

# South Sudan

**Integrated Disease surveillance and response (IDSR)**

**Epidemiological Bulletin Week 42 of 2020 (October 12-  
October 18)**



World Health  
Organization  
South Sudan



- In week 42, 2020 IDSR reporting completeness was 92% and timeliness was 78% at health facility level. EWARN reporting completeness was 90% and timeliness was 62%
- Of the 67 alerts in week 42, 2020; 96% were verified 0% were risk assessed and 0% required a response. Malaria (25), AWD (21), ARI (3), measles (0) and bloody diarrhea (12) were the most frequent alerts in week 42, 2020
- Malaria remains the top cause of morbidity and accounted for 89,26 cases (61.1% of OPD cases)
- A total of 1,382 COVID-19 alerts have been investigated with 1,195 (86.5%) being verified. Total of 2,863 COVID-19 confirmed cases and 55 deaths, CFR of 1.9%
- Other hazards include suspect VHF in Raja; floods in 39 counties; malaria in 4 county; measles in Pibor; HEV in Bentiu PoC; and yellow fever in Kajo-keji.

# SURVEILLANCE PERFORMANCE



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



# IDSR timeliness & completeness performance at county level for week 42 of 20202



Completeness States Ranking	States	Supporting Partners	Total No. of Functional Health Facilities in the State	No. of HF's Reported on Time	Timeliness Percentage	No. of HF's Reported regardless of Time	Completeness Percentage
1st	Lakes	Doctors with Africa (CUAMM), LIVEWELL	113	108	96%	113	100%
2nd	WES	AMREF, World Vision, CUAMM, CDTY, OPEN	213	210	99%	210	99%
3rd	CES	HLSS, SSUHA, Healthnet TPO, IHO,GOAL,TRI-SS,THESO	119	114	96%	115	97%
4th	Warrap	GOAL, CCM, WVI, Malaria Consortium, UNKEA, Save the Children, MSF	119	97	82%	114	96%
5th	NBGZ	Malaria Consortium, Healthnet TPO, IRC, CEDS, IHO	131	114	87%	122	93%
6th	Unity	Cordaid, UNIDOR, IRC, CHADO, CARE International, CRADA, CASS	88	63	72%	82	93%
7th	EES	Cordaid, HLSS, CCM	142	76	54%	127	89%
8th	Upper Nile	Cordaid, WVI, RI, IMC, NIDO, UNKEA, MC, SSAID,Samaritans Purse	120	78	65%	106	88%
9th	WBGZ	Cordaid, Healthnet TPO, CARE International,IOM	75	38	51%	60	80%
10th	Jonglei	Nile Hope, MDM, JDF, Livewell, CMD, HFO, EDA, CRADA, Malaria Consortium, CMA	107	64	60%	82	77%
	South Sudan		1227	962	78%	1131	92%

## KEY

	<60%	Poor
	61%-79%	Fair
	80%-99%	Good
	100%	Excellent

The timeliness of IDSR reporting (supported by EWARS mobile) at health facility level was 78% and completeness was 92%. All states were above the target of 80% with highest reporting rate in Lakes & WES

# IDSR timeliness & completeness performance at county level for week 42 of 2020 (1)



STATE	COUNTY	SUPPORTING PARTNER	Total No. of Functional Health Facilities in the County	No. of HFs Reported on Time	Timeliness Percentage	No. of HFs Reported regardless of time	Completeness Percentage
Lakes	Cueibet	Doctors with Africa (CUAMM)	15	16	107%	15	100%
Lakes	Rumbek East	Doctors with Africa (CUAMM)	24	24	100%	24	100%
Lakes	Averial	Doctors with Africa (CUAMM)	7	7	100%	7	100%
Lakes	Yirol West	Doctors with Africa (CUAMM)	12	12	100%	12	100%
NBGZ	Aweil South	Malaria Consortium(MC),IHO	9	9	100%	9	100%
CES	Terekeka	HealthNetTPO	20	20	100%	20	100%
Lakes	Rumbek Centre	Doctors with Africa (CUAMM)	23	22	96%	23	100%
Lakes	Wulu	Doctors with Africa (CUAMM)	14	13	93%	14	100%
Lakes	Rumbek North	Doctors with Africa (CUAMM)	7	6	86%	7	100%
Lakes	Yirol East	Doctors with Africa (CUAMM),LIVEWEL	11	8	73%	11	100%
WBGZ	Wau	Cordaid	28	10	36%	28	100%
CES	Juba	HLSS	46	45	98%	45	98%
NBGZ	Aweil West	HealthNetTPO	37	34	92%	35	95%
CES	Yei	SSUHA	17	15	88%	16	94%
CES	Kajo Keji	SSUHA,GOAL,TRISS	17	16	94%	16	94%
NBGZ	Aweil East	IRC,TADO	36	29	81%	34	94%
NBGZ	Aweil Centre	Malaria Consortium(MC)	15	13	87%	14	93%
NBGZ	Aweil North	HealthNetTPO,IHO	33	29	88%	30	91%
CES	Lainya	SSUHA	16	14	88%	14	88%
WBGZ	Jur River	Cordaid	35	28	80%	30	86%
CES	Morobo	SSUHA,THESO	5	4	80%	4	80%
WBGZ	Raja	HealthNetTPO	14	0	0%	2	14%

STATE	COUNTY	SUPPORTING PARTNER	Total No. of Functional Health Facilities in the County	No. of HFs Reported on Time	Timeliness Percentage	No. of HFs Reported regardless of time	Completeness Percentage
WES	Nzara	World Vision International	20	20	100%	20	100%
WES	Nagero	World Vision International	10	10	100%	10	100%
WES	Mundri West	CUAMM	21	21	100%	21	100%
WES	Ilbba	AMREF	11	11	100%	11	100%
WES	Mundri East	CUAMM	19	19	100%	19	100%
WES	Ezo	World Vision International	27	27	100%	27	100%
WES	Mvolo	CUAMM	11	11	100%	11	100%
WES	Tambura	World Vision International	26	26	100%	26	100%
Unity	Panyijjar	IRC	15	14	93%	15	100%
Unity	Mayom	CASS	9	8	89%	9	100%
Unity	Pariang	CARE International	11	9	82%	11	100%
Unity	Koch	CRADA,IRC	5	4	80%	5	100%
Unity	Abiemnhom	Cordaid	4	3	75%	4	100%
Unity	Guit	CHADO	7	5	71%	7	100%
WES	Maridi	AMREF	26	25	96%	25	96%
WES	Yambio	World Vision International	42	40	95%	40	95%
Unity	Rubkona	Cordaid,IRC,IOM,M SF	15	13	87%	14	93%
Unity	Leer	UNIDOR	11	7	64%	10	91%
Unity	Mayendit	CASS	12	0	0%	7	58%

