



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 35

26 August to 1 September 2024

This weekly bulletin presents the epidemiological status of priority diseases, events, and conditions under surveillance in South Sudan. The data presented in this bulletin comes from various actors involved in preparedness and response to public health events in the country. Special thanks to all the health implementing partners and health cluster humanitarian agencies that continue to support integrated disease surveillance and response.

Highlights for the current reporting period

- In week 35 of 2024, IDSR reporting timeliness was 65% and completeness was 87%. This was a slight increase in timeliness from 63% the previous week, while completeness decreased slightly from 89%. Abyei Administrative Area, Central Equatoria, Unity, and Western Equatoria, achieved 100% completeness.
- At the EWARN mobile sites, the Timeliness and Completeness of IDSR performance were at 75% and 88%, respectively.
- In week 35, 208 alerts were triggered, and the proportion of verified alerts decreased from 82% to 80%. The main alert reasons were AWD (30%), Malaria (21%), ARI (17%), Guinea Worm (13%), and ABD (11%).
- A cumulative total of 56 suspected cases of Monkeypox have been reported from 14 counties, with the highest number coming from Juba (14) and Tambura (14). Fifty five (55 of the 56) suspected Mpox cases all tested negative on PCR assays. The remaining 1 sample is from Terekeka County and is yet reached the laboratory for testing.
- In week 35 of 2024, Malaria continued to be the primary cause of illness, reporting 109 650 cases and 30 suspected deaths, representing 41% of the overall morbidity.
- Other Events including Flooding have affected **472,000 people** across 26 counties with 21 health facilities reported to have been inundated

Surveillance System Performance

The epidemic alert and response system in South Sudan currently relies mainly on immediate alerts notification and weekly aggregate reporting of cases through the Integrated Disease Surveillance and Response (IDSR) system. This

system is complemented by a weekly Early Warning Alert and Response System (EWARS).

Completeness (proportion of all reports received regardless of time) and timeliness (proportion of reports received by the Wednesday following the end of the reporting period) of IDSR and EWARS are shown in Table 1 below. Timeliness and completeness for **week 35** were at **65%** and **87%**, respectively, which was an improvement from the attainments reported in the previous week

Table 1: Timeliness and completeness of IDSR reporting by State for week 35 compared to 34, of 2024

State	Total facilities	Number of facilities reported (Completeness) Wk35	Current reporting period				Cumulative since year start (2024 level)	
			Timeliness Wk35	Timeliness Wk34	Completeness Wk35	Completeness Wk34	Timeliness	Completeness
Lakes	112	107	79%	55%	96%	94%	85%	98%
NBGZ	87	63	17%	75%	72%	92%	83%	93%
Unity	84	84	93%	99%	100%	100%	94%	100%
WBGZ	113	86	62%	58%	76%	78%	61%	74%
WES	191	191	82%	39%	100%	100%	79%	93%
Jonglei	120	89	63%	76%	74%	84%	80%	86%
Warrap	114	85	32%	46%	75%	82%	68%	86%
EES	112	97	53%	38%	87%	81%	75%	87%
RAA	19	16	32%	37%	84%	84%	39%	58%
CES	152	151	98%	99%	99%	100%	88%	96%
AAA	17	17	100%	71%	100%	71%	72%	79%
Upper Nile	143	109	54%	60%	74%	79%	59%	79%
GPA	16	14	88%	94%	88%	94%	100%	91%
Total	1280	1115	65%	63%	87%	89%	76%	89%

Table 2: Timeliness and completeness of reporting by Payam and Partner of IDSR reporting from NGO-run mobile health facilities and private health facilities in Juba and Wau, Week 35 of 2024.

Admin area	# Of Reporting Mobile Sites	% of Timeliness in week 35	% Of Completeness in week 35	Payam	# Of Reporting Private Health Facilities	% Of Timeliness in week 35	% Of Completeness in week 35
IMC	4	0%	0%	Kator	3	100%	100%
SSHCO	1	0%	0%	Marial Baai	1	100%	100%
SMC	1	0%	0%	Northern Bari	1	100%	100%
SCI	2	50%	50%	Rajaf	3	100%	100%
HFO	4	100%	100%	Munuki	12	100%	100%
WVI	2	50%	100%	Wau South	20	85%	90%
CIDO	1	100%	100%	Wau North	12	75%	75%
TOTAL	15	47%	53%	Juba	10	100%	100%
				Mangala	1	100%	100%
				Total	63	90%	92%

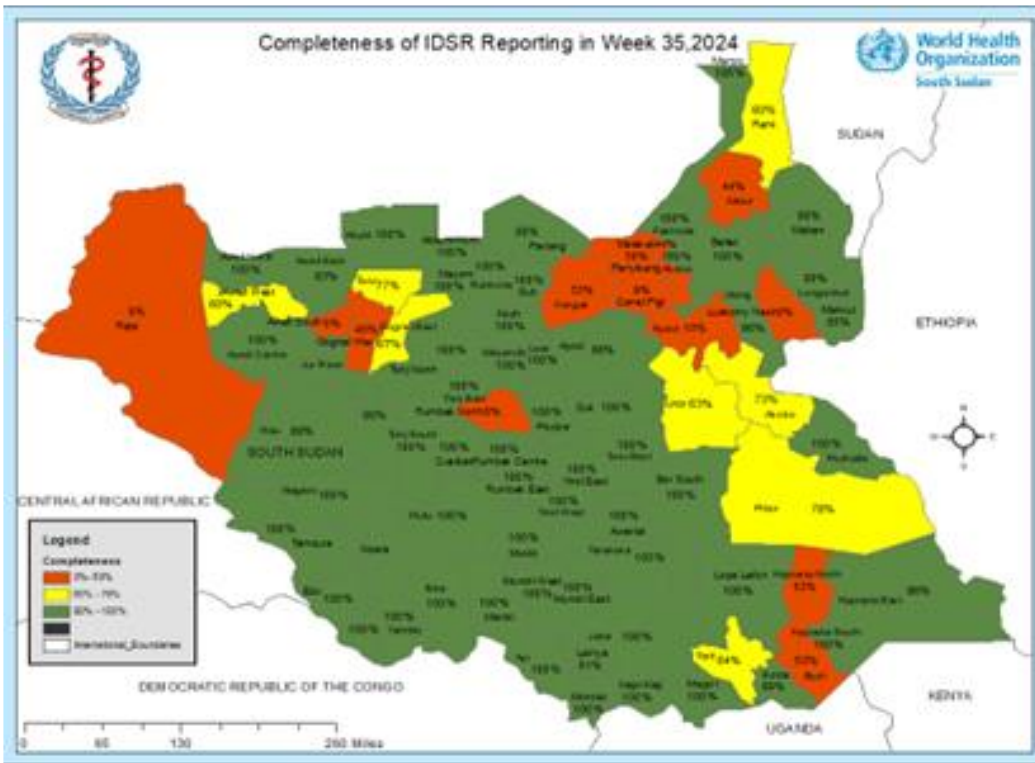


Figure 1: Timeliness and completeness of IDSR reporting in South Sudan; 2022-2024

Given the consistent under-performance of timeliness of IDSR reporting, the IDSR team continued to analyze the performance over the past three years and document that the declines in 2024 (Wk 21-35) are pronounced and sustained than ever recorded in the previous 3 years. In this HSTP transition period, targeted support to the newly contracted health implementing partners for this surveillance performance indicator to recover will be the priority going forwards.

