



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 08
19 to 25 February 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 08 of 2024, the IDSR reporting timeliness and completeness were 74% and 93% respectively, and IDSR performance at the EWARN mobile sites was 100%.
- Completeness of IDSR reporting at private Health facilities in Juba and Wau was 92%.
- Out of 247 alerts triggered in the EWARS system, 158 (64%) were verified. Most of the alerts were for Acute Bloody Diarrhoea (ABD) representing 29%, Measles (19%), Acute Watery Diarrhoea (AWD) representing 16%, Acute Respiratory Infection (ARI) representing 12% and Malaria (12%)
- An outbreak of Hepatitis E Virus (HEV) has been confirmed in Twic County, Warrap State using Real Time – Polymerase Chain Reaction (RT-PCR) at the National Public Health Laboratory (NPHL) on the 26th February 2024.
- As of Epi week 8, 2024 a total of 411 suspected measles cases were reported, including 103(25.1%) lab-confirmed and 4 deaths giving a case fatality rate (CFR) of 0.97%.
- Other public health emergencies include circulating Vaccine Derived Polio Virus type 2 (cVDPV2) in Yambio and Juba counties and Upper Nile State, Hepatitis E in Fangak and Twic counties, the health impact of the ongoing Sudan crisis and food insecurity.

Surveillance system performance

Timeliness and Completeness of IDSR in week 08, 2024

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 all of 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 08 were at 74% and 93%, respectively.

Table 1: Timeliness and completeness of IDSR reporting by State for week 08 2024

State	Total facilities	Number of facilities reported (Completeness)†	Current reporting period		Cumulative since year start (2024 level)	
			Timeliness wk8	Completeness wk8	Timeliness	Completeness
Lakes	112	112	74%	100%	89%	100%
NBGZ	89	89	94%	96%	90%	93%
Unity	89	89	87%	98%	82%	96%
WBGZ	81	61	47%	75%	72%	60%
WES	183	183	41%	100%	82%	96%
Jonglei	119	119	88%	96%	89%	90%
Warrap	111	111	83%	88%	86%	94%
EES	107	107	92%	97%	86%	95%
RAA	16	16	50%	50%	61%	81%
CES	121	109	92%	90%	77%	78%
AAA	17	17	82%	82%	40%	50%
Upper Nile	141	141	62%	87%	66%	82%
GPAA	15	15	100%	100%	97%	98%
Total	1262	1174	74%	93%	82%	92%

