

# South Sudan

## Integrated Disease Surveillance and Response (IDSR)

Epidemiological Bulletin Week 42, 2019 (October 14 – October 20)



## Major Epidemiological Highlights in week 42 of 2019

- In week 42, 2019 both IDSR reporting completeness and timeliness were 54% at health facility level. EWARN reporting completeness and timeliness were both 73%.
- Of the 149 alerts in week 42; 83% were verified 1% were risk assessed and 1% required a response. Malaria (30), AWD (51), measles (03) and bloody diarrhea (20) were the top common alerts generated through the EWARS in week 42, 2019.
- A measles outbreak confirmed in Li-bodo, Yambio after four (4) suspect measles cases tested IgM positive. At least 16 cases including one death have been line listed. MSF-E and partners have started a reactive campaign on 21th October targeting 30,000 children aged 6 – 59 months. SMOH, MSF and partners conducted a reactive campaign with a coverage of 63% (preliminary report)
- Confirmed measles outbreak in Budi after ten (10) suspect measles cases tested IgM positive. At least 14 cases including one death have been line listed. Plans for reactive measles campaign is ongoing.
- Measles outbreaks confirmed in 2019 in 17 counties and 04 PoC sites. New confirmed measles outbreaks with ongoing response in Jur River and completed response in Tonj South , Pibor – Labarab and Maruwa and Yambio
- Since week 7 of 2019, a total of 193 ILI/SARI samples have been collected and tested in UVRI 144 being negative; 4 (2%) positive for Influenza B (Victoria); 11 (6%) positive for Influenza A (H3); and 2(1%) positive for Influenza A (H1)pdm09 and 5 samples are pending test results .

# SURVEILLANCE PERFORMANCE

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

## IDSR Timeliness and Completeness Performance at Facility Level for week 42,2019

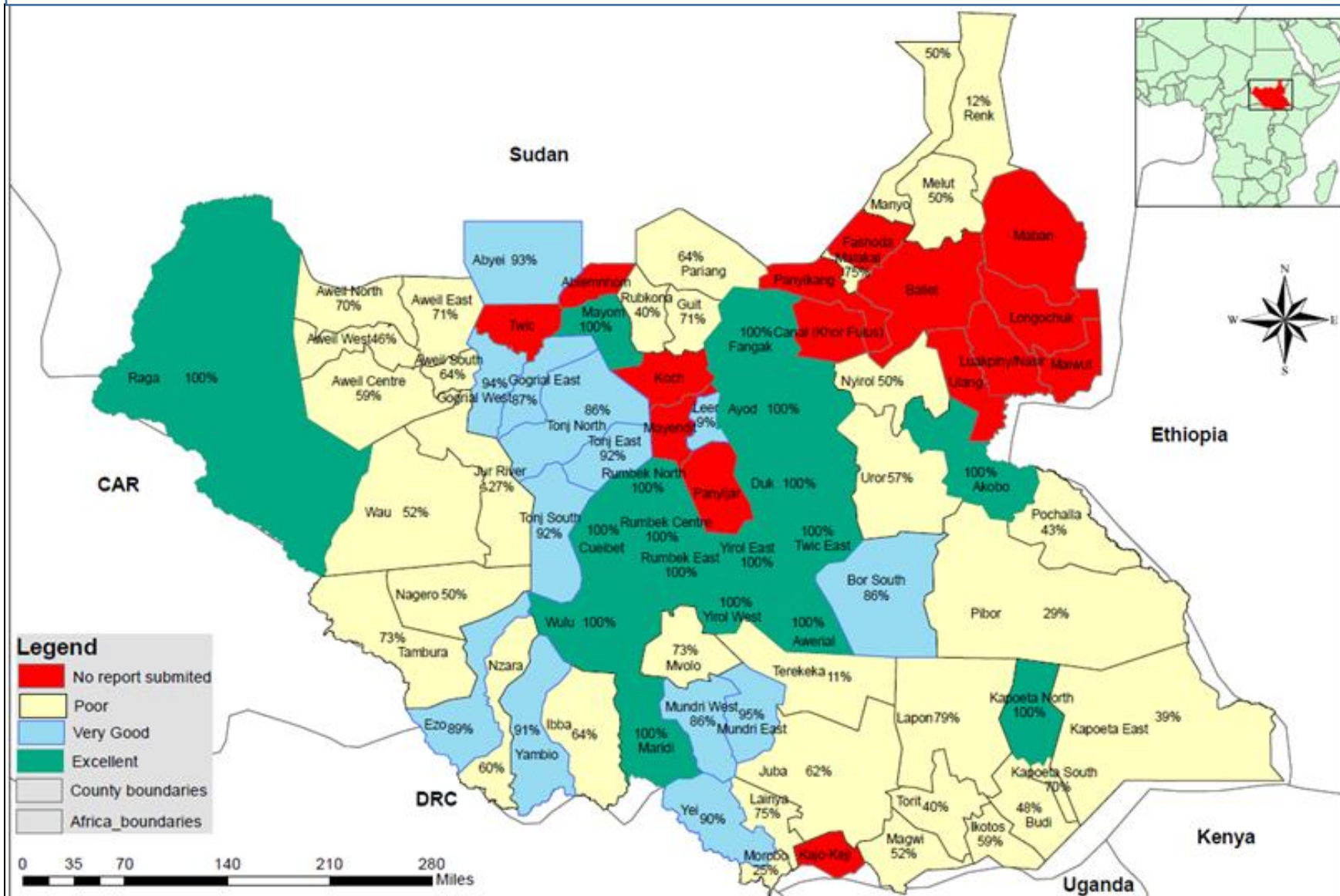
| Completeness Hub/Former States Ranking | Hub/Former States  | Supporting Partners                              | Total No. of Health Facility | No. of HF's Reported on Time | Timeliness Percentage | No. of HF's Reported not on Time | Completeness Percentage |
|--|--------------------|--|------------------------------|------------------------------|-----------------------|----------------------------------|-------------------------|
| 1 <sup>st</sup>                        | Rumbek             | Doctors with Africa (CUAMM)                      | 116                          | 111                          | 96%                   | 116                              | 100%                    |
| 2 <sup>nd</sup>                        | Yambio             | AMREF, World Vision, CUAMM, CDTY, OPEN           | 214                          | 173                          | 81%                   | 176                              | 82%                     |
| 3 <sup>rd</sup>                        | Kuajok             | GOAL, CCM, WVI, Malaria Consortium, UNKEA        | 127                          | 91                           | 72%                   | 93                               | 73%                     |
| 4 <sup>th</sup>                        | Bor                | Nile Hope, MDM, JDF, Livewell, CMD, HFO, EDU.    | 131                          | 84                           | 64%                   | 85                               | 65%                     |
| 5 <sup>th</sup>                        | Aweil              | Malaria Consortium, HealthnetTPO, IRC, CEDS, IHO | 144                          | 70                           | 49%                   | 90                               | 63%                     |
| 6 <sup>th</sup>                        | Torit              | Cordaid, HLSS, CMD                               | 178                          | 83                           | 47%                   | 105                              | 59%                     |
| 7 <sup>th</sup>                        | Wau                | Cordaid, HealthnetTPO, CARE International, IHO   | 79                           | 33                           | 42%                   | 37                               | 47%                     |
| 8 <sup>th</sup>                        | Juba               | HLSS, SSUHA, HealthnetTPO, IHO                   | 156                          | 65                           | 42%                   | 71                               | 46%                     |
| 9 <sup>th</sup>                        | Bentiu             | Cordaid, UNIDOR, IRC, CHADO, CARE International  | 93                           | 23                           | 25%                   | 34                               | 37%                     |
| 10 <sup>th</sup>                       | Malakal            | Cordaid, WVI, RI, IMC, NIDO, UNKEA, MC, SSAID    | 154                          | 23                           | 15%                   | 23                               | 15%                     |
|  | <b>South Sudan</b> |  | <b>1392</b>                  | <b>756</b>                   | <b>54%</b>            | <b>830</b>                       | <b>60%</b>              |

### Key

|  |  |                |                  |
|--|--|----------------|------------------|
|  |  | <b>&lt;60%</b> | <b>Poor</b>      |
|  |  | <b>61%-79%</b> | <b>Fair</b>      |
|  |  | <b>80%-99%</b> | <b>Good</b>      |
|  |  | <b>100%</b>    | <b>Excellent</b> |

The timeliness of IDSR reporting (supported by EWARS mobile) at health facility level is 54% and completeness is 60%. Reporting performance is highest in Rumbek Hub with completeness of 100% followed by Kwajok Hub with completeness at 82% while the rest of the state hubs are below the target of 80%.

# Percentage (%) of completeness by counts in week 42, 2019 as of Friday 10:00pm



Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

# Surveillance | EWARS surveillance performance indicators by partner week 42, 2019

## Surveillance | EWARS surveillance indicators

**Table 4 | EWARS surveillance performance indicators by partner (W42 2019)**

| Partner      | Performance |                    | Reporting    |            |
|--------------|-------------|--------------------|--------------|------------|
|              | # sites     | # reports received | Completeness | Timeliness |
| CMD          | 1           | 1                  | 100%         | 100%       |
| GOAL         | 2           | 2                  | 100%         | 100%       |
| HAA          | 3           | 2                  | 67%          | 67%        |
| HFO          | 2           | 2                  | 100%         | 100%       |
| HLSS         | 1           | 0                  | 0%           | 0%         |
| IMA          | 4           | 4                  | 100%         | 100%       |
| IMC          | 3           | 3                  | 100%         | 100%       |
| IOM          | 5           | 5                  | 100%         | 100%       |
| IRC          | 1           | 1                  | 100%         | 100%       |
| LIVEWELL     | 3           | 3                  | 100%         | 100%       |
| Medair       | 2           | 2                  | 100%         | 100%       |
| Medicaire    | 0           | 0                  |              |            |
| MSF-E        | 0           | 0                  |              |            |
| MSF-H        | 3           | 1                  | 33%          | 33%        |
| RHS          | 3           | 3                  | 100%         | 100%       |
| SMC          | 1           | 0                  | 0%           | 0%         |
| TADO         | 3           | 0                  | 0%           | 0%         |
| TRI-SS       | 2           | 2                  | 100%         | 100%       |
| UNH          | 2           | 2                  | 100%         | 100%       |
| UNIDO        | 1           | 0                  | 0%           | 0%         |
| UNKEA        | 1           | 1                  | 100%         | 100%       |
| World Relief | 1           | 1                  | 100%         | 100%       |
| <b>Total</b> | <b>49</b>   | <b>36</b>          | <b>73%</b>   | <b>73%</b> |

**Table 5 | Summary of key EWARS surveillance indicators**

| W42        | Cumulative (2019) |                                 |
|------------|-------------------|---------------------------------|
| <b>49</b>  | -                 | Number of EWARS reporting sites |
| <b>73%</b> | <b>66%</b>        | Completeness                    |
| <b>73%</b> | <b>59%</b>        | Timeliness                      |

**Table 6 | EWARS report submissions**

| W42       | Cumulative (2019) |                       |
|-----------|-------------------|-----------------------|
| <b>36</b> | <b>1,402</b>      | total submissions     |
| <b>0</b>  | <b>9</b>          | submissions by mobile |
| <b>36</b> | <b>1392</b>       | submissions by web    |

- Both completeness and timeliness for weekly reporting were 73% in week 42 for partner-supported clinics serving IDP sites. The cumulative completeness and timeliness were 66% and 59% respectively for 2019.