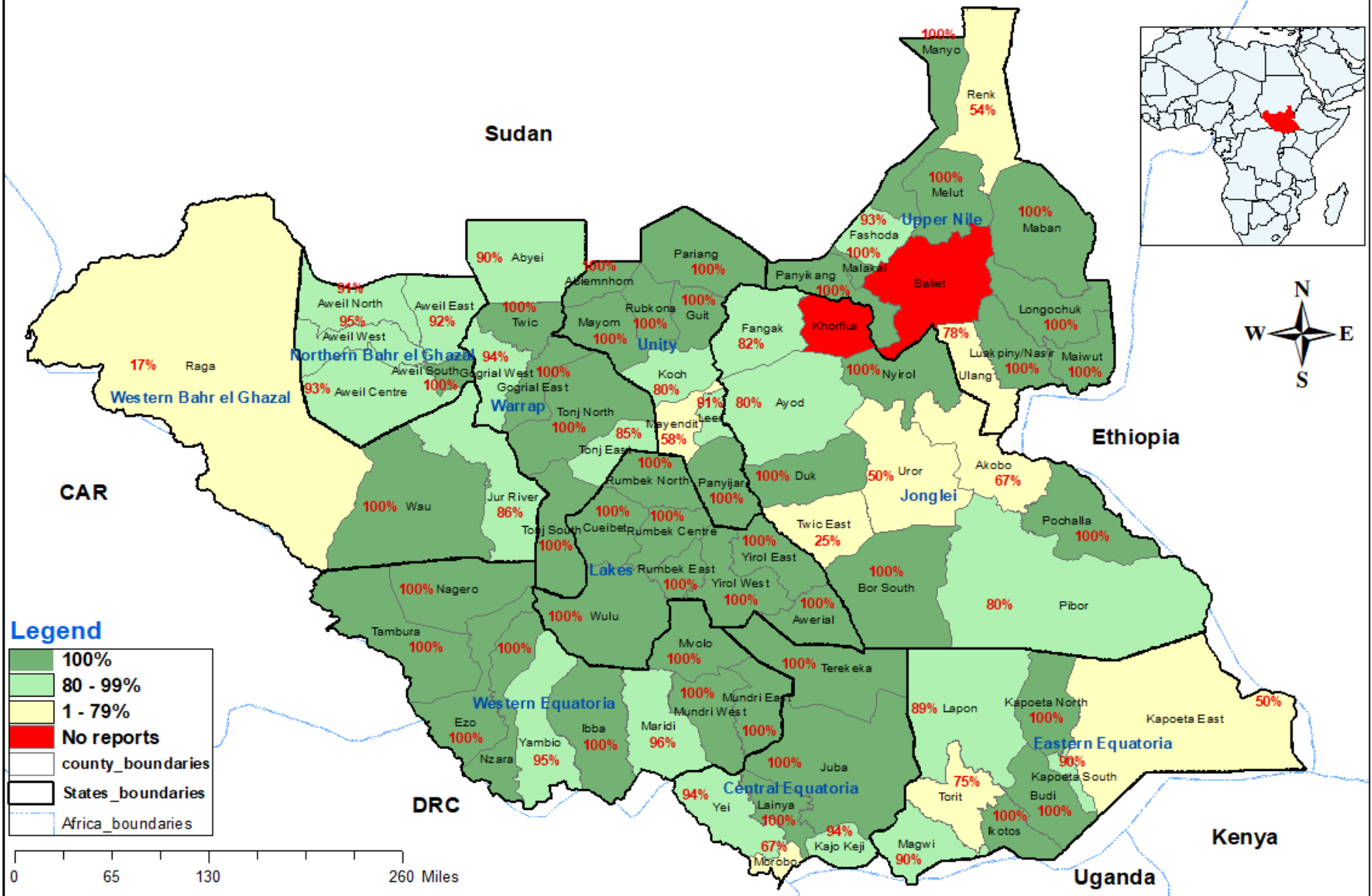
# IDSR timeliness & completeness performance at county level for week 42 of 2020 (2)



STATE	COUNTY	SUPPORTING PARTNER	Total No. of Functional Health Facilities in the County	No. of HFs Reported on Time	Timeliness Percentage	No. of HFs Reported regardless of time	Completeness Percentage
Jonglei	Pibor	LIVEWELL, CRADA	3	3	100%	3	100%
Jonglei	Pochalla	LIVEWELL	7	7	100%	7	100%
EES	Budi	Cordaid	21	13	62%	21	100%
Jonglei	Nyrol	CMA, Malaria Consortium	10	6	60%	11	110%
EES	Ikotos	HLSS	27	16	59%	27	100%
EES	Kapoeta North	CCM	16	12	75%	15	94%
EES	Kapoeta South	CCM	10	8	80%	9	90%
EES	Lopa Lafon	HLSS	18	10	56%	16	89%
Jonglei	Fangak	CMD, HFO	16	14	88%	14	88%
EES	Magwi	HLSS	22	15	68%	19	86%
EES	Torit	Cordaid	20	0	0%	15	75%
Jonglei	Ayod	CMD, EDA	15	11	73%	11	73%
Jonglei	Duk	MDM + JDF	15	0	0%	11	73%
Jonglei	Bor	MDM + JDF	35	19	54%	20	57%
Jonglei	Akobo	NILE HOPE	8	2	25%	2	25%
Jonglei	Twic East	MDM + JDF	11	2	18%	2	18%
EES	Kapoeta East	CCM	12	2	17%	5	42%
Jonglei	Uror	Nile Hope, Malaria Consortium	8	0	0%	1	13%
Jonglei	Canal Pigi	IMC	11	0	0%	0	0%

STATE	COUNTY	SUPPORTING PARTNER	Total No. of Functional Health Facilities in the County	No. of HFs Reported on Time	Timeliness Percentage	No. of HFs Reported regardless of time	Completeness Percentage
Warrap	Tonj North	CCM	14	14	100%	14	100%
Warrap	Tonj South	CCM	12	12	100%	12	100%
Upper Nile	Melut	WVI + RI	8	8	100%	8	100%
Upper Nile	Panyikang	IMC	4	4	100%	4	100%
Upper Nile	Longechuk	RI	9	8	89%	9	100%
Upper Nile	Maban	WVI, RI, Samaritans Purse	17	14	82%	17	100%
Upper Nile	Manyo	CORDAID	10	8	80%	10	100%
Upper Nile	Makal	IMC	7	5	71%	7	100%
Upper Nile	Fashoda	CORDAID	13	9	69%	13	100%
Warrap	Gogrial East	GOAL	15	3	20%	15	100%
Upper Nile	Maiwut	RI	5	0	0%	5	100%
Upper Nile	Akoka	IMC	5	0	0%	5	100%
Warrap	Twic	GOAL	26	25	96%	25	96%
Warrap	Gogrial West	GOAL	31	26	84%	29	94%
Upper Nile	Luakpiny Nasir	UNKEA, RI	15	10	67%	14	93%
Warrap	Abyei	AAA Save the Children, MSF	10	7	70%	9	90%
Warrap	Tonj East	CCM	12	10	83%	10	83%
Upper Nile	Renk	WVI + RI	13	7	54%	7	54%
Upper Nile	Ulang	UNKEA, RI	14	5	36%	7	50%
Upper Nile	Baliet	IMC	4	0	0%	0	0%

# IDSR performance Map showing completeness of reporting by counties in week 42, 2020.



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 performance indicator by partner for week 42 of 2020

Partner	HF's	Reporting		Performance	
PARTER	# OF SITES	# of reports received on Time	No. of HF's Reported regardless of time	Timeliness	Completeness
IRC	1	1	1	100%	100%
HAA	2	2	2	100%	100%
RHS	1	1	1	100%	100%
Medicaire	2	2	2	100%	100%
UNIDOR	2	2	2	100%	100%
GOAL	2	2	2	100%	100%
CMD	1	1	1	100%	100%
IMC	6	6	6	100%	100%
MSF-E	6	6	6	100%	100%
HFO	2	2	2	100%	100%
Medair	2	2	2	100%	100%
IOM	12	9	12	75%	100%
TRI-SS	2	0	2	0%	100%
World Relief	2	0	2	0%	100%
UNH	2	0	2	0%	100%
MSF-H	5	2	4	40%	80%
IMA	9	0	6	0%	67%
SMC	2	0	0	0%	0%
TOTAL	61	38	55	62%	90%