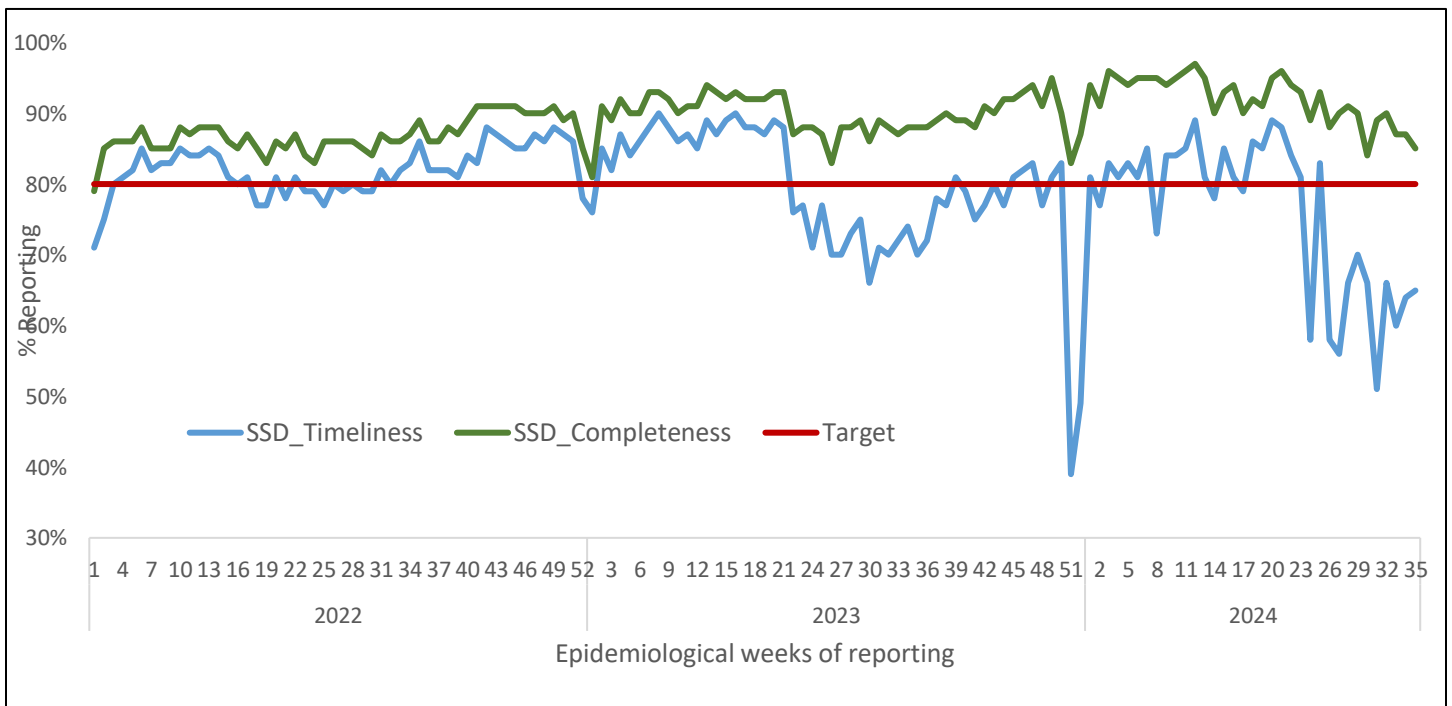


Figure 2: Timeliness and Completeness of IDSR reporting in South Sudan; 2022-2024

Epidemic alerts

A total of 208 alerts have been triggered in the EWARS system, with 80% (166/208) verified in the system which is Slightly lower than the previous week (34). Most of the alerts were for AWD (30%), Malaria (21%),ARI(17%), Guinea Worm (13%) and ABD (11%). See Table 3 below for more details

Table 3: Summary of EWARS alerts triggered in Epidemiological week 33, 2024

State/ Admin	Acute jaundice syndrome		Acute Respiratory Infections (ARI)		Acute Watery Diarrhoea		AFP		Bloody Diarrhoea		Covid-19		EBS		Guinea Worm		Malaria (Confirmed)		Measles		NNT		Grand Total	
	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V
CES	0	0	2	2	8	8	0	0	0	0	0	0	1	1	1	1	4	4	2	2	0	0	18	18
EES	0	0	0	0	1	1	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	5	3
Jonglei	0	0	2	2	5	5	0	0	2	2	0	0	1	1	0	0	4	4	1	0	0	0	15	14
Lakes	0	0	11	11	12	12	0	0	3	3	0	0	2	2	1	1	11	11	0	0	0	0	60	60
NBGZ	0	0	1	0	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1
RAA	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Unity	2	0	5	0	4	0	0	0	5	0	0	0	0	0	0	0	4	0	0	0	0	0	20	0
Upper Nile	0	0	8	8	9	9	0	0	1	1	1	1	1	0	0	0	4	4	0	0	0	0	24	23
Warrap	0	0	1	0	3	0	0	0	1	0	0	0	1	0	6	2	2	1	0	0	0	0	14	3
WBGZ	0	0	2	2	3	3	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	7	7
WES	0	0	3	3	14	14	0	0	4	4	0	0	0	0	0	0	13	13	3	2	1	1	38	37
Grand Total	2	0	35	28	62	53	1	0	22	12	1	1	6	4	8	4	44	39	6	4	1	1	8	6

#R= reported #V= verified

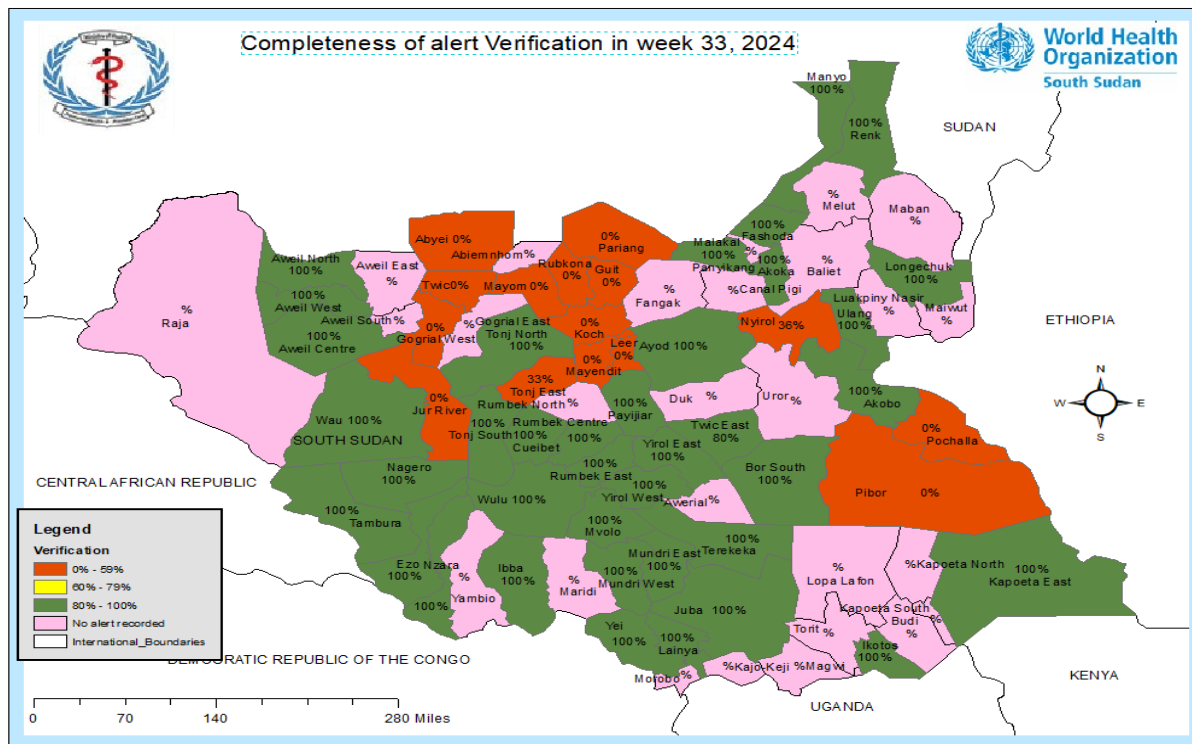


Figure 3: Completeness of Alerts Verification rates by county of South Sudan for week 33, 2024

