



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 22  
27 May -02 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 22 of 2024, the IDSR reporting timeliness and completeness were 83% and 92%, respectively, which is a slight reduction from the 87% and 93% reported in the previous week.
- At the EWARN mobile sites, the Timeliness and Completeness of IDSR performance were all 100%, which is higher than in week 21.
- Timeliness and completeness stand at 89% and 90%, respectively; Completeness is Lower than the 95% in the previous week.
- In week 22, 228 alerts were triggered, and the proportion of verified alerts reduced from 69% (161/233) in week 21 to 54% (123/228) in week 22. Most of the alerts in week 22 were for Malaria (23%), AWD (18%), Guinea Worm (16%) and ABD (11%)
- 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 22 were at 83% and 92%, respectively.

**Table 1: Timeliness and completeness of IDSR reporting by State for week 22 and 21, 2024**

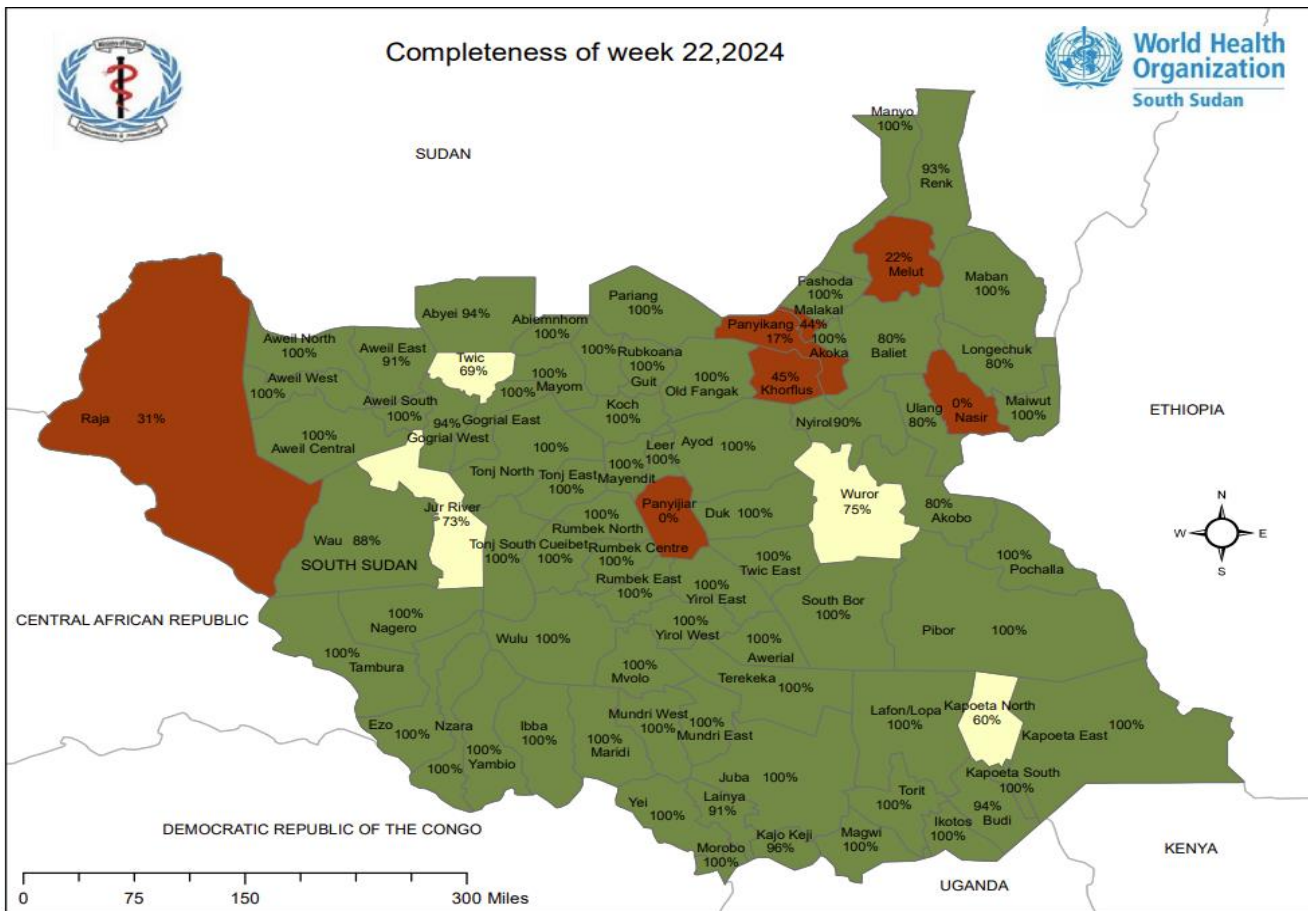
State	Total facilities	Number of facilities reported (Completeness)†	Timeliness		Completeness		Cumulative 2024	
			wk. 22	wk. 21	wk. 22	wk. 21	Timeliness	Completeness
Lakes	112	111	94%	97%	100%	99%	90%	98%
NBGZ	89	85	85%	91%	98%	96%	87%	93%

