Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 29
15-21 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 29 of 2024, the IDSR reporting timeliness and completeness were 70% and 89% respectively, which is an increase from the 67% and 91% reported in the previous week.
- At the EWARN mobile sites, the Timeliness and Completeness of IDSR performance were at 79% and 86% respectively while the private facilities reporting of Timeliness and Completeness in Juba and Wau stands at 56% and 92% respectively
- In week 29, 205 alerts were triggered, and the proportion of verified alerts decreased from 69% (133/192) in week 28 to 66% (135/205) in week 29. Most of the alerts in week 29 were for Malaria (23%), Guinea Worm (21%), AWD (18%), ARI (17%), Measles (9%), ABD (8%) and Neonatal Tetanus(7%)
- Malaria constituted 31% of total consultations in week 29 of 2024, maintaining its status as the primary cause of morbidity
- The Ministry of Health in Abyei declared Hepatitis E outbreak following the confirmation from the National Public Health Laboratory
- 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 29 were at 70% and 89%,** respectively.

Table 1: *Timeliness and completeness of IDSR reporting by State for week 29,2024*

State	Total facilities	Number of facilities reported (Completeness)†	Current reporting period				Cumulative since year start (2024 level)	
			Timeliness wk29	Timeliness wk28	Completeness wk29	Completeness wk28	Timeliness	Completeness
Lakes	112	112	79%	65%	100%	100%	88%	99%
NBGZ	89	76	65%	84%	85%	98%	85%	92%
Unity	84	84	82%	92%	100%	100%	94%	100%
WBGZ	81	31	15%	68%	38%	72%	65%	76%
WES	191	191	76%	81%	100%	100%	87%	97%
Jonglei	119	96	71%	61%	81%	73%	83%	88%
Warrap	111	94	79%	44%	85%	84%	77%	89%
EES	107	100	75%	70%	93%	88%	84%	93%
RAA	16	16	25%	19%	100%	44%	48%	69%
CES	122	122	99%	61%	100%	100%	88%	96%
AAA	17	14	82%	53%	82%	88%	71%	80%
Upper Nile	143	130	63%	50%	91%	91%	61%	80%
GPAA	15	7	47%	93%	47%	93%	100%	96%
Total	1207	1073	70%	67%	89%	91%	81%	91%

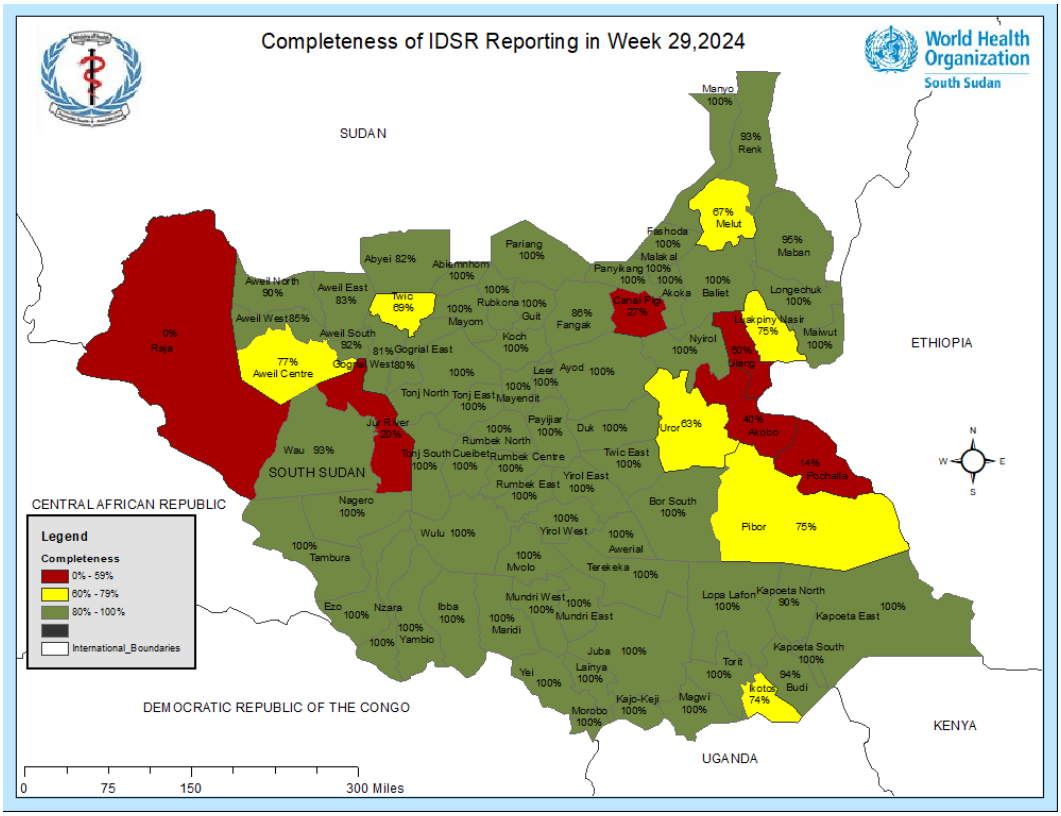
Key

≥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.

