



# Republic of South Sudan

## Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 23  
03 -09 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 23 of 2024, the IDSR reporting timeliness and completeness were 80% and 93%, respectively, a slight reduction in Timeliness from 83% and an increase from 92% reported in the previous week.
- At the EWARN mobile sites, the Timeliness and Completeness of IDSR performance were all 79%, lower than in week 22.
- Both Timeliness and completeness stand at 89%.
- In week 23, 243 alerts were triggered, and the proportion of verified alerts increased from 54% (123/288) in week 22 to 70% (173/243) in week 23. Most of the alerts in week 23 were for Malaria (23%), AWD (18%), Guinea Worm (15%), ARI (15%) and ABD (11%).
- Updates on ongoing Hepatitis E Outbreak from Fangak, Twic counties, and Bentiu IDP camp.
- South Sudan anticipates floods in 2024 due to two separate climate conditions. It is projected to lead to approximately 50% higher levels of rainfall in the northern and eastern parts of South Sudan, with a peak in September.

### 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 (EWARN).

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 EWARN are shown in Table 1 below. Timeliness and completeness for week 23 were at 80% and 93%, respectively.

Table 1: Timeliness and completeness of IDSR reporting by State for weeks 23 and 22,2024

State	Total facilities	Number of facilities reported (Completeness)†	Timeliness		Completeness		Cumulative 2024	
			wk. 23	wk. 22	wk. 23	wk. 22	Timeliness	Completeness
Lakes	112	111	97%	94%	100%	100%	91%	98%
NBGZ	89	85	75%	85%	88%	98%	87%	93%
Unity	84	84	100%	100%	100%	100%	94%	100%
WBGZ	81	62	43%	60%	77%	67%	74%	79%
WES	183	183	91%	94%	100%	100%	89%	96%
Jonglei	119	108	88%	87%	90%	90%	86%	89%
Warrap	111	105	65%	77%	91%	91%	82%	92%
EES	107	103	87%	93%	95%	95%	88%	95%
RAA	16	6	0%	31%	100%	38%	51%	68%
CES	122	122	94%	97%	97%	98%	91%	95%
AAA	17	17	82%	88%	82%	94%	73%	79%
Upper Nile	142	115	56%	52%	83%	77%	64%	79%
GPAA	15	15	93%	100%	93%	100%	99%	99%
<b>Total</b>	<b>1198</b>	<b>1116</b>	<b>80%</b>	<b>83%</b>	<b>93%</b>	<b>92%</b>	<b>84%</b>	<b>91%</b>