Unity	84	84	100%	100%	100%	100%	94%	100%
WBGZ	81	62	60%	75%	67%	83%	75%	79%
WES	183	183	94%	97%	100%	100%	89%	96%
Jonglei	119	108	87%	89%	90%	91%	86%	89%
Warrap	111	105	77%	84%	91%	95%	83%	92%
EES	107	103	93%	89%	95%	96%	88%	95%
RAA	16	6	31%	31%	38%	38%	53%	68%
CES	122	122	97%	98%	98%	100%	90%	94%
AAA	17	17	88%	100%	94%	100%	73%	78%
Upper Nile	142	115	52%	58%	77%	81%	64%	78%
GPAA	15	15	100%	100%	100%	100%	99%	99%
<b>Total</b>	<b>1198</b>	<b>1116</b>	<b>83%</b>	<b>87%</b>	<b>92%</b>	<b>93%</b>	<b>84%</b>	<b>91%</b>

**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	# Reporting Mobile Sites	% of Timeliness in week 22	% of Completeness in week 22	Payam	# Reporting Private Health Facilities	% of Timeliness in week 22	% of Completeness in week 22
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	85%	90%
CIDO	1	100%	100%	Wau North	12	67%	67%
TOTAL	14	100%	100%	Juba	10	100%	100%
				TOTAL	63	89%	90%

Figure 1: Completeness of IDSR reporting by county for week 22, 2024



**Epidemic alerts**

A total of 228 alerts have been triggered in the EWARS system, with 54% (123/228) verified in the system compared to 69% in the previous week (21). Most of the alerts were for Malaria (23%), AWD (18%), Guinea Worm (16%) and ABD (11%). See Table 3 below for more details.

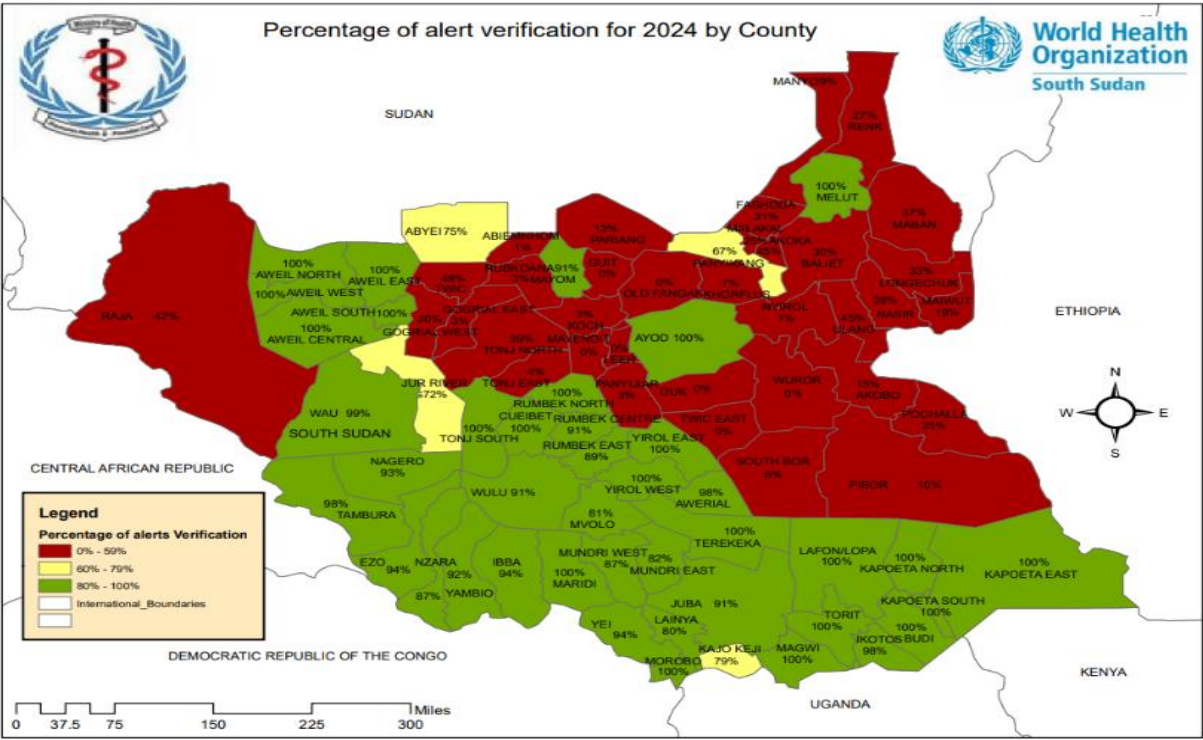
Table 3: Summary alerts triggered week 22, 2024

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		
<b>CES</b>	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	0	0	11	5
<b>EES</b>	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		
<b>GPAA</b>	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		
<b>Jonglei</b>	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		
<b>Lakes</b>	0	0	8	2	3	1	0	0	0	0	0	0	1	1	5	5	2	7	5	5	1	0	0	0	0	0	49	15		
<b>NBGZ</b>	0	0	3	3	1	1	0	0	1	1	1	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	9	7		
<b>Unity</b>	1	0	3	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	0	14	1		

Upper Nile	1	1	1	1	2	2	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	
Warra p	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	3	4	0	0	0	2	1	0	0	0	0	10	4
WBGZ	0	0	3	3	6	5	0	0	2	2	0	0	0	0	0	0	0	5	5	1	1	0	0	0	0	17	16	
WES	2	2	8	8	6	5	0	0	0	0	0	0	0	0	0	0	0	24	22	7	3	0	0	0	0	67	60	
Grand Total	7	3	35	18	2	9	1	1	4	7	1	0	1	1	8	8	6	6	52	34	9	5	1	0	1	1	228	123