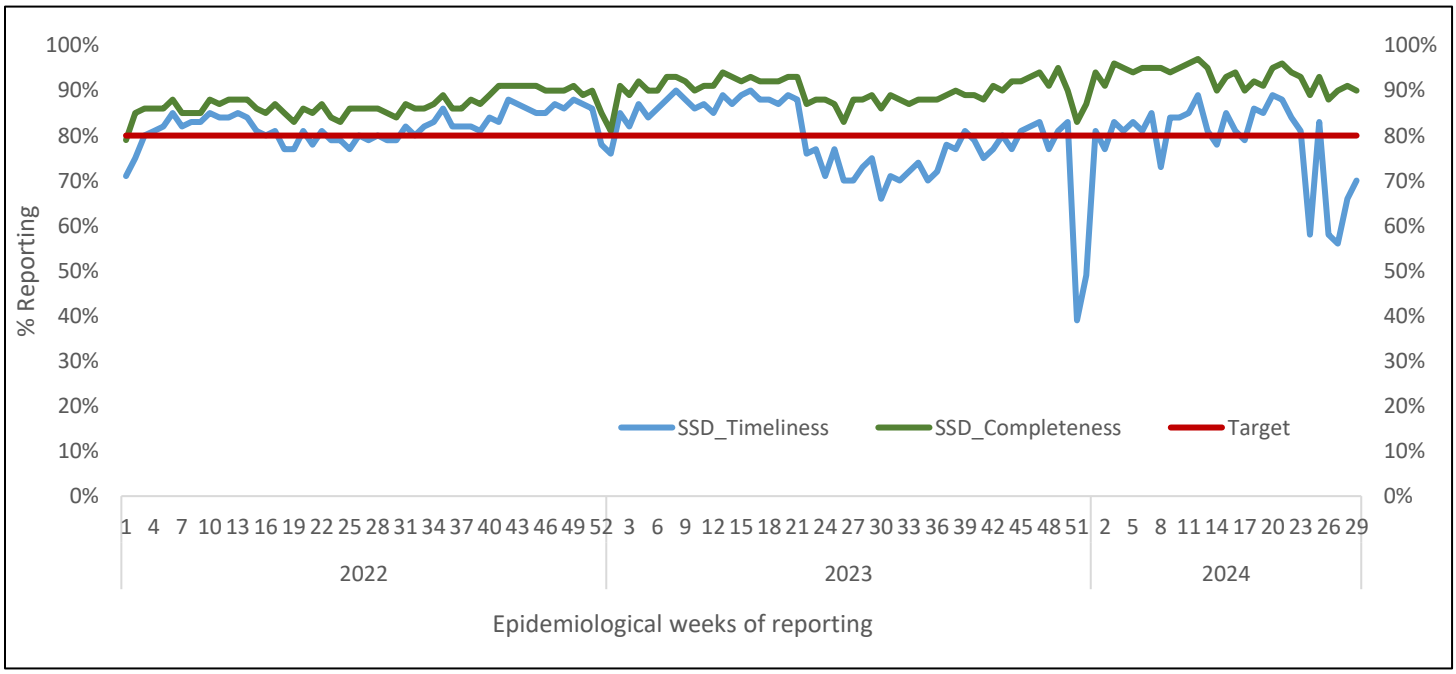
Admin area	# Of Reporting Mobile Sites	% of Timeliness in week 29	% Of Completeness in week 29	Payam	# Of Reporting Private Health Facilities	% Of Timeliness in week 29	% Of Completeness in week 29
IMC	4	**100%**	**100%**	Kator	4	**100%**	**100%**
SSHCO	1	**100%**	**100%**	Marial Baai	1	**100%**	**100%**
SMC	1	**100%**	**100%**	Northern Bari	1	**100%**	**100%**
SCI	2	**0%**	**0%**	Rajaf	3	**100%**	**100%**
HFO	3	**100%**	**100%**	Muniki	12	**100%**	**100%**
WVI	2	**50%**	**100%**	Wau South	20	**20%**	**90%**
CIDO	1	**100%**	**100%**	Wau North	12	**0%**	**75%**
TOTAL	14	**79%**	**86%**	Juba	10	**100%**	**100%**
				TOTAL	63	**56%**	**92%**

Figure 1: Completeness of IDSR reporting by county for week 29, 2024



Given the consistent under-performance of timeliness of IDSR reporting, this week, we analyzed the performance over the past three years and documented that the declines in 2024 (Wk 21-30) are more pronounced than they were in year 2023. 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



Epidemic alerts

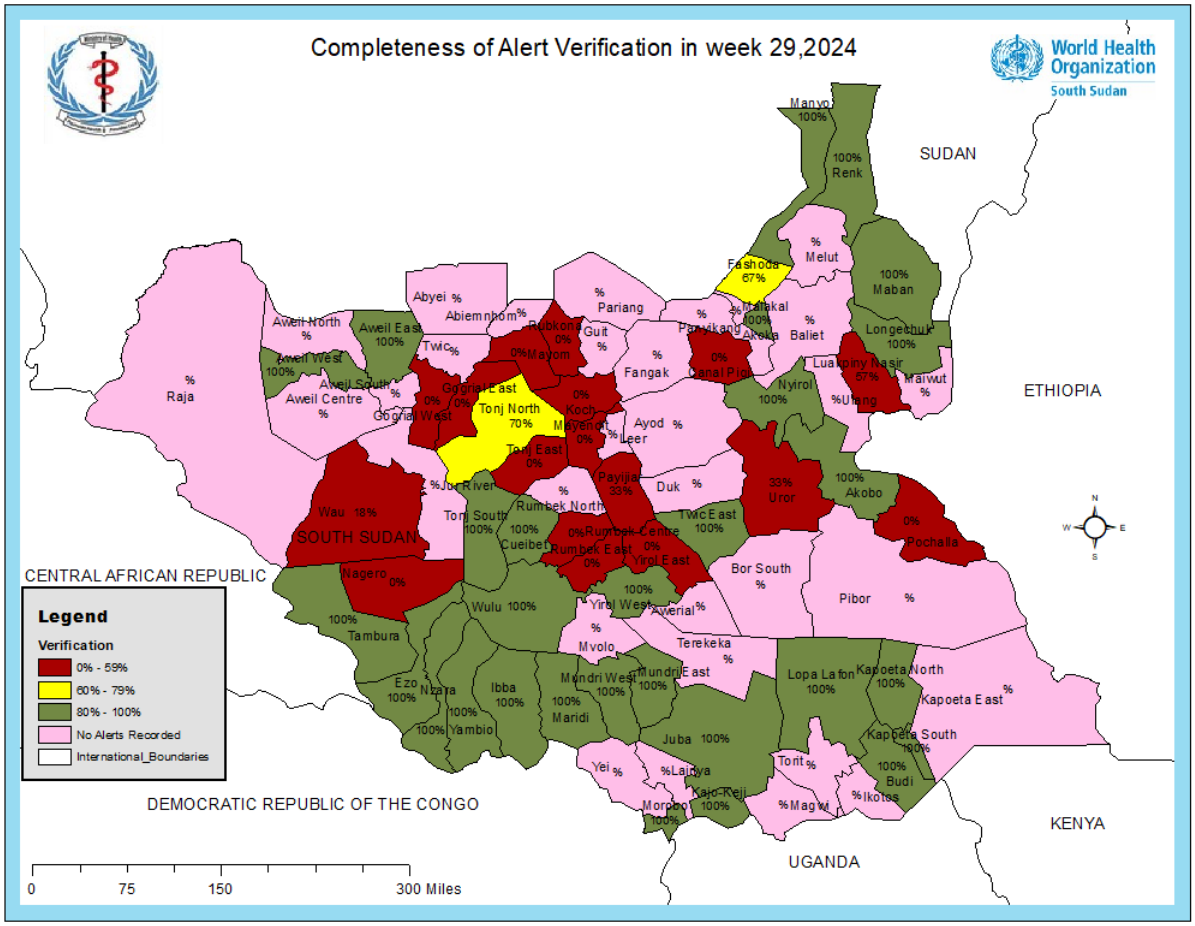
A total of 192 alerts have been triggered in the EWARS system, with 69% (192/133) verified in the system same as the previous week (27). Most of the alerts were for Malaria (23%), Guinea Worm (21%), AWD (18%), ARI (17%), Measles (9%), ABD (8%) and Neonatal Tetanus (7%). See Table 3 below for more details.