**Completeness was 62% and timeliness was 90% for weekly reporting in week 42, 2020 for partner-supported clinics serving IDP sites.**



# EVENT-BASED SURVEILLANCE



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





State	Acute jaundice syndrome	Acute Respiratory Infections (ARI)	Acute Watery Diarrhoea	Bloody Diarrhoea	Malaria (Confirmed)	EBS	Covid-19	PoE COVID-19 alert	Total alerts
CES			3						3
EES		1	4	3	3			1	12
Unity						1	1		2
Upper Nile		2	3	6	1				12
Warrap	1		4	2	2		2		11
WBGZ			4		5				9
WES			3	1	14				18
<b>Total alerts</b>	<b>1</b>	<b>3</b>	<b>21</b>	<b>12</b>	<b>25</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>67</b>

**During this week:**

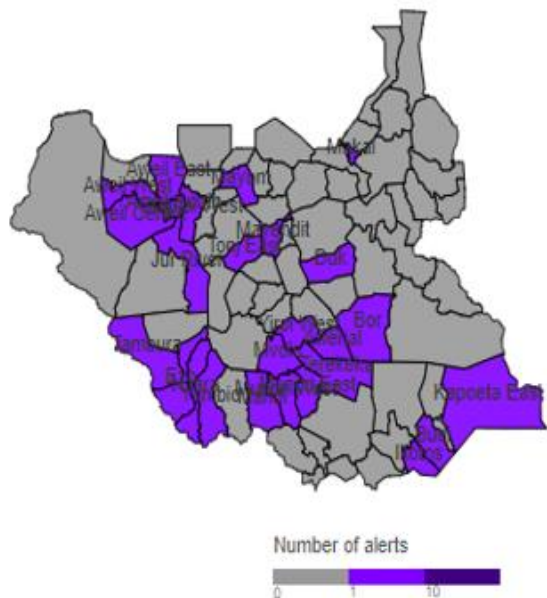
- 3 ARI alert: all are investigated
- 21 AWD alert: 4 are undergoing verification 17 are investigated
- 12 ABD alert: all are investigated
- 25 Malaria alerts: all are investigated
- 3 Covid-19 alert: 1 undergoing verification and 2 investigated
- 1 AJS alert: under investigation
- 1 Covid-19 alert : investigated
- 1 EBS alert:



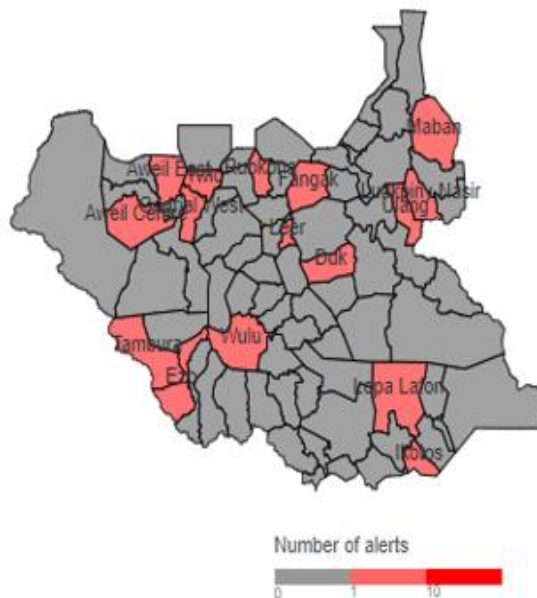
# Alert: Map of key disease alerts by county of week 42 of 2020



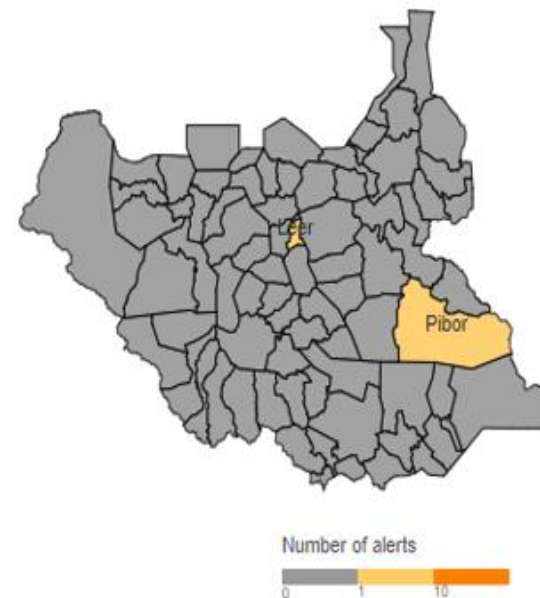
Map 2a | Malaria (W42 2020)



Map 2b | Bloody diarrhoea (W42 2020)



Map 2c | Measles (W42 2020)



Map 2e | Guinea Worm (W42 2020)



W42		Cumulative (2020)	
0	13	Low risk	
4	4	Medium risk	
0	27	High risk	
0	58	Very high risk	
96%	81%	% verified	
0%	0%	% auto-discarded	
0%	1%	% risk assessed	
0%	1%	% requiring a response	

# SUSPECTED OUTBREAKS



Major suspected outbreaks in South Sudan in  
2020





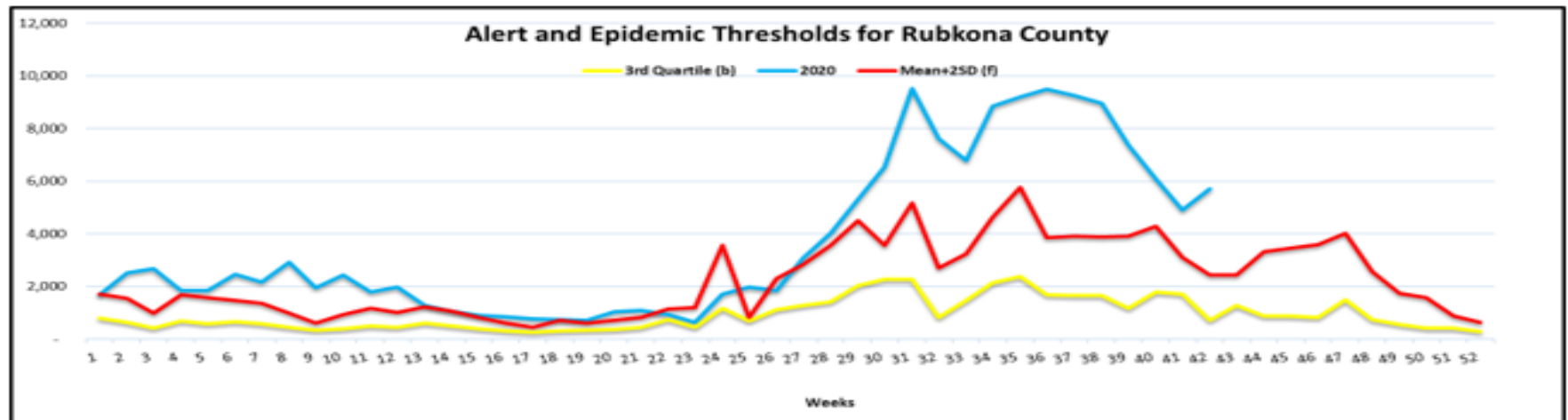
Malaria was the leading cause of morbidity and mortality, accounting for **61.6%** of all morbidities and **35.4%** of all mortalities this week.

