



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 50

9 Dec to 15 Dec 2024

This weekly bulletin presents the epidemiological status of priority diseases, events, and conditions under surveillance in South Sudan. The data comes from various actors involved in preparedness and response to public health events in the country. Special thanks to all the health implementing partners and health cluster humanitarian agencies supporting integrated disease surveillance and response.

Key highlights

- In week 50 of 2024, the IDSR reporting timeliness was 70%, and completeness was 87%. There is a slight decrease from 72% reporting in week 49 to 70% in week 50 in timeliness, while completeness declined from 88% in week 49 to 87% in week 50, but still maintained consistent improvement in completeness since week 31. 8 states and 3 administrative areas attained completeness of reporting above 80%. Lakes, Unity, RAA, GPAA, and WES achieved 100% completeness of reporting. However, only 5 of the 13 states/administrative areas attained timeliness of reporting above 80%.
- At the EWARN mobile sites, the Timeliness and Completeness of IDSR performance were both at 47% respectively. Timeliness and completeness increased to 47% in week 50 respectively.
- In week 50, 227 EWARS alerts were triggered, and the proportion of verified alerts decreased from 66% in Week 49 to 63% in Week 50. Most of the alerts were for Guinea Worm (21%), cholera (17%) AWD (17%), ABD (15%), ARI (14%), and Malaria (7%).
- The cholera outbreak is now confirmed in 31 counties, across 7 states and Ruweng Administrative Area. A total of 19,103 cases including 326 deaths as of 10 January 2025 giving a CFR of 1.7 percent which is above recommended of less than 1 %
- South Sudan has secured Oral cholera vaccines for reactive vaccination campaigns for several affected counties. OCV Campaign have been conducted in Renk with a coverage of 98.5% and campaigns are ongoing in Juba, Malakal, and Rubkona counties

Surveillance System Performance

The epidemic alert and response system in South Sudan currently relies mainly on immediate alert notifications and weekly aggregate reporting of cases 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 48 were at 76% and 88%**, respectively, which was an improvement from the attainments from the previous week.

Table 1: *Timeliness and completeness of IDSR reporting by State for week 49 compared to 50 of 2024*

State	Total facilities	Number of facilities reported (Completeness Wk50)	Comparison of the reporting period				Cumulative since year start (2024 level)	
			Timeliness		Completeness		Timeliness	Completeness
			Week 50	Week 49	Week 50	Week 49		
Lakes	112	112	100%	99%	100%	100%	71%	100%
NBGZ	101	67	32%	54%	66%	77%	60%	80%
Unity	84	84	90%	100%	100%	100%	89%	99%
WBGZ	113	104	72%	78%	92%	90%	45%	82%
WES	191	191	72%	64%	100%	100%	66%	96%
Jonglei	120	111	93%	75%	93%	83%	74%	87%
Warrap	114	105	41%	57%	94%	93%	50%	88%
EES	112	92	63%	80%	83%	94%	59%	94%
RAA	16	16	75%	38%	100%	100%	50%	97%
CES	152	89	59%	64%	59%	65%	65%	92%
AAA	17	16	82%	82%	94%	88%	69%	83%
Upper Nile	143	120	73%	65%	85%	83%	53%	86%
GPAA	16	16	94%	69%	100%	75%	90%	92%
Total	1291	1123	70%	72%	88%	89%	63%	91%

NOTE: Since week 41, the total number of facilities nationwide has decreased following the removal of three duplicate entries

Figure 1: Completeness of IDSR reporting in South Sudan by County in Week 50, 2024.

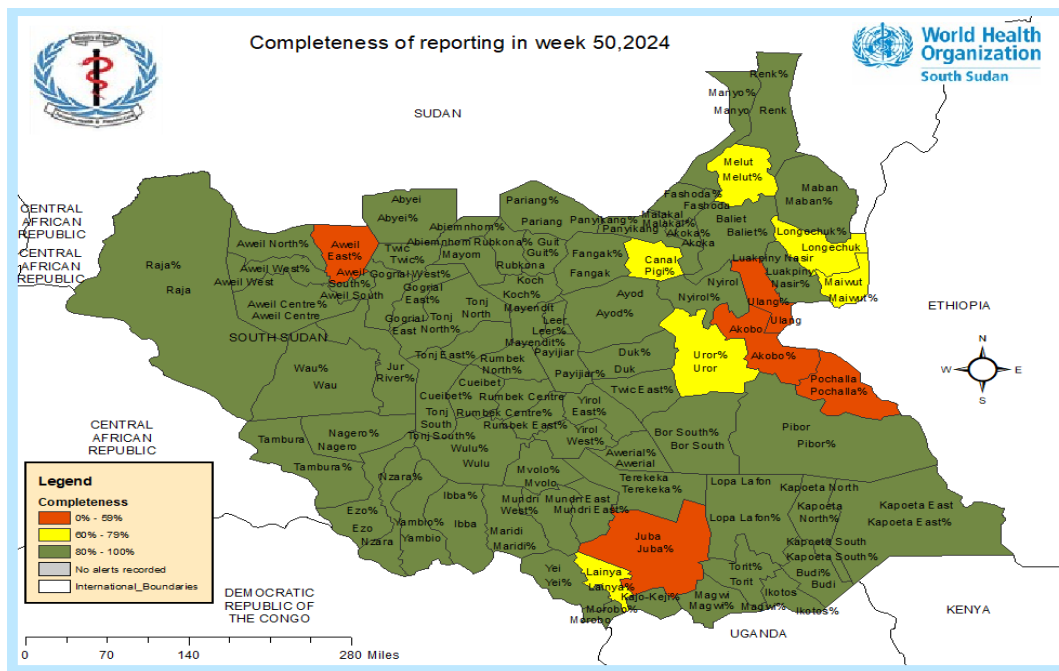


Table 2: Timeliness and completeness of reporting by Payam and Partner of IDSR reporting from NGO-run mobile health facilities and private health facilities in Juba and Wau, Week 50 of 2024.

Partners	# of Reporting Mobile Sites	% of Timeliness in week 50	% of Completeness in Week 50	Payam	# of Reporting Private Health Facilities	% of Timeliness in week 50	% of Completeness in Week 50
IMC	4	0%	0%	Kator	3	0%	0%
SSHCO	1	0%	0%	Marial Baai	1	100%	100%
SMC	1	0%	0%	Northern Bari	1	0%	0%
SCI	2	50%	50%	Rajaf	3	0%	0%
HFO	4	75%	75%	Munuki	12	0%	0%
WVI	2	100%	100%	Wau South	20	100%	100%
CIDO	1	100%	100%	Wau North	12	83%	100%
TOTAL	15	47%	47%	Juba	10	0%	0%
				Mangala	1	0%	0%
				TOTAL	63	49%	52%

An important point to note: The six facilities supported by IMC (4), SSHCO (1), and SMC (1) are no longer reporting due to the end of HPF project funding which has affected the performance of partners reporting sites. The IDSR team is exploring the new implementing partner covering these facilities to re-establish weekly epidemiological reporting.

Given the turbulent declines in timeliness and completeness of IDSR reporting, this week, we continued to analyze the performance over the past three years. We documented that the declines in 2024 (Wk. 21-31) are more pronounced than they were in previous years of 2023 and 2022. In this HSTP transition period, we shall continue to provide targeted support to the newly contracted health implementing partners to recover this surveillance performance indicator. Notably, the IDSR timeliness of reporting continued to improve since week 31 when the lowest reporting rates were observed, thanks to the targeted support to the poorest reporting counties.

The primary reason cited for the inadequate performance in timeliness and completeness indicators was the challenge of staff turnover and inaccessibility to some health facilities.

Figure 2: Timeliness of IDSR reporting in South Sudan; 2022-2024.