Table 3*: Summary alerts triggered week 29, 2024*

State/ Admin Area	Acute jaundice syndrome		Acute Respiratory Infections (ARI)		Acute Watery Diarrhoea		AFP		Bloody Diarrhoea		Cholera		EBS		Guinea Worm		Malaria (Confirmed)		Measles		Neonatal Tetanus		Relapsing 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
CES	0	0	2	2	1	1	0	0	2	2	0	0	0	0	0	0	1	1	1	1	0	0	0	0	7	7
EES	0	0	1	1	1	1	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	4	4
GPAA	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Jonglei	0	0	3	3	3	3	1	0	0	0	0	0	0	0	3	1	6	6	1	1	0	0	1	1	18	15
Lakes	0	0	3	1	3	2	0	0	1	0	0	0	0	0	31	13	4	1	0	0	1	1	0	0	43	18
NBGZ	0	0	4	4	2	2	0	0	0	0	1	1	0	0	0	0	2	2	0	0	0	0	0	0	9	9
Unity	2	0	8	1	0	0	0	0	1	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	19	1
Upper Nile	0	0	2	2	6	5	0	0	4	4	0	0	0	0	1	1	4	3	4	2	0	0	0	0	21	17
Warrap	0	0	5	2	3	2	0	0	1	0	0	0	3	3	5	3	3	2	1	0	0	0	0	0	21	12
WBGZ	0	0	2	0	3	0	0	0	3	2	0	0	0	0	2	0	1	0	0	0	0	0	0	0	11	2
WES	0	0	4	4	14	13	0	0	3	3	0	0	0	0	0	0	19	19	11	11	0	0	0	0	51	50
Grand Total	2	0	34	20	36	29	1	0	17	12	1	1	3	3	43	19	48	34	18	15	1	1	1	1	205	135

#R= reported #V= verified

Figure2: Alerts Verification rates by county of South Sudan for week 29, 2024

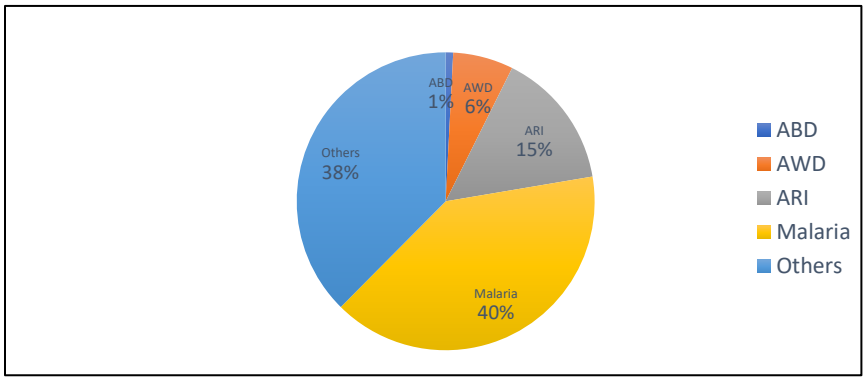


Weekly Update on Indicator-Based Surveillance (Week 29)

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.

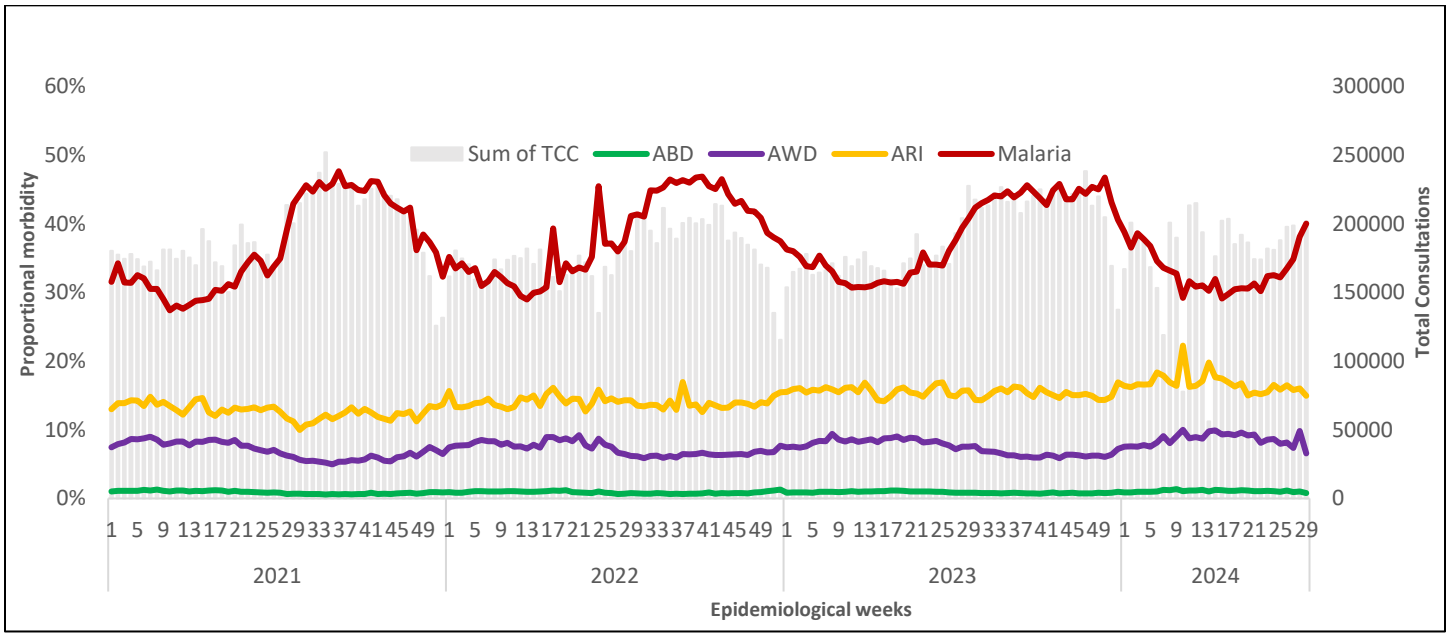
In week 29, a total of **80 851**morbidities were reported from all over South Sudan from across 1207 health facilities. Malaria was the top cause of morbidity accounting for 40% of all cases, followed by Acute respiratory illnesses (15%) and acute watery diarrhea (6%) as seen in Figure 3 below.

Figure 3: **IDSR Proportional Morbidity in week 29 of 2024.**



Analysis of proportional morbidity rates of the three primary illnesses in South Sudan, indicates no changes in the distibition patters over the last four years, illustrated in figure4 below

Figure 4: **IDSR proportional morbidity for top four diseases in South Sudan 2021 to 2024 by epidemiological week.**



- In the 29th week of 2024, Malaria emerged as the leading cause of morbidity, accounting for **80 851** cases and 25 suspected deaths, representing 40% of the overall morbidity and 89% of the total mortality.
- Nationally in week 29 of 2024, malaria incidence is believed to be in normal range; however, continuous monitoring is still important across all levels. It is worth noting that a high incidence of malaria was documented in four states and 29 counties during the specified week, as shown below

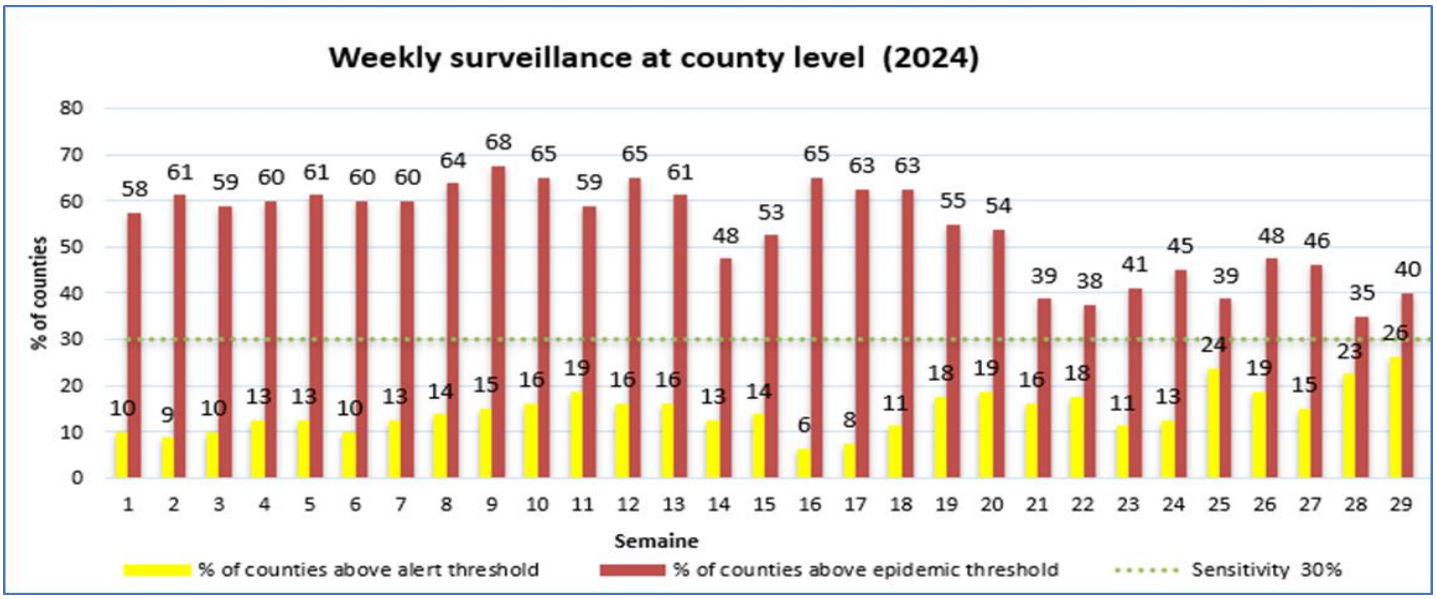


Figure 5: **Percentage of counties above the alert and epidemic thresholds**

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.

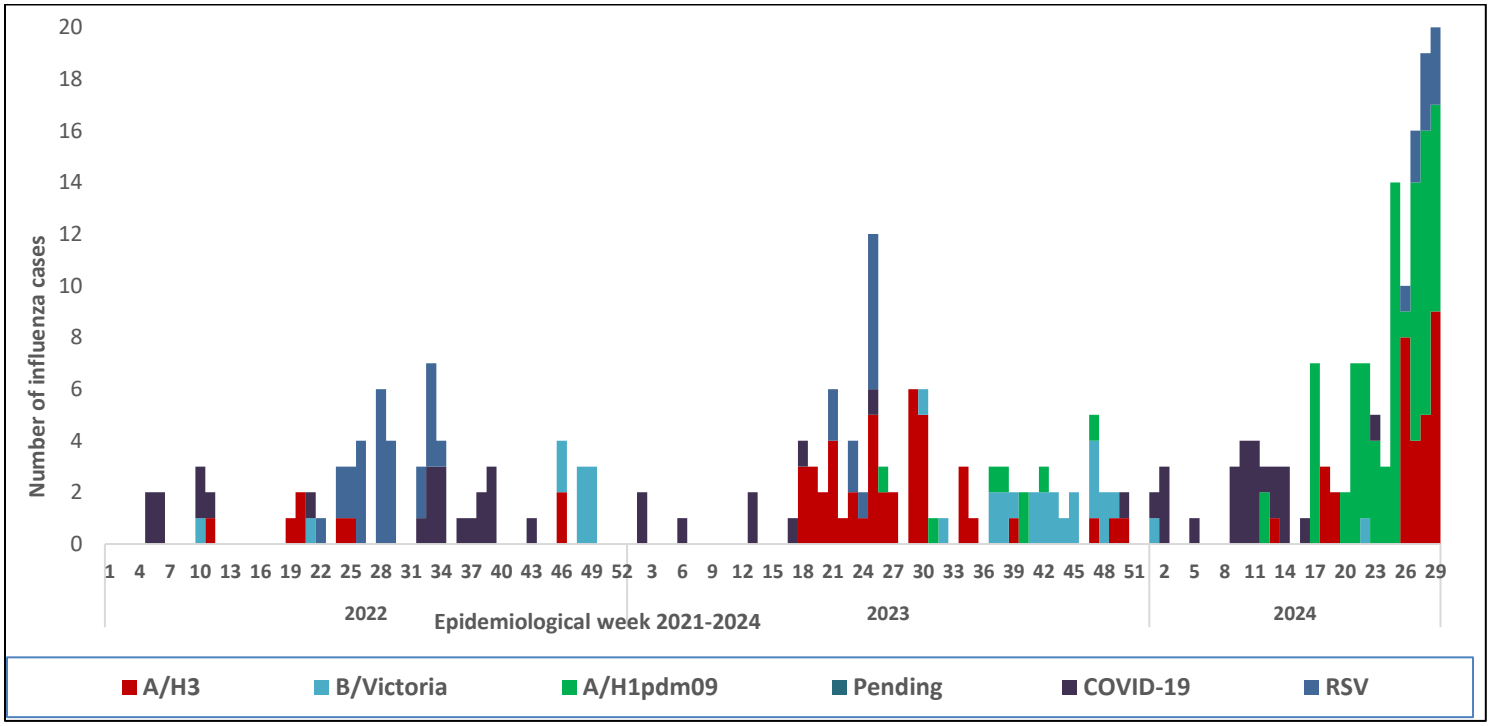


Figure 6: Confirmed Influenza, COVID-19 and RSV cases from sentinel sites Epidemiological Week 1, 2022 to Week 29, 2024

During Epidemiological Weeks 1 to 29 in 2024, a total of 1007 ILI/SARI samples have been collected; 865 tested negative for all pathogens, (24) were positive for COVID-19, (29) for Influenza Type A (H3), (5) for Influenza Type B (Victoria), (75) for Influenza A/(H1N1)pdm09 and zero (9) for RSV.

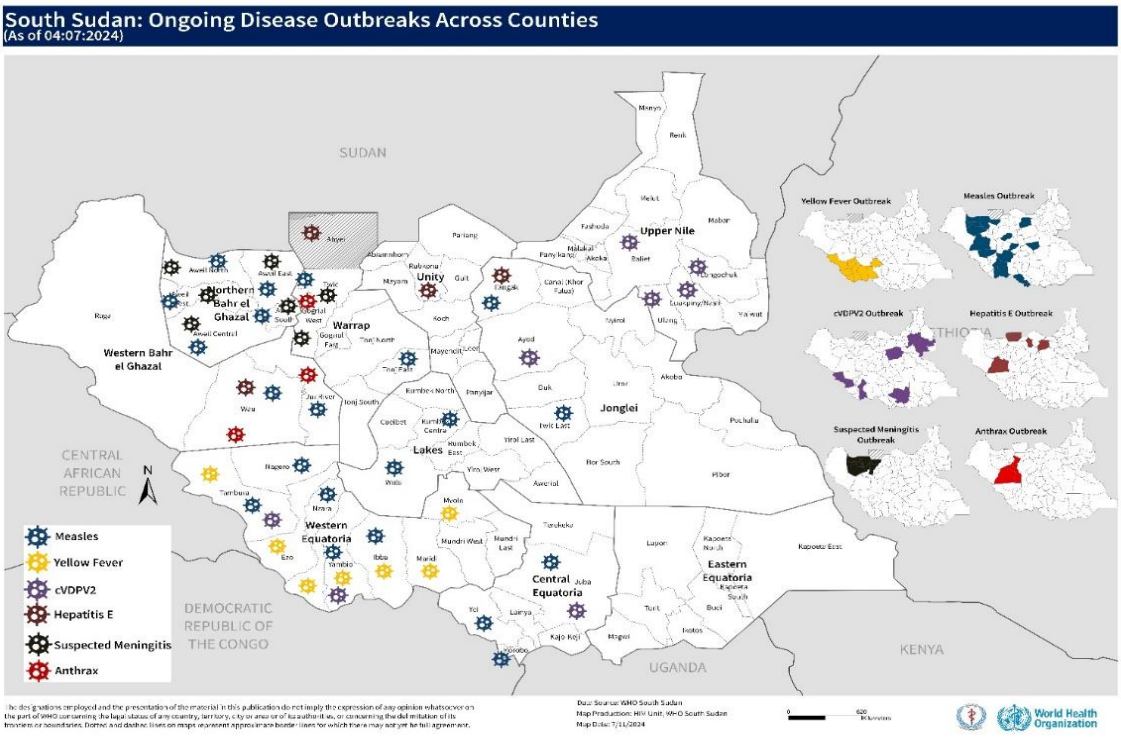
Ongoing epidemics

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	9	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	1	10	20	Not applicable	Completed 2 SIAs and 3rd round planning is ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	37	5726	-	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	9	127	3	ongoing	Ongoing in animal sector	ongoing	ongoing
Hepatitis E	Abyei	June 2024	8	22	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 7: *Map showing ongoing disease outbreaks across the country*

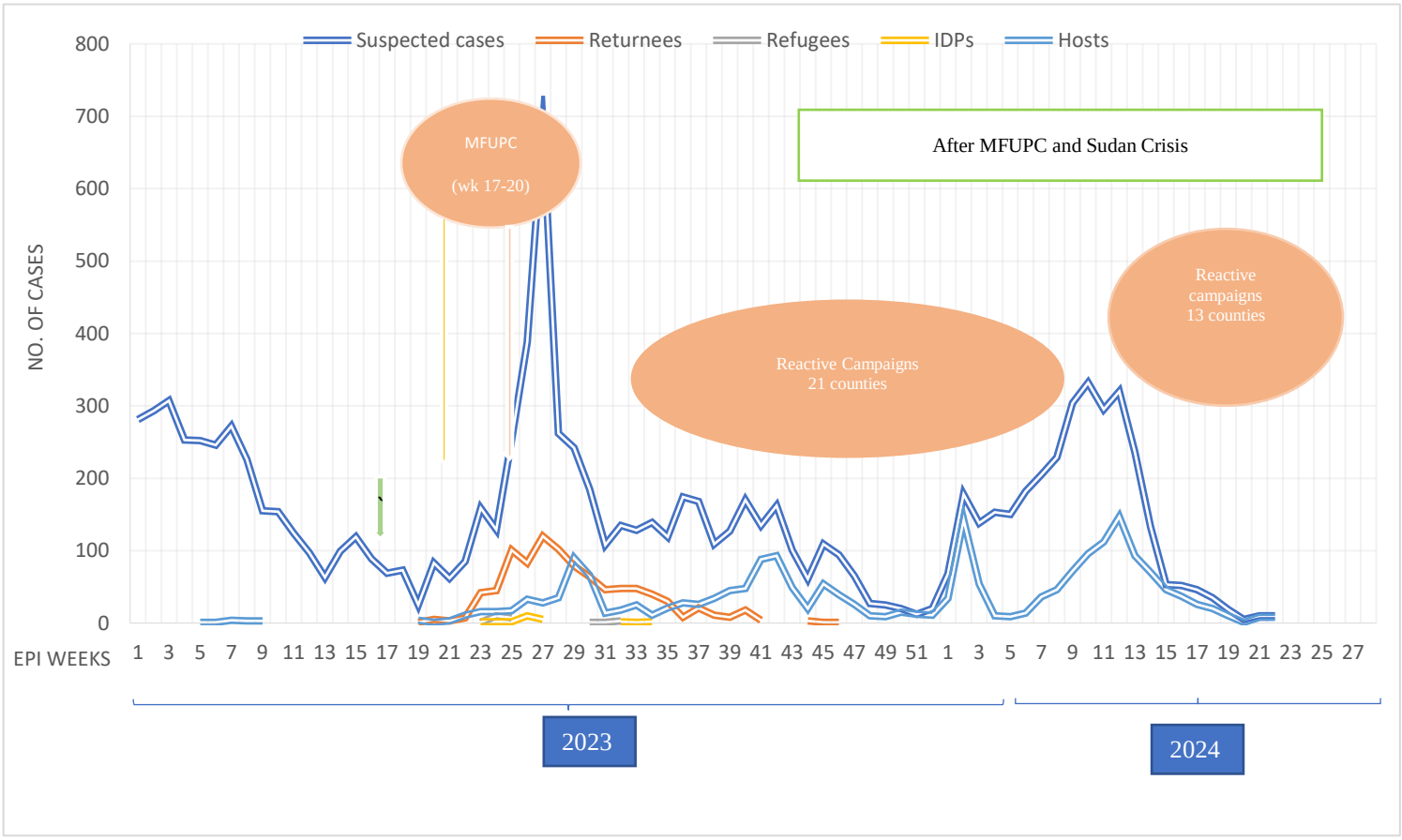


Response activities for ongoing/suspected outbreaks

1. Measles

In 2024, there was a significant rise in suspected measles cases, reaching a peak in week 10 before gradually decreasing. This suggests that efforts to control the spread of measles have been effective. Currently, we have received 8 alerts related to measles. Root Cause Analysis updates for measles are ongoing in 3 counties in WES (Ibba, Yambio, and Nzara) and 3 counties in NBGS. Teams will travel to Fangak and Lakes. There are also plans to gather data from Juba, Terekeka, and Renk counties. Notably, its now two months, with no county that surpassed a measles outbreak. Technically, the protracted measles outbreaks in South Sudan can be considered interrupted.

Figure 8: Distribution of measles cases 2023 to 2024

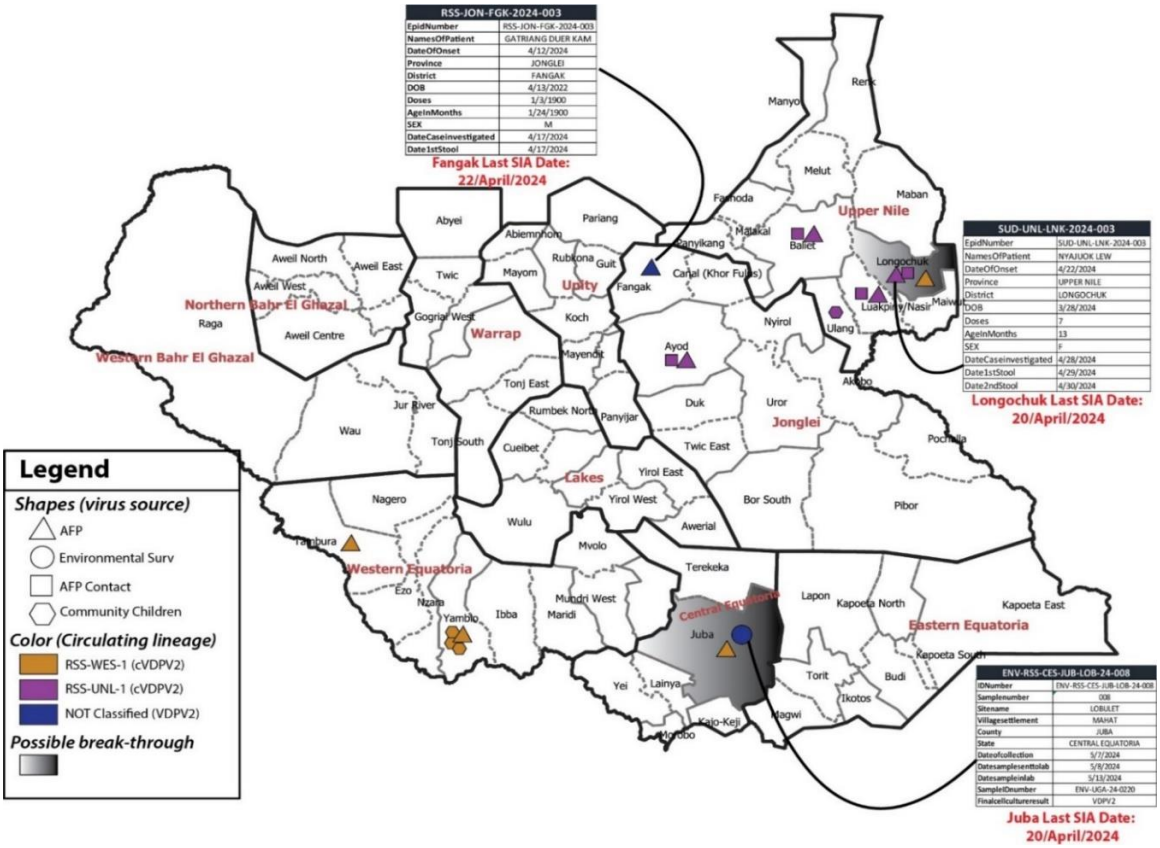


Poliomyelitis

2. 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 is 10. 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 from an AFP case in Nasir County had a date of onset of 25th May 2024 and confirms breakthrough transmission.

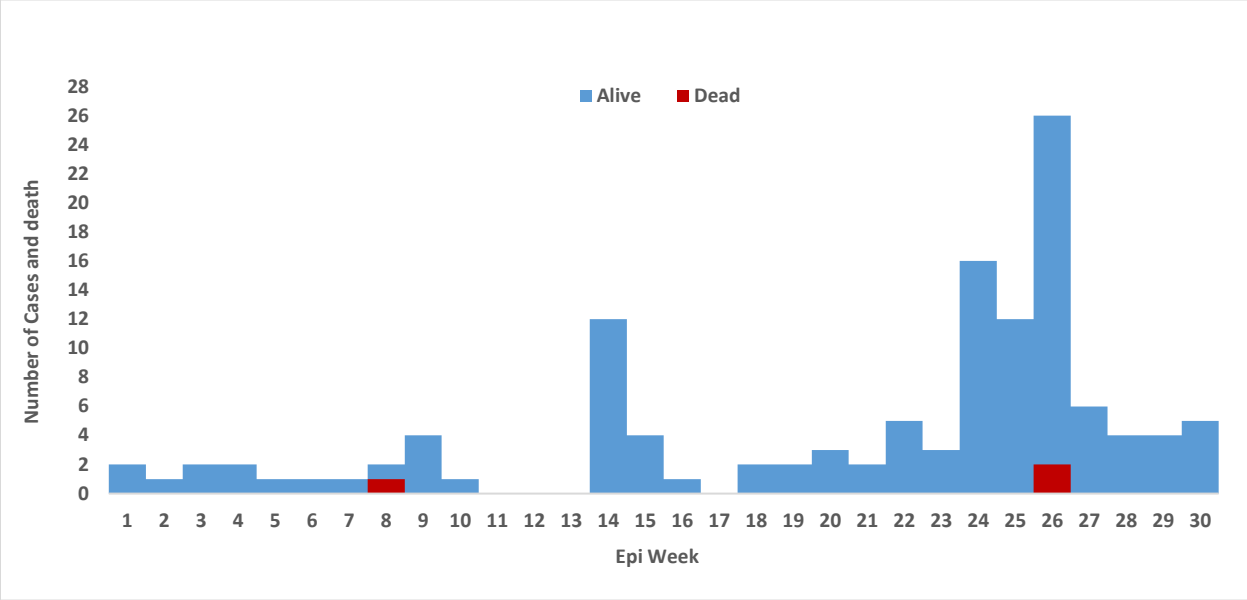
Figure 9: Distribution of cVDPV2 cases isolates (All sources)



3. Anthrax

- In 2024, a total of 127 human cases including three deaths (withcase fatality rate of 2.4%), have been reported in four counties across two states. Most reported cases (54, 40.2%) have reported from Kuach North Payam of WBeG State, where there are multiple cattle camps with minimum IPC/WASH services, 28 (22%) cases were reported from Wau Bai, 13 (10.2%) cases were reported from Rocrocdong 12 (9.4%) cases were reported from Kangi, 11 (8.7%) were reported from Marial Bai; while the remaining 9 cases were recorded from four payams (Kuac South-4, Udici-3, Wau North-1, and Buoi Yar-1). 38 cases (34.3%) reported from Gogrial West in Warrap State.During week 29, there were four new cases reported.
- Since 2024, 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 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 10: **Epidemiological Curve showing Cases and Death of Anthrax cases in South Sudan; (Wk 1 -30, 2024)**



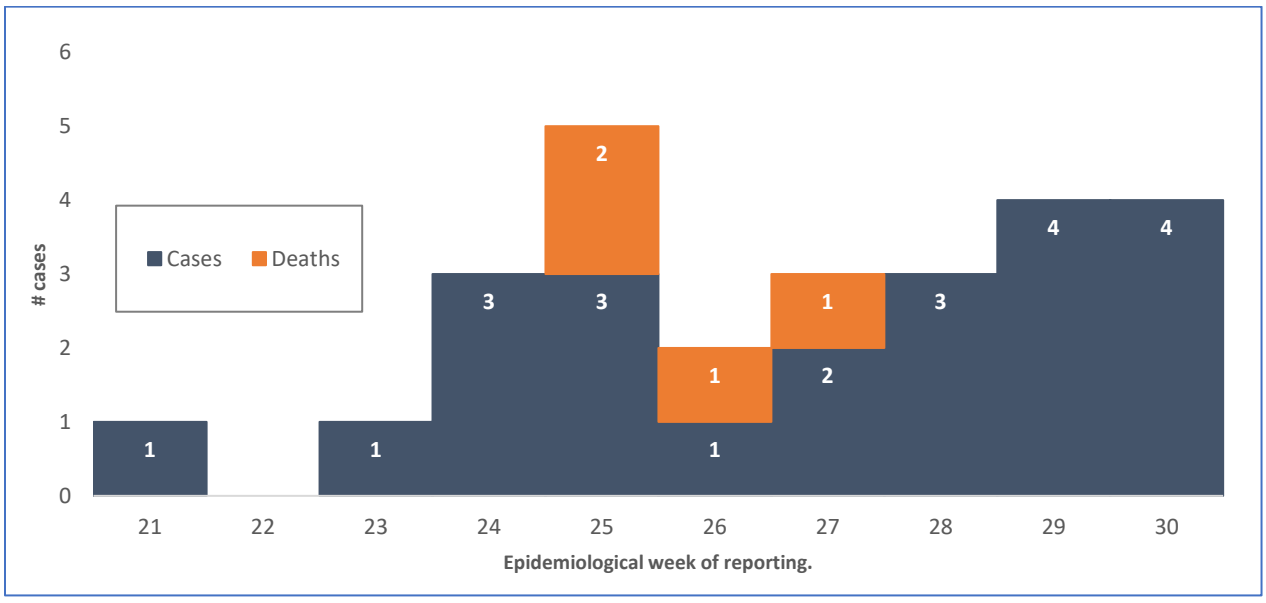
Response activities for ongoing/suspected outbreaks

3.Hepatitis E in Abyei

As of the beginning of week 29 of 2024 a total of 22 suspected Hepatitis E cases were line listed including (4) four deaths giving case fatality rate of 18.2%. 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 cases (20/22) were 15 years and above. Females accounted 59.1% (13/22) and males 40.9% (9/22) currently MSF is currently supporting with case management at the hospital in Agok. The Ministry of health in Abyei in consultation and guidance from the Ministry of Health have declared an outbreak of hepatitis E and Plans are underway to conduct complete investigation in the affected location and support risk communication and identify risk factors.

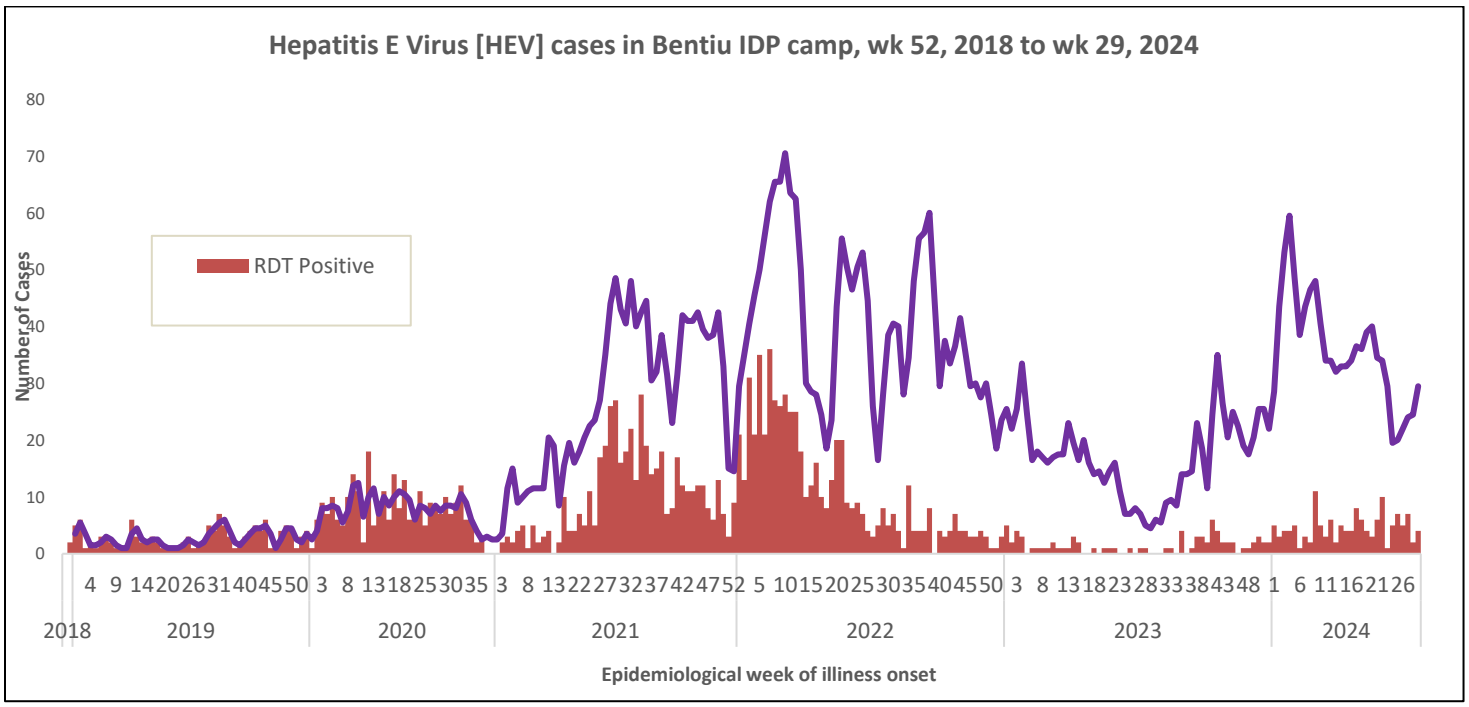
Figure 11: Epidemiological curve showing HEV cases in Abyei Administrative area as of week 30, 2024.



