



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 47

18 to 24 Nov 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 partner and health cluster humanitarian agencies supporting integrated disease surveillance and response.

Key highlights

- In week 47 of 2024, the timeliness and completeness of IDSR reporting was 78%, and 91% respectively which is much higher compared to week 46 where timeliness and completeness were at 76% and 89% respectively. There is a consistent improvement witnessed in timeliness and completeness since week 31. Eleven States (11) of the 13 states/administrative areas attained completeness of reporting above 80%. Greater Pibor Administrative area, Lakes, Unity, and Western Equatoria States achieved 100% completeness of reporting. However, only 6 of the 13 states/administrative areas attained timeliness of reporting above 80%.
- At the EWARN mobile sites, the Timeliness and Completeness of IDSR performance remained at 53% and 53% respectively. The timeliness and completeness of reporting in both week 47 and 46 had remained constant at 53% and 53% in terms of timeliness and completeness, respectively. Efforts are underway to identify the new partners in these health facilities.
- In week 47, 90 EWARS alerts were triggered, and the proportion of verified alerts decreased from 87% in Week 46 to 78% in week 47. Most of the alerts were for Guinea Worm (23%), ARI (21%), ABD (17%), Malaria (13%) and AWD (9%).
- Cholera outbreak is now reported in 19 of the 80 counties as of 09 December across 6 states in South Sudan. From September 28 to December 9, 2024, there have been a cumulative total of 2,184 cases, including 535 RDT positive cases. The cumulative number of laboratory-confirmed cases remained 61 of the 118 culture tests so far conducted. The cumulative number of deaths now stands at 31 (11 in community and 20 at health facilities) bringing the CFR to 1.4%, which is lower compared to previous outbreaks but higher than global acceptable ratios.
- South Sudan has received over 1,000, 000 doses of Oral cholera vaccine as part of the response to the ongoing outbreaks in three counties of Juba, Renk and Malakal.
- Other active outbreaks and events in South Sudan include measles in Tonj East County and hepatitis E in multiple locations, cVDPV2/Polio now declared a countrywide outbreak, as well as flooding, that has so far affected more than one million people across 52 counties, with 56 health facilities inundated.

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 47 were at 78% and 90%, respectively, which was an improvement from the attainments from the previous week.

Table 1: Timeliness and completeness of IDSR reporting by State for week 47 compared to 46 of 2024

State	Total facilities	Number of facilities reported (Completeness Wk47)	Comparison of the reporting period				Cumulative since year start (2024 level)	
			Timeliness		Completeness		Timeliness	Completeness
			Week 47	Week 46	Week 47	Week 46		
Lakes	112	112	80%	100%	100%	100%	69%	100%
NBGZ	101	79	64%	60%	78%	93%	59%	80%
Unity	84	84	99%	99%	100%	100%	88%	99%
WBGZ	113	102	88%	86%	90%	90%	43%	82%
WES	191	206	100%	70%	100%	100%	65%	96%
Jonglei	120	108	83%	79%	90%	88%	73%	87%
Warrap	114	107	66%	56%	94%	86%	49%	88%
EES	112	96	54%	60%	86%	82%	58%	94%
RAA	16	16	44%	50%	100%	100%	49%	97%
CES	152	120	79%	86%	79%	86%	64%	94%
AAA	17	14	82%	65%	82%	65%	67%	82%
Upper Nile	143	121	66%	78%	85%	92%	51%	87%
GPAA	16	16	50%	88%	100%	94%	90%	92%
Total	1291	1181	78%	77%	91%	91%	62%	91%

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

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 47 of 2024.

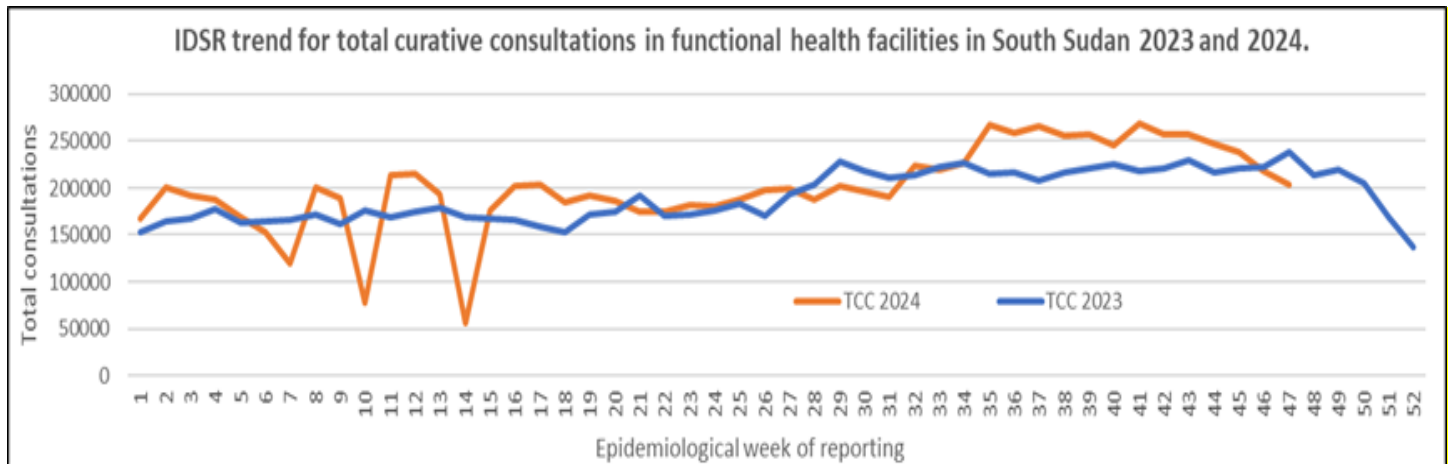
Partners	# of Reporting Mobile Sites	% of Timeliness in week 47	% of Completeness in Week 47	Payam	# of Reporting Private Health Facilities	% of Timeliness in week 47	% of Completeness in Week 47
IMC	4	0%	0%	Kator	3	100%	100%
SSHCO	1	0%	0%	Marial Baai	1	100%	100%
SMC	1	0%	0%	Northern Bari	1	0%	0%
SCI	2	100%	100%	Rajaf	3	100%	100%
HFO	4	75%	75%	Muniki	12	0%	0%
WVI	2	100%	100%	Wau South	20	95%	95%
CIDO	1	100%	100%	Wau North	12	92%	92%
TOTAL	15	53%	53%	Juba	10	90%	90%
				Mangala	1	100%	100%
				TOTAL	63	75%	75%

Weekly Update on Indicator-Based Surveillance (Week 47)

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.