Updates on Monkeypox Surveillance

The latest update on the suspected Mpox cases is as follows:

- As of current epidemiological week 35, 2024, there have been 56 suspected cases of Mpox reported across different counties: Juba (16), Tambura (14), Nzara (2), Ezo (1), Yambio (2), Aweil-Centre (4), Aweil East (1), Aweil North (1), Aweil West (1), Abyei (1), Gogrial West (3), Nimule (3, with 1 discarded blood sample), Renk (1), Malakal POC (1), Rubkona (1), Leer (1), Yei (2), Terkeka (1), and Akobo West (1).
- Out of the total 56 suspected cases, 55 samples have been collected and tested. The results of the 55 tests showed negative for Mpox by PCR
- Currently, the total number of Mpox samples tested is 55, with 1 sample pending in Terkeka. Additionally, there have been 2 suspected deaths reported. In the latest update, new counties reporting suspected Mpox cases include Aweil West, Gogrial West, and Nimule.

The surveillance efforts continue with the implementation of various tools such as standard case definitions, case investigation forms, line listing forms, and SOPs. These tools have been distributed to state surveillance officers and partners to ensure effective monitoring. Additionally, screening procedures at the Nimule point of entry have been put into action. Continuous surveillance activities are being carried out in health facilities in high-risk areas, and information has been communicated to all surveillance officers and partners.

Mpox readiness coordination meetings are ongoing at the PHEOC three times a week.

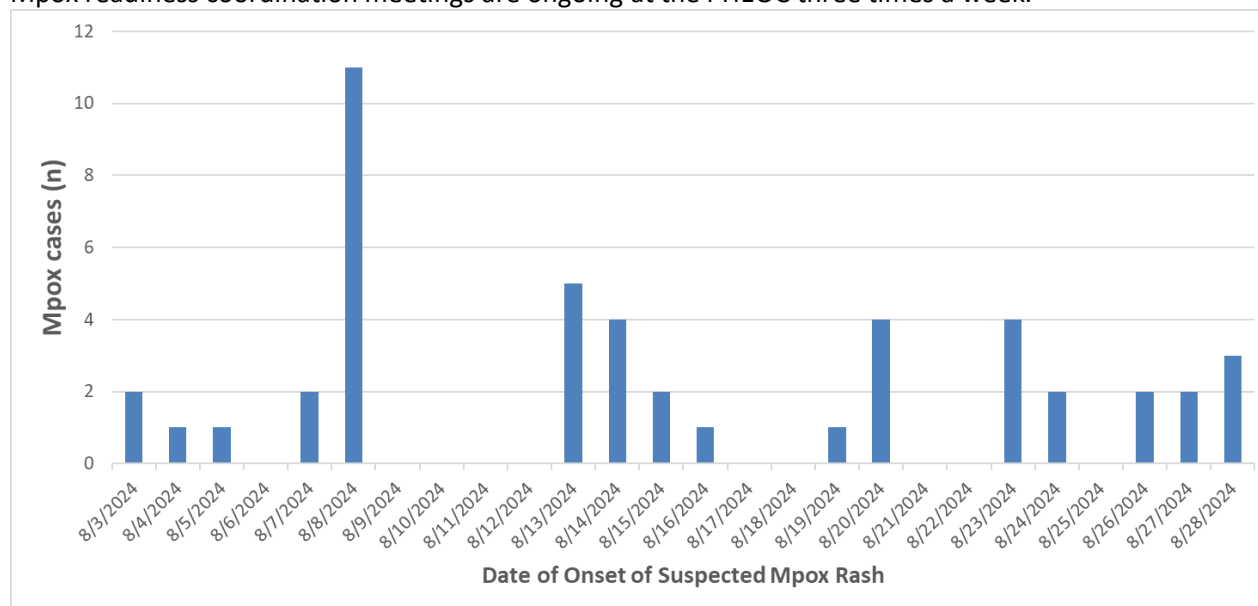


Figure 4; Epidemic curve for Suspected Mpox Cases Detected/reported in South Sudan; as at Epi Week 35 of 2024

Weekly Update on Indicator-Based Surveillance (Week 33)

Indicator-based surveillance is implemented in South Sudan through the EWARS platform according to the IDSR 3rd guidelines, where approximately 59 priority diseases and public health events are regularly monitored and reported from health facilities across the country.

- During the 35th week of 2024, people aged five and above had the highest number of visits to the outpatient department (OPD).
- Since the beginning of this year, a total of 6,485,383 patients have been treated in both the outpatient and inpatient departments combined (see Table 1).
- A comparison of healthcare service utilization in 2023 and 2024 shows fluctuating trends, indicating variations in the weekly number of consultations (see Figure 4).

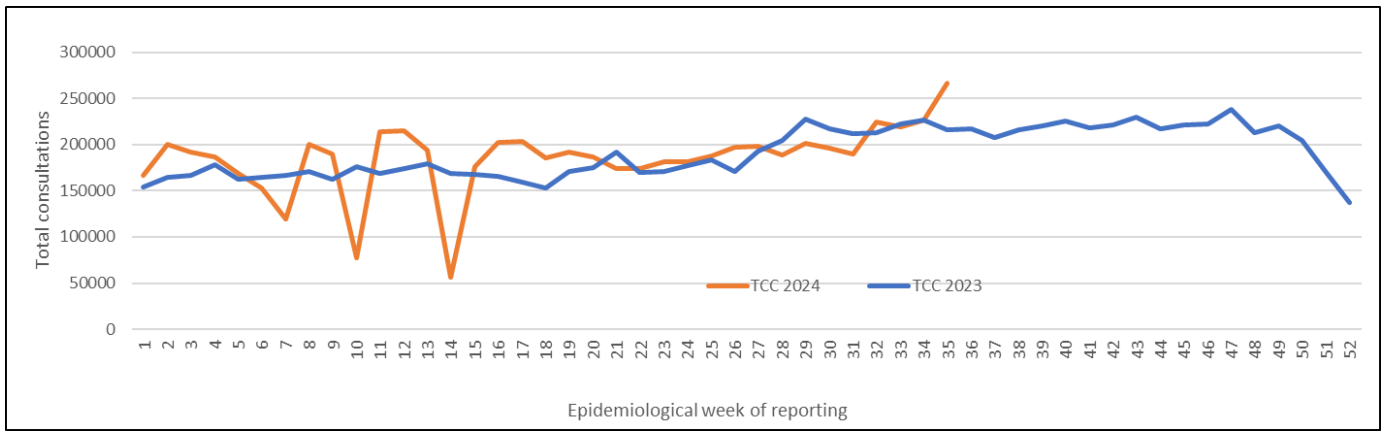


Figure 5: Trends of cumulative curative/OPD consultations reported in the Monthly DHIS reporting: 2023-2024

In week 35, a total of **101 262** morbidities were reported from all over South Sudan from across 1207 health facilities. Malaria was the top cause of morbidity accounting for 46% of all cases, followed by Acute respiratory illnesses (18%) and acute watery diarrhea (7%) as seen in Figure 5 below.