# Total Number of Rumors/ Alerts Reported by Reporting Structures for the 42<sup>nd</sup> Week of 2019, N=2218

IDSR/EWARS: 2 Rumors

Tonj East: 1

Yirol East: 1

11 hotline rumors

**Reports by Former Counties**

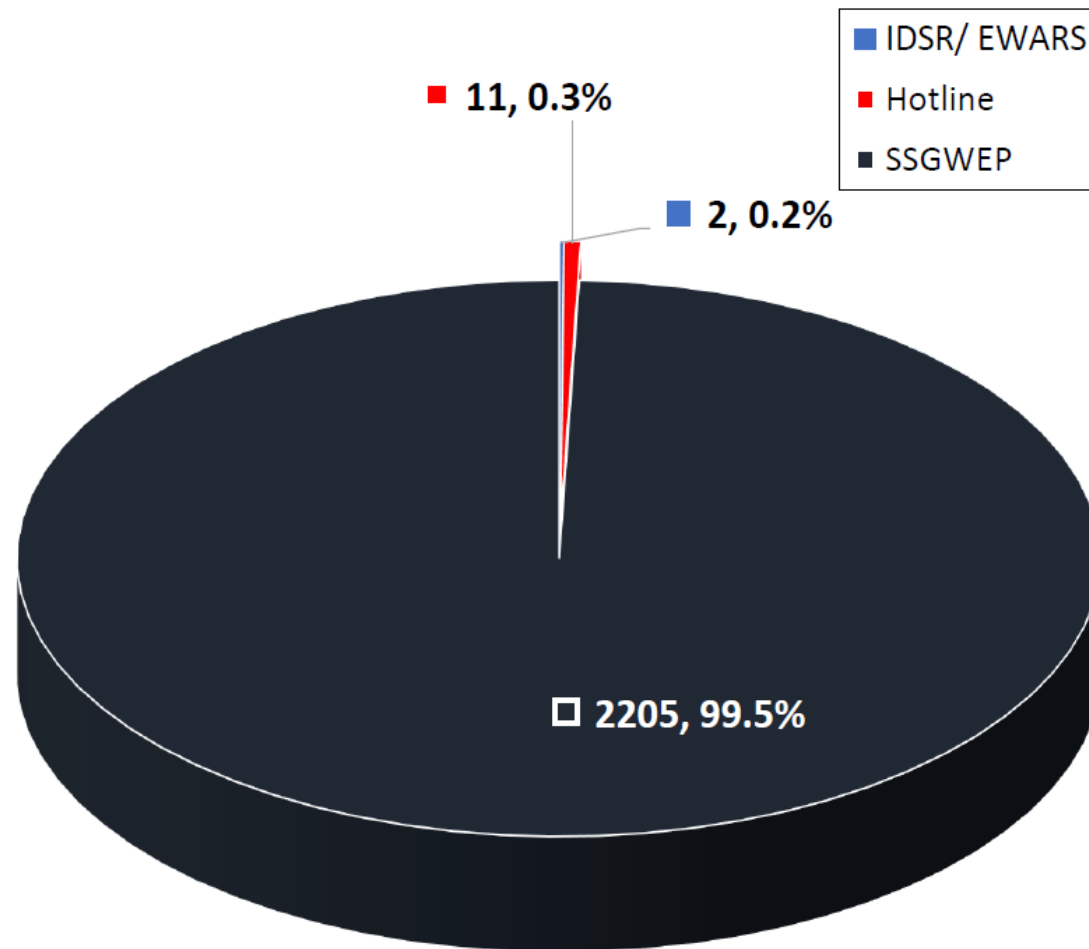
Juba: 7 Rumors

Torit: 1 Rumor

Wau: 1 Rumor

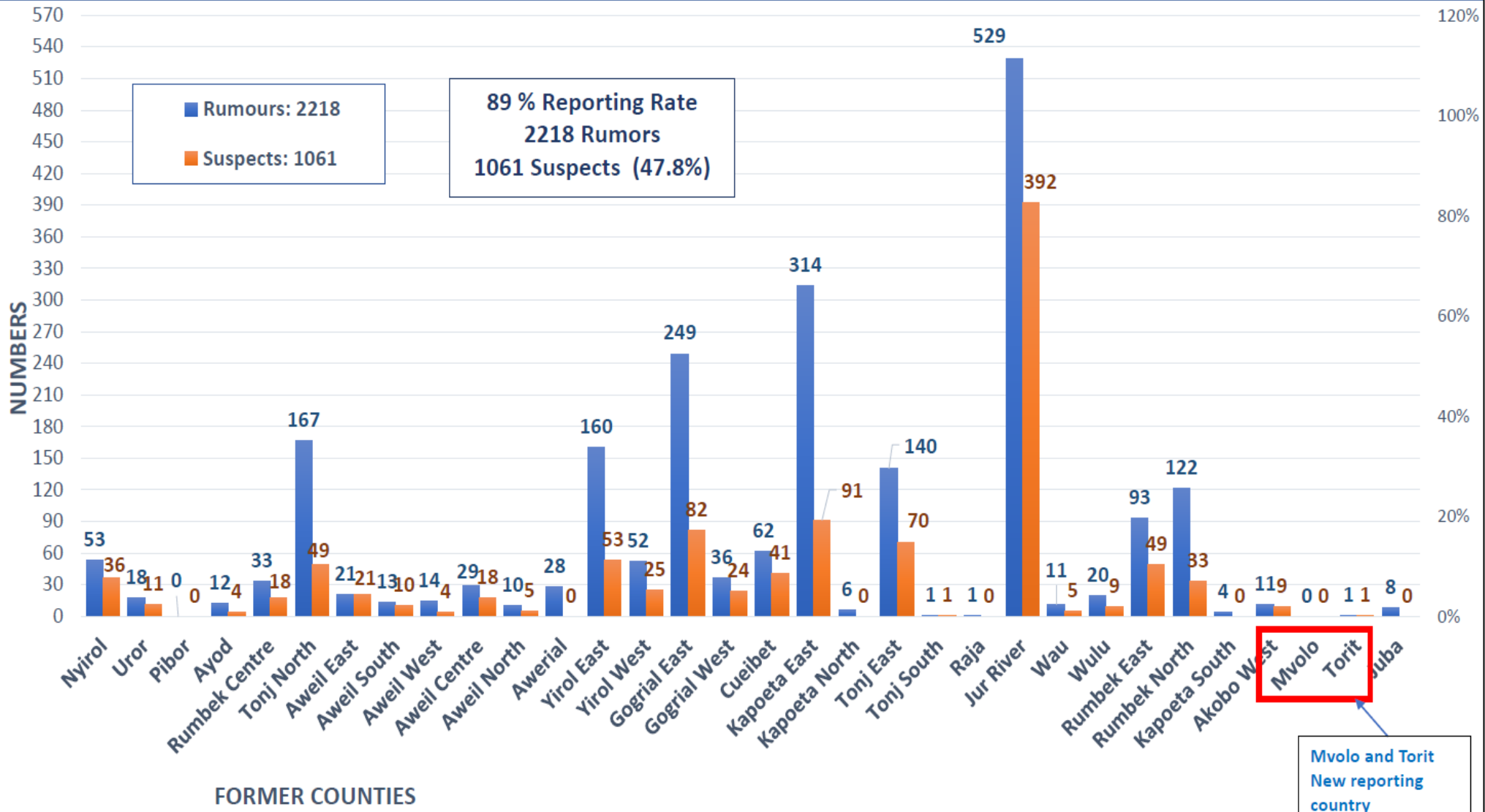
Rumbek Center: 1 Rumor

Rumbek East: 1 Rumor





# Former Counties that reported Rumors, and Suspects during 13<sup>th</sup> - 19<sup>th</sup>.Oct, 2019 (42<sup>nd</sup>. Week) of the Year. (n=32)





# EVENT-BASED SURVEILLANCE

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

## Alert | Alert performance indicators

Table 7 | Alert performance indicators by Hub

| Hub                | W42        |            | Cumulative (2019) |            |
|--------------------|------------|------------|-------------------|------------|
|                    | # alerts   | % verif.   | # alerts          | % verif.   |
| Aweil              | 6          | 67%        | 296               | 96%        |
| Bentiu             | 12         | 50%        | 296               | 57%        |
| Bor                | 52         | 98%        | 382               | 90%        |
| Juba               | 9          | 33%        | 327               | 39%        |
| Kuajok             | 15         | 40%        | 255               | 41%        |
| Malakal            | 3          | 100%       | 113               | 77%        |
| Rumbek             | 4          | 100%       | 621               | 83%        |
| Torit              | 10         | 100%       | 414               | 91%        |
| Wau                | 5          | 100%       | 199               | 73%        |
| Yambio             | 33         | 94%        | 819               | 85%        |
| <b>South Sudan</b> | <b>149</b> | <b>83%</b> | <b>3722</b>       | <b>77%</b> |

Table 8 Summary of key alert indicators

| W42        | Cumulative (2019) |                        |
|------------|-------------------|------------------------|
| <b>149</b> | <b>3722</b>       | Total alerts raised    |
| <b>83%</b> | <b>77%</b>        | % verified             |
| <b>0%</b>  | <b>0%</b>         | % auto-discarded       |
| <b>1%</b>  | <b>3%</b>         | % risk assessed        |
| <b>1%</b>  | <b>2%</b>         | % requiring a response |

- A total of 149 alerts were received in week 42, 2019 out of which 83% were verified 1% were risk assessed and 1% required a response.