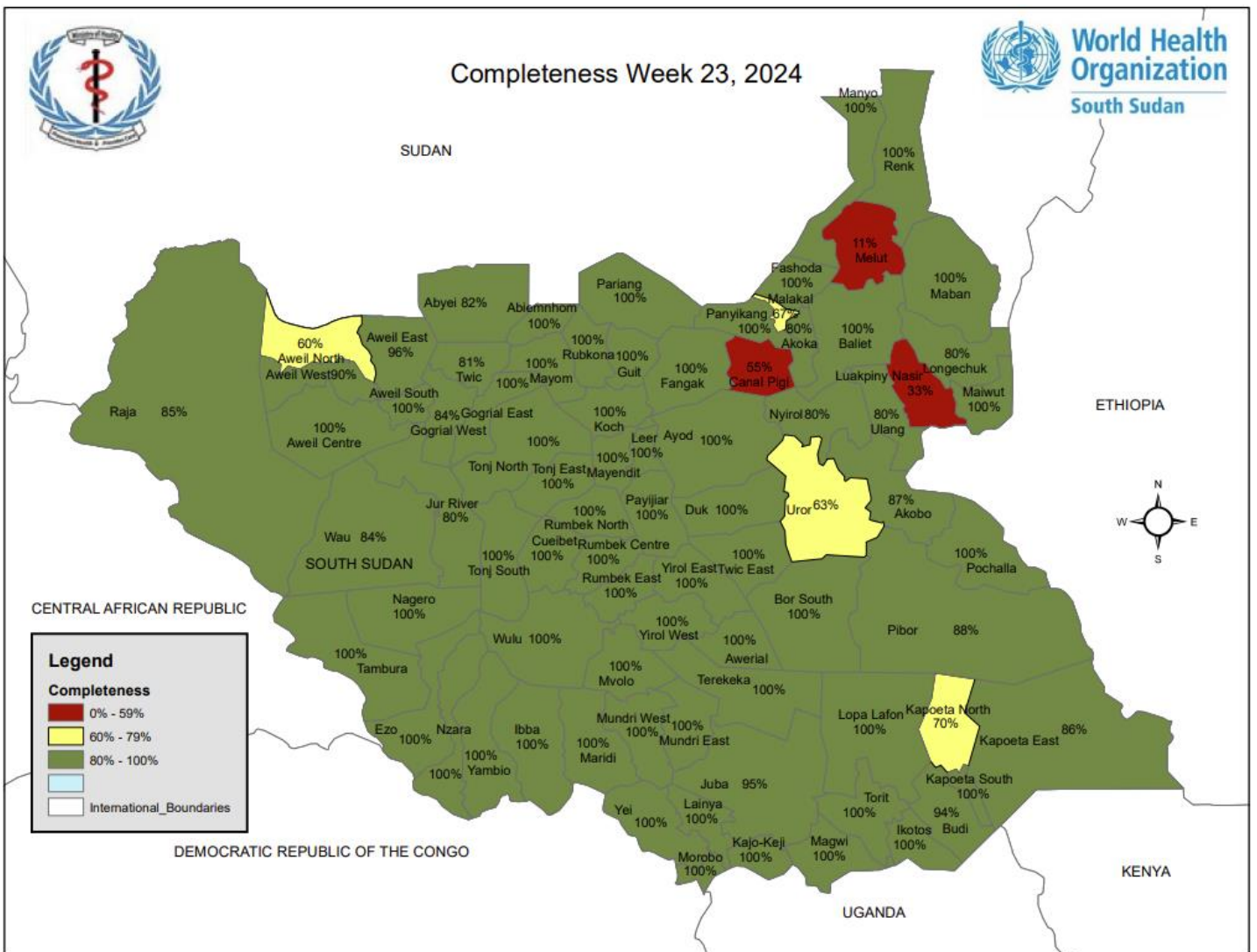
Key

>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 23	% Of Completeness in week 23	Payam	# Of Reporting Private Health Facilities	% Of Timeliness in week 23	% Of Completeness in week 23
IMC	4	25%	25%	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	90%	90%
CIDO	1	100%	100%	Wau North	12	58%	58%
TOTAL	14	79%	79%	Juba	10	100%	100%
				TOTAL	63	89%	89%

Figure 1: Completeness of IDSR reporting by county for week 23, 2024



## Epidemic alerts

A total of 243 alerts have been triggered in the EWARS system, with 70% (173/243) verified in the system compared to 54% in the previous week (22). Most of the alerts were for Malaria (23%), AWD (18%), Guinea Worm(15%), ARI (15%) and ABD (11%). See Table 3 below for more details.

Table 3: Summary alerts triggered week 23, 2024

Admin Area	Acute jaundice syndrome		Acute Respiratory Infections (ARI)		Acute Watery Diarrhoea		AFP		Bloody Diarrhoea		Cholera		Covid-19		EBS		Guinea Worm		Malaria (Confirmed)		Measles		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	#R	#V
CES	0	0	4	0	3	1	0	0	1	1	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	11	5
EES	0	0	1	1	3	3	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	7	7
GPAA	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Jonglei	3	0	3	0	6	0	0	0	4	0	0	0	0	0	0	0	4	0	5	0	9	0	1	0	0	0	35	0
Lakes	0	0	8	8	3	3	0	0	0	0	0	0	1	1	5	5	27	27	5	5	0	0	0	0	0	0	49	49
NBGZ	0	0	3	3	1	1	0	0	2	2	1	1	1	1	0	0	0	0	3	3	0	0	0	0	0	0	11	11
RAA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Unity	1	1	3	2	1	0	0	0	2	0	0	0	0	0	0	0	0	0	7	4	0	0	0	0	0	0	14	7
Upper Nile	1	1	4	1	3	2	1	1	5	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	16	7
Warrap	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	3	4	1	0	0	2	1	0	0	0	0	10	5
WBGZ	0	0	3	3	6	5	0	0	2	2	0	0	0	0	0	0	0	0	7	5	1	1	0	0	0	0	19	16
WES	2	2	8	8	18	17	0	0	10	10	0	0	0	0	0	0	0	0	26	25	7	3	0	0	0	0	71	65
Grand Total	7	4	38	26	45	33	1	1	28	18	1	1	2	2	8	8	36	29	56	45	22	5	1	0	1	1	246	173