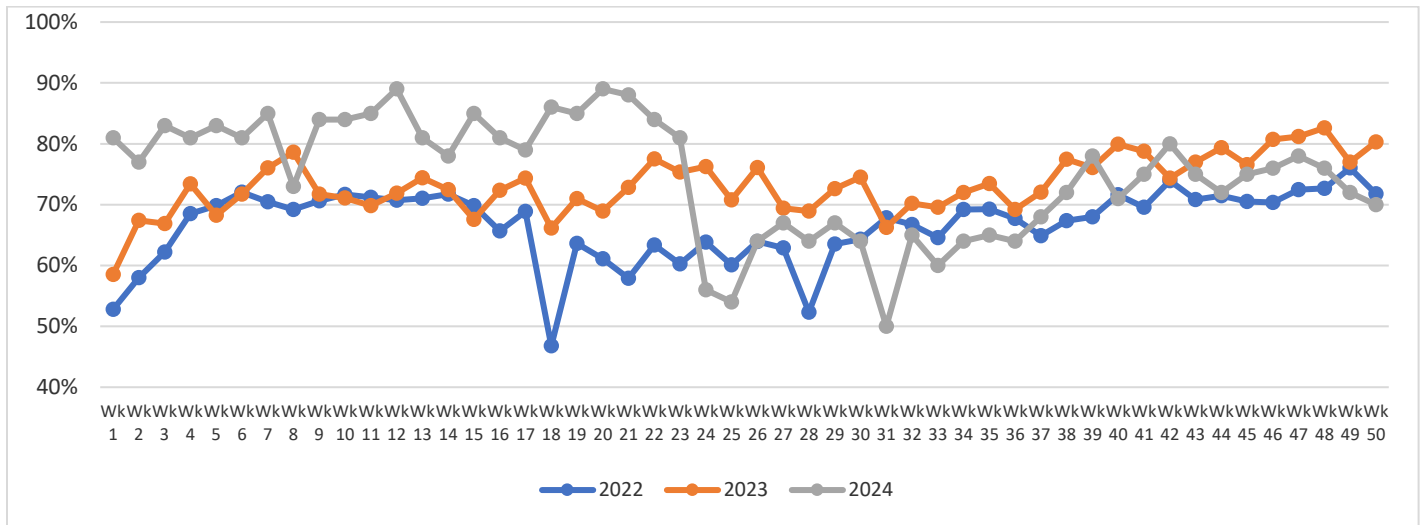
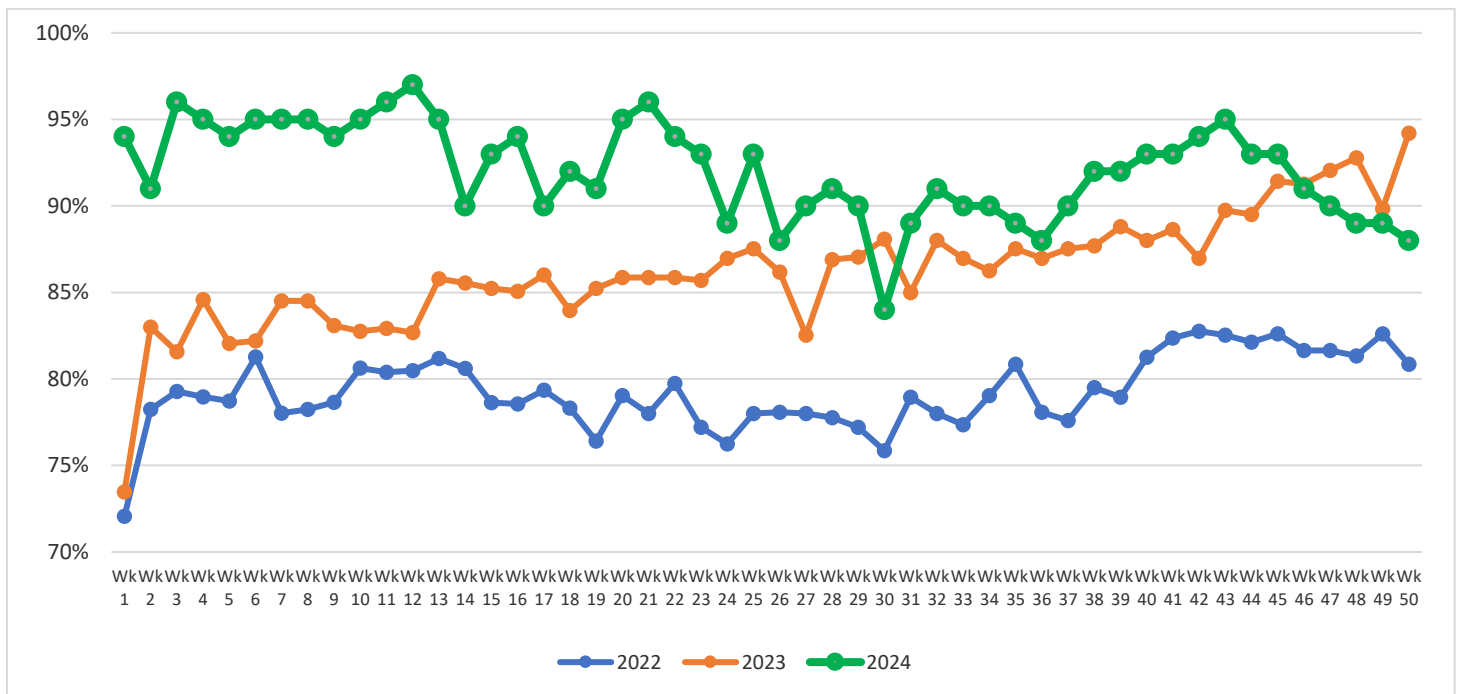


Figure 3: Tracking completeness of IDSR reporting in South Sudan; 2022-2024.



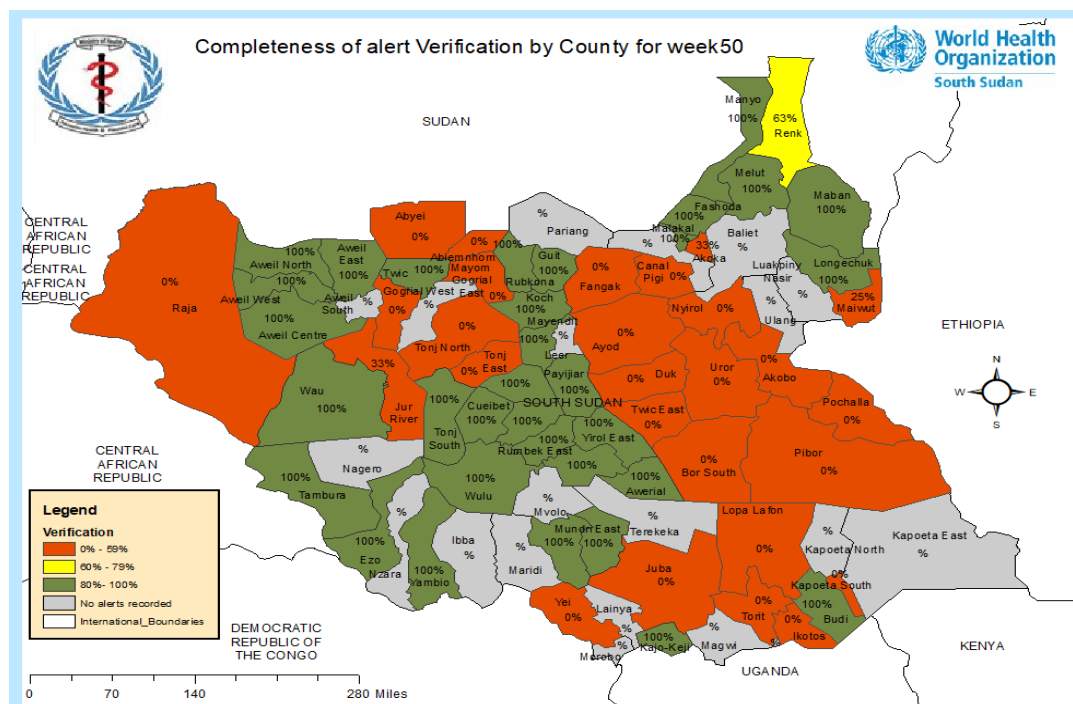
Epidemic alerts

In reporting week 50, 227 alerts were triggered in the EWARS system, with 63% (142 of 227) verified, much lower than the previous week 49, where 66% (151/229) were verified. In Week 50, ten states and three administrative areas recorded at least one notifiable disease alert. Most of the alerts were for Guinea Worm (21%), cholera (17%) AWD (17%), ABD (15%), ARI (14%), and Malaria (7%). See Table 3 below.

Table 3: Summary of EWARS alerts triggered in Epidemiological Week 49, 2024.