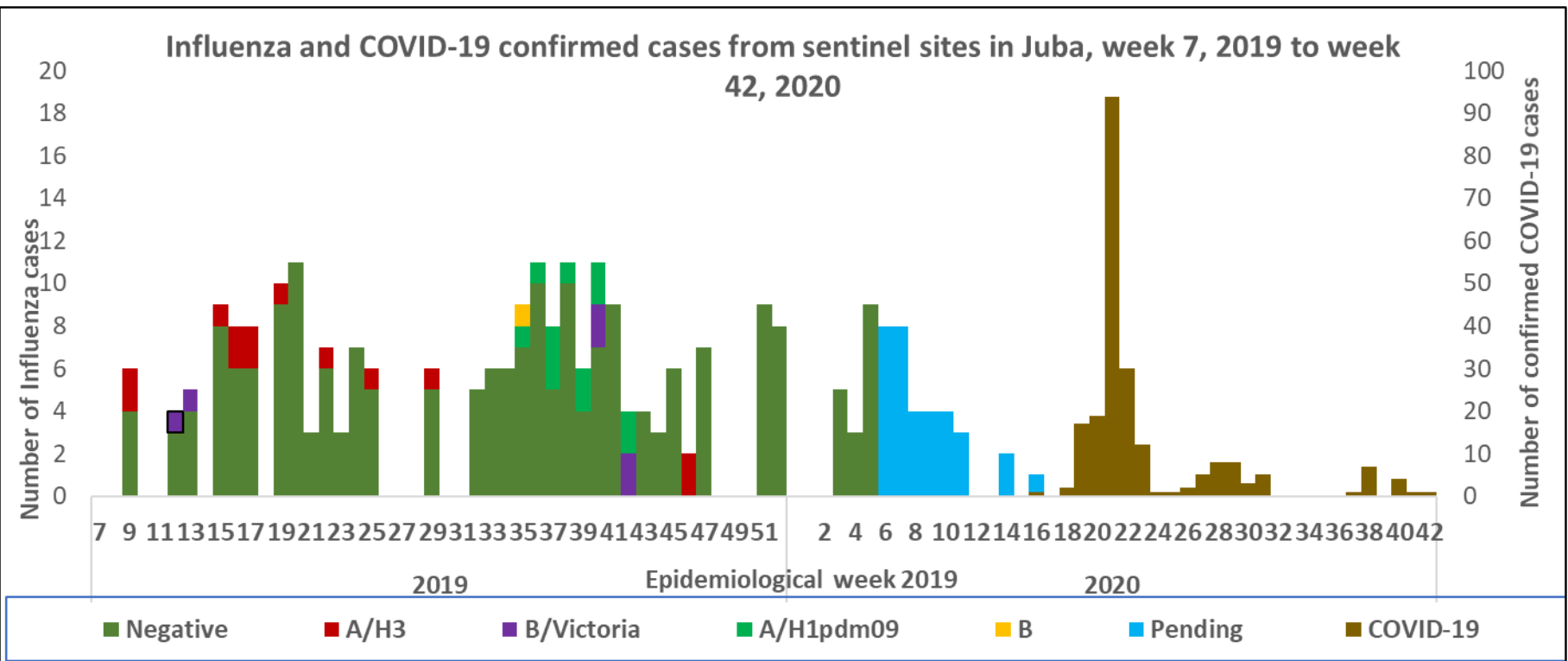
There were **4 Counties** with malaria trends that exceeded the threshold (third quartile of trends for the period 2013-2017) and these include the following:

1. Bentiu hub (Pariang, Rubkona)
2. Aweil hub (Aweil West, Aweil South)

**In the PoC sites;** malaria is the top cause of morbidity in Bentiu (42%); Juba (8%), Bor (57%) and Wau (29%) PoCs; in Malakal PoC malaria accounts for (0%) of OPD consultations, respectively.

## Rubkona





- 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.
- In 2019, a total of 309 ILI/SARI samples have been collected and tested in UVRI 228 being negative; 6 positive for Influenza B (Victoria); 13 positive for Influenza A (H3); and 12 positive for Influenza A (H1)pdm09 and (50) samples are pending test results .
- There are currently 20 Covid-19 designated sentinel surveillance sites in Juba that are collecting epidemiological data and samples from ILI/SARI cases. A total of 3913 samples have been collected in 2020 with 220 (5.6%) being positive for COVID-19 in Juba. These sentinel samples have not been tested for influenza in 2020

# ACTIVE OUTBREAKS AND PUBLIC HEALTH EVENTS



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

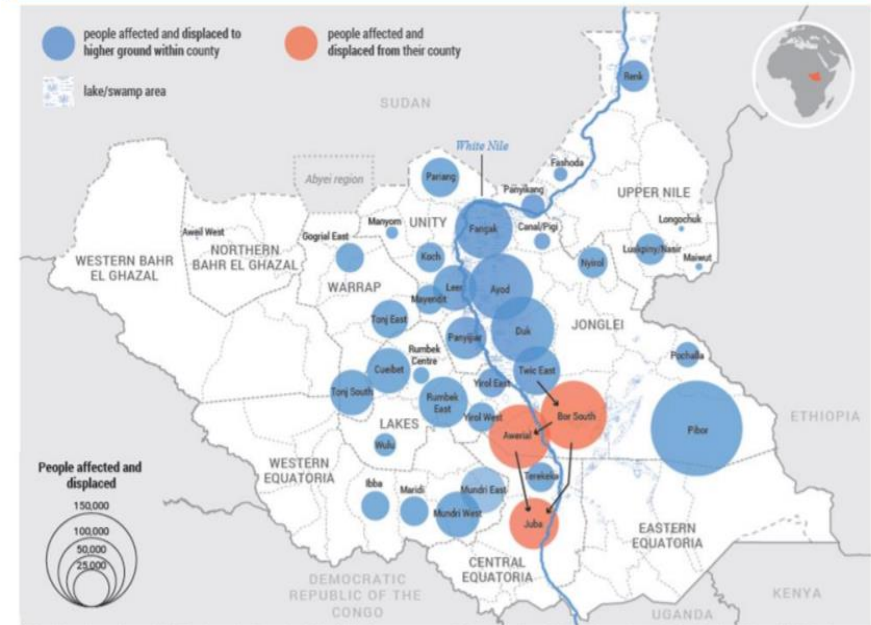




## Flooding, South Sudan, week 42, 2020

- In 2019, South Sudan grappled with one of the worst floods ever, which affected almost one million (908,000) individuals.
- In 2020, several Counties reported above-average rainfall and rising water levels in the River Nile, this has resulted in massive flooding.
- most of the flood-affected East counties are already experiencing multiple shocks such as large-scale displacement, Intercommunal violence, and disease outbreaks including Covid-19 and food insecurity

Maps: People affected and displaced by flood.