#R= reported  
#V= verified

Figure 2: Alerts Verification rates by county of South Sudan for week 22, 2024



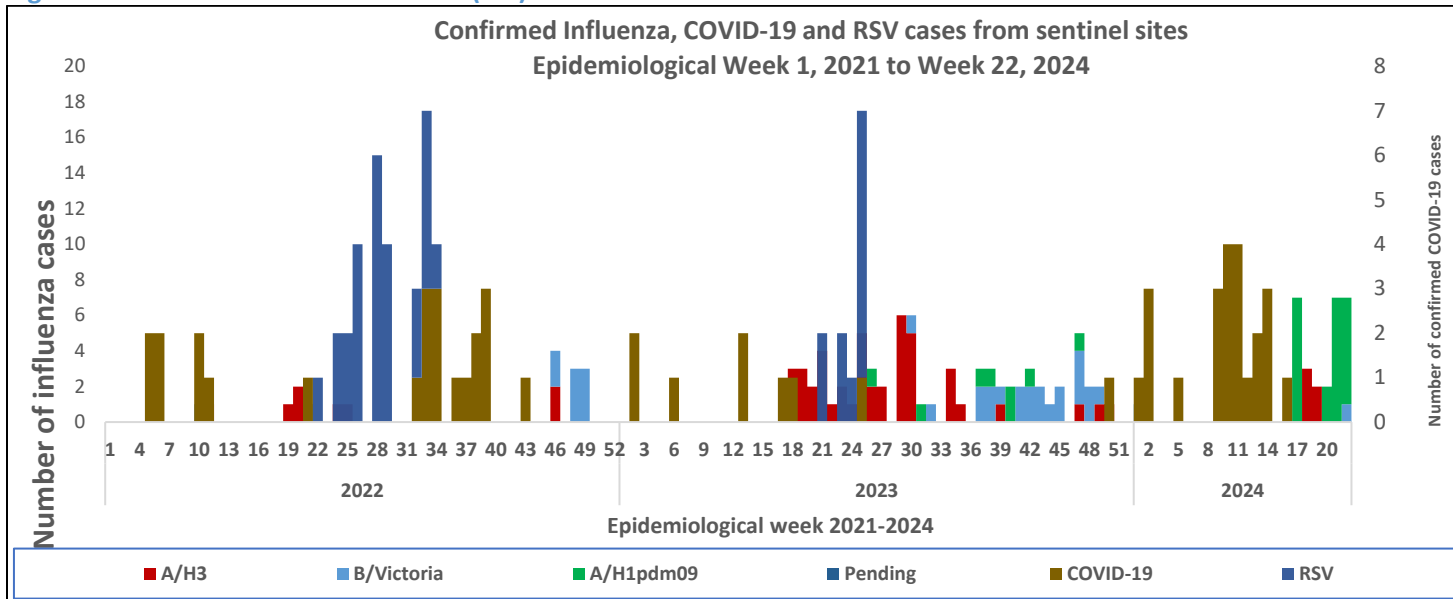
**Weekly Update on Indicator-Based Surveillance (Week 22)**

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, 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 22 in 2024, a total of 671 ILI/SARI samples have been collected; 616 tested negative for all pathogens, (23) were positive for COVID-19, (3) for Influenza Type A (H3), (5) for Influenza Type B (Victoria), (24) for Influenza A/(H1N1)pdm09 and zero (0) for RSV.

Ongoing confirmed epidemics

Table 4: Summary of new and ongoing confirmed epidemics

Aetiological 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	127	3 confirmed	Laboratory Ongoing	Done in 5 counties	Ongoing	Ongoing	Ongoing
Measles	Multiple counties	2022	0	14,507	1,154	ongoing	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Fangak	2023		617	253	ongoing	ongoing	ongoing	ongoing	ongoing
cVDPV	Yambio, Juba, Ulang, Nasir, Baliet,	19/Dec 2023	0	11	11	Not applicable	Completed 2 SIAs and 3 <sup>rd</sup> round planning	ongoing	ongoing	ongoing