State/Admin	AJS		ARI		AWD		ABD		Cholera		Covid-19		EBS		Guinea Worm		Malaria		Measles		NNT		Relapsing Fever		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
AAA	1	0	1	0	3	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	8	0
CES	0	0	4	4	0	0	1	0	3	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	10	4	
EES	0	0	1	0	3	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	7	2	
GPAA	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	
Jonglei	1	0	4	0	4	0	5	0	10	0	0	0	0	0	9	0	1	0	1	0	0	0	1	0	36	0	
Lakes	0	0	2	2	3	3	1	1	3	3	1	1	3	3	30	30	1	1	0	0	0	0	0	0	44	44	
NBGZ	0	0	2	2	4	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	
RAA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	
Unity	1	1	3	3	5	5	8	6	14	13	0	0	0	0	0	0	3	3	0	0	0	0	0	0	34	31	
Upper Nile	0	0	6	5	5	5	10	7	2	2	0	0	0	0	1	0	4	1	0	0	0	0	0	0	28	20	
Warrap	0	0	2	0	6	2	1	0	0	0	0	0	0	0	4	1	2	0	1	0	0	0	0	0	16	3	
WBGZ	0	0	5	5	2	1	3	3	0	0	0	0	3	3	2	0	1	1	0	0	0	0	0	0	16	13	
WES	0	0	1	1	3	3	2	2	3	3	0	0	0	0	0	0	2	2	6	6	0	0	0	0	17	17	
Grand Total	4	1	31	22	38	24	33	20	38	23	1	1	9	6	47	31	15	8	9	6	1	0	1	0	227	142	

Figure 4: Completeness of Alerts Verification rates by county of South Sudan for week 50, 2024



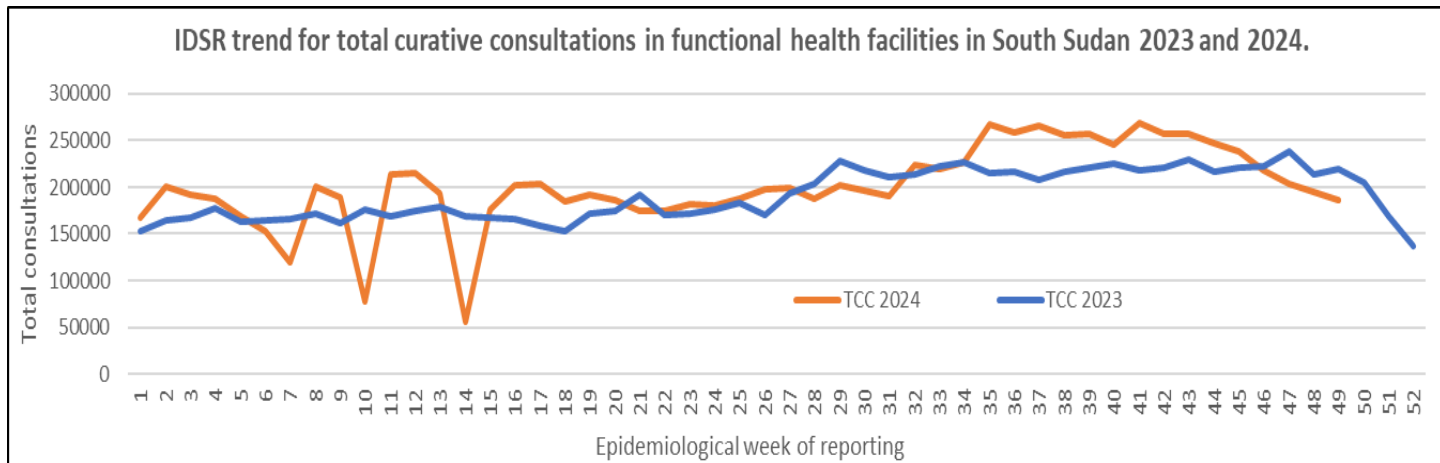
Weekly Update on Indicator-Based Surveillance (Week 50)

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.

- During week 49 of the year 2024, individuals aged five years and older reported the highest volume of consultations at the outpatient department (OPD).

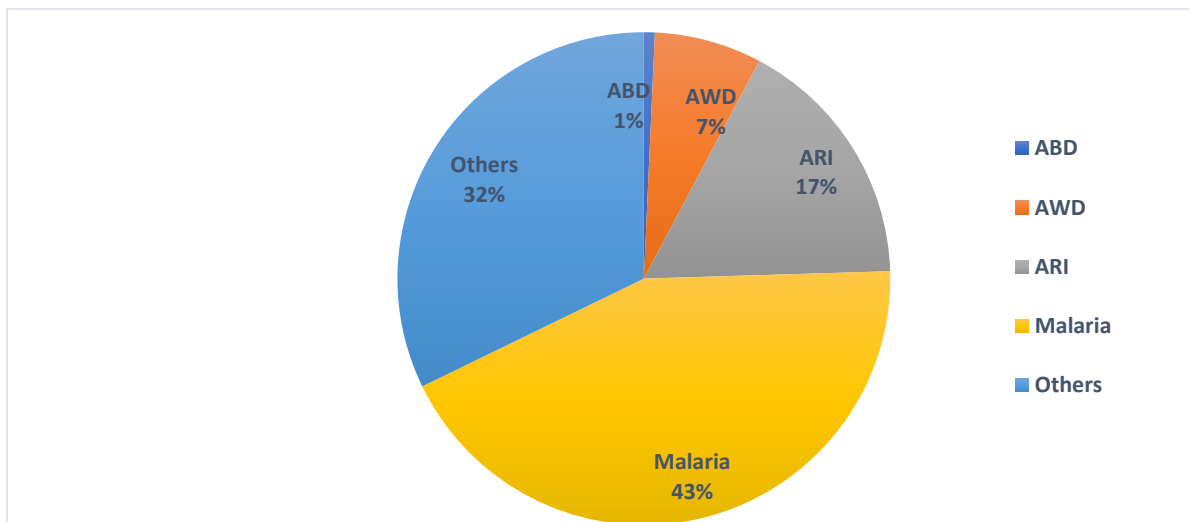
- Since the commencement of the current year, the cumulative number of patients treated in both the outpatient and inpatient departments has reached a total of 9 838 176
- Comparing the utilization of healthcare services in 2023 and 2024 reveals fluctuating trends, suggesting variations in the weekly number of consultations. Notably, the total OPD consultations in the last 4 weeks remained lower than was reported in a similar period of 2023.

Figure 5: Trends of cumulative curative/OPD consultations reported in the Monthly DHIS reporting: 2023-2024.



- In week 49 of 2024, malaria continue to be the leading cause of morbidity and mortality, with over 100,000 reported cases nationwide.
- Comparison between week 48 of 2023 and 2024 reveals an increase incidence of ABD, ARI, and Malaria in 2024 for all the four major causes of morbidity in the country compared to the same period in 2023.
- Malaria represented 43% of total consultations in week 48 of 2024 and emerged the top cause of morbidity and mortality during the week.
- Other causes of illness accounted for 32% of the over-all consultations in the country (Figure 6 below).

Figure 6: IDSR Proportional Morbidity in week 49 of 2024.



National Malaria Update

- The national malaria situation during this week indicates that the incidence is above the epidemic threshold, making ongoing monitoring critical at all levels (Figure 7).
- It is important to note that a malaria epidemic was recorded in two states and 35 counties during this period (Figure 8).

- Ongoing challenges in the implementation of other measures including vector control, case management (Therapeutic efficacy), and monitoring using the IDSR/DHIS2 generated information

Ongoing Interventions

- The Malaria Indicator Survey concluded, and findings will inform strategic interventions
- Locations with upsurges have been supported with anti-materials through the WHO emergency stockpile