## Alert | Event risk assessment

Table 9 | Alert performance indicators by event

| Event                               | W42      |          | Cumulative (2019) |          |
|-------------------------------------|----------|----------|-------------------|----------|
|                                     | # alerts | % verif. | # alerts          | % verif. |
| <b>Indicator-based surveillance</b> |          |          |                   |          |
| Malaria                             | 30       | 87%      | 717               | 79%      |
| AWD                                 | 51       | 75%      | 902               | 75%      |
| Bloody Diarr.                       | 20       | 85%      | 639               | 71%      |
| Measles                             | 10       | 70%      | 567               | 74%      |
| Meningitis                          | 0        | 0%       | 0                 | 0%       |
| Cholera                             | 1        | 100%     | 99                | 88%      |
| Yellow Fever                        | 0        | 0%       | 22                | 86%      |
| Guinea Worm                         | 4        | 100%     | 87                | 78%      |
| AFP                                 | 2        | 100%     | 133               | 70%      |
| VHF                                 | 0        | 0%       | 24                | 75%      |
| Neo. tetanus                        | 1        | 100%     | 45                | 78%      |
| <b>Event-based surveillance</b>     |          |          |                   |          |
| EBS total                           | 0        | 0%       | 32                | 84%      |

Table 10 | Event risk assessment

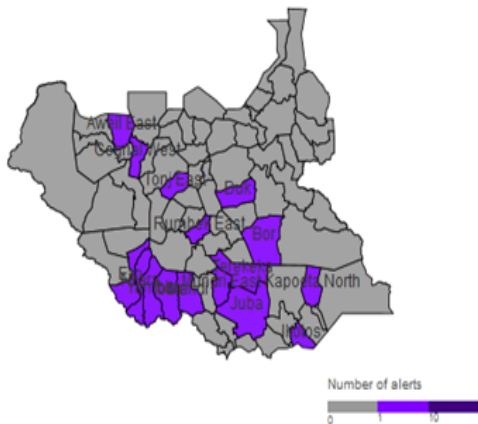
| W42 | Cumulative (2019) |                |
|-----|-------------------|----------------|
| 0   | 24                | Low risk       |
| 30  | 30                | Medium risk    |
| 0   | 34                | High risk      |
| 1   | 33                | Very high risk |

- Malaria (30), AWD (51), measles (03) and bloody diarrhea (20) were the top common alerts generated through the EWARS in week 42, 2019.

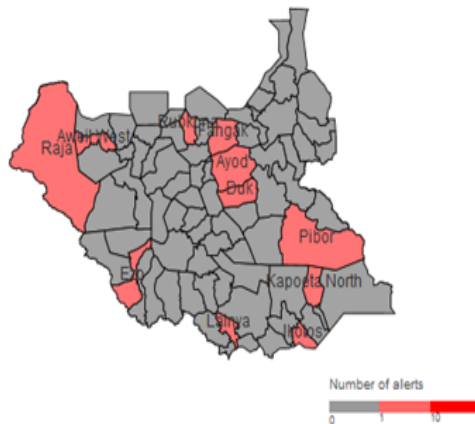
# Alert | Map of key disease alerts by county week 42, 2019

Alert | Maps of key disease alerts by county

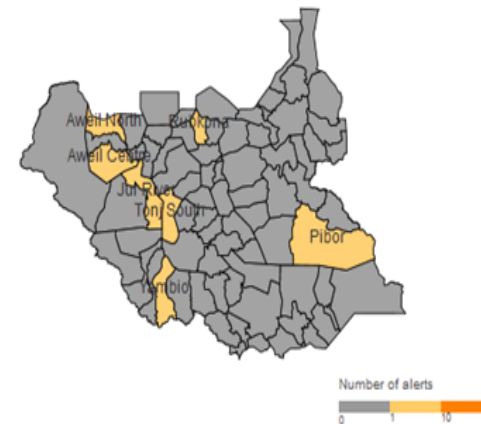
Map 2a | Malaria (W42 2019)



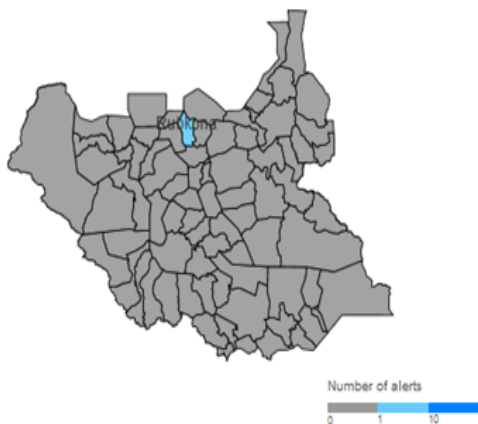
Map 2b | Bloody diarrhoea (W42 2019)



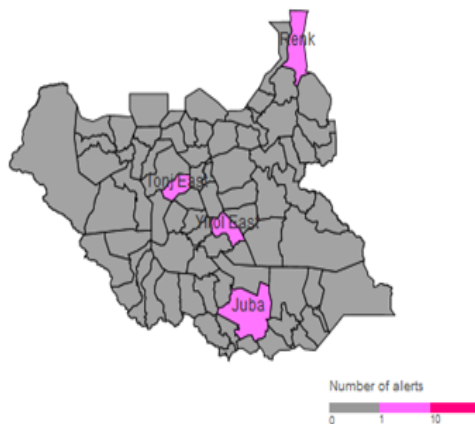
Map 2c | Measles (W42 2019)



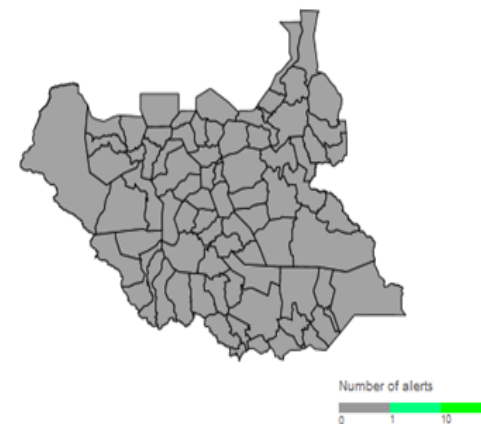
Map 2d | Cholera (W42 2019)



Map 2e | Guinea Worm (W42 2019)



Map 2f | Event-based surveillance (W42 2019)



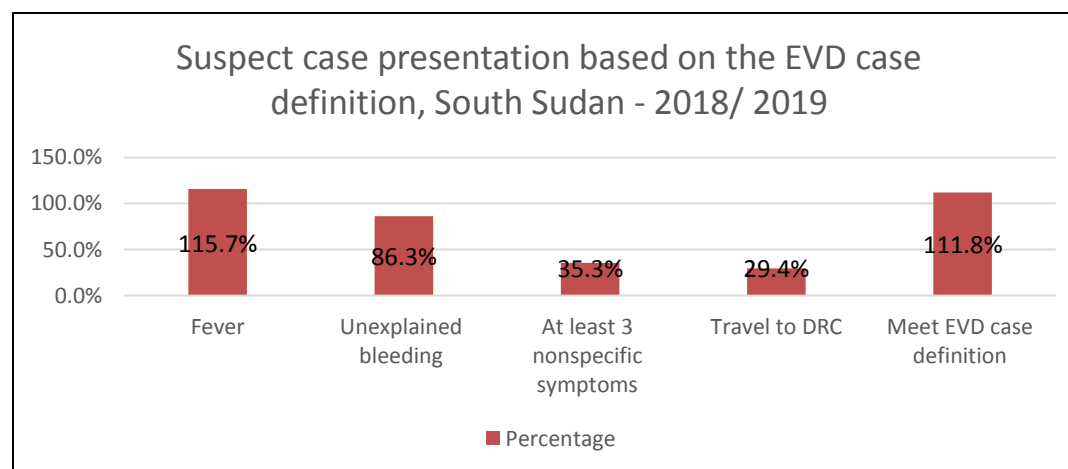
# SUSPECTED OUTBREAKS IN 2019

Major suspected outbreaks in South Sudan in  
2019

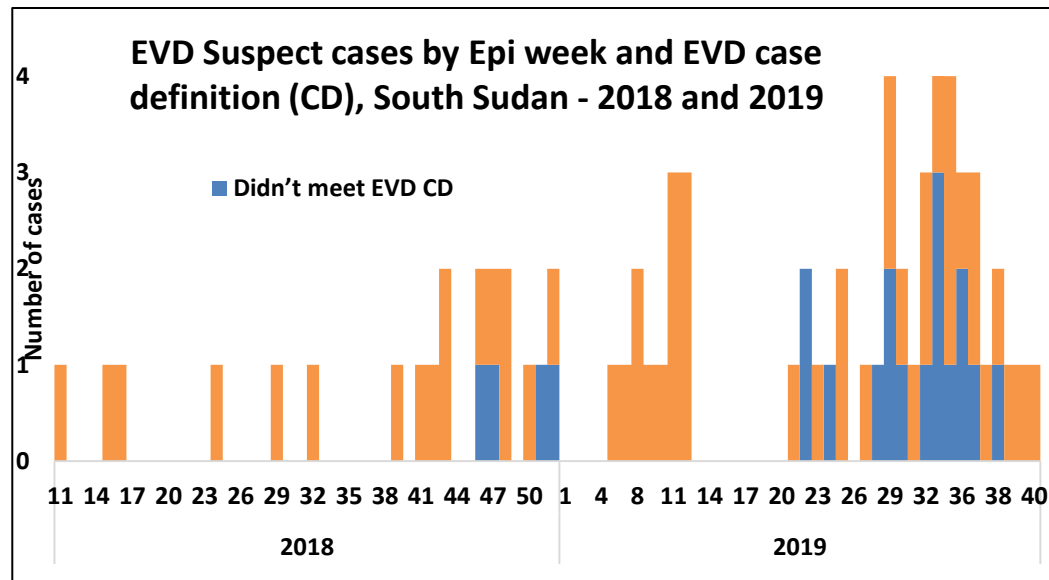
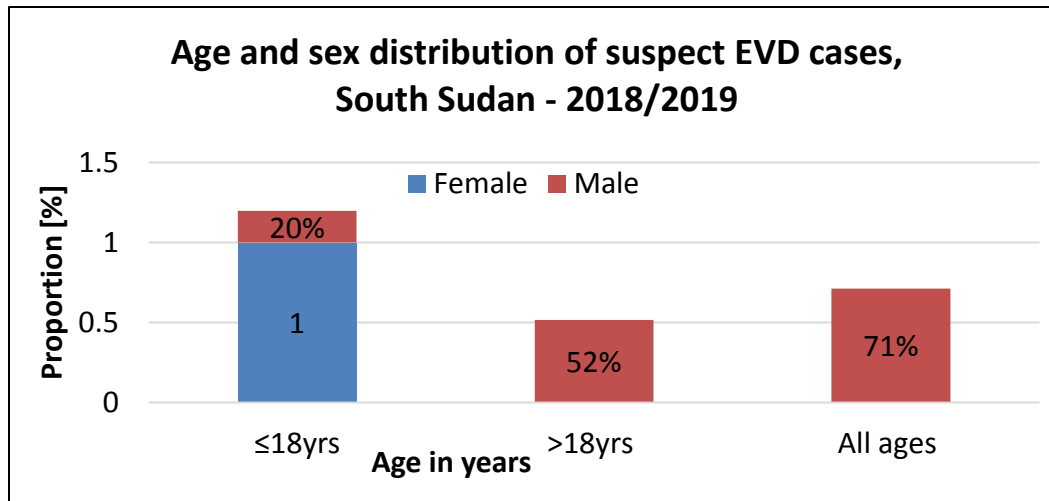
## EVD Suspect cases in South Sudan 2018 and 2019