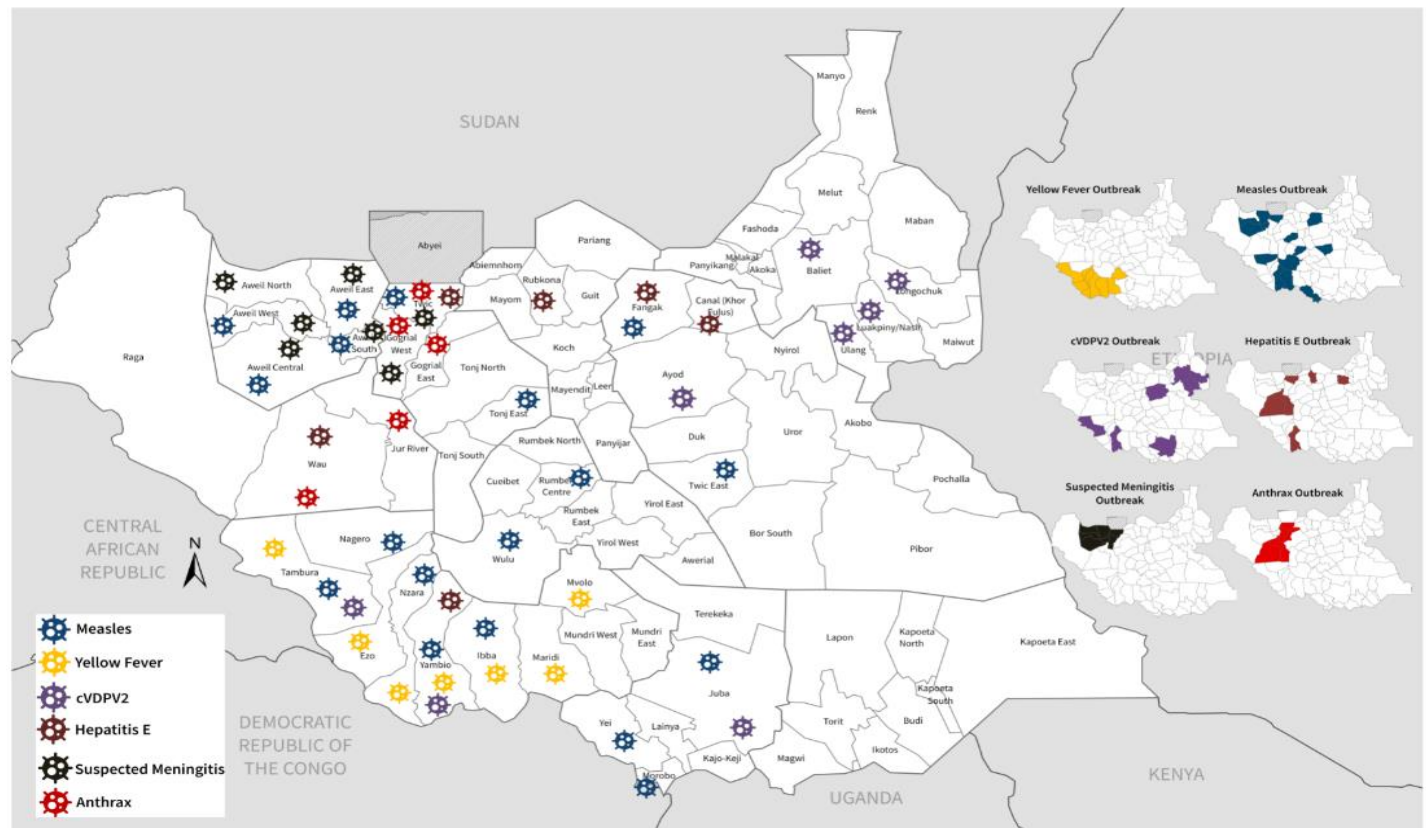


	Ayod						is ongoing		
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	27	5269	-	ongoing	Done in 2021/22	ongoing	ongoing
Hepatitis E	Twic	Feb 2024	30	32	1	ongoing	Not done	ongoing	ongoing
Anthrax	Gogrial west (WRP) and Jur River (NBG)	2022	-	44	3	ongoing	Ongoing in animal sector	ongoing	ongoing

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

**South Sudan: Ongoing Disease Outbreaks Across Counties**  
(As of 30/05/2024)



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.

Data Source: WHO South Sudan  
Map Production: HIM Unit, WHO South Sudan  
Map Date: 6/5/2024

