

# South Sudan

## Integrated Disease Surveillance and Response (IDSR)

Epidemiological Update W32 2018 (Aug06- Aug12)



Ministry of Health  
Republic of South Sudan



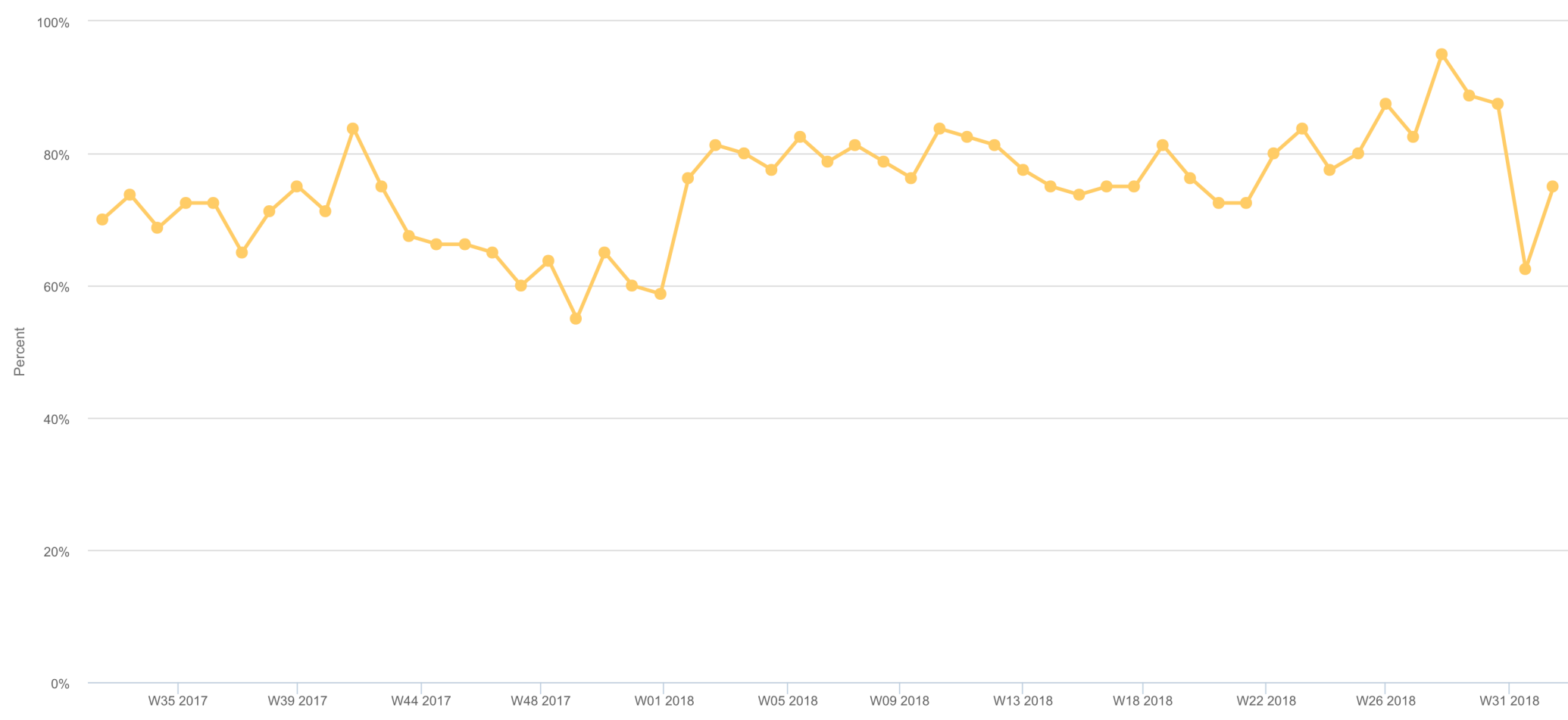
- Completeness for IDSR reporting at county level was 75% . Completeness for EWARS reporting from IDP sites was 81%.
- A total of 9 alerts were reported, of which 89% have been verified. 0 alerts was risk assessed & 0 required a response.
- In the absence of measles and rubella IgM ELISA test kits, a comprehensive response is planned for two suspect measles outbreaks in Bentiu PoC and Yirol East county.
- A cluster of 12 animal bite (suspect rabies) cases including 2 children reported in Yambio town.
- There was no new suspect Rift Valley Fever (RVF) case reported from Yirol East in week 32. 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).
- One new suspect HEV case reported in week 32. A total of 130 HEV cases (15 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 to mitigate the risk of EVD importation and enhance readiness capacities.

**Table 1** | IDSR surveillance performance indicators by county (W32 2018)

| Hub                | Reporting  |                    | Performance (W32 2018) |            | Performance (Cumulative 2018) |            |
|--------------------|------------|--------------------|------------------------|------------|-------------------------------|------------|
|                    | # counties | # reports received | Completeness           | Timeliness | Completeness                  | Timeliness |
| Aweil              | 5          | 3                  | 60%                    | 40%        | 85%                           | 84%        |
| Bentiu             | 9          | 8                  | 89%                    | 89%        | 67%                           | 52%        |
| Bor                | 11         | 5                  | 45%                    | 45%        | 48%                           | 45%        |
| Juba               | 6          | 6                  | 100%                   | 100%       | 83%                           | 71%        |
| Kwajok             | 7          | 5                  | 71%                    | 71%        | 96%                           | 89%        |
| Malakal            | 13         | 7                  | 54%                    | 54%        | 53%                           | 21%        |
| Rumbek             | 8          | 6                  | 75%                    | 75%        | 97%                           | 90%        |
| Torit              | 8          | 7                  | 88%                    | 88%        | 96%                           | 73%        |
| Wau                | 3          | 3                  | 100%                   | 100%       | 89%                           | 73%        |
| Yambio             | 10         | 10                 | 100%                   | 100%       | 99%                           | 99%        |
| <b>South Sudan</b> | <b>80</b>  | <b>60</b>          | <b>75%</b>             | <b>74%</b> | <b>78%</b>                    | <b>74%</b> |

- Completeness for IDSR reporting at county level was 75% in week 32 and cumulatively at 78% for 2018.
- Timeliness for IDSR reporting at county level was 74% in week 32 and cumulatively at 74% for 2018

Figure 1 | Trend in IDSR completeness over time<sup>1</sup>



The graph shows completeness for weekly reporting at county level. The national average currently stands at **78%**.



**Table 4** | EWARS surveillance performance indicators by partner (W32 2018)

| Partner      | Performance |                    | Reporting (W32 2018) |            | Reporting (Cumulative 2018) |            |
|--------------|-------------|--------------------|----------------------|------------|-----------------------------|------------|
|              | # sites     | # reports received | Completeness         | Timeliness | Completeness                | Timeliness |
| CMD          | 0           | 0                  |                      |            |                             |            |
| GOAL         | 2           | 2                  | 100%                 | 100%       | 100%                        | 91%        |
| HLSS         | 1           | 1                  | 100%                 | 100%       | 100%                        | 100%       |
| IMA          | 5           | 5                  | 100%                 | 100%       | 79%                         | 76%        |
| IMC          | 6           | 6                  | 100%                 | 100%       | 95%                         | 94%        |
| IOM          | 11          | 5                  | 45%                  | 45%        | 73%                         | 73%        |
| IRC          | 1           | 1                  | 100%                 | 100%       | 100%                        | 97%        |
| Medair       | 0           | 0                  |                      |            |                             |            |
| MSF-E        | 2           | 0                  | 0%                   | 0%         | 76%                         | 61%        |
| MSF-H        | 2           | 2                  | 100%                 | 100%       | 76%                         | 55%        |
| SMC          | 4           | 4                  | 100%                 | 100%       | 79%                         | 79%        |
| UNIDO        | 1           | 1                  | 100%                 | 100%       | 103%                        | 103%       |
| UNKEA        | 2           | 2                  | 100%                 | 100%       | 91%                         | 88%        |
| World Relief | 1           | 1                  | 100%                 | 100%       | 97%                         | 85%        |
| TRI-SS       | 0           | 0                  |                      |            |                             |            |
| LIVEWELL     | 4           | 4                  | 100%                 | 100%       | 21%                         | 21%        |
| <b>Total</b> | <b>43</b>   | <b>35</b>          | <b>81%</b>           | <b>81%</b> | <b>78%</b>                  | <b>75%</b> |

Timeliness and completeness for EWARN/IDP reporting stands at 81% for week 32, while cumulatively timeliness and completeness are 75% and 78% respectively for 2018.

Table 7 | Alert performance indicators by Hub

| Hub                | W32      |            | Cumulative (2018) |            |
|--------------------|----------|------------|-------------------|------------|
|                    | # alerts | % verif.   | # alerts          | % verif.   |
| Aweil              | 0        | 0%         | 35                | 97%        |
| Bentiu             | 3        | 67%        | 67                | 72%        |
| Bor                | 1        | 100%       | 46                | 61%        |
| Juba               | 1        | 100%       | 64                | 70%        |
| Kwajok             | 0        | 0%         | 35                | 94%        |
| Malakal            | 2        | 100%       | 47                | 66%        |
| Rumbek             | 1        | 100%       | 42                | 71%        |
| Torit              | 0        | 0%         | 42                | 81%        |
| Wau                | 1        | 100%       | 32                | 56%        |
| Yambio             | 0        | 0%         | 65                | 58%        |
| <b>South Sudan</b> | <b>9</b> | <b>89%</b> | <b>475</b>        | <b>71%</b> |

Table 8 Summary of key alert indicators

| W32        | Cumulative (2018) |                        |
|------------|-------------------|------------------------|
| <b>9</b>   | <b>475</b>        | Total alerts raised    |
| <b>89%</b> | <b>71%</b>        | % verified             |
| <b>0%</b>  | <b>0%</b>         | % auto-discarded       |
| <b>0%</b>  | <b>4%</b>         | % risk assessed        |
| <b>0%</b>  | <b>1%</b>         | % requiring a response |

A total of 9 alerts were reported in week 32 with 89% of the alerts in week 32 being verified; 0% were risk assessed and 0% required a response.