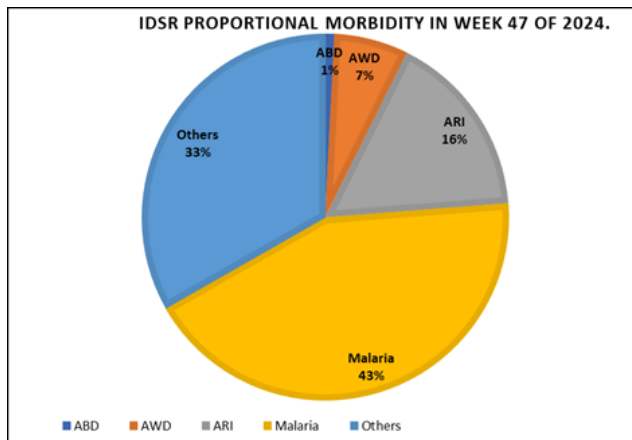
- During week 47 of the year 2024, individuals aged five years and older reported the highest volume of consultations at the outpatient department (OPD).
- Since the commencement of the current year, the cumulative number of patients treated in both the outpatient and inpatient departments has reached a total of 9 838 176 (refer to Table 1 below).
- Comparing the utilization of healthcare services in 2023 and 2024 reveals fluctuating trends, suggesting variations in the weekly number of consultations

Figure 3: Trends of cumulative curative/OPD consultations reported in the Monthly DHIS reporting: 2023-2024.



- In week 47 of 2024, malaria continue to be the leading cause of morbidity and mortality, with over 100,000 reported cases nationwide, as detailed in table 2.
- Comparison between week 47 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 47 of 2024 and emerged the top cause of morbidity and mortality during the week.
- Other causes of illness accounted for 33% of the over-all consultations in the country (Figure 6 below).

Figure 4: IDSR Proportional Morbidity in week 47 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 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 5: Malaria Incidence in South Sudan, as of Week 47 of 2024

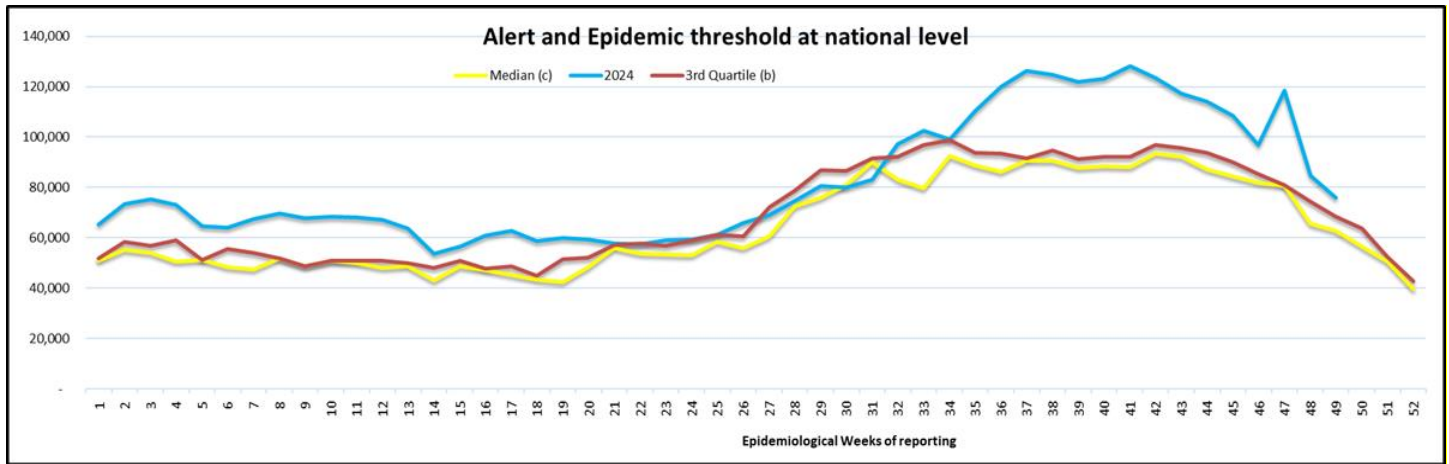


Figure 6: Malaria Trends in Jonglei and Upper Nile.