COUNTIES AFFECTED

39

PEOPLE AFFECTED

856K

PEOPLE DISPLACED

389K

Funding REQUIREMENTS

\$10M

COUNTIES AFFECTED IN MALNUTRITION PHASE 3 & 4

80%





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>								
Hepatitis E	Bentiu PoC	03/01/2018	3	409 (0.007)	Yes	No	Yes	Yes
Measles	Bentiu PoC	24/04/2019	NR	482 (0.006)	Yes	Yes	Yes	N/A
Measles	Pibor	27/1/2020	6	132 (0.045)	Yes	Yes	Yes	N/A

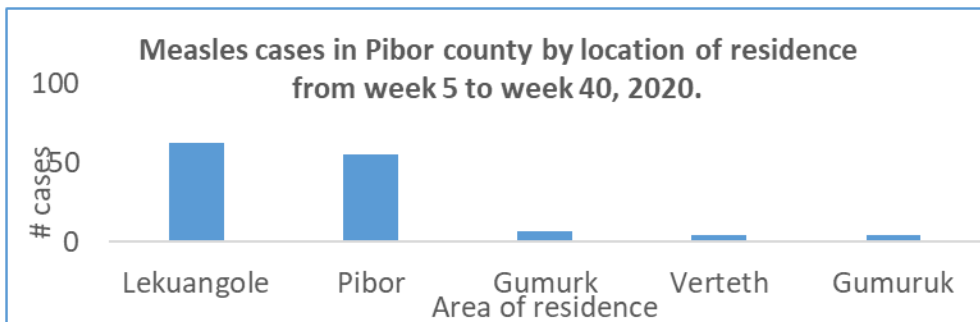
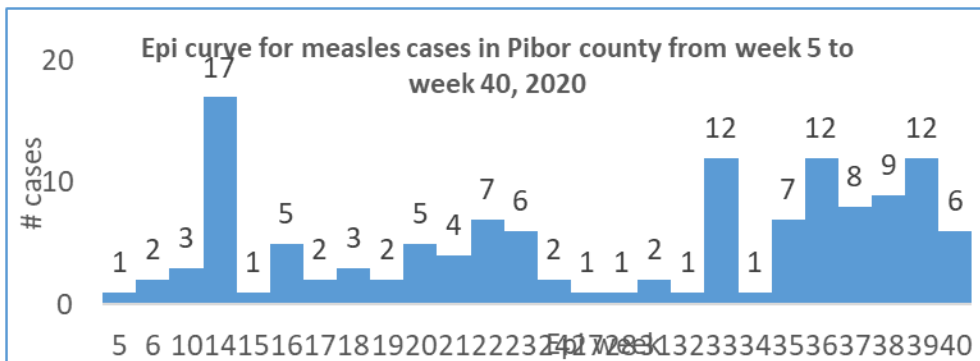




- Measles outbreaks confirmed in 2020
  - 7 counties – Tonj East, Magwi, Bor, Kapoeta East, Tonj South, Wau and Pibor
  - Locations with ongoing measles transmission
    - Pibor County



## Confirmed Measles Outbreak in Pibor



Age Group	Cases	Percentage	% Cum.
1 - 4 Years	107	81%	81%
5 - 9 Years	19	14%	95%
15+ Years	4	3%	98%
10 - 14 Years	2	2%	100%
<b>Grand Total</b>	<b>132</b>	<b>100%</b>	

### Background and descriptive epidemiology

- Measles transmission has persisted in Pibor county despite of the vaccination campaign conducted in February and March and October, 2019
- Suspected measles cases were reported from Pibor; five sample were send to Juba and tested measles IgM +e.
- 6 cases were reported in week 40, makes a total of 132 since beginning of 2020
- 81% of the cases are less than 5 years of age
- 52% are female and 48% male
- Most affected areas are Lekuangle followed by Pibor town

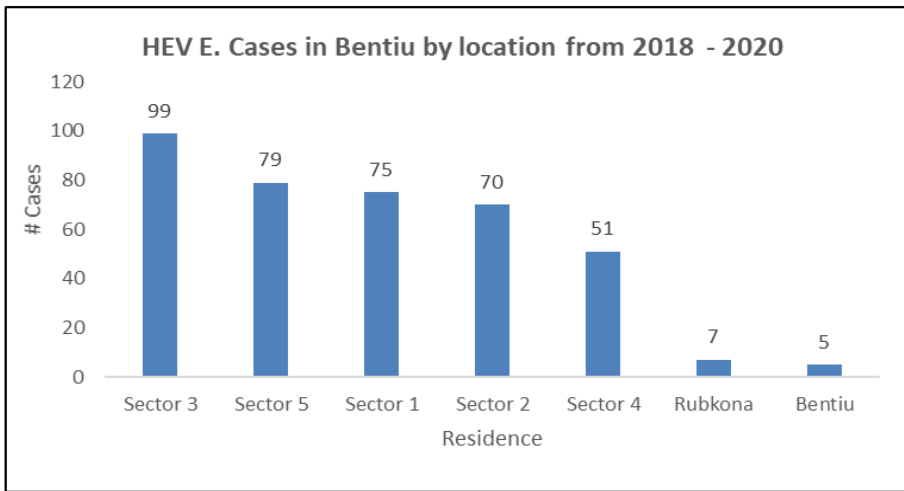
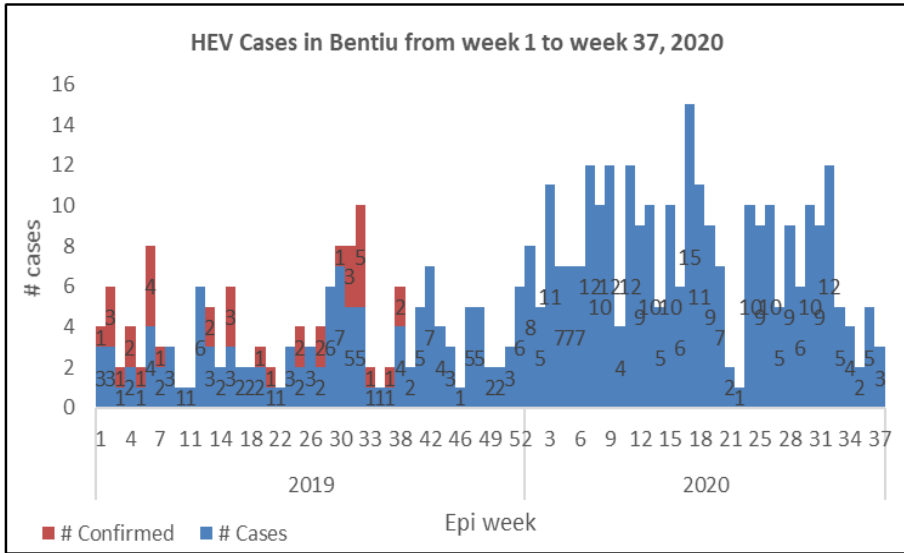
### Response Actions:

- Partners to strengthen routine immunization and to continue to collect samples from suspect cases.
- Measles case management to continue
- Micro plan is under development, targeting Pibor town.