#R= reported

#V= verified

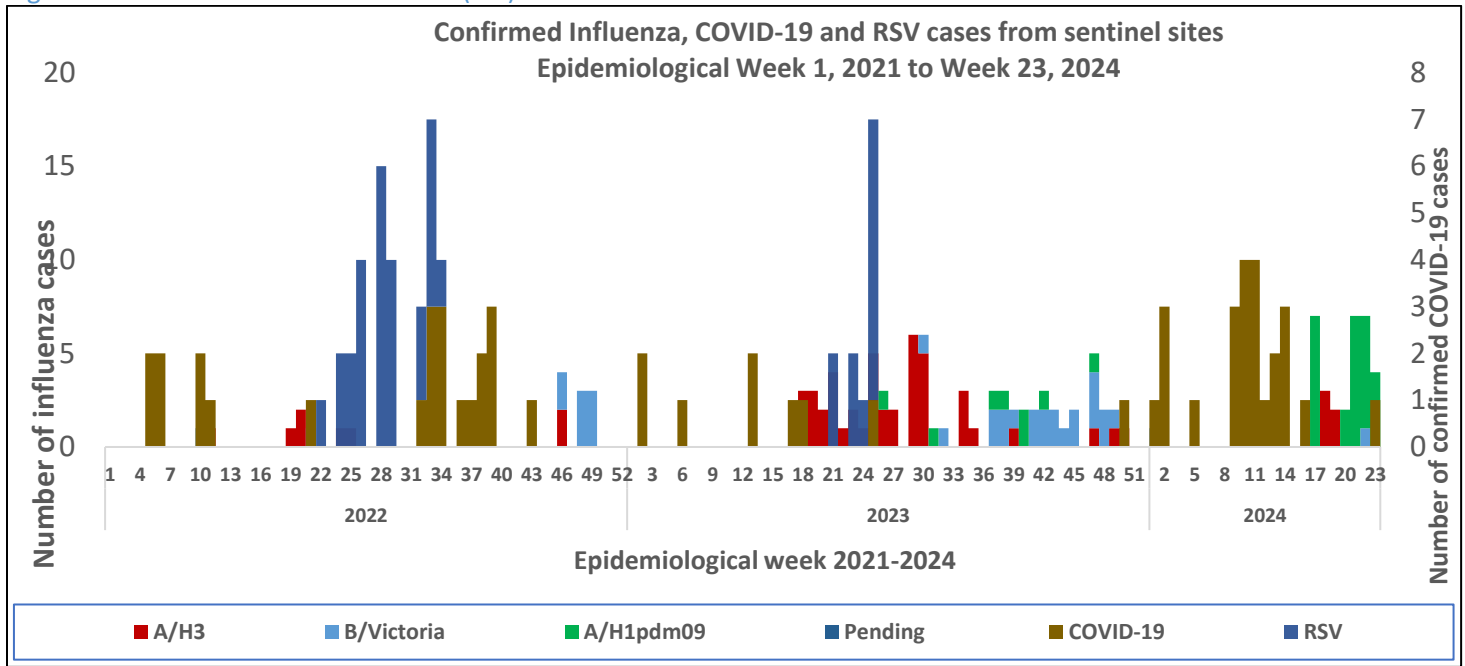
## Weekly Update on Indicator-Based Surveillance (Week 22)

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, and 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 23 in 2024, a total of 709 ILI/SARI samples were collected; 649 tested negative for all pathogens, (24) were positive for COVID-19, (3) for Influenza Type A (H3), (5) for Influenza Type B (Victoria), (28) for Influenza A/(H1N1) pdm09 and zero (0) for RSV.