Figure 1: Completeness of IDSR reporting by county for week 08, 2024

South Sudan: Week 8 Percentage of Completeness Across Counties

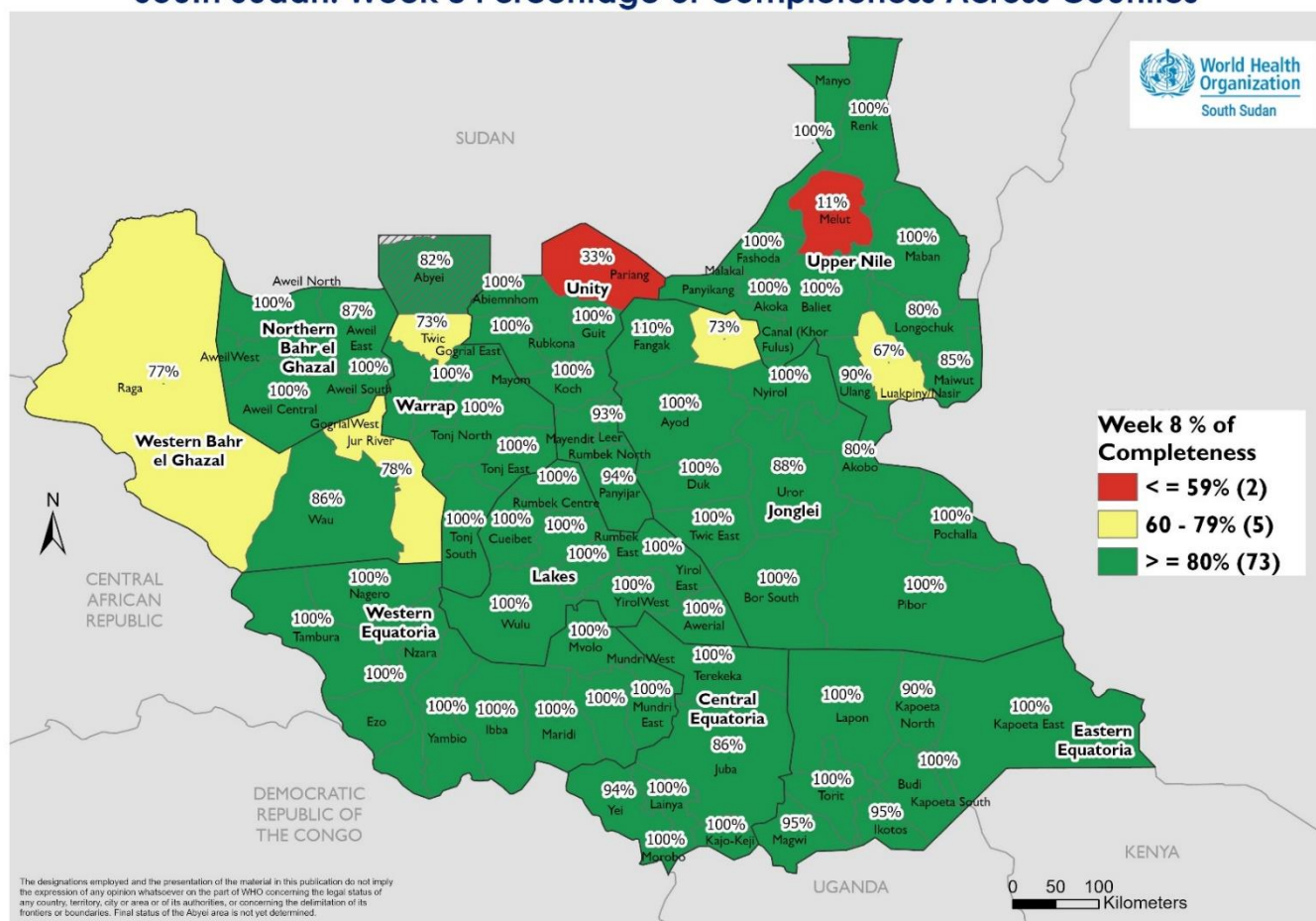


Table 2: Timeliness and completeness of reporting by State and completeness of IDSR reporting from NGO-run mobile health facilities and from private health facilities in Juba and Wau

Admin area	# Of Reporting Mobile Sites	% Of Completeness in week 08	% Of Completeness in week 07	Payam	% Of Completeness in week 08	% Of Completeness in week 07
IMC	4	100%	100%	Kator	100%	100%
SSHCO	1	100%	100%	Marial Baai	100%	100%
SMC	1	100%	100%	Northern Bari	100%	100%
SCI	2	100%	100%	Rajaf	100%	100%
HFO	3	100%	100%	Muniki	100%	100%
WVI	2	100%	100%	Wau South	85%	90%
CIDO	1	100%	100%	Wau North	77%	77%
SP	4	100%	100%	Juba	100%	90%
TOTAL	18	100%	100%	TOTAL	92%	92%

Epidemic alerts

Out of 247 alerts triggered in the EWARS system, 158 (64%) were verified. Most of the alerts were for Measles (19%); Acute Watery Diarrhoea (AWD), representing 16%, Acute Respiratory Infection (ARI), 12% and Malaria (12%). It is important to note that there were significant alerts of Guinea worm, AJS, EBS and cholera. See table 3 below for more details.

Lakes, Warrap, WES CES, EES, NBGZ, and WES states show high verification rates and low verification rates AAA, GPAA, RAA and verification rates (AAA, GPAA, Jonglei, RAA, Unity, and Upper Nile).