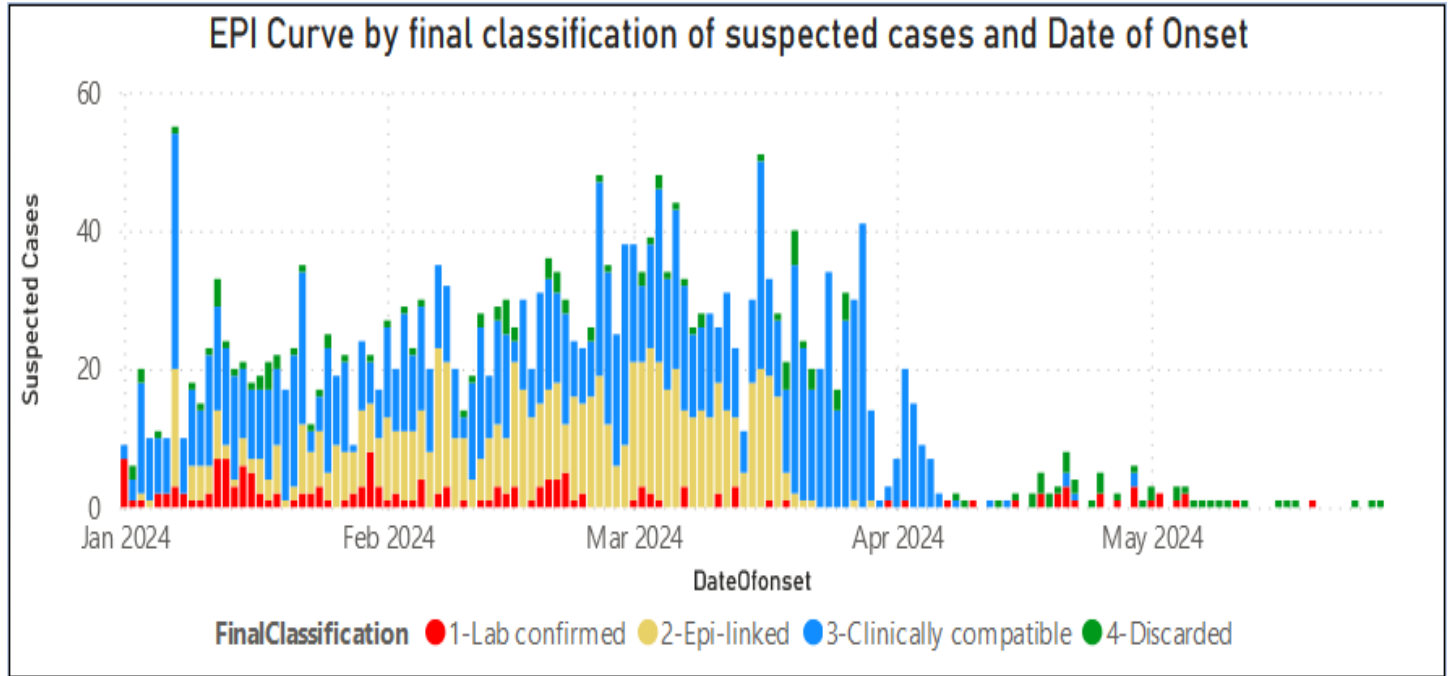


Vaccine-preventable Diseases

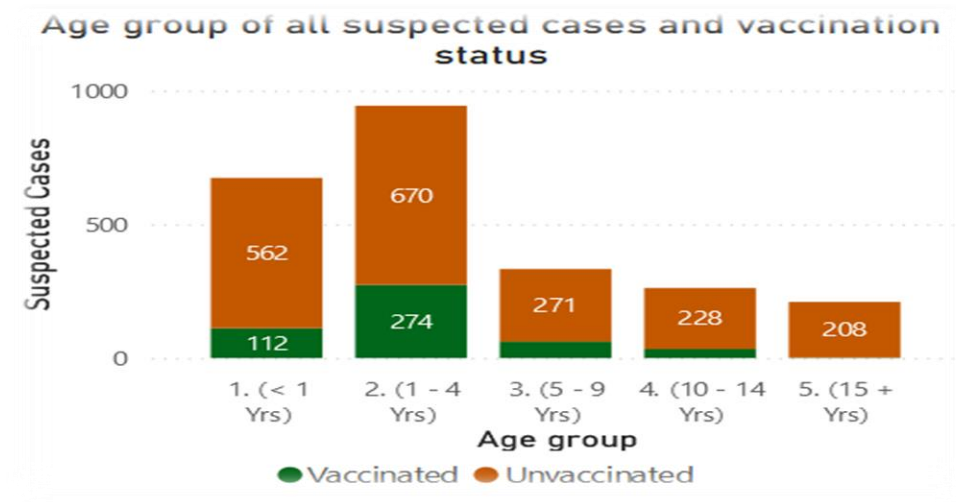
1- Measles outbreak

In Epi week 22 no additional data on cases from reporting locations. No new cases/deaths were reported with the onset date in week 22. In the last four weeks, 17 cases have been reported. The cumulative total from week 1 to week 22 is 2,423 suspected measles cases reported including 170 (6.8%) 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.