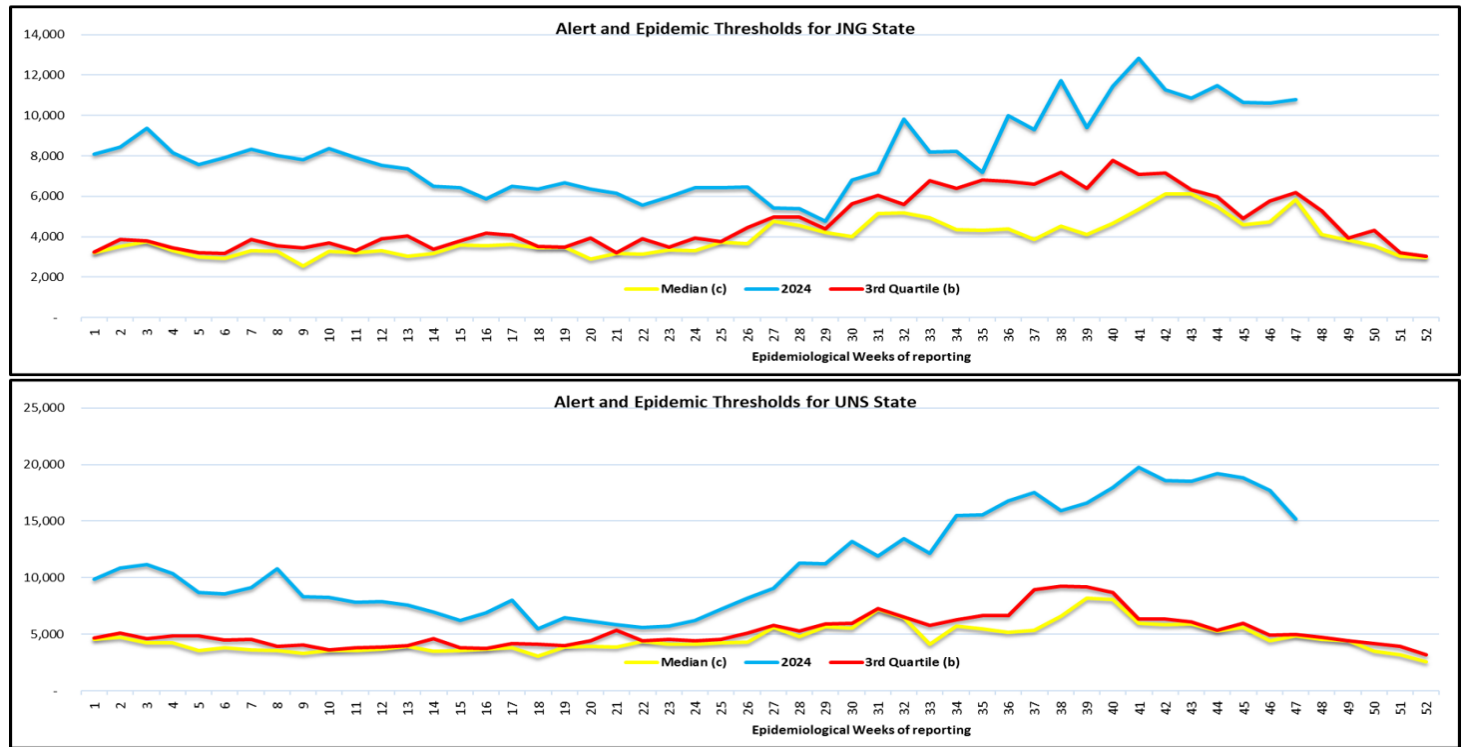
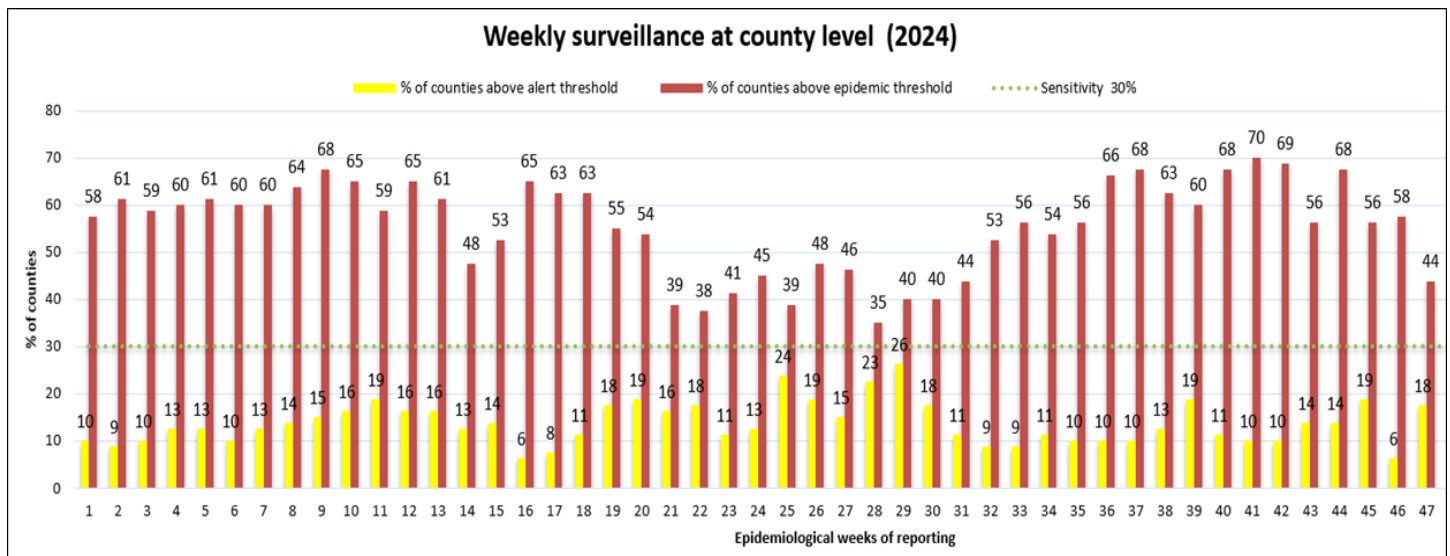