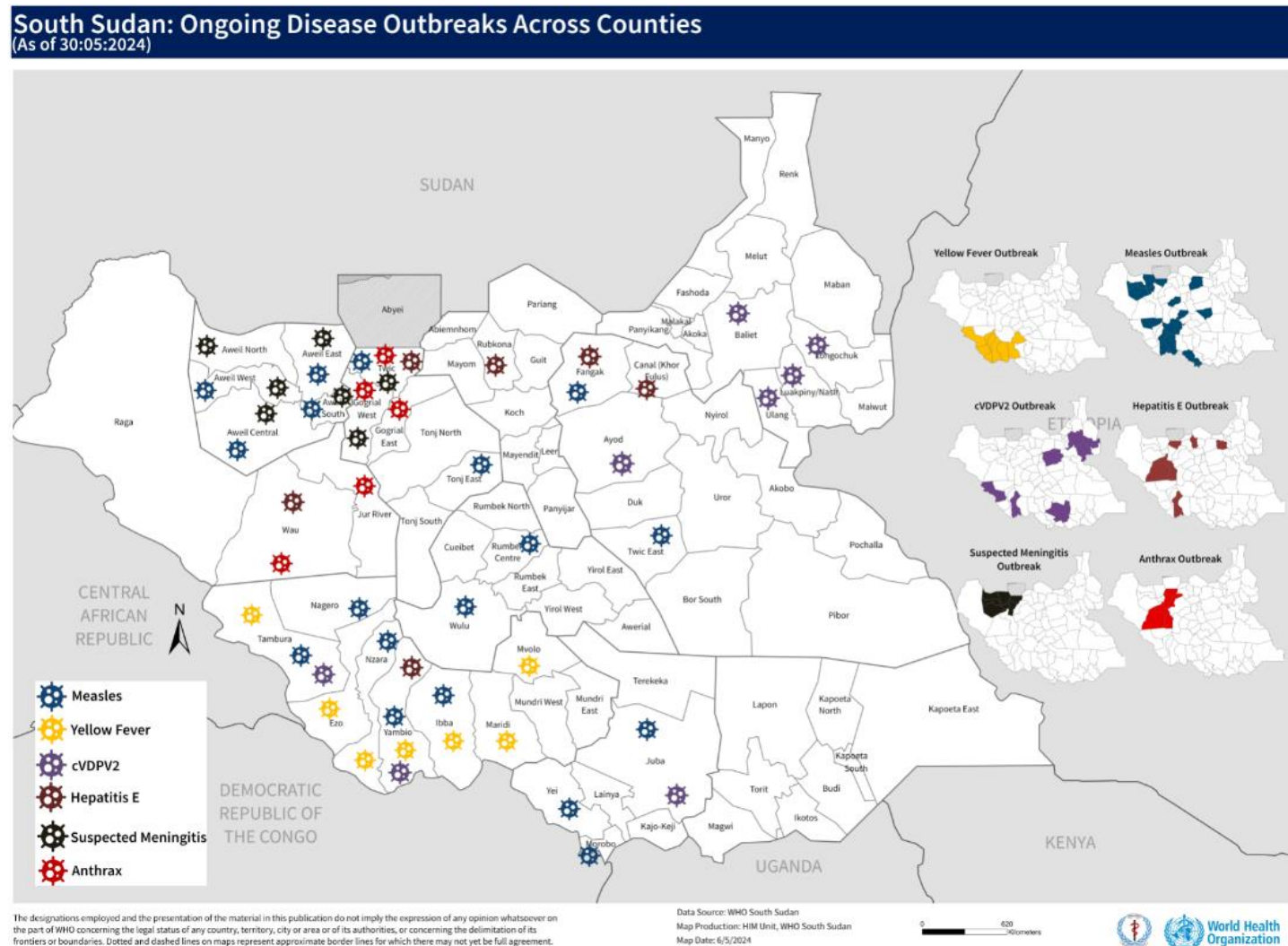
**Ongoing confirmed epidemics**

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
<i>Ongoing outbreaks</i>									
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	14,528	1,178	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Fangak	2023	2	650	253	ongoing	done	ongoing	ongoing
cVDPV	Yambio, Juba, Ulang, Nasir, Baliel, Ayod	19/Dec 2023	5	16	16	Not applicable	Completed 2 SIAs and 3 <sup>rd</sup> round planning is ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	22	5579	-	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 (NBS)	2022	-	44	3	ongoing	Ongoing in the 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



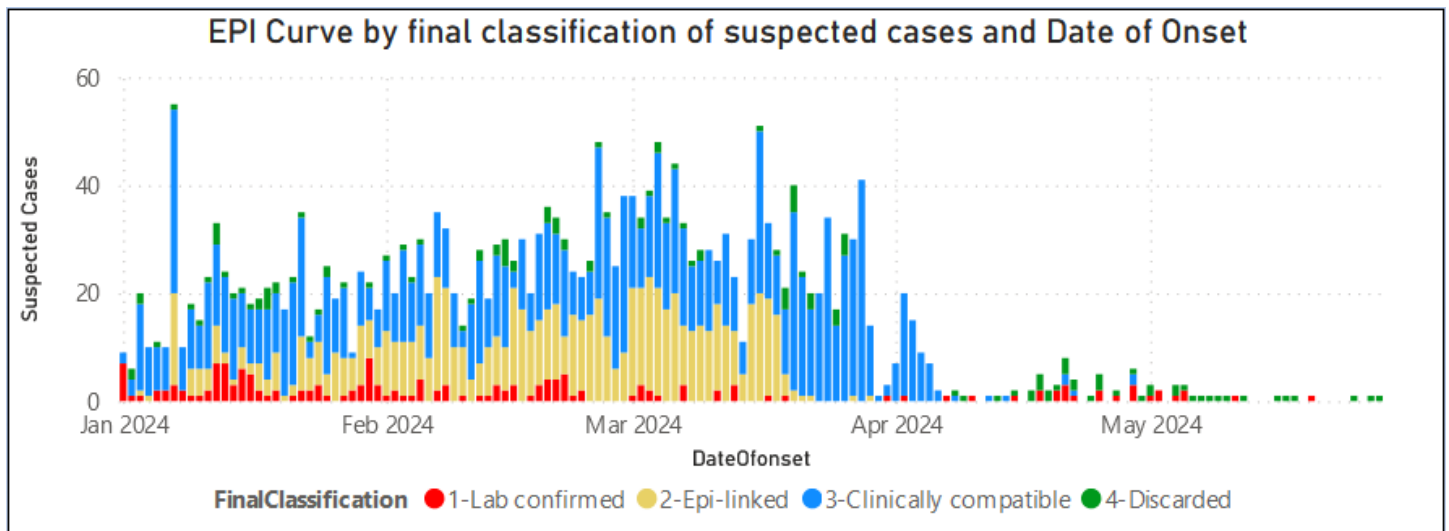
## Response activities for ongoing/suspected outbreaks