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

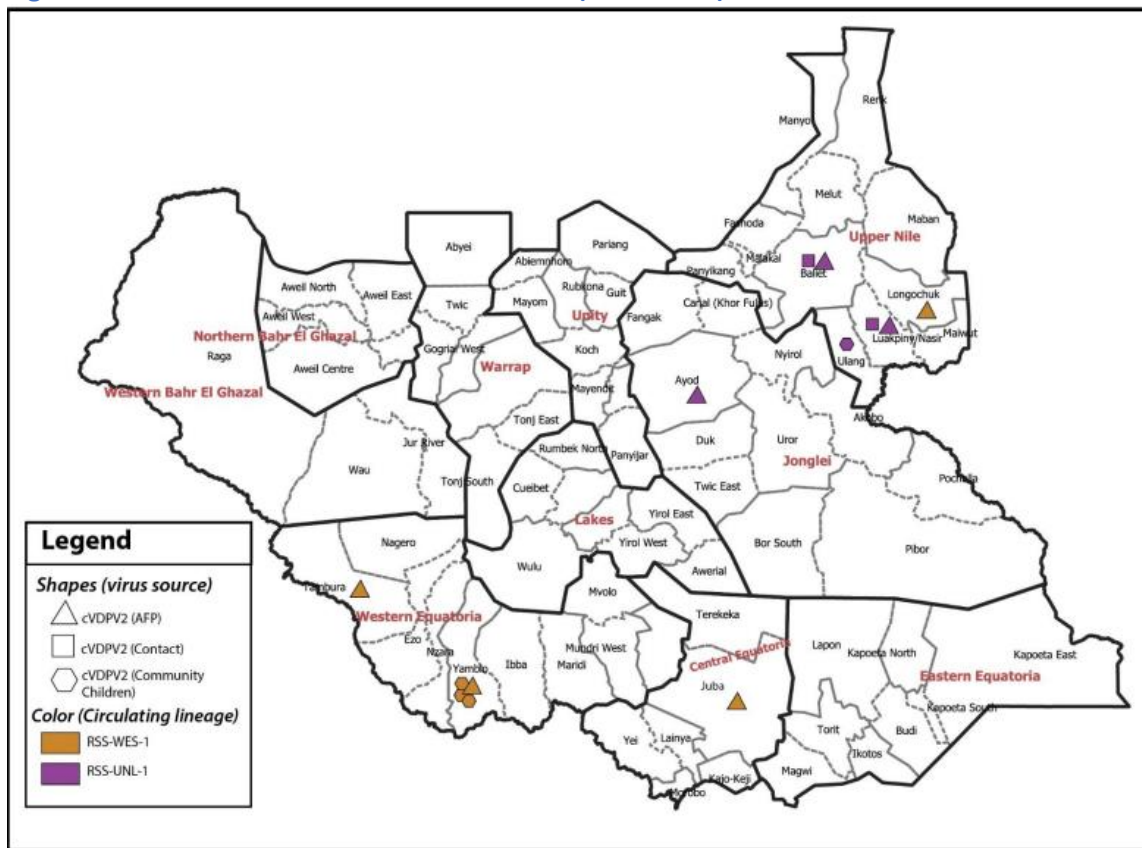


## Poliomyelitis

### 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 confirmation of PV2 Yambio. The total number of laboratory-confirmed cVDPV2 isolates from AFP cases is 7. 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. Five additional viruses were isolated from samples collected from healthy children and contacts during outbreak investigation. Three viruses were isolated from community healthy children in Yambio, 2 new isolates, 1 from an AFP contact in Luakpiny/Nasir, and another 1 from a community sample in Ulang Counties of Upper Nile State. The latest case of cVDPV2 isolate is from an AFP case in Ayod (Jonglei State) with date onset of paralysis given as 12-Mar-24. No poliovirus isolation has been made from environmental samples collected in 7 sites in the country.

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



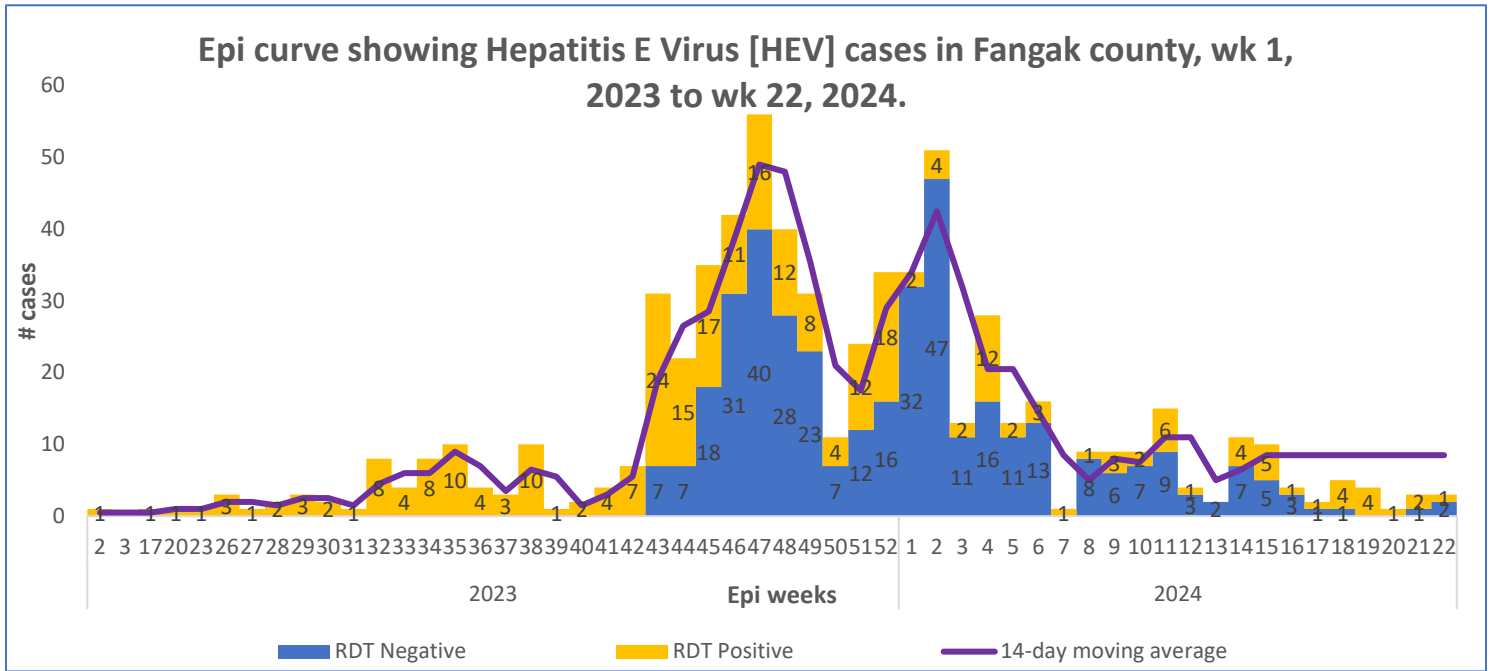
### 1. Hepatitis E Virus in Fangak county Jonglei State

Total of 650 cases including 22 death (CFR: 3.4%) have been reported since 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), while males make up 35% (226) 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.