Figure 7: Malaria Incidence in South Sudan, as of Week 49 of 2024

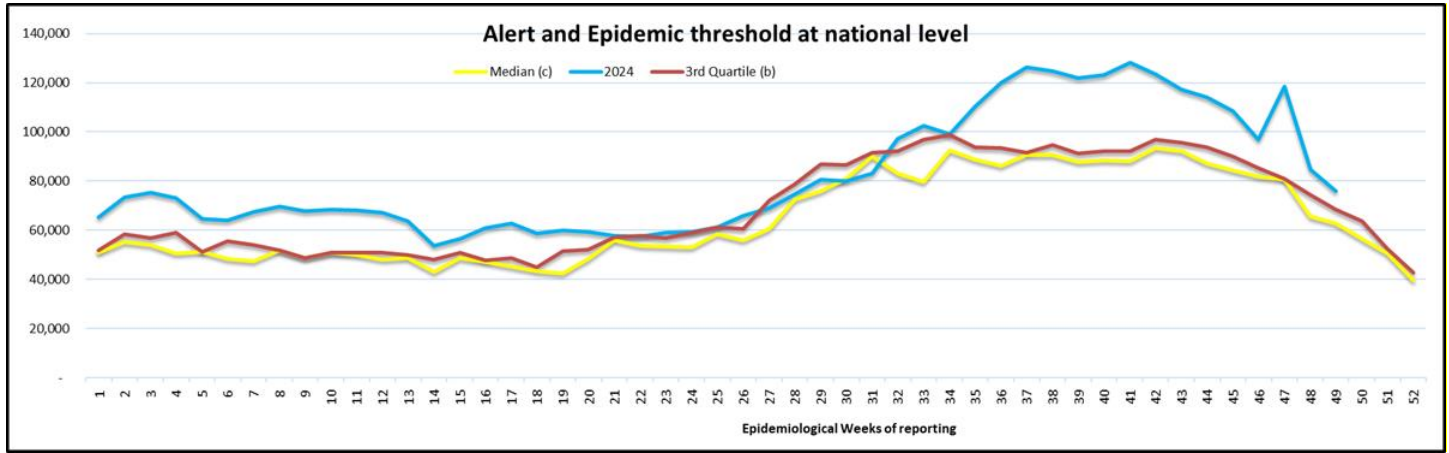


Figure 8: Malaria Trends in States Surpassing their epidemic thresholds

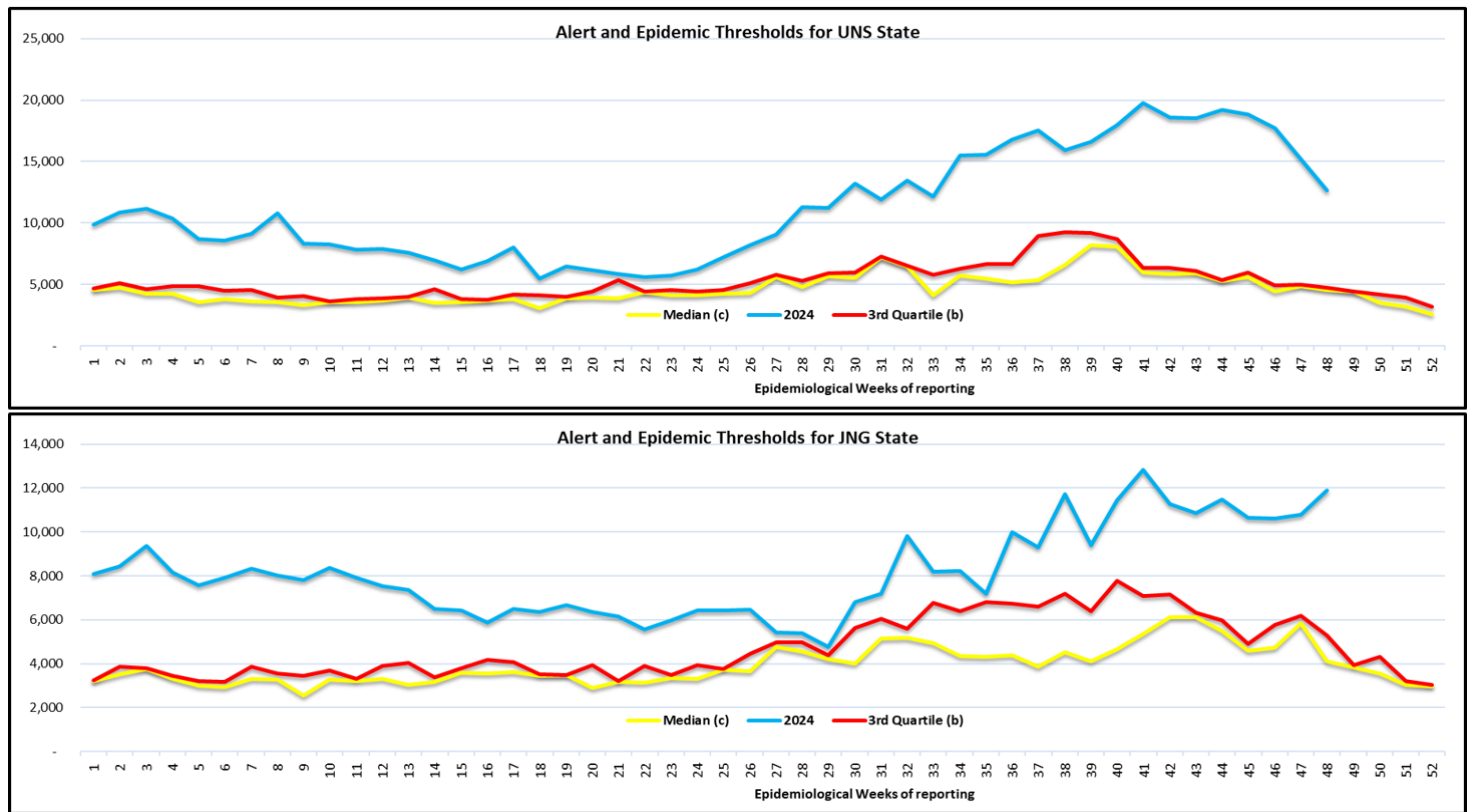
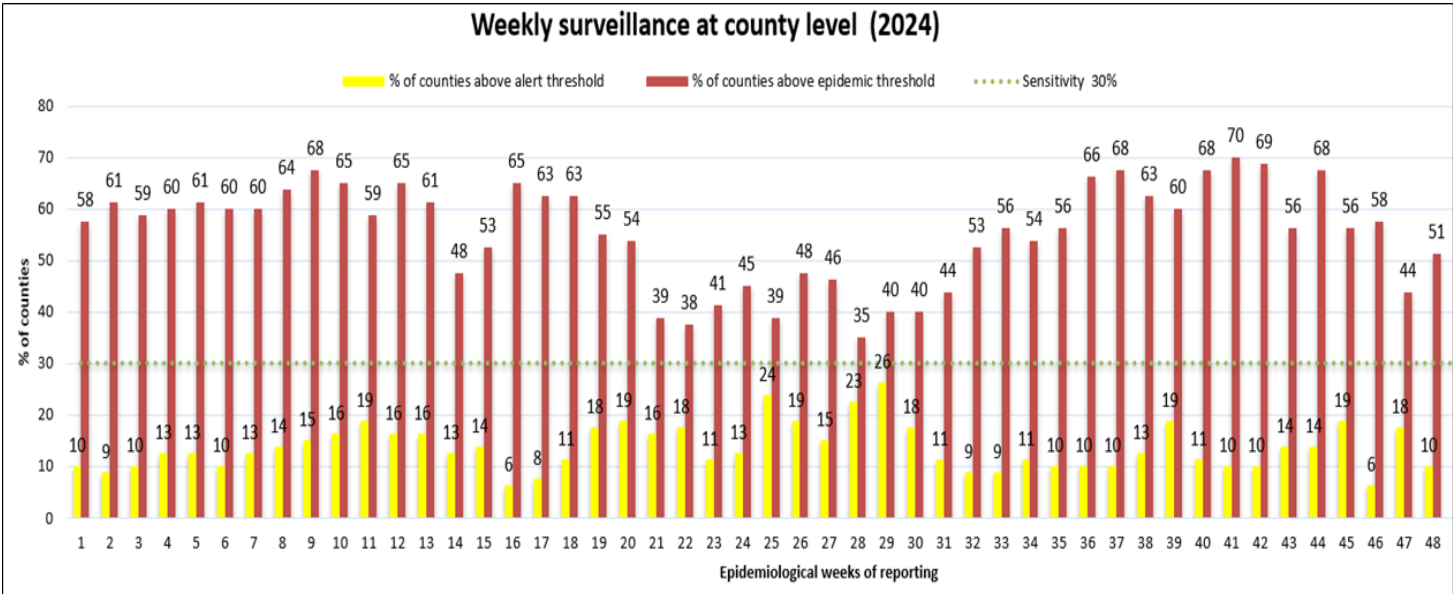