### Vaccine-preventable Diseases

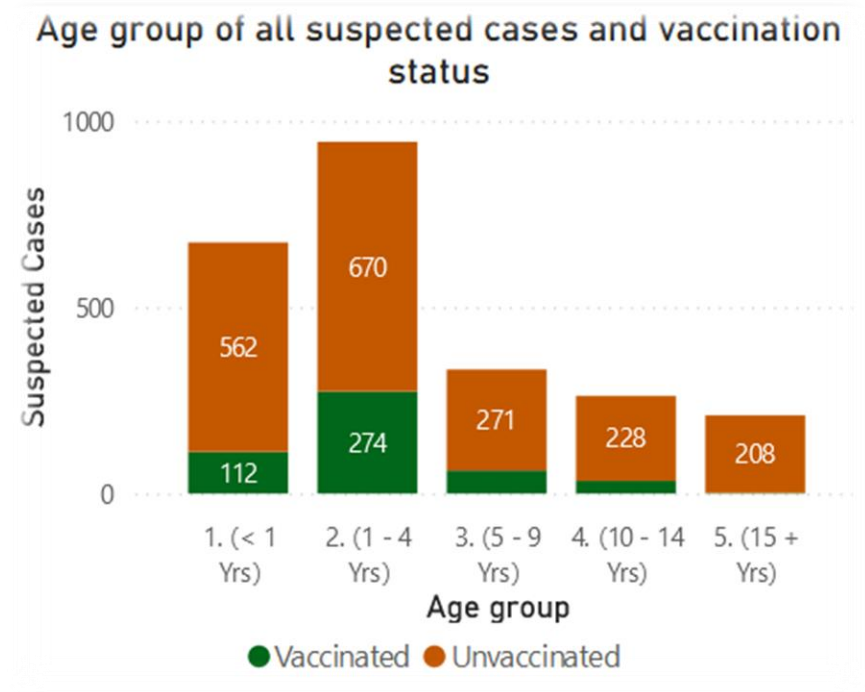
#### 1- Measles outbreak

In Epi week 23, no new cases/deaths were reported. The cumulative total from week 1 to week 23 is 2,423 suspected measles and cumulatively there are 14,528 since cases have been reported in 2022: In 2024, a total of 170 (6.8%) were lab-confirmed, 772 (32.1%) epi-linked, 1,360 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.

Figure 4: Epi-curve of suspected measles cases against their residential status by Epi week



Figures 5: Suspected Measles Cases by age group and vaccination status



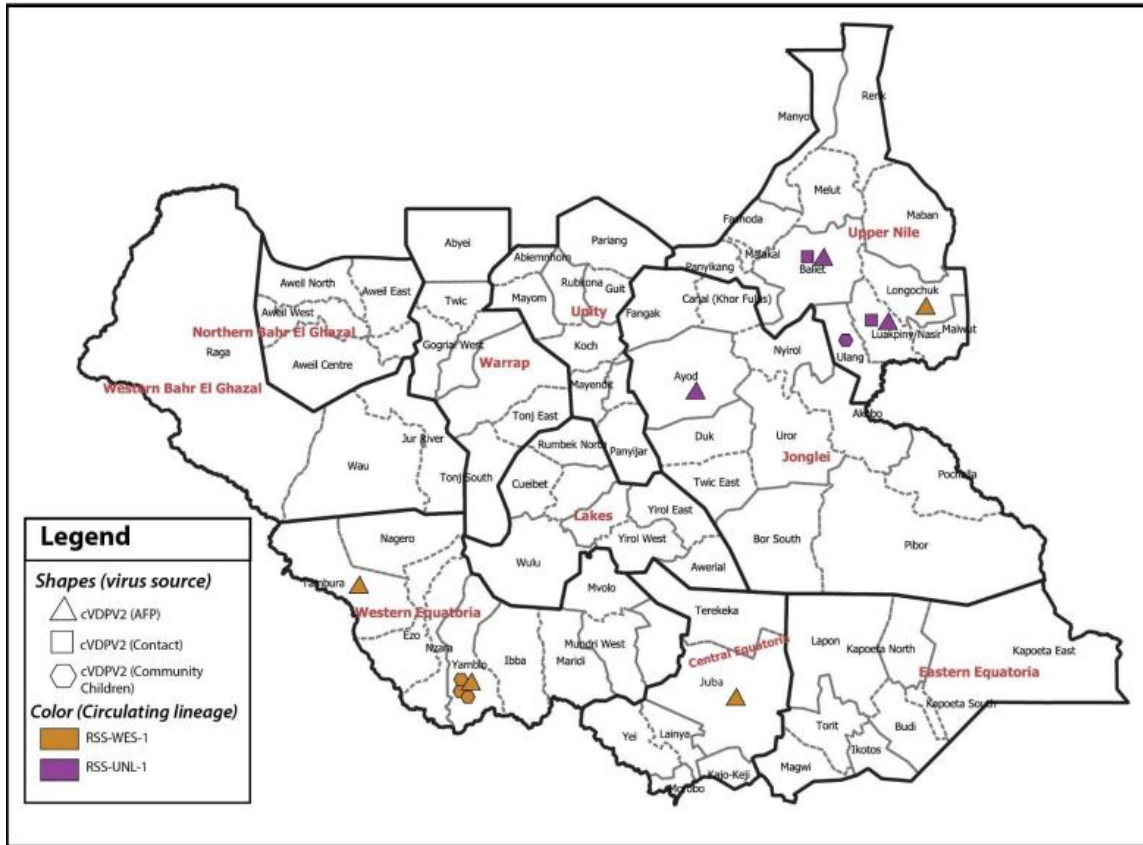
## Poliomyelitis

### 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 16 (7 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 7<sup>th</sup> 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 is 3 weeks after the latest round of nOPV2 SIAs, suggesting a possible

breakthrough transmission.