**Table 9 | Alert performance indicators by event**

| Event                               | W32      |          | Cumulative (2018) |          |
|-------------------------------------|----------|----------|-------------------|----------|
|                                     | # alerts | % verif. | # alerts          | % verif. |
| <b>Indicator-based surveillance</b> |          |          |                   |          |
| Malaria                             | 1        | 100%     | 92                | 65%      |
| AWD                                 | 1        | 100%     | 163               | 69%      |
| Bloody Diarr.                       | 2        | 100%     | 119               | 53%      |
| Measles                             | 4        | 100%     | 98                | 80%      |
| Meningitis                          | 0        | 0%       | 0                 | 0%       |
| Cholera                             | 0        | 0%       | 6                 | 100%     |
| Yellow Fever                        | 0        | 0%       | 4                 | 75%      |
| Guinea Worm                         | 0        | 0%       | 19                | 89%      |
| AFP                                 | 0        | 0%       | 46                | 100%     |
| VHF                                 | 0        | 0%       | 2                 | 100%     |
| Neo. tetanus                        | 0        | 0%       | 5                 | 60%      |
| <b>Event-based surveillance</b>     |          |          |                   |          |
| EBS total                           | 1        | 0%       | 27                | 67%      |

**Table 10 | Event risk assessment**

| W32 | Cumulative (2018) |                |
|-----|-------------------|----------------|
| 0   | 8                 | Low risk       |
| 1   | 1                 | Medium risk    |
| 0   | 3                 | High risk      |
| 0   | 1                 | Very high risk |

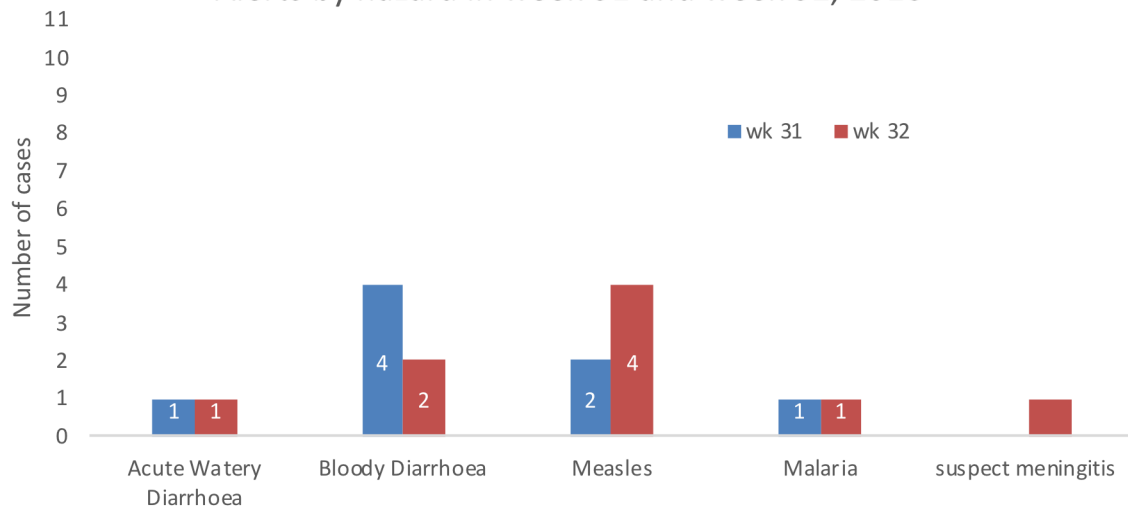
During the week, suspect measles and bloody diarrhoea were the most frequent infectious hazards reported.



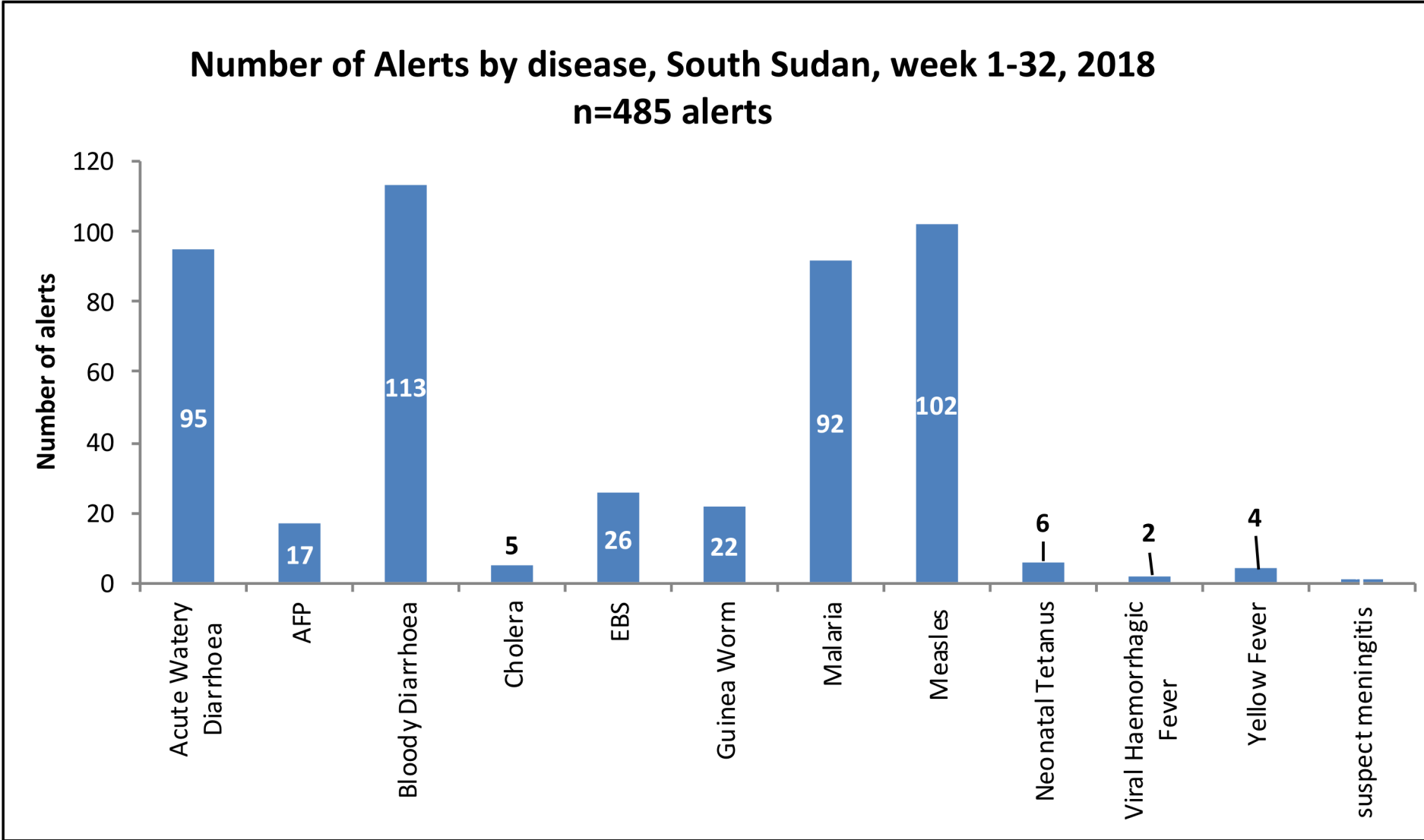
## Alert by disease and county in W32 2018

| County              | Watery Diarrhoea | Bloody Diarrhoea | Measles  | Malaria  | suspect meningitis | Total Alerts |
|---------------------|------------------|------------------|----------|----------|--------------------|--------------|
| Juba                |                  |                  | 1        |          |                    | 1            |
| Leer                |                  | 1                |          |          |                    | 1            |
| Melut               | 1                | 1                |          |          |                    | 2            |
| Pariang             |                  |                  |          |          | 1                  | 1            |
| Rubkona             |                  |                  | 1        |          |                    | 1            |
| Rumbek North        |                  |                  | 1        |          |                    | 1            |
| Uror                |                  |                  |          | 1        |                    | 1            |
| Wau                 |                  |                  | 1        |          |                    | 1            |
| <b>Total Alerts</b> | <b>1</b>         | <b>2</b>         | <b>4</b> | <b>1</b> | <b>1</b>           | <b>9</b>     |

Alerts by hazard in week 31 and week 32, 2018



- During week 32, a total of 9 alerts were reported through EWARS
- Bloody diarrhoea & suspect measles were the most common alerts
- A **suspect cholera case** was reported in EB clinic in Juba and referred to Juba Teaching Hospital for investigation
- Two **suspected Guinea worm cases** were reported and investigated in Aweil State hospital. There was no hanging worm found the patients are being monitored.
- **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.