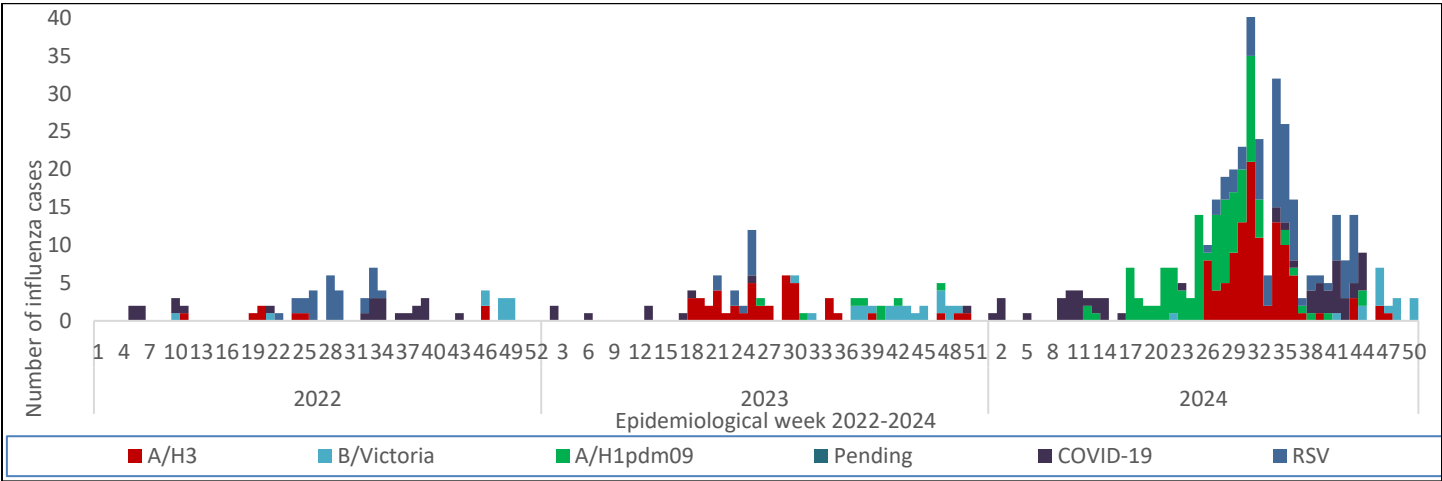
Figure 9: Weekly tracking of South Sudan Counties above the Alert and epidemic thresholds for Malaria



Influenza Sentinel surveillance weekly updates.

Currently, there are six designated Influenza sentinel surveillance sites in the country: Juba Teaching Hospital, Al Sabbah Children’s Hospital, Juba Military Hospital, Rumbek State Hospital, Bor State Hospital, and Nimule Hospital. They are actively collecting epidemiological data and samples from ILI/SARI cases.

Figure 10: Confirmed Influenza, COVID-19, and RSV cases from sentinel sites Epidemiological Week 1 of 2022 to Week 50 of 2024.



During Epidemiological Weeks 1 to 50 in 2024, a cumulative total of 2 573 ILI/SARI samples were collected; 2 205 tested negative for all pathogens, 55 were positive for COVID-19, another 110 samples tested positive for Influenza Type A (H3), 16 for Influenza Type B (Victoria), 95 for Influenza A/(H1N1) pdm09 and 94 for RSV.

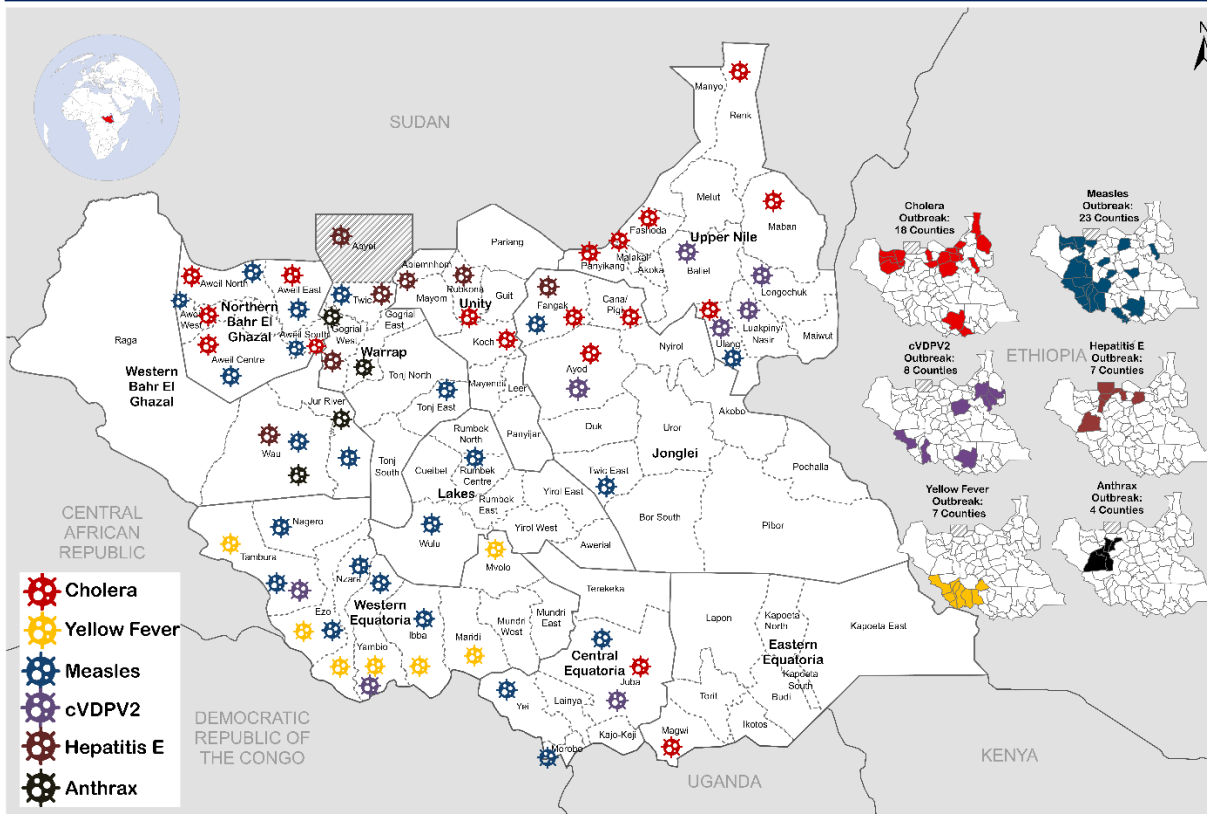
Confirmed and ongoing epidemics in 2024

Table 4: Summary of ongoing and confirmed epidemics

Aetiologic agent	Location (county)	Date first reported	New cases since the last bulletin	Cumulative suspected cases	Response activities				
					Surveillance/Lab confirmed	Case management	Vaccination	Health promotion	IPC/WASH
Yellow Fever	Yambio, Nzara, Ezo, Tambura, Ibba and Maridi	21 Dec 2023	0	139	3	Ongoing	Done in 7 counties	Ongoing	Ongoing
Measles	Multiple counties	2024	0	3488	228	ongoing	Completed	ongoing	ongoing
cVDPV2	Yambio, Juba, Ulang, Nasir, Baliet, Ayod, Old Fangak	19/Dec 2023	0	21	21	Not applicable	Completed 2 nOPV2 SIAs and 3 rd round is ongoing	ongoing	ongoing
Anthrax	Gogrial West (WRP) and Jur River (NBG)	2022	0	168	3	ongoing	Ongoing in the animal sector	ongoing	ongoing
Hepatitis E	Fangak	2023	0	701*	253	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	-	6, 120	-	ongoing	Done in 2021/22	ongoing	ongoing
Hepatitis E	Twic	Feb 2024	0	32	1	ongoing	Not done	ongoing	ongoing
Hepatitis E	Abyei	June 2024	0	64	3	ongoing	no	yes	yes
Cholera	In 31 counties across six states	September 2024	More than 10,000	19,351	356	ongoing	Ongoing	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 included 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 confirmed emergencies as at 6th December 2024

Figure 11: Map showing confirmed disease outbreaks across the country in 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.