## Hepatitis E, Bentiu PoC (1)



### Descriptive epidemiology

- The persistent transmission of HEV in Bentiu PoC continues with 409 cases since beginning of 2019
- There were (3) new cases reported in week 37, 2020
- All the cases were managed as outpatient cases except for seven cases who were admitted
- 5 deaths reported in 2019 and 2020
- 50% are female and 50% are male.
- Age group less than 15 years had the most cases with (75%) 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 37, 2020; there were 409 cases of HEV in Bentiu PoC including 4 deaths (CFR 0.01%)

Age-Group	Alive	Dead	Grand Total	Percentage	CFR	Cum. %2
1 - 4 Years	128	0	128	31%	0%	31%
10 - 14 Years	64	0	64	16%	0%	47%
15+ Years	99	3	102	25%	3%	72%
5 - 9 Years	113	2	115	28%	2%	100%
<b>Grand Total</b>	<b>404</b>	<b>5</b>	<b>409</b>	<b>100%</b>	<b>0.01</b>	



## Recommendations

- Supportive case management guided by the HEV protocol is ongoing
- KEV messages on HEV prevention should continue within the community through HPs, CHWs and Kondial Radio
- With current COVID -19 Pandemic Outbreak, WASH partners to increase the coverage of hand washing facilities within the PoCs community.
- Other Wash intervention like increasing the access for clean water and improving the water storage in the affected individuals should be made urgently by distributing the water storage containers that will be the only way to mitigate this problem and stop the HEV outbreak.
- The WASH Cluster/HEV task force should engage in group discussion with Community leaders and woman group at water distribution points to understand their opinions on issue of Collapsing Jerrycans distribution.
- Monitoring the FRC levels at the taps stands in the different sectors, and the concentration of chlorination should maintain at 0.5-1mg/L as the point of collection





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>Controlled epidemics</b>								
Measles	Juba	21/11/2019	NR	6( 0.1667)	Yes	No	Yes	N/A
Measles	Tonj East	12/12/2019	NR	61(0.98)	yes	Yes	Yes	N/A
Measles	Bor	17/01/2020	NR	14(0.214)	yes	No	yes	N/A
Measles	Jebel Boma	10/12/2019	NR	96(0.063)	yes	No	Yes	N/A
Measles	Kapoeta East	18/01/2020	NR	16(0.625)	yes	No	Yes	N/A
Measles	Aweil East	29/12/2019	NR	664 (0.127)	Yes	No		Yes



# EBOLA VIRUS DISEASE[EVD] PREPAREDNESS IN SOUTH SUDAN



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



# Equateur Outbreak (Reporting up to 17th October)

## Cumulative figures for the outbreak

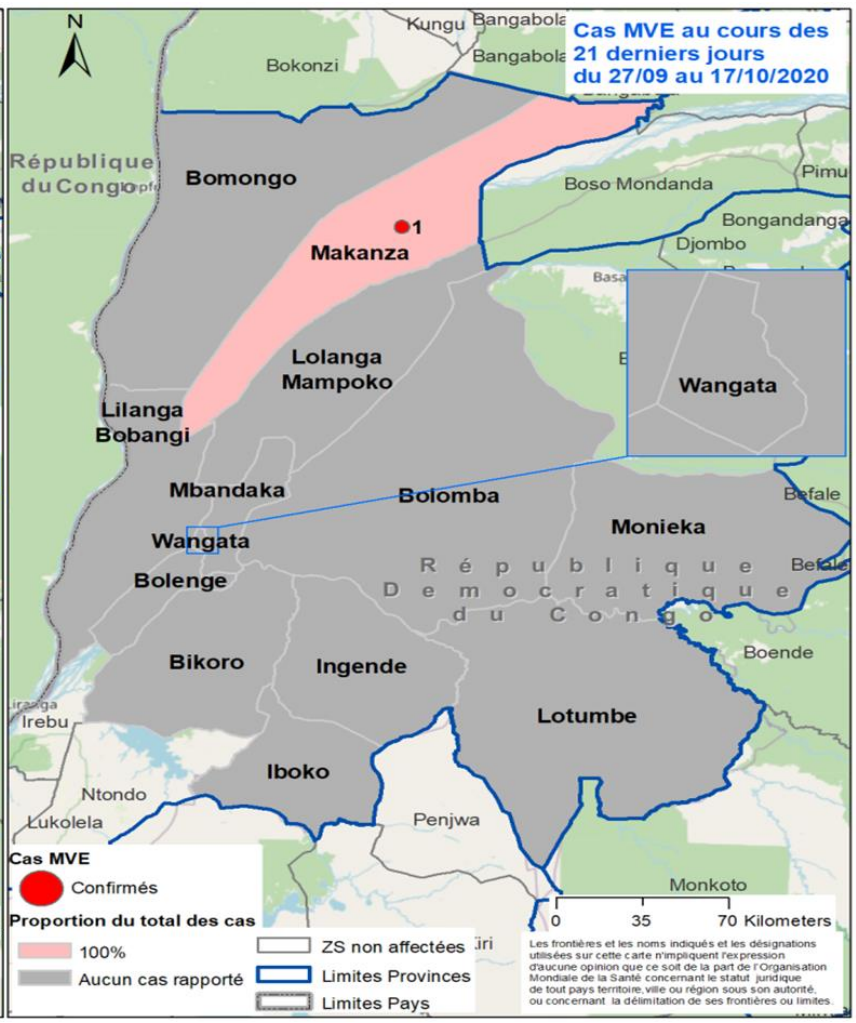
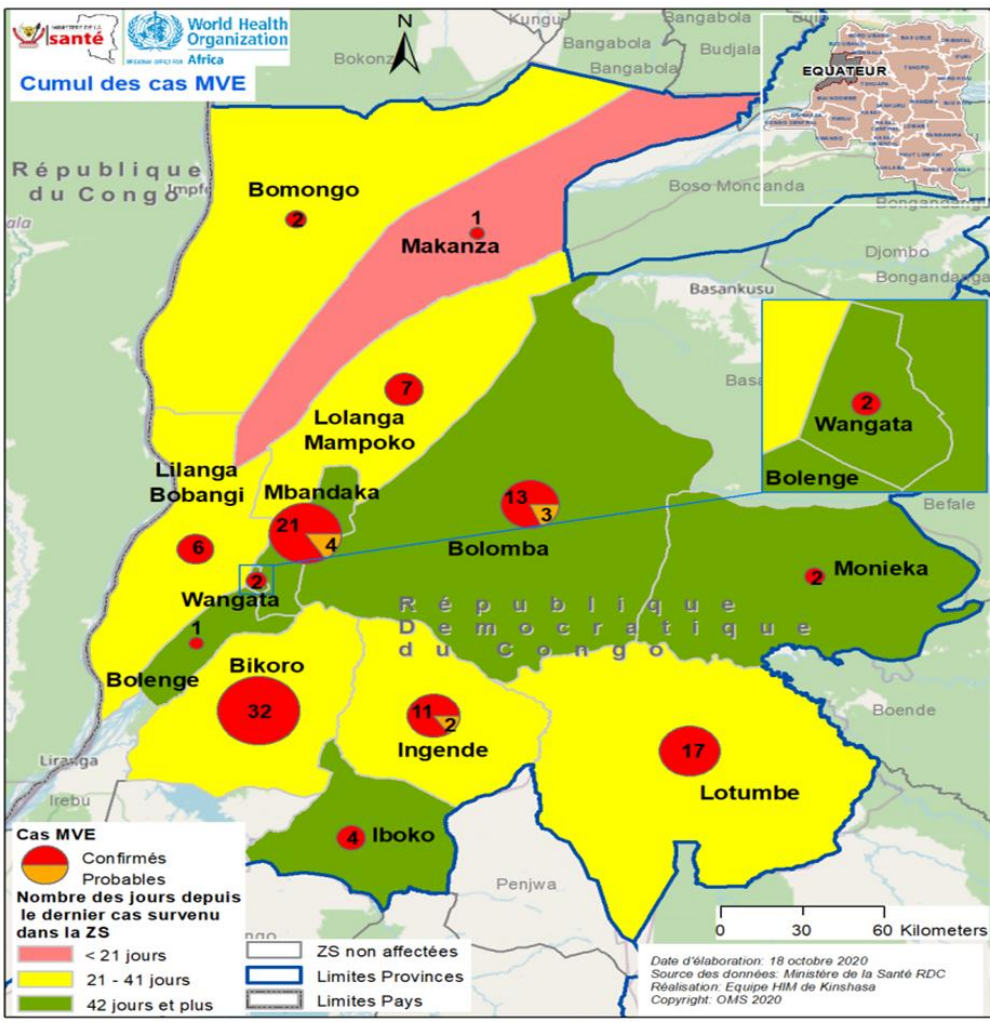
- 128 cases (119 confirmed, 9 probable;)
- 53 deaths (41.4% CFR), 69 recoveries;
- 42 affected health areas, 13 health zones;
- 38,053 vaccinated
  
- The last confirmed case was reported on 28th Sept. in Makanza HZ
- 6 known confirmed cases are in the community (3 in Lotumbe, 2 in Lolanga Mampoko and 1 in Mbandaka);
- 52 suspected are currently being treated across 19 IU/ETCs.
- 32 patients received experimental therapies.