Figure 6: Distribution of cVDPV2 cases isolates (All sources)

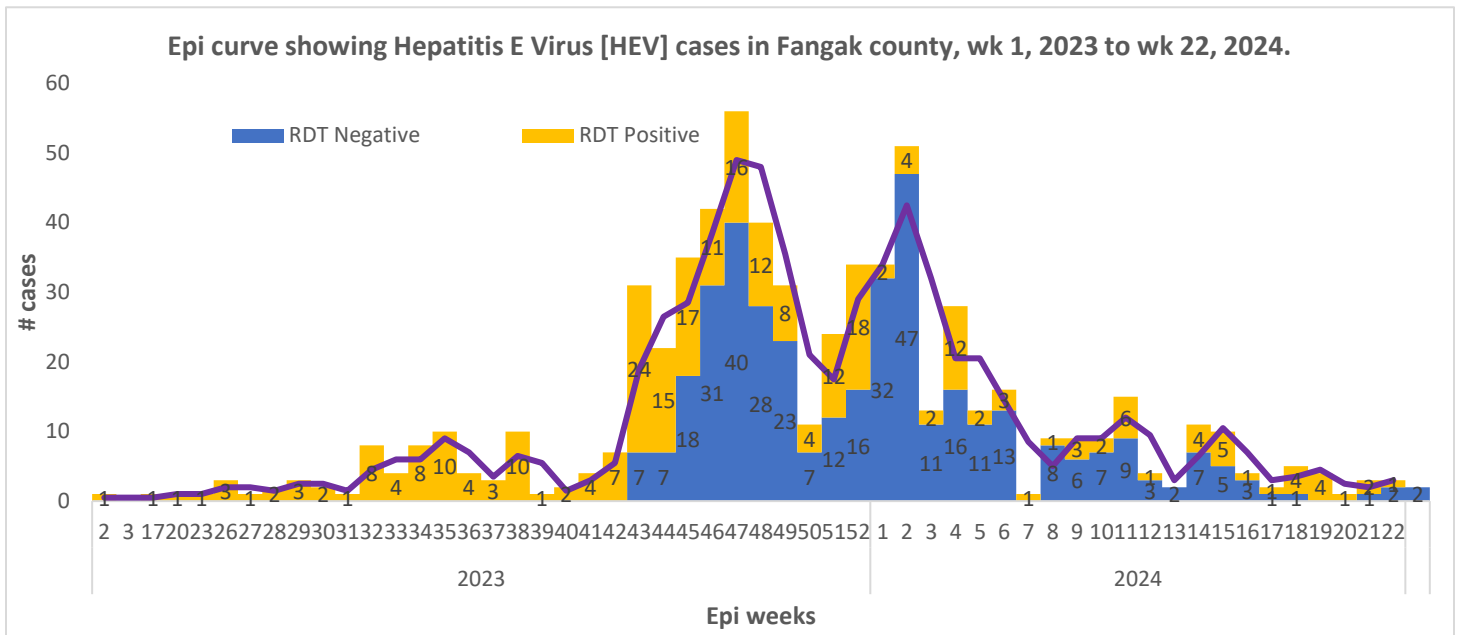


### 1. Hepatitis E Virus in Fangak county Jonglei State

A total of 652 cases, including 22 deaths, have been reported from week 1, 2023, to week 22, 2024. Most cases were reported among the age group 15 years and above; Females represent the majority at 65% (424). 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.