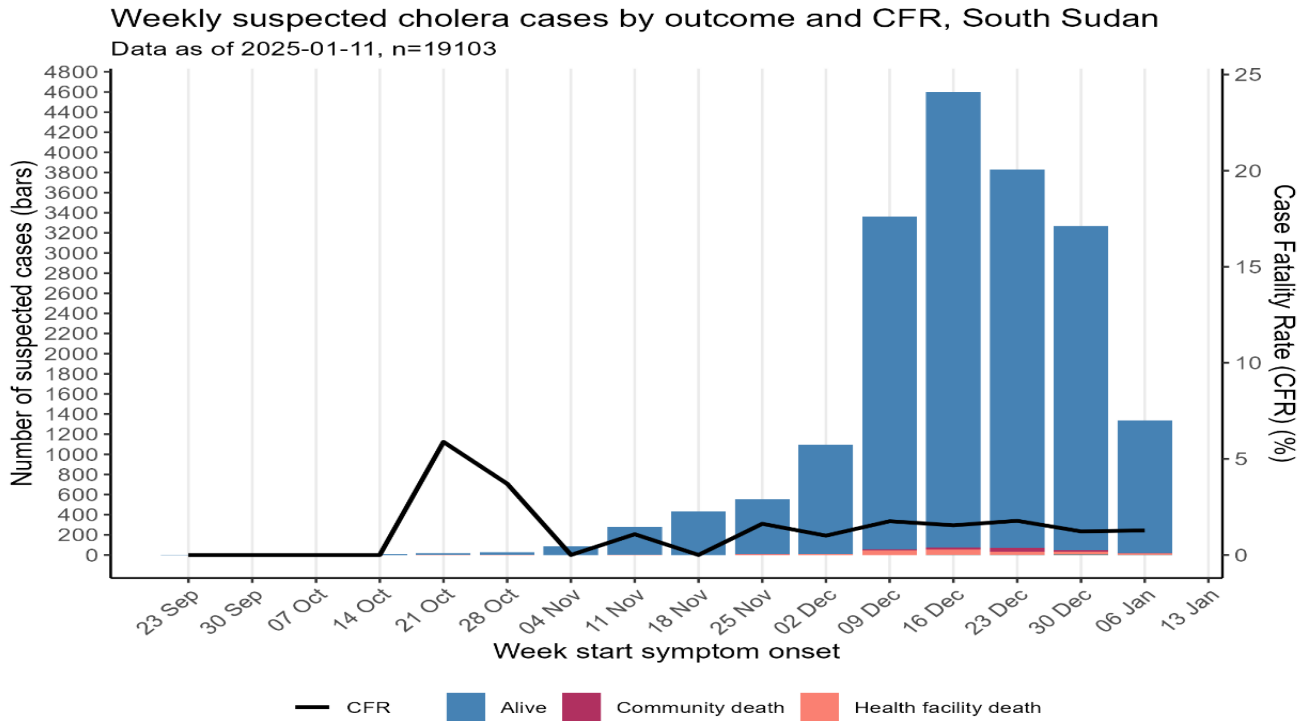
Data Source: WHO South Sudan
Map Production: IHU Uni. WHO South Sudan
Map Date: 06/12/2024

Response activities for ongoing/suspected outbreaks

1. South Sudan Cholera Outbreak Epidemic description as at 10 January, 2024

- From 28 September 2024 to 10 January 2025, there have been 19,103 cases including 326 deaths reported from 31 counties, across 7 states and Ruweng Administrative Area.
- Of the 326 deaths, 44 % are community death and 56 % health facility deaths. The overall case fatality rate (CFR) is 1.7% and the health facility CFR is 1%.
- Majority of the cases 59% (n = 9,269) are reported from Rubkona County followed by Juba County 10% (n=1,961).
- Unity State accounts for the highest burden of cholera cases at 56% (10,692 cumulative cases across 6 counties), followed by Northern Bahr el Ghazal at 12% (2,276 cases across 5 counties), Jonglei at 11% (2,089 cases across 6 counties) and Central Equatoria and Upper Nile states at 10%.
- The age group with highest case count is 0-4 years (29%).
- The sustained response by the Ministry of Health and its partners in Malakal has led to a reduction in reported cases
- Over the past week, 77 cases were reported compared to 96 in the previous week, reflecting a 20% decline in the number of new cases per week (Incidence Rate Ratio: 0.8). In addition, samples testing negative on RDT for the past 2-3 weeks.
- by the 5–14-year age group (19%).

Figure 11 Epidemic curve and distribution of Cholera Cases in Malakal by Week, week39-48*, 2024



170 (0.9%) cases without date information are excluded from the graph.

Figure 11: Map showing cholera cases as of 10 January 2025

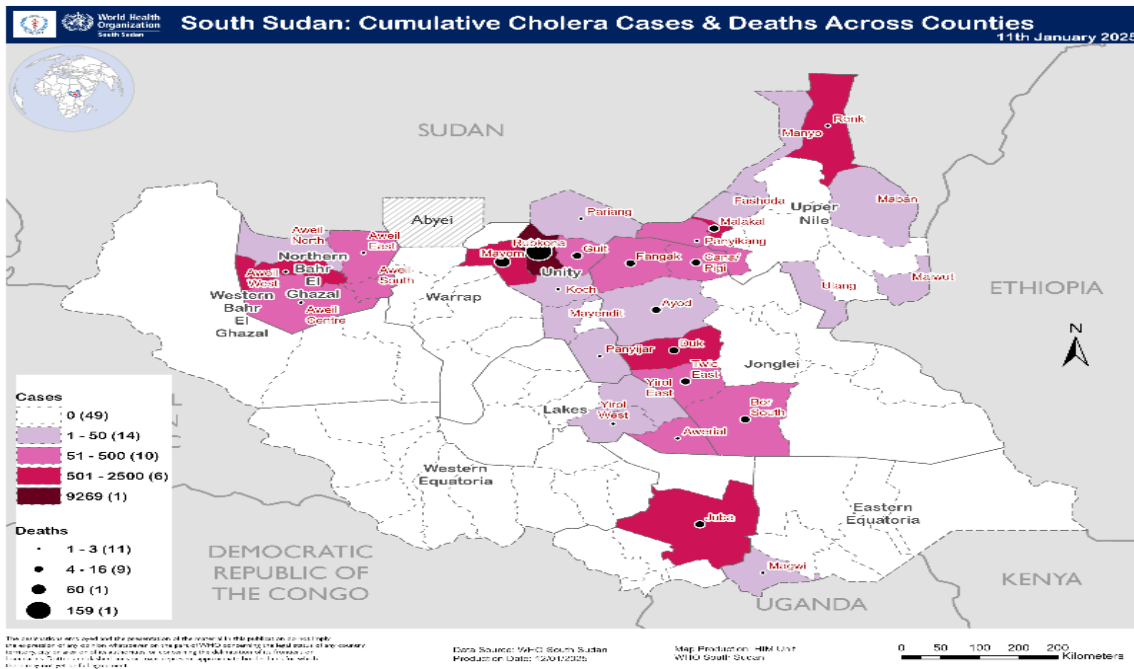
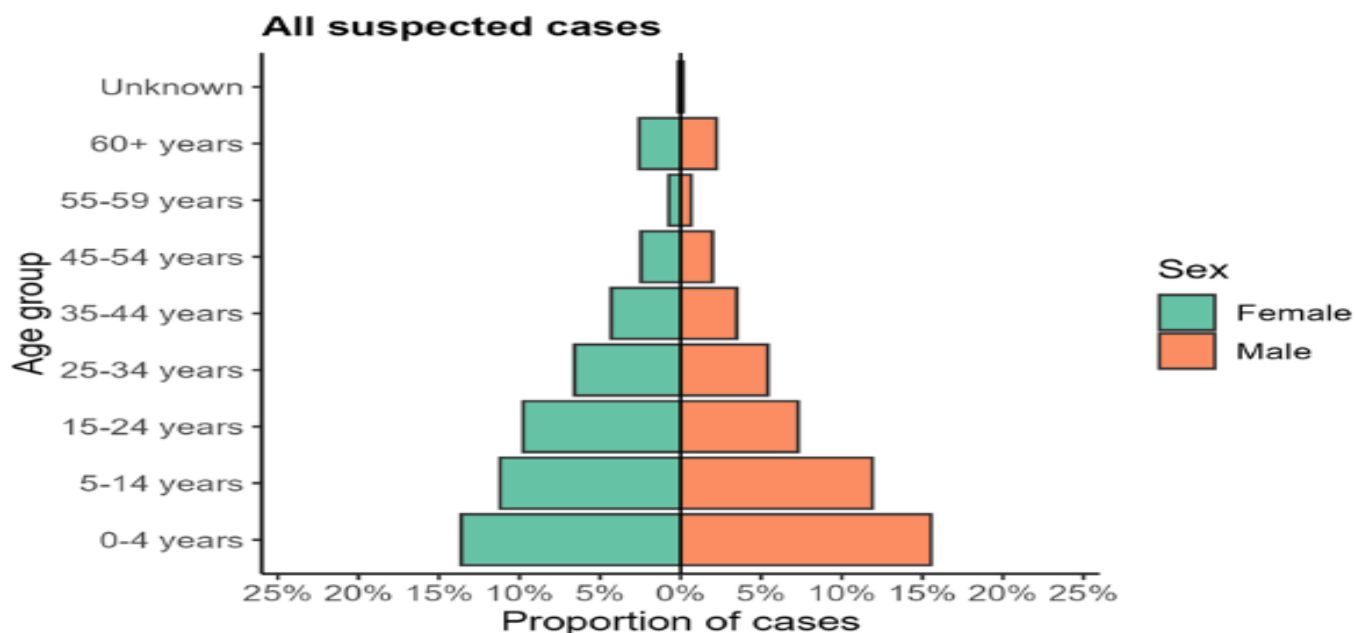


Figure 12: Graph showing cholera cases distribution by age group and sex as of 10 January 2025



Next Steps

- Continue with OCV campaigns in Juba, Rubkona and Malakal.
- Renk: Advocate for multisectoral collaboration and funding for critical entry points. Maintain active case searches in all health facilities. Address medical supply shortages in Gosfami PHCU, Chemmedi, and Jerbana PHCCs. Ensure consistent RDT kit supply. Expand CATI operations, improve water access, and deploy WASH supplies to underserved areas.
- Unity State: SMoH authorities and the National MoH RRT team have visited Mayom County to support partners' cholera response. Report of the visit is expected next week.