- Since August 2018, at least 67 suspect EVD cases have been reported, of which:
- Most, 51 (75.3%) have been reported in 2019
- 67 (82.3%) met the EVD case definition – with fever (115,7) and unexplained bleeding (86,3%) being the most frequent symptoms
- Most of the suspect EVD cases have been reported by health workers at health facility level
- Three suspect EVD cases were reported from screening points

| Source of information | Met the EVD case definition |           | Total cases |
|-----------------------|-----------------------------|-----------|-------------|
|                       | No                          | Yes       |             |
| <b>2018</b>           | <b>3</b>                    | <b>17</b> | <b>20</b>   |
| Community             |                             | 5         | 5           |
| Health Worker         | 3                           | 11        | 14          |
| Screening point       |                             |           |             |
| <b>2019</b>           | <b>11</b>                   | <b>50</b> | <b>61</b>   |
| Community             |                             | 6         | 6           |
| Health Worker         | 8                           | 29        | 37          |
| MSF Swiss             |                             | 1         | 1           |
| PHO                   | 1                           |           | 1           |
| Red Cross             |                             | 1         | 1           |
| Screening point       |                             | 3         | 3           |
| Surveillance officer  | 2                           | 5         | 7           |
| UNHCR Focal Person    |                             | 1         | 1           |
| 6666                  |                             | 3         | 3           |
| Yirol Hospital        |                             | 1         | 1           |
| <b>Total cases</b>    | <b>14</b>                   | <b>67</b> | <b>81</b>   |



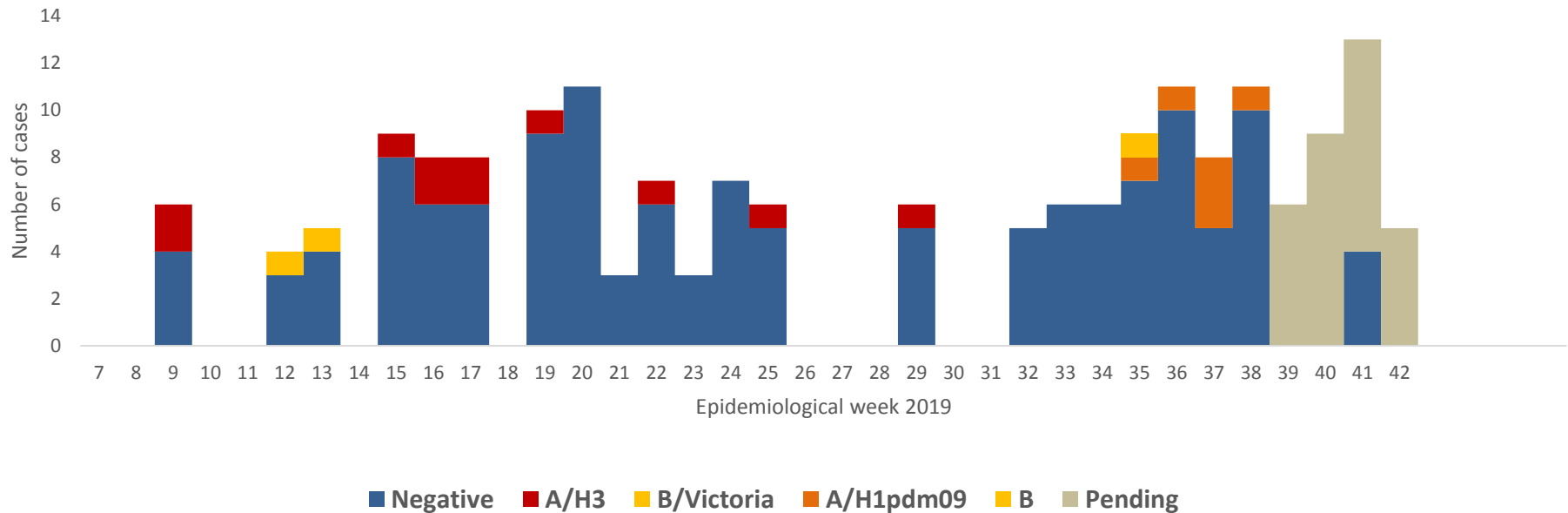
# EVD Suspect cases in South Sudan 2018 and 2019



- Most of the suspect EVD cases have been reported in adults 18 years and above (52%)
- Similarly, most suspect EVD cases have been reported in males (71%)
- The distribution suspect EVD cases in both children <18years and adults ≥18yrs is skewed towards the males
- The number of suspect EVD cases reported per week range from 0-4 cases



Influenza isolates from sentinel sites in Juba, weeks 9-42, 2019



- In week 7, 2019, South Sudan started case-based surveillance for Influenza Like Illness (ILI) and Severe Acute Respiratory Infection (SARI) cases through systematic collection of epidemiological and virological information
- There are currently two designated Influenza sentinel surveillance sites in Juba (Juba Teaching Hospital and Al Sabah Children’s Hospital) that are collecting epidemiological data and samples from ILI/SARI cases
- Since week 7 of 2019, a total of 193 ILI/SARI samples have been collected and tested in UVRI 144 being negative; 4 (2%) positive for Influenza B (Victoria); 11 (6%) positive for Influenza A (H3); and 2(1%) positive for Influenza A (H1)pdm09 and 5 samples are pending test results .
- Since the beginning of 2019; Influenza A (3) has been the predominant isolate. However, Influenza A (H1)pdm09 emerged from week 35 as a new circulating strain.

### EVD Alert from Ibba, 2nd November, 2019

- An EVD suspected alert was received from Ibba phcc. A 52 years old Male Farmer who died in Namarabia Village in Ibba County on the 2nd of November 2019
- Prior to his death, the deceased was complaining of continuous fever, headache, coughing blood and vomited blood the same night he died.
- He had no history of travel to EVD affected area nor attended a funeral of suspected sudden death
- Alert was verified and discarded by the SSO ,no sample was collected as the case did not meet case definition

# ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS

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

# Response | Summary of major ongoing outbreaks in 2019

| Aetiological agent       | Location (county)     | Date first reported | New cases since last bulletin | Cumulative cases to date (attack rate %) | Interventions   |             |                  |      |
|--------------------------|-----------------------|---------------------|-------------------------------|--|-----------------|-------------|------------------|------|
|                          |                       |                     |                               |  | Case management | Vaccination | Health promotion | WASH |
| <b>Ongoing epidemics</b> |                       |                     |                               |  |                 |             |                  |      |
| Measles                  | Wau County and PoC-AA | 28/1/2019           | NR                            | 536 (0.0018)                             | yes             | Yes         | yes              | N/A  |
| Rubella                  | Wau PoC-AA            | 25/3/2019           | 0                             | 11(0)                                    | yes             | No          | yes              | N/A  |
| Hepatitis E              | Bentiu PoC            | 03/01/2018          | 5                             | 94 (0.053)                               | Yes             | No          | Yes              | Yes  |
| Measles                  | Pibor                 | 17/01/2019          | NR                            | 2054 (0.008)                             | yes             | No          | yes              | N/A  |
| Measles                  | Bentiu PoC            | 24/04/2019          | 11                            | 155 (0.070)                              | Yes             | Yes         | Yes              | N/A  |
| Rubella                  | Yirol West            | 06/08/2018          | 0                             | 19(0.21)                                 | Yes             | No          | Yes              | N/A  |
| Measles                  | Tonj South            | 30/07/2019          | 0                             | 47(0.021)                                | Yes             | No          | Yes              | N/A  |
| Measles                  | Jur River             | 06/02/2019          | NR                            | 338(0.003)                               | Yes             | No          | Yes              | N/A  |
| Measles                  | Yambio                | 06/09/2019          | NR                            | 16(0.186)                                | Yes             | No          | Yes              | N/A  |
| Measles                  | Budi                  | 03/10/2019          | 8                             | 14(0.57)                                 | Yes             | No          | Yes              | N/A  |

## ● Measles outbreaks confirmed in 2019

- **17 counties** – Pibor; Abyei; Mayom; Gogrial West; Aweil South; Melut; Gogrial East; Juba; Tonj North; Aweil West; Aweil East; Renk; Wau; Tonj North; Jur River; Yambio and Budi
- **4 PoC sites** – Wau PoC AA; Bentiu PoC; Malakal PoC; & Juba PoC

## ● New confirmed measles outbreaks and response dates:

- Budi; **campaign planned**
- Tonj South; **completed**
- Jur River; **ongoing**
- Pibor – *Labarab and Maruwa*; **completed**
- Yambio; **completed**