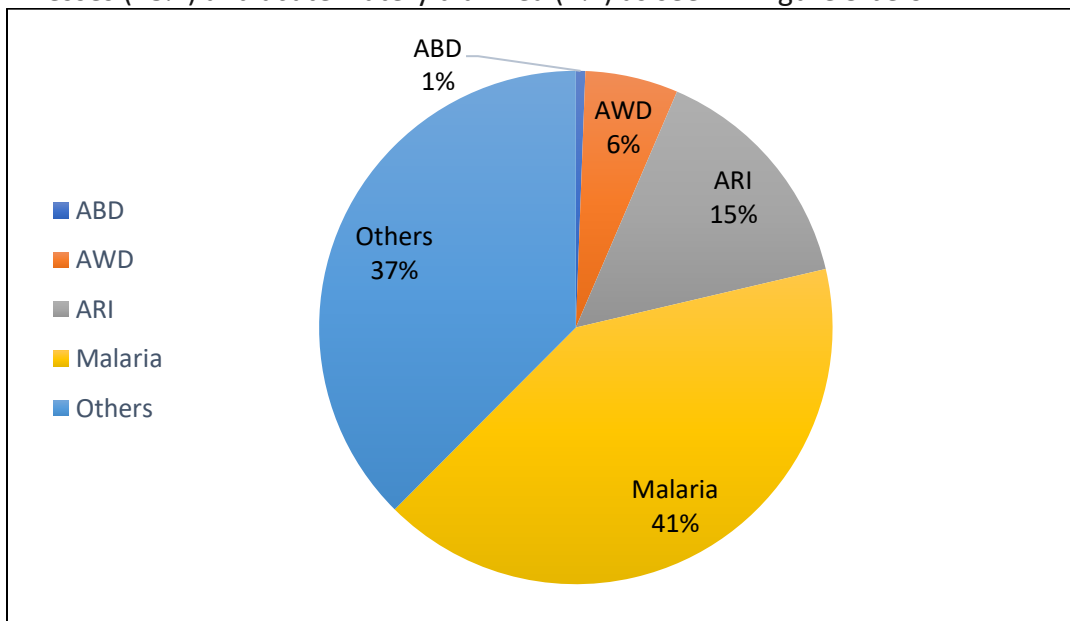


Figure 6: IDSR Proportional Morbidity in week 35 of 2024.

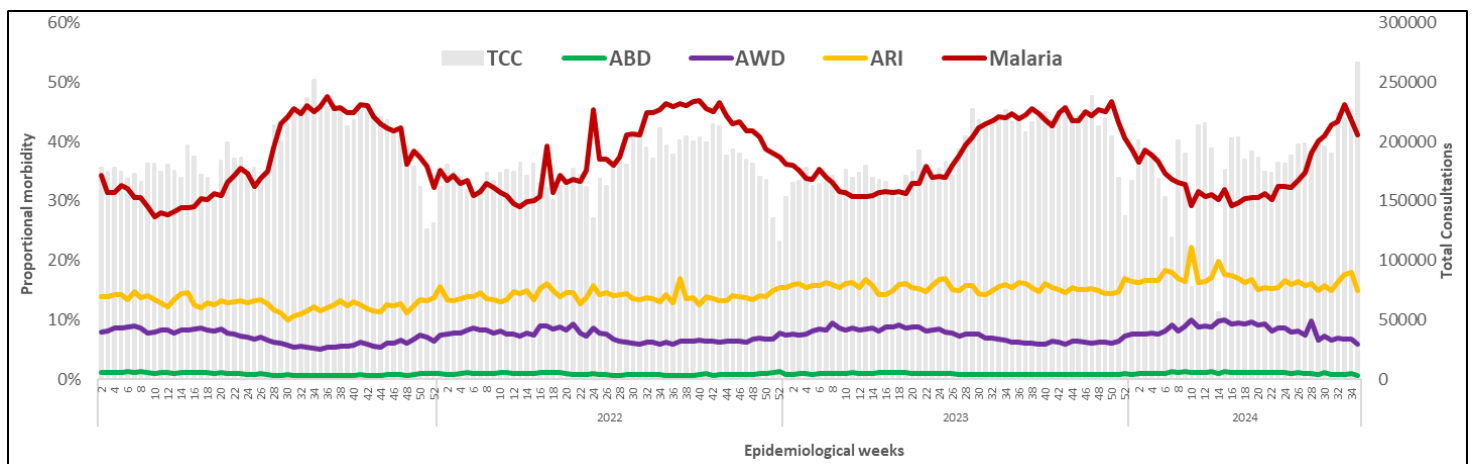


Figure 7: IDSR proportional morbidity for top three diseases in South Sudan 2021 to 2024 by epidemiological week.

National Malaria Surveillance Update

- In week 35 of 2024, Malaria is the primary cause of illness, reporting 109, 650 cases and 30 suspected fatalities, representing 41% of the overall morbidity. This is higher than what was reported in the previous week 4 of **98 537** malaria cases and 30 suspected deaths.
- Notably the weekly reported malaria cases in week 35 of 2024 remained above the expected normal transmission levels in the week. This will in coming weeks be analysed against malaria positivity ratios to confirm increased transmission. The National EPR team requests all partners in the states and counties to disaggregate these numbers and identify sub-national geographies where higher transmission and mortality burdens are highest to inform targeted actions.
- EPR analysis of this week's trends by state/administrative levels, indicates that the number of malaria cases in Upper Nile, Jonglei, Central Equatoria, and Unity states has consistently surpassed the defined alert and epidemic thresholds throughout most of the period(week 1 to week 35 of 2024). Please reference the figures provided below for the state's trends from 2022 to 2024 and all partners are encouraged to do this disaggregated analyses by the lower administrative level.

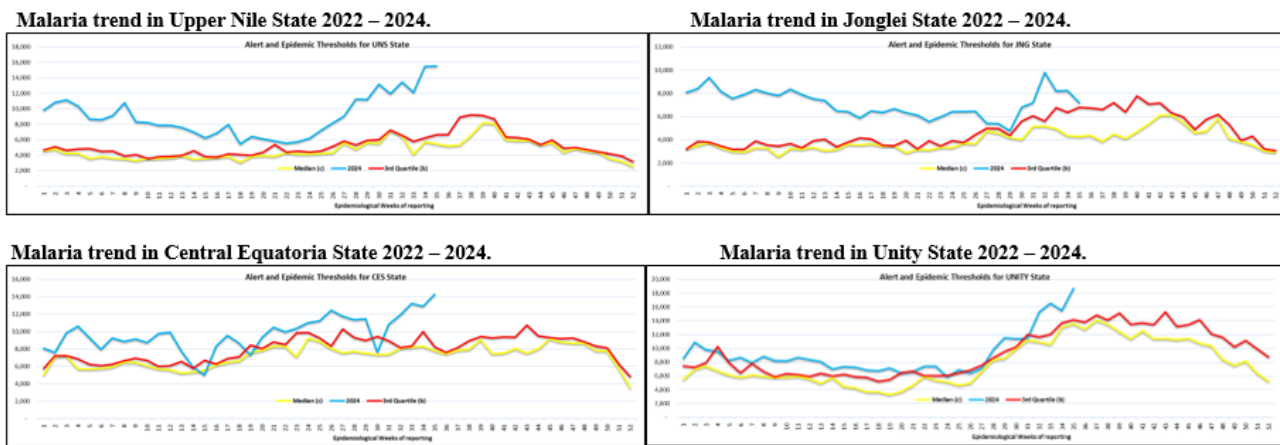


Figure 8: Malaria Trends in the four States that consistently reported higher than expected cases, 2022-2024

Influenza Sentinel surveillance weekly updates

Currently, there are six designated Influenza sentinel surveillance sites in the country: Juba Teaching Hospital, Al Sabbah Children’s Hospital, Juba Military Hospital, Rumbek State Hospital, Bor State Hospital, and Nimule Hospital. They are actively collecting epidemiological data and samples from ILI/SARI cases.

