Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 27
01-07 July 2024

Background

This weekly bulletin presents the epidemiological status of priority diseases, conditions under surveillance, and public health events in South Sudan. The data presented in the bulletin come from various actors involved in preparedness and response to public health events in the country.

Highlights for the current reporting period

- In week 27 of 2024, the IDSR reporting timeliness and completeness were 56% and 87% respectively, which is a reduction in Timeliness from the 78% and slight increase in Completeness from the 86% reported in the previous week.
- At the EWARN mobile sites, the Timeliness and Completeness of IDSR performance were at 93% and 100% respectively.
- In week 27, 196 alerts were triggered, and the proportion of verified alerts decreased from 71% (207/146) in week 26 to 69% (135/196) in week 27. Most of the alerts in week 27 were for Malaria (27%), Guinea Worm (18%), AWD (18%), ABD (16%) and ARI (10%).
- Malaria is the leading cause of morbidity attributing to 47% of all the consultations followed by ARI and Acute Watery Diarrhea.
- Hepatitis E outbreak was confirmed and reported in Abyei, with 13 suspected cases, including 4 deaths giving a CFR of 30%
- Updates on ongoing outbreaks in multiple counties (Anthrax, cVDPV2 Hepatitis E, Measles and Yellow fever).

Surveillance System Performance

The epidemic alert and response system in South Sudan currently relies mainly on immediate alert notification and weekly case data reporting 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 27 were at 56% and 87%,** respectively.

Table 1: Timeliness and completeness of IDSR reporting by State for week 27,2024

State	Total facilities	Number of facilities reported (Completeness)†	Current reporting period				Cumulative since year start (2024 level)	
			Timeliness wk27	Timeliness Week26	Completeness wk27	Completeness wk26	Timeliness	Completeness
Lakes	112	112	76%	74%	100%	100%	89%	99%
NBGZ	89	84	81%	74%	94%	78%	86%	92%
Unity	84	84	100%	100%	100%	100%	95%	100%
WBGZ	81	48	13%	47%	59%	69%	67%	77%
WES	190	183	59%	94%	96%	95%	88%	96%
Jonglei	119	87	65%	77%	73%	90%	85%	89%
Warrap	111	78	33%	59%	70%	66%	78%	89%
EES	107	84	44%	71%	79%	83%	84%	93%
RAA	16	7	13%	38%	44%	44%	50%	68%
CES	122	122	49%	100%	100%	100%	89%	95%
AAA	17	14	82%	82%	82%	82%	72%	79%
Upper Nile	143	135	50%	57%	94%	76%	62%	79%
GPAA	15	14	93%	100%	93%	100%	100%	98%
Total	1206	1052	56%	78%	87%	86%	82%	91%

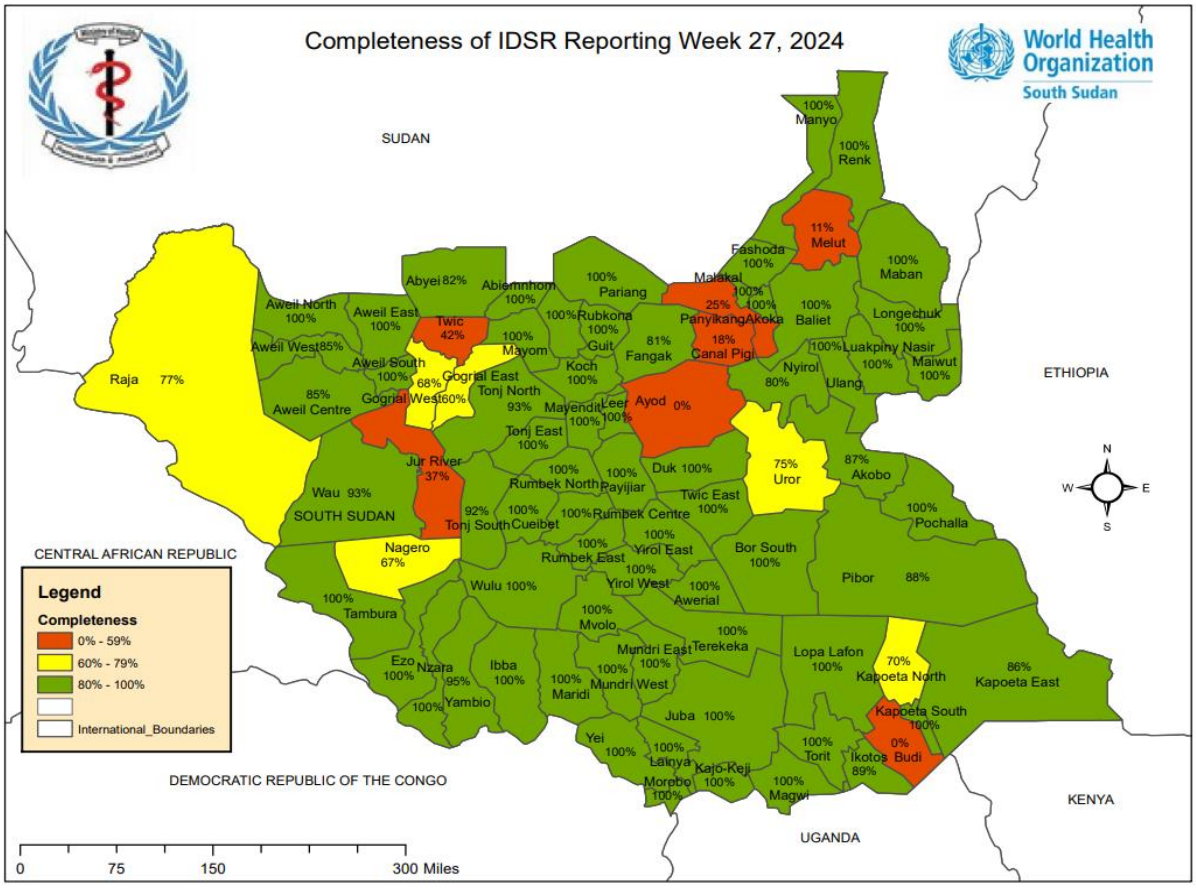
Key

≥80%	Good performance
60-79%	Fair performance
<60%	Poor performance

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

Admin area	# Of Reporting Mobile Sites	% of Timeliness in week 27	% Of Completeness in week 27	Payam	# Of Reporting Private H/Facilities	% Of Timeliness in week 27	% Of Completeness in week 27
IMC	4	**100%**	**100%**	Kator	4	**0%**	**100%**
SSHCO	1	**100%**	**100%**	Marial Baai	1	**0%**	**100%**
SMC	1	**100%**	**100%**	Northern Bari	1	**0%**	**100%**
SCI	2	**100%**	**100%**	Rajaf	3	**0%**	**100%**
HFO	3	**100%**	**100%**	Muniki	12	**0%**	**100%**
WVI	2	**100%**	**100%**	Wau South	20	**10%**	**100%**
CIDO	1	**0%**	**100%**	Wau North	12	**8%**	**92%**
TOTAL	14	**93%**	**100%**	Juba	10	**0%**	**100%**
				TOTAL	63	**5%**	**98%**

Figure 1: Completeness of IDSR reporting by county for week 27, 2024



Epidemic alerts

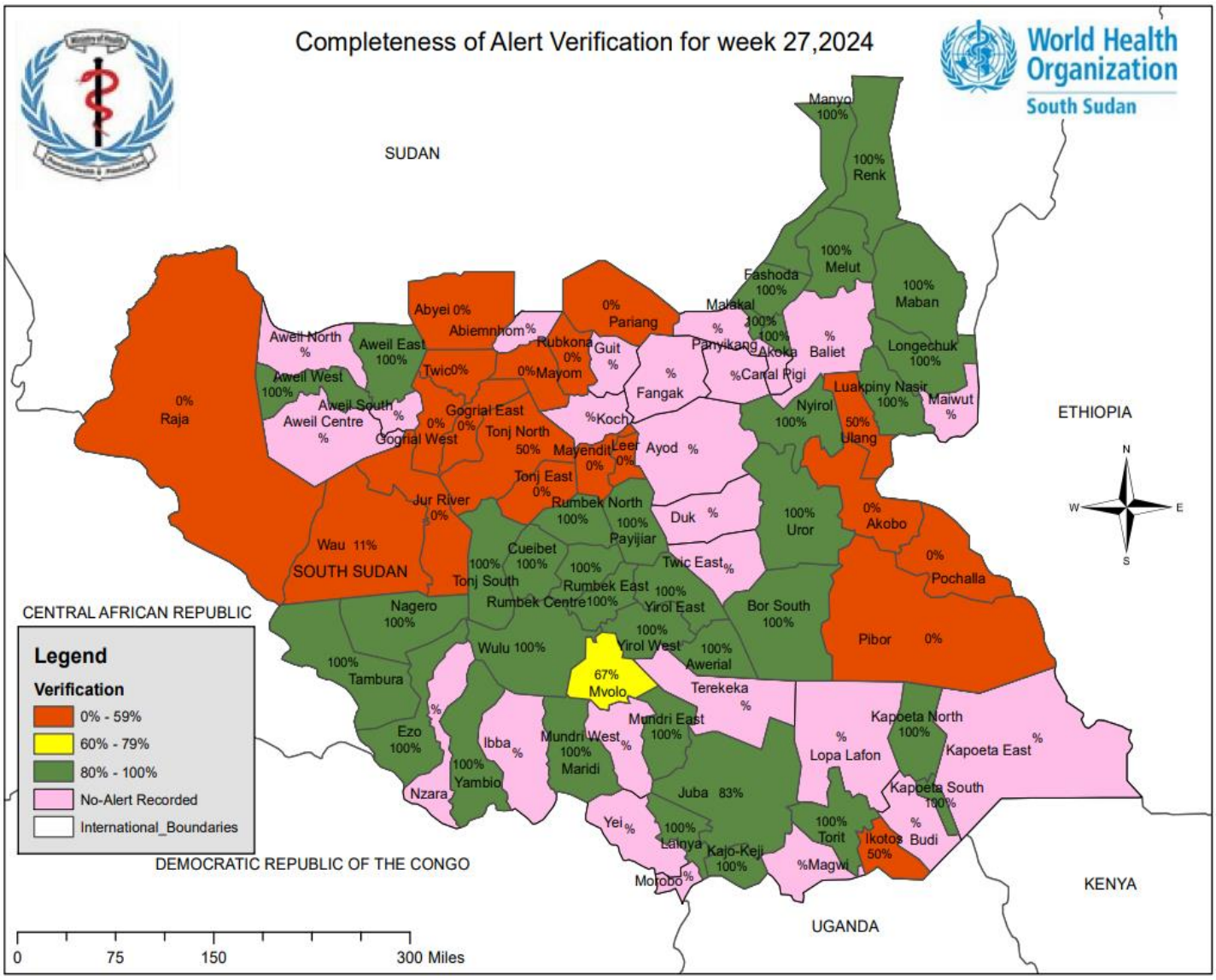
A total of 196 alerts have been triggered in the EWARS system, with 69% (135/196 verified in the system compared to 71% in the previous week (26). Most of the alerts were for Malaria (27%), Guinea Worm (18%), AWD (18%), ABD (16%) and ARI (10%). See Table 3 below for more details.

Table 3: Summary alerts triggered in Epi week 27, 2024

Admin area	Acute jaundice syndrome		Acute Respiratory Infections (ARI)		Acute Watery Diarrhoea		Bloody Diarrhoea		Covid-19		EBS		Guinea Worm		Malaria (Confirmed)		Measles		Neonatal Tetanus		Relapsing Fever		Yellow Fever		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	# R	# V
AAA	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0
CES	0	0	1	1	4	4	1	1	0	0	0	0	0	0	5	4	0	0	0	0	0	0	0	0	11	10
EES	0	0	1	1	1	1	2	1	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	6	5
GPAA	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Jonglei	0	0	4	3	2	2	2	2	0	0	0	0	2	2	1	1	0	0	0	0	1	1	0	0	12	11
Lakes	0	0	2	2	5	5	4	4	0	0	0	0	24	24	1	1	0	0	0	0	0	0	0	0	36	36
NBGZ	0	0	1	1	1	1	2	2	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	6	6
RAA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Unity	2	0	3	0	3	1	2	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	19	1
Upper Nile	0	0	4	4	5	5	11	9	1	1	0	0	0	0	10	10	2	2	0	0	0	0	0	0	33	31
Warrap	0	0	0	0	2	0	1	0	0	0	5	3	5	3	1	0	0	0	0	0	0	0	0	0	14	6
WBGZ	0	0	2	0	5	1	2	0	0	0	0	0	5	0	9	0	0	0	0	0	1	1	0	0	24	2
WES	0	0	1	1	7	7	2	2	0	0	0	0	0	0	12	12	4	4	1	1	0	0	1	0	28	27
Grand Total	2	0	20	13	36	27	31	21	1	1	5	3	36	29	53	31	8	7	1	1	2	2	1	0	196	135

#R= reported #V= verified

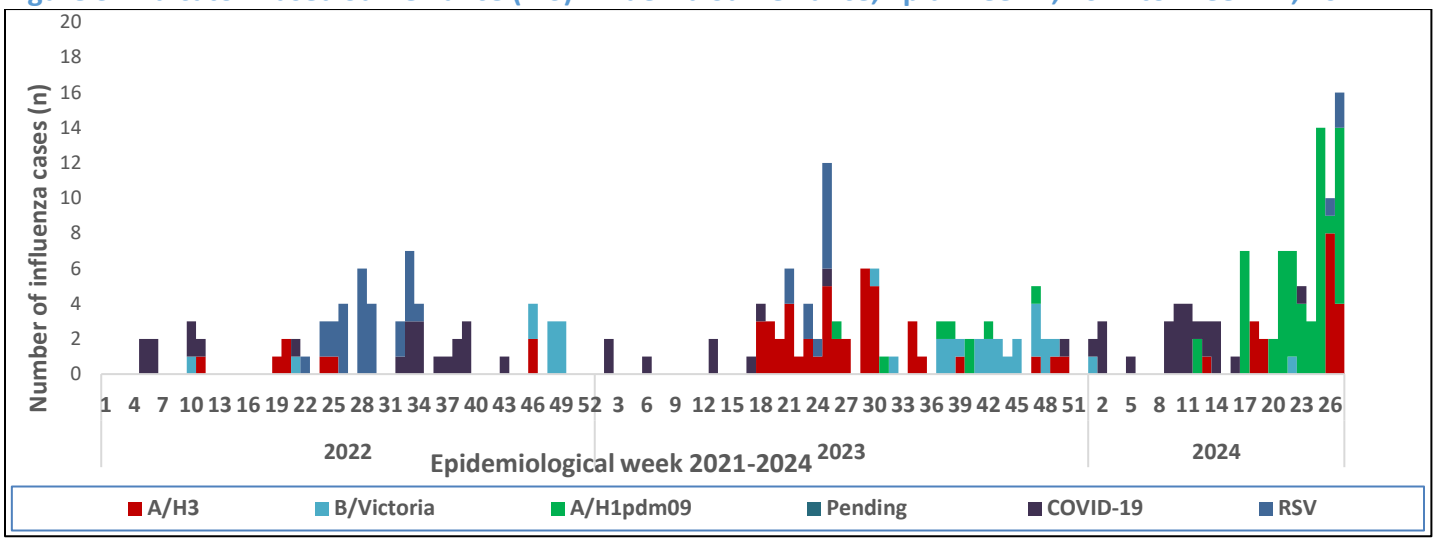
Figure2: Alerts Verification rates by county of South Sudan for week 27, 2024



Influenza update

Currently, four (4) designated Influenza sentinel surveillance sites in the country, three (3) in Juba (Juba Teaching Hospital, Al Sabbah Children's Hospital, Juba Military Hospital) and one (1) in Rumbek State Hospital in Lakes State are collecting epidemiological data and samples from ILI/SARI cases. The latest additional Sentinel Site in Nimule, at the border with Uganda, has not yet started collecting and reporting into the national sentinel database.

Figure 3: Indicator-Based Surveillance (IBS) Influenza Surveillance, Epid Week 1, 2022 to Week 27, 2024



During Epidemiological Weeks 1 to 27 in 2024, a total of 876 ILI/SARI samples have been collected; 773 tested negative for all pathogens, (24) were positive for COVID-19, (15) for Influenza Type A (H3), (5) for Influenza Type B (Victoria), (56) for Influenza A/(H1N1) pdm09 and zero (3) for RSV. The data from the influenza sentinel surveillance sites show that there is an upsurge in the number influenza cases in weeks 24-27. Secondly, the epidemiological curve also shows that there is a strain selection and dominance of A/H1N1pdm09 in the last 2 months.

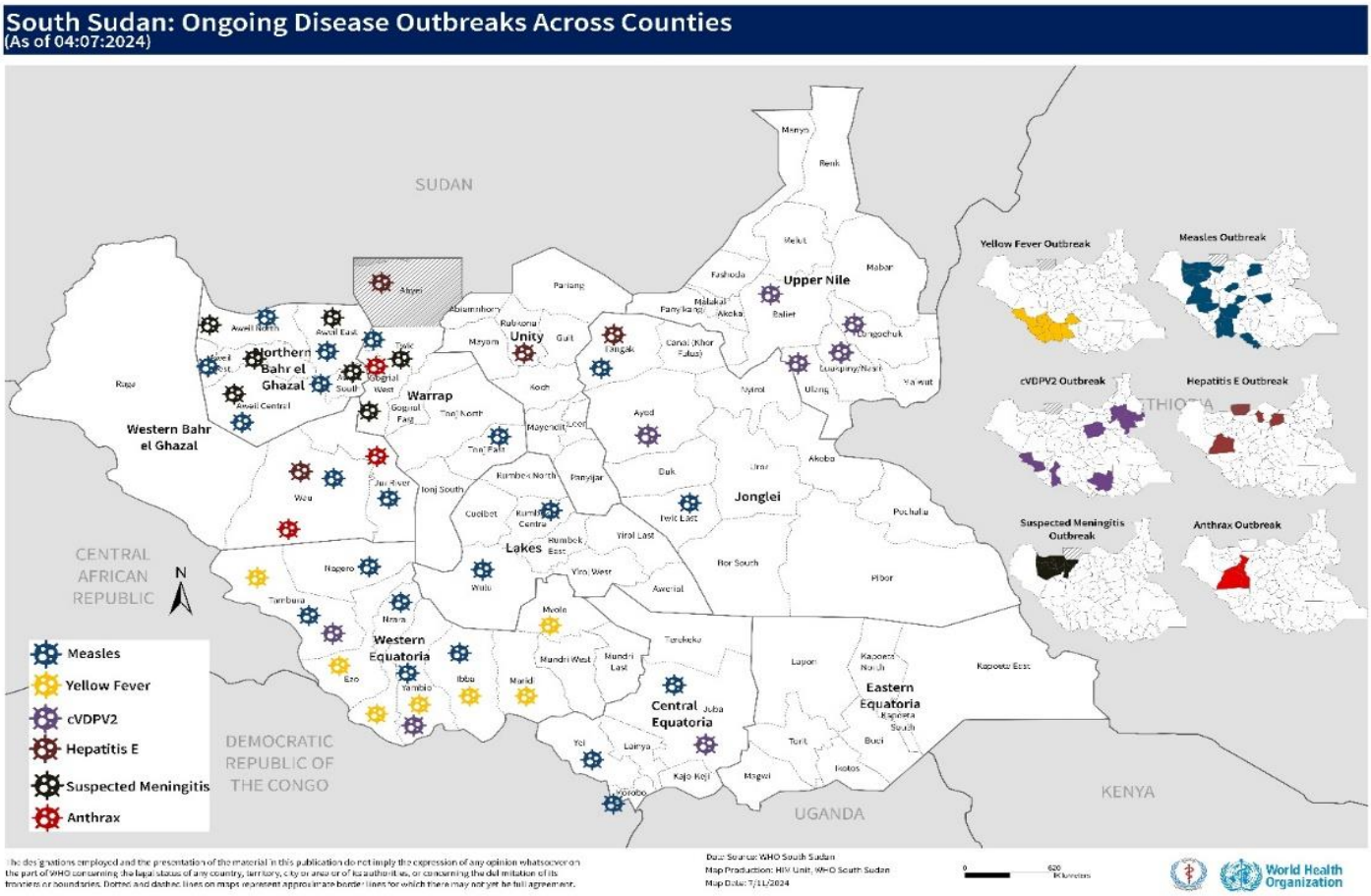
Ongoing confirmed epidemics

Table 5: 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	0	130	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	0	9	19	Not applicable	Completed 2 SIAs and 3rd round planning is ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	21	5640	-	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	-	44	3	ongoing	Ongoing in animal sector	ongoing	ongoing
Hepatitis E	Abyei	June 2024	13	13	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 and this bulletin documents that there has been no new cases of a) Measles for now 8 weeks, b) YF for now 12 weeks and c) N. Meningitidis for now 4 weeks. Below is a map of outbreaks confirmed since the year begun.

Figure 5: Map showing ongoing disease outbreaks across the country

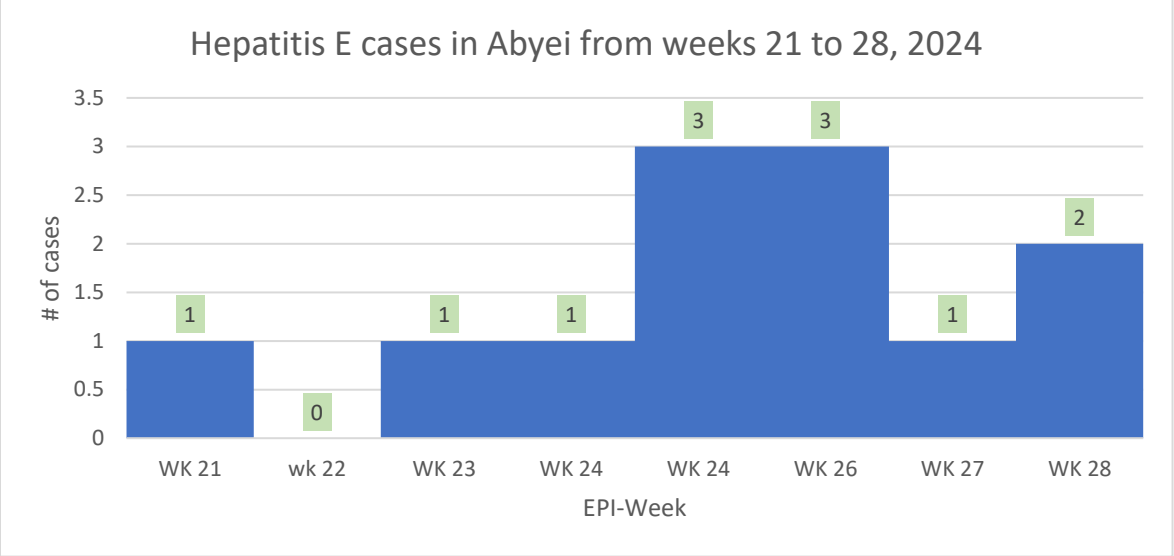


Response activities for ongoing/suspected outbreaks

1. Hepatitis E in Abyei

Hepatitis E cases have been reported every week in Abyei Administrative area since week 21, of 2024. As of week 27 of 2024 a total of 13 suspected Hepatitis E cases were line listed including (4) four deaths. Of the thirteen (13) cases, three tested positive by PCR out of the 5 samples sent to the National Public Health Laboratory in Juba. Most of the cases came from different villages in Ameth agouth payam with Aybei.

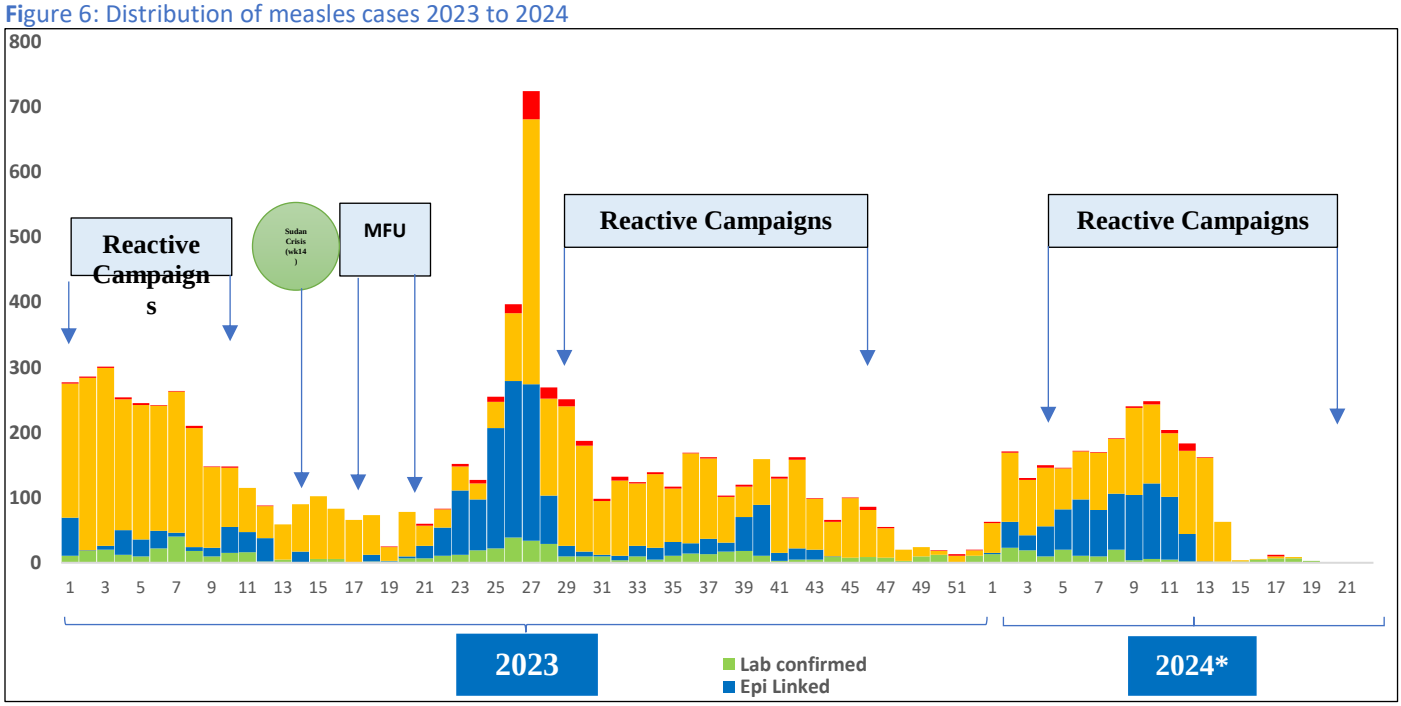
Majority of the reported Hepatitis E cases were 15 years and above except one case that occurred in as 12 years old child. Females accounted 76% (9/13) and males 34% (4/13). Currently Msf is supporting with case management at the hospital in Agok. Plans are underway to conduct complete investigation in the affected location and support risk communication and identify risk factors.



2. Measles

At the beginning of 2024, there was a significant increase in the reported number of suspected measles cases, reaching a peak in week 10 before gradually decreasing. On the contrary, the epidemic peak for confirmed (IgM+ cases) occurred earlier in epi week 5. The variations in the epidemic peaks is explained by the epidemiological practice of interrupting serum samples collection whenever an outbreak is laboratory confirmed. Secondly, we report that there were several reactive vaccination campaigns conducted to interrupt the several outbreaks. The effectiveness of the campaigns in interrupting measles outbreaks was hampered by a) Long lead times between outbreaks confirmation and response vaccination, b) targeting of children under 5 years and yet the affected age-group analysis shows that more that 30% were outside this age-range; c) Poor vaccination coverage. However, this data suggests that efforts to control the spread of measles finally yielded the results, albeit late. In the epidemiological reporting week, we have received 8 suspected measles alerts, of which 7 were verified. Root Cause Analysis is completed in 3 counties of WES (Ibba, Yambio, and Nzara) and 3 counties of NBGS. The last remaining root-cause analysis teams will travel to Fangak and Lakes this week. There are also plans to gather data from Juba, Terekeka, and Renk counties.

Figure 6: Distribution of measles cases 2023 to 2024

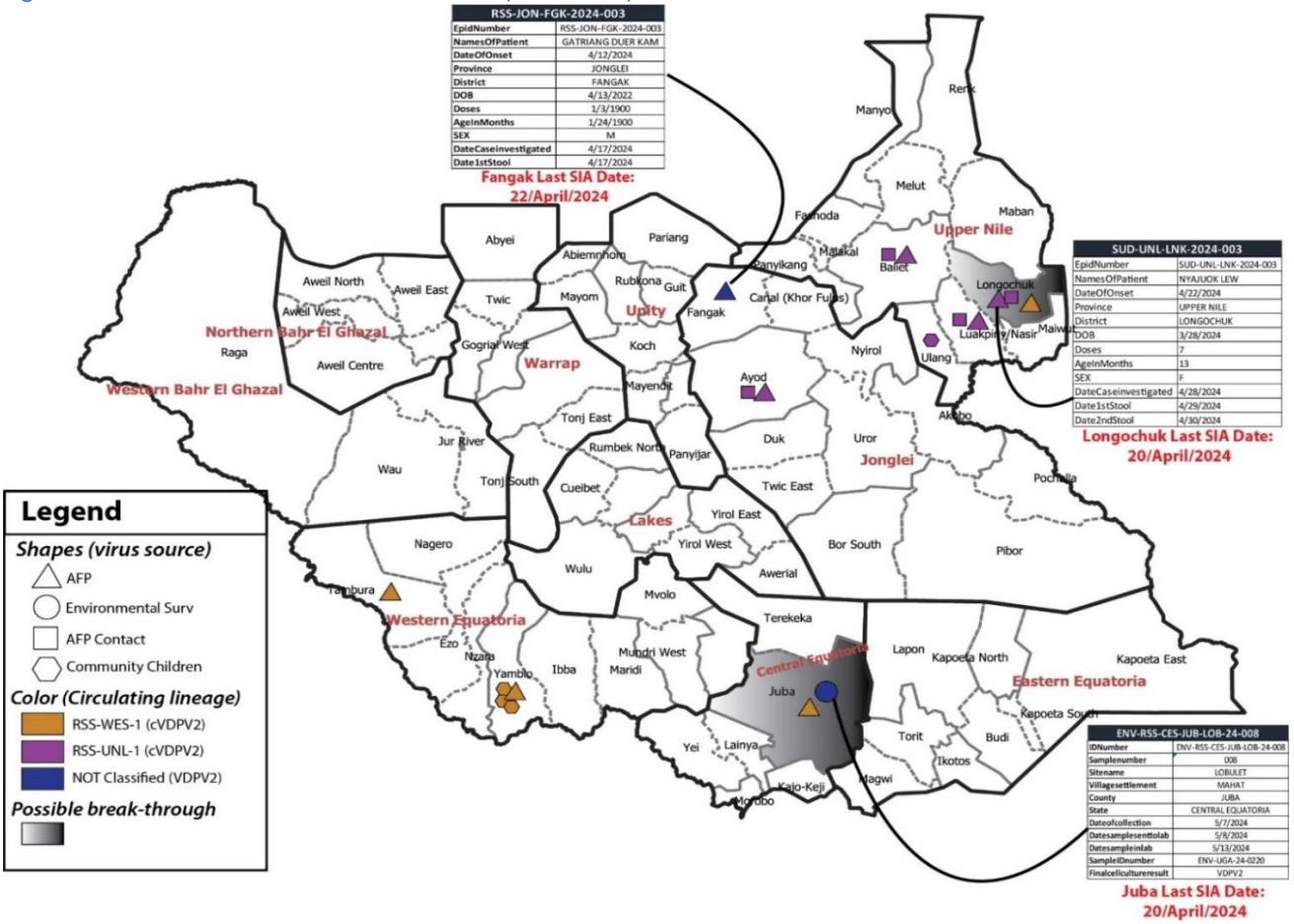


Poliomyelitis

3. 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 an isolate from an AFP case detected in Yambio. The total number of laboratory-confirmed cVDPV2 isolates from AFP cases is 9. The AFP 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 and contacts during outbreak investigation. Four viruses were isolated from environmental samples collected from one site in Juba. The latest cVDPV2 virus isolates from Juba and Longechuk were collected after completion of the 2nd round of nOPV2 SIAs and therefore indicate a high risk of possible breakthrough transmission.

Figure 8: Distribution of cVDPV2 cases isolates (All sources)



4. Anthrax

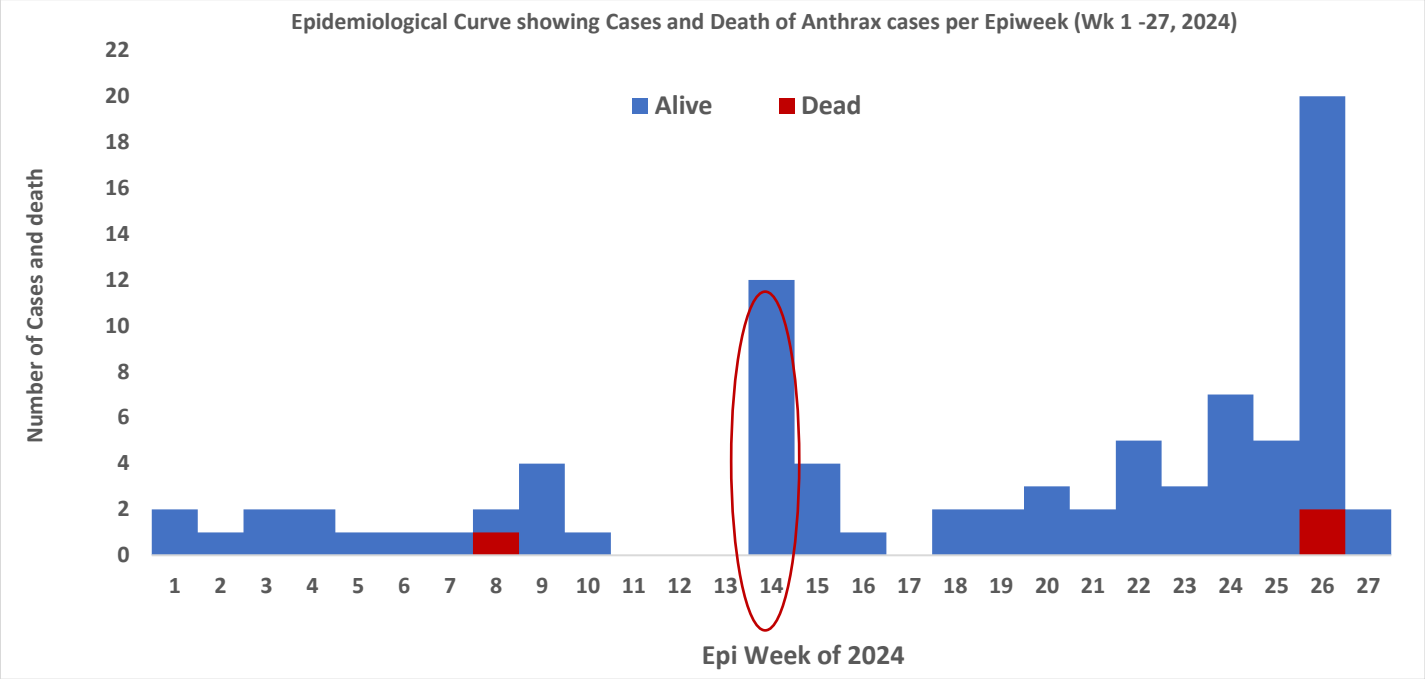
Since the beginning of 2024, a total of 88 human anthrax cases have been reported from two states: Western Bar El Ghazal (49 cases) and Warrap (39 cases). Among these, one sample tested positive for anthrax at UVRI in Uganda from Warrap. Three out of the 88 cases have resulted in death, resulting in a case fatality rate (CFR) of 3.4%.

A gradual increase in cases was observed from week 22, starting with 5 cases and reaching 20 cases in the single week 26, including two deaths. Most cases were reported from 3 counties, with Gogrial West County in Warrap having the highest attack rate of 19.1 per 100,000 population, followed by Jur River in Western Bahr-el-Ghazal state with an attack rate of 6.7 per 100,000 population.

Out of the 88 cases, 30 were admitted to state referral hospitals. 17 patients recovered and were discharged, while 13 remain in the hospital or are undergoing home treatment. The lack of standard treatment guidelines at the state level is affecting the treatment regimen.

A total of 1,741 animals have been vaccinated across three Boma (Majok-Yienhliet, Malual-lukluk and Waar-Alel/Kuajok). Ongoing risk communication and community engagement is in place to ensure proper disposal of animal carcasses and other contaminated materials to prevent environmental contamination with Anthrax spores.

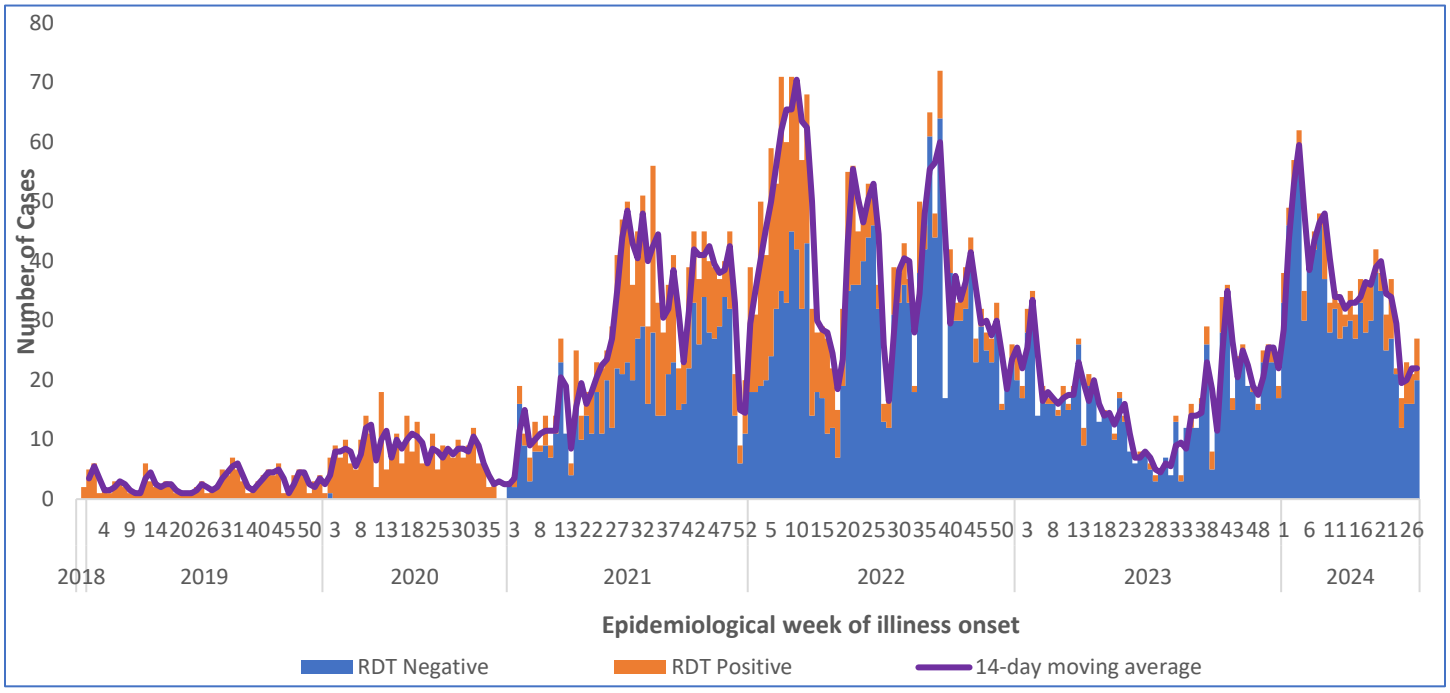
One Health stakeholders at the state level are promoting community-based waste management initiatives to minimize the risk of Anthrax transmission.



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

- In the week 27 of 2024, there were 27 newly reported cases, with 7 being RDT positive and no fatalities.
- Since the commencement of the outbreak in 2018, a total of 5,667 cases have been documented, with 29 resulting in deaths.
- Individuals aged 15 to 44 years accounted for 43% of the reported cases.
- Males represented 52% (2,963 cases) of the total cases, while females accounted for 48% (2,704 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.
- Predominantly, the cases were identified in individuals living outside the confines of Bentiu PoC, who subsequently visited the healthcare centers situated within the PoC for medical assistance.

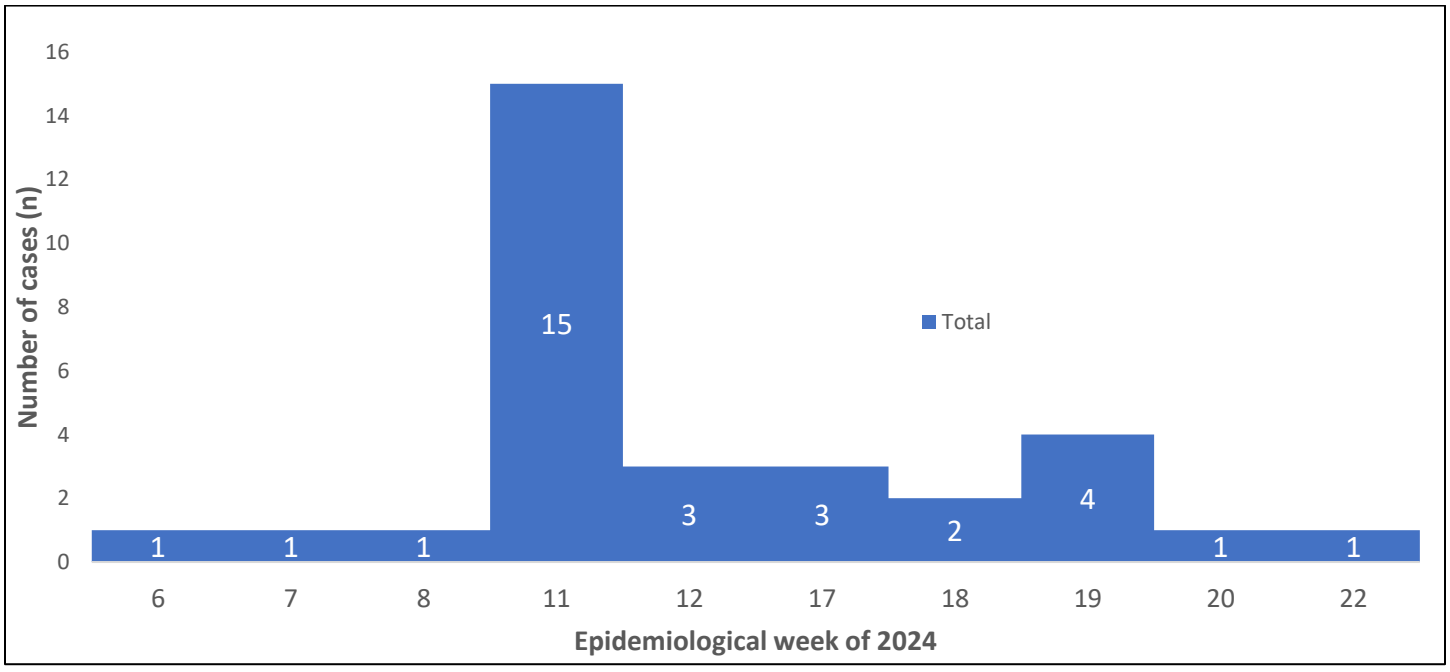
Figure 10: Epicure of HEV in Bentiu IDP camp, Unity State; Epi Week 52 of 2018 to Week 27 of 2024



6. Hepatitis E outbreak Twic county, Warrap State

In March, an outbreak of Hepatitis E was officially declared by the State Ministry of Health. The outbreak was due to a confirmed case from an IDP camp in Twic County. From week 6 to week 22 of 2024, a total of 32 suspected cases were reported, fortunately with no fatalities. The peak of the outbreak occurred in week 15 of 2024. Most cases occurred in individuals aged 15 and older. Among the reported cases, 63% were males and 37% were females. Notably, 75% of the cases were reported from Wunrok payam in Twic County.

Figure 11: Epicure of HEV in TWIC county Warrap State, week 6, to week 22, 2024.

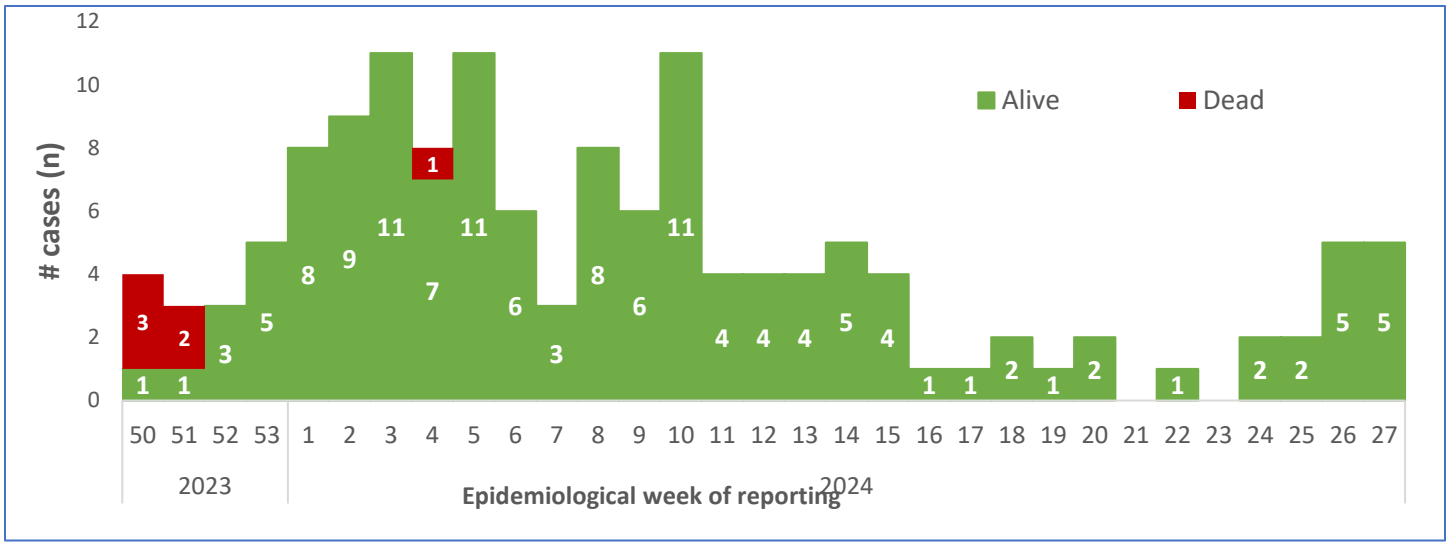


Viral Hemorrhagic Fever

7. Yellow fever Outbreak

No new cases were reported from weeks 24 to 27. Cumulative cases stand at 139 suspected cases, including six (6) deaths from week 50, 2023, to week 27, 2024. Continue to follow up with the state on the closure of the event once no new case has been identified.

Figure 12: Epicurve of Yellow fever outbreak in Western Equatoria State; 2023 to 2024



Other Events

Sudan crisis: As of Week 27, at least 727,820 individuals have crossed from 19 different nationalities. Of this number, 78% (568,257) are South Sudanese returnees. Currently, 21 PoEs are being monitored, with Joda-Renk accounting for 68% of the reported influx figures. Host communities and healthcare systems are struggling to cope with the increased demand for health and other services. Notably, morbidity, and mortality among returnees and refugees is significantly higher than in the host populations. The interconnectedness between Sudan's and South Sudan's economies has resulted in the conflict significantly affecting market prices. According to the Cash Working Group, the average cost of a Multi-Sectoral Survival Minimum Expenditure Basket has risen by 28 percent since April 2023, indicating the extent of the impact.

Active surveillance for potential cholera cases is being conducted at the Wunthou entry point. Suspect cholera cases are further screened and tested using rapid diagnostic tests (RDT). A total of 3057 consultations were recorded this week, ARI is the top leading cause of morbidity 742/3057 followed by AWD 268 and Malaria 268

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,

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

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

For more help and support, please contact:
Dr Joseph Lasu Hickson
Emergency Preparedness and Response
Ministry of Health Republic of South Sudan
Email: josh2013.lasu@gmail.com
Phone number +211921395440

Dr. Kediende Chong
Director General Preventive Health Services
Ministry of Health
Republic of South Sudan
Email: mkediende@gmail.com
Phone number: +21192888461

Dr BATEGEREZA, Aggrey Kaijuka
WHO-EPR Team Lead
Email: bategerezaa@who.int
Phone number : +211 924222030

Notes
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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

Data source: DHIS-2 and EWARS