# Measles Outbreak situation & response by county as of week 42, 2019

| No | County       | Population       | Confirmed cases | Probable cases | Total cases  | Cases per 100,000 | Total deaths | CFR %       | Date first reported | Emergency Campaign | Admin Coverage  | Status     | Comments          |
|----|--------------|------------------|-----------------|----------------|--------------|-------------------|--------------|-------------|---------------------|--------------------|-----------------|------------|-------------------|
| 1  | Abyei        | 79,854           | 9               | 297            | 306          | 383.2             | 0            | 0.0%        | 02-Jan-19           | Done               | 13,335 (88%)    | controlled |                   |
| 2  | Mayom        | 197,510          | 3               | 16             | 19           | 9.6               | 0            | 0.0%        | 17-Jan-19           | Done               | 56,647 (152%)   | controlled |                   |
| 3  | Juba         | 597,171          | 12              | 51             | 63           | 10.5              | 3            | 4.8%        | 15-Jan-19           | Done               | 96,180 (99%)    | controlled |                   |
| 4  | Gogrial West | 388,469          | 4               | 152            | 156          | 40.2              | 0            | 0.0%        | 02-Jan-19           | Done               | 193,958 (97.2%) | controlled | 6m-15yrs targeted |
| 5  | Gogrial East | 157,422          | 4               | 26             | 30           | 19.1              | 1            | 3.3%        | 10-Mar-19           | Done               | 56,423 (94.93%) | controlled |                   |
| 6  | Tonj North   | 249,895          | 6               | 14             | 20           | 8.0               | 2            | 10.0%       | 02-Apr-19           | Done               | 44,400 (91%)    | controlled |                   |
| 7  | Tonj South   | 131,857          | 6               | 41             | 47           | 35.6              | 0            | 0.0%        | 30-Jul-19           | pending            |                 | active     |                   |
| 8  | Jur River    | 192,937          | 7               | 54             | 61           | 31.6              | 1            | 1.6%        | 03-Feb-19           | pending            |                 | active     |                   |
| 9  | Wau          | 256,363          | 13              | 507            | 520          | 202.8             | 5            | 1.0%        | 26-Jan-19           | Done               | 23,018 (85%)    | active     |                   |
| 10 | Aweil East   | 489,714          | 7               | 15             | 22           | 4.5               | 0            | 0.0%        | 23-Feb-19           | Done               | 71,460 (93%)    | controlled |                   |
| 11 | Aweil West   | 258,616          | 16              | 32             | 48           | 18.6              | 0            | 0.0%        | 04-Apr-19           | Done               | 26477 (97%)     | controlled |                   |
| 12 | Aweil South  | 112,162          | 4               | 42             | 46           | 41.0              | 0            | 0.0%        | 15-Mar-19           | Done               | 24,261 (116%)   | controlled |                   |
| 13 | Melut        | 323,920          | 3               | 6              | 9            | 2.8               | 0            | 0.0%        | 15-Mar-19           | Done               | 12,035 (78%)    | controlled |                   |
| 14 | Pibor        | 224,613          | 8               | 2054           | 2054         | 914.5             | 9            | 0.43%       | 12-Jan-19           | Done               | 13,965 (30%)    | controlled | mop up underway   |
| 15 | Renk         | 218,083          | 3               | 4              | 7            | 3.2               | 0            | 0.0%        | 09-Jan-19           | Done               | 7,712 (79.8%)   | controlled |                   |
| 16 | Juba PoC     | 38,500           | 2               | 3              | 5            | 13.0              | 0            | 0.0%        | 05-Apr-19           | Done               | 74%             | controlled |                   |
| 17 | Bentiu PoC   | 103,424          | 45              | 53             | 155          | 149.9             | 1            | 0.6%        | 01-Jan-19           | Done               | 19084 (112%)    | active     |                   |
| 18 | Malakal PoC  | 24,402           | 2               | 0              | 2            | 8.2               | 0            | 0.0%        | 11-Apr-19           | Done               | 112%            | controlled |                   |
| 19 | Wau PoC      | 12,959           | 5               | 98             | 103          | 794.8             | 0            | 0.0%        | 23-Feb-19           | Done               | 85.00%          | active     |                   |
| 20 | Yambio       | 231,489          | 4               | 12             | 16           | 6.9               | 1            | 6.3%        | 05-Sep-19           | pending            |                 | active     |                   |
|    | <b>Total</b> | <b>4,289,360</b> | <b>163</b>      | <b>3,477</b>   | <b>3,632</b> | <b>84.7</b>       | <b>23</b>    | <b>0.6%</b> |                     |                    |                 |            |                   |

## Measles and Rubella Laboratory Test Results, week 42 of 2019

| Location/Health Facility | Date sent to Juba | Date Received at PHL | Suspected Disease | Lab results                    |
|--------------------------|-------------------|----------------------|-------------------|--------------------------------|
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles IgM positive           |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles IgM positive           |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles IgM positive           |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles IgM positive           |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles IgM positive           |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles IgM positive           |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles IgM positive           |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles IgM positive           |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles IgM positive           |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles & rubella IgM Negative |
| Budi                     | 10/23/2019        | 11/6/2019            | Measles           | Measles & rubella IgM Negative |

During the week;

- Ten (10) samples from Budi:
  - Eight (8) were measles IgM positive while two (2) tested negative for measles and rubella

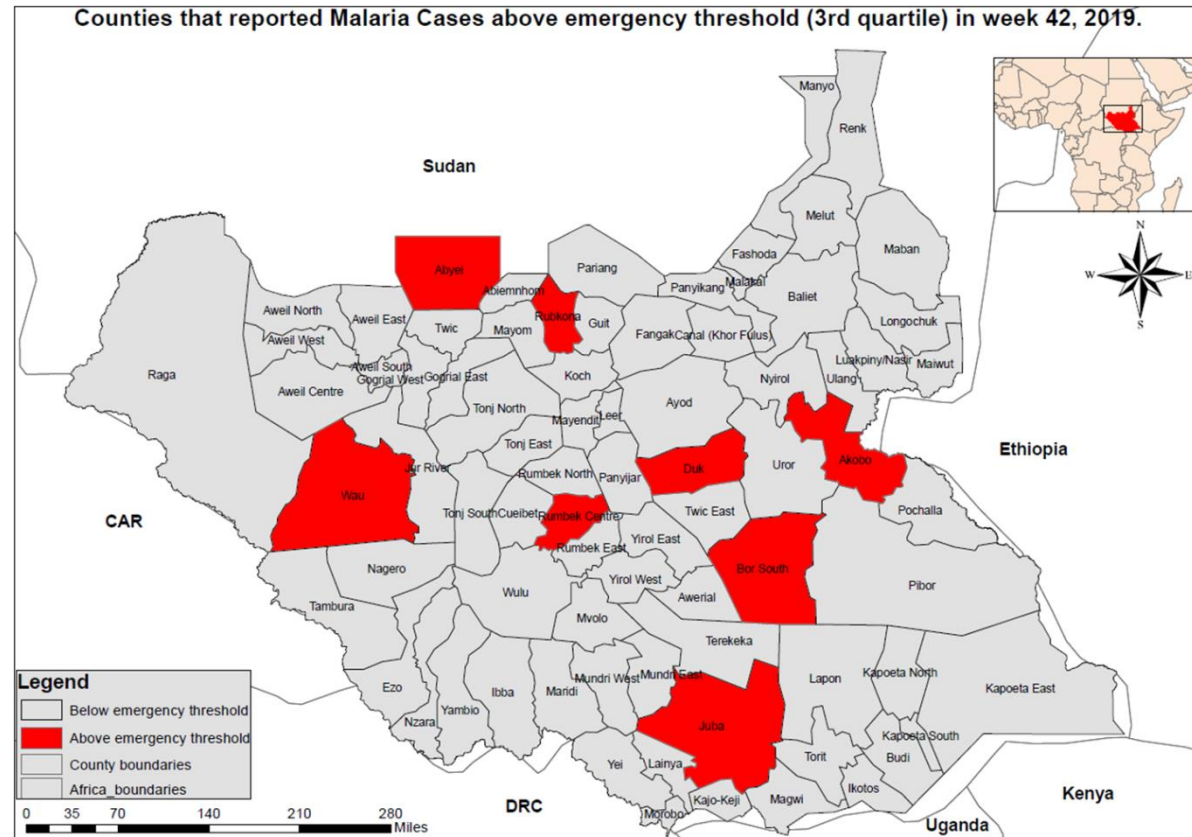


# Response | Suspect epidemics; Current Malaria trends 42, 2019

Malaria was the leading cause of morbidity and mortality, accounting for **73.0%** of all morbidities and **27.2%** of all mortalities in week 42, 2019

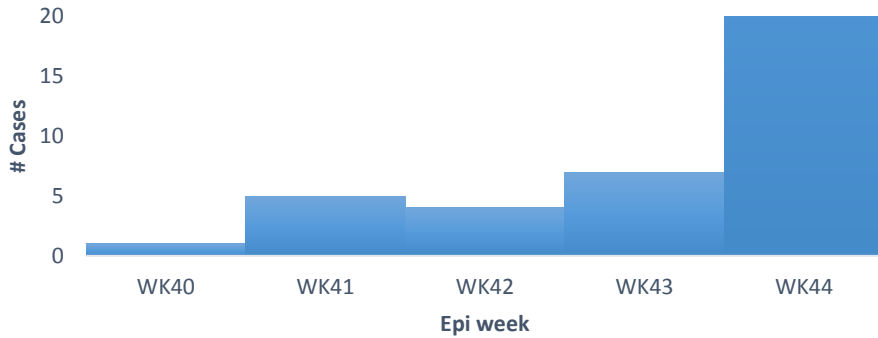
There are 8 Counties with malaria trends that exceeded the threshold (third quartile of trends for the period 2013-2017) and these include the following:

1. Juba hub (Juba)
2. Kwajok hub (Abyei)
3. Wau hub (Wau)
4. Bor hub (Duk, Bor, Akobo)
5. Rumbek Hub (Rumbek Centre)
6. Bentiu Hub (Rubkona)