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

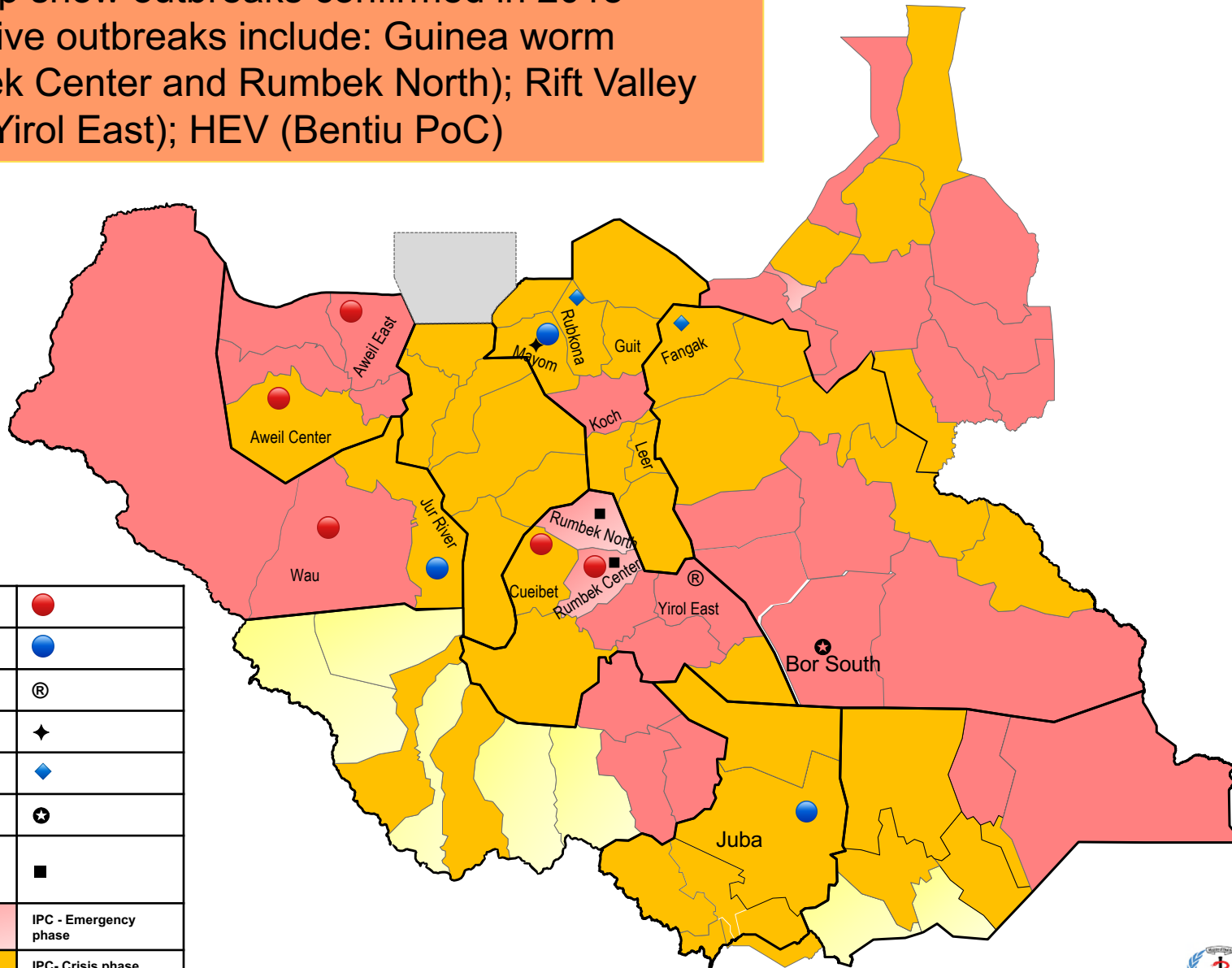
## Cumulative alerts by risk assessment stage in 2018

| County                   | OUTCOME   | RISK ASSESSED | RISK CHARACTERISED | VERIFICATION | Total Alerts |
|--------------------------|-----------|---------------|--------------------|--------------|--------------|
| Acute Watery Diarrhoea   | 1         |               |                    | 94           | 95           |
| AFP                      |           | 1             |                    | 16           | 17           |
| Bloody Diarrhoea         | 1         |               |                    | 112          | 113          |
| Cholera                  | 1         |               |                    | 1            | 2            |
| EBS                      |           | 3             |                    | 23           | 26           |
| Guinea Worm              | 2         | 1             |                    | 19           | 22           |
| Neonatal Tetanus         | 3         |               |                    | 3            | 6            |
| Viral Haemorrhagic Fever |           |               |                    | 2            | 2            |
| Yellow Fever             |           |               |                    | 4            | 4            |
| Measles                  | 5         | 6             |                    | 91           | 102          |
| Cholera                  |           |               |                    | 3            | 3            |
| Malaria                  | 2         | 3             | 1                  | 86           | 92           |
| suspect meningitis       |           |               |                    | 1            | 1            |
| <b>Total Alerts</b>      | <b>15</b> | <b>14</b>     | <b>1</b>           | <b>455</b>   | <b>485</b>   |

- The Figures show the cumulative alerts by risk assessment state in 2018
- Of the 485 alerts reported in 2018; a total of 455 alerts have been verified; 14 alerts underwent risk assessment; and 15 alerts have a documented outcome

# Confirmed Outbreaks South Sudan – 19 August 2018

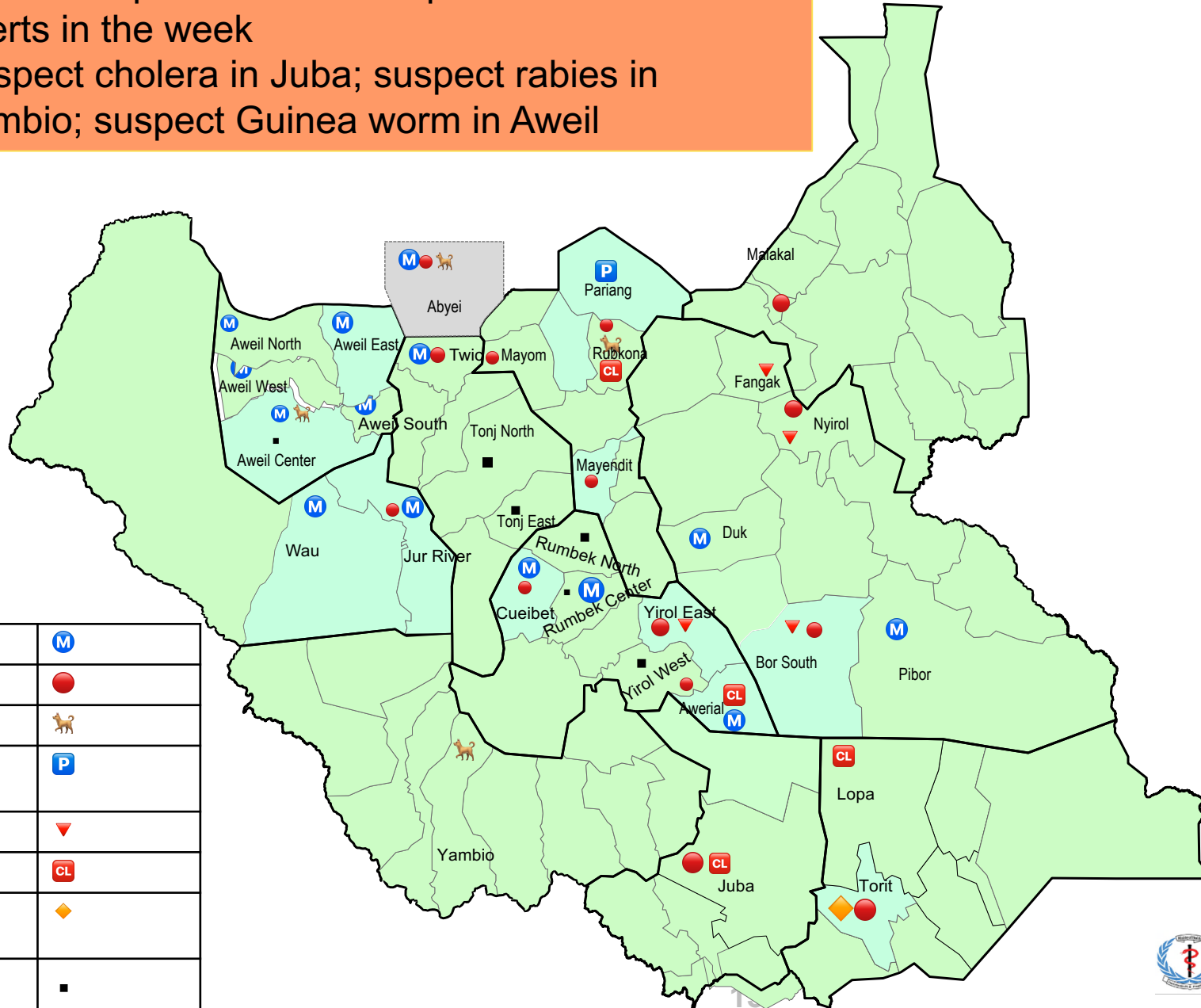
- The map show outbreaks confirmed in 2018
- The active outbreaks include: Guinea worm (Rumbek Center and Rumbek North); Rift Valley Fever (Yirol East); HEV (Bentiu PoC)



|                   |                       |
|-------------------|-----------------------|
| Measles           | ●                     |
| Rubella           | ●                     |
| Rift Valley Fever | ®                     |
| Anthrax           | ◆                     |
| Hepatitis E virus | ◆                     |
| Foodborne disease | ★                     |
| Guinea worm       | ■                     |
|                   | IPC - Emergency phase |
|                   | IPC - Crisis phase    |
|                   | IPC - Stressed phase  |

# Suspect Outbreaks South Sudan – 19 August 2018

- Map shows suspect outbreaks reported in 2018
- New alerts in the week
  - Suspect cholera in Juba; suspect rabies in Yambio; suspect Guinea worm in Aweil