2. Measles Update

- ❑ Over the past week (50), there was no case of suspected measles reported. The cumulative number of suspected measles cases remained 3 488 as was last reported in weeks 47, 48 and 49. This means that for the last 4 weeks running, no new measles case was detected or confirmed nationwide.
- ❑ During the epidemiological week 50, there were no newly confirmed measles cases by IgM, and therefore the cumulative total number of confirmed measles cases, also remained 228 (of the 384 cases from whom serum samples were collected).
- ❑ The cumulative number of Epi-linked measles cases also remained 831.
- ❑ Follow up of case-based investigated cases shows that there has been a cumulative total of 51 deaths amongst suspected measles cases. The Case-Fatality ratio as in turn been calculated as 1.46%.
- ❑ 64% of measles cases occur in children under the age of 5, highlighting a critical failure in routine immunization programs.
- ❑ Furthermore, 80% of these cases are found among children aged between 6 months and 9 years, making this age group the optimal focus for measles outbreaks response Supplementary Immunization Activities (SIAS).

Figure 12: Epidemic Curve of suspected measles cases in South Sudan; Week 1-50 of 2024

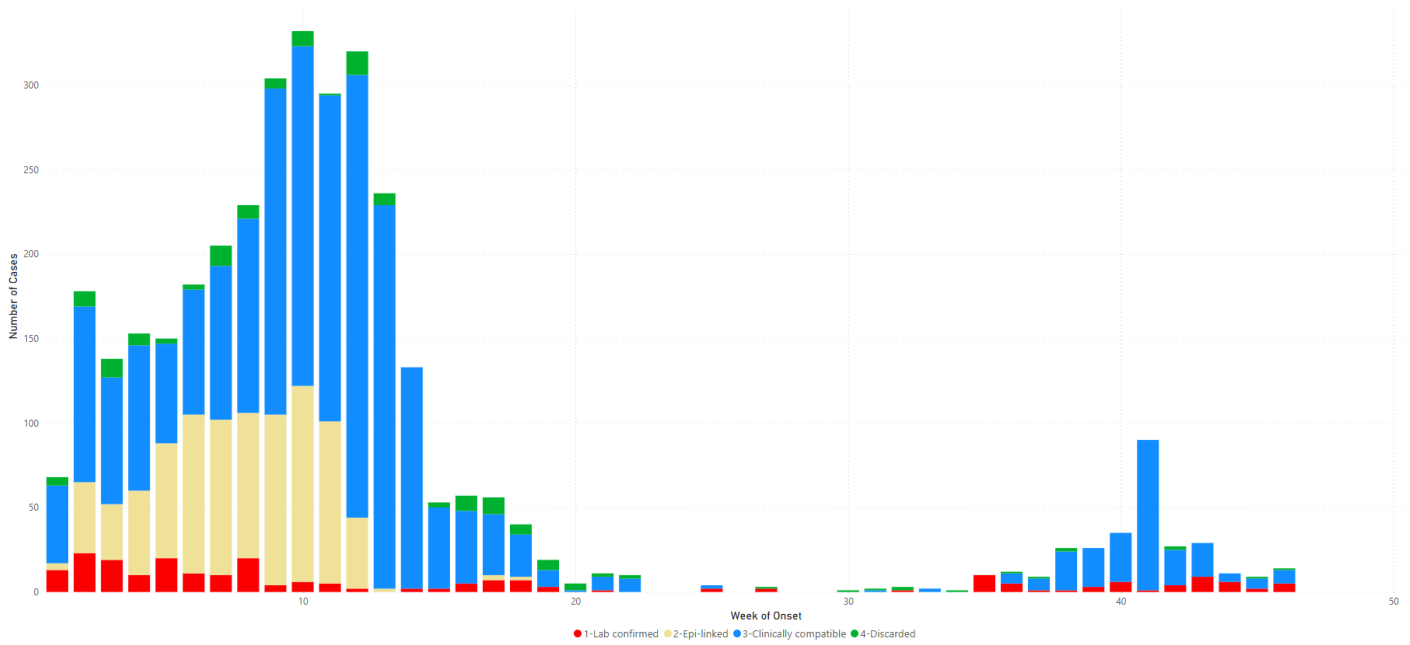
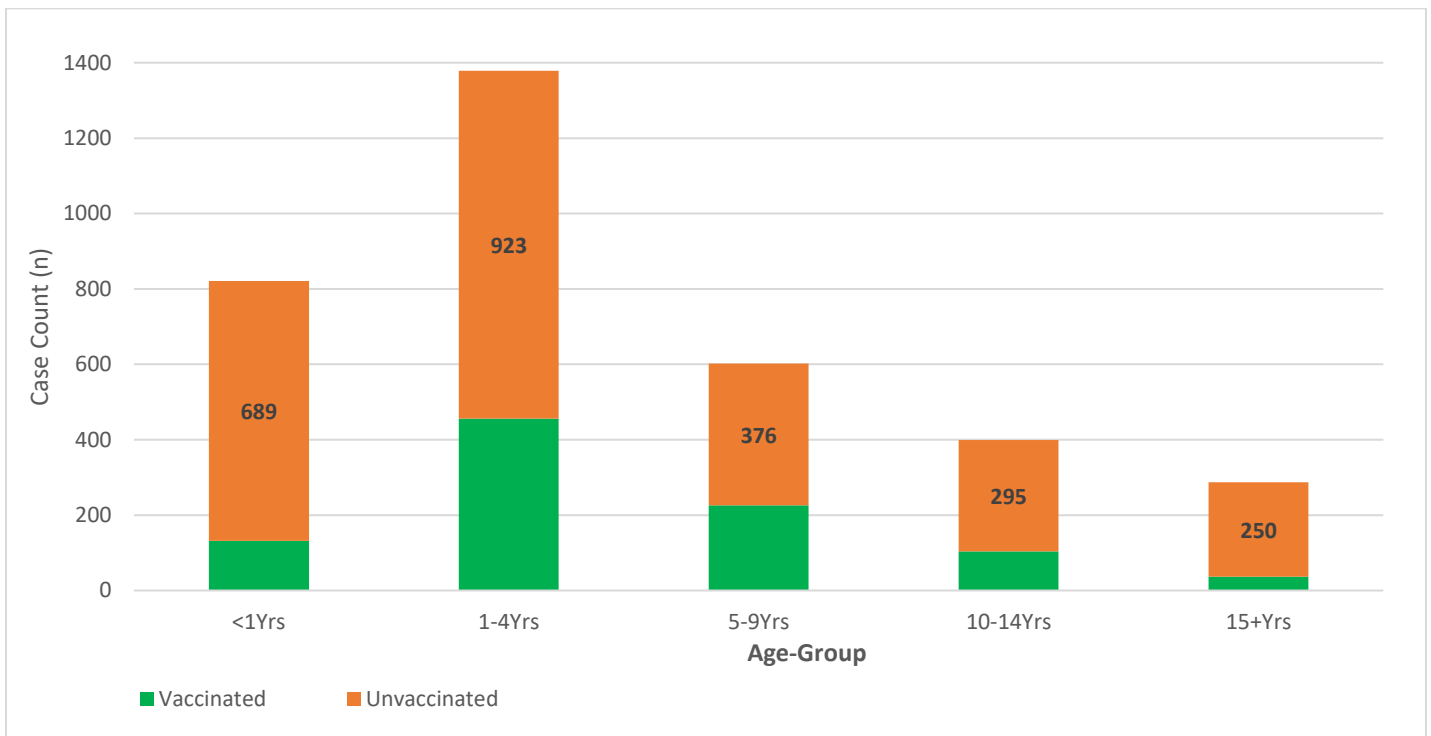


Figure 13: Vaccination Status and age-grouping of suspected measles cases in South Sudan; Week 1-48 of 2024



- Unlike the raging cholera outbreak, analysis of suspected measles cases by residence suggests that the outbreak is mainly transmitted by unvaccinated residents of South Sudan. Only 2% of the cases were documented to have occurred amongst South Sudanese returnees or people seeking refuge in the country. However, disaggregation of data by state suggests that Upper Nile state had 12% of measles cases occurring amongst refugees or returnees fleeing the conflict in Sudan.
- Of the 3 488 suspected measles cases, 4% were discarded as non-measles. However, analysis of the discard rates shows that Unity, Lakes and Eastern Equatoria had a discard ratio above 50%.