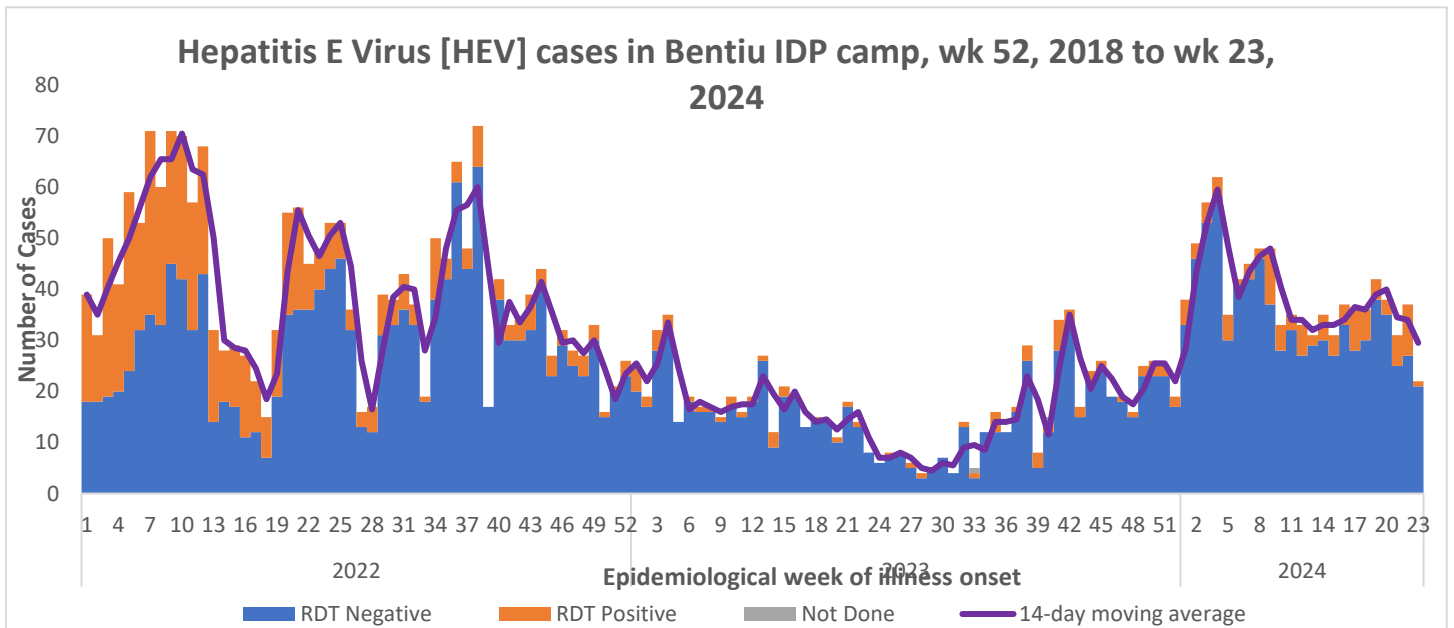
Figure 7: Epi-curve of HEV in Fangak County



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

In week 23, 22 new cases were reported. Of these, 1 RDT tested positive for the virus; with no deaths. Since the outbreak began in 2018, there have been a total of 5579 reported cases, with 27 deaths. 43% of the cases were reported among individuals aged 15 to 44 years. Males accounted for 52% (2,919 cases), while females accounted for 48% (2,660 cases). 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 the ongoing Sudan crisis.

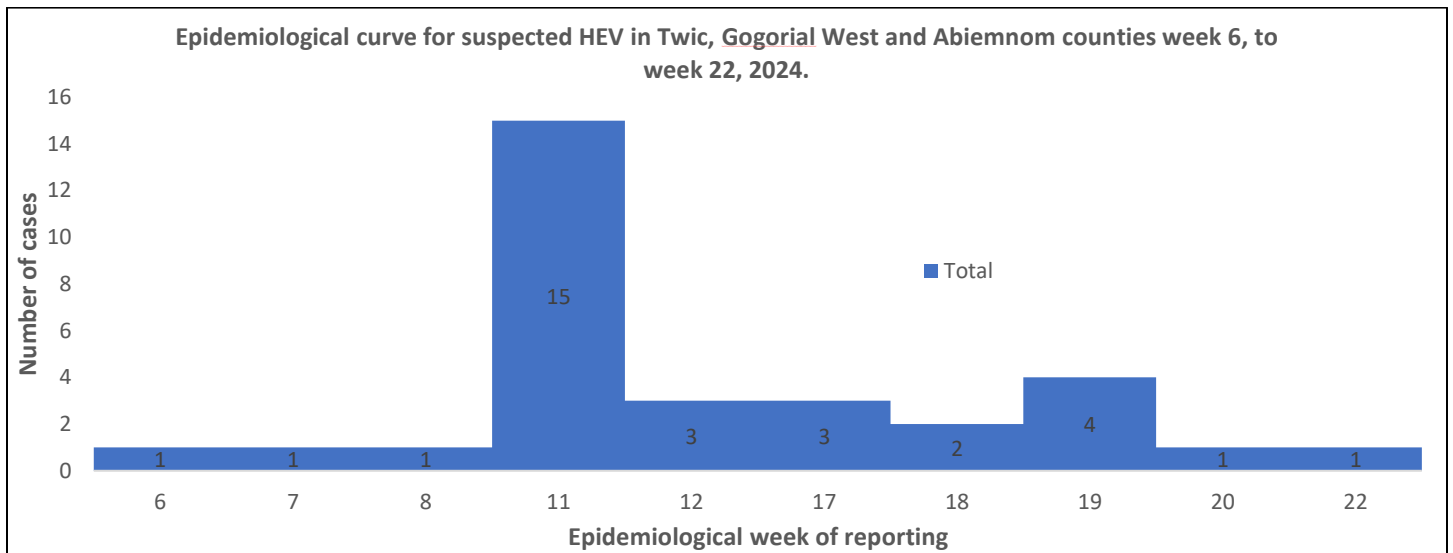
Figure 8: Epicure of HEV in Bentiu IDP camp, Unity State



### 3. Hepatitis E outbreak Twic County, Warrap State

In March, the State Ministry of Health officially declared an outbreak of Hepatitis E. 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 9: Epicure of HEV in TWIC county Warrap State