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

- In the 29th weeks of 2024, there were 37 newly reported cases, with 4 being RDT positive and no fatalities.
- Since the outbreak began in 2018, 5726 cases have been documented, 29 of which resulted in deaths.
- Among individuals aged 15 to 44 years, 43% of the reported cases were recorded (figure 10 below).
- Males represented 52% (2, 993 cases) of the total cases, while females accounted for 48% (2,733 cases). See Figure 16 below.
- 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 15 below).
- 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 (see figure 15 below).

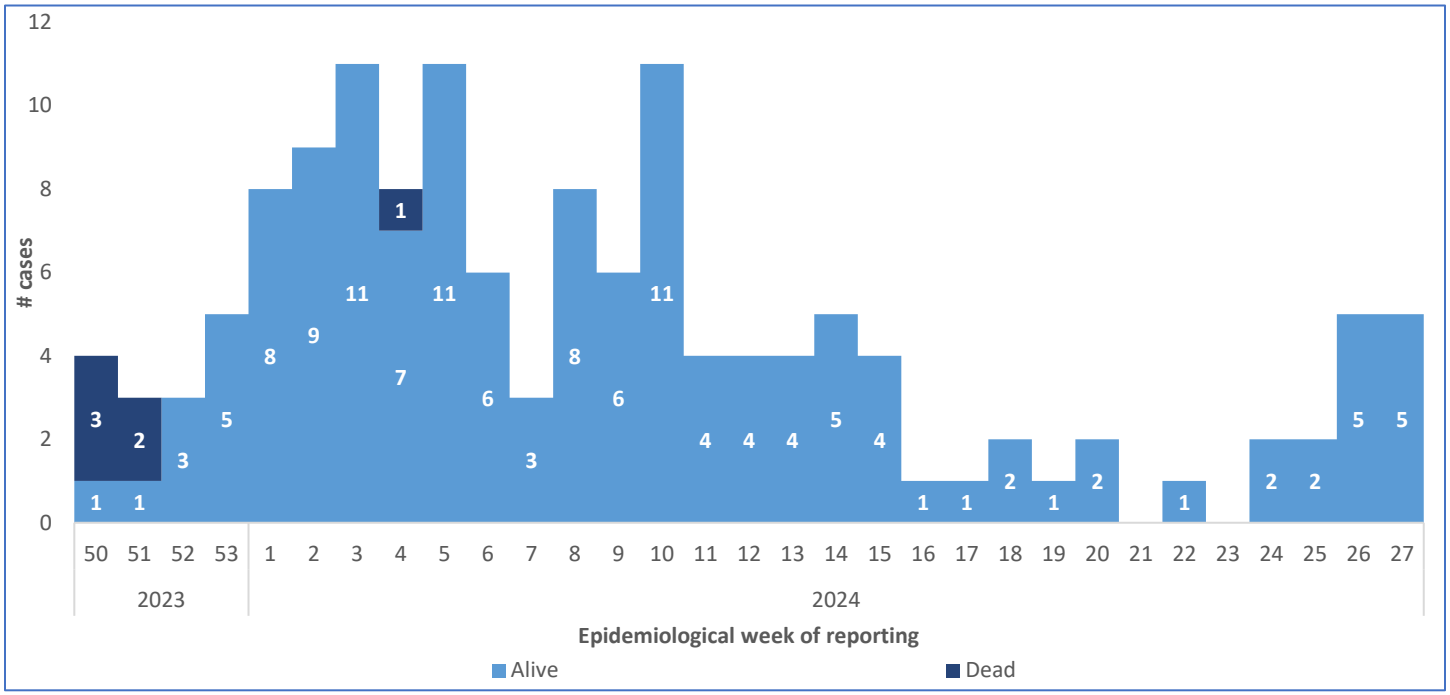
Figure 12: *Epicure of HEV in Bentiu IDP camp, Unity State; Epi Week 52 of 2018 to Week 29 of 2024*



5. Yellow fever Outbreak

During week29, there were no reports of more suspect cases, the last suspect cases were reported in 26 and 27. The cumulative number of cases stands at 139 suspected cases, including six (6) deaths from week 50, 2023, to week 27, 2024. Active case search for suspect cases is continuing including surveillance and investigation of suspect cases are being strengthened. Discussions are ongoing regarding closing the outbreak and implementing the IAR recommendations.

Figure 13: **Epi curve showing suspected Yellow Fever cases in Western Equatoria State 2023 to 2024.**



Other Events

Sudan crisis: As of Week29, at least ***744,545*** individuals have crossed from 18 different nationalities. Of this number, ***76.23% (579,212)*** are South Sudanese returnees and 23.05% 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 otherservices, morbidity, and mortality among returnees and refugees. During 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.

Between the 15th and 21st of July 2024, a total of 759 792 individuals entered South Sudan. Among these recent arrivals, 76.23% (579212 individuals) are South Sudanese returnees, 23.05% (175, 165 individuals) are Sudanese refugees, and the rest are from five different nationalities. 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

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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 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