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

- During week 48 of 2024, there were 25 newly reported cases, with 6 testing positives using rapid diagnostic tests (RDT), and there were no fatalities reported.
- Cumulatively, a total of 6,180 Hepatitis E virus cases including 34 deaths case fatality ration of 0.55% have been reported since the outbreak started in 2018
- Among the cases reported a total of 43 cases were recorded in individuals aged 15 to 44 years old.
- Majority of the cases are Males accounted for 52% (3, 214 cases) while females were 48% (2, 966 cases).
- The charts in figure 15, illustrate the distribution of hepatitis E virus (HEV) cases over time (epidemic curve) and Figure 16, illustrates the cases distribution by patients' place of residence, age and sex, both within and outside the Bentiu Protection of Civilians (PoC) site.
- Predominantly, the reported Hepatitis E virus cases were identified in individuals living outside the Bentiu Internally Displaced Persons (IDP) Camp, who then sought medical assistance at the healthcare centers located within the camp.

Figure 14: Epicure of HEV in Bentiu IDP camp, Unity State; Epi Week 52 of 2018 to Week 48 of 2024

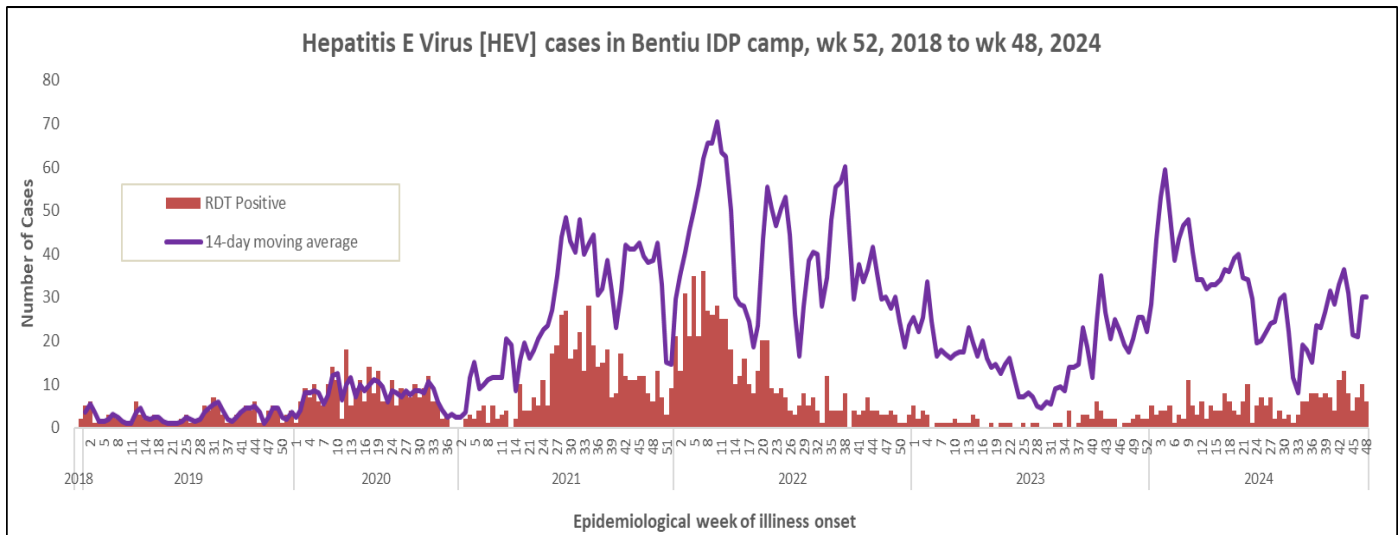
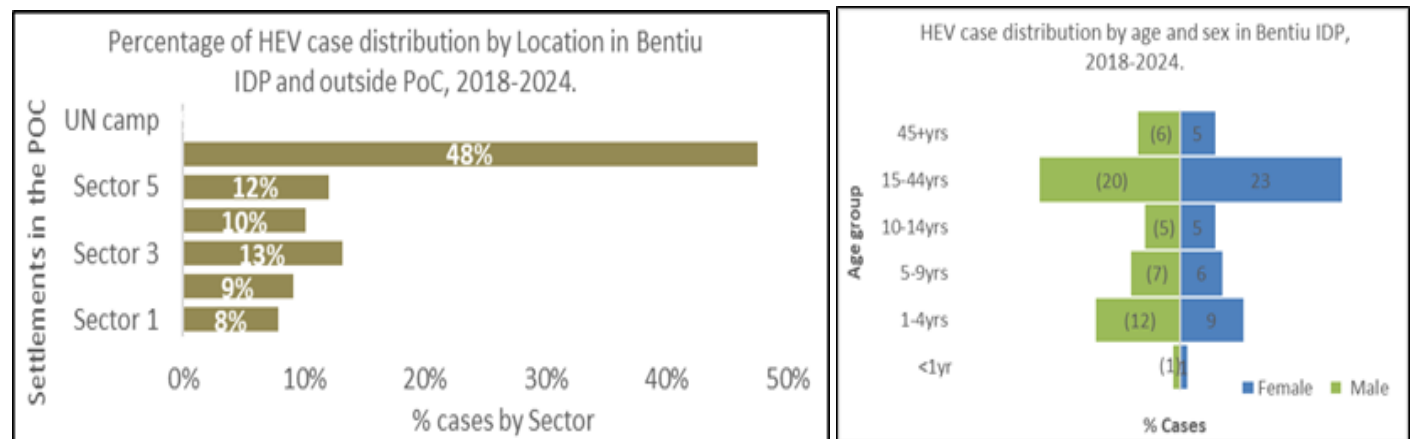


Figure 15: Geography and age distribution of Hepatitis E cases in Bentiu, Unity state of South Sudan



Other Events

Sudan crisis: As of 15th December 2024, a cumulative total of 962 487 (**493 470 Females and 469 017 Males**) had crossed from 18 different nationalities. Of this number, **71.98% (692 799)** are South Sudanese returnees and 27.45% (264, 202) are Sudanese refugees. Only 0.31% are from other nationalities, largely Eritrean population. Currently, 21 PoEs are being monitored, with Joda-Renk accounting for 69% of the reported influx figures. There are currently 58 898 individuals (13 784 in transit centre and 45 114 in host communities) in Renk. Due to the evolving security situation in Joda, the data collection may be incomplete. Hostcommunities and healthcare systems are struggling to cope with the increased demand for health and other Services, morbidity, and mortality among returnees and refugees. Currently most of the counties receiving returnees including Juba have confirmed cholera outbreaks and interventions have been put in place to mitigate adverse effect including use of Oral cholera Vaccines (OCV) aimed at mitigating the risks of sustained transmission.

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 The expectation of extensive flooding to occur in South Sudan in 2024 due to two separate climatic events remains reality with floods affecting 58 health facilities. 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.

The ongoing flooding in the affected areas is a major threat to the well-being of the communities, with more than one million people (including 375,000 displaced) affected across 41 counties. Notably, flooding has submerged 58 health facilities and has been associated with an increased number of snake bites (68 in 6 weeks), drowning (3 in week 42) and an upsurge of malaria morbidity (refer to Figure 7). This is compounded by existing humanitarian needs in the country and ongoing multiple disease outbreaks.

Ongoing coordination with the Ministry of Health supporting response coordination at national and sub-national levels through weekly cluster and inter-cluster coordination meetings. 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

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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

