Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 36

02 to 08 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 partner and health cluster humanitarian agencies that continue to support integrated disease surveillance and response.

Highlights for the current reporting period

- In week 36 of 2024, IDSR reporting timeliness was 64% and completeness was 86%. The timeliness has remained at 64% as in the previous week, while completeness has slightly increased to 86% compared to 84% reported in the previous week. When both timeliness and completeness of reporting are used, GPAA, Unity, and Central Equatoria were the best performing states in the reporting week. Western Equatoria, Lakes, Eastern Equatoria and Northern Bahr el Ghazal could attain both indicators with minimal support to increase timeliness of reporting.
- At the EWARN mobile sites, the Timeliness and Completeness of IDSR performance were at 47% and 47%, respectively. This is almost similar to the performance of these sites in the previous epi week 35.
- In week 36, 336 alerts were triggered in the EWARS, and the proportion of verified alerts decreased from 80% to 46%. Most of the alerts trigged were Malaria (24%), AWD (21%), ARI (16%), ABD (14%) and Guinea Worm (13%).
- A total of 80 suspected cases of Monkeypox have been reported from 5 States and 1 administrative area and Seventy-nine (79) of the tested samples were negative for Mpox
- In week 36 of 2024, Malaria continued to be the primary cause of illness, reporting 116 827 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 affected.

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 36 were at 64% and 86%,** respectively, which was an improvement from the attainments from the previous week.

Table 1*: Timeliness and completeness of IDSR reporting by State for week 35 compared to 36, of 2024.*

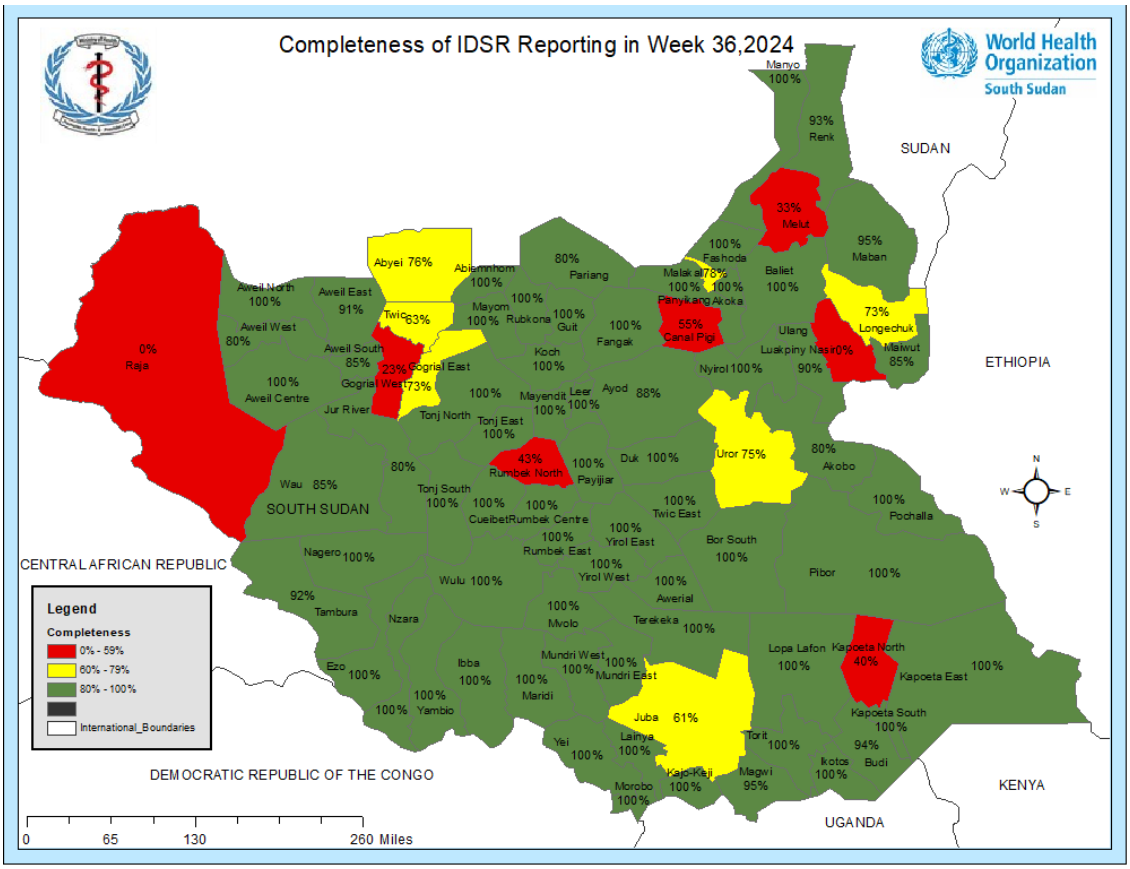
State	Total facilities	Number of facilities reported (Completeness)Wk36	Current Reporting Period				Cumulative since (2024)	
			Timeliness		Completeness			
			Week.36	Week. 35	Week.36	Week. 35	Timeliness	Completeness
Lakes	112	108	70%	79%	96%	94%	85%	98%
NBGZ	87	79	72%	17%	91%	71%	83%	93%
Unity	84	84	94%	93%	100%	100%	94%	100%
WBGZ	113	83	65%	42%	73%	68%	60%	74%
WES	192	191	74%	82%	100%	100%	79%	93%
Jonglei	120	108	67%	63%	90%	65%	80%	86%
Warrap	114	77	33%	32%	68%	75%	67%	85%
EES	112	102	77%	53%	91%	80%	75%	87%
RAA	19	16	32%	32%	84%	84%	39%	59%
CES	152	125	78%	98%	82%	99%	87%	95%
AAA	17	13	76%	100%	76%	100%	72%	79%
Upper Nile	143	114	34%	54%	80%	74%	58%	79%
GPAA	16	16	94%	88%	100%	88%	100%	91%
Total	**1280**	**1117**	**66%**	**64%**	**87%**	**84%**	**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 36 of 2024.