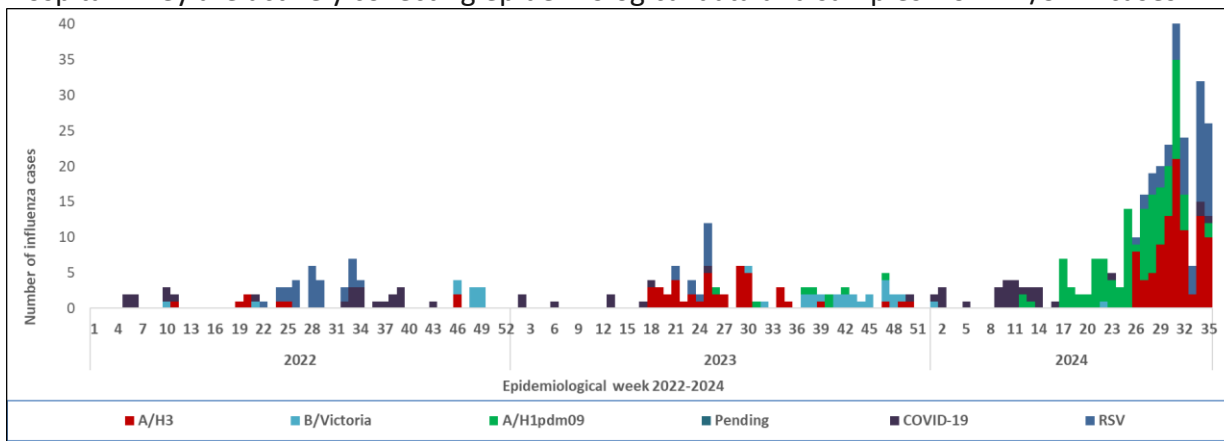


Figure 10: Confirmed Influenza, COVID-19 and RSV cases from sentinel sites Epidemiological Week 1, 2022 to Week 33, 2024

During Epidemiological Weeks 1 to 35 in 2024, a total of 1469 ILI/SARI samples were collected; 1174 tested negative for all pathogens, 27 were positive for COVID-19, ninety six (96) for Influenza Type A (H3), two (2) for Influenza Type B (Victoria), eighty nine (89) for Influenza A/(H1N1)pdm09 and sixty two (62) for RSV.

Confirmed and ongoing epidemics in 2024

Table 4: Summary of ongoing and confirmed epidemics

Aetiologic agent	Location (county)	Date first reported	New cases since last bulletin	Cumulative cases to date	Response activities				
					Surveillance/Lab	Case management	Vaccination	Health promotion	IPC/WASH
<i>Ongoing outbreaks</i>									
Yellow Fever	Yambio, Nzara, Ezo, Tambura, Ibba and Maridi	21 Dec 2023	-	139	3 Laboratory confirmed	Ongoing	Done in 5 counties	Ongoing	Ongoing
Measles	Multiple counties	2022	0	14,507	1,154	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Fangak	2023		655	253	ongoing	ongoing	ongoing	ongoing
cVDPV2	Yambio, Juba, Ulang, Nasir, Baliet, Ayod	19/Dec 2023	-	11	20	Not applicable	Completed 2 SIAs and 3 rd round planning is ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	11	5,822	-	ongoing	Done in 2021/22	ongoing	ongoing
Hepatitis E	Twic	Feb 2024	-	32	1	ongoing	Not done	ongoing	ongoing
Anthrax	Gogrial west (WRP) and Jur River (NBG)	2022	-	127	3	ongoing	Ongoing in animal sector	ongoing	ongoing
Hepatitis E	Abyei	June 2024	2	32	3	ongoing	no	yes	yes

Since 2022, South Sudan has experienced several emergencies throughout the country. Based on data from the states and the EWARS system, most counties have reported ongoing disease outbreaks. These outbreaks include measles, anthrax, meningitis, cholera, hepatitis E virus, and others. Measures have been put in place to help mitigate the spread of these outbreaks. Below is a map of the current ongoing emergencies