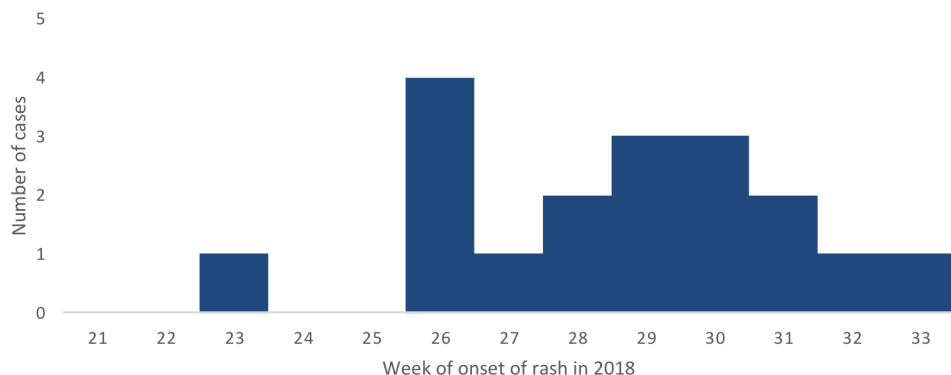
|   |  |
|---|--|
| <b>Meningitis</b>                           |  |
| <b>Measles</b>                              |  |
| <b>Rabies</b>                               |  |
| <b>Health effects of petroleum drilling</b> |  |
| <b>Pertussis</b>                            |  |
| <b>Cholera</b>                              |  |
| <b>Acute Jaundice Syndrome</b>              |  |
| <b>Guinea worm</b>                          |  |

| 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 |
| <b>New epidemics</b>        |                              |                     |                               |  |                 |             |                  |      |
|                             |                              |                     |                               |  |                 |             |                  |      |
| <b>Ongoing epidemics</b>    |                              |                     |                               |  |                 |             |                  |      |
| 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          | 1                             | 130 (0.111)                              | Yes             | No          | Yes              | Yes  |
| <b>Controlled epidemics</b> |                              |                     |                               |  |                 |             |                  |      |
| 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  |

- There is no new outbreak confirmed in the week
- The other ongoing and controlled outbreaks in 2018 are shown in the table

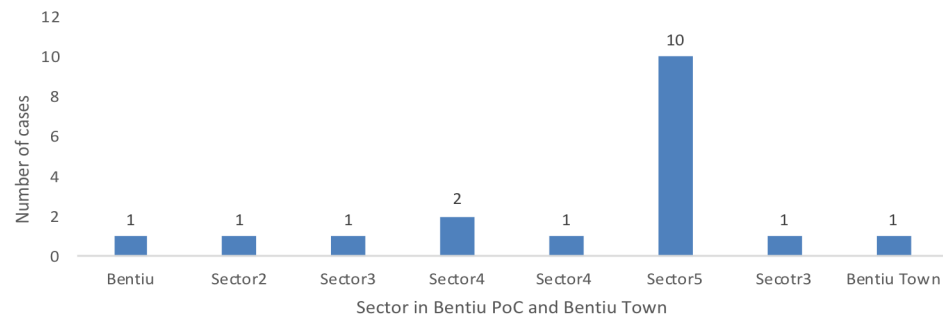
# Suspect measles outbreak - Bentiu PoC

Suspect measles cases Bentiu PoC, week 23-33, 2018



| Age                | Female    | Male     | Total cases | Percentage % | Cum % |
|--------------------|-----------|----------|-------------|--------------|-------|
| <1yr               | 6         | 5        | 11          | 61%          | 61%   |
| 1-4yrs             | 3         | 2        | 5           | 28%          | 89%   |
| 5-9yrs             | 1         | 1        | 2           | 11%          | 100%  |
| <b>Total cases</b> | <b>10</b> | <b>8</b> | <b>18</b>   | <b>100%</b>  |       |

Suspect measles cases by Sector in Bentiu PoC, week 23-33, 2018



- At least 18 suspect measles cases (with no deaths) have been reported in Bentiu PoC since week 23, 2018.
- All the suspect cases are <5 years with 89% being less than five years of age.
- Most cases 56% (10/18) are from sector 5;
- All the suspect measles cases reported to date have not received any measles vaccine dose

## Recommended response

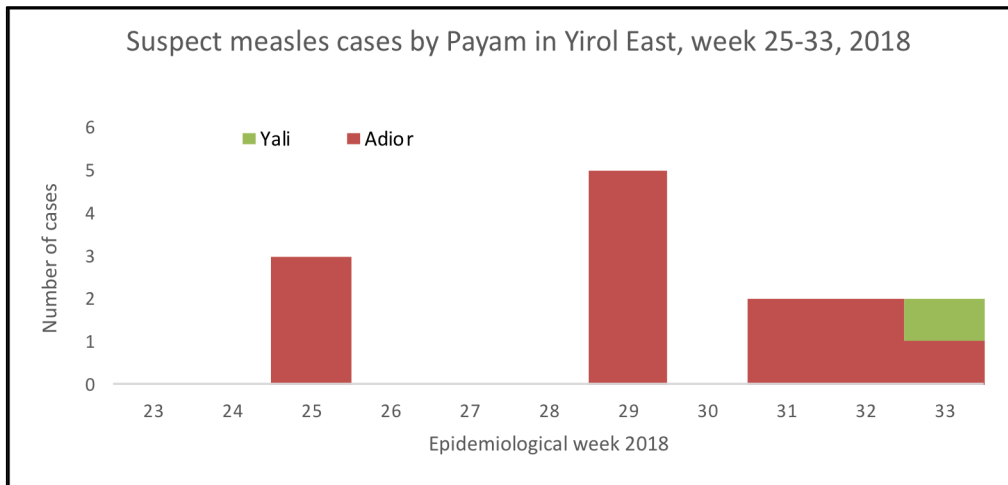
1. Case-based surveillance should continue
2. Ensure adequate clinical management of suspect measles cases (guided by national measles protocols).
3. Due to the absence of measles and rubella ELISA kits to facilitate lab confirmation and since Bentiu PoC hosts IDPs with the risk of amplification; reactive measles vaccination (and polio vaccination) should be implemented immediately with contingencies to vaccinate all new arrivals.
  - a) **Antigens to be delivered:** Measles & oral polio vaccine (OPV)
  - b) **Target population for measles:** 6months -15 years
  - c) **Target population for oral polio vaccine:** 0-59 months

## Way Forward

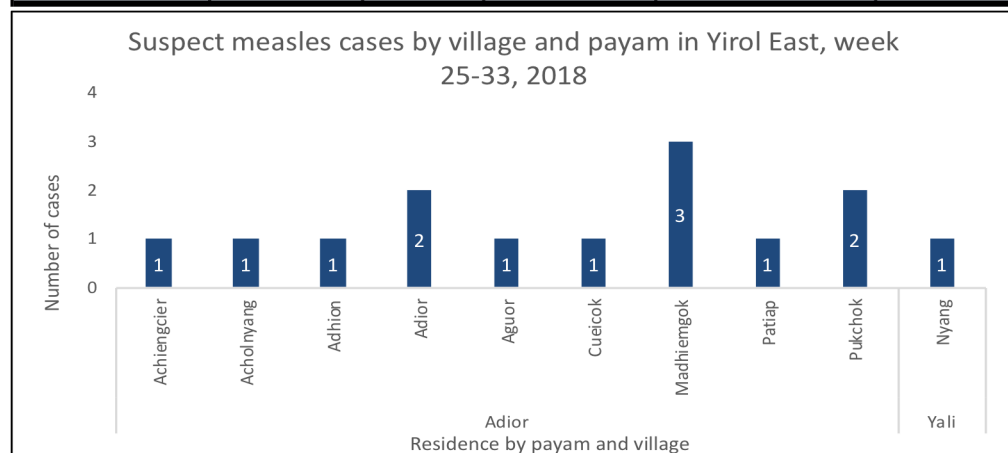
Working with the national and sub-national health cluster; lead health cluster partners are being identified to undertake the following:

- a) Develop microplans for the measles-OPV campaign in Bentiu PoC.
- b) Immediately implement reactive measles-OPV campaign in Bentiu PoC.
- c) Conduct post-campaign evaluation of the campaigns
- d) Strengthen routine immunisation to prevent future outbreaks

# Suspect measles outbreak - Yirol East county



| Age                | Female   | Male     | Total cases | Percentage % | Cum% |
|--------------------|----------|----------|-------------|--------------|------|
| <1yr               |          | 1        | 1           | 7%           | 7%   |
| 1-4yrs             | 2        | 4        | 6           | 43%          | 50%  |
| 5-9yrs             | 3        | 3        | 6           | 43%          | 93%  |
| 10-14yrs           |          | 1        | 1           | 7%           | 100% |
| <b>Total cases</b> | <b>5</b> | <b>9</b> | <b>14</b>   | <b>100%</b>  |      |



- At least 14 suspect measles cases (with no deaths) have been reported in Yirol East since week 25, 2018.
- Most of the suspect cases are <5 years with 50% being <5 years of age.
- Most of the suspect measles cases are from Adior payam with most cases reported from Madhiengkok village
- All the suspect measles cases reported to date have not received any measles vaccine dose

## Recommended response

1. Case-based surveillance should continue
2. Ensure adequate clinical management of suspect measles cases (guided by national measles protocols).
3. Due to the absence of measles and rubella ELISA kits to facilitate lab confirmation and since Yirol East hosts IDPs with the risk of amplification; reactive measles vaccination (and polio vaccination) should be implemented immediately with contingencies to vaccinate all new arrivals.
  - a) **Antigens to be delivered:** Measles & oral polio vaccine
  - b) **Target population for measles:** 6months -15 years
  - c) **Target population for oral polio vaccine:** 0-59 months

## Way Forward

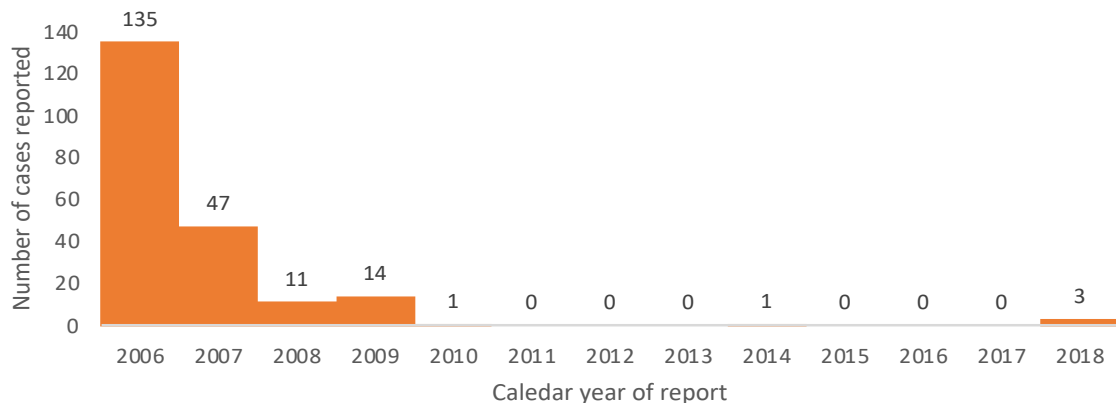
Working with the national and sub-national health cluster; lead health cluster partners are being identified to undertake the following:

- a) Develop microplan for the measles-OPV campaigns in Yirol East.
- b) Immediately implement reactive measles-OPV campaign in Yirol East.
- c) Conduct post-campaign evaluation of the campaigns
- d) Strengthen routine immunisation to prevent future outbreaks



## Confirmed Guinea worm - Rumbek Center & Rumbek North, Western Lakes state

Western Lakes state Number of Confirmed Dracunculiasis cases January 2006 to July 2018



### Confirmed Guinea worm cases by state hub, Jan 2006- Jul 2018

| State hub               | 2006         | 2007        | 2008        | 2009        | 2010        | 2011        | 2012       | 2013       | 2014      | 2015     | 2016     | 2017     | 2018     |
|-------------------------|--------------|-------------|-------------|-------------|-------------|-------------|------------|------------|-----------|----------|----------|----------|----------|
| Central Equatoria       | 290          | 210         | 376         | 275         | 45          | 12          | 0          | 0          | 0         | 0        | 0        | 0        | 0        |
| Eastern Equatoria       | 13835        | 3127        | 1350        | 675         | 667         | 775         | 452        | 85         | 58        | 1        | 0        | 0        | 0        |
| Western Equatoria       | 0            | 0           | 2           | 19          | 0           | 0           | 0          | 0          | 0         | 0        | 0        | 0        | 0        |
| Lakes                   | 659          | 396         | 467         | 494         | 270         | 59          | 7          | 9          | 12        | 2        | 0        | 0        | 3        |
| Warrap                  | 2942         | 930         | 1157        | 1193        | 675         | 116         | 37         | 4          | 0         | 1        | 2        | 0        | 0        |
| Jonglei                 | 1922         | 857         | 88          | 9           | 26          | 62          | 24         | 14         | 0         | 0        | 0        | 0        | 0        |
| Western Bahr el Ghazal  | 197          | 162         | 160         | 62          | 15          | 4           | 1          | 0          | 0         | 1        | 4        | 0        | 0        |
| Northern Bahr el Ghazal | 727          | 129         | 18          | 6           | 0           | 0           | 0          | 1          | 0         | 0        | 0        | 0        | 0        |
| Unity                   | 0            | 0           | 0           | 0           | 0           | 0           | 0          | 0          | 0         | 0        | 0        | 0        | 0        |
| Upper Nile              | 9            | 4           | 0           | 0           | 0           | 0           | 0          | 0          | 0         | 0        | 0        | 0        | 0        |
| <b>Total</b>            | <b>20581</b> | <b>5815</b> | <b>3618</b> | <b>2733</b> | <b>1698</b> | <b>1028</b> | <b>521</b> | <b>113</b> | <b>70</b> | <b>5</b> | <b>6</b> | <b>0</b> | <b>3</b> |

SSGWEP - South Sudan Guinea worm eradication program; GW - Guinea worm

- The SSGWEP was established in 2006 with 20,581 cases being reported the same year but consistent case declines were reported with no cases in 2017
- Western Lakes state comprises of the former Wulu, Rumbek Center, Rumbek East, and Rumbek North counties in former Lakes state
- Western Lakes state has a village surveillance system since the SSGWEP started in 2006 with confirmed Guinea worm cases declining from 135 out of 20,581 cases countrywide to 14 cases in 2009, the year the last indigenous cases were reported in Western Lakes. The 2010 case was imported and the 2014 case originated from Wulu county
- From 2015-2017; Western Lakes reported no confirmed GW cases however, three GW cases were confirmed in 2018. The source of these three new cases is still being investigated
- Two of the 2018 cases originate from Rumbek Center while the third is from Rumbek North. They are all from the cattle camps and are uncontained.
- The affected cattle camp populations of the Pakam and Rup communities have in the past several years been engaged in communal violence which had hindered the work of the SSGWEP. The ongoing disarmament of civilians has created the necessary environment for the SSGWEP to reach all the cattle camps inhabited by these communities.
- The current investigations entail detailed investigations into the 3 cases to map their close contacts (in search for additional cases), open water sources visited after the worms emerged; abating all the open water sources in the outbreak area; improving access to safe water; public awareness through the cash reward campaign; and countrywide surveillance to detect additional cases.

## Acute Jaundice Syndrome (AJS) [suspect Hepatitis E, Leer TPA]

### Descriptive case series

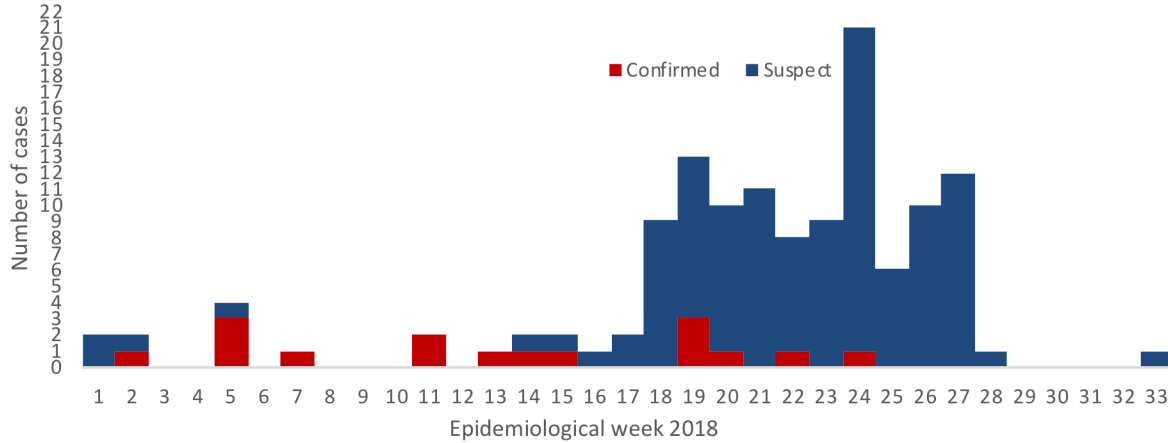
- On 25 July 2018 two AJS (suspect HEV) deaths were reported in Leer TPA by UNIDO, the implementing health cluster partner.
- The presenting complaints included fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, jaundice, and dark urine.
- The first case was 29-year old pregnant mother brought to the clinic on 13/07/2018, the clinician suspected malaria but RDT was negative, she was then treated clinically on malaria, unfortunately she died on 14/07/2018.
- The second case was 8-year old girl brought to the clinic on 25/07/2018 with the above signs and symptoms, she was admitted with suspected malaria, but RDT was also negative, unfortunately she died 26/07/2018.
- The girl was recently from Bentiu PoC and the woman was from Koch County thus no one knows whether she visited Bentiu PoC sometime this year.
- Serum samples were not collected from the two cases.

### Response actions to date

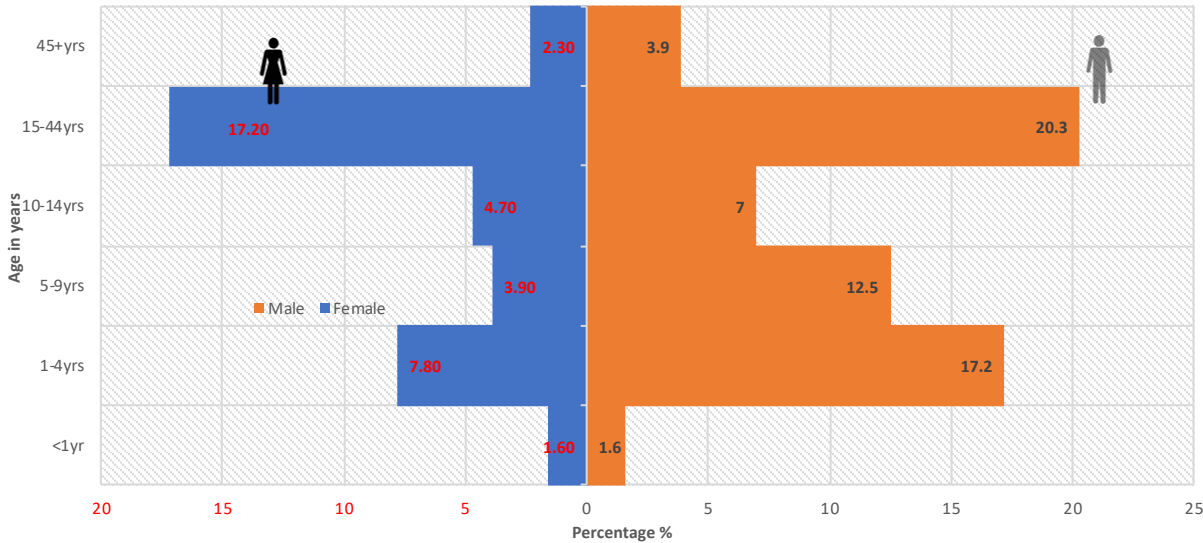
1. UNIDO is the health implementing partner that is providing health services and currently leading case surveillance and clinical care.
2. Active surveillance initiated in the health facility and community using the AJS case definitions
3. WHO has shared the HEV case investigation guidelines (case form, line list, serum collection and transportation)
4. The WHO protocol for HEV case triage and supportive care has been shared.
5. Concern Worldwide has connected a borehole with a pipeline system to the Leer TPA with a total of 12 taps and a 30m<sup>3</sup> bladder tank. Concern Worldwide has also conducted capacity building on some local staff on operation and maintenance of the system.
6. UNIDO who are based at the TPA site are supporting hygiene promotion and sanitation activities.
7. Plans underway to conduct case investigations and collect serum samples from subsequent suspect AJS cases.
8. The state hub and Juba have been alerted to provide technical and logistical support
9. Further updates to follow.