## Highlights from the past 21 days (15 Sept - 05 Oct):

- 1 confirmed case was reported in 1/13 affected health zones;
- 12/13 affected HZs have not reported a case in over 21 days, 35/42 health areas have not reported a case in over 42 days;
- Since the beginning of the outbreak confirmed cases reported with unknown transmission chains have never fallen below 40%.



# Geographic distribution of confirmed and probable cases of EVD in Equateur province cumulative (n=128) & in the past 21 days



# COVID-19 Updates



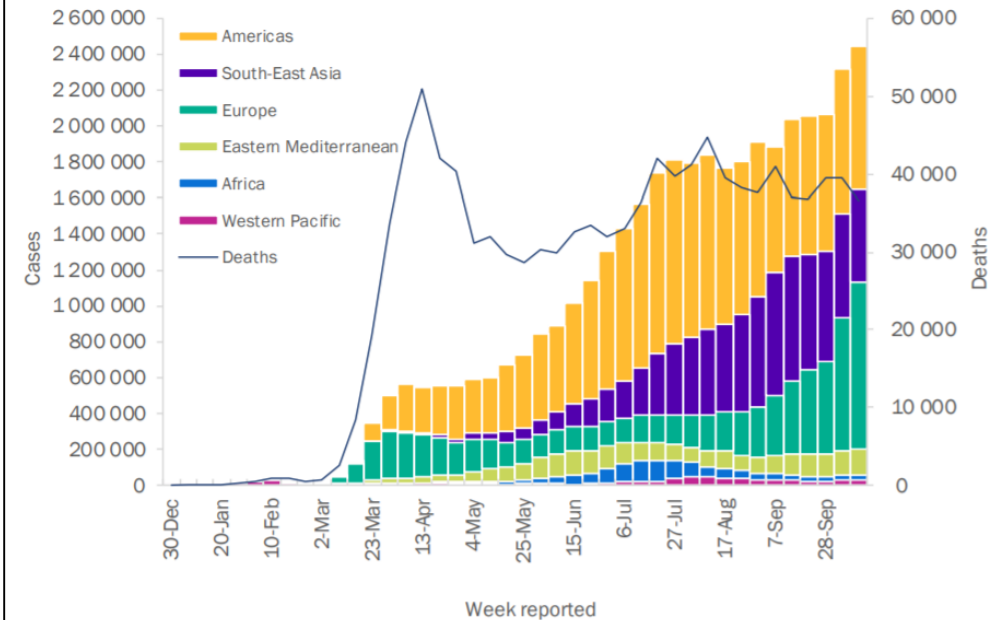
# COVID-19 Virus Situation Summary



Situation update as of 20<sup>th</sup> October 2020

- The COVID-19 pandemic initial cases were detected in Wuhan China
- Globally >40 million cases (> 1.1 million deaths)
- Africa > 1,267 664 million cases (>28,469 deaths)

Figure 1: Number of COVID-19 cases reported weekly by WHO Region, and global deaths, 30 December 2019 through 18 October 2020\*\*



WHO: <https://www.who.int/health-topics/coronavirus>

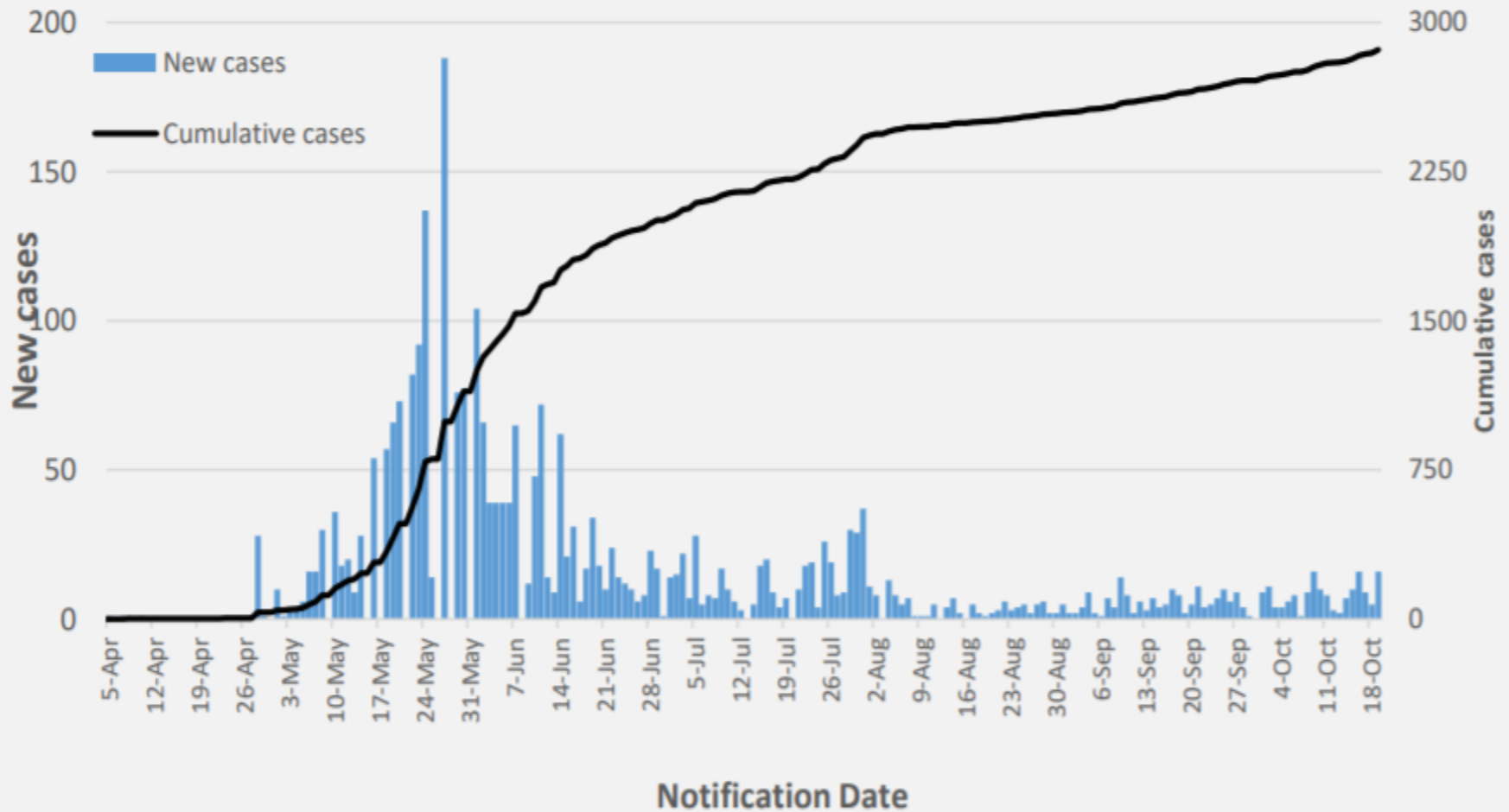


- 2,863 confirmed COVID-19 cases in South Sudan; 85% in Juba with 55 deaths and a case fatality rate (CFR) of 1.9%. Total 9,212 contacts identified, quarantined, & undergoing follow up
- Implementation of priorities; risk communication and community engagement; active case search and testing; quarantine for contacts; isolation of confirmed cases, infection prevention and control; and management of cases are currently underway
- The overall response currently led by the COVID-19 National level taskforce and the COVID-19 National Steering Committee