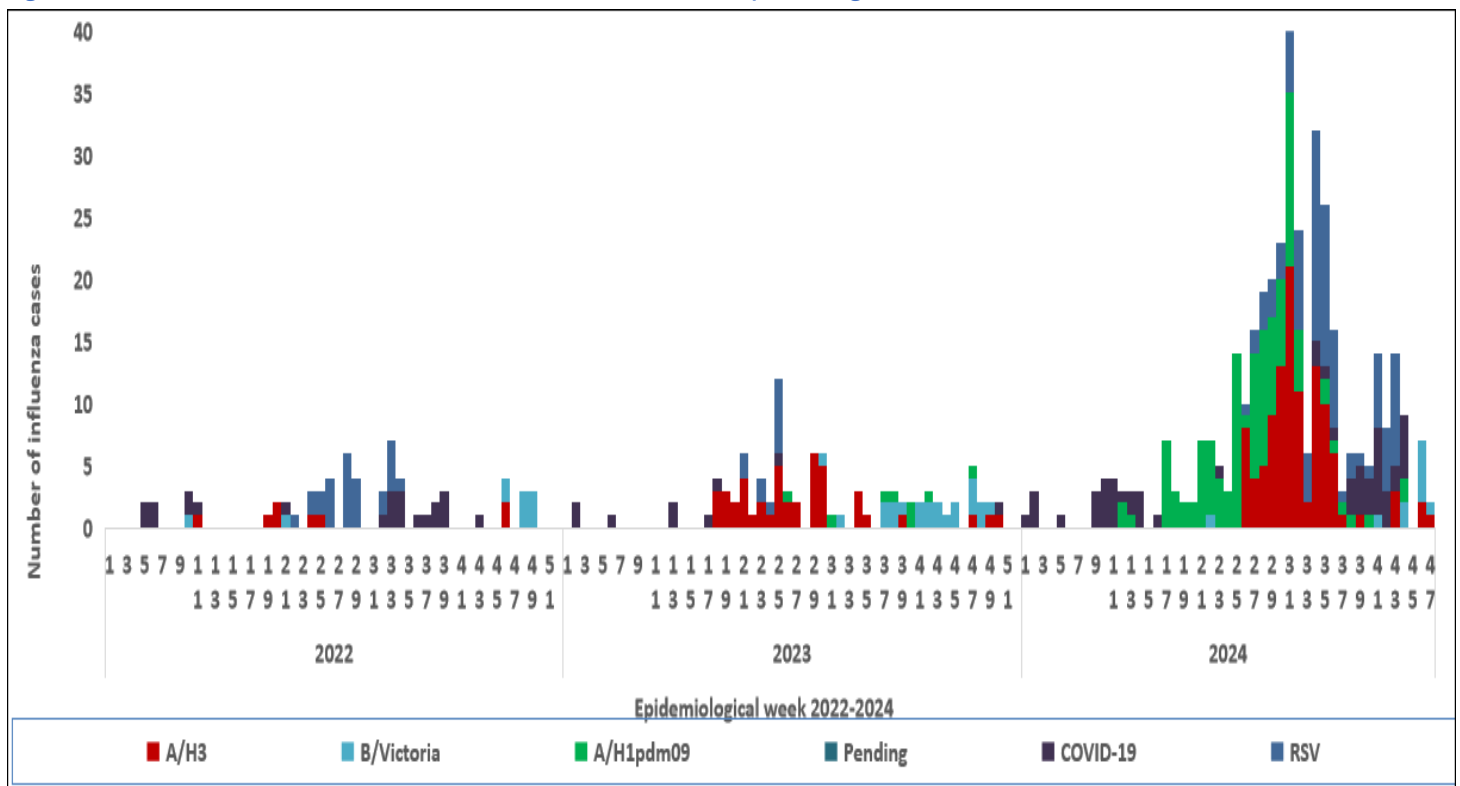
Figure 7: Weekly tracking of South Sudan Counties above the Alert and epidemic thresholds for Malaria



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 8: Confirmed Influenza, COVID-19 and RSV cases from sentinel sites Epidemiological Week 1 of 2022 to Week 47 of 2024.



During Epidemiological Weeks 1 to 47 in 2024, a total of 2351 ILI/SARI samples have been collected; 1989 tested negative for all pathogens, (55) were positive for COVID-19, (110) for Influenza Type A (H3), (10) for Influenza Type B (Victoria), (95) for Influenza A/(H1N1)pdm09 and (94) for RSV.

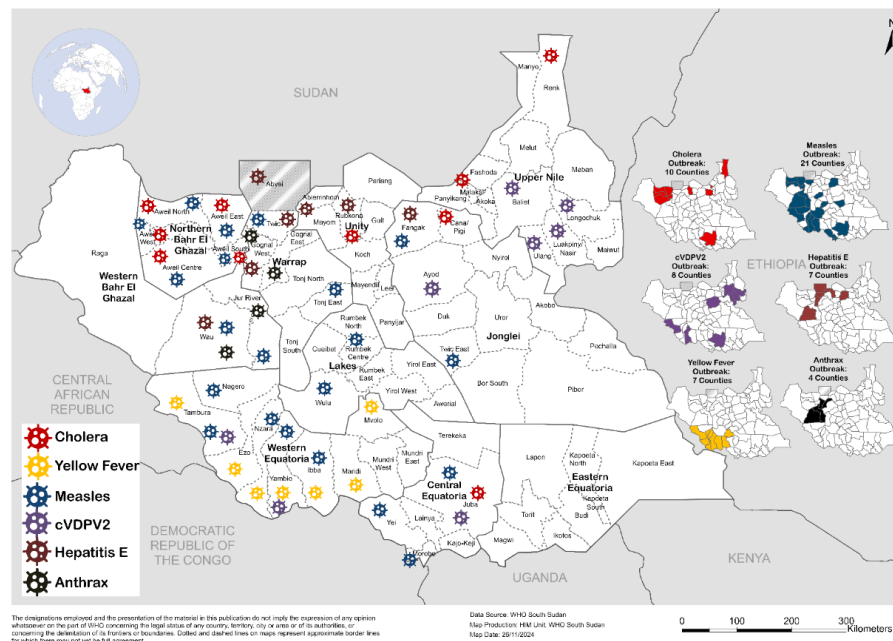
Confirmed and congoing epidemics in 2024

Table 4: Summary of ongoing and confirmed epidemics

Aetiologic agent	Location (county)	Date first reported	New cases since 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	12	3429	206	ongoing	Completed	ongoing	ongoing
cVDPV2	Yambio, Juba, Ulang, Nasir, Baliet, Ayod, Old Fangak	19/Dec 2023	2	21	21	Not applicable	Completed 3 nOPV2 SIAs and 4 th round is planned for Jan 25	ongoing	ongoing
Anthrax	Gogrial west (WRP) and Jur River (NBG)	2022	3	165	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	25	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 19 counties across six states	September 2024	357	2,184	61	ongoing	Completed in Renk and Malakal. Ongoing in Malakal	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 Anthrax, cholera, cVDPV2, hepatitis E virus, measles, meningitis, and Yellow Fever. 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 9: Map showing confirmed disease outbreaks across the country in 2024.