Table 3: Summary alerts triggered week 08; 2024

Admin Area	Acute jaundice syndrome		Acute Respiratory Infections (ARI)		Acute Watery Diarrhoea		Bloody Diarrhoea		Cholera		EBS		Guinea Worm		Malaria (Confirmed)		Measles		Neonatal Tetanus		Grand Total	
	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V
AAA	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
CES	0	0	3	3	6	5	2	2	0	0	0	0	0	0	3	3	0	0	0	0	14	13
EES	1	1	4	4	3	3	3	3	0	0	1	1	0	0	0	0	3	3	0	0	15	15
Jonglei	6	0	2	0	1	0	4	0	2	0	0	0	4	0	0	0	4	0	0	0	23	0
Lakes	0	0	4	4	8	8	9	9	0	0	0	0	12	12	6	6	0	0	0	0	39	39
NBGZ	0	0	3	3	0	0	0	0	0	0	0	0	0	0	1	1	13	13	0	0	17	17
RAA	0	0	1	0	1	0	0	0	0	0	5	0	0	0	0	0	1	0	0	0	8	0
Unity	3	1	6	0	4	2	6	1	0	0	0	0	0	0	4	2	1	0	0	0	24	6
Upper Nile	2	0	1	0	1	0	9	0	0	0	1	0	0	0	2	1	4	1	0	0	20	2
Warrap	0	0	3	1	1	1	2	2	1	1	3	3	5	2	0	0	12	6	1	0	28	16
WBGZ	0	0	1	1	2	2	1	0	0	0	0	0	6	0	1	1	1	1	0	0	12	5
WES	0	0	2	2	12	12	9	9	0	0	0	0	0	0	13	13	9	8	0	0	45	44
Grand Total	12	2	30	18	40	34	46	26	3	1	10	4	27	14	30	27	48	32	1	0	247	158

#R= reported

#V= verified

Suspected meningitis in Twic county Warrap State

Suspected Meningitis has also been reported from the Mayenabun Primary Health Care Center (PHCC) in Twic County Warrap state. Ten (10) cases have been line-listed and treated, and some were discharged with one death (CFR = 10%). All cases were in children aged 5 years and below with exception of one case. Active case search continues in three Payams of the county, and the National Rapid Response teams have been deployed to conduct further investigation.

Weekly Update on Indicator-Based Surveillance (Week 08)

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

Four designated Influenza sentinel surveillance sites in Juba (Juba Teaching Hospital, Juba Military Hospital and Al Sabah Children's Hospital) and Rumbek (Rumbek State Hospital) continue to collect epidemiological data and samples from ILI/SARI cases.

In week 8, 2024, a total of 195 ILI/SARI were collected: (189) tested negative, (5) were positive for COVID-19, (0) Influenza types A (H3), (1) B (Victoria), (0) for A/H1pdm09 and (0) for RSV.