South Sudan: Counties That Reported Disease Outbreaks in 2024

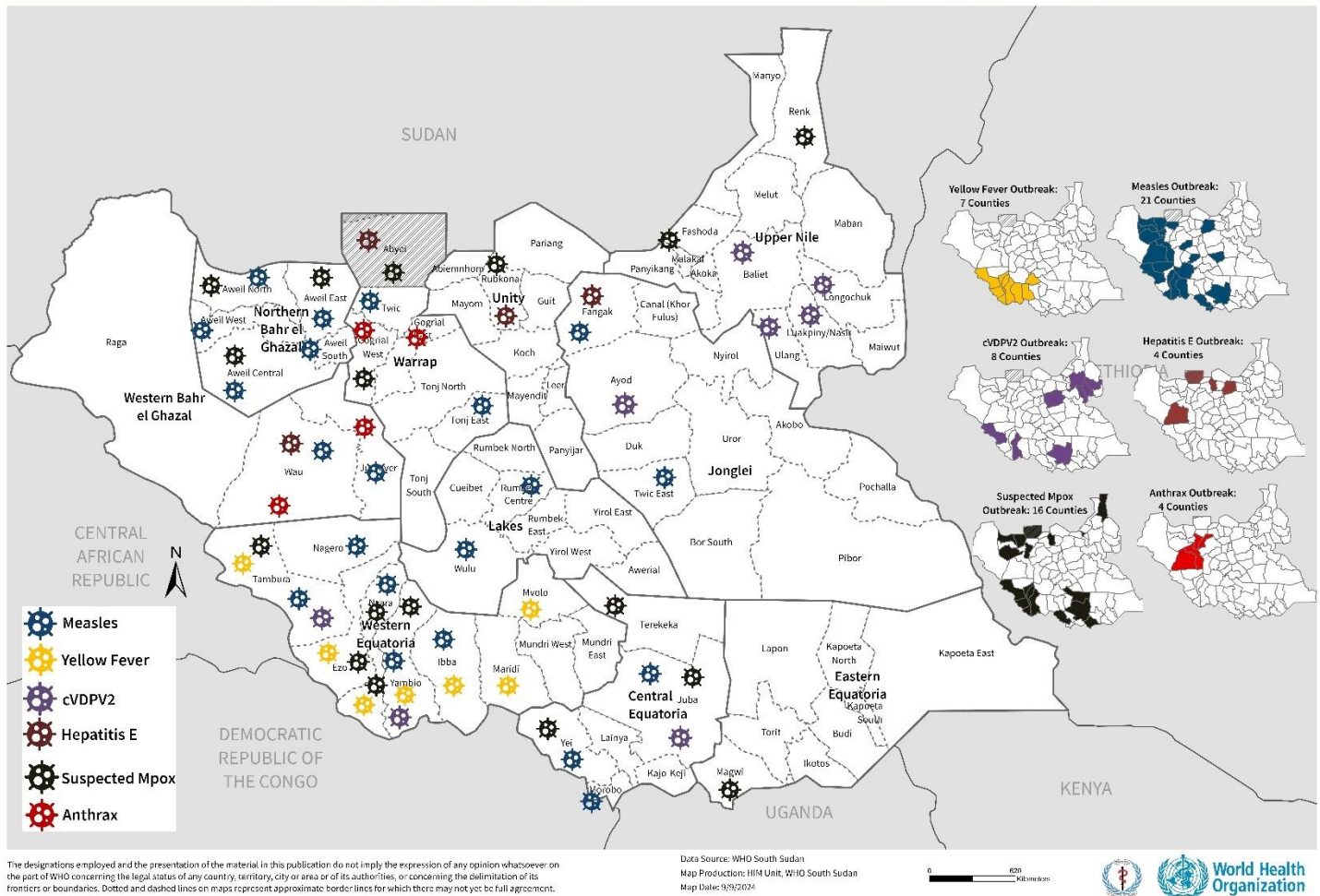


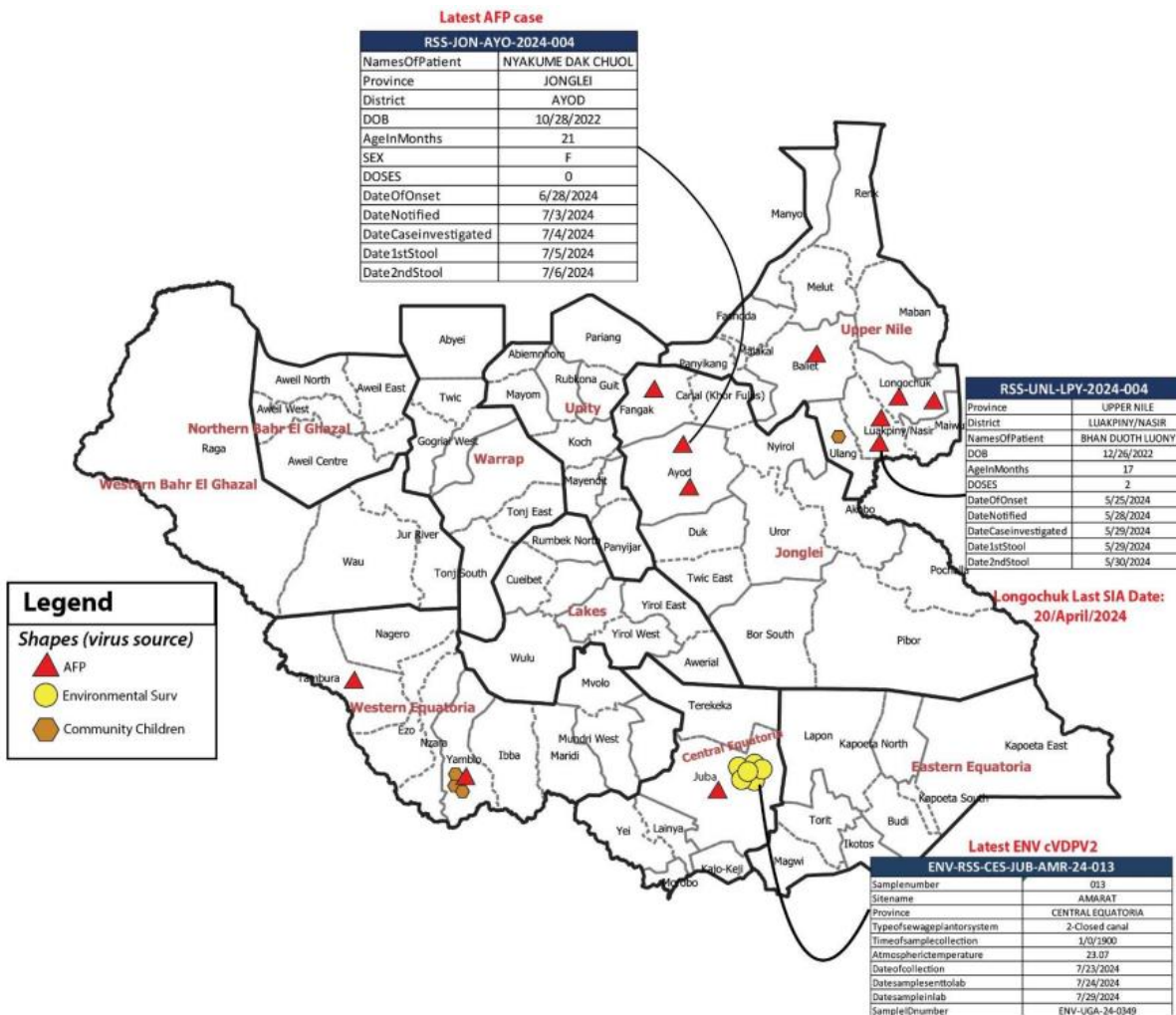
Figure 11: Map showing confirmed disease outbreaks across the country

Response activities for ongoing/suspected outbreaks

1. Circulating Vaccine Derived Polio Virus type-2 (cVDPV2)

The Ministry of Health declared the cVDPV2 as a public health emergency on December 22, 2023, following confirmation of PV2 Yambio. The total number of laboratory-confirmed cVDPV2 isolates from AFP cases are 11. Cases are reported from Yambio in Western Equatoria, Juba in Central Equatoria, Ayod in Jonglei, Baliet, Luakpiny/Nasir, and Longechuk in Upper Nile, and Tambura in Western Equatoria state. Four additional viruses were isolated from samples collected from healthy children sampled during outbreak investigation. Another three samples collected from contacts of AFP children also tested positive for the cVDPV2. In the last two months three cVDPV2 viruses were isolated from environmental samples collected from three environmental sites in Juba. The latest cVDPV2 virus isolates was from an ES sample collected on 23/7/2024 and confirms breakthrough transmission of circulating Vaccine Derived Polio Virus Type 2.

Figure 9: Distribution of cVDPV2 cases isolates (All sources)



The third outbreak response vaccination using nOPV2 is been approved and is planned for October 22nd to 25th, 2024. These dates are subject to change given the flooding and access constrained context of the rainy season. Given the inevitable delays in responding to the break-through transmission that was confirmed in July, its is the considered opinion of EPR that one round will a) not be adequate to interrupt transmission; b) provide nearly half of the annual birth cohort of South Sudan with only one dose of nOPV2 which only increases the risk of virus seeding and c) be poor quality is its implemented before the dry season is well established. In turn, EPR recommends two response rounds of nOPV2 SIAs, best timed in November and preferably deliver the Short Interval Dosing approach.

2. Anthrax

- No new human cases of Anthrax were reported in Epi week 35. Similarly no new death of human anthrax cases were reported in same reporting period.
- Cumulatively, a total of 144 human Anthrax cases including three deaths (CFR-2.1%) have been reported across South Sudan.
- Jur River in Western Bar-El Gazal State remained the highest recorded 80 cases (56.4% of all reported human Anthrax cases) representing attack rate of 32.6 per 100,000 population. Gogrial West County in Warrap State which detected and reported another 42.3% of the reported cases had an attack rate of 10.3 per 100,000 population.
- The majority (47.9%) of anthrax cases were in the 15-57 age group, followed by the 10 -14 age group which has 32 cases (22.5%), then 5-9 age group with 25 cases (17.6%), and lastly 0-4 age group with 17 cases (12.8%).
- Of all cases for whom gender was recorded, males were 66.9%(95 cases), while females were 31.7% (45 cases).