Partners	# Of Reporting Mobile Sites	% Of Timeliness in week 36	% Of Completeness in week 36	Payam	# Of Reporting Private Health Facilities	% Of Timeliness in week 36	% Of Completeness in week 36
IMC	4	0%	0%	Kator	3	67%	67%
SSHCO	1	0%	0%	Marial Baai	1	0%	100%
SMC	1	0%	0%	Northern Bari	1	0%	0%
SCI	2	50%	50%	Rajaf	3	0%	0%
HFO	4	75%	75%	Muniki	12	8%	8%
WVI	2	100%	100%	Wau South	20	75%	75%
CIDO	1	100%	100%	Wau North	12	75%	75%
TOTAL	15	47%	47%	Juba	10	70%	70%
				Managala	1	100%	100%
				TOTAL	63	56%	57%

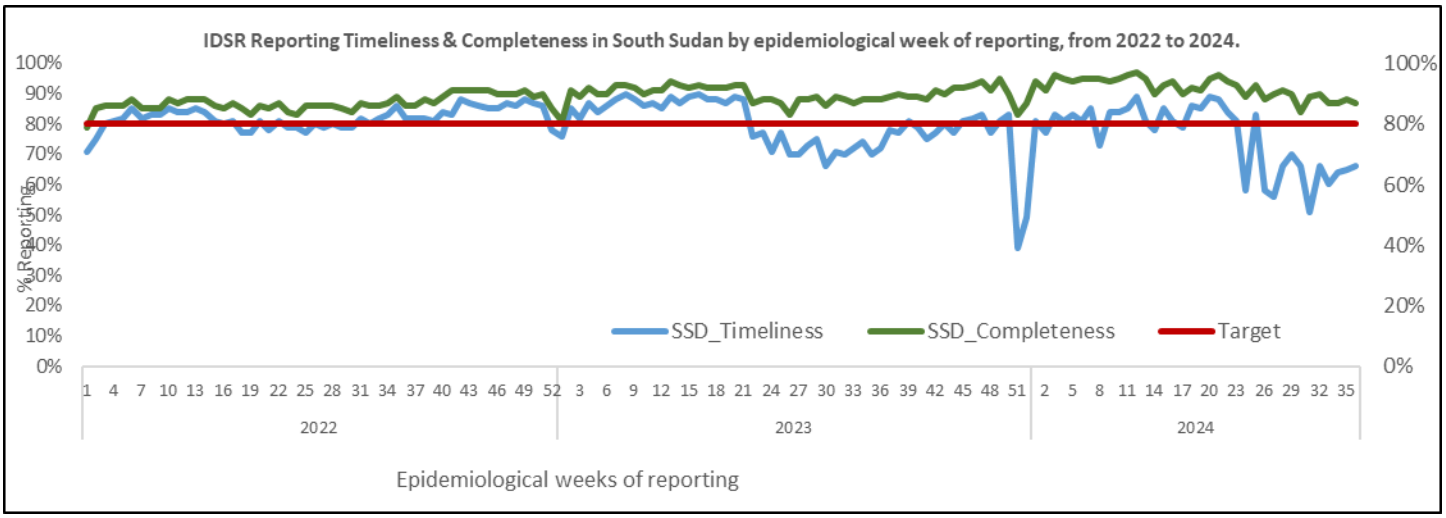
Important point to note: The six facilities supported by IMC (4), SSHCO (1), and SMC (1) are no longer reporting due to end of project funding which has affected the performance of partners reporting sites.

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



Given the consistent under-performance of timeliness of IDSR reporting, we continued to analyze the performance over the past three years to keep track of the declines in 2024 (Wk 21-36) as we prepare for the annual IDSR surveillance review scheduled in October 2024. In this HSTP transition period, we shall continue to provide targeted support to the newly contracted health implementing partners for this surveillance performance indicator to recover.

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



EWARS alerts reporting and Verification

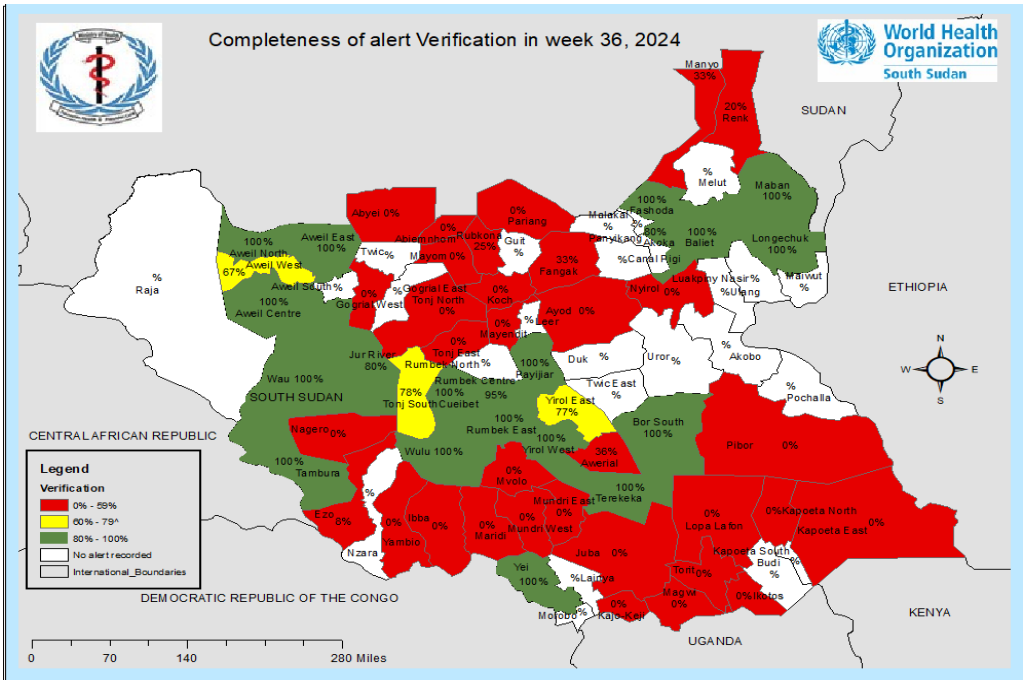
A total of 336 alerts have been triggered in the EWARS system, with 46% (154/336) verified in the system which is much lower than the previous week (35). Most of the alerts were for Malaria (24%), Acute Watery Diarrhea (AWD) at21%, Acute Respiratory Infections (ARI) at16%, Acute Bloody Diarrhea (ABD) at 14% and Guinea Worm (13%). Western Equatoria which had a confirmed Yellow Fever outbreak in December 2023, did not detect or report any alert of Acute Jaundice Syndrome (AJS) for the 9th consecutive week. See Table 3 below for more details.