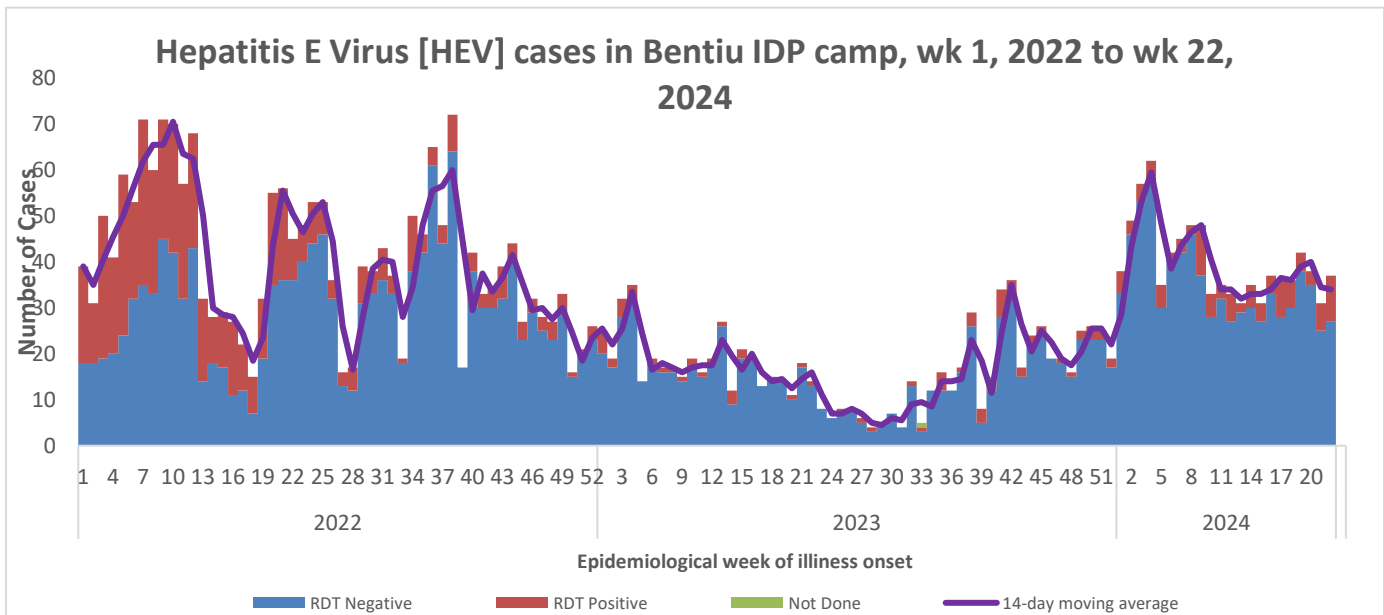
Figure 9: Epi-curve of HEV in Fangak County



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

In week 22 of 2024, 37 new cases were reported, with 10 RDT-positive cases and no deaths. Since the outbreak began in 2018, a cumulative of 5,557 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.

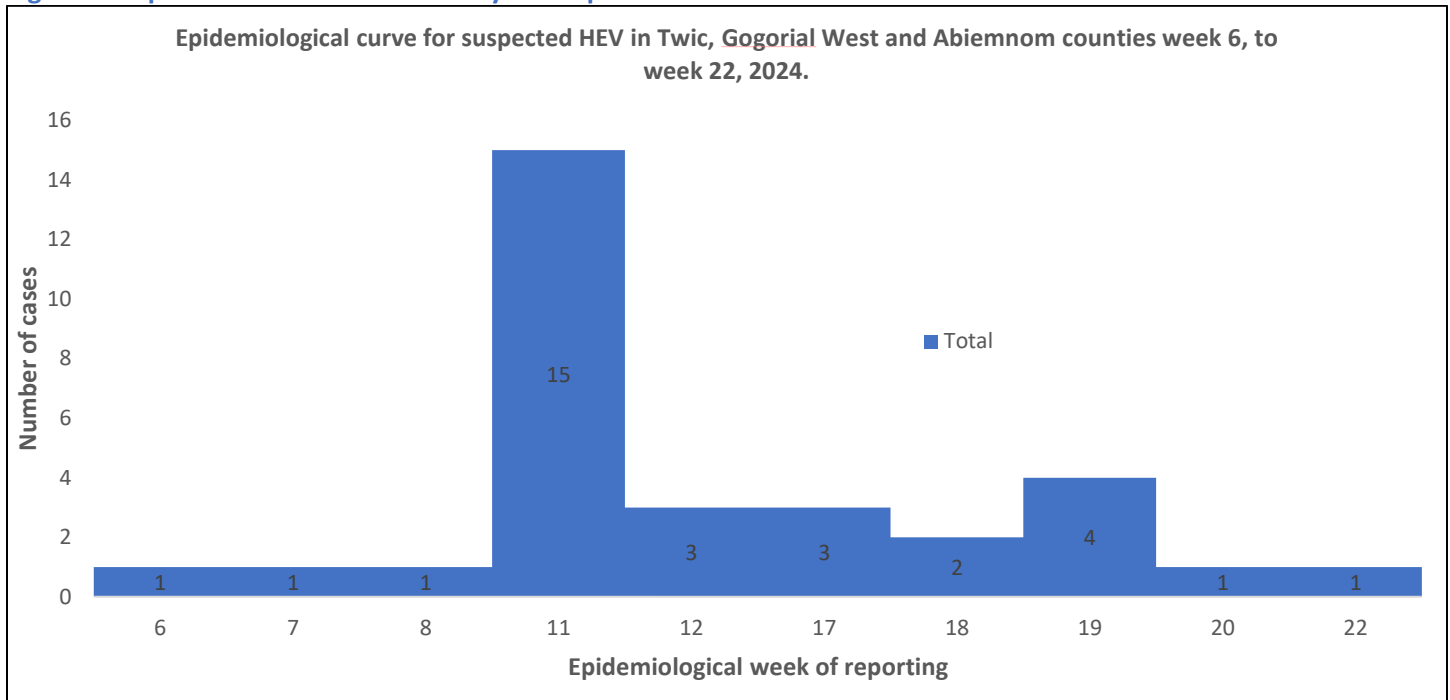
Figure 10: Epicure of HEV in Bentiu IDP camp, Unity State