Overall, the reported cases range in age from 1 to 57 year

- Since the outbreak begun, a total of 356 animals have contracted the disease of which 189 have died representing case fatality rate of 53.1% in Animals
- A total of 1,741 animals have been vaccinated across three Boma (Majok-Yienhliet, Malual-lukluk and Waar-Alel/Kuajok).
- The World Health Organization (WHO) has identified and supported 17 health facilities to support Anthrax case management. To the NGOs delivering health services in these health facilities, WHO approved the shipment of 11 Interagency Emergency Health Kits (IEHK), containing supplementary medicines and various laboratory materials. In the affected states, One Health stakeholders are working on community-based waste management initiatives to mitigate the risk of Anthrax transmission. WHO working with FAO has developed and disseminated radio jingles in English and major local languages (Luo and Dinka) to complement the community engagements.

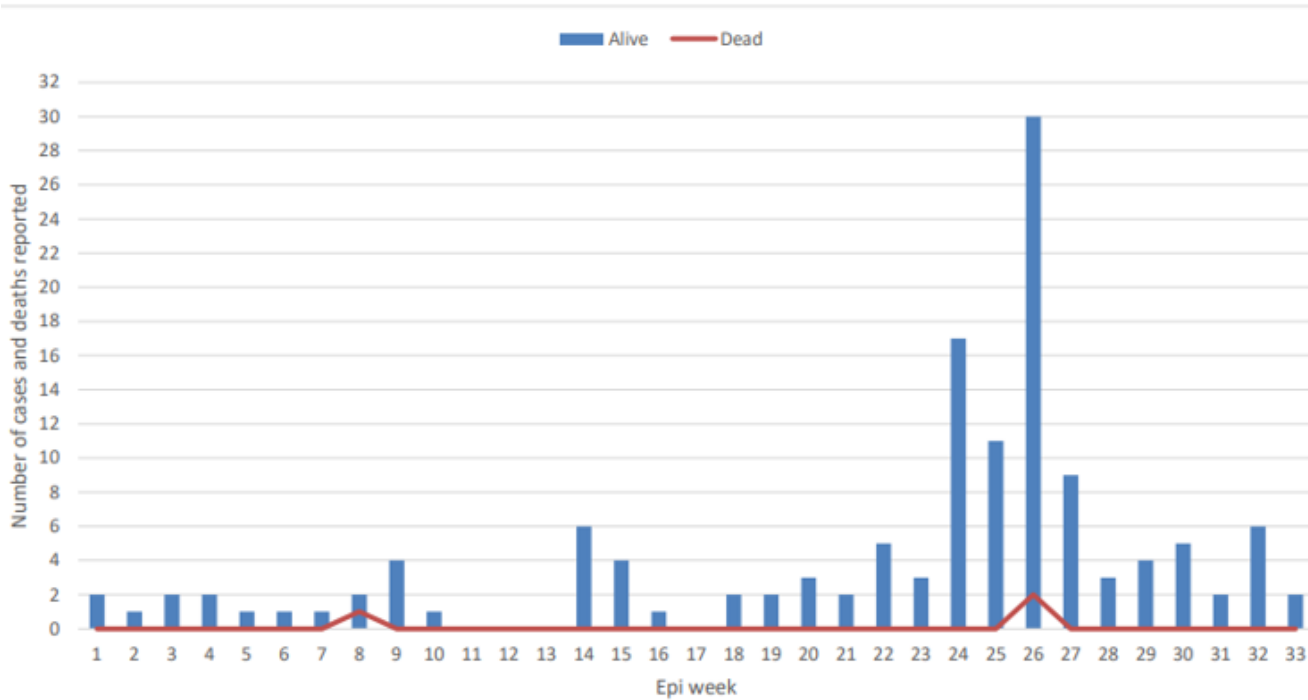


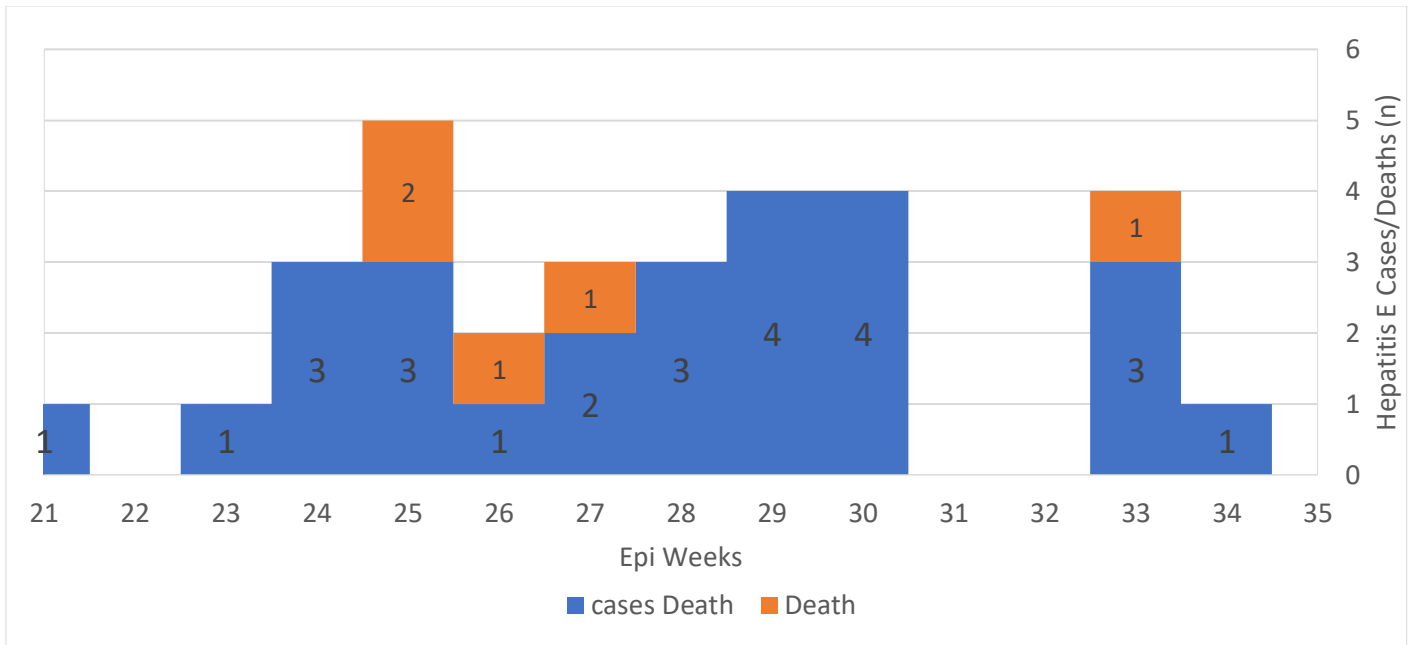
Figure 10:: **Epidemiological Curve showing Cases and Death of Anthrax cases in South Sudan; (Wk. 1 -35, 2024)**

3.Hepatitis E in Abyei

In week 35 no new cases of hepatitis E were reported. Cumulatively 32 cases were reported from week 1 to 35. line listed including (4) four deaths giving case fatality rate of 13.3%. Three tested positive by PCR out of the 5 samples sent to the National Public Health Laboratory in Juba and almost all samples tested positive by using RDT. Most of the cases came from Ameth about Payam with Aybei.