Table 3*: Summary of EWARS alerts triggered in Epidemiological week 36, 2024.*

State/ Admin	AJS		ARI		AWD		AFP		Acute Bloody Diarrhoea		Cholera		EBS		Guinea Worm		Malaria (Confirmed)		Measles		Grand Total	
	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V
AAA	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
CES	0	0	10	2	6	1	1	0	1	0	0	0	0	0	0	0	6	1	0	0	24	4
EES	1	0	1	0	4	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	10	0
GPAA	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Jonglei	1	0	3	1	3	1	0	0	3	1	4	4	0	0	5	0	4	2	0	0	23	9
Lakes	0	0	13	12	17	16	0	0	4	4	2	2	17	8	28	28	16	14	0	0	97	84
NBGZ	0	0	4	4	6	5	0	0	1	0	0	0	0	0	0	0	5	5	0	0	16	14
RAA	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3	0
GPAA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unity	2	0	5	0	0	0	0	0	3	1	0	0	2	1	0	0	5	1	0	0	17	3
U/Nile	0	0	4	2	6	3	0	0	11	6	0	0	0	0	1	0	10	7	0	0	32	18
Warrap	0	0	0	0	10	2	0	0	2	1	0	0	1	0	5	3	8	1	0	0	26	7
WBGZ	1	1	1	1	0	0	0	0	1	1	0	0	0	0	4	4	1	0	0	0	8	7
WES	0	0	12	0	17	1	1	0	15	3	0	0	1	1	0	0	27	2	5	1	78	8
Grand Total	**5**	**1**	**53**	**22**	**69**	**29**	**2**	**0**	**48**	**17**	**7**	**6**	**2**	**0**	**43**	**35**	**82**	**33**	**5**	**1**	**336**	**154**

#R= reported #V= verified

Figure2: Completeness of Alerts Verification rates by county of South Sudan for week 36, 2024



Updates on Monkeypox Readiness

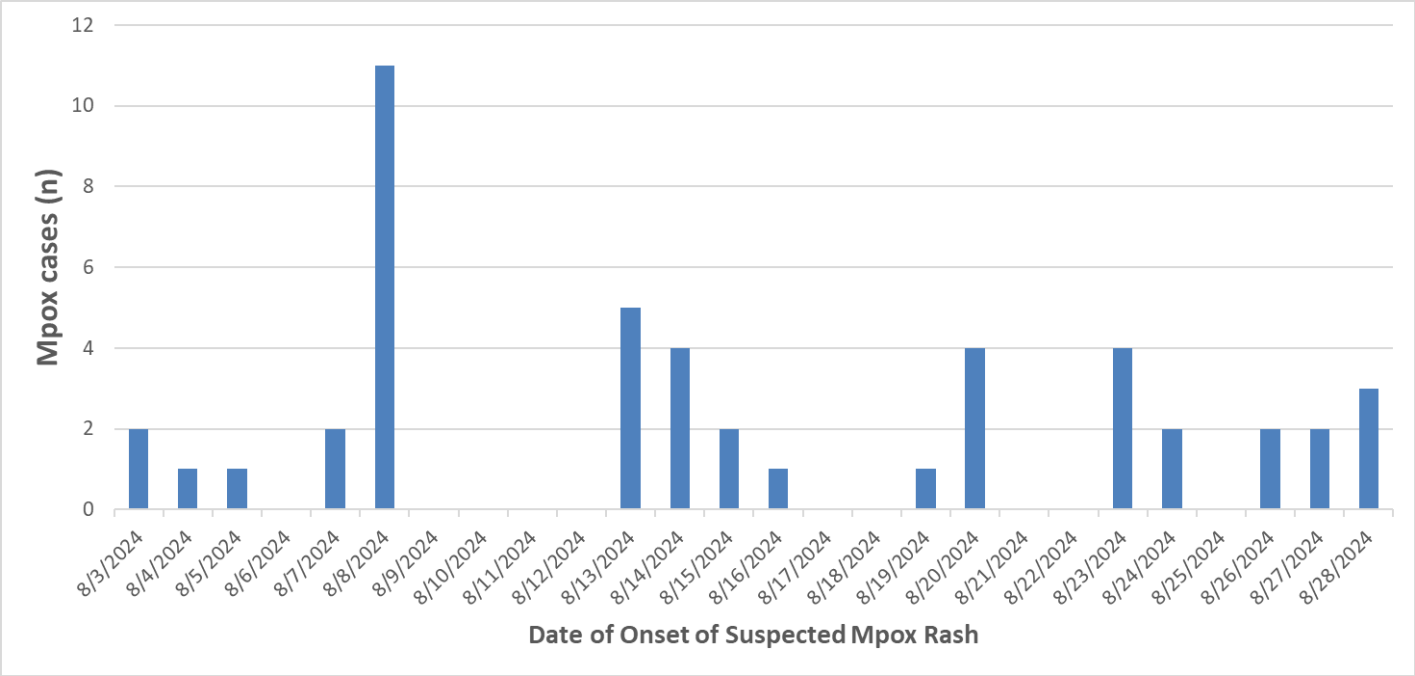
The latest update on the suspected Mpox cases is given as follows:

- During week 36 of 2024, a cumulative total of 80 suspected Mpox cases have been reported across 5 states and one administrative area.
- Alerts have been received from Central and Western Equatoria, Warrap, Northern Bahr el Ghazal, Upper Nile, Unity, and the Abyei Administrative Area.
- Out of these, 79 samples have been verified and samples collected for laboratory confirmation. 1 sample earlier tested for Mpox was found to have been a measles sample that was badly labeled and has been discarded off the list of suspected cases and samples tested.
- Seventy-nine (79) of the tested samples were negative for Mpox using the PCR testing algorythm.
- Twenty-one (21 of the 79) samples were sent to UVRI for re-testing confirmation (part of NPHL Quality Assurance) and metagenomic sequencing. All 21 re-tests were reported by the reference laboratory as negative for MPOX, also using PCR. Meta-genomic sequencing analysis is still pending at UVRI.

Mpox readiness and response Intervention actions

- Activation of the Public Health Emergency Operations Centre to alert mode.
- Mpox readiness and response coordination meetings are held every Monday, Wednesday, and Friday at 8:30 AM.
- Active case finding and contact tracing are currently underway in alert-reporting counties across six states.
- The National M-Pox Preparedness and Response Plan has been finalized and is awaiting validation in a planned Tabletop Simulation Exercise planned for October 2023.
- A risk assessment in high-risk regions is scheduled effective 22nd September and will prioritise three priority geographies namely Nimule, Kajokeji, and Yambio counties bordering Uganda and DRC.
- Six Mpox PCR kits (reagents and Probes) have been provided by WHO, CDC, EAC, and NICD to enhance the surveillance and testing capacity of the National Public Health Laboratory.
- Infection Prevention and Control (IPC) and case management assessment were conducted at the Infectious Diseases Unit along Yei Road, and the report has been shared to guide priority interventions for accelerating readiness in these streams of work.
- Mapping of partners has been completed to identify areas of support.
- All Mpox tools have been widely distributed for use at national and sub-national levels to strengthen surveillance.

Figure 3; Epidemic curve for Suspected Mpox Cases Detected/reported in South Sudan; as at Epi Week 35 of 2024.

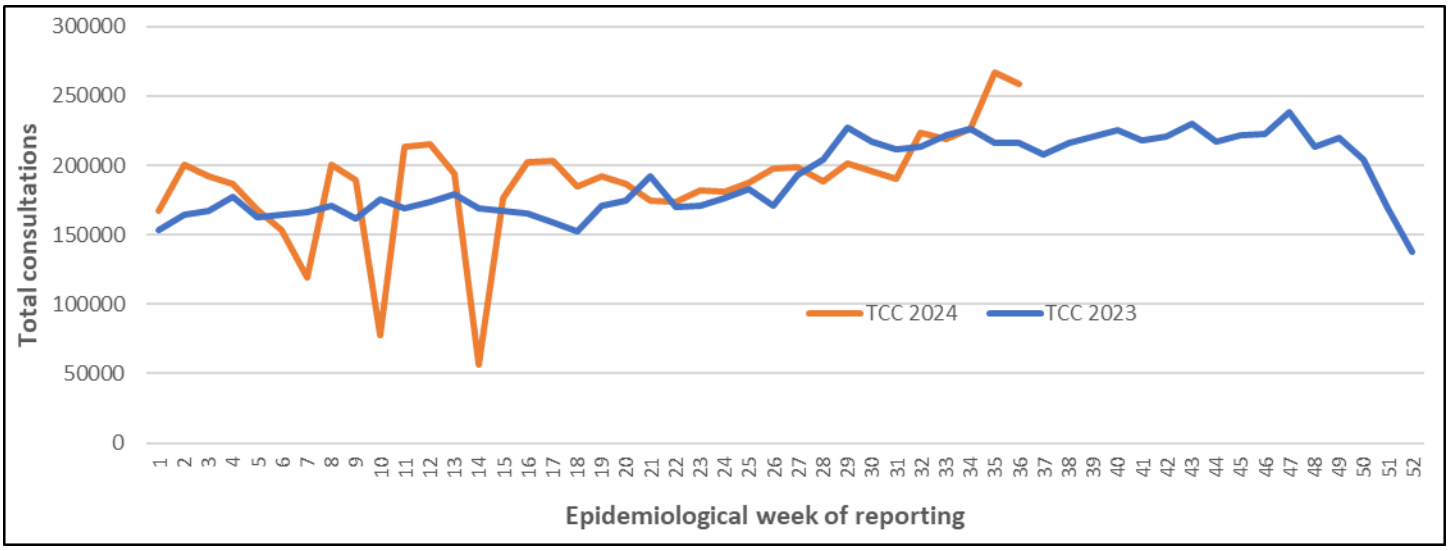


Weekly Update on Indicator-Based Surveillance (Week 36).

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

- During week36 of 2024, individuals aged five and above had the highest number of consultations to the outpatient department (OPD).
- Since the beginning of this year, a total of 6 743 686 patients have been treated in both the outpatient and inpatient departments.
- Comparing the utilization of healthcare services in 2023 and 2024 reveals fluctuating trends, suggesting variations in the weekly number of consultations (Figure 4 below).

Figure 4: Trends of cumulative curative/OPD consultations reported in the Monthly DHIS reporting: 2023-2024.



In week 36, a total of **258 303** morbidities were reported from all over South Sudan from across 1 280 health facilities. Malaria was the top cause of morbidity accounting for 45% of all cases, followed by Acute respiratory illnesses (17%) and acute watery diarrhea (6%) (Figure 5 below).

Figure 5: IDSR Proportional Morbidity in week 36 of 2024.

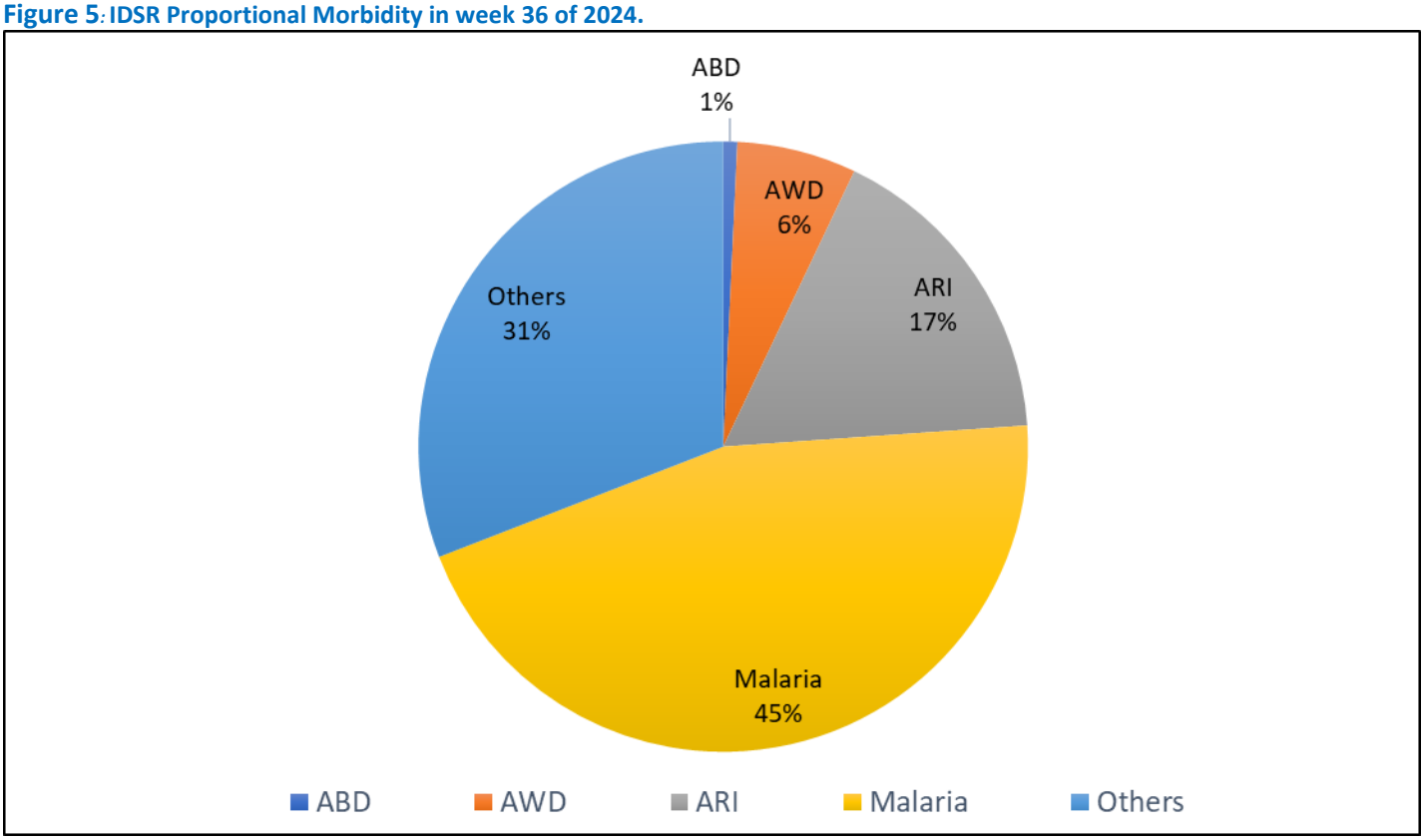
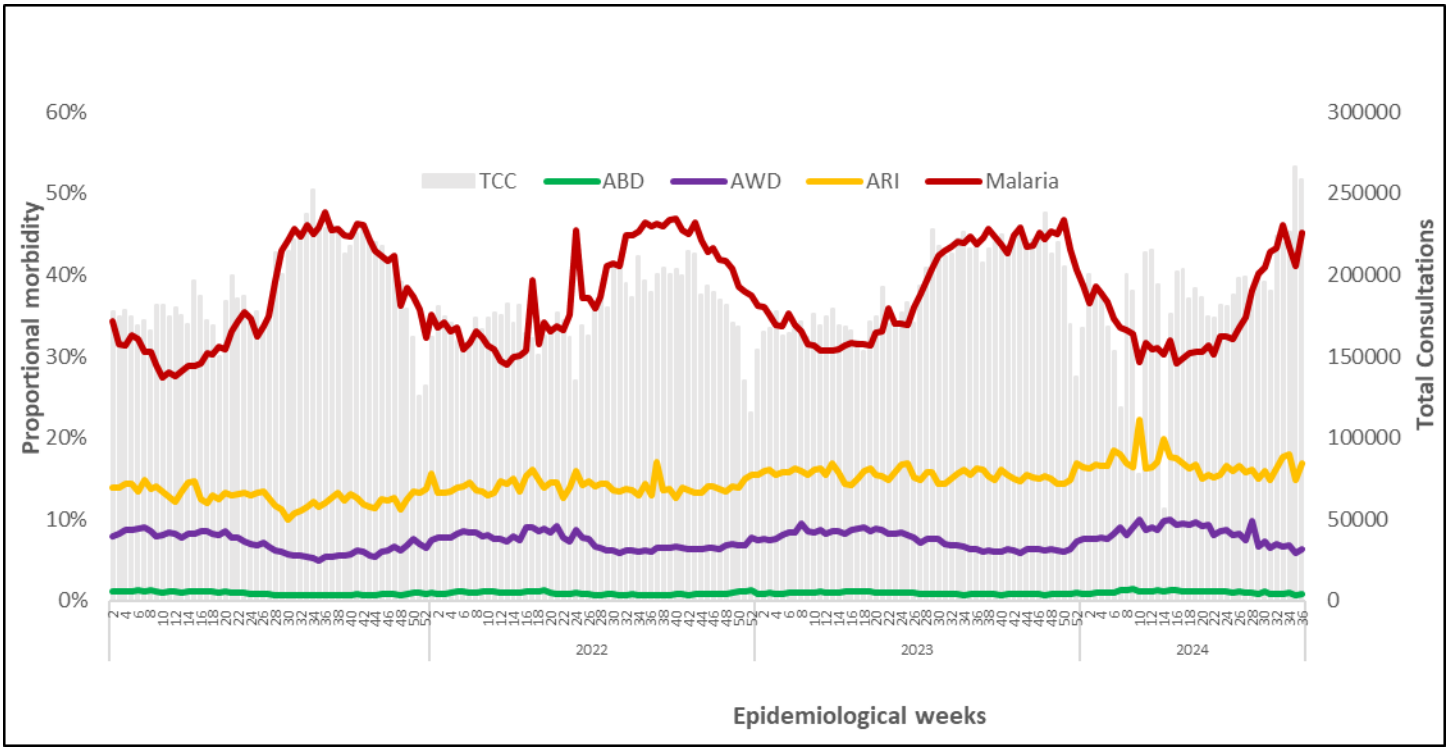


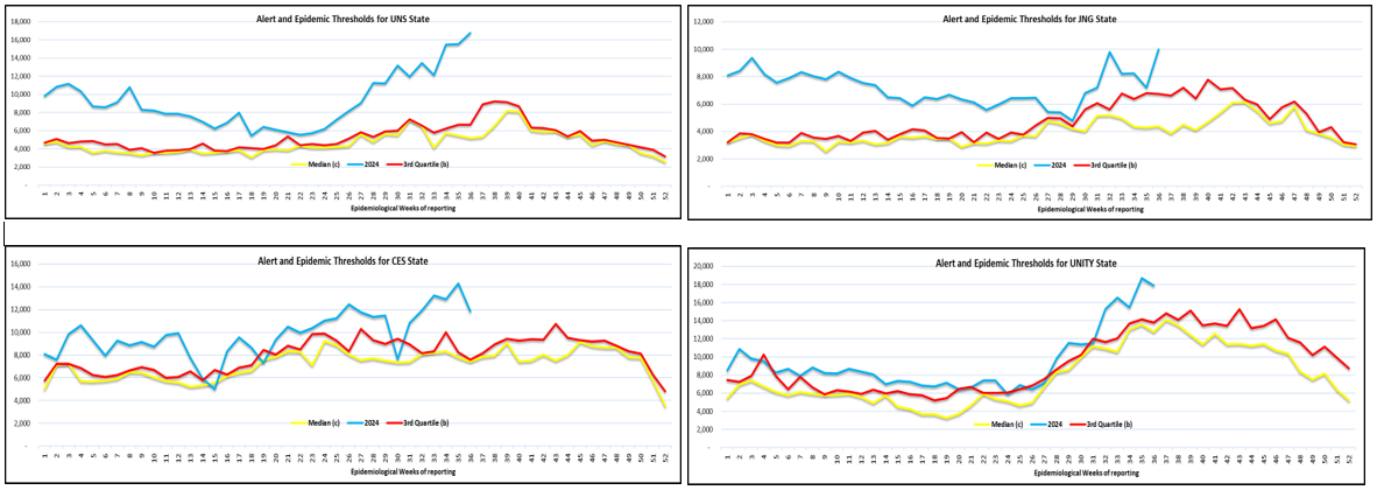
Figure 6: **IDSR proportional morbidity for top three diseases in South Sudan 2021 to 2024 by epidemiological week.**



National Malaria Update

- In week 36 of 2024, Malaria is the primary cause of illness, reporting 116 827 cases and 30 suspected fatalities, representing 45% of the overall morbidity.
- The general state of Malaria nationally in week 36 of 2024 is above the epidemic threshold; however, continuous monitoring is crucial across all levels, especially at the county and health facility levels.
- Based on the analysis of this week's trends, 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 periods studied from week 1 to week 36 of 2024. Please reference the figures provided below for the state's trends from 2022 to 2024.

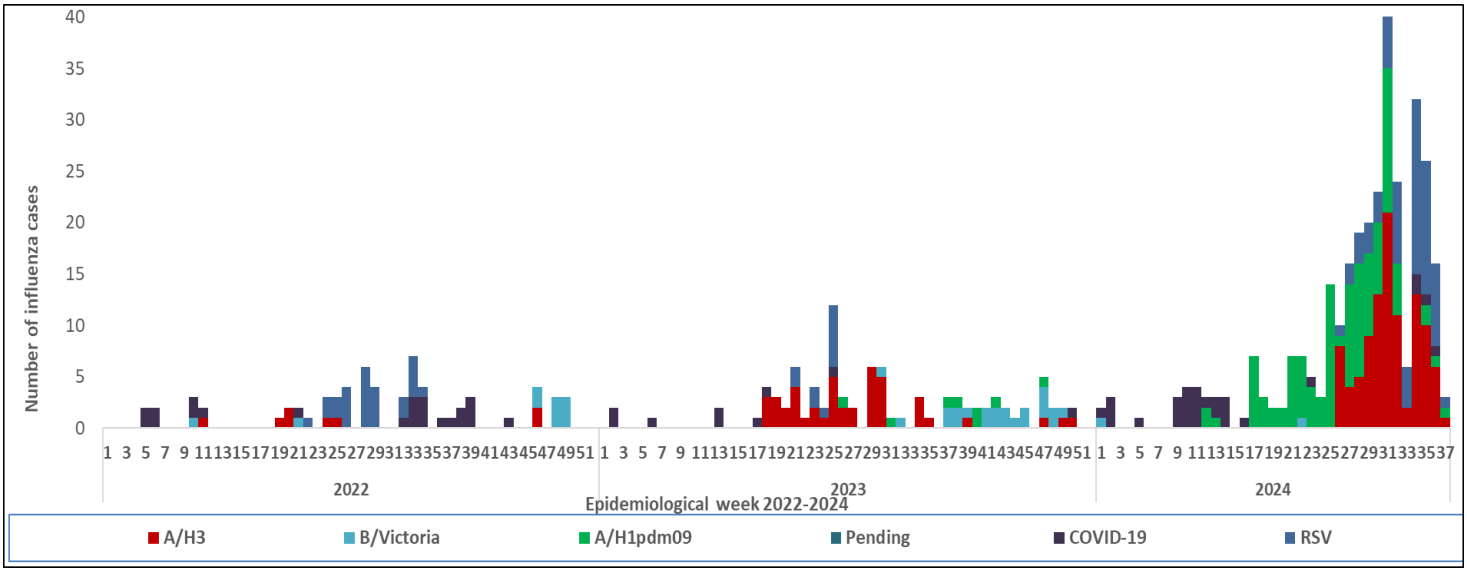
Figure 7: Malaria Incidence Trends in States of South Sudan with higher than expected cases, Week 36 of 2024.



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 8: Confirmed Influenza, COVID-19 and RSV cases from sentinel sites Epidemiological Week 1, 2022 to Week 36, 2024.



During Epidemiological Weeks 1 to 36 in 2024, a total of 1544 ILI/SARI samples have been collected; 1252 tested negative for all pathogens, (28) were positive for COVID-19, (102) for Influenza Type A (H3), (2) for Influenza Type B (Victoria), (90) for Influenza A/(H1N1)pdm09 and (70) for RSV.

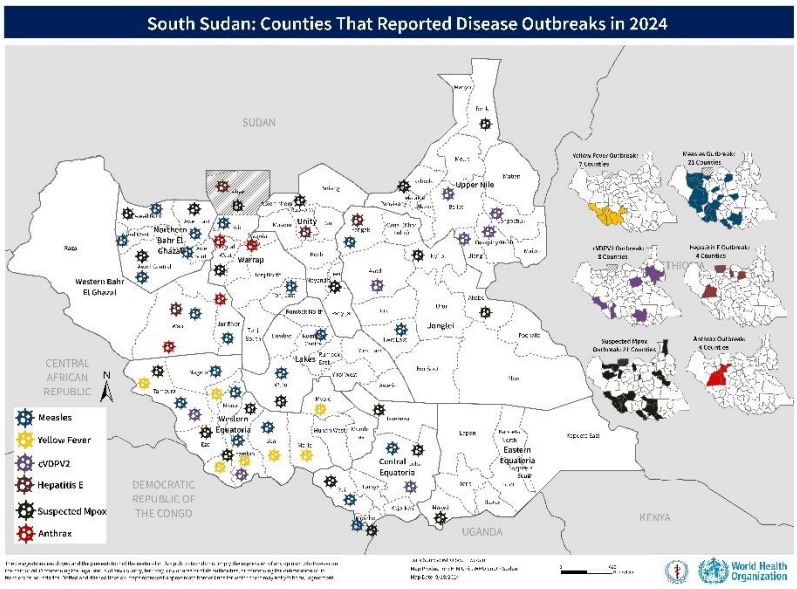
Confirmed and congoing epidemics in 2024

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
Ongoing outbreaks									
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 3rd 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	4	146	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.

Figure 9: *Map showing confirmed disease outbreaks across the country.*



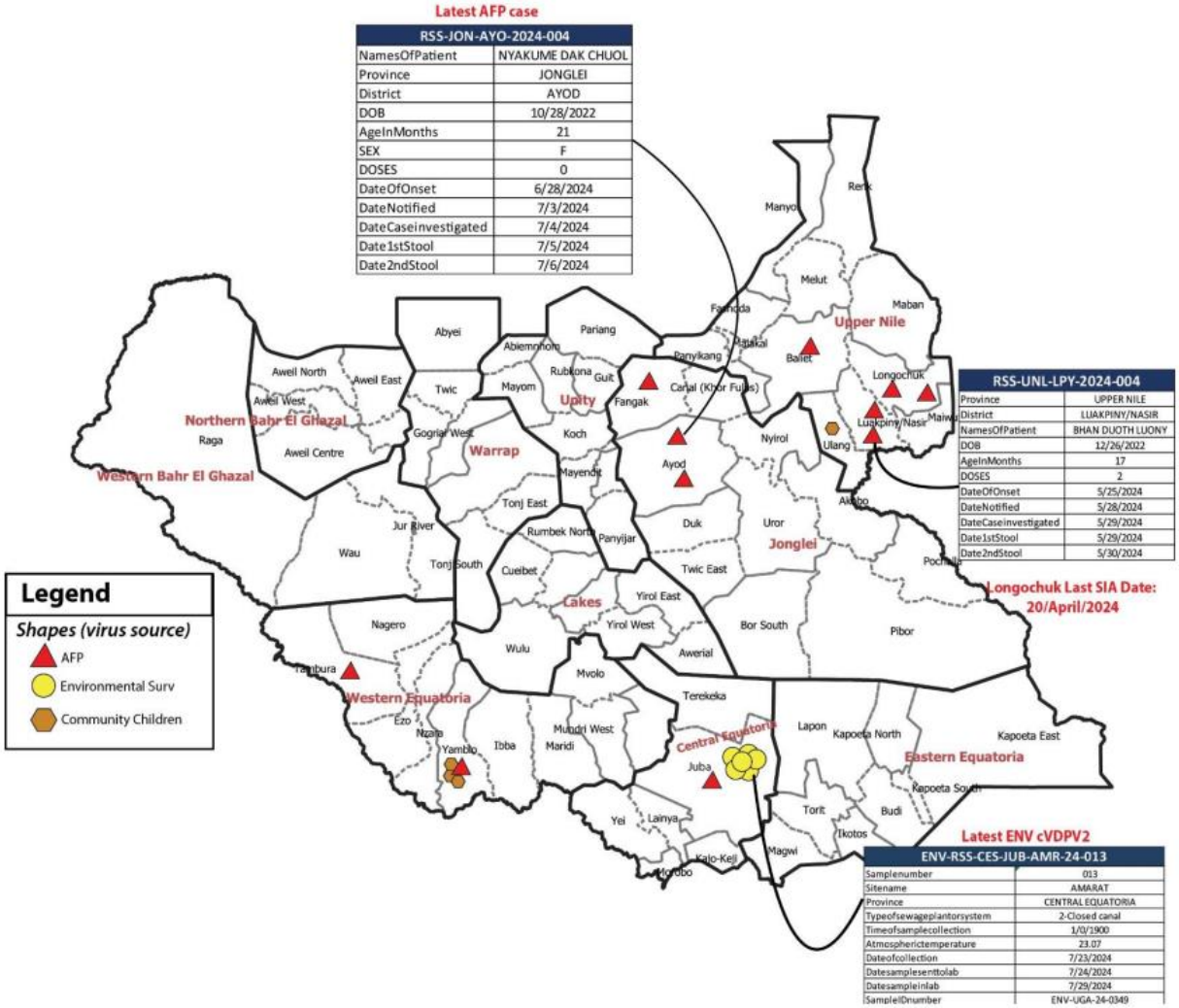
Response activities for ongoing/suspected outbreaks

Poliomyelitis

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 10: Distribution of cVDPV2 cases isolates (All sources).



The third outbreak response vaccination using nOPV2 has been approved and is confirmed for October 22nd to 25th, 2024. Funding from GPEI has been received in country and implementation dates will only change by the country context of flooding and access constraints of the rainy season. The country team is already aware of the delayed response to the break-through transmission and is considering to deliver the Short Interval Dosing approach in the high-risk counties, in addition to trial of digital micro-planning tools to ensure that the number of missed children in each response vaccination round is brought to a bare minimum of less than 5%.

2. Anthrax

- No new human case of Anthrax is reported in week 36. of the cumulative number of human Anthrax cases in South Sudan remained 146 including three deaths (CFR-2.1%).
- Jur River in Western Bar-El Gazal State remained the most affected with 84 human anthrax cases representing attack rate of 32.6 per 100,000 population, followed by Gogrial West County in Warrap State with an attack rate of 10.3 per 100,000 population.
- Most anthrax cases were in the 15-57 age group, accounting for 62 cases (47.9%), followed by the 10 -14 age group with 32 cases (22.5%), the 5-9 age group with 25 cases (17.6%), and the 0-4 age group with 17 cases (12.8%).
- Males accounted for 95 cases (66.9%), while females accounted for 45 cases (31.7%). Overall, the reported cases range in age from 1 to 57 year.
- Since 2024, a total of 736 animals have contracted the disease of which 569 have died representing case fatality rate of 77.3 % 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 17 health facilities. It has approved the shipment of 11 Interagency Emergency Health Kits (IEHK), containing supplementary medicines and various laboratory materials to the affected state. At the state level, One Health stakeholders are working on community-based waste management initiatives to mitigate the risk of Anthrax transmission.