### 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. 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

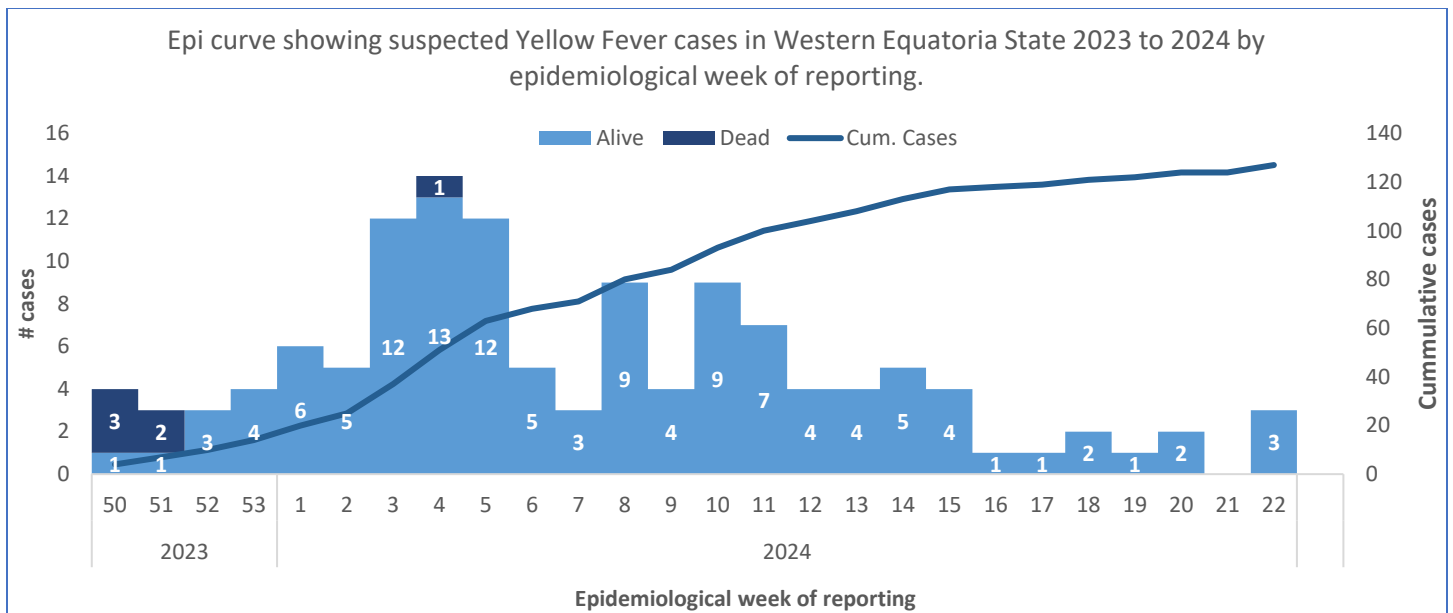


## Hemorrhagic Fever

### 1- Yellow fever Outbreak

In Week 22, three (3) additional cases were reported from Yambio, giving an overall cumulative of 127 yellow fever cases (124 suspected and 3 confirmed). Seven counties in Western Equatoria state were affected: Yambio (67), 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 response.

Figure 12: Epicurve of Yellow fever outbreak in Western Equatoria State



### Other Events

**Sudan crisis:** As of Week 22, at least **696,337** individuals have crossed from 19 different nationalities. Of this number, 78.4% (**545,774**) 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, morbidity, and mortality among returnees and refugees. 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** also remains a concern with areas of Upper Nile and Unity states remaining under floodwaters in 2023 and an estimated 7021 people still displaced in Rubkona. The six states (Unity, Upper Nile, Northern Bahr el Ghazal, Central Equatoria, Jonglei and Warrap) are at high risk. 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 and the onset of the La Niña event in 2024 is projected to lead to approximately 50% higher levels of rainfall in the northern and eastern parts of South Sudan.

### Next step

- Strengthen active surveillance across the counties boarding Sudan for a potential cholera outbreak. Surveillance activities should also be strengthened in counties reporting disease outbreaks such as measles, HEV, Yellow Fever, and Circulating Vaccine-Derived Polio Virus type-2 (cVDPV2).
- Support detailed measles outbreak investigations and root cause analysis to understand the persistent outbreaks.

## 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