## Hepatitis E, Bentiu PoC and Old Fangak

Hepatitis E cases reported in by Epi classification, week 1-33, 2018

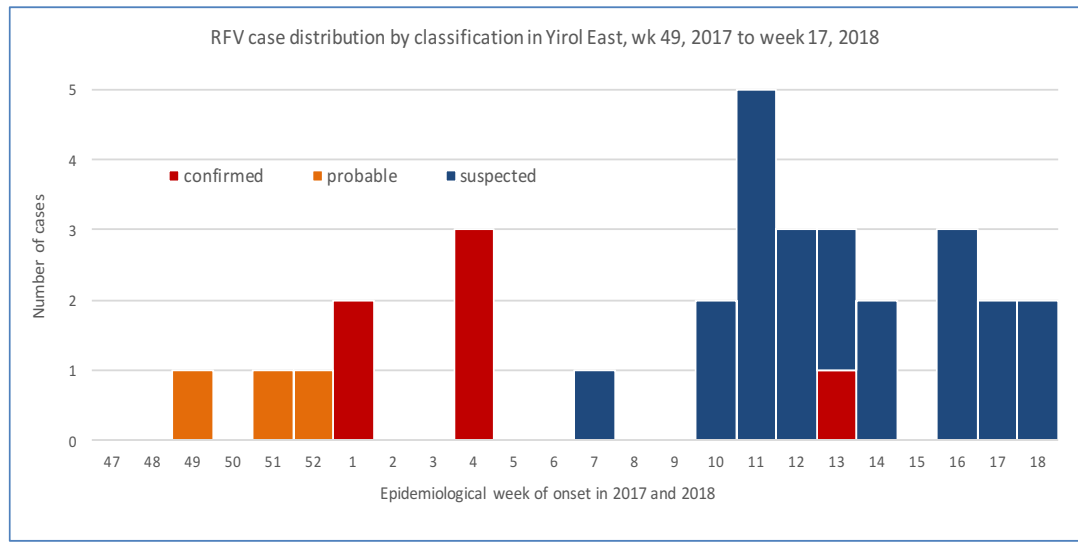
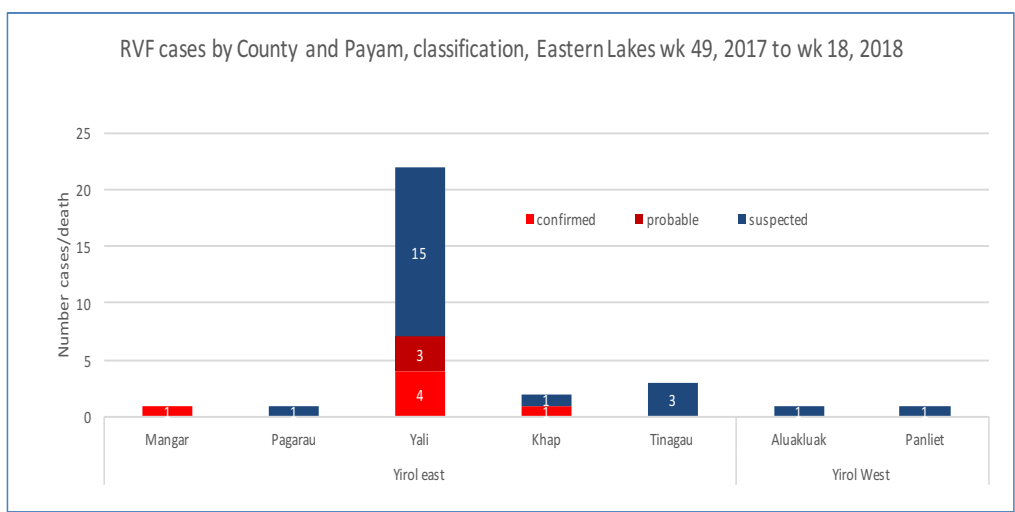
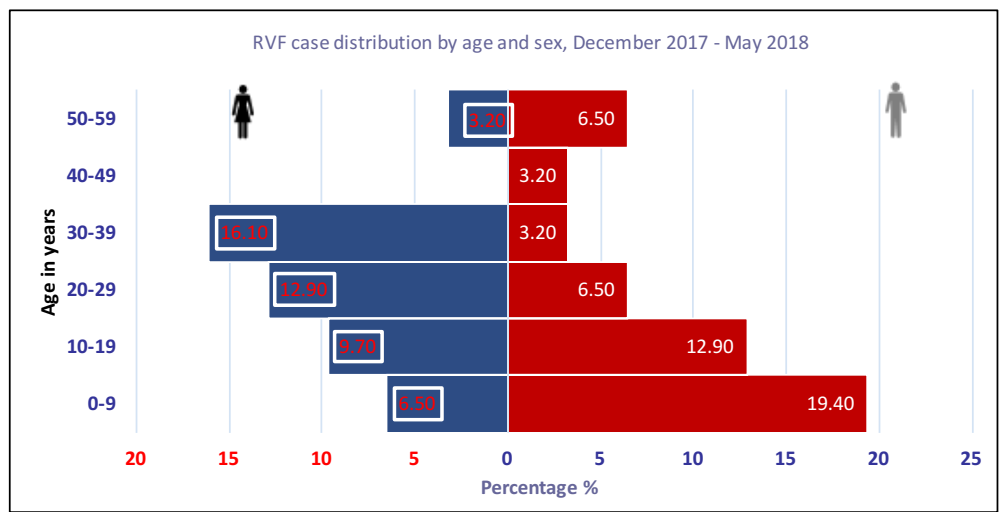


HEV case distribution by age & sex, Bentiu PoC Jan-July 2018



- At least 130 suspect cases of Hepatitis E (HEV) have been reported in 2018. Of the 130 suspect cases, a total of 16 cases have been PCR confirmed as HEV (15 in Bentiu PoC & 1 in Old Fangak). No new cases identified after active follow up in Fangak. Only 5 HEV cases have been admitted.
- At least 45% of the cases are 1-9 years of age; and 66% 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 3<sup>rd</sup> 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 shared key HEV messages - for radio programs on [Kondial FM & Bentiu FM] and community sensitizations.
- Case identification and follow up is ongoing and WASH risk assessment has been planned.

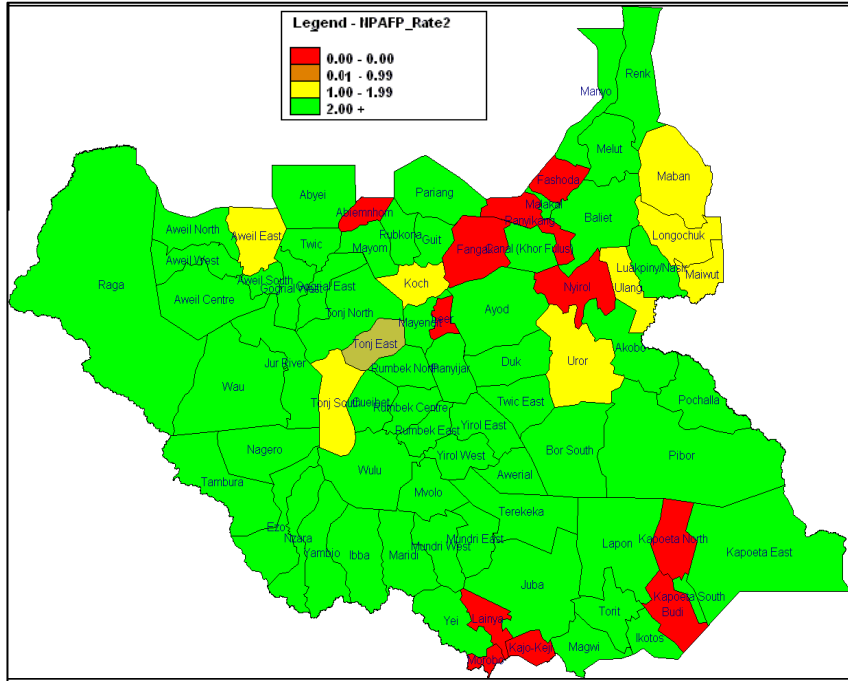
# Ongoing epidemics - Epidemic description - RVF Eastern Lakes state



| 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 32.
- In the period 7 December 2017 to 22 July 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 22<sup>nd</sup> July 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

# Acute Flaccid Paralysis - suspect Polio



In week 32, 2018, a total of 6 new AFP cases were reported from Jonglei, Eastern Equatoria, Upper Nile, and Western Equatoria hubs. This brings the cumulative total for 2018 to 255 AFP cases.

The annualized non-Polio AFP (NPAFP) rate (cases per 100,000 population children 0-14 years) in 2018 is 5.04 per 100,000 population of children 0-14 years (target  $\geq 2$  per 100,000 children 0-14 years).