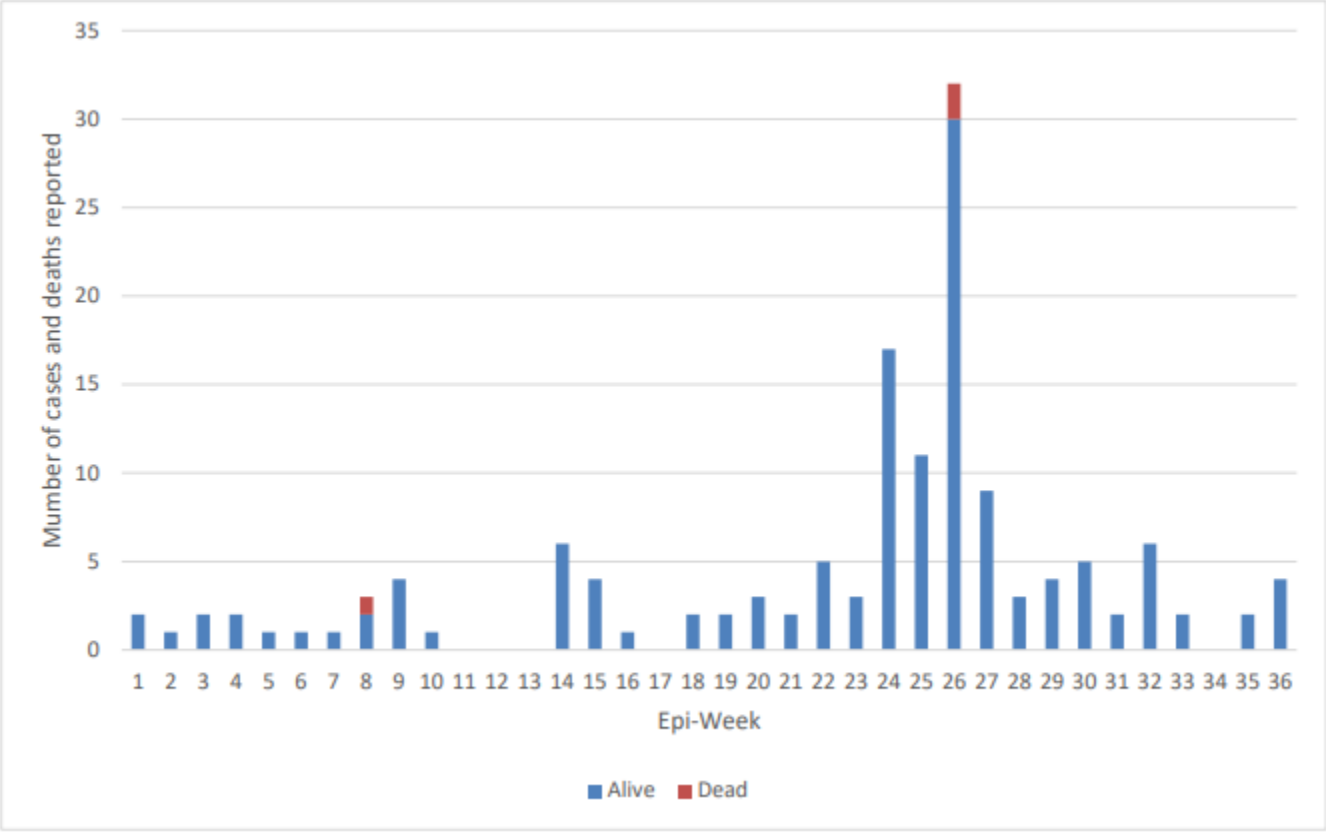


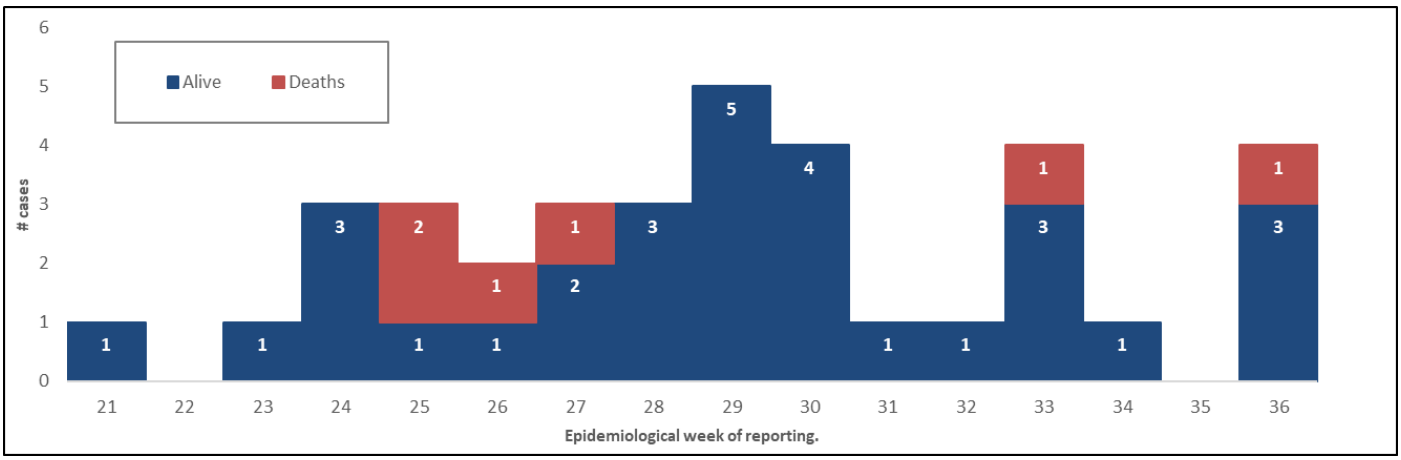
Figure 11: **Epidemiological Curve showing Cases and Death of Anthrax cases in South Sudan; (Wk. 1 -33, 2024).**

3.Hepatitis E in Abyei

In week 36 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.

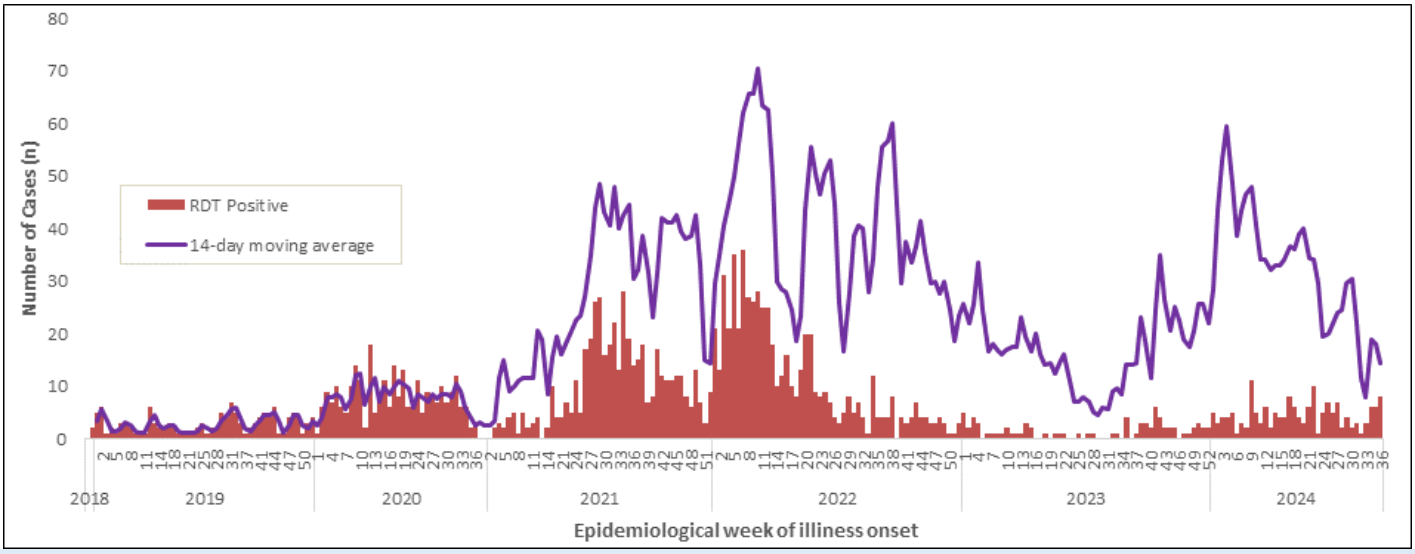
Figure 12: Epidemiological curve showing HEV cases in Abyei Administrative area as of week 36, 2024.



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

- In week 36 of 2024, there were 19 newly reported cases, with 8 RDT positive and zero death.
- Since the start of outbreak in 2018, a total of 5, 841 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, 057 cases) of the total cases, while females accounted for 48% (2,784 cases).
- Age group 15 to 44 years old account for 43 cases out of the total number of cases recorded.

Figure 13*: Epicure of HEV in Bentiu IDP camp, Unity State; Epi Week 52 of 2018 to Week 36 of 2024.*



Other Events

Sudan crisis: As of Week34, at least ***802 841*** individuals have crossed from 18 different nationalities. Of this number, ***75.84% (608 883)*** are South Sudanese returnees and 23.5% are Sudanese refugees. 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. During week 32, 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:
https://www.afro.who.int/countries/south-sudan/publication/south-sudan-weekly-integrated-disease-surveillance-and-response-bulletin-2024

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The data has been collected with support from the EWARS project. This is aninitiative 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

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