7 | 64% | 64% | 50% | 47% |
| Juba | 6 | 4 | 67% | 67% | 84% | 74% |
| Kwajok | 7 | 5 | 71% | 71% | 99% | 90% |
| Malakal | 13 | 3 | 23% | 23% | 56% | 27% |
| Rumbek | 8 | 8 | 100% | 100% | 100% | 92% |
| Torit | 8 | 7 | 88% | 88% | 98% | 75% |
| Wau | 3 | 2 | 67% | 67% | 91% | 77% |
| Yambio | 10 | 10 | 100% | 100% | 99% | 99% |
| South Sudan | 80 | 58 | 73% | 73% | 80% | 73% |

- Completeness for IDSR reporting at county level was 73% in week 43 and cumulatively at 80% for 2018.
- Timeliness for IDSR reporting at county level was 73% in week 43 and cumulatively at 73% for 2018

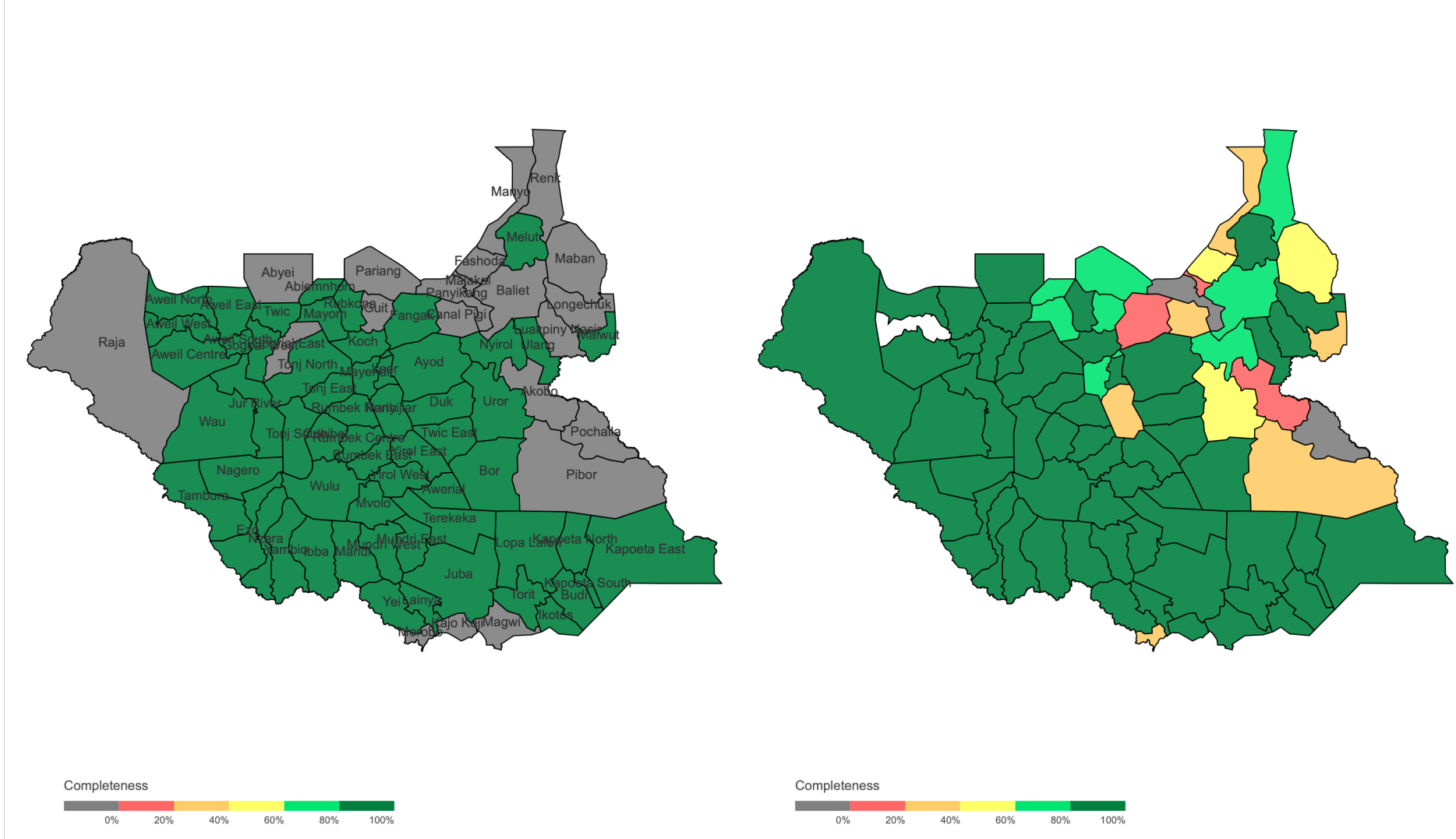
Figure 1 | Trend in IDSR completeness over time¹



The graph shows completeness for weekly reporting at county level. The national average currently stands at 80%.

Map 1a | Map of IDSR completeness by county (W43 2018)

Map 1b | Map of IDSR completeness by county (2018)



- Counties that submitted IDSR reports in W43 are shown in green in map 1a.
- Counties that did not submit IDSR reports in W43 are shown in grey in map 1a.

Table 4 | EWARS surveillance performance indicators by partner (W43 2018)

| Partner | Performance | | Reporting (W43 2018) | | Reporting (Cumulative 2018) | |
|--------------|-------------|--------------------|----------------------|------------|-----------------------------|------------|
| | # sites | # reports received | Completeness | Timeliness | Completeness | Timeliness |
| CMD | 3 | 3 | 100% | 100% | 47% | 46% |
| GOAL | 2 | 2 | 100% | 100% | 100% | 93% |
| HLSS | 1 | 1 | 100% | 100% | 100% | 100% |
| IMA | 5 | 5 | 100% | 100% | 84% | 81% |
| IMC | 6 | 5 | 83% | 83% | 93% | 93% |
| IOM | 10 | 10 | 100% | 100% | 85% | 85% |
| IRC | 1 | 0 | 0% | 0% | 98% | 91% |
| Medair | 2 | 2 | 100% | 100% | 94% | 92% |
| MSF-E | 2 | 1 | 50% | 50% | 69% | 55% |
| MSF-H | 2 | 2 | 100% | 100% | 83% | 60% |
| SMC | 4 | 4 | 100% | 100% | 85% | 85% |
| UNIDO | 1 | 1 | 100% | 100% | 102% | 102% |
| UNKEA | 2 | 2 | 100% | 100% | 87% | 85% |
| World Relief | 1 | 0 | 0% | 0% | 95% | 86% |
| TRI-SS | 7 | 7 | 100% | 100% | 36% | 36% |
| LIVEWELL | 4 | 4 | 100% | 100% | 40% | 40% |
| Total | 54 | 50 | 93% | 93% | 75% | 73% |

Timeliness and completeness for EWARN/IDP reporting stands at 93% for week 43, while cumulatively timeliness and completeness are 73% and 75% respectively for 2018.

Table 7 | Alert performance indicators by Hub

| Hub | W43 | | Cumulative (2018) | |
|--------------------|-----------|------------|-------------------|------------|
| | # alerts | % verif. | # alerts | % verif. |
| Aweil | 0 | 0% | 42 | 93% |
| Bentiu | 2 | 100% | 90 | 72% |
| Bor | 4 | 100% | 65 | 71% |
| Juba | 0 | 0% | 77 | 69% |
| Kwajok | 1 | 0% | 42 | 93% |
| Malakal | 3 | 100% | 78 | 77% |
| Rumbek | 0 | 0% | 54 | 74% |
| Torit | 1 | 100% | 56 | 86% |
| Wau | 1 | 100% | 48 | 69% |
| Yambio | 0 | 0% | 94 | 55% |
| South Sudan | 12 | 92% | 646 | 74% |

Table 8 Summary of key alert indicators

| W43 | Cumulative (2018) | |
|------------|-------------------|------------------------|
| 12 | 646 | Total alerts raised |
| 92% | 74% | % verified |
| 0% | 0% | % auto-discarded |
| 0% | 3% | % risk assessed |
| 0% | 1% | % requiring a response |

A total of 12 alerts were reported in week 43 with 92% of the alerts in week 43 being verified; 0 were risk assessed and 0 required a response.

Table 9 | Alert performance indicators by event

| Event | W43 | | Cumulative (2018) | |
|-------------------------------------|----------|----------|-------------------|----------|
| | # alerts | % verif. | # alerts | % verif. |
| Indicator-based surveillance | | | | |
| Malaria | 4 | 100% | 125 | 67% |
| AWD | 2 | 100% | 205 | 69% |
| Bloody Diarr. | 2 | 50% | 167 | 57% |
| Measles | 4 | 100% | 134 | 82% |
| Meningitis | 0 | 0% | 0 | 0% |
| Cholera | 0 | 0% | 6 | 100% |
| Yellow Fever | 0 | 0% | 4 | 75% |
| Guinea Worm | 0 | 0% | 21 | 90% |
| AFP | 0 | 0% | 52 | 90% |
| VHF | 0 | 0% | 3 | 100% |
| Neo. tetanus | 0 | 0% | 5 | 60% |
| Event-based surveillance | | | | |
| EBS total | 0 | 0% | 32 | 72% |

Table 10 | Event risk assessment

| W43 | Cumulative (2018) | |
|-----|-------------------|----------------|
| 0 | 8 | Low risk |
| 2 | 2 | Medium risk |
| 0 | 3 | High risk |
| 0 | 1 | Very high risk |

During the week, malaria and measles were the most frequent infectious hazards reported.

Alert by disease and county in W43 2018

| County | Acute Watery Diarrhoea | Bloody Diarrhoea | Measles | Malaria | Total Alerts |
|---------------------|------------------------|------------------|----------|----------|--------------|
| Ayod | | | | 1 | 1 |
| Bor | | | 1 | 1 | 2 |
| Ikotos | | | 1 | | 1 |
| Malakal | | | 1 | | 1 |
| Melut | 1 | | | | 1 |
| Rubkona | 1 | | 1 | | 2 |
| Tonj North | | 1 | | | 1 |
| Twic East | | 1 | | | 1 |
| Ulang | | | | 1 | 1 |
| Wau | | | | 1 | 1 |
| Total Alerts | 2 | 2 | 4 | 4 | 12 |

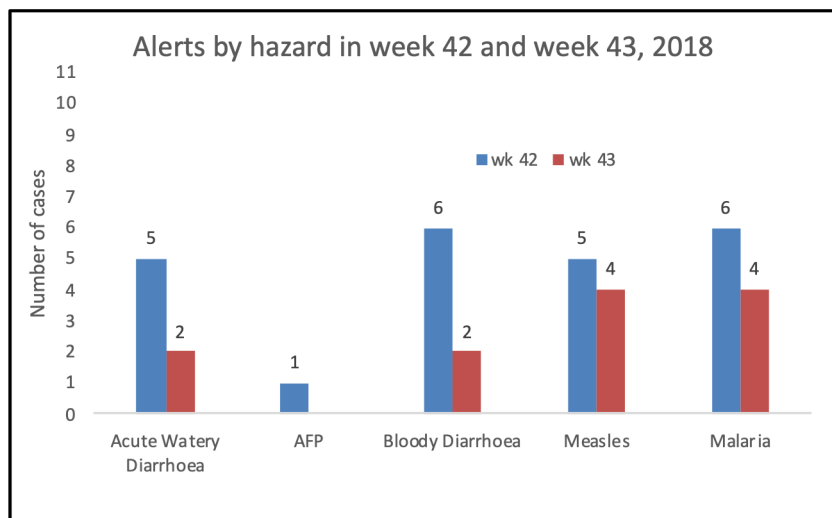
- During week 43, a total of 12 alerts were reported through EWARS
- During the week; malaria and measles were the most frequent alerts (see table and figure)