Stool adequacy was 84% 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 one (31) 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 |          | Pending         |                 |             |             | Specimens (#)  | Adequate Specimens | Stool adequacy | NPEV  |            | Sabin like |           |
|                             |                      |                      |                 |                   | Polio Compatible | VDPV     | Pending Lab/CLT | Pending Lab/ITD | Pending ERC |             |                |                    |                | Number                                      | Percent    | Number     | Percent   |
| CENTRAL EQUATORIA HUB       | 737148               | 15                   | 13              | 0                 | 0                | 0        | 1               | 0               | 1           | 3.3         | 15             | 13                 | 87%            | 0   | 0%         | 0          | 0%        |
| EASTERN EQUATORIA HUB       | 674008               | 24                   | 22              | 1                 | 0                | 0        | 2               | 0               | 0           | 5.8         | 24             | 24                 | 100%           | 3   | 14%        | 2          | 11%       |
| JONGLEI HUB                 | 982693               | 28                   | 20              | 1                 | 0                | 0        | 5               | 0               | 3           | 4.6         | 28             | 22                 | 79%            | 3   | 12%        | 1          | 8%        |
| LAKES HUB                   | 791864               | 30                   | 29              | 0                 | 0                | 0        | 1               | 0               | 0           | 6.2         | 30             | 30                 | 100%           | 2   | 7%         | 0          | 0%        |
| NORTHERN BAHR EL GHAZAL HUB | 987309               | 27                   | 25              | 0                 | 0                | 0        | 2               | 0               | 0           | 4.4         | 27             | 24                 | 89%            | 4   | 17%        | 3          | 15%       |
| UNITY HUB                   | 864151               | 22                   | 16              | 0                 | 0                | 0        | 1               | 0               | 5           | 4.1         | 22             | 17                 | 77%            | 3   | 13%        | 1          | 7%        |
| UPPER NILE HUB              | 895541               | 33                   | 21              | 1                 | 0                | 0        | 1               | 0               | 11          | 6.0         | 33             | 18                 | 55%            | 5   | 16%        | 3          | 14%       |
| WARRAP HUB                  | 1456973              | 36                   | 27              | 0                 | 0                | 0        | 7               | 0               | 2           | 4.0         | 36             | 33                 | 92%            | 4   | 14%        | 0          | 0%        |
| WESTERN BAHR EL GHAZAL HUB  | 316372               | 15                   | 8               | 2                 | 0                | 0        | 4               | 0               | 3           | 7.7         | 15             | 9                  | 60%            | 1   | 10%        | 0          | 0%        |
| WESTERN EQUATORIA HUB       | 516397               | 25                   | 20              | 1                 | 0                | 0        | 3               | 0               | 2           | 7.9         | 25             | 23                 | 92%            | 3   | 13%        | 2          | 11%       |
| <b>SOUTH SUDAN</b>          | <b>8222455</b>       | <b>255</b>           | <b>201</b>      | <b>6</b>          | <b>0</b>         | <b>0</b> | <b>27</b>       | <b>0</b>        | <b>27</b>   | <b>5.04</b> | <b>255</b>     | <b>213</b>         | <b>84%</b>     | <b>28</b>                                   | <b>12%</b> | <b>12</b>  | <b>7%</b> |

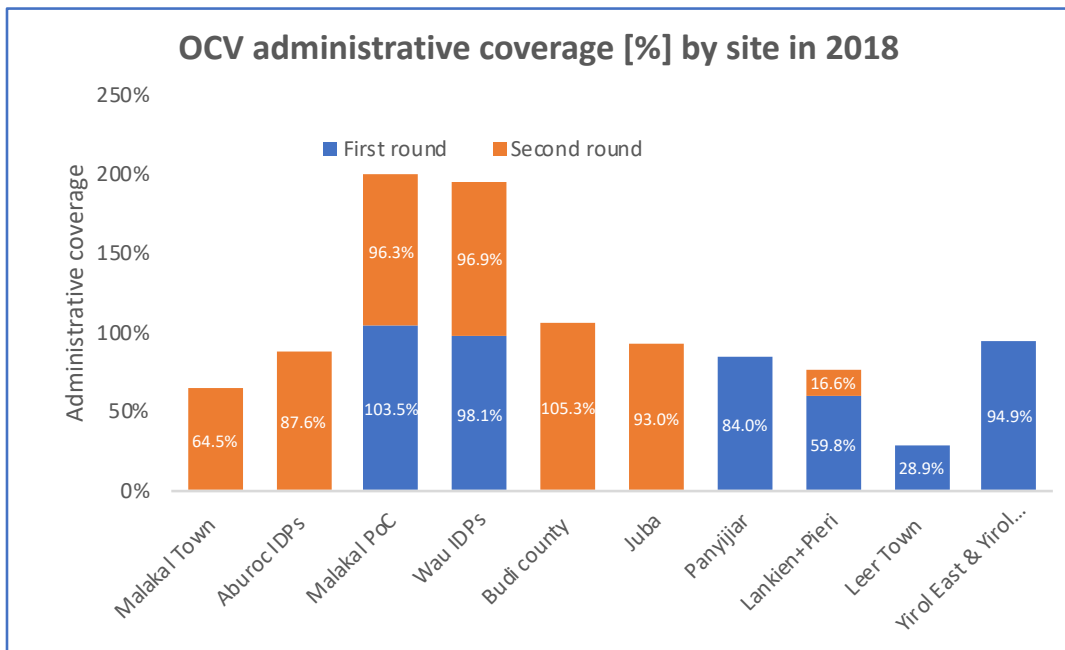
## Cholera preparedness and preventive activities - Oral cholera vaccine campaigns - 2018

| 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     | TBD              | MoH, WHO, Unicef, LiveWell      |
| Lankien           | 38,000           | 36,860            | 36,860          | 36,860          | 73,720           | 28May -13Jun2018    | TBD              | MoH, WHO, Unicef, MSF-H         |
| Panyijiar         | 75,000           | 72,750            | 75,000          | 75,000          | 150,000          | 16-22May2018        | TBD              | MoH, WHO, Unicef, IRC           |
| Leer              | 50,000           | 48,500            | 48,500          | 48,500          | 97,000           | 11-Jun-18           |                  | MoH, WHO, Unicef, MedAir        |
| <b>Totals</b>     | <b>824,808</b>   | <b>800,064</b>    | <b>591,358</b>  | <b>831,400</b>  | <b>1,422,759</b> |                     |                  |                                 |

- 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 (2<sup>nd</sup> round)
  - Aburoc IDPs (2<sup>nd</sup> round)
  - Malakal PoC (1<sup>st</sup> & 2<sup>nd</sup> round)
  - Wau PoC+IDPs (1<sup>st</sup> & 2<sup>nd</sup> round)
  - Juba Town (1<sup>st</sup> & 2<sup>nd</sup> round)
  - Panyijiar (1<sup>st</sup> round)
  - Leer Town (1<sup>st</sup> round)
  - Yirol East and Yirol West (1<sup>st</sup> round)
- **Upcoming campaigns for 2018**
  - Panyijiar (2<sup>nd</sup> round)
  - Torit (1<sup>st</sup> round)
  - Yirol East and Yirol West (2<sup>nd</sup> round)
- **Currently ongoing campaigns in July 2018**
  - Leer county outside Leer town (1<sup>st</sup> round)

## Oral cholera vaccine campaigns administrative coverage - 2018



**The following OCV campaigns have been completed in 2018:**

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

| 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         | 36337          | 98.1%        | 35887          | 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%        |                |              |
| 8 Lankien+Pieri            | 38,000         | 22,712         | 59.8%        | 6,294          | 16.6%        |
| 9 Leer Town                | 10,000         | 2,892          | 28.9%        |                |              |
| 10 Yirol East & Yirol West | 165,081        | 156,682        | 94.9%        |                |              |
| <b>Total</b>               | <b>348,576</b> | <b>305,900</b> | <b>87.8%</b> | <b>381,511</b> | <b>96.4%</b> |



# Ebola preparedness in South Sudan

## Ebola situation update - North Kivu, DR Congo 18 Aug 18

### Outbreak declaration

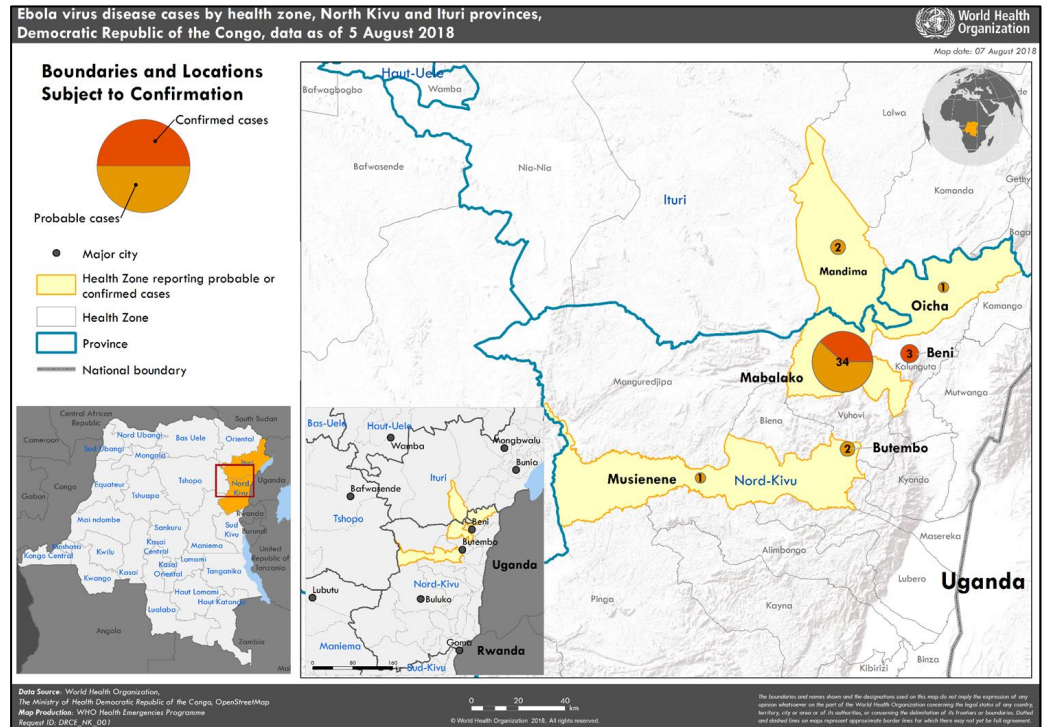
- Ebola outbreak declared in North Kivu province, DR Congo on 1 Aug 2018

### Cases (deaths): 91 cases (50 deaths)

- 64 Laboratory confirmed cases
- 27 probable cases
- 12 healthcare workers (11 confirmed, 1 probable); one death
- At least 1609 contacts being followed
- Ring vaccination commenced at least 500 contacts vaccinated

### 6 health zones affected in two provinces

- Mabalako, Beni, Butembo, Oicha & Musienene in **North-Kivu Province**
- Mandima in **Ituri Province**