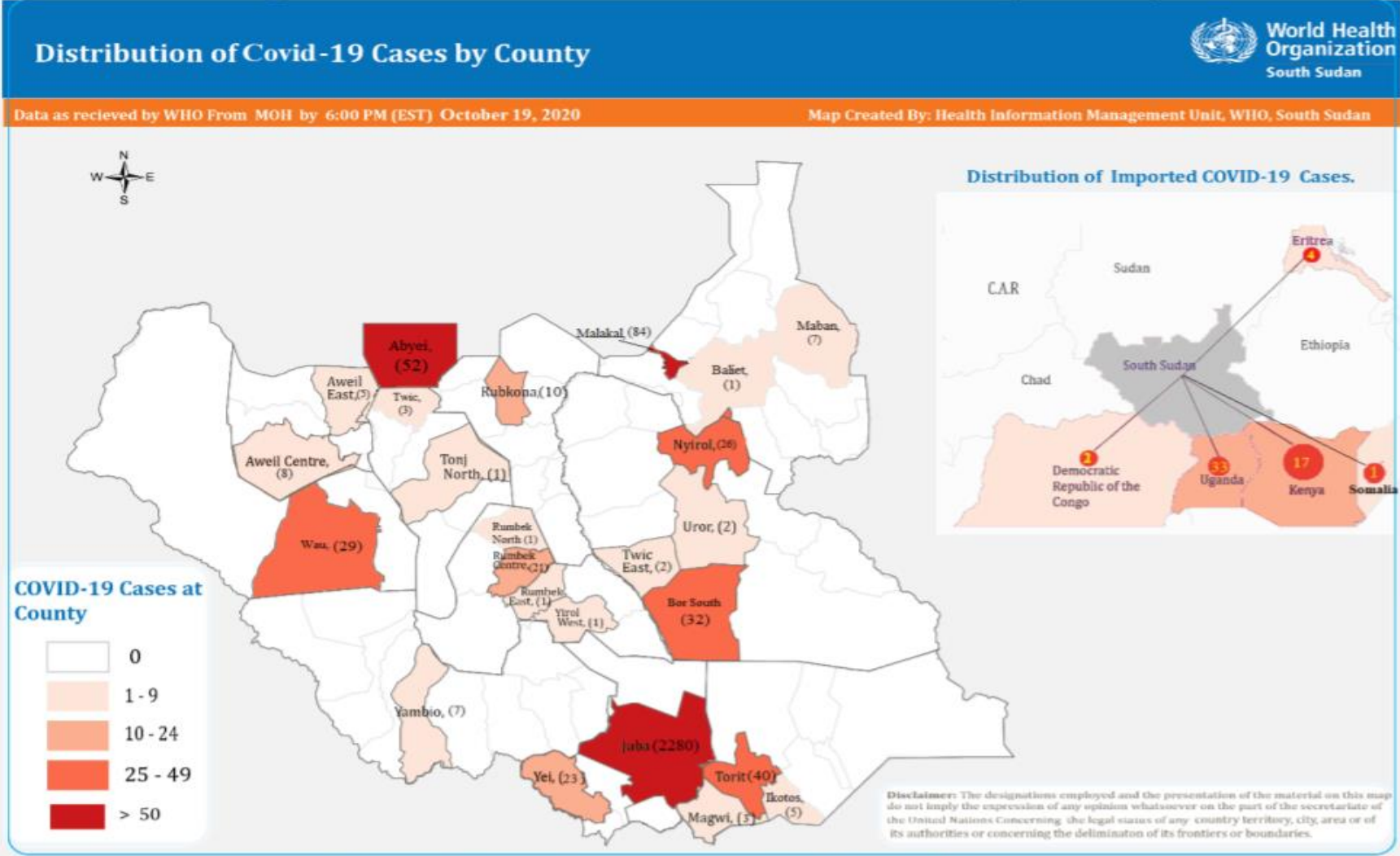


Figure 1. New and cumulative confirmed COVID-19 cases by notification date



COVID-19 cases increasing exponentially in the past few weeks

# Distribution of COVID-19 cases in South Sudan



*\*Geographical information is available for 2 702 cases.*

The majority of the cases have been reported in Juba; while the rest have been imported (involving truckdrivers from the neighboring countries)

# Overall Conclusions and Recommendations





# Conclusion

- The overall IDSR and EWARN reporting performance in week 42, is above the target of 80%. All (9) states were above 80%
- 2,863 confirmed COVID-19 cases in South Sudan; 85% in Juba with 55 deaths (CFR of 1.9%). Total 9,212 contacts identified, quarantined, & undergoing follow up
- Cumulative total of COVID-19 alerts is 1,382, of these, 1,195 (86.5%) have been verified and samples were collected
- With seven outbreaks confirmed in 2020; measles remains the most frequent vaccine preventable disease
- There are ongoing measles outbreak in Bentiu PoC and Pibor county
- Given the COVID-19 pandemic, it is critical that measures are stepped up to contain its spread.





## Recommendations

- All partners should support CHDs & State Ministries of Health to undertake IDSR/EWARN reporting
- All health facilities should report, and conduct case-based investigation of suspect measles cases and routine measles immunization should be strengthened in all counties
- Strengthen capacities for COVID-19 containment through identifying and testing suspect cases, isolating confirmed cases, and quarantining contacts



**Thanks to the State Surveillance Officers, County Surveillance Officers and Health Facility in-charges for sharing the weekly IDSR data**

**Thanks to all partners for supporting IDSR weekly reporting and sharing the line lists**

**To access the IDSR bulletins for 2020 use the link below:**

**<https://www.afro.who.int/publications/south-sudan-weekly-disease-surveillance-bulletin-2020>**



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

For more help and support, please contact:

**Dr. Pinyi Nyimol Mawien**  
Director General Preventive Health Services  
Ministry of Health  
Republic of South Sudan  
Telephone: +211916285676

**Mr. Mathew Tut M. Kol**  
Director, Emergency Preparedness and Response  
Ministry of Health, RSS  
Tell: +211916010382, +211922202028  
Emails: tut1988@yahoo.com, greensouth2020@gmail.com  
Skype: mathew19885

### IDSR Bulletin Editorial Team

1. Mr. Ajak Ater, MoH - Email: ajakater014@gmail.com
2. Ms. Sheila Baya, WHO - Email: bayas@who.int
3. Mr. Robert Lasu Martin, WHO - Email: lasur@who.int
4. Mrs. Rose Dagama, WHO - Email: dagamaa@who.int
5. Dr. Abraham Adut, WHO - Email: abenegoa@who.int
6. Dr. Alice Igale Lado, WHO - Email: ladua@who.int
7. Dr. Joseph Wamala, WHO - Email: wamalaj@who.int
8. Dr. Argata Guracha Guyo, WHO - Email: guyo@who.int

### 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>