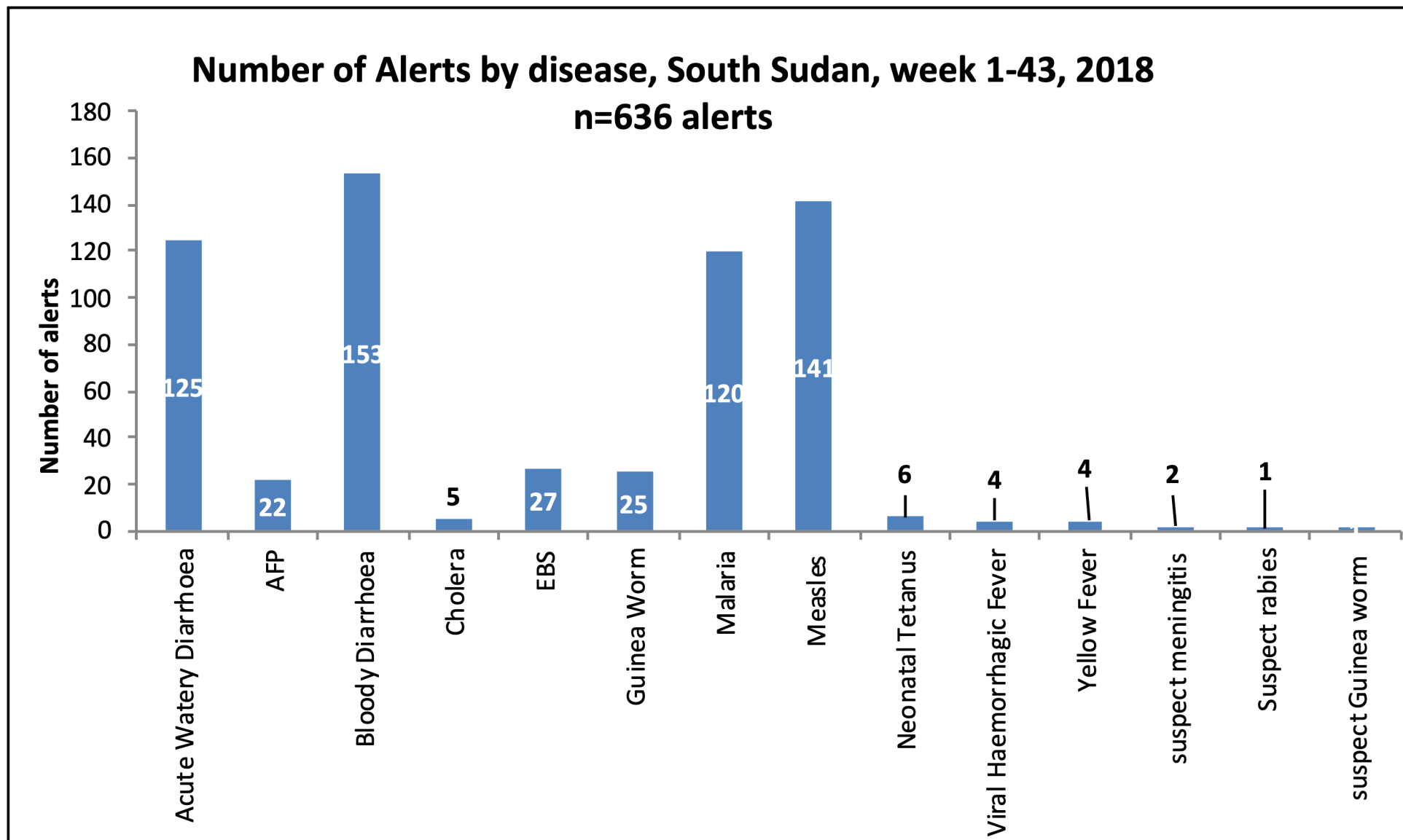
Suspect measles cases in Malakal PoC

- From 26th to 27th October 2018; three new suspect measles cases were reported in Malakal PoC. Two of the cases are aged 5 years while the third is 7 years old. All the cases have not received measles vaccination and reside in Sector 1 block 1. Their families have lived in the PoC since 2014. The last measles campaign was in August 2017. The samples have been collected and will be sent to Juba later in the week. The occurrence of these cases highlights the need to review & improve the service package offered by the partners that should include routine vaccination at fixed & outreach sites in the PoC.

Measles cases in Bentiu PoC

- Measles cases continue to be reported in Bentiu PoC even after the reactive campaign that ended 4 Sep 2018 (coverage 75%). A total of 29 cases have been reported since week 23. Since the conclusion of the campaign; 9 new cases have been reported out of which 7 (77%) were <5yrs; 6 (67%) from sectors 2&5; all not immunized). It is recommended that measles case-based laboratory-backed surveillance continues for all new cases; enhanced routine vaccination at fixed posts and outreach sites especially in sectors 2 & 5; and ensuring that all children who present to the health facility without evidence of vaccination (card) are vaccinated. Its also critical that vaccination of new arrivals into the PoC is urgently reinstated. The communication team should also come up with behavioral change messaging to promote routine immunization.





The Figure shows the cumulative number of alerts triggered in 2018 by hazard.

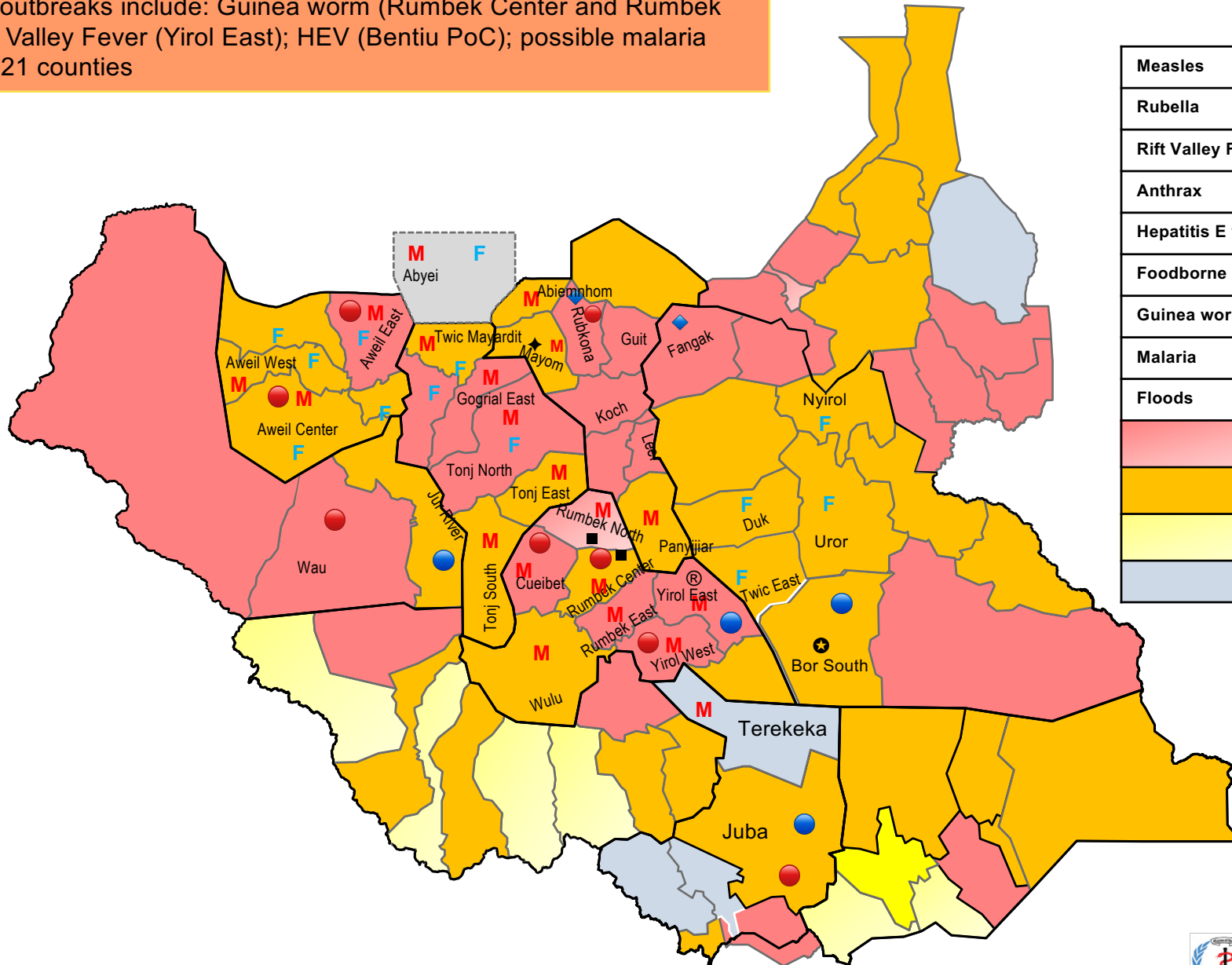
Cumulative alerts by risk assessment stage in 2018

| County | OUTCOME | RISK ASSESSED | CHARACTERISED | VERIFICATION | Total Alerts |
|--------------------------|-----------|---------------|---------------|--------------|--------------|
| Acute Watery Diarrhoea | 1 | | | 124 | 125 |
| AFP | | 1 | | 21 | 22 |
| Bloody Diarrhoea | 1 | | | 152 | 153 |
| Cholera | 1 | | | 1 | 2 |
| EBS | | 3 | | 24 | 27 |
| Guinea Worm | 2 | 1 | | 22 | 25 |
| Neonatal Tetanus | 3 | | | 3 | 6 |
| Viral Haemorrhagic Fever | | | | 4 | 4 |
| Yellow Fever | | | | 4 | 4 |
| Measles | 5 | 7 | | 129 | 141 |
| Cholera | | | | 3 | 3 |
| Malaria | 2 | 4 | 1 | 113 | 120 |
| suspect meningitis | | | | 2 | 2 |
| Suspect rabies | | | | 1 | 1 |
| suspect Guinea worm | | | | 1 | 1 |
| Total Alerts | 15 | 16 | 1 | 604 | 636 |

- The Figures show the cumulative alerts by risk assessment state in 2018
- Of the 636 alerts reported in 2018; a total of 604 alerts have been verified; 16 alerts underwent risk assessment; and 15 alerts have a documented outcome

Confirmed Outbreaks South Sudan – 4 November 2018

- 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 21 counties

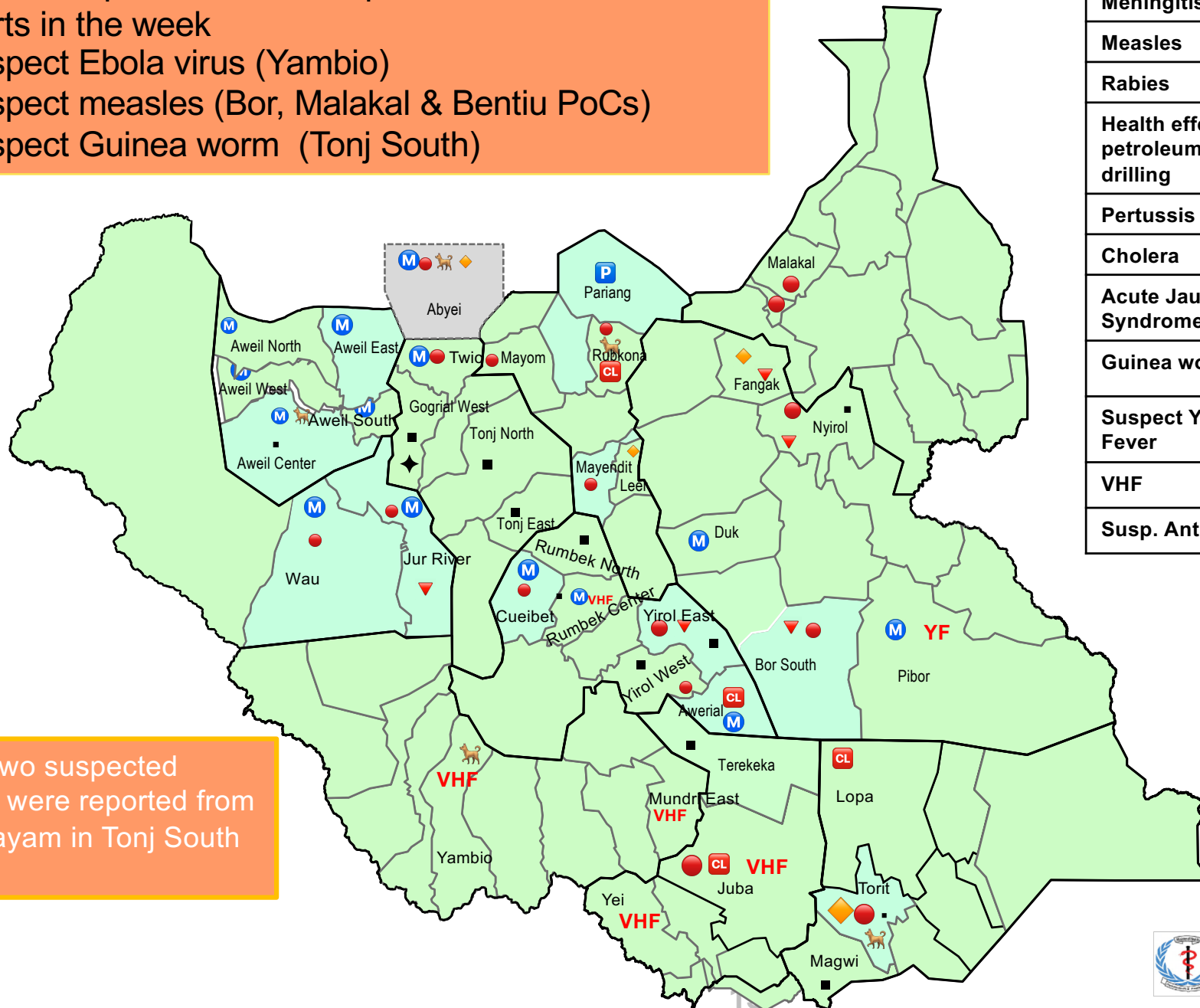


| | |
|-------------------|-----------------------|
| Measles | ● |
| Rubella | ● |
| Rift Valley Fever | Ⓜ |
| Anthrax | ◆ |
| Hepatitis E virus | ◆ |
| Foodborne disease | ★ |
| Guinea worm | ■ |
| Malaria | M |
| Floods | F |
| | IPC - Emergency phase |
| | IPC- Crisis phase |
| | IPC - Stressed phase |
| | No data |

Suspect Outbreaks South Sudan – 4 November 2018

- Map shows suspect outbreaks reported in 2018
- New alerts in the week
 - Suspect Ebola virus (Yambio)
 - Suspect measles (Bor, Malakal & Bentiu PoCs)
 - Suspect Guinea worm (Tonj South)

| | |
|--------------------------------------|-----|
| Meningitis | M |
| Measles | ● |
| Rabies | 🐕 |
| Health effects of petroleum drilling | P |
| Pertussis | ▼ |
| Cholera | CL |
| Acute Jaundice Syndrome | ◆ |
| Guinea worm | ■ |
| Suspect Yellow Fever | YF |
| VHF | VHF |
| Susp. Anthrax | ◆ |



In week 43, Two suspected Guinea worm were reported from Mabior yar Payam in Tonj South County

| Aetiologic agent | Location (county) | Date first reported | New cases since last bulletin | Cumulative cases to date (attack rate %) | Interventions | | | |
|--------------------------|------------------------------|---------------------|-------------------------------|--|-----------------|-------------|------------------|------|
| | | | | | Case management | Vaccination | Health promotion | WASH |
| New epidemics | | | | | | | | |
| | | | | | | | | |
| Ongoing epidemics | | | | | | | | |
| 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 | 143 (0.123) | Yes | No | Yes | Yes |
| Rubella | Bor South | 20/08/2018 | 0 | 03 (0.001) | Yes | No | Yes | N/A |
| Measles | Juba (Al Mahad IDPs) | 11/09/2018 | 0 | 26 (0.33) | Yes | Yes | Yes | N/A |
| Possible malaria upsurge | 21 counties | 01/07/2018 | | | Yes | N/A | Yes | N/A |

The ongoing outbreaks include:

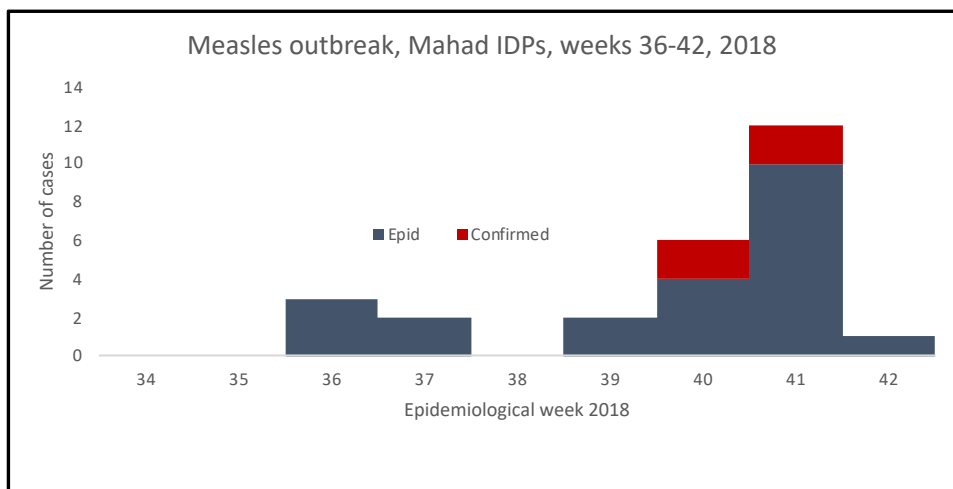
1. Guinea worm (Rumbek Center and Rumbek North);
2. Rift Valley Fever (Yirol East);
3. Hepatitis E Virus (Bentiu PoC);
4. Rubella (Bor South);
5. Measles (Juba - Al Mahad IDPs); and
6. Possible malaria upsurge in 21 counties

Response | Summary of major outbreaks controlled in 2018

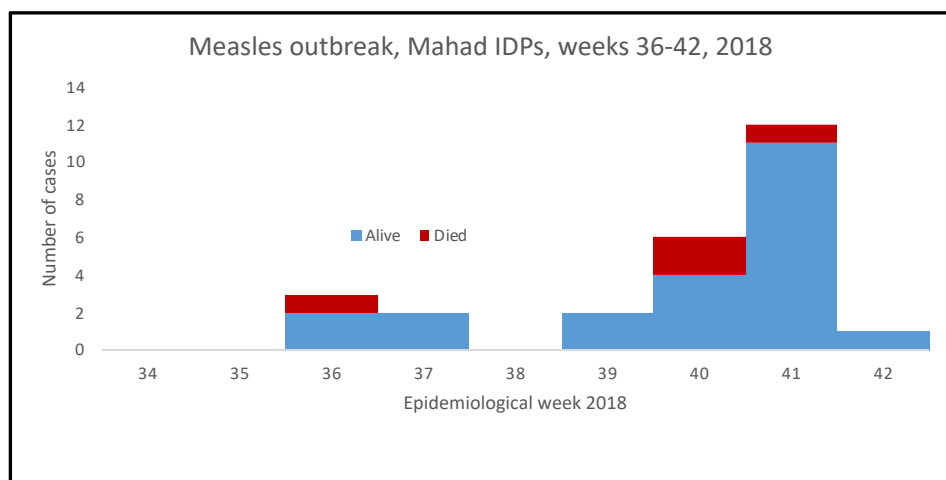
| Aetiologic agent | Location (county) | Date first reported | New cases since last bulletin | Cumulative cases to date (attack rate %) | Interventions | | | |
|-----------------------------|-------------------|---------------------|-------------------------------|--|-----------------|-------------|------------------|------|
| | | | | | Case management | Vaccination | Health promotion | WASH |
| Controlled epidemics | | | | | | | | |
| Measles | Bentiu PoC | 10/06/2018 | 0 | 23 (0.02) | Yes | Yes | Yes | N/A |
| Measles | Yirol West | 07/08/2018 | 0 | 11 (0.007) | Yes | Yes | Yes | N/A |
| Rubella | Yirol East | 26/06/2018 | 0 | 18 (0.017) | Yes | Yes | Yes | N/A |
| Rubella | Jubek | 28/05/2018 | 0 | 10 (0.0017) | Yes | No | Yes | N/A |
| Rabies probable | Bentiu PoC | 06/12/2017 | 0 | 270 (0.231) | Yes | Yes | Yes | N/A |
| Measles | Rumbek Center | 13/05/2018 | 0 | 40 (0.017) | Yes | Yes | Yes | N/A |
| Measles | Wau PoC AA | 04/04/2018 | 0 | 1 (0.0025) | Yes | No | Yes | N/A |
| Hepatitis E | Old Fangak | 15/02/2018 | 0 | 01 (0.001) | Yes | No | Yes | Yes |
| Rubella | Jur River | 14/02/2018 | 0 | 76 (0.039) | Yes | No | Yes | N/A |
| Rubella | Juba | 26/02/2018 | 0 | 22 (0.0037) | Yes | No | Yes | N/A |
| Rubella | Mayom | 22/02/2018 | 0 | 08 (0.004) | Yes | No | Yes | N/A |
| Measles | Aweil Center | 6/Jan/2018 | 0 | 22 (0.021) | Yes | Yes | Yes | N/A |
| Measles | Cueibet | 14/10/2017 | 0 | 20 (0.012) | Yes | Yes | Yes | N/A |
| Measles | Aweil East | 05/02/2018 | 0 | 31 (0.006) | Yes | Yes | Yes | N/A |
| Foodborne | Bor South | 18/02/2018 | 0 | 434 (29) | Yes | Yes | Yes | Yes |
| Cut. Anthrax | Mayom | 27/01/2018 | 0 | 2 (0.001) | Yes | No | Yes | N/A |
| Meningitis | Torit | 17/01/2018 | 0 | 173 (0.107) | Yes | No | Yes | N/A |

During 2018, at least 23 outbreaks have been reported out of which 17 outbreaks have been controlled.

Confirmed Measles outbreak – Juba, Al Mahad IDPs



| Age yrs | Female | Male | Total cases | Percentage | Cum % |
|--------------------|----------|-----------|-------------|-------------|-------|
| <1yr | | 1 | 1 | 4% | 4% |
| 1-4yrs | 7 | 13 | 20 | 77% | 81% |
| 5-9yrs | 2 | 3 | 5 | 19% | 100% |
| Total cases | 9 | 17 | 26 | 100% | |



Background

- Investigations conducted from 10th -12th Oct 2018
- WHO MMT investigation done on 12th Oct 2018
- Al Mahad IDP camp is located in Juba with population of 7752 people

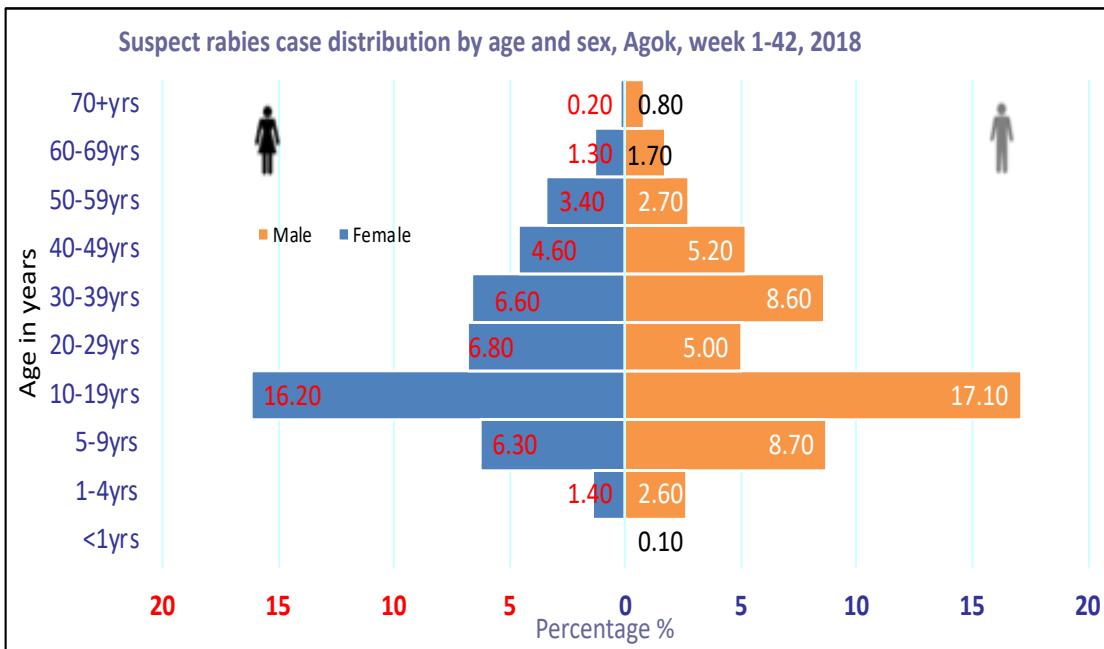
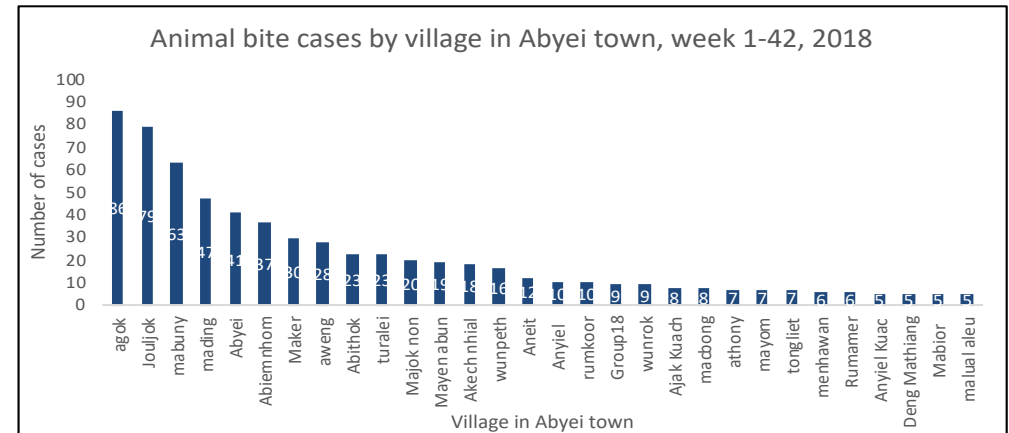
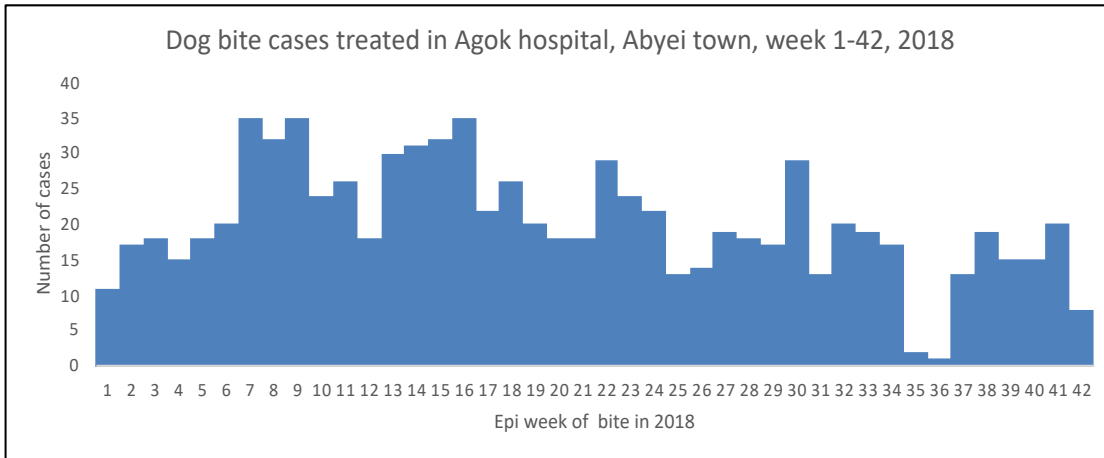
Descriptive Epidemiology

- Since 11 Sep 2018; at least 26 cases including 4 deaths (CFR 15.4%); 4 measles IgM positive cases have been reported.
- Age range is 7 months to 8 years; median of 2 years and a mean of 3 years.
- 21 (81%) cases were under 5 years of age
- Highest peak of transmission reached in week 42, during which two deaths were also reported.

Recommended response

1. Reactive campaign conducted from 17th-20th Oct. 2018 targeting 1,847 children under five years. Administrative coverage was 134% (2,471) children under five years of age.
2. Surveillance and line listing ongoing
3. Strengthening routine - static/outreach vaccination to the population needs to be established and sustained

Animal bites - suspect rabies, Agok hospital, Abyei Town



- An increase in dog bite (suspect rabies) cases continues to be reported from Agok hospital in Abyei.
- An exponential increase in suspect rabies cases has been reported in 2018 when compared to the previous years with a total of 848 cases reported in 2018 (week 1-42);
- Most bites reported in persons aged 10-19 years and there are no significant risk difference by sex (gender)
- Current response entails surveillance - case detection and line listing & post exposure prophylaxis with rabies vaccine.
- As part of the rabies day (28/9/2018) celebrations, Abyei is one of the five states selected by the South Sudan Veterinary Association (SSVA) to conduct rabies vaccination in dogs (the campaign is currently underway in Abyei)
- Meeting organized in PHEOC on 24/10/2018 to review rabies situation and current response

Suspect Hepatitis E virus – Agok, Abyei

Background

- MSF Agok hospital has reported suspect hepatitis E cases from Agok, Abyei town.
- Abyei has in the recent weeks been affected by floods following torrential rains. This should have exacerbated contamination of water sources in the affected areas

Descriptive Epidemiology

- At least seven (7) suspect Hepatitis E virus cases and two (2) deaths (CFR 29%) deaths have been line listed since 10 July 2018.
- A total of six cases have been tested positive for HEV by RDT but definitive PCR testing is pending. However, the recent death was HEV RDT negative.
- The symptoms include fever, jaundice, vomiting, epigastric pains, head ache, and at least two cases have had un explained bleeding.
- All the affected to are males with a median age of 24 years
- All the affected are from Abyei town

Recommended response

1. Supportive case management and line listing underway in MSF Agok hospital
2. Integrated health WASH response planned to map possible sources of contamination and to improve access to safe water and sanitation in the affected locations

Other Public Health issues in Abyei

- Abyei is also currently challenged by the following public health issues
- **Malaria** – current malaria trends higher than expected (above the third quartile)
- **Suspect rabies** – Abyei has reported 848 animal bites (suspect rabies) in 2018

Ebola alerts investigated since May 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 |

- Two new alerts in Nimule were discarded as they did not meet the Ebola case definition
- A total of 12 Ebola alerts investigated since May 2018
- Samples obtained from seven Ebolavirus alerts; and
- Seven samples have tested PCR negative for Ebolavirus

Ebola virus disease Alert in Yambio, Gbudue state, 21 October 2018

Case description

- The PHEOC received a report of an Ebola alert from Yambio hospital, Yambio town, Gbudue state.
- The alert was triggered by the Deputy Governor of Gbudue State on Sunday 21st Oct at 05:20pm, involving a male (32 yr.), from Hai –Sura (21) Northwest Yambio town and admitted in Yambio state hospital.
- The case presented with history of bloody diarrhea (one episode), headache, and fever (38.2 deg C); no travel history to DR Congo; no history of contact with suspect or confirmed Ebola case.
- Patient responded to treatment (ciproflaxin 500 mg; Metronidazole; and 5% Dextrose) and was discharged on 25 Oct 2018.

Response undertaken

- Sample tested PCR negative for all Ebola strains, Marburg, RVF, CCHF, and Sosuga viruses.
- Surveillance for suspect Ebola cases underway

Suspect Ebola virus disease in Mundri East, Amadi state, 18 October 2018

Case description

- The PHEOC received a report of suspect Ebola alert from Lui hospital, Mundri East, Amadi state.
- The suspect involved a 13 year old male that presented to the hospital on 12 October 2018 with fever, abdominal pains after he was referred from Mundri PHCC where he received malaria treatment using ACTs for 3 days without improvement. Stool exam in Lui hospital showed *Schistosoma mansoni* on admission.
- On 13 Oct 2018; he developed hematemesis (vomiting blood clots) and lapsed into coma the same day. The following day (14/Oct/2018), he developed nose bleeding; no hematuria; no petechiae; the child died the same day.
- There was no history of contact with bleeding patients; no history of travel; no history of contact with wild animals. Sample obtained by the hospital and arrangements are underway to ship the sample to Juba for Ebola and other differential testing

Response undertaken

- Barrier nursing and supervised burial
- Sample tested PCR negative for all Ebola strains, Marburg, RVF, CCHF, and Sosuga viruses. Surveillance for suspect Ebola cases underway

Suspect Ebola virus disease in Rumbek, 12 October 2018

Case description

On 12 October 2018, UNMISS reported an Ebola alert involving their staff based in Rumbek. He returned from home in the Democratic Republic of Congo on 27 September 2018. During his trip home, he transited through Goma (did not leave airport) and immediately proceeded to his home in Kinshasa and never travelled to any of the outbreak areas in DR Congo.

While in Kinshasa, he stayed in his house and only visited some of his relatives in their homes. He never attended any funeral or parties while in Kinshasa. He did not participate in any social gathering while in Kinshasa. None of his family members or the relatives he visited fell sick when he was there and did not consume any game meat.

On his way back to South Sudan, transited through Entebbe from 25th-27th/09/2018 . He then arrived in Juba on 27/09/2018 and immediately proceeded to Rumbek the same day. He fell sick on the night of 10/10/2018 and he presented to Rumbek UNMISS level I clinic. He presented with severe headache and low grade fever but had no vomiting, no diarrhea and no spontaneous bleeding from any of the body orifices.

Response actions to date

In full PPE the laboratory technician collected blood samples that tested positive for malaria and CBC result is normal. The platelet count is normal. He is currently on treatment for malaria. He was advised to continue the malaria treatment and remain in his accommodation. The national rapid response constituted on 12/10/2018 to investigate and collect samples for Ebola testing. Sample tested negative for Zaire ebolavirus by GeneXpert and PCR negative for all Ebola strains, Marburg, RVF, CCHF.



Suspect Ebola virus disease in Yei River state, 3 October 2018

Case description

- On 3rd October 2018, the Public Health Emergency Operations Center (PHEOC) received a call at 3:30 pm reporting a suspected Ebola death from Yei state.
- The deceased was a 29 years old South Sudanese who was a refugee in DRC for 21 months.
- He returned to South Sudan on 30th September 2018 and was reported to manifest the following symptoms: bleeding from eyes, general body pain, and blood in urine.
- He is reported to have died at home on 3rd October, 2018.

Response undertaken

- The national rapid response team was quickly mobilized at 4:00 pm on 3rd October, 2018
- An airplane was chartered at 4:30 pm same day; the NRRT was dispatched to conduct an epidemiological investigation and obtained an oral swab and cardiac blood for laboratory testing on 4th October, 2018
- The national and state RRT, Yei Task Force members and other partners in Yei could not locate the dead body or his family in Yei.
- None of the people met had knowledge of the death alert or his residence. The NRRT returned to Juba at 5:00 pm on 4th October 2018. However, the NRRT was later informed that the dead man was already buried.
- Active surveillance involving surveillance teams and local leaders in the area have not been able to identify the home of the deceased case or the grave.

Malaria trends

Current malaria trends

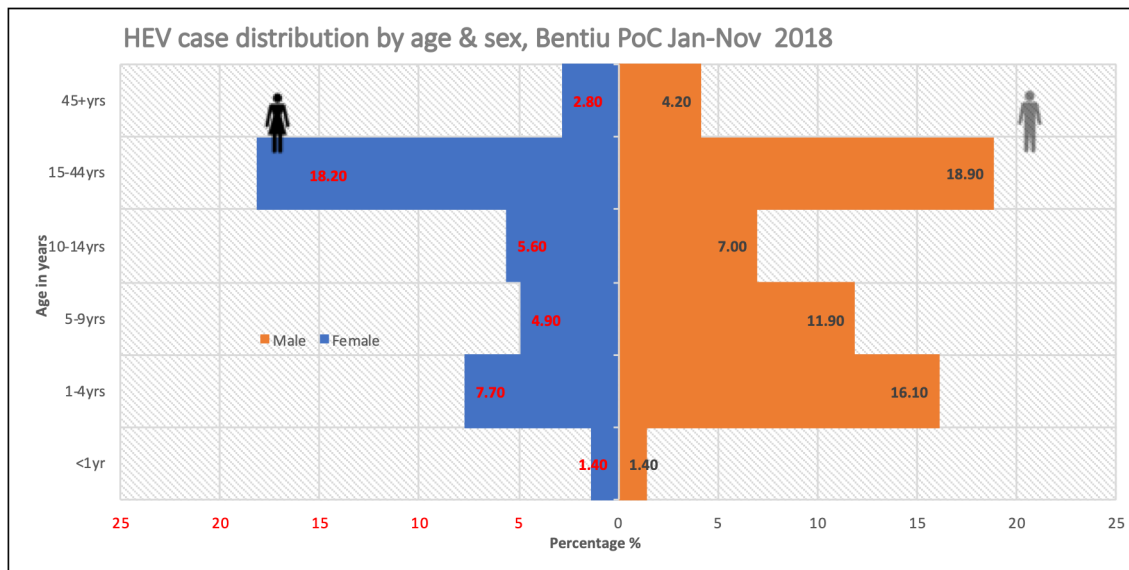
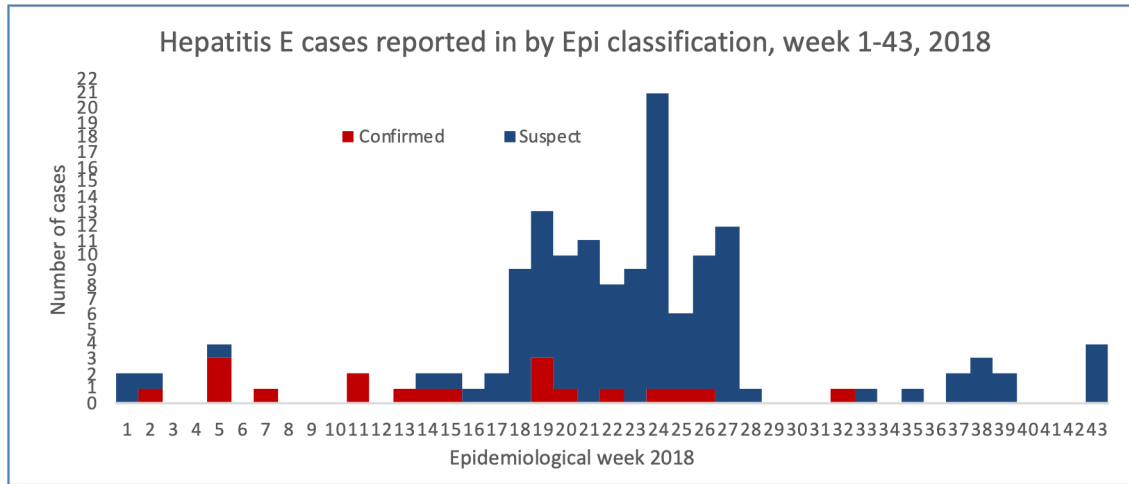
Malaria remains the top cause of morbidity and mortality that accounts for 62.7% of cases as of week 43, 2018. Consequently, trend analyses show that 21 counties in 6 state hubs currently have malaria trends that are significantly higher than expected. Counties with malaria trends that exceed the threshold (third quartile of trends for the period 2013-2017) include:

1. **Aweil hub** (Aweil Center, Aweil East, and Aweil West);
2. **Rumbek hub** (Cueibet, Rumbek Center, Rumbek East, Rumbek North, Wulu, Yirol East, Yirol West);
3. **Kuajok hub** (Abyei, Gogrial East, Tonj East, Tonj South, Tonj North, and Twic Mayardit);
4. **Bentiu hub** (Abiemnhom, Mayom, and Panyijiar); and
5. **Juba hub** (Terekeka).
6. **Malakal hub** (Melut)

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

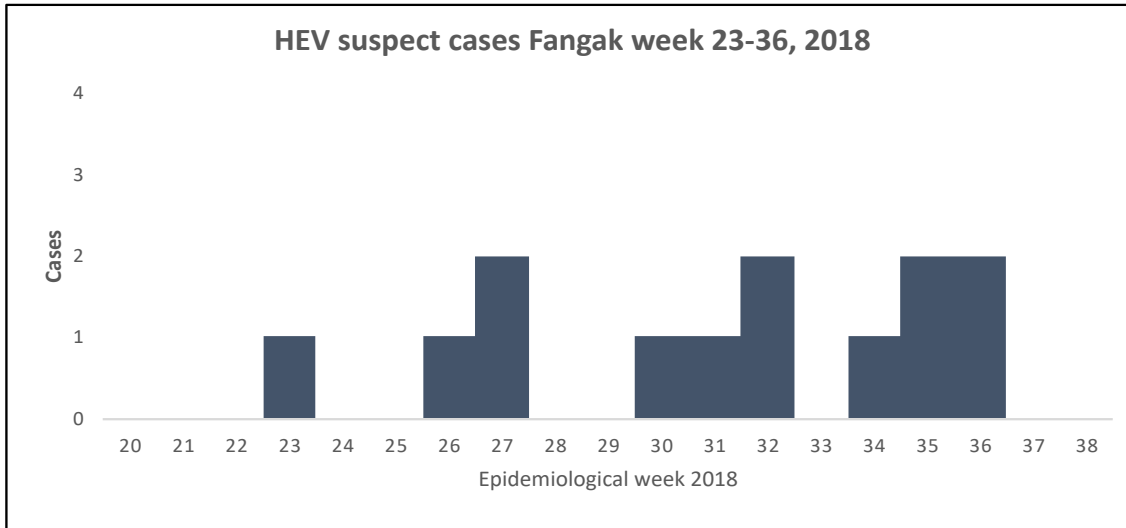


Bentiu PoC

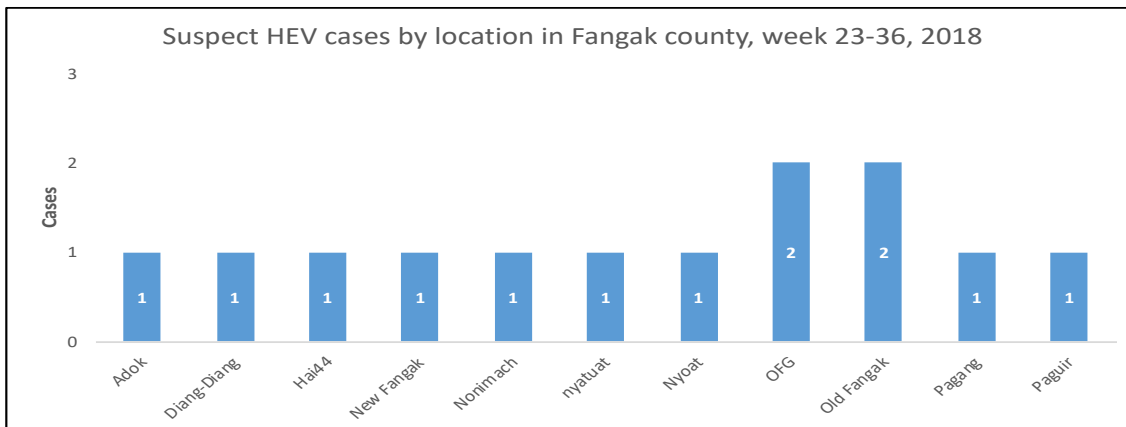
- At least 143 suspect cases of Hepatitis E (HEV) including one death (CFR 0.70%) have been reported in 2018. Of the 143 suspect cases, a total of 18 cases have been PCR confirmed as HEV in Bentiu PoC
- Only 11 HEV cases have been admitted.
- Most (37.1%) of the cases are 15-44 years of age; and 59% being male. Among the females, most cases have been reported in those aged 15-44 yrs (who are at risk of adverse outcomes if infected in the 3rd trimester of pregnancy).
- Use of stagnant water for domestic or recreation purposes likely to be source of infection - communities are being educated on the risk and draining the water is being discussed
- Unicef has disseminated key HEV messages - on radio [Kondial FM & Bentiu FM] and through community sensitizations.
- Case identification and follow up is and WASH interventions are ongoing.

Four (4) new HEV cases reported in week 43

Hepatitis E Old Fangak



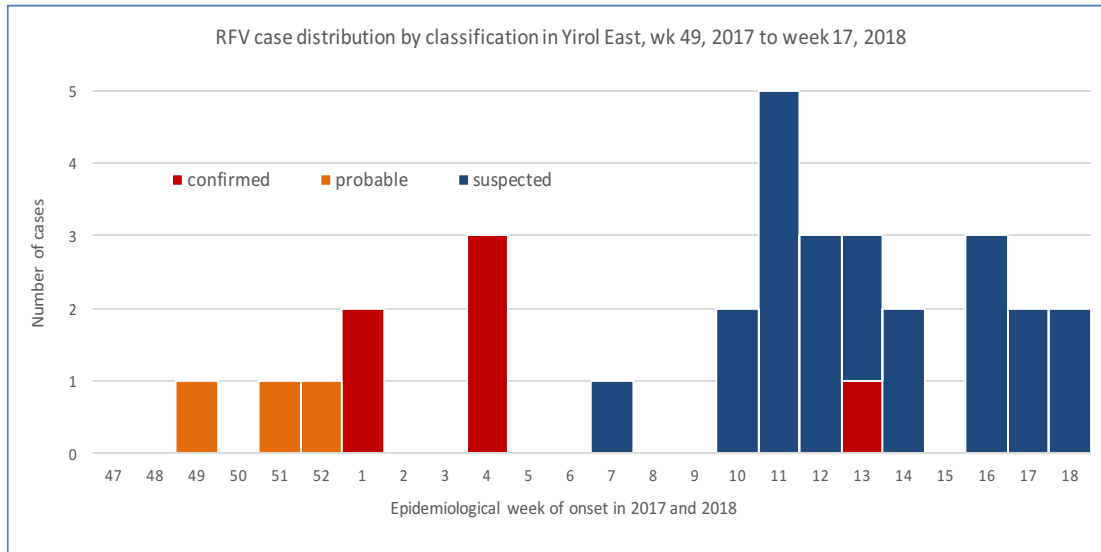
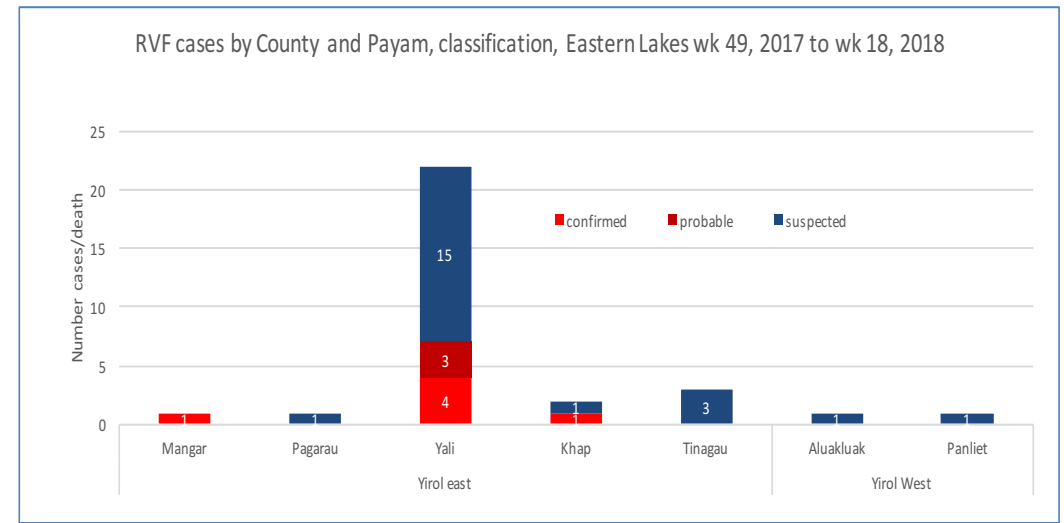
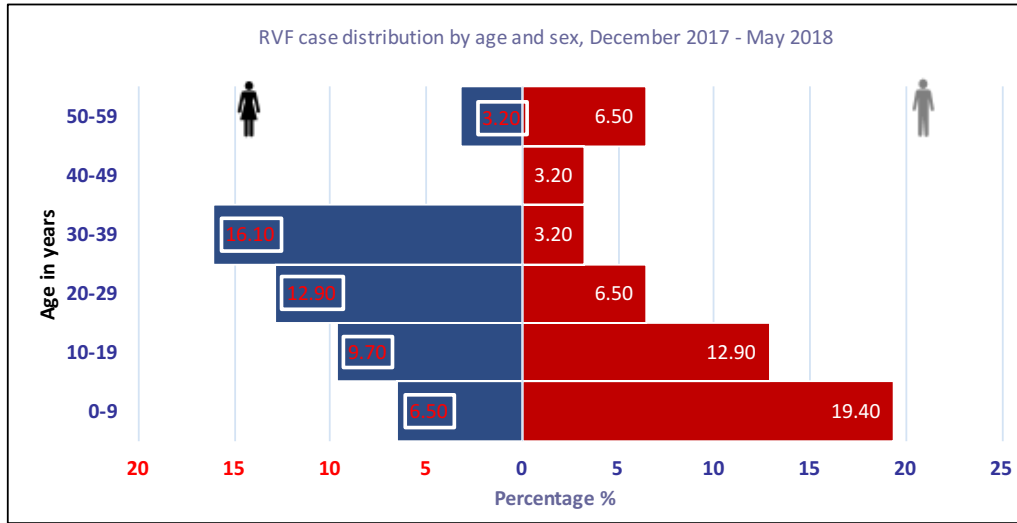
| Age | Female | Male | Total cases | Percentage | Cum.% |
|--------------------|----------|-----------|-------------|-------------|-------|
| 10-19yrs | 2 | 2 | 4 | 31% | 31% |
| 20-29yrs | 1 | 6 | 7 | 54% | 85% |
| 30-39yrs | | 2 | 2 | 15% | 100% |
| Total cases | 3 | 10 | 13 | 100% | |



Old Fangak

- No new cases reported since week 36 of 2018.
- At least 13 suspect HEV cases including one confirmed HEV case have been investigated in Old Fangak.
- All the 13 cases were HEV RDT positive.
- Over half (54%) of the cases are 20-29 years of age.
- The cases appear to be occurring sporadically and are using River water (largely from Phow river).
- Community awareness and hygiene promotion are ongoing.

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 Yirol East in week 43.
- In the period 7 December 2017 to 4 Nov 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 4th Nov 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

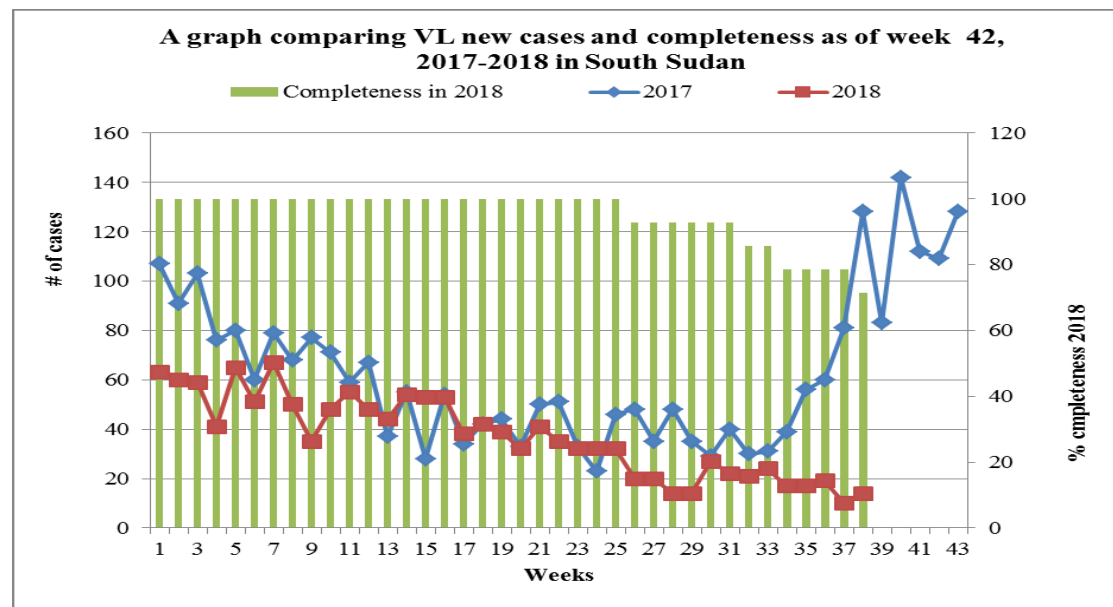
Visceral Leishmaniasis | Kala-azar

Kala-azar is endemic in Upper Nile, Unity, Jonglei, & Kapoeta. Response interventions have been complicated by insecurity, population displacement, poor living conditions, increasing food insecurity, closure of treatment facilities; and low treatment completion rates.

In week 42, five health facilities reported 13 cases (13 (100%) new cases, 0 (0.0%), PKDL, and 0 (0%) relapses).

Since the beginning of 2018, a total of **1,895** cases including **65** deaths (CFR **3.4%**); **51 (2.7%) defaulters**; **1,460 (77%)** new cases; **83(4.4%)** PKDL; and **352(18.6%)** relapses - all reported from **39** treatment centers.

In the corresponding period of 2017, a total of **3,214** cases including **66** deaths (CFR **2.1%**) and **76(2.4%) defaulters** were reported from 21 treatment centers.

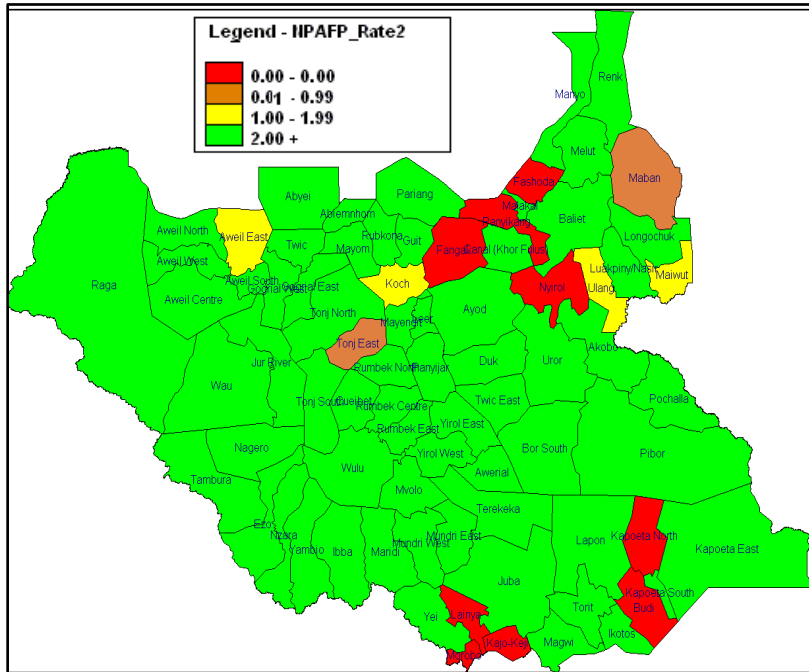


The majority of cases in 2018 have been reported from Lankien (**950**), Kurwai (**149**), Old Fangak (167), Walgak (98), Ulang (61), Malakal IDP (64), Narus (91), Pieri (42), KCH (65), Pagil (71), Doma (22), KMH (15), Bentiu (26) and Adong (13).

The most affected groups include, males [**949** cases (**50.1%**)], those aged ≥ 15 years and above [**835** cases (**44.1%**)] and 5 - 14 years [**750(39.6%)**]. A total of **300** cases (**15.8%**) occurred in children < 5 years.

Low reporting rates currently impede meaningful trend interpretations however the major concern currently is seen from the high relapse rates; suggesting the need to improve treatment compliance through regular availability of testing and treatment kits and provision of food rations for cases on treatment. Treatment health facilities are urged to improve on timeliness of reporting.

Acute Flaccid Paralysis - suspect Polio



In week 40, 2018, a total of 7 new AFP cases was reported from Jonglei, Central Equatoria; Upper Nile; Warrap; & Western Bahr el Ghazal hubs. This brings the cumulative total for 2018 to 317 AFP cases.

The annualized non-Polio AFP (NPAFP) rate (cases per 100,000 population children 0-14 years) in 2018 is 5.01 per 100,000 population of children 0-14 years (target ≥ 2 per 100,000 children 0-14 years).

Stool adequacy was 87% in 2018, a rate that is higher than the target of $\geq 80\%$.

Environmental surveillance ongoing since May 2017; with 23 samples testing positive for non-polio enterovirus (NPEV) in 2017 and Thirty Six (36) NPEV positive sample in 2018.

Source: South Sudan Weekly AFP Bulletin

2017-2018* SUMMARY by States (Using NID figures for population estimates)

| State Hubs | Population <15 years | Cumulative AFP Cases | Non-Polio Cases | Cases of the Week | Polio cases | | | | | NPAFP Rate | Stool Adequacy | | | Lab indicators (Pending lab cases excluded) | | | |
|-----------------------------|----------------------|----------------------|-----------------|-------------------|------------------|----------|-----------------|-----------------|-------------|------------|----------------|--------------------|----------------|---|--------------|------------|-----------|
| | | | | | Polio Compatible | VDPV | Pending | | | | Specimens (#) | Adequate Specimens | Stool adequacy | NPEV | | Sabin like | |
| | | | | | | | Pending Lab/CLT | Pending Lab/ITD | Pending ERC | | | | | Number | Percent | Number | Percent |
| CENTRAL EQUATORIA HUB | 737148 | 22 | 16 | 3 | 0 | 0 | 5 | 0 | 1 | 3.9 | 21 | 18 | 86% | 2 | 4.8% | 0 | 0% |
| EASTERN EQUATORIA HUB | 674008 | 32 | 27 | 0 | 0 | 0 | 5 | 0 | 0 | 6.2 | 32 | 31 | 97% | 3 | 9.4% | 2 | 11% |
| JONGLEI HUB | 982693 | 32 | 29 | 1 | 0 | 0 | 1 | 0 | 2 | 4.2 | 32 | 27 | 84% | 4 | 12.5% | 1 | 8% |
| LAKES HUB | 791864 | 46 | 39 | 0 | 0 | 0 | 7 | 0 | 0 | 7.6 | 45 | 45 | 100% | 5 | 11.1% | 0 | 0% |
| NORTHERN BAHR EL GHAZAL HUB | 987309 | 31 | 30 | 0 | 0 | 0 | 1 | 0 | 0 | 4.1 | 31 | 29 | 94% | 5 | 16.1% | 3 | 15% |
| UNITY HUB | 864151 | 25 | 20 | 0 | 0 | 0 | 0 | 0 | 5 | 3.8 | 25 | 20 | 80% | 4 | 16.0% | 1 | 7% |
| UPPER NILE HUB | 895541 | 36 | 28 | 1 | 0 | 0 | 1 | 0 | 1 | 5.2 | 36 | 22 | 61% | 5 | 13.9% | 3 | 14% |
| WARRAP HUB | 1456973 | 47 | 41 | 1 | 0 | 0 | 5 | 0 | 2 | 4.2 | 47 | 43 | 91% | 5 | 10.6% | 0 | 0% |
| WESTERN BAHR EL GHAZAL HUB | 316372 | 16 | 12 | 1 | 0 | 0 | 1 | 0 | 3 | 6.6 | 16 | 10 | 63% | 1 | 6.7% | 0 | 0% |
| WESTERN EQUATORIA HUB | 516397 | 30 | 28 | 0 | 0 | 0 | 1 | 0 | 1 | 7.6 | 30 | 29 | 97% | 4 | 13.3% | 2 | 11% |
| SOUTH SUDAN | 8222455 | 317 | 270 | 7 | 0 | 0 | 27 | 0 | 20 | 5.0 | 315 | 274 | 87% | 38 | 12.1% | 12 | 7% |

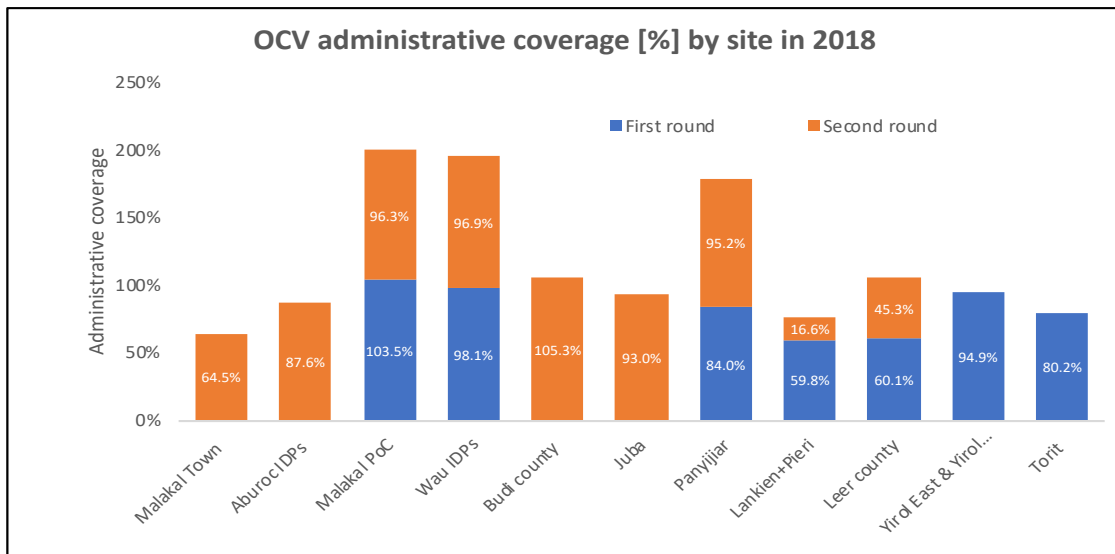
Cholera preparedness and preventive activities - Oral cholera vaccine campaigns - 2018

| Site | Total population | Target population | 1st round doses | 2nd round doses | Total doses | 1st Round dates | 2nd Round dates | Partners |
|-------------------|------------------|-------------------|-----------------|-----------------|------------------|---|---|---------------------------------|
| Aburoc | 11,640 | 11,291 | | 11,550 | 11,550 | 20-22May2017 | Jan 17- 20 2018 | MoH, WHO, Unicef, MSF-E |
| Malakal Town | 20,000 | 19,200 | | 22,200 | 22,200 | 18-24Mar2017 | Jan 5 - 9 2018 | MoH, WHO, Unicef, MSF-E |
| Juba | 214,887 | | | 206,292 | 206,292 | 9Sep - 24Nov 2017 | Apr 24-28 2018 | MoH, WHO, Unicef, MSF-F & Spain |
| Malakal PoC | 24,424 | 23,691 | 34,291 | 34,291 | 68,582 | 19-23March 2018 | Apr 17-21 2018 | MoH, WHO, Unicef, IOM |
| Wau IDPs | 40,499 | 39,284 | 56,860 | 56,860 | 113,720 | 19-23March 2018 | Apr 17-21 2018 | MoH, WHO, Unicef, IOM |
| Torit | 180,169 | 174,764 | 174,764 | 174,764 | 349,528 | 9th - 14th Aug 2018 | 28Jul- 6Aug 2018 | MoH, WHO, Unicef, SCI, CARE |
| Yirol East & West | 170,189 | 165,083 | 165,083 | 165,083 | 330,167 | 20-29 July 2018 | pending | MoH, WHO, Unicef, LiveWell |
| Lankien | 38,000 | 36,860 | 36,860 | 36,860 | 73,720 | 28May -13Jun2018 | suspended | MoH, WHO, Unicef, MSF-H |
| Panyijiar | 75,000 | 72,750 | 75,000 | 75,000 | 150,000 | 16-22May2018 | 20-24 Jul2018 | MoH, WHO, Unicef, IRC |
| Leer | 50,000 | 48,500 | 48,500 | 48,500 | 97,000 | 13-15th Jun 2018 (Leer town) & 13th 18th Jul 2018 (Leer County) | 24-29Aug (Leer Town); 8-13Aug (Leer County) | MoH, WHO, Unicef, MedAir |
| Totals | 824,808 | 800,064 | 591,358 | 831,400 | 1,422,759 | | | |

- Cholera prevention and response activities are already underway to mitigate the risk of cholera outbreaks in cholera transmission hotspots
- These efforts are critical now as the rain season is starting for the states in the Southern parts of the country.
- The use of oral cholera vaccines alongside WASH and other interventions is critical to these efforts
- Preventive vaccine campaigns (with oral cholera vaccines) for the first half of 2018 are listed in the table
- The National Cholera Control Plan is being finalized by a consultant secured with support from the GTFCC
- Validation of the National Cholera control plan is planned for August 2018
- A consignment of 96,285 doses of oral cholera vaccine from the ICG arrived in the country on 4Jul 2018 for the pre-emptive campaign in Leer county
- Another 352,660 doses of oral cholera vaccine from the GTFCC arrived in the country on 18 July 2018 for the campaigns in Panyijiar and Yirol

- **Oral cholera vaccine campaigns completed in 2018 include:**
 - Malakal Town (2nd round)
 - Aburoc IDPs (2nd round)
 - Malakal PoC (1st & 2nd round)
 - Wau PoC+IDPs (1st & 2nd round)
 - Juba Town (1st & 2nd round)
 - Panyijiar (1st & 2nd round)
 - Leer county (1st & 2nd round)
 - Yirol East and Yirol West (1st round)
- **Upcoming campaigns for 2018**
 - Torit (2nd round)
 - Yirol East and Yirol West (2nd round)

Oral cholera vaccine campaigns administrative coverage - 2018



| 2018 OCV campaigns | | First round | | Second round | |
|----------------------------|----------------|----------------|--------------|----------------|--------------|
| Site | Target | Coverage | Coverage | Coverage | Coverage % |
| 1 Malakal Town | 19,200 | | | 12,393 | 64.5% |
| 2 Aburoc IDPs | 9,683 | | | 8,484 | 87.6% |
| 3 Malakal PoC | 23,447 | 24,277 | 103.5% | 22,588 | 96.3% |
| 4 Wau IDPs | 37,048 | 36,337 | 98.1% | 35,887 | 96.9% |
| 5 Budi county | 89,377 | | | 94,128 | 105.3% |
| 6 Juba | 216,852 | | | 201,737 | 93.0% |
| 7 Panyijiar | 75,000 | 63,000 | 84.0% | 71,378 | 95.2% |
| 8 Lankien+Pieri | 38,000 | 22,712 | 59.8% | 6,294 | 16.6% |
| 9 Leer county | 48,125 | 28,930 | 60.1% | 21,819 | 45.3% |
| 10 Yirol East & Yirol West | 165,081 | 156,682 | 94.9% | | |
| 11 Torit | 158,297 | 126,895 | 80.2% | | |
| Total | 544,998 | 458,833 | 84.2% | 474,708 | 85.3% |

The following OCV campaigns have been completed in 2018:

1. Malakal Town (2nd round)
2. Aburoc IDPs (2nd round)
3. Budi county (2nd round)
4. Malakal PoC (1st & 2nd round)
5. Wau PoC+IDPs (1st & 2nd round)
6. Juba (2nd round)
7. Panyijiar (1st & 2nd round)
8. Leer county (1st & 2nd round)
9. Lankien (1st round)
10. Pieri (1st & 2nd round)
11. Yirol East & Yirol West (1st round)
12. Torit county (1st round)

Ebola update DRC 1 Nov 2018

Current situation

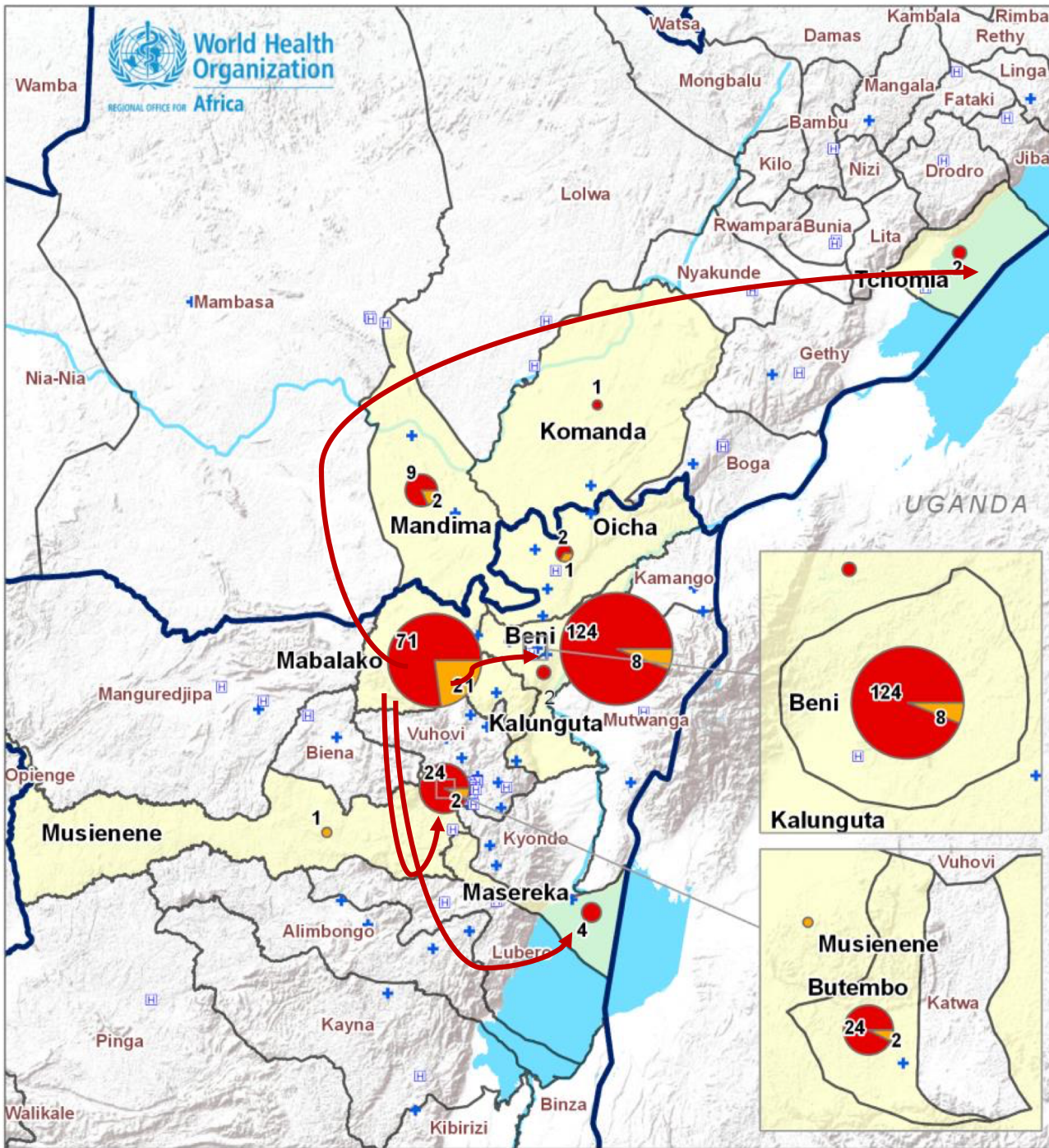
- Currently in 13th week of the outbreak
- **287** Cases [252 confirmed & 35 probable]
- **181** Deaths [146 confirmed & 35 probable]
- **25** Health workers [24 confirmed & 3 dead]

Response update

- **5991** contacts [**92%** followed up]; Beni has **92%** of contacts followed in the past week
- **24,142** vaccinated
- **73** cases discharged from ETCs

Affected health zones

- **2** provinces [North Kivu & Ituri]
- **10** health zones [7 North Kivu & 3 in Ituri]
- **Mabalako, Butembo, Masereka & Beni** (North Kivu) – Epicenter



Legend

Ebola Cases



Confirmed

Probable

Affected Health Zones

Non Affected Health Zones

Provinces

Health Facilities

+ Health Center

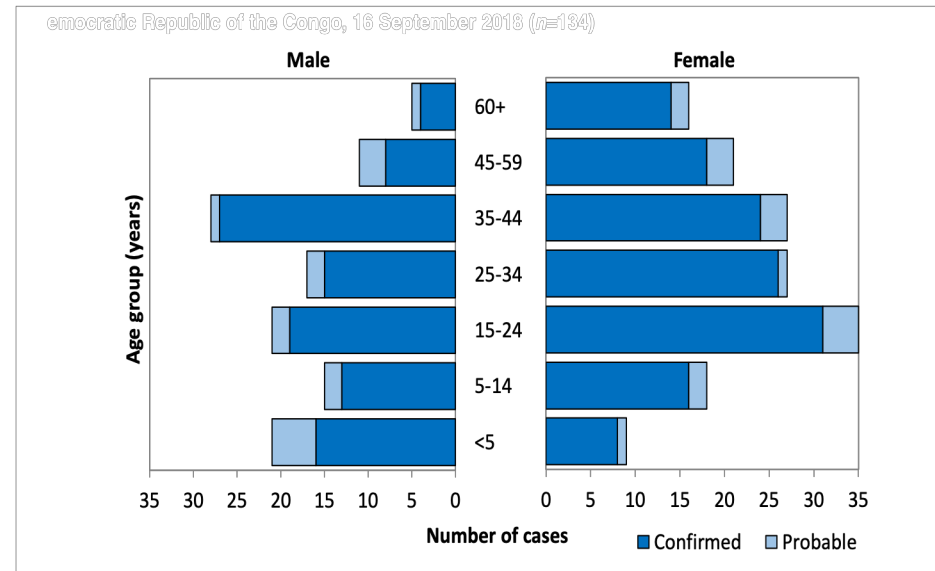
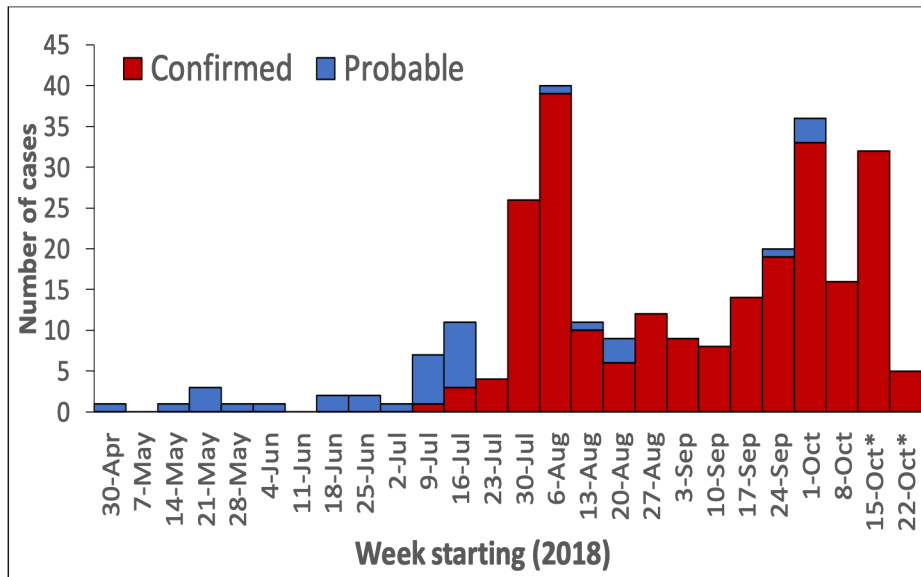
H Reference General Hospital

Waterbodies



Situation on 15 October 2018

EVD trends & case distribution



- The graph still shows **persistent transmission**
- **Several peaks** since outbreak was declared

- 56% cases female
- Most cases in **males** are **35-44yrs**; & **15-24yrs** in the **females**

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

Ebola preparedness in South Sudan

EVD preparedness activities undertaken in South Sudan

- South Sudan, as a priority one (1) country for Ebola virus disease outbreak (EVD) preparedness continues to make progress to enhance capacities for EVD case detection, investigation, response, and prevention.
- The national Ebola taskforce continues to meet twice weekly and is coordinating the implementation of the EVD contingency plan. The Ebola taskforce working groups 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: 2018

Week number: W43

From: 2018-10-22

To: 2018-10-28

| Name of PoE | Passengers Screening Information | | | EVD Alerts | | |
|----------------------------|----------------------------------|------------|-----------------------------------|------------|-------------|------------|
| | # screened | # isolated | # under Voluntary Home Quarantine | # reported | # validated | # suspects |
| Bazi Border | 0 | 0 | 0 | 0 | 0 | 0 |
| Gangura Border | 0 | 0 | 0 | 0 | 0 | 0 |
| Juba International Airport | 0 | 0 | 0 | 0 | 0 | 0 |
| Kaya | 1,709 | 0 | 0 | 0 | 0 | 0 |
| Nimule Border | 49,241 | 0 | 0 | 0 | 0 | 0 |
| Okaba | 1,044 | 0 | 0 | 0 | 0 | 0 |
| Panjala Docking River | 628 | 0 | 0 | 0 | 0 | 0 |
| Sakure Border | 0 | 0 | 0 | 0 | 0 | 0 |
| Wau Airport | 0 | 0 | 0 | 0 | 0 | 0 |
| Yambio Airport | 6 | 0 | 0 | 0 | 0 | 0 |
| Yei Airport | 31 | 0 | 0 | 0 | 0 | 0 |
| Yei RRC | 13 | 0 | 0 | 0 | 0 | 0 |
| South Sudan | 52,672 | 0 | 0 | 0 | 0 | 0 |

Note

This table is generated automatically from EWARS South Sudan. It has been deployed since December 2013, following the eruption of political violence. From May 2017, it has been scaled up to provide support to all 80 counties across the country. It is supporting MoH and partners to strengthen integrated disease surveillance and response (IDSR). <http://ss.ewars.ws/login>



The electronic EWARS platform for capturing, aggregating, and analyzing points of entry screening data is now up and running with the table above, summarizing the number of travelers screened in week 43 at the active points of entry being exported from the web-based platform.



Response | Suspect outbreaks in 2018

| Date of report | Disease suspected | Number cases (deaths) | County | Payam | Status of investigations |
|----------------|-------------------|-----------------------|--|---------------------|--|
| 13Mar18 | meningitis | 16 (00) | Duk | Ayueldit | On 12 Mar 2018; a 3 year old male from Buongjok area, Ayueldit payam was admitted to Padiet PHCC. The health partner SMC requested for guidance on managing the case and the WHO Bor team shared the meningitis case management guidelines. Surveillance was stepped up but no additional cases were identified. |
| 17Feb18 | meningitis | 173 (31) | Torit | Iyire and Imurok | After rumors of strange illness in Iyire, several RRT verification and response missions have been undertaken since 20Feb18. Torit county surpassed in the alert and epidemic thresholds in week 7 and week 9 respectively. There was no conclusive laboratory confirmation due to sample contamination . Overall coordination, case surveillance, line listing, and investigation are ongoing. Transmission declined after week 9 with the weekly attack rate falling below the alert and epidemic threshold in weeks 11-18, 2018. Plans underway to conduct meningitis training for the NRRT and laboratory team at NPHL & in the state hubs |
| 10Mar18 | meningitis | 3 (0) | Cueibet | | Since 10 Mar 2018, at least three suspect meningitis cases have been reported by CUAMM in Cueibet hospital. However, no samples were collected. |
| 02Feb2018 | meningitis | 52 (06) | Aweil South (14cases) Aweil East (18 cases) Aweil West (11 cases) Aweil North (4 cases) | Aweil hub | Since 2Feb2018, at least 52 suspect cases (6 deaths) have been reported in Aweil hub. Six samples positive for <i>Streptococcus pneumoniae</i> following rapid pastorex testing or showed gram positive diplococci on gram stain. None of the affected counties exceeded the alert threshold for meningitis. |
| 06Jan18 | meningitis | 03 (00) | Abyei and Twic | Rumkor and Pan-nyok | The two suspect cases were treated in Agok hospital on 4 Jan and 29 Jan respectively with initial diagnoses of severe malaria but final diagnosis was bacterial meningitis. Rapid pastorex testing sample for the 2 nd & 3 rd suspect case from Twic and Abyei counties respectively were positive for <i>Streptococcus pneumoniae</i> . |
| 14Feb18 | meningitis | 21(03) | Wau (Jur River) | Udici, Roc Roc Dong | Since 14 Feb; 20 suspect meningitis cases have been reported from Wau (11 cases - 2deaths) and Jur River (9 cases - 1 death) counties. A suspect case involving a 45 year old male from Jur River was admitted in Comboni hospital on 28 Feb 18. PCR testing was positive for <i>Streptococcus pneumoniae</i> . Another suspect case tested positive for NmA by rapid pastorex at NPHL on 27/4/18. |

Response | Suspect outbreaks in 2018

| Date of report | Disease suspected | Number cases (deaths) | County | Payam | Status of investigations |
|----------------|--------------------------------------|-----------------------|---------------|-------------------|---|
| 16Mar2018 | Measles | 08(01) | Mayom | Riak & Lol Maroal | Suspect measles cases reported from Riak payam in Nyebola village since 9 Mar 2018. Four samples were obtained by MSF-CH for testing. Three of the four samples tested were positive for rubella IgM. |
| 16Feb18 | Health effects of petroleum drilling | Unspecified | Pariang | Pariang | A newswire indicates the Mayor of Pariang in Ruweng State has appealed to the Ministry of Health to establish some health conditions affecting people in the oil producing area. bit.ly/2EIndTP #SouthSudan. Initial verification details to follow |
| 31Mar2018 | Suspect meningitis /malaria | 12(08) | Gogrial West | Kuach South | On 28 th Mar 2018; the Director Gogrial West reported community deaths in Kuach South that were verified by the RRT on 29 Mar 2018. The clinical and lab tests on suspect cases were consistent with malaria and the cases responded to treatment with ACTs. All the deaths were 10 years and above and 50% of the deaths were 20 years and above. Given the dramatic nature of symptoms, the other differential diagnosis to keep an eye on is epidemic meningitis. No new cases reported in weeks 14 and 15. |
| 12/Apr/18 | pertussis | 18(00) | Fangak | Bei | Suspect pertussis cases have been reported by Mandeang PHCU and Kuephone PHCU in Fangak county. At least 11 suspect cases have been reported from Bei payam and another 7 suspect cases from Jiath. The response instituted by the partner CMA - entails treatment of cases and prophylaxis to close contacts and enhancing routine immunization for the infants. |
| 22/05/18 | cholera | 2 | Lopa | Imehejek | Two suspect cholera cases reported from Imehejek, Lopa from 22May18; the index ate cold food at a local market; direct RDT positive for cholera; all two samples negative for cholera after culturing in NPHL. |
| 21/05/2018 | measles | 40 | Rumbek Center | Teyau | Eight suspect measles cases reported from Teyau, Rumbek Centre - MMT dispatched for the investigation. Specimens obtained. Outbreak confirmed & reactive vaccination done. |
| 23/05/18 | measles | 2 | Mayom | Tam & Wangbur | Two suspect measles cases reported from Mayom (Tam & Wangbur payams) samples sent to Juba by MSF-CH |
| 16/05/18 | measles | 1 | Torit | Nyong | One suspect measles case reported from Nyong payam in Torit. Specimen collected |

Response | Suspect outbreaks in 2018

| Date of report | Disease suspected | Number cases (deaths) | County | Payam | Status of investigations |
|----------------|-------------------|-----------------------|--------------|------------|--|
| 30/05/2018 | Acute jaundice | 01(00) | Torit | Torit town | On 30 May 2018, a 2year and eight month child was admitted to Torit Hospital with fever, yellow eyes, and vomiting, Specimen obtained for testing and sent to Juba. First test results in week 26; showed the sample was negative for HEV by PCR. Further tests were IgM negative for YF, ZIKV, CHIK, WNV and DEN. |
| 28/05/2018 | Measles | 2 (00) | Awerial | | Two suspect measles cases reported and investigated in Awerial county. Samples have been collected and shipped to Juba for laboratory testing. |
| 26/06/2018 | Measles | 14 | Yirol East | | Fourteen suspect measles cases have been reported and investigated in Adior payam. Samples have been collected for testing. |
| 26/06/2018 | Measles | 1 | Yirol West | | One suspect measles cases was reported in week 26. |
| 10/06/2018 | Measles | 18 | Bentiu PoC | | 18 suspect measles cases were reported in Bentiu PoC from 10 June 2018. Samples have been obtained for laboratory testing |
| 28/06/2018 | Measles | 6 | Jur River | | New suspect Measles cases reported from (Thilij) village in Wau Bai payam in Jur River county, an investigation team dispatched on 28 th June and they investigated & collected 6 blood samples |
| 02/07/2018 | Measles | 6(0) | Twic | | Five suspected measles cases have been reported in Twic County. They were investigated and samples were collected pending transportation to Juba. Line-listing and investigation reports had been prepared. |
| 13/07/2018 | cholera | Deaths | Awerial | Magok | On 13 th July; suspect cholera deaths were reported from Magok, Awerial county. Initial verification by MoH/WHO has not revealed suspect cholera deaths in the area. Further verification by the CHD revealed on additional information to confirm the alert. |
| 25/07/2018 | Acute Jaundice | 3 (02) | Leer TPA | Leer Town | Three AJS (suspect HEV) deaths reported in Leer TPA are being investigated. Surveillance has been strengthened to detect and investigate subsequent cases; and WASH has been stepped up. |
| 20/07/2018 | measles | 1 | Aweil Center | | A suspect measles case reported from Aweil Center county and investigated (sample collected for testing). |

Response | Suspect outbreaks in 2018

| Date of report | Disease suspected | Number cases (deaths) | County | Payam | Status of investigations |
|----------------|-------------------------------|-----------------------|--------|-------------|---|
| 10/08/2018 | Suspect measles & pertussis | unspecified | Nyirol | Waat | On 10 Aug 2018, CMA reported a cluster of suspect measles and pertussis cases in Waat payam, Nyirol county. The area has not been reached with immunization (routine or supplementary) in the last one year. Emergency supportive response is underway and there are preparations to line list and collect samples from suspect cases. |
| 8/08/2018 | Suspect cholera | 1 | Juba | Juba | Suspect cholera case reported in EB clinic and referred to Juba Teaching hospital. Test results awaited. |
| 8/08/2018 | Animal bites (suspect rabies) | 12 | Yambio | Yambio town | Animal bites (suspect rabies) involving 12 cases including 2 children were reported in Yambio town and were attributed to stray dogs. A multisectoral meeting convened in Yambio and from the national level - human & animal rabies vaccines are being shipped to support the response. IEC materials are being adapted to support rabies risk communication. |
| 8/08/2018 | Suspect Guinea worm | 2 | Aweil | Aweil town | Two suspected Guinea worm cases were reported and investigated in Aweil State hospital. There was no hanging worm found the patients are being monitored |
| 24/08/2018 | Suspect Guinea worm | 1 | Nyirol | Lankien | One suspect Guinea worm case reported in Lankien. The SSGWEP has been initiated to initiate detailed investigations into the suspect case |
| 05/08/2018 | Suspect HEV cases | 8 | Fangak | Fangak | From Fangak, one suspect HEV was reported in week 33. Since week31, a total of 7 HEV RDT positive cases have been reported from Fangak. All the cases have occurred in adults (one in a postpartum female). The cases appear to be occurring sporadically and are using River water (largely from Phow river). Community awareness and hygiene promotion are ongoing. Samples sent to Uganda for PCR testing. |
| 17/08/2018 | Suspect Yellow Fever | 1 (01) | Pibor | Pibor Town | A 23 year old male presented to Pibor PHCC on 12/08/2018 with history of fever, yellowing of eyes, agitation, convulsions, vomiting, coma, and bleeding from 06/Aug/2018. Patient died and autopsy sample tested PCR negative for YF, DENV3 and DENV4. Further histochemical testing underway. |
| 08/Sept/18 | Suspect VHF | 1 | Yambio | Bakiwiri | One EVD alert reported and investigated by the rapid response team during the week in Bakiwiri Boma, Yambio county. The presentation was not consistent with EVD case definition and there was no epidemiological linkage to EVD case or the outbreak in DR Congo. Sample tested PCR negative for Ebola, Marburg, CCHF, RVF, and Sosuga. |

| Date of report | Disease suspected | Number cases (deaths) | County | Payam | Status of investigations |
|----------------|---------------------------|---|--------------|-------------------|---|
| 10/09/2018 | Suspect cutaneous anthrax | 6 | Gogrial West | Kuach North | During week 37, a suspect case of subcutaneous anthrax was detected in Kuajok hospital. The case originated from Wun-acier village, Monjiooc Boma in Gogrial West County. Follow up investigations revealed five additional cases, with lesions suggestive of subcutaneous anthrax. There were no human deaths linked to this case cluster. Outbreaks of similar cases were reported in the neighboring villages in 2011, 2013, and 2015, suggesting that the disease is endemic in the villages and county as a whole. |
| 10/09/2018 | Malaria alerts | counties with trends significantly higher than expected | 15 | | Counties with malaria trends that exceed the threshold (third quartile of trends for the period 2013-2017) include: Aweil hub (Aweil Center); Rumbek hub (Rumbek Center, Rumbek East, Rumbek North, Wulu, Yirol East, Yirol West); Kuajok hub (Abyei, Gogrial East, Tonj East, Tonj South, and Twic Mayardit); Bentiu hub (Mayom); and Juba hub (Terekeka). |
| 20/08/2018 | Suspect rabies | 30 | Torit | Nyong, Himo donge | Animal bite (suspect rabies) have been on the increase in Torit county with 30 cases (no deaths) reported since 20 Aug 2018. The cases are distributed evenly by gender. Nearly 70% of the cases were reported in children aged 0-19 years. Nyong and Himo donge are the most affected payams. |
| 04/08/2018 | Suspect measles | 11 (0) | Yirol West | Yirol Town; Abang | Since 4 Aug 2018; at least 11 suspect measles cases have been reported in Yirol hospital (originating from Yirol Town and Abang). Six samples have been collected for laboratory testing. |
| 26/09/2018 | Suspect Ebola | 1 (01) | Juba | Northern Bari | On 26/09/2018; the PHEOC received a call of a suspect Ebola death involving a 25 year old businessman and Ethiopian by Nationality ; the illness of the case started on 24/08/2018 with fever, headache, and cough. He received treatment from a private clinic the same day and improved. Hence on 26/09/2018; he went to work but his condition changed suddenly; he started vomiting blood; collapsed and died as he was being rushed to the nearby clinic. The samples reached Uganda Virus Research Institute (UVRI) on 27 th September 2018 and the results released by the laboratory on 28 th September 2018 showed that the samples were negative for Ebola, Marburg, CCHF, RVF and Sosuga viruses by PCR. |

Response | Suspect outbreaks in 2018

| Date of report | Disease suspected | Number cases (deaths) | County | Payam | Status of investigations |
|----------------|-----------------------------|-----------------------|----------------|--|--|
| 17/09/2018 | Suspect rabies | 10 | Rubkona | Bentiu town | Suspect rabies have been reported in Bentiu town; MSF is supporting the management of cases but there is no rabies vaccine in stock to facilitate post-exposure prophylaxis |
| 17/09/2018 | Suspect measles | 3 | Wau; Jur River | Wau South; Jur River | Three suspect measles cases [one case in Agok village, Wau South Payam; and 2 suspect cases in Marial Ajieth village, Jur River] were investigated during the week and samples sent to Juba for testing. Laboratory results for 10 samples (from Jur River; Wau; & Raja) were released on 10/10/2018; all tested measles and rubella IgM negative. |
| 17/09/2018 | Suspect pertussis | 7 | Jur River; Wau | Kuajiena; Udici; Wau South & Wau North | From week 37, 2018, a cluster of seven suspect pertussis cases were reported from Chono PHCU and Mapel PHCC (Chono; Magala; & Gango villages). Additional cases were identified in Wau North and Wau South payam. An investigation was undertaken on 28 Sept 2018; confirmed clinical presentation was consistent with pertussis. No form of vaccination has been undertaken in the population in the last three years since the area has been under opposition control. Regular primary health care and routine vaccination outreaches were recommended for the affected areas. |
| 03/10/2018 | Suspect Ebola virus disease | 1 (01) | Yei | Yei town | A suspect Ebola deaths was reported to the PHEOC on 3 Oct 2018; the rapid response team deployed to investigate the death on 4 Oct 2018; but were unable to locate the home or grave of the suspect death. Follow up investigations involving the community leaders have not yielded any additional information. |
| 12/10/2018 | Suspect Ebola virus disease | 1 | Rumbek Center | Rumbek Town | On 12 October 2018, an Ebola alert was reported from UNMIS Rumbek involving UNMISS staff that presented on the 10/10/2018 with fever and headache but without any wet symptoms. He tested positive for malaria but CBC and platelet counts were normal. He is currently on treatment for malaria and is confined to his home. The rapid response team has been constituted to investigate and collect samples for Ebola testing. Sample PCR negative for Ebola, Marburg, RVF, CCHF, and Sosuga viruses. |
| 18/10/2018 | Suspect Ebola virus disease | 1 (01) | Mundri East | Mundri East | A suspect VHF case reported in Lui hospital on 12/10/2018. Symptoms included fever, abdominal pains, nose bleeding, hematemesis and comma. Died on 14/10/2018. No epidemiological link to similar cases. Sample collected and arrangements are underway to ship the sample to Juba. Sample tested PCR negative for Ebola, Marburg, RVF, CCHF, Sosuga. |

| Date of report | Disease suspected | Number cases (deaths) | County | Payam | Status of investigations |
|----------------|---------------------|-----------------------|---------------------------|---------------------|--|
| 07/01/2018 | Suspect rabies | 848 | Abyei | Abyei | An increase in suspect rabies cases is reported in Abyei town where at least 848 animal bites have been reported (week 1-42, 2018). The most affected are children 10-19 years. Dog vaccination is currently underway by the South Sudan Veterinary Association. |
| 10/07/2018 | Suspect HEV | 7 (02) | Abyei | Abyei | Suspect HEV cases have been reported in Abyei town with 7 cases including 6 HEV RDT positive cases and two deaths have been reported. An integrated Health-WASH assessment and response is planned. |
| 21/10/2018 | Ebola virus alert | 1 | Yambio | Yambio | The Ebola alert was reported from Yambio hospital on 21 Oct 2018. The case improved on treatment and has since been discharged on 25 Oct 2018. Sample test results awaited from UVRI. |
| 26/10/2018 | Suspect measles | 3 | Malakal | Malakal PoC | From 26th to 27th October 2018; three new suspect measles cases were reported in Malakal PoC. Samples collected for testing in Juba. |
| 25/10/2018 | Suspect Guinea worm | 2 | Gogrial West & Tonj North | Alabek & Kuac North | In week 42, two suspect Guinea worm cases were reported from Pankot village, Langkap Boma at Alabek Payam in Tonj North County; and Thurachol village, Ajiep Boma, Kuac North Payam in Gogrial West County. Sample PCR negative for Ebola, Marburg, RVF, CCHF, and Sosuga viruses. |
| 29/10/2018 | Ebpola alert | 2 | Pageri | Nimule | Two Ebola alerts involving a 6 year old boy and a 9 year old boy that presented with malaria like symptoms and nose bleeding without any history of contact with a bleeding or severely ill case or travel to an Ebola area. The alerts were discarded as they did not meet the case definition. |

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