Response activities for ongoing/suspected outbreaks

1. South Sudan Cholera Outbreak Epidemic description as at 25th November 2024

- During week 47 of 2024, 6 new cases were reported across 10 counties within 5 states of South Sudan.
- From September 28 to December 25 November 2024, there were a cumulative total of 2,184 cases, including 535 RDT positive cases. The cumulative number of laboratory-confirmed cases remained 61 of the 118 culture tests so far conducted.
- The cumulative number of deaths now stands at 31 (11 in community and 20 at health facilities) bringing the CFR to 1.4%, which is lower compared to previous outbreaks but higher than global acceptable ratios.
- There were 120 patients in admission as of 25 November 2024
- These cases have been documented across 10 counties in the 6 states of South Sudan, including Juba, Canal Pigi, Aweil Centre, Aweil East, Aweil North, Aweil South, Aweil West, Rubkona, Malakal, and Renk. Notably, Malakal County accounts for 65.4% (n = 601) of all cases, followed by Renk with 21.2% (n = 195).

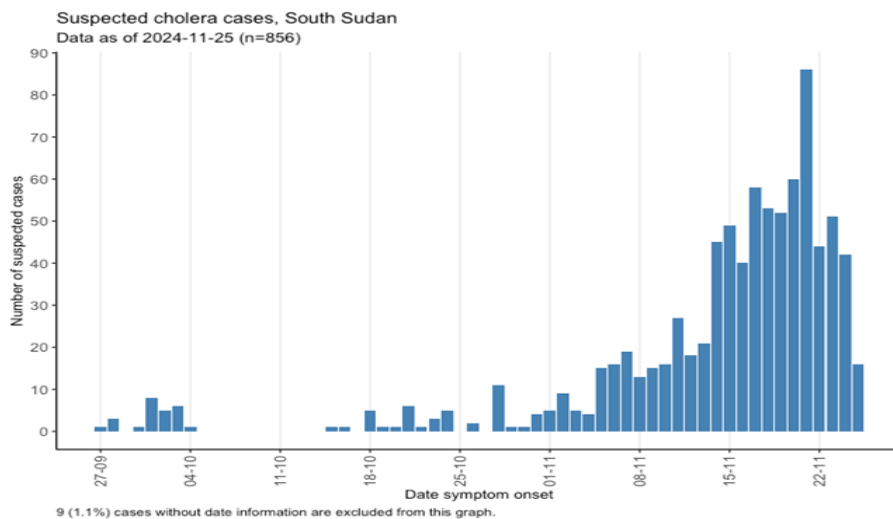
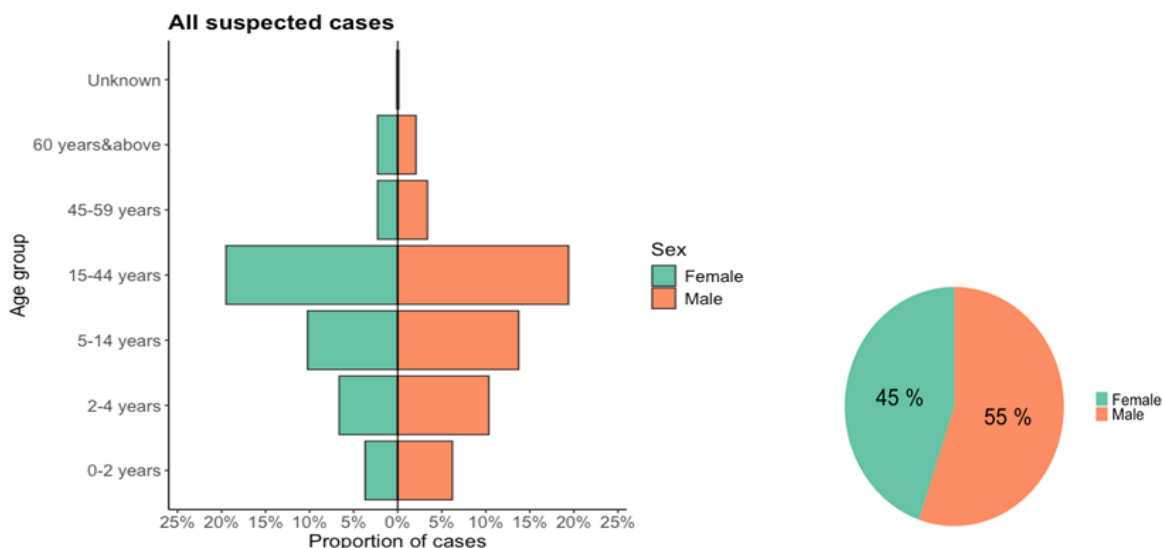


Figure 10: Cholera Cases and CFR by Week in South Sudan, week39-47*,2024

- The age group with highest case count is 15-44 years, (39%), followed by the 5-14-year age group (24%).
- Males represent 55% of all cases, where sex is known.

Figure 11: Age distribution of suspected Cholera cases in South Sudan; as at 25th November 2024



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 are 12. Cases are reported from Yambio in Western Equatoria, Juba in Central Equatoria, Ayod in Jonglei, Baliyet, 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 six months nine cVDPV2 viruses were isolated from environmental samples collected from three environmental sites in Juba. The latest cVDPV2 virus isolate from an environmental surveillance sample collected on 5th November 2024, while the latest isolate from AFP isolate was in a case with onset of Paralysis on 02/09/2024. The third response round was conducted in the 4th week of October reaching 3,405,150 children. All States attained 90% and higher administrative coverage. In the 3rd round of nOPV2 outbreak response SIAs, 292 610 children received their first dose, justifying an additional 4th response vaccination round for these children to get a second opportunity to receive OPV2 and in turn reduce the risk of virus seeding for future outbreaks.

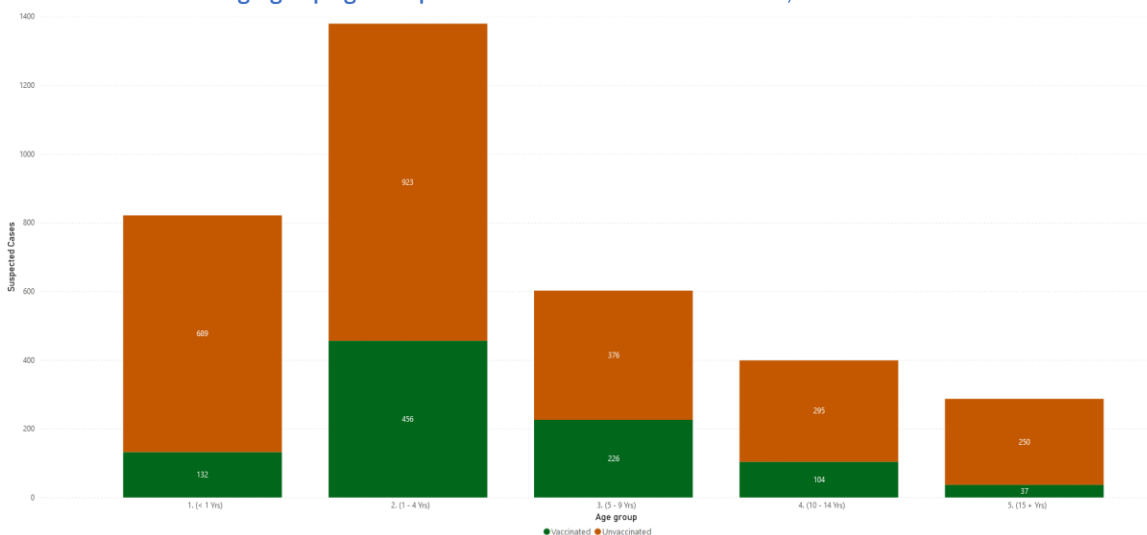
During the 3rd nOPV2 response vaccination, 1 610 support supervisions were documented on ODK in 77 of the 80 counties. This was an improvement from 1456 supervisions in 70 counties documented in the second nOPV2 outbreak response SIAs conducted in April 2024.

The nOPV2 SIAs campaign was monitored for quality, using LQA surveys. The 3rd round had 46% (18 of 39 counties surveyed passing the LQAs test. This was a decline from 58% (23 of 40 counties surveyed) that was achieved in the second response round. Similarly, the proportion of counties surveyed in which the LQAs test failed increased from 23% (9 of 40 counties) to 26% (10 of the 39 counties). Data from the LQAs survey shows that the majority of missed children were due to poor vaccination team performance (houses not visited, vaccinated but not finger marked and child was asleep). All the under-performance was predictable before 1 week prior to the campaign, only 80% of the counties were ready.

3. Measles Updates

- Over the past two weeks, the cumulative number of suspected measles cases has risen from 3 474 to 3 488, indicating an upward trend.
- During this period, there have been 7 newly confirmed measles cases by IgM, bringing the cumulative total of confirmed cases to 228 (of the 384 cases from whom serum samples were collected).
- 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: Vaccination Status and age-grouping of suspected measles cases in South Sudan; Week 1-47 of 2024

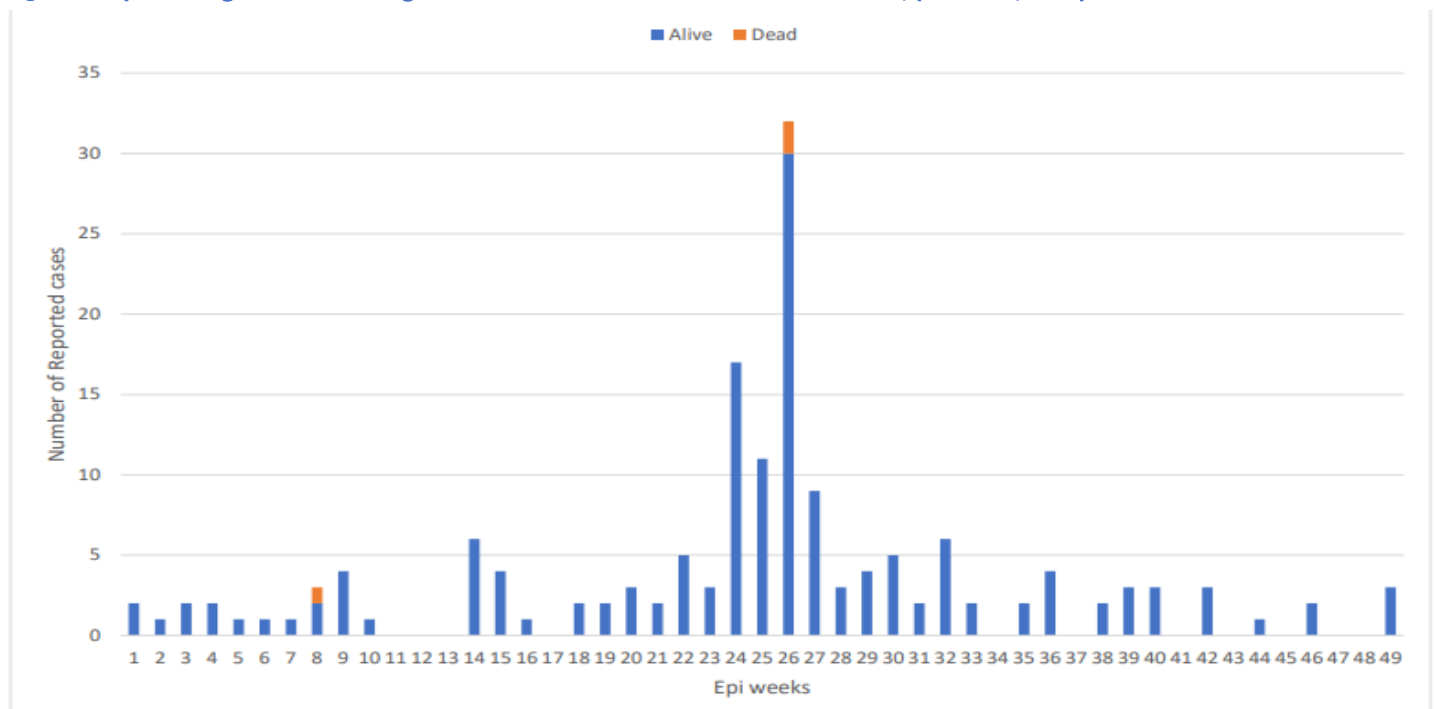


4. Anthrax

Anthrax Situation Report number 016 was published on 10th December 2024 and shows the following highlights:

- During week47 (ending 7th December 2024), there were zero new human deaths reported in South Sudan. However, there were three (3) new cases reported in week49 which became part of the analysis in week47. This brings the cumulative number of human anthrax cases to 168 human cases and three deaths (CFR 1.8%) since January 2024. Most of the cases were males, accounting for 112 cases (66.6%), while females accounted for 56 cases (33.3%). The most affected age group range is from 1 to 57 years. However, age group between 15-57 years old were more affected account(45.8%) (77 cases) followed by age group 10 -14 with 36 cases (21.4%), age group 5-9yrs with 31 cases (18.4%), and age group 0-4 yrs. with 24 cases (14.3%).
- Jur River in Western Bar-El Gazal State recorded the highest number of cases (90 cases) representing attack rate of 36.6 per 100,000 population, followed by Gogrial West County in Warrap State with an attack rate of 13.1 per 100,000 population, Wau in Western Bar-El Gazal has an attack rate of 0.4 per 100,000 population, and Gogrial East in Warrap State has an attack rate of 0.5 per 100,000 population
- In the animal population, there were no new reported cases and deaths, a total 36,961 animal cases and 36,775 deaths with case fatality rate 99.5% have been reported since the start of the outbreak since January 2024. WHO continues to support efforts to control disease spread through community engagement. 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.

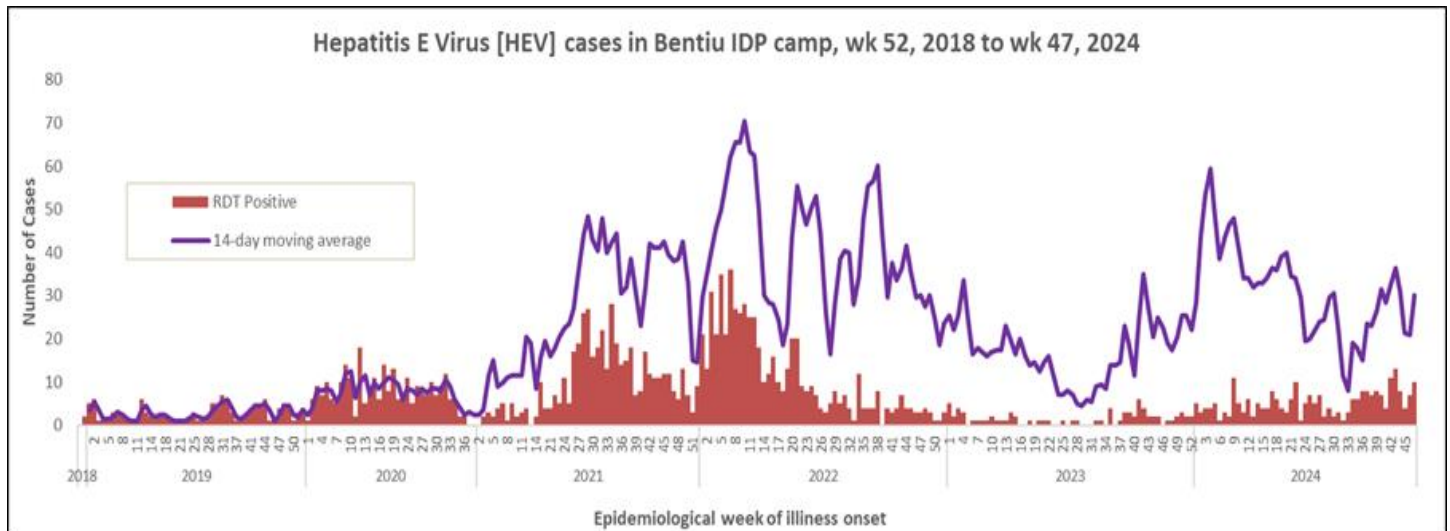
Figure 12: Epidemiological Curve showing Cases and Death of Anthrax cases in South Sudan; (Wk. 1 -47, 2024).



5. Hepatitis E outbreak in Bentiu

In week 47 of 2024, there were 35 new reported cases of hepatitis E virus disease with 10 RDT positive cases and 1 new death had been reported. Cumulatively, 1 781 hepatitis E virus cases with 34 deaths have been reported since the start of the outbreak in 2018. Male gender is the most affected representing 52% (3, 211 cases) of the total cases, while females accounted for 48% (2, 909 cases). Age group 15-45yrs old was the most affected.

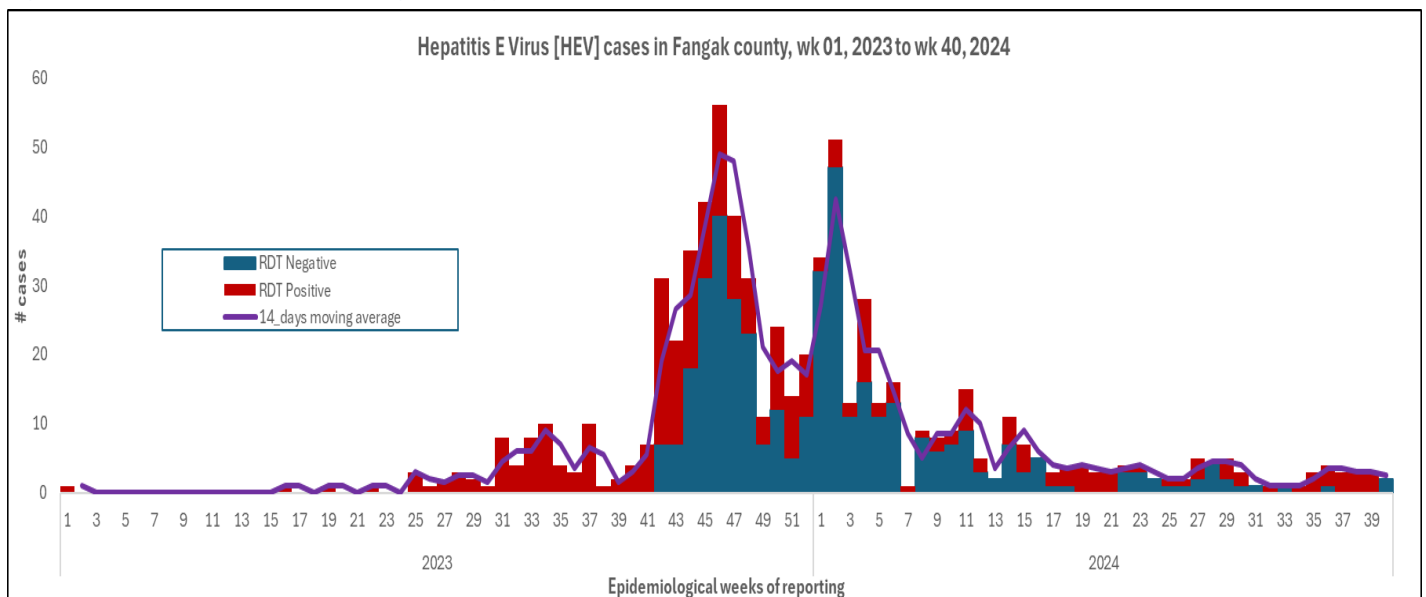
Figure 13: Epidemic curve of Hepatitis E cases reported in Bentiu, Week 52 of 2018 to Week 47 of 2024



6. Hepatitis E Virus infections in Fangak, Jonglei State

In week 47 of 2024, there were no newly reported cases, and therefore the cumulative number of Hepatitis E cases in Fangak County remained 701 cases, including 28 deaths. Analysis of the Hepatitis E cases in Fangak county shows that Females represented 64% (446 cases) of the total cases, while males accounted for 36% (255 cases). Secondly, the majority of Hepatitis E cases were reported to be residents of old Fangak (446 cases and 56 deaths), Paguir (69 cases and 6 deaths), Mareang (33 cases and 3 deaths) and Pulita (31 cases and 1 deaths) Payams. By age, the most affected age-group was 15 and above years (616 cases).

Figure 14: Hepatitis E Virus cases in Fangak County, Week 1 of 2023 to Week 40, 2024

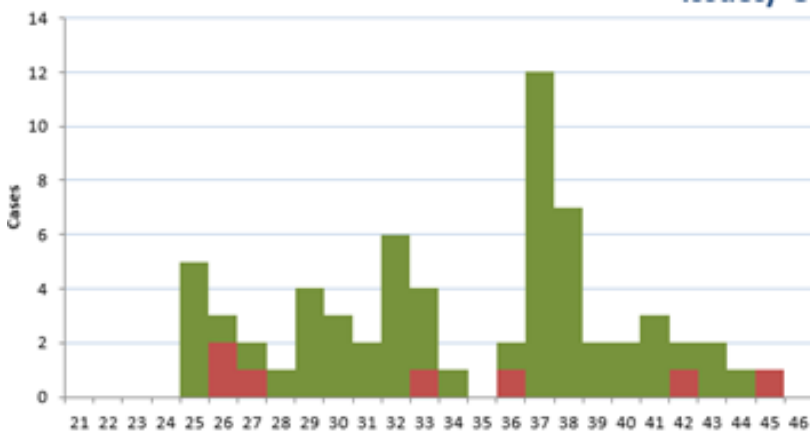


7. Hepatitis E in Abyei

In week 47 of 2024, there no new reported cases of suspected Hepatitis E Virus disease and zero death. Cumulatively a total of 64 cases including 7 deaths with case fatality rate (CFR) of 10.5% have been reported since the start of the outbreak in week21 of 2024. Individuals aged years and above were the most affected age group. Among the individual affected, males account for 48% (31 cases) while female represent 52% (33 cases) of the total cases. Many of the cases were recorded in Ameth Aguok Payam. Age group from 15 years and above is the most affected accounting for 87% (29/32) of the cases reported.

Currently MSF is supporting Hepatitis E case management after the the Ministry of health in Abyei in consultation and guidance from the Ministry of Health had declared an outbreak of hepatitis E in the state.

Figure 14: Epidemiological curve showing HEV cases in Abyei Administrative area as of week 47, 2024.



Other Events

Sudan crisis: As of Week 47 of 2024, at least **882 929** individuals have crossed from 18 different nationalities. Of this number, **75.81% (669 349)** are South Sudanese returnees and 23.7% are Sudanese refugees. Currently, 21 PoEs are being monitored, with Joda-Renk accounting for 69% of the reported influx figures. Analysis of gender amongst cases crossing the Sudan-South Sudan border shows that 48.75% (430 445 of 882 929 people were males while 51.25% were females.

Host communities 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 securing Oral cholera Vaccine (OCV) from next week starting with Renk.

Food insecurity since 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 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.

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