- Epicenter - Mangina (Mabalako health zone), North Kivu
- Multipartner IMS/EOC activated in Beni & field coordination center in Mangina
- Mobile Lab in Beni & fixed site lab testing in Beni, Goma, & Mangina
- ALIMA & MSF established 60-bed ETCs in Beni & Mangina respectively
- The partners preparing ETCs to provide therapeutics under the monitored emergency use of unregistered and experimental interventions (MEURI) protocol



# *Ebola preparedness in South Sudan*

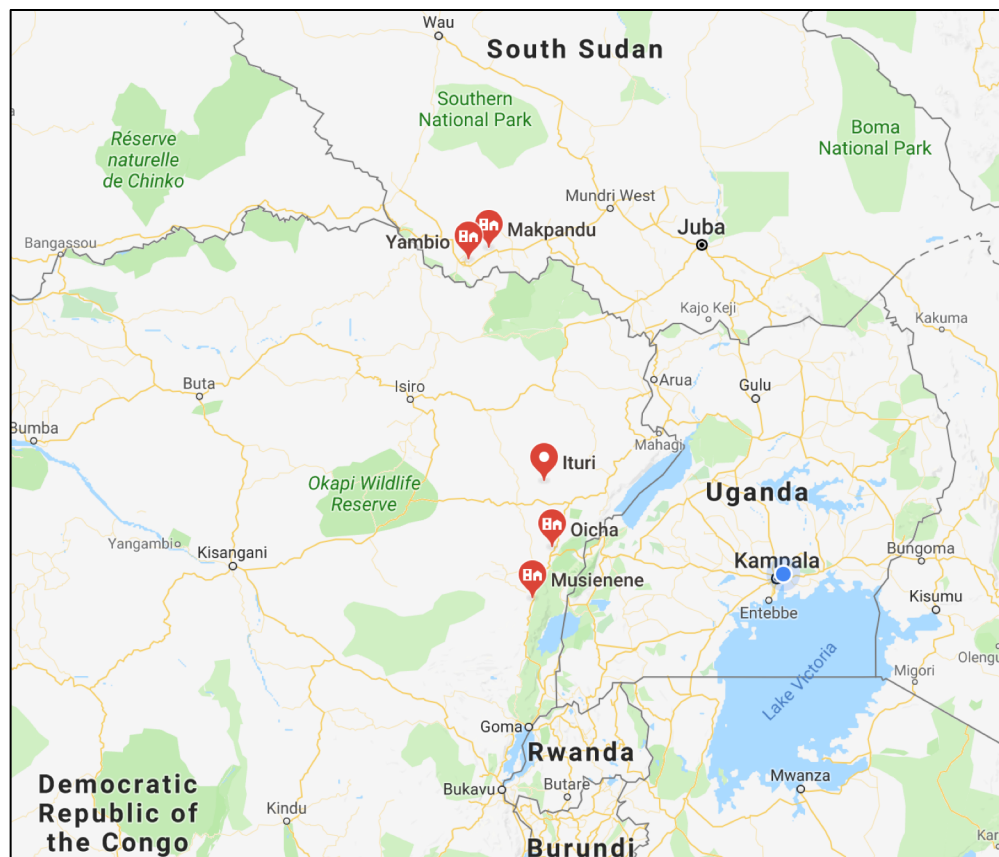
## Contextual issues & risk assessment

### Contextual issues

- North Kivu high population (8 million)
- Shares borders with 4 other provinces and 2 countries (Uganda & Rwanda)
- Insecurity & worsening humanitarian crisis (1 million IDPs)
- Efflux of refugees to Uganda, Burundi & Tanzania

### Current risk assessment

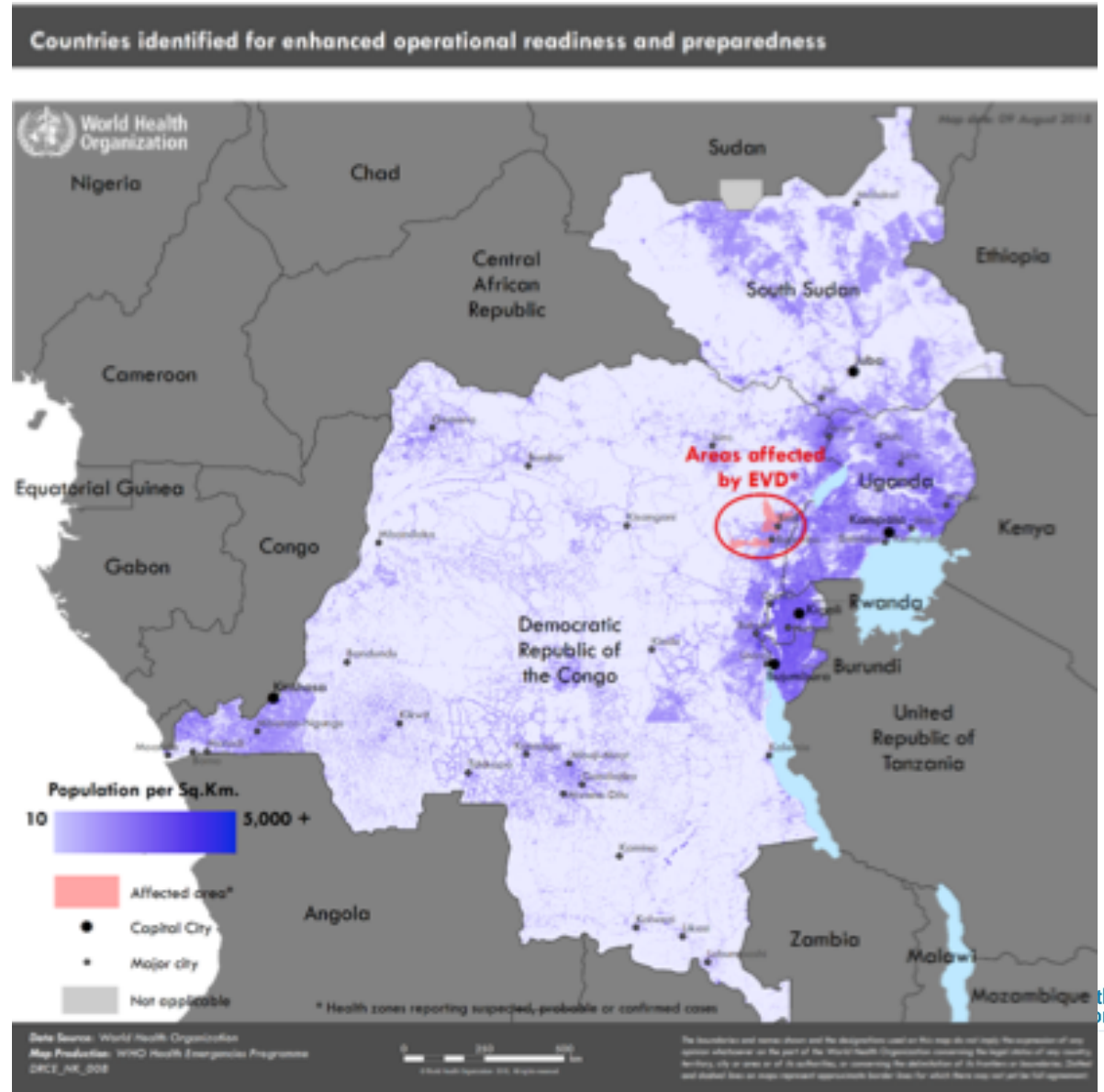
- EVD outbreak affecting NE provinces of DRC that border Uganda & Rwanda
- Risk factors include transport links to neighboring countries; IDPs; refugee displacement to neighboring countries; several epidemics in DRC; protracted humanitarian crisis; insecurity.
- Public health risk considered high regionally
- Outbreak declared grade 3 emergency



# Ebola preparedness in South Sudan

## Countries identified for enhanced readiness & preparedness activities

- For the North Kivu EVD, WHO prioritized 4 countries (Burundi, Rwanda, South Sudan and Uganda) to enhance operational readiness & preparedness based on:
  - Proximity current EVD outbreak areas
  - Capacity to manage EVD & VHF outbreaks
- Priority points of entry for South Sudan: Bazi & Kaya (Morobo); Nabiapai (Yambio); Nimule (Torit); Wau airport (Wau); & JIA (Juba)
- In JIA there are plans to open screening for VIPs & UNMISS arrivals



## **EVD preparedness activities undertaken in South Sudan**

1. Multisectoral Ebola taskforce activated after the 8May2018 DRC outbreak
2. Contingency plan developed & disseminated for implementation
3. Ebola SoPs - safe burial; case mgt, contact tracing, surveillance updated
4. Screening international travelers at JIA - ongoing
5. RRT training - Juba & all the 10 state hubs
6. Training of health workers at key border points - Juba, Yei, Yambio, Tambura, Maridi, Nimule
7. Laboratory training conducted from 2<sup>nd</sup> to 7<sup>th</sup> July 2018 and covered
  1. Laboratory biosafety
  2. Ebola RDT testing - established
  3. Molecular testing of Ebola using GeneXpert - established in NPHL
8. Dissemination of Ebola contingency plan for stakeholders - 26 July 2018
9. Table-top simulation to test the EVD contingency plan done on 9 Aug 2018
10. Risk communication for emergencies & EVD conducted for stakeholders
11. PPEs prepositioned in high risk states - Yambio; Maridi, Yei; & Nimule
12. Land designated for ETC at Gabat PHCC in Juba

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)<br>Aweil East (18 cases)<br>Aweil West (11 cases)<br>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 <sup>nd</sup> & 3 <sup>rd</sup> 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. <a href="http://bit.ly/2EIndTP">bit.ly/2EIndTP</a> #SouthSudan. Initial verification details to follow   |
| 31Mar2018      | Suspect meningitis /malaria          | 12(08)                | Gogrial West  | Kuach South       | On 28 <sup>th</sup> 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   |



| 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 <sup>th</sup> 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 <sup>th</sup> 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    | 2 (02)                | Leer TPA     | Leer Town  | Two 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).  |

| 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   |
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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.

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