Figure 2: Indicator-Based Surveillance (IBS) Influenza Surveillance

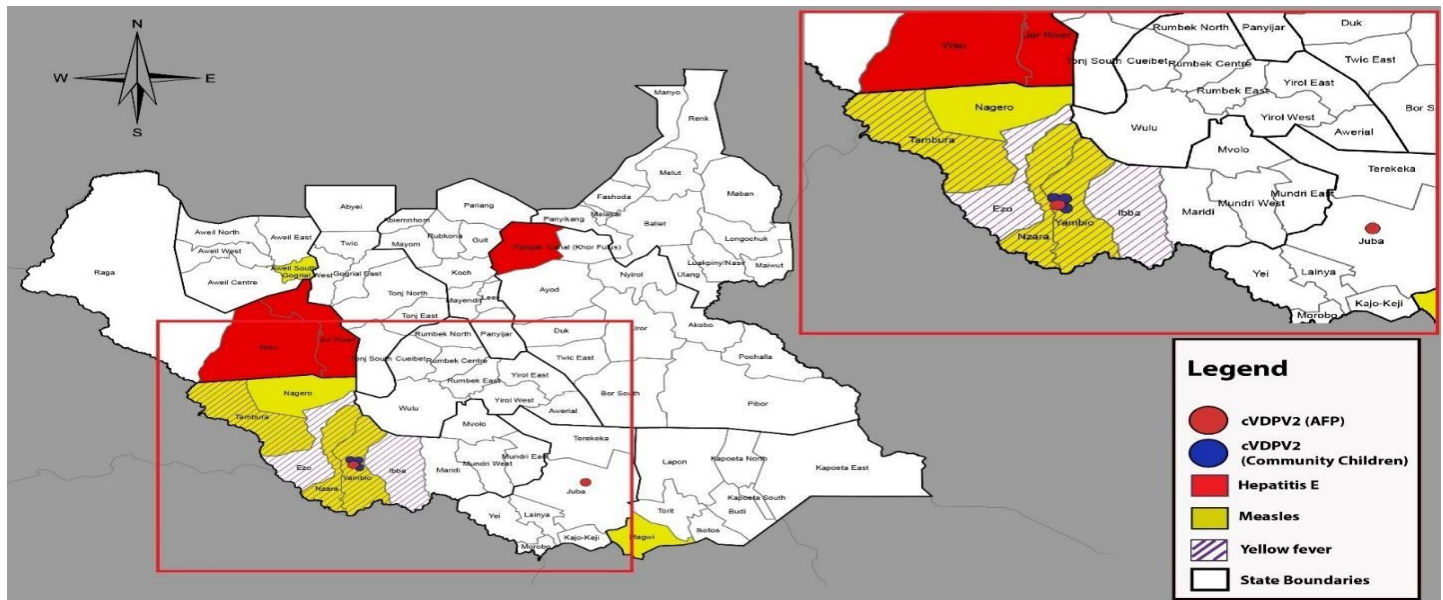
Ongoing confirmed epidemics

Table 4 below lists ongoing outbreaks

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>									
Hepatitis E	Twic	Feb 2024	0	2	1	ongoing	-	Ongoing	Ongoing
Yellow Fever	Yambio, Nzara, Ezo, Tambura, Ibba and Maridi	21 Dec 2023	7	78	3 Laboratory confirmed	Ongoing	Ongoing for 3 counties (Yambio, Nzara and Tambura)	Ongoing	Ongoing
Measles	69 counties	2022	19	12,399	1,083	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Fangak	2023		502		ongoing	ongoing	ongoing	ongoing
cVDPV	Yambio and Juba	19/Dec 2023	0	3	2	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	48			ongoing	Done in 2021/22	ongoing	ongoing

Figure 3: Map showing ongoing disease outbreak across the country



Response activities for ongoing outbreaks

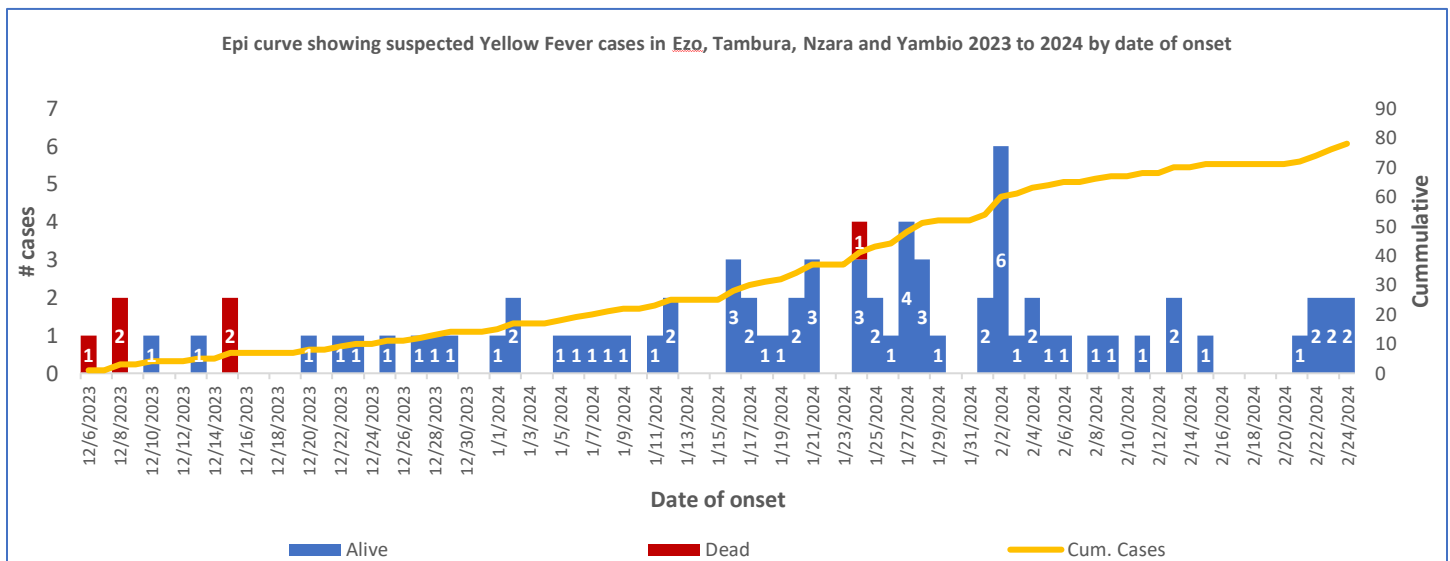
Hepatitis E Outbreak in Twic

An outbreak of Hepatitis E Virus (HEV) was confirmed in Twic County, Warrap State using Real Time – Polymerase Chain Reaction (RT-PCR) at the National Public Health Laboratory (NPHL) on the 26th February 2024. The subnational rapid response teams (RRTs) with support from the national RRTs, WHO and partners has intensified surveillance including active case search and raising community awareness about HEV. