Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR)Epidemiological Bulletin

Reporting period: Epidemiological Week 25
17 -23 June 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 25 of 2024, the IDSR reporting timeliness and completeness were 82% and 93% respectively, which is an increase from the 58% and 87% reported in the previous week.
- At the EWARN mobile sites, the timeliness and completeness of IDSR performance were all 100%.
- Timeliness and completeness of reporting at Private Health Facilities stands at 54% and 90% respectively.
- In week 25, a total of 230 alerts were triggered. The proportion of verified alerts reduced from 66% (372/247 in week24) to 61% (141/230) in week25. Most of the alerts in week 25 were for Guinea Worm (25%), Malaria (19%), ABD (15%), AWD (13%), ARI (12%) and Measles (8%).
- Updates on ongoing Hepatitis E Outbreak from Fangak, Twic counties, and Bentiu IDP camp.

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 25 were at 82% and 93%,** respectively.

Table 1: Timeliness and completeness of IDSR reporting by State for week 25,2024

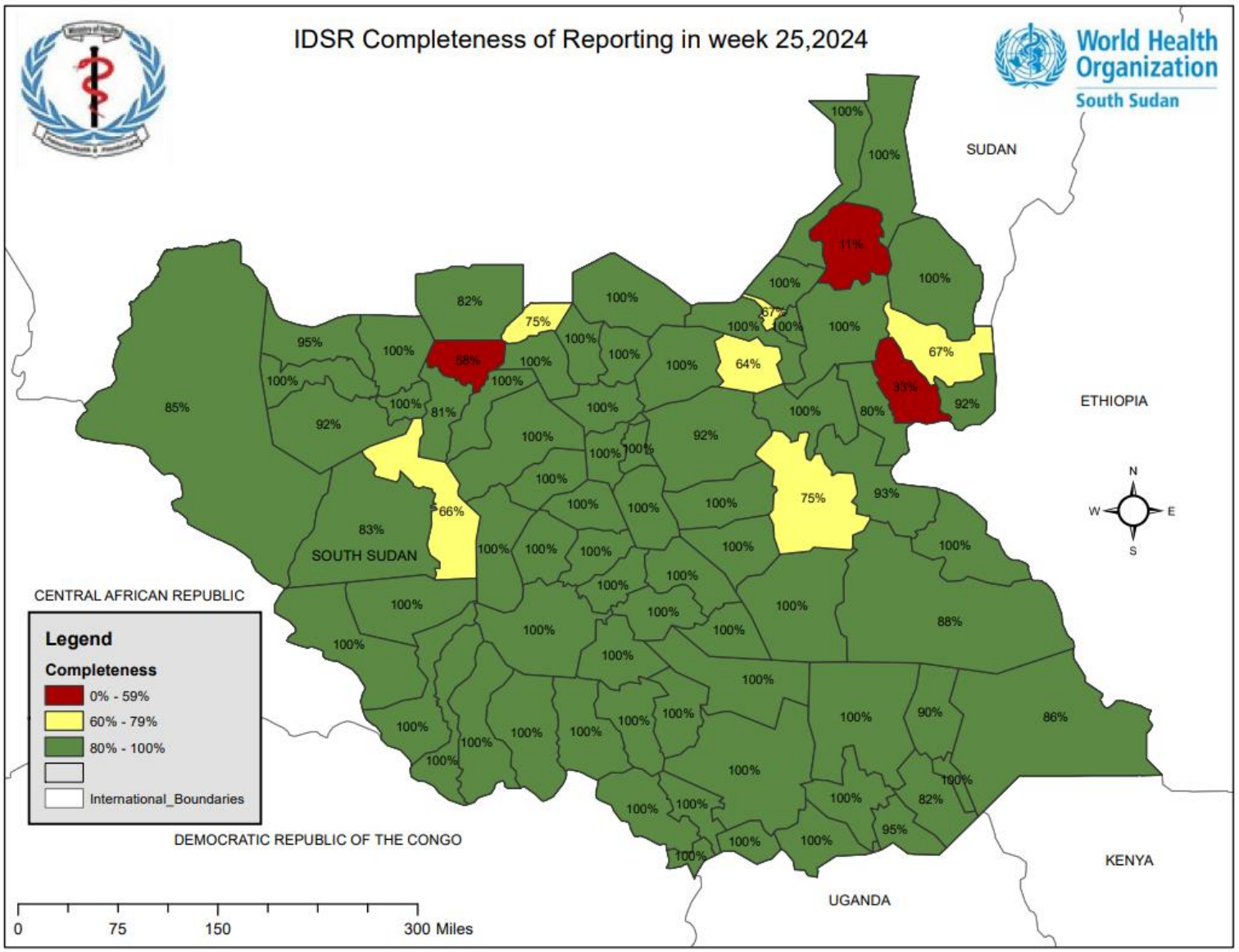
State	Total facilities	Number of facilities reported (Completeness)†	Timeliness		Completeness		Cumulative 2024	
			wk. 25	wk. 24	wk. 25	wk. 24	Timeliness	Completeness
Lakes	112	112	88%	77%	100%	100%	90%	98%
NBGZ	87	89	91%	75%	98%	97%	86%	93%
Unity	84	84	100%	99%	100%	100%	94%	100%
WBGZ	55	81	22%	12%	68%	78%	69%	78%
WES	187	183	100%	58%	102%	83%	88%	96%
Jonglei	112	119	93%	66%	94%	92%	86%	89%
Warrap	94	111	60%	64%	85%	74%	80%	91%
EES	101	107	88%	56%	94%	79%	87%	94%
RAA	15	16	94%	56%	94%	94%	53%	70%
CES	122	122	79%	52%	100%	98%	89%	95%
AAA	14	17	76%	6%	82%	88%	71%	79%
Upper Nile	115	143	57%	33%	80%	74%	62%	79%
GPAA	14	15	93%	93%	93%	93%	100%	98%
Total	1112	1199	**82%**	**58%**	**93%**	**87%**	**83%**	**91%**

≥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 25	% Of Completeness in week 25	Payam	# Of Reporting Private Health Facilities	% Of Timeliness in week 25	% Of Completeness in week 25
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	**100%**	**100%**	Rajaf	3	**100%**	**100%**
HFO	3	**100%**	**100%**	Muniki	12	**100%**	**100%**
WVI	2	**100%**	**100%**	Wau South	20	**15%**	**90%**
CIDO	1	**100%**	**100%**	Wau North	12	**0%**	**67%**
TOTAL	14	**100%**	**100%**	Juba	10	**100%**	**100%**
				TOTAL	63	**54%**	**90%**

Figure 1: Completeness of IDSR reporting by county for week 25, 2024



Epidemic alerts

A total of 372 alerts have been triggered in the EWARS system, with 66% (372/247) verified in the system compared to 61% in the previous week (24). Most of the alerts were for Guinea Worm (25%), Malaria (19%), ABD (15%), AWD (13%), ARI (12%) and Measles (8%). See Table 3 below for more details.

Table 3: Summary alerts triggered week 25, 2024

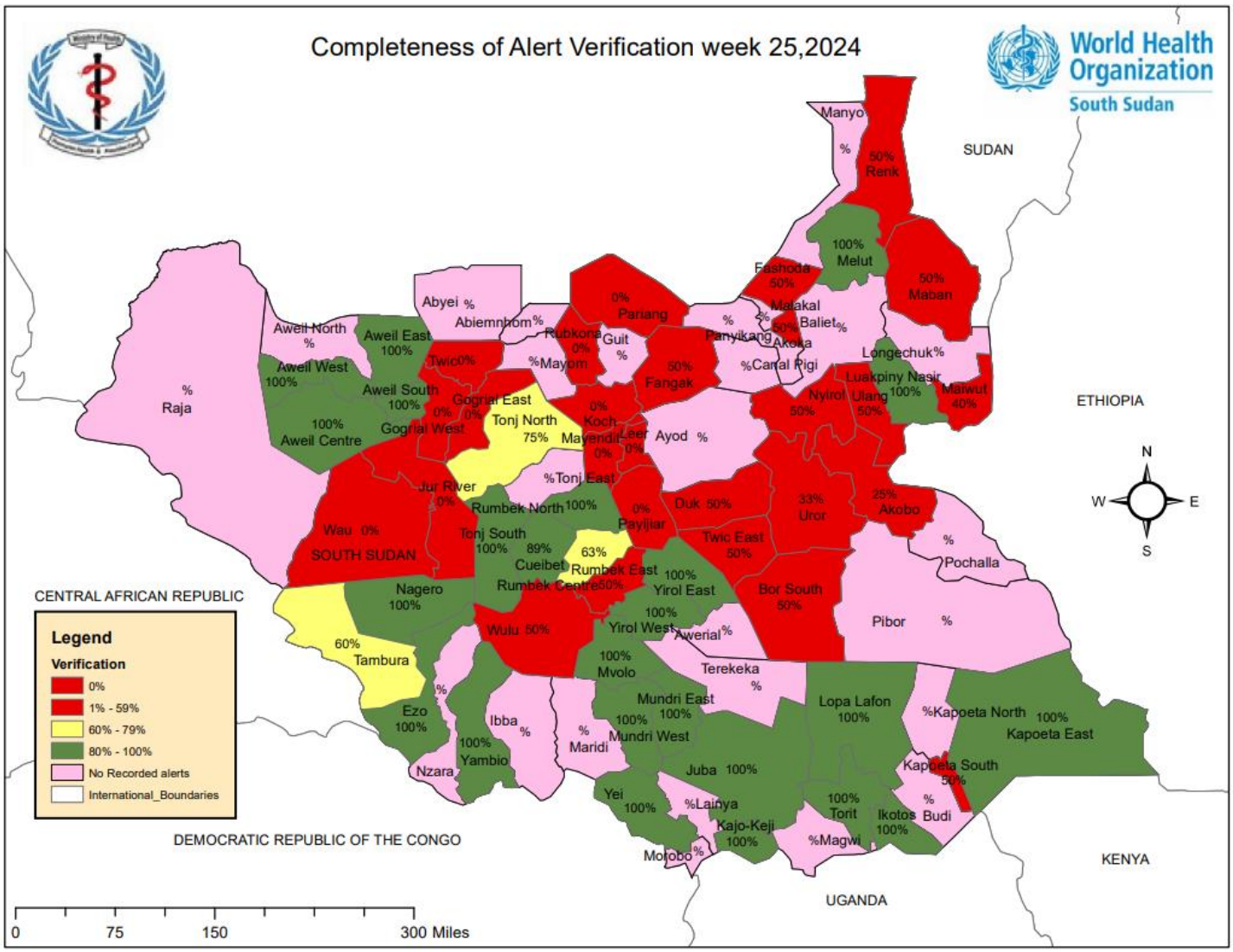
Admin Areas	Acute jaundice syndrome		Acute Respiratory Infections (ARI)		Acute Watery Diarrhea		AFP		Bloody Diarrhea		EBS		Guinea Worm		Malaria (Confirmed)		Measles		Neonatal Tetanus		Relapsing Fever		Grand Total	
	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V
CES	0	0	4	4	2	2	0	0	4	4	0	0	0	0	8	8	0	0	0	0	0	0	18	18
EES	0	0	2	2	2	2	0	0	4	3	0	0	2	2	4	3	0	0	2	2	0	0	16	14
Jonglei	0	0	8	4	4	2	0	0	8	3	0	0	10	4	2	1	2	1	0	0	0	0	34	15
Lakes	0	0	9	6	6	3	0	0	2	2	8	8	70	48	14	11	0	0	0	0	0	0	109	78
NBGZ	0	0	10	10	4	4	0	0	3	3	0	0	0	0	4	4	4	4	2	2	0	0	27	27
RAA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0
Unity	4	0	2	0	2	0	0	0	10	0	0	0	0	0	8	0	0	0	0	0	2	0	28	0
Upper Nile	0	0	6	3	4	2	4	2	14	7	0	0	0	0	2	1	2	2	0	0	0	0	32	17
Warrap	0	0	0	0	2	0	0	0	0	0	4	4	10	6	0	0	9	4	0	0	0	0	25	14
WBGZ	0	0	0	0	0	0	0	0	3	0	0	0	2	0	4	0	0	0	0	0	0	0	9	0
WES	0	0	4	2	22	18	0	0	8	8	0	0	0	0	26	26	12	10	0	0	0	0	72	64
Grand Total	4	0	45	31	48	33	4	2	56	30	12	12	94	60	72	54	31	21	4	4	2	0	372	247

#R= reported #V= verified

Key to Alerts Verification Rates

≥80%	Good Alerts Verification attainment
60-79%	Fair Alerts Verification attainment
<60%	Poor Alerts Verification attainment

Figure2: Alerts Verification rates by county of South Sudan for week 25, 2024



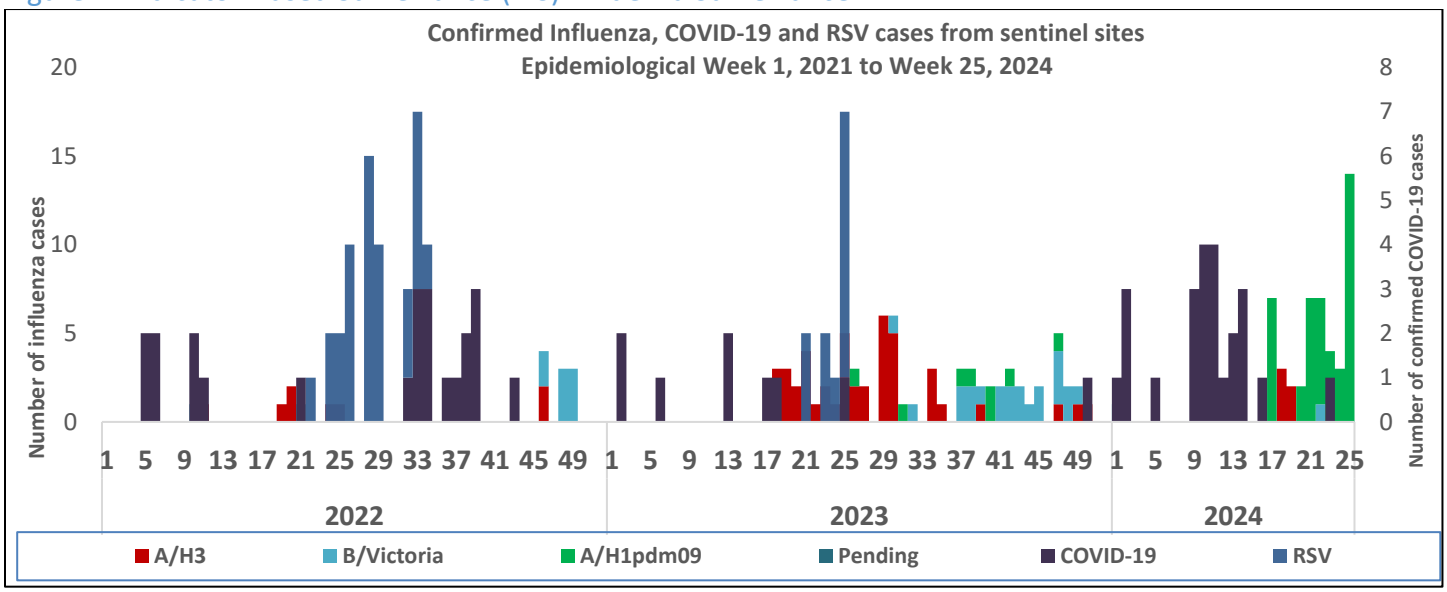
Weekly Update on Indicator-Based Surveillance (Week 25)

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.

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 2: Indicator-Based Surveillance (IBS) Influenza Surveillance



During Epidemiological Weeks 1 to 25 of 2024, a total of 783 ILI/SARI samples have been collected; 706 tested negative for all pathogens, (24) were positive for COVID-19, (3) for Influenza Type A (H3), (5) for Influenza Type B (Victoria), (45) for Influenza A/(H1N1) pdm09 and zero (0) for RSV.

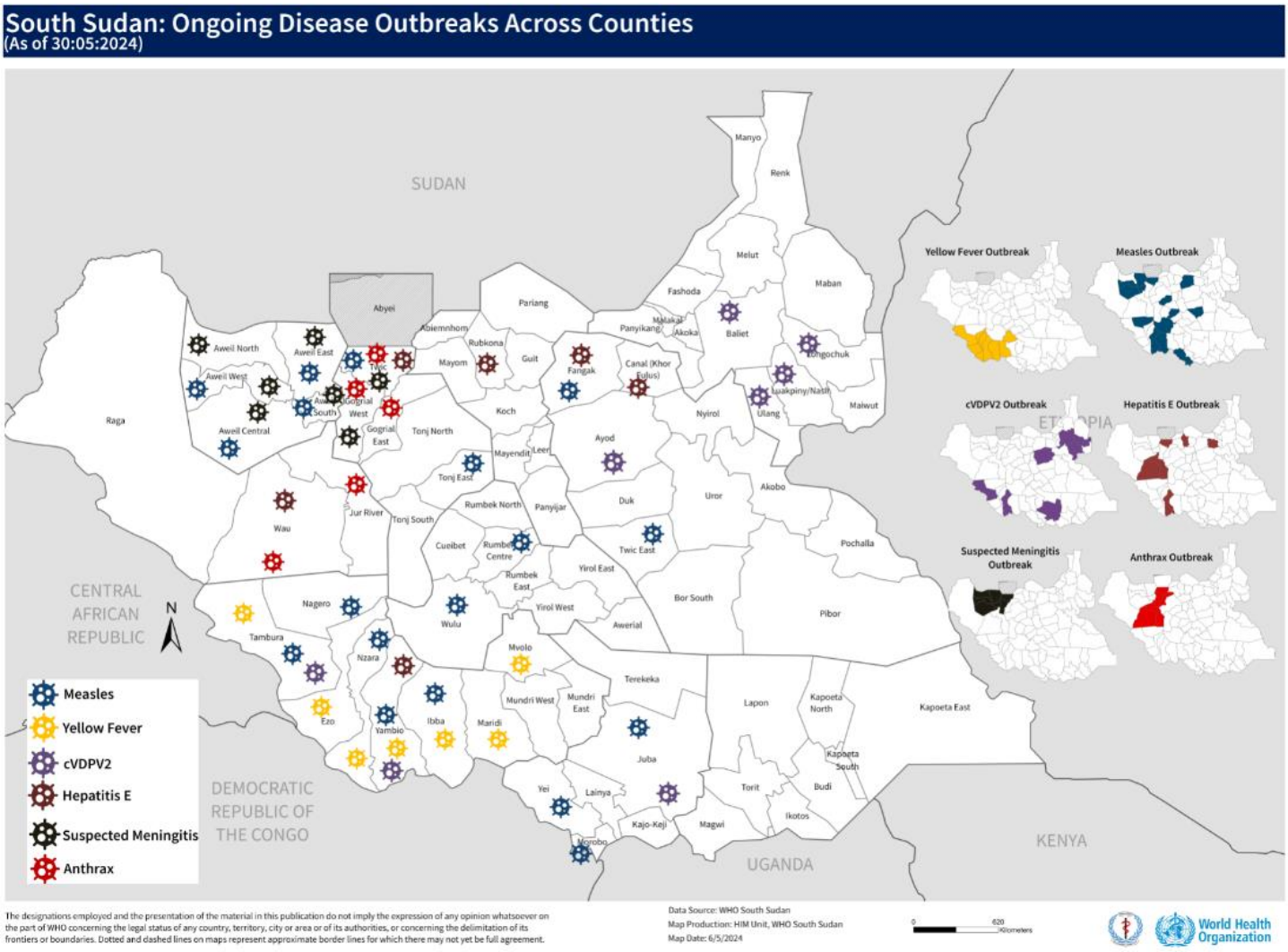
Ongoing confirmed epidemics

Table 4: Summary of new and ongoing 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	3	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	2	655	253	ongoing	ongoing	ongoing	ongoing
cVDPV	Yambio, Juba, Ulang, Nasir, Baliet, Ayod	19/Dec 2023	0	14	23	Not applicable	Completed 2 SIAs and 3rd round planning is ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	27	5 619	-	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

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 3: Map showing ongoing disease outbreaks across the country



The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Response activities for ongoing/suspected outbreaks

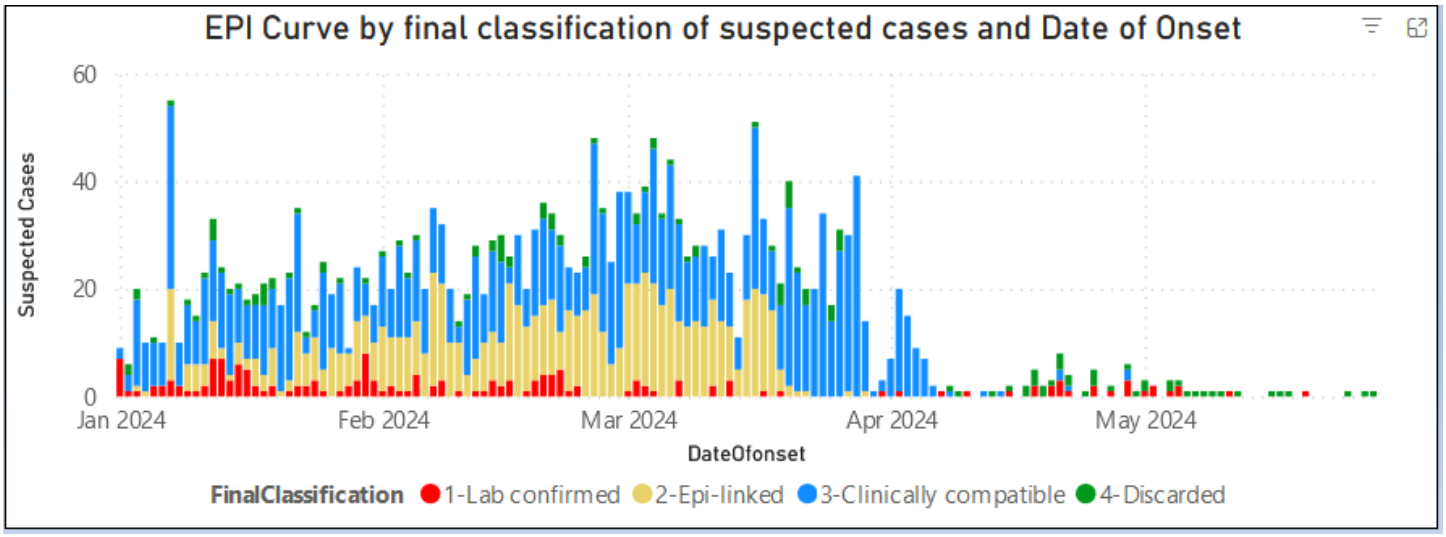
Vaccine-preventable Diseases

1- Measles outbreak

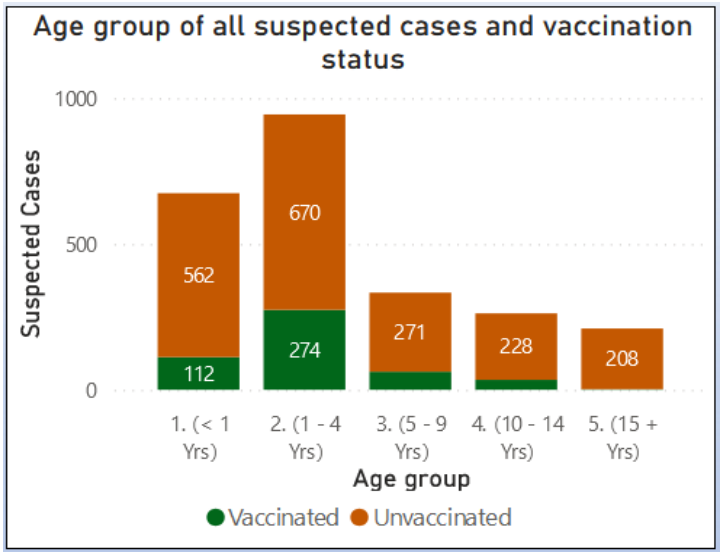
In Epi week 25, no additional data on cases from reporting locations. No new cases/deaths were reported with the onset date in week 24. In the last four weeks, 17 cases have been reported. The cumulative total from week 1 to week 24 is 2,423 suspected measles cases have been reported: 170 (6.8%) were lab-confirmed, 772 (32.1%) epi-linked, 1,348 clinically compatible, and 121 (5.0%) discarded. A total of 30 rubella-positive cases were discarded (negative measles cases). About 66% (1618 out of 2423) of all cases were in

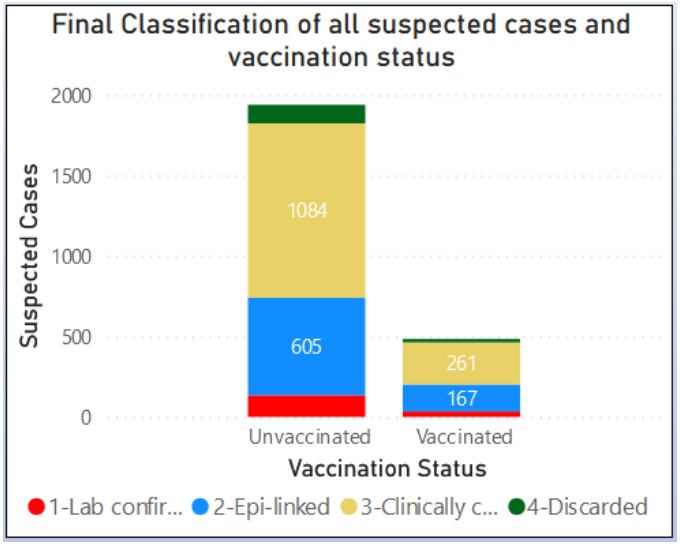
children under five years old, and only 31% had received at least one dose of the measles vaccine. Its noteworthy that for the last 8 weeks running, no single county surpassed the measles outbreak threshold of at least 5 suspected cases or at least 3 IgM positive cases in a month. While the long awaited end to protracted measles outbreaks is in sight, its concerning that only 11 of the 23 suspected measles alerts reported in EWARS were verified.

Figure 5: Epi-curve of suspected measles cases against their residential status by Epi week



Figures 6 and 7: Suspected Measles Cases by age group and vaccination status





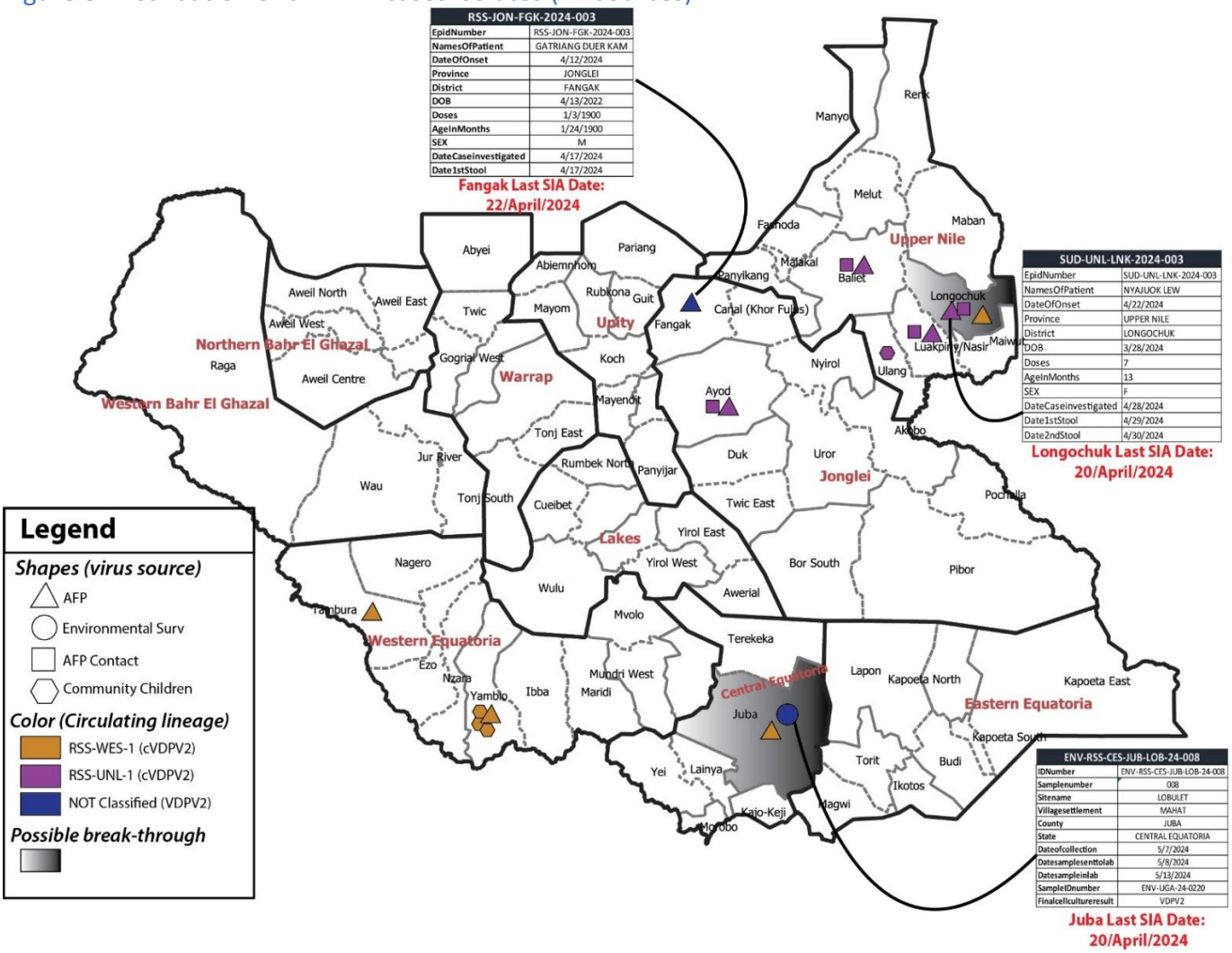
Poliomyelitis

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 the confirmation of a circulating lineage of polio virus type 2 in Yambio. The total number of laboratory-confirmed cVDPV2 isolates are 23 (14 from AFP cases, 3 from AFP contacts, 4 from community contacts and 2 from the environmental samples). 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. The latest cVDPV2 isolates were detected from the environmental samples collected in Lobulet and Roton sampling

sites in Juba county of Central Equatoria state, picked on 7th May 2024. The inability of environmental sampling sites failing to detect the circulating lineages finally came to an end. Unfortunately, the date of sample collection was 3 weeks after the latest round of nOPV2 SIAs, suggesting a possible breakthrough transmission. A detailed community investigation of the environmental surveillance isolates is ongoing to determine possible sources, lineages, and risk of circulation.

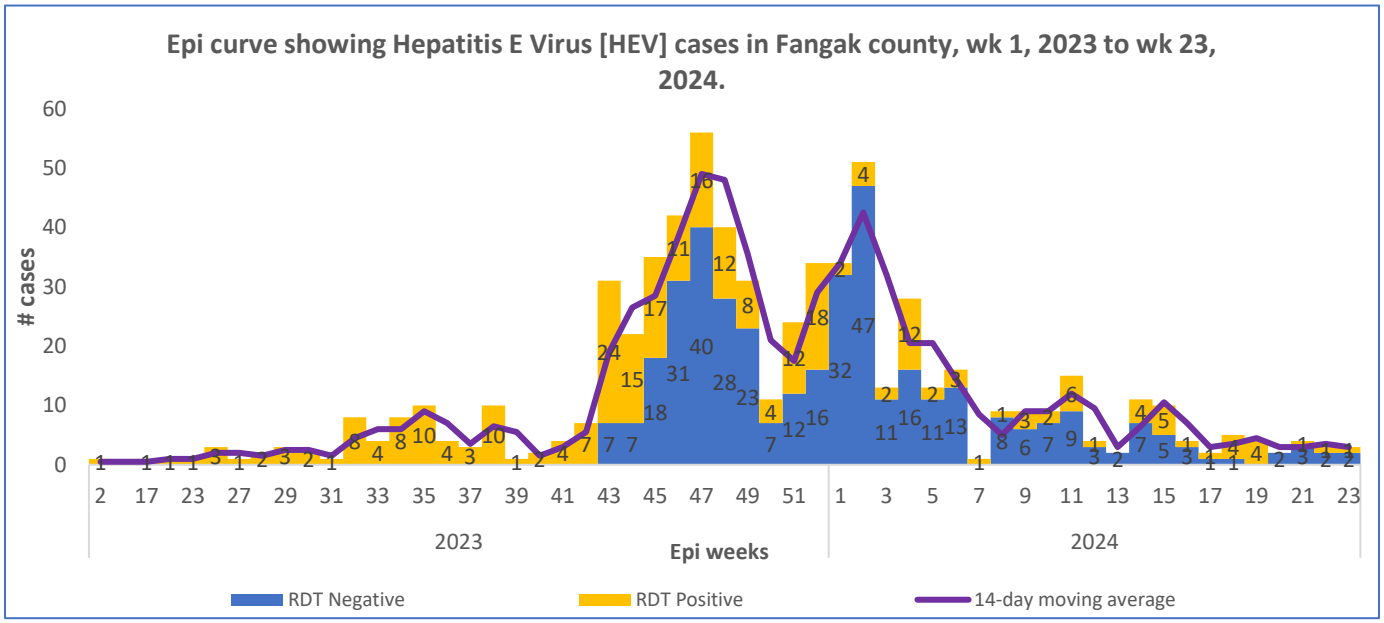
Figure 8: Distribution of cVDPV2 cases isolates (All sources)



1. Hepatitis E Virus in Fangak county Jonglei State

In week 25, there were no new cases reported in from the reporting sites in Jonglei State, therefore the cumulative cases remain 655 cases of Hepatitis E virus including 23 death have been reported since week 1, 2023 to week 23, 2024. Most cases were reported among the age group 15 years and above; Females represent the majority at 65% (424), while males make up 35% (229) of the total. Most cases originated from old Fangak Payam (65% of total cases), followed by Paguir (11%) and other villages. The outbreak peaked in week 42 of 2023, with an RDT positivity rate exceeding 60%. By week 52 of 2023, the Ministry of Health, county health department, MSF-France, and partners had conducted two rounds of Hecolin Hepatitis E vaccination campaigns to address the ongoing outbreak.

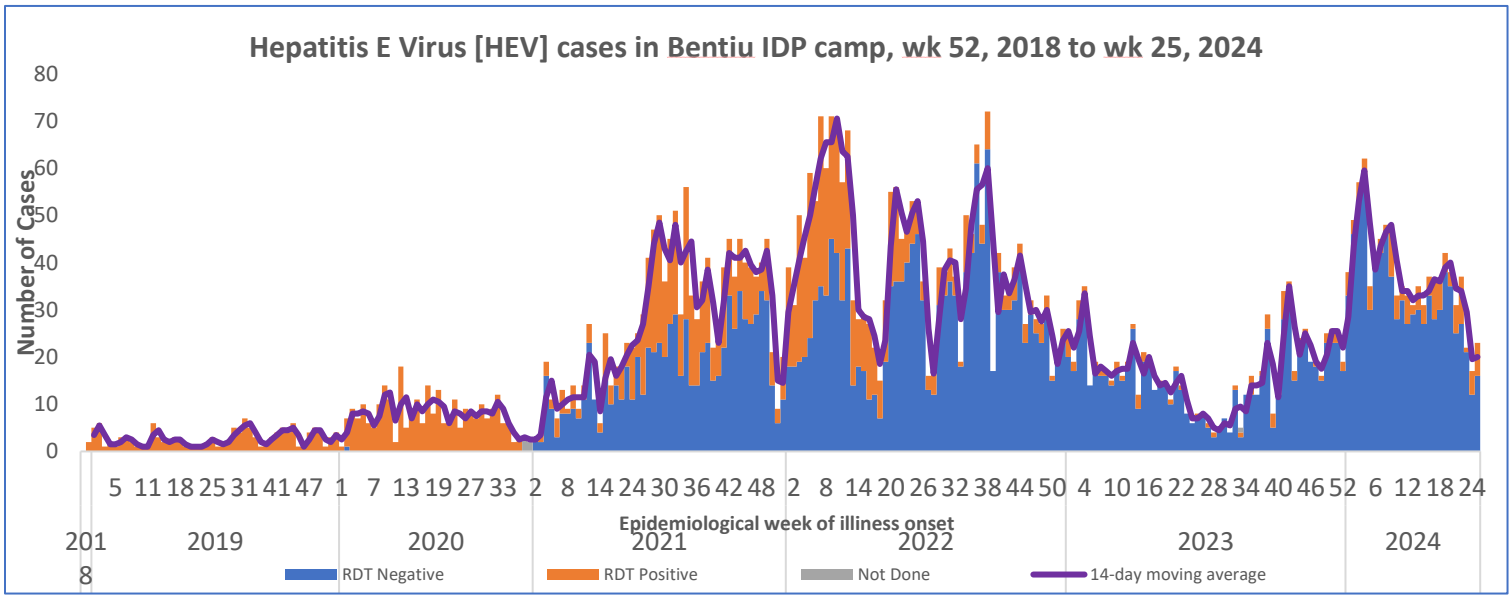
Figure 9: Epi Curve of HEV detection in Fangak County Jonglei States, as of week25



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

In week 25, a total of 23 new cases were reported, with 7 RDT-positive cases and no deaths. Since the outbreak began in 2018, a cumulative of 5,619 cases and 27 deaths have been reported. Among these cases, 43% occurred within the age group of 15-44 years. Males accounted for 52% and females accounted for 48%. Most of the cases (47%) were among the non-camp residents who came to seek treatment within the camp; within the camp, cases were almost equally distributed, with sector 3 with more cases (13%) than the other sectors. There are ongoing WASH interventions within the camp; however, overcrowding remains one of the main challenges, coupled with the Humanitarian complex due to Sudan crisis.

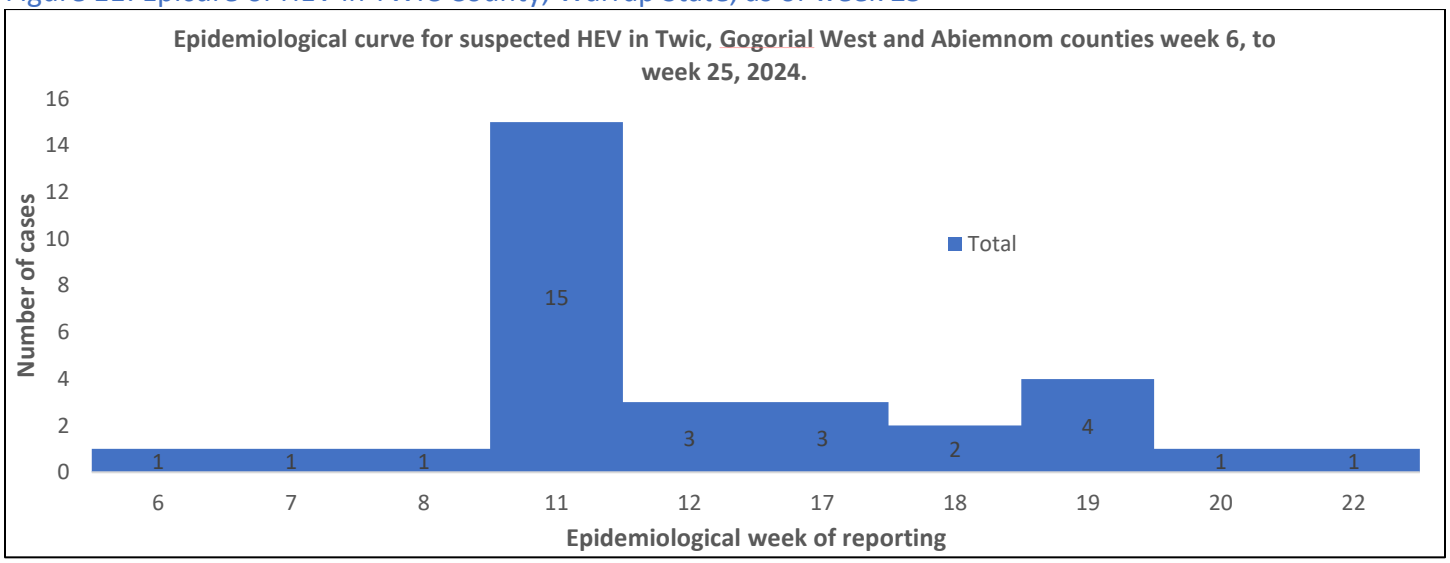
Figure 10: Epicure of HEV in Bentiu IDP camp, Unity State