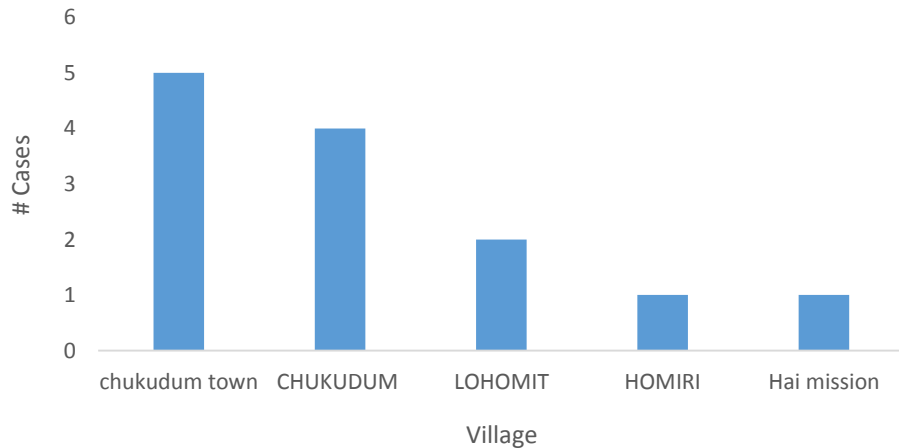


## Confirmed Measles Outbreak in Budi County

Measles cases in Budi from week 40 to week 44, 2019



Measles cases in Budi by Village week 40 to 44, 2019



### Descriptive Epidemiology:

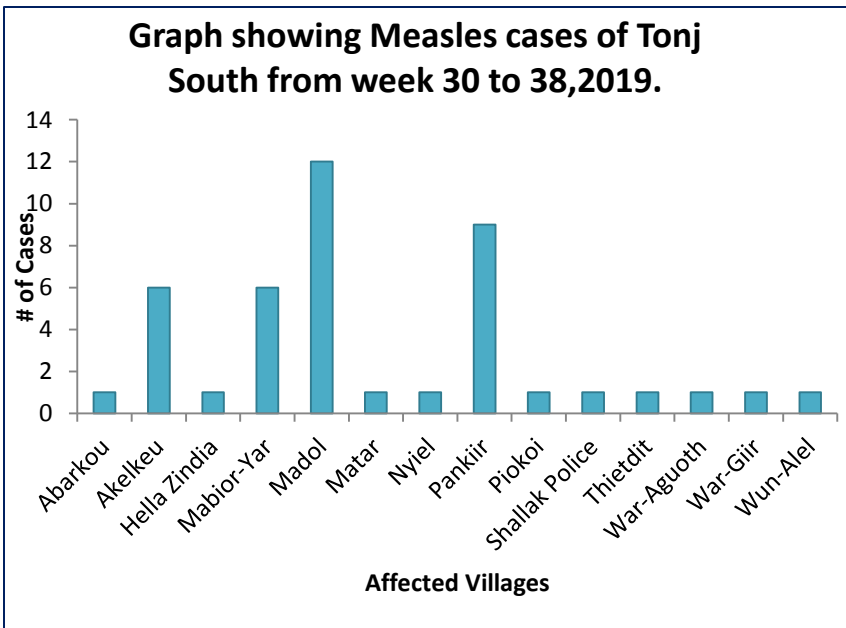
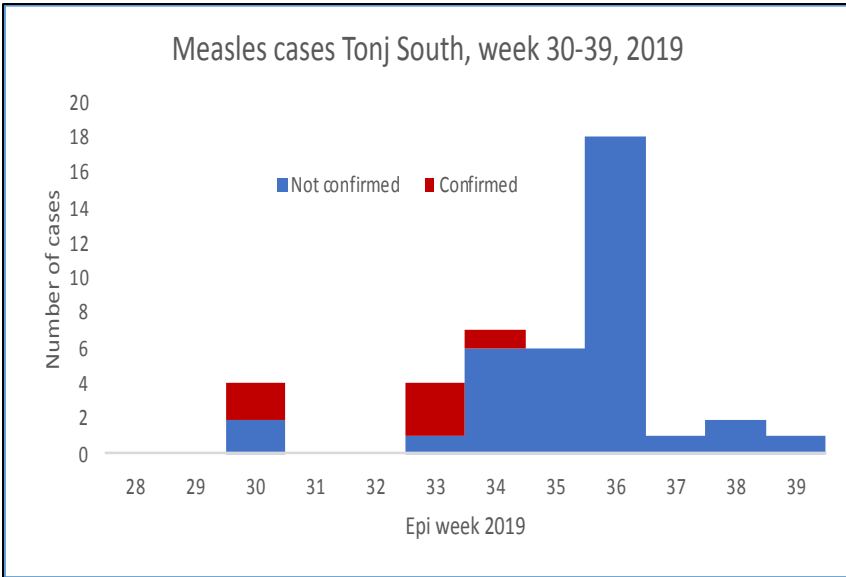
- A total of 14 Suspected Measles case have been in Budi county since week 40 of 2019.
- Initially 3 samples were collected for testing in which 2 samples tested positive for measles and 1 negative
- 10 samples were collected last week of which ( 8) samples tested positive for measles and (2) negative
- The most payams affected are; Chukudum town, Chukudum and Homiri
- No deaths reported

### Response and Recommendations:

- Rapid response team deployed to support the response
- Reactive campaign micro plan is been developed
- Surveillance and line-listing are ongoing
- Case management underway in Chukudum hospital

| Age Group          | Cases     | Percentage  | Cum. % |
|--------------------|-----------|-------------|--------|
| < 1 Year           | 4         | 31%         | 31%    |
| 1 - 4 Years        | 7         | 54%         | 85%    |
| 5 - 9 Years        | 2         | 15%         | 100%   |
| <b>Grand Total</b> | <b>13</b> | <b>100%</b> |        |

# Measles cases in Tonj South County



## Descriptive Epidemiology:

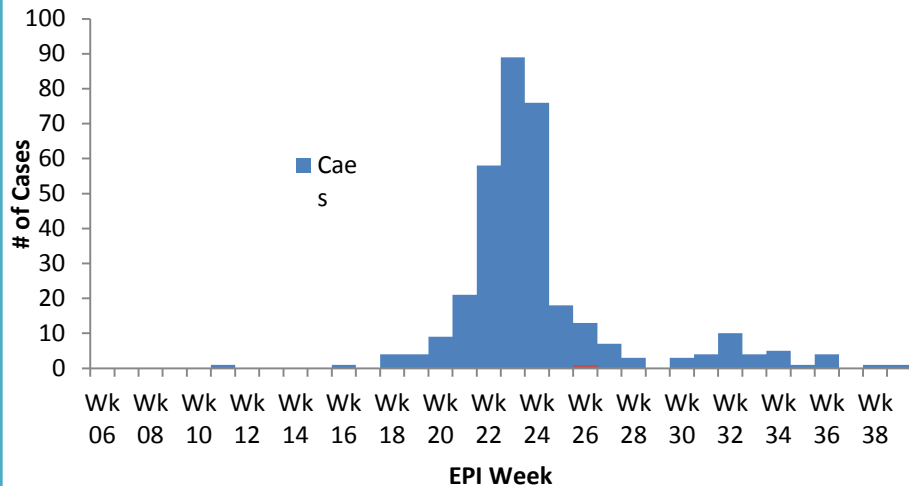
- Suspected measles case was initially detected at Tonj hospital in a 10-month-old female on 30th July 2019
- A total of eight (8) samples collected (6 measles IgM positive & 1 rubella IgM positive) thus confirming a measles outbreak
- 47 measles cases (0 death) reported since week 30
- Four (4) out of five (5) Payams are affected; with Tonj & Wanhalel Payams being the most affected. Most cases originate from Tonj and Wanhalel payam
- 56% of the cases are less than 5 years of age and 31 % of the cases reported have not received measles vaccine

## Response and Recommendations:

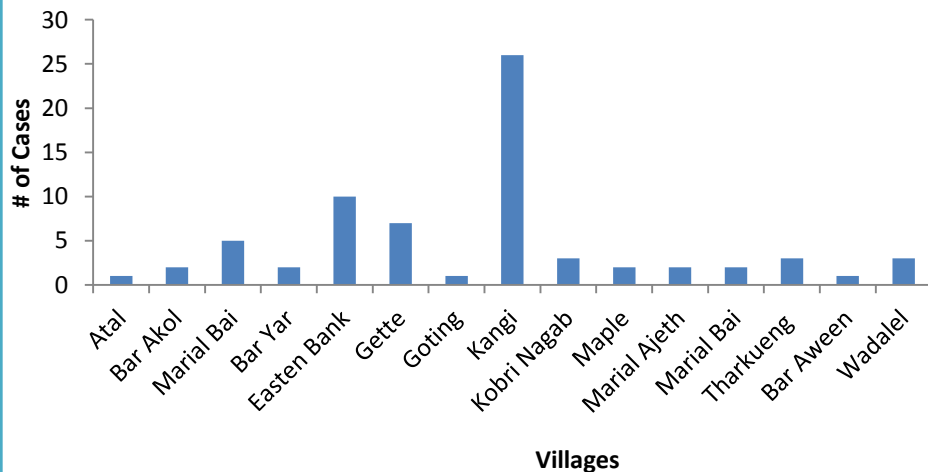
- Following the confirmation of a measles outbreak in the county, a reactive vaccination microplan targeting 26,244 children 6-59 months in five payams of Jak; Thiet; Manyang Ngok; Tonj; and Wanh Alel has been developed.
- The other interventions include:
- Intensified surveillance and line-listing of new measles cases
- Treating suspect cases with oral rehydration, vitamin A, and antibiotics for suprainfections
- Social mobilization and health education on measles case symptoms; prompt health care seeking; and routine immunization.
- SMoH, CCM and partners conducted a reactive campaign on the 3rd week of October with total of 30,903 children vaccinated and coverage of 118 %
- WHO is planning for the PCE

## Measles cases in Jur River

Epi Curve showing Measles cases of Jur River from week 05 to 39,2019.



Graph showing measles in Jur River by Villages from week 05 to 38,2019.



### Descriptive Epidemiology:

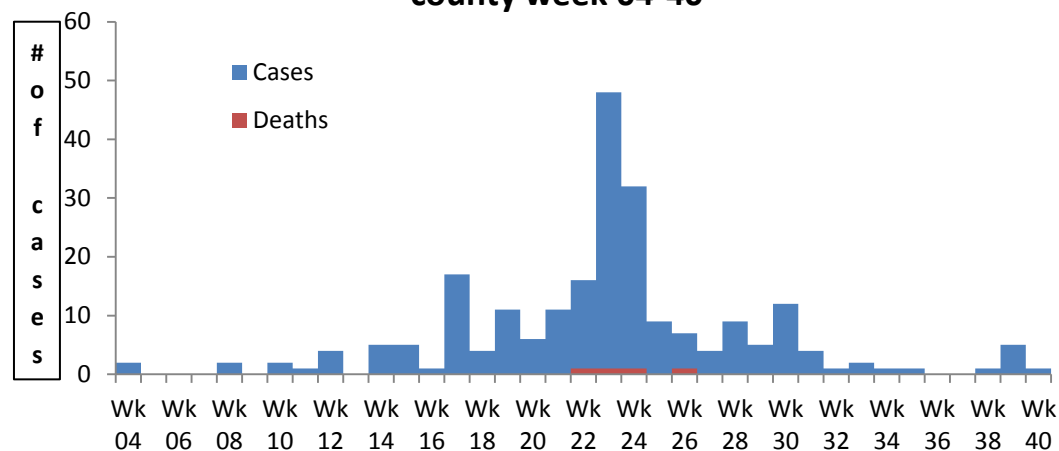
- Initial cases were reported on 6 Feb from Marialbai PHCC from Bar Aween village
- 7 measles IgM positive cases recorded since outbreak onset
- Most of the cases have been reported from Kingi; Eastern Bank and Gette
- 69 % of the cases reported are not vaccinated against measles

### Response and Recommendations:

- Following the confirmation of a measles outbreak in the county, a reactive vaccination microplan targeting 60,435 children 6-59 months in five payams of Rocroc; Kuajina; Udici; Kangi; and Marial Bai/ Wau Bai has been developed.
- *The other interventions include:*
- Intensified surveillance and line-listing of new measles cases
- Treating suspect cases with oral rehydration, vitamin A, and antibiotics for suprainfections
- Social mobilization and health education on measles case symptoms; prompt health care seeking; and routine immunization.
- SMOH, Cordaid and partners are planning a reactive campaign on the 3<sup>rd</sup> week of October
- WHO is planning for the PCE

# Confirmed Measles Outbreak in Wau County and Wau POCAA

Epi curve Showing Measles cases and deaths in Wau county week 04-40



| Age(yrs)     | Alive      | Died     | Total Cases | Percentage | Cum.% |
|--------------|------------|----------|-------------|------------|-------|
| <1yr         | 121        | 4        | 125         | 23%        | 26%   |
| 1-4yrs       | 273        | 3        | 276         | 51%        | 75%   |
| 5-9yrs       | 71         | 0        | 71          | 13%        | 89%   |
| 10-14yrs     | 33         | 0        | 33          | 6%         | 95%   |
| 15+yrs       | 31         | 0        | 31          | 6%         | 100%  |
| <b>Total</b> | <b>529</b> | <b>7</b> | <b>536</b>  |            |       |

## Introduction

- In week 19, 2019 a measles outbreak was confirmed in Wau county & Wau POC AA.
- Of the 46 samples tested in 2019; a total of 13 tested measles IgM positive while 15 tested rubella IgM positive
- The outbreak of measles was confirmed in May 2019.