Analysis of confirmed Hepatitis E cases by age shows that 87% (29/32) of the cases were 15 years and above. Females accounted for 53% of the detected and confirmed Hepatitis E cased in Abyei Administrative Area. currently MSF is supporting Hepatitis E case management. The Ministry of health in Abyei in consultation and guidance from the Ministry of Health have declared an outbreak of hepatitis E in the state

Figure 11: **Epidemiological curve showing HEV cases in Abyei Administrative area as of week 35, 2024.**



3. Hepatitis E outbreak in Bentiu IDP Camp in Unity State

- In week 35 of 2024, there were 11 newly reported cases, with 6 RDT positive and zero death.
- Since the start of outbreak in 2018, a total of 5, 822 cases have been documented, with 33 resulting in deaths.
- Among individuals aged 15 to 44 years, 43% of the reported cases were recorded (figure 19 below).
- Males represented 52% (3, 047 cases) of the total cases, while females accounted for 48% (2,775 cases).
- The data illustrated in the provided chart displays the distribution of HEV cases based on the patients' place of residence, both within and outside Bentiu PoC (see figure 18 below).
- Predominantly, the cases were identified in individuals living outside the confines of Bentiu PoC, who subsequently visited the healthcare centres situated within the PoC for medical assistance (see figure 15 below).

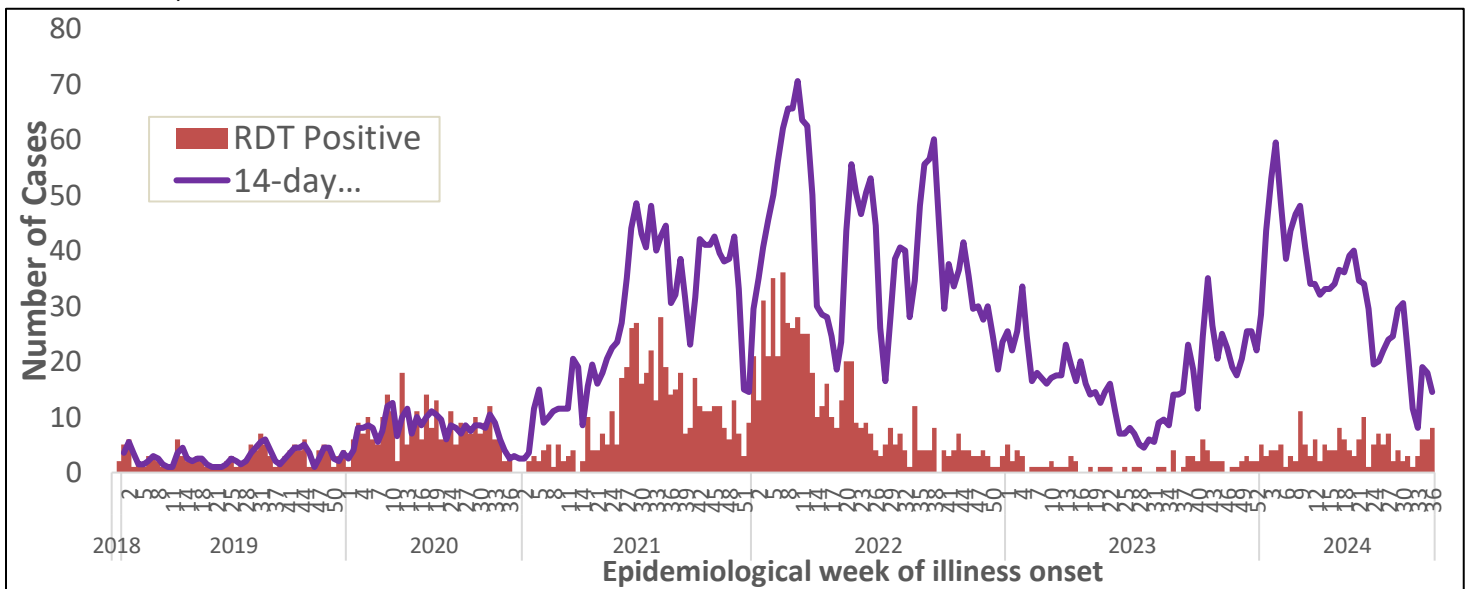


Figure 12: Epicure of HEV in Bentiu IDP camp, Unity State; Epi Week 52 of 2018 to Week 35 of 2024

Other Events

Sudan crisis: 774 307 individuals crossed into South Sudan from at least 21 points of entry. Cumulatively at least 779 724 individual have crossed into South Sudan from 18 Nationalities with 75.94% of the influx were south Sudanese returnees. Currently, 21 PoEs are being monitored, with Joda-Renk accounting for 68% of the reported influx figures. Hostcommunities and healthcare systems are struggling to cope with the increased demand for health and other services, morbidity, and mortality among returnees and refugees. Since week 29, there was a significant increase in the number of people seeking refuge in Renk Town from the conflict in Sinja, the capital of Sinnar State in Sudan, located east of Renk County.

Food insecurity in 2023, severe acute food insecurity impacted an estimated 7.7 million people across 78 counties in South Sudan. This includes 43,000 people facing catastrophe-level food insecurity at Integrated Food Security Phase Classification (IPC) Phase 5, 2.9 million at IPC Phase 4 (emergency-level), and 4.8 million at IPC Phase 3 (crisis-level). Among those affected are 1.4 million malnourished children. For 2024, it is estimated that millions of people will still be unable to meet minimum food needs as food stocks could be depleted by April 2024. Additionally, ongoing sporadic conflicts and the influx of returnees and refugees from Sudan is likely to strain food supplies and incomes further, driving severe malnutrition.

Flooding There is an expectation of extensive flooding to occur in South Sudan in 2024 due to two separate climatic events. The tail end of the 2023-24 El Niño event is leading to significantly above-average rainfall in Uganda, which increases the water level of the White Nile, leading to increased flood risks downstream in South Sudan. Additionally, the onset of the El Nino event in 2024 is projected to lead to approximately 50% higher levels of rainfall in the northern and easter parts of South Sudan, which not only further exacerbates the flood risk along the White Nile and its tributaries but will also contribute to flooding in more distant regions, like those occurring during the triple-dip La Niña event of 2020-2023. Historical data indicates a peak in flooding around September.

Floods have impacted 472,000 people across 26 counties since the end of August. The affected counties include states that are already grappling with various challenges such as previous floods, ongoing conflict, displacement, food insecurity, and the broader regional impact of the Sudan crisis. A total of 21 health facilities reported flooding by the end of August 2024.

Ongoing coordination with the Ministry of Health supporting response coordination at national and sub-national levels through weekly cluster and inter-cluster coordination meetings. As part of the preparedness plan, the MoH, WHO, and Health Cluster have developed the 2024 South Sudan Health Sector Flood contingency and response plan. The Health Cluster partners will support the Ministry of Health in implementing this plan, although a key limitation will be the availability of funds. The estimated budget needed for the response is USD 63 million.

Acknowledgments

Thanks to the State Surveillance Officers, Health Cluster partners for sharing the weekly IDSR data. To access the IDSR bulletins for 2024 use the link below:

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 healthpooled fund (HPF) partners who have reported the data used in this bulletin. We would also like to thank ECHO, USAID and the World Bank 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>

Data source: DHIS-2 and EWARS