3. 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. In week25, there were no additional data reported from the reporting sites in Warrap State, therefore the cumulative cases remain 32 cases of Hepatitis E with no deaths. 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, as of week 25

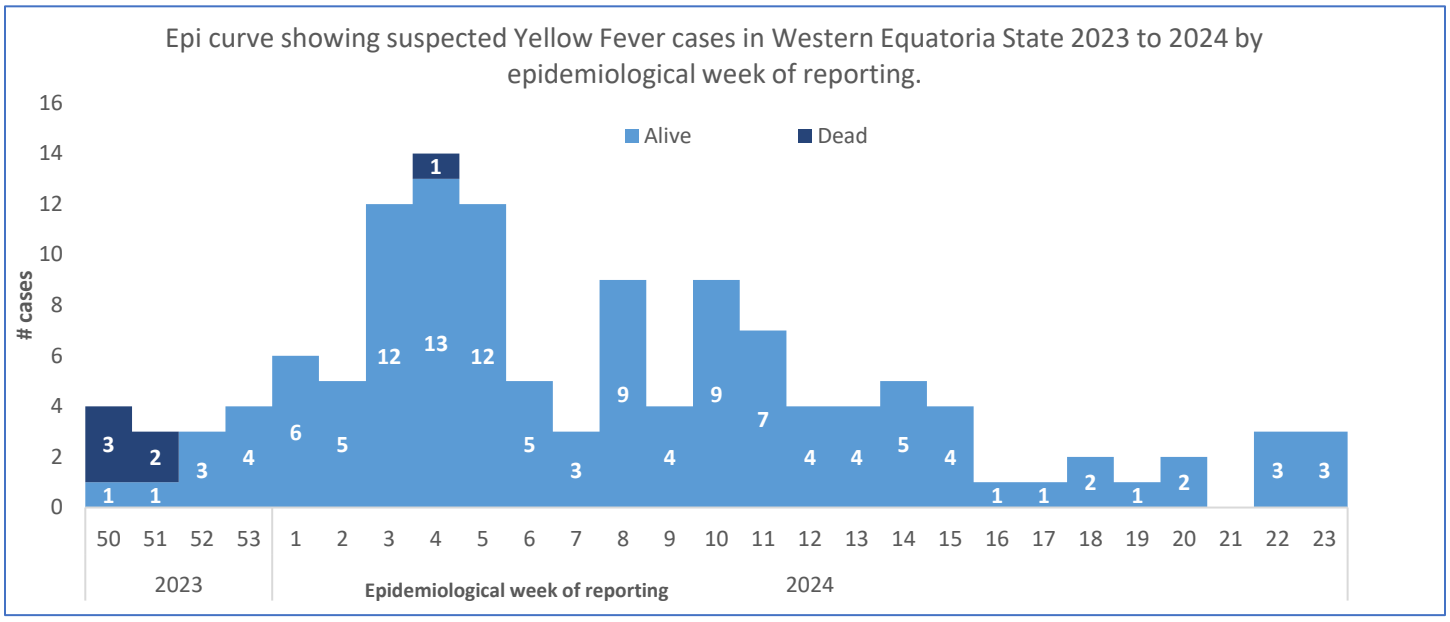


Hemorrhagic Fever

1- Yellow fever Outbreak

In Week25, there were zero reports from the reporting counties in Western Equatoria State, therefore the cumulative case count of yellow fever remained 130 (127 suspected and only 3 laboratory confirmed). Seven counties in Western Equatoria state were affected: Yambio (70), Tambura (26), Nzara (11), Ezo (14), Ibba (03), Maridi (03), and Mvolo (03) Counties. All three confirmed yellow fever cases were detected in Yambio county. Vaccination was conducted in three counties. The National and State Ministries of Health conducted an intra-action review to understand a) what went well, b) best practices, c) challenges encountered and d) lessons learnt that can be used to improve ongoing and future response to yellow fever outbreaks. The intra-action review also made recommendations for fast-tracking evidence generation needed to document the interruption of the outbreak.

Figure 12: Epicurve of Yellow fever detections in Western Equatoria State, as of week25



Other Events

Sudan crisis As of Week, 25, a cumulative at least 723 245 individuals have crossed into South Sudan from 19 different nationalities. Of this number, 77.7% (562602) are South Sudanese returnees. Currently, 21 PoEs are being monitored, with Joda-Renk accounting for 58.9% of the reported influx figures. Host communities and their 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 in both countries. 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. Suspected cholera cases are further screened and tested using rapid diagnostic tests (RDT). A total of 2,015 consultations were recorded in week 25, ARI is the top leading cause of morbidity (1163 of 2015) followed by AWD (372 cases) and Malaria (265 cases).

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 have been 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 Q3 and Q4 of 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 La Niña event in 2024, which is is projected to lead to approximately 50% higher than normal levels of rainfall in the northern and easter parts of South Sudan, This phenomenon itself will not only further exacerbate the flood risk along the White Nile and its tributaries but will also contribute to flooding in more regions further downstream, like those that occurred during the triple-dip La Niña event of 2020-2023. Historical data indicates that peak in flooding is expected 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, for which only 50,000 dollars has been provided by WHO/AFRO to support preparedness activities.

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

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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