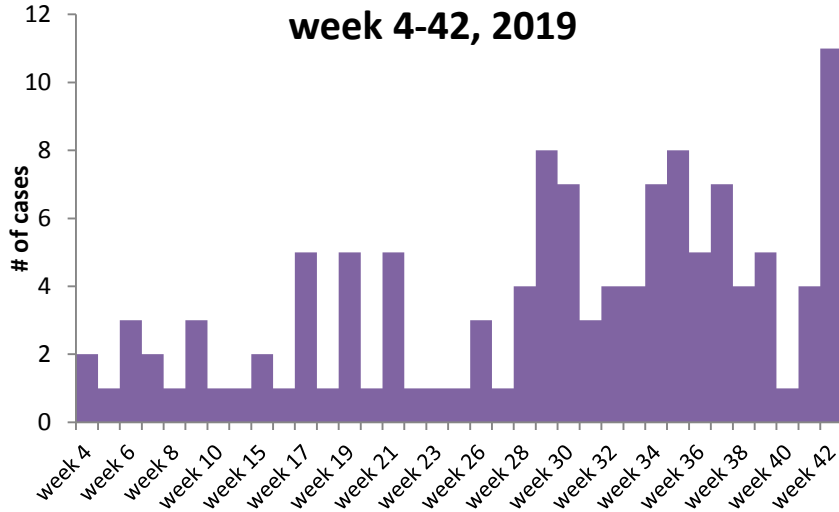
## Descriptive Epidemiology:

- Since week 4 of 2019; a total of 536 cases including 6 deaths (CFR 1.2%) have been reported from Wau County. The outbreak peaked in week 22, 23 and 24 and later came down to 1 cases in week 40, 2019
- 75% of the cases are under the age of 5years with 85 % of the cases not vaccinated against measles.
- **Response and recommendations**
- IOM, UNICEF and partners conducted a campaign covered Wau municipality and extended to some IDPs collective sites in Jur River from 3<sup>rd</sup> – 10<sup>th</sup> June
- Target populations (27,166) child from 6-59 months, the coverage was 85% as (23,028) child vaccinated including (1,628) child from IDPs collective site in Jur River County. PCE by MoH and WHO showed a coverage of 89.15%.
- Vaccination post for measles has been fixed at the entrance of the POC-AA is continuing with vaccination for the new arrivals and children who missed vaccination during the reactive campaign.

## Response | Confirmed epidemics

### Confirmed Measles and Rubella outbreak in Bentiu PoC

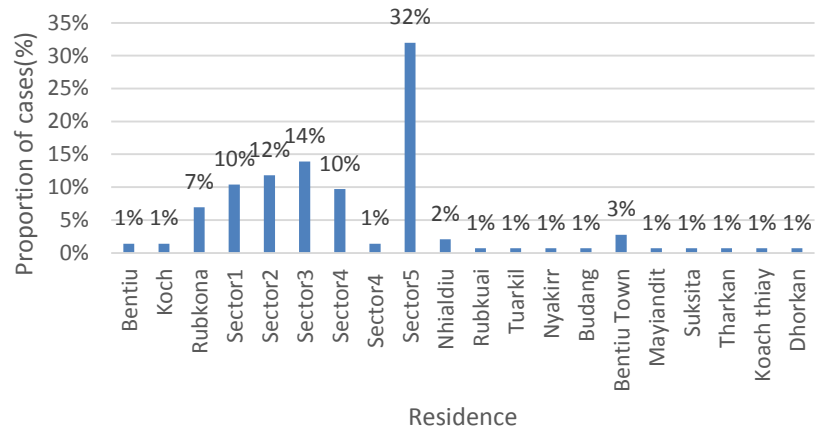
**Measles cases in Bentiu POC from week 4-42, 2019**



#### Epidemiological description

- Bentiu PoC has been reporting suspected measles/rubella cases since week 4 of 2019. 11 new cases reported in week 42, 2019
- At least 155 measles cases including 1 death (CFR 1.03%) reported since then.
- Cumulatively, 36 tested cases have tested measles IgM positive while 15 tested rubella IgM positive. During the week; nine (9) measles IgM positive and one (1) rubella IgM positive cases were reported
- Majority 111 (97%) of the cases are children <5 years.
- 97% are under 5 yrs old, 3% are 5 yrs old and above
- Cases have been reported from inside and outside the PoC with most of the cases originating from the PoC (most cases from sector 5 but generally all the sectors are affected).

**Measles cases by Residence in Bentiu POC and Surrounding, Week 4-38**



#### Response actions

- IOM completed a reactive campaign in Bentiu POC on 31 May 2019. with 21,285 children 6-59 months (126%) receiving measles vaccination
- PCE was done by MoH & WHO, coverage was 74.6%.
- Bentiu has continued to experience an upsurge of returnee refugees many of whom have ended up in Bentiu PoC. Hence the increased movements and congestion have precipitated and facilitated the current transmission of measles in Bentiu PoC.
- Consequently, measles vaccination posts have been mounted at bus stops and at the entrance to the PoC to ensure that all children under 15 years that are arriving in Bentiu receive measles vaccine.



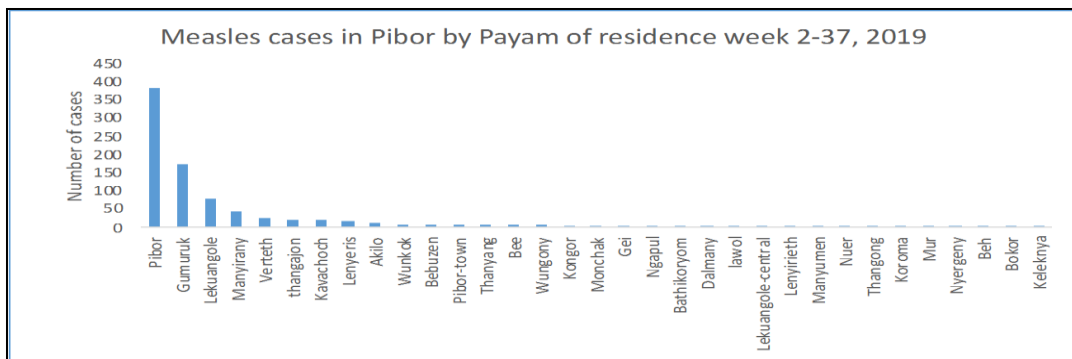
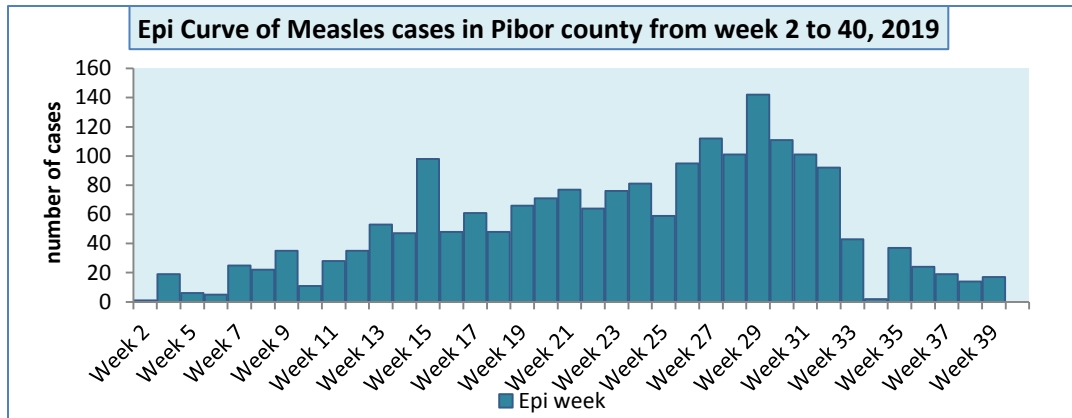
# Measles in Pibor County

## Background and descriptive epidemiology

- Measles transmission has persisted in Pibor County despite of the vaccination campaign conducted in February and March 2019.
- A total of 2056 measles cases (9 deaths – [CFR 0.44%]) reported since week 2 of 2019
- A total of eight (8) measles IgM positive cases recorded since outbreak onset
- 70.5% of the cases are less than 5 years of age
- 32.3 % of the cases reported are not vaccinated against measles
- Most of the cases shave been reported from Pibor; Gumruk; Lekuangole; Verteth. In addition, cases were recently confirmed in Labarab & Marua.

## Response actions:

- Due to persistent transmission; MedAir and LiveWell implemented a measles campaign in Pibor; Lekuangole; Verteth; Gumuruk to interrupt transmission.
- The campaign started on 1st September 2019, targeting 27,122 (6-59 months and 5-15 years combined).
- LiveWell and WHO eMMT started on 7<sup>th</sup> October a vaccination campaign targeting at least 3,200 children aged 6 – 59 months in Marua and Labarab

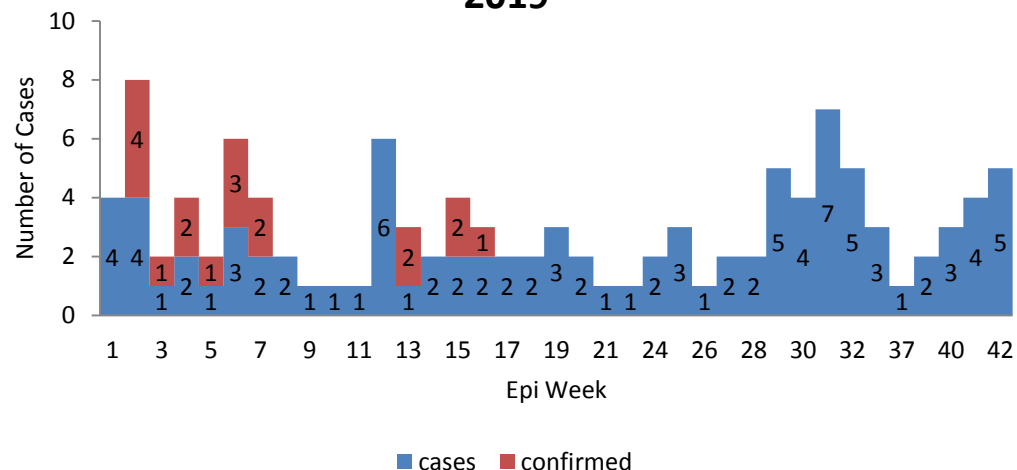


- **Labarab: Target population: 1,574; children age 6 months to 15 years (45%). The total number vaccinated is 592 with coverage of 38%**
- **Marua: Target Population: 1712, children age 6 months to 15 years (45%). Total number Vaccinated is 1,783 with coverage of 104%**
- **No reported AEFIs in both areas**