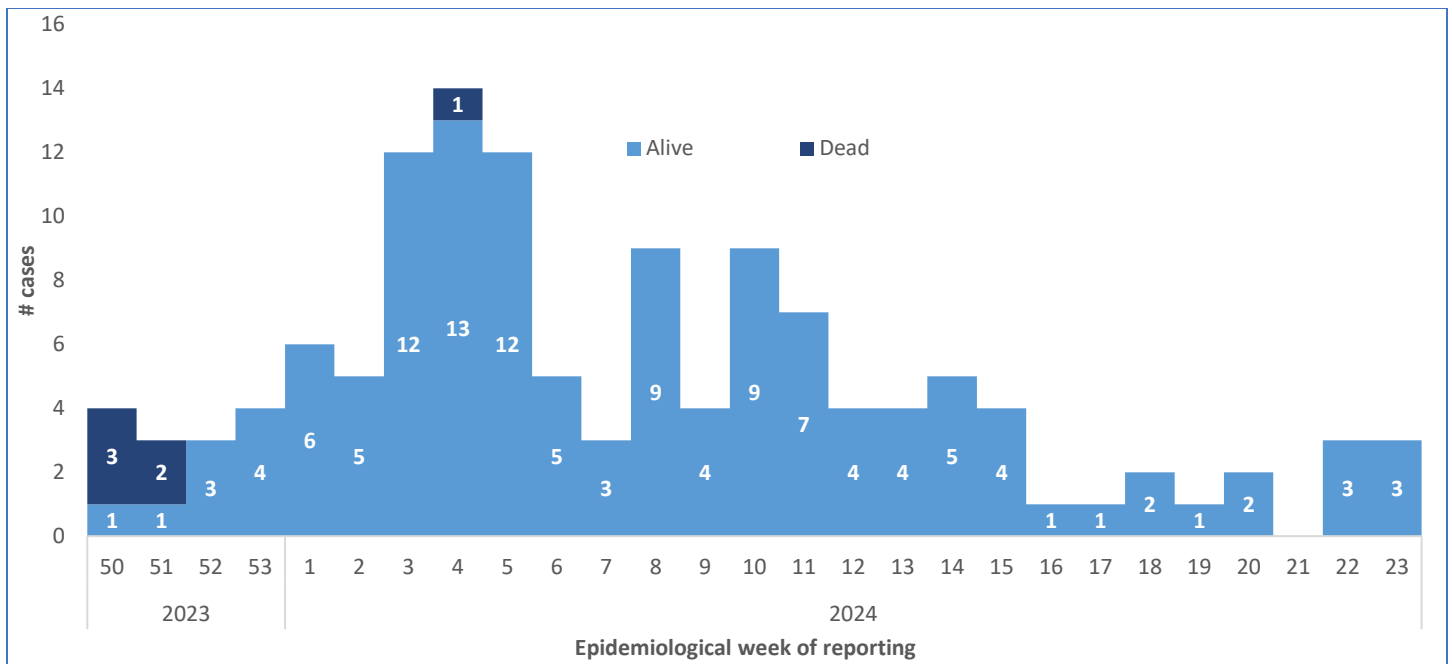


## Hemorrhagic Fever

### 1- Yellow fever Outbreak

In Week 23, three (3) additional cases were reported from Yambio, giving an overall cumulative of 130 yellow fever cases (127 suspected and 3 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. Vaccination was conducted in three counties. The Ministry of Health and State have conducted an intra-action review to understand what went well and less well and ways to improve ongoing and future responses.

Figure 10: Epi curve of Yellow fever outbreak in Western Equatoria State; 2023 to 2024



### Other Events

**Sudan crisis:** As of Week 23, at least **705,214** individuals have crossed from 19 different nationalities. Of this number, 78.4% (**529,707**) are South Sudanese returnees. Currently, 21 PoEs are being monitored, with Joda-Renk accounting for 83.4% of the reported influx figures. Hostcommunities and healthcare systems are struggling to cope with the increased demand for health and other services. 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 3291 consultations were recorded this week, ARI is the top leading cause of morbidity 859/3291 followed by AWD 358 and Malaria 230

**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 Niño event in 2024 is projected to lead to approximately 50% higher levels of rainfall in the northern and eastern 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

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### Notes

WHO and the Ministry of Health gratefully acknowledge the surveillance officers [at state, county, and health facility levels], health cluster and healthpooled fund (HPF) partners who have reported the data used in this bulletin. We would also like to thank ECHO, USAID and the World Bank for providing financial support.

The data has been collected with support from the EWARS project. This is an initiative to strengthen early warning, alert, and response in emergencies. It includes an online, desktop and mobile application that can be rapidly configured and deployed in the field. It is designed with frontline users in mind and built to work in difficult and remote operating environments. This bulletin has been automatically published from the EWARS application.

More information can be found at: <http://ewars-project.org>

Data source: DHIS-2 and EWARS