## Hepatitis E, Bentiu PoC

HEV Cases in Bentiu POC from week 1 to 42, 2019



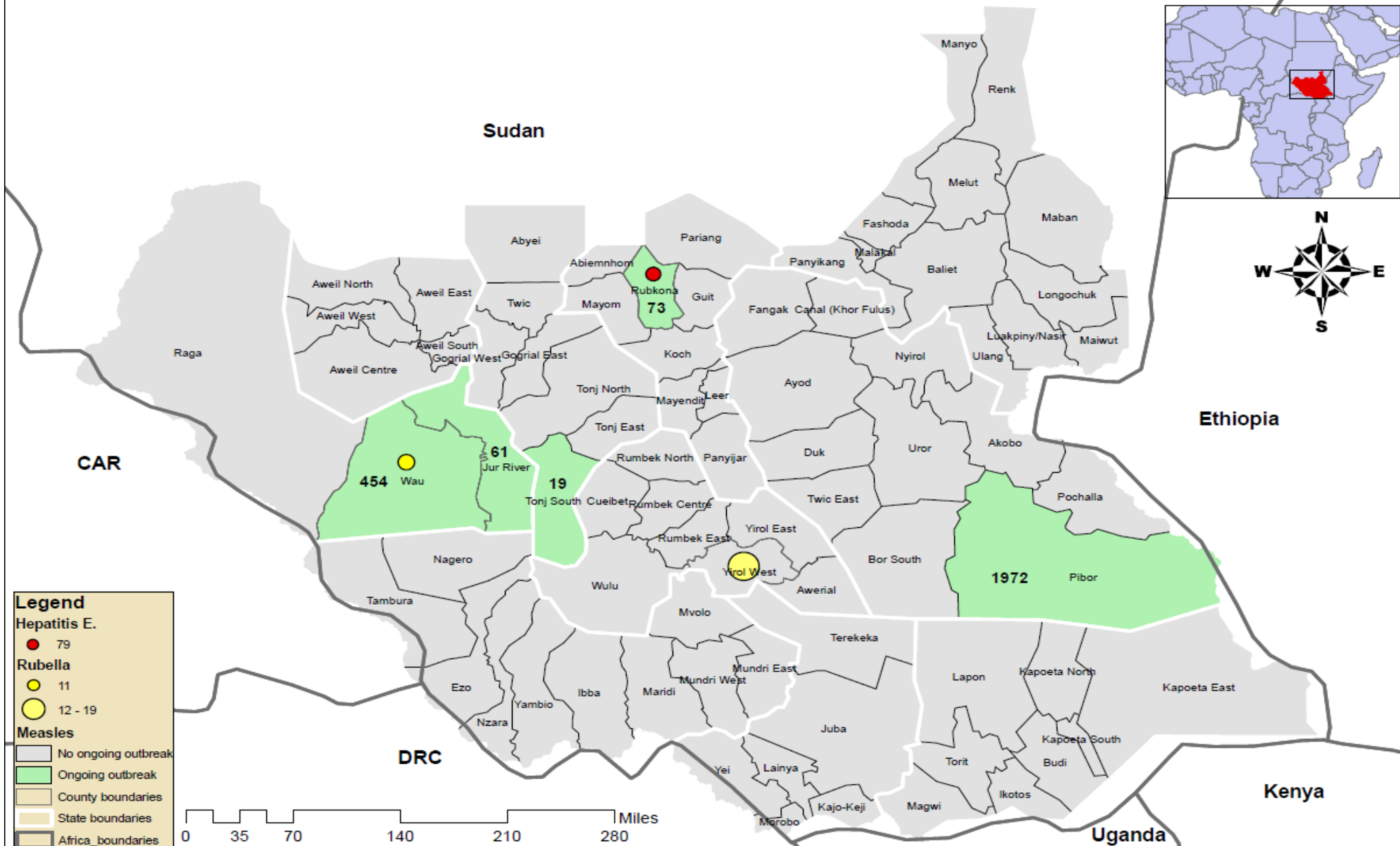
### Descriptive epidemiology

- The persistent transmission of HEV in Bentiu PoC continues with 80 cases since beginning of 2019
- Total of ninety four (94) cases line listed
- There were (4) cases reported in week 41; & five (5) case in week 42, 2019.
- All the cases were managed as outpatient cases except for seven cases who were admitted
- Two deaths one on 12th, April 2019 and the second on 11th July 2019
- Over half (51%) out of 94 cases are female.
- Age group less than 15 years had the most cases with 62 (65.9%) cases.
- At risk of adverse outcomes when infected in the 3rd trimester of pregnancy
- Use of unsafe drinking water likely to be source of infection
- Up to week 42, 2019; there were 94 cases of HEV in Bentiu PoC including 2 deaths (CFR 2.13%)

### Recommended actions

- Supportive case management guided by the HEV protocol is ongoing
- Social mobilization to raise awareness on modes of transmission, symptoms and where to seek for care
- Case identification and follow up in the communities is ongoing
- The other WASH interventions entail provision of safe water and water quality surveillance along the water chain

# The Ongoing epidemics in south Sudan, 2019.



Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

## Response | Summary of major Controlled outbreaks in 2019 (1)

| Aetiological agent | Location (county) | Date first reported | New cases since last bulletin | Cumulative cases to date (attack rate %) | Interventions   |             |                  |      |
|--------------------|-------------------|---------------------|-------------------------------|--|-----------------|-------------|------------------|------|
|                    |                   |                     |                               |  | Case management | Vaccination | Health promotion | WASH |
| Rubella            | Malakal PoC       | 25/10/2018          | 0                             | 178 (0.08)                               | Yes             | No          | Yes              | N/A  |
| Yellow Fever       | Nzara             | 23/11/2018          | 0                             | 3 (0.001)                                | Yes             | Yes         | Yes              | N/A  |
| Measles            | Abyei             | 12/02/2018          | 0                             | 306 (0.40)                               | Yes             | Yes         | Yes              | N/A  |
| Measles            | Mayom             | 17/01/2019          | 0                             | 19 (0.010)                               | Yes             | Yes         | Yes              | N/A  |
| Measles            | Gogrial West      | 04/02/2019          | 0                             | 156 (0.025)                              | Yes             | Yes         | Yes              | N/A  |
| Rubella            | Aweil Center/NBG  |                     | 0                             | 35 (0.028)                               | Yes             | No          | Yes              | N/A  |
| Measles            | Aweil South       | 15/03/2019          | 0                             | 46 (0.012)                               | Yes             | Yes         | Yes              | N/A  |
| Measles            | Melut             | 15/03/2019          | 0                             | 9(0.008)                                 | Yes             | Yes         | Yes              | N/A  |
| Rubella            | Bor South         |                     | 0                             | 4 (0.001)                                | Yes             | No          | Yes              | N/A  |
| Rubella            | Gogrial West      |                     | 0                             | 5 (0.001)                                | Yes             | No          | Yes              | N/A  |
| Rubella            | Yirol East        |                     | 0                             | 3 (0.003)                                | Yes             | No          | Yes              | N/A  |
| Measles            | Gogrial East      | 4/04/2019           | 0                             | 30 (0.003)                               | Yes             | Yes         | Yes              | N/A  |
| Measles            | Malakal PoC       | 24/04/2019          | 0                             | 2 (0.01)                                 | Yes             | Yes         | Yes              | N/A  |

## Response | Summary of major Controlled outbreaks in 2019 (2)

| Aetiological agent | Location (county) | Date first reported | New cases since last bulletin | Cumulative cases to date (attack rate %) | Interventions   |             |                  |      |
|--------------------|-------------------|---------------------|-------------------------------|--|-----------------|-------------|------------------|------|
|                    |                   |                     |                               |  | Case management | Vaccination | Health promotion | WASH |
| Hepatitis E        | Lankein           | 28/2/2019           | 0                             | 10 (0.1)                                 | yes             | No          | yes              | N/A  |
| Measles            | Juba & PoC        | 15/01/2019          | 0                             | 68 (0)                                   | Yes             | Yes         | Yes              | N/A  |
| Rubella            | Bentiu Poc        | -                   | 0                             | 51 (0)                                   | yes             | No          | yes              | N/A  |
| Measles            | Tonj North        | 2/04/2019           | 0                             | 20 (0)                                   | Yes             | Yes         | Yes              | N/A  |
| Measles            | Aweil West        | 4/04/2019           | 0                             | 48 (0)                                   | Yes             | Yes         | Yes              | N/A  |
| Measles            | Aweil East        | 13/05/2019          | 2                             | 19 (0.14)                                | Yes             | Yes         | Yes              | N/A  |
| Measles            | Renk County       | 28/2/2019           | 0                             | 7(0)                                     | yes             | Yes         | Yes              | N/A  |

# EBOLA VIRUS DISEASE[EVD] PREPAREDNESS IN SOUTH SUDAN

Brief on the Ebola situation in DR Congo and updates on EVD preparedness in South Sudan

# Ebola update DRC 29<sup>th</sup> October 2019

## Current situation

- Currently as of **27<sup>th</sup> October, 2019**
- **3264** Cases [ 3147 confirmed & 117 probable]
- **2181** Deaths [2087 confirmed & 94 probable]

## Response update

- 1 August 2019 marked one year since the Government of the Democratic Republic of the Congo declared the Ebola outbreak

## Affected health zones

- In the 21 days from 7 to 27 October 2019, the number of affected health areas has remained the same, with 16 health areas and nine health zones reporting cases. During this period, a total of 56 confirmed cases were reported, with the majority coming from the health zones of Mandima (54%; n=30 cases) and Mabalako (18%; n=10 cases).

# *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 have finalized the EVD contingency plan for the next six months of EVD preparedness and readiness in the country.
- Detailed preparedness update can be accessed <https://www.afro.who.int/publications/weekly-update-ebola-virus-disease-evd-preparedness-south-sudan>



## This bulletin is produced by the Ministry of Health with Technical support from WHO

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## Notes

WHO and the Ministry of Health gratefully acknowledge the surveillance officers [at state, county, and health facility levels], health cluster and health pooled fund (HPF) partners who have reported the data used in this bulletin. We would also like to thank ECHO and USAID for providing financial support.

The data has been collected with support from the EWARS project. This is an initiative to strengthen early warning, alert and response in emergencies. It includes an online, desktop and mobile application that can be rapidly configured and deployed in the field. It is designed with frontline users in mind, and built to work in difficult and remote operating environments. This bulletin has been automatically published from the EWARS application.

More information can be found at <http://ewars-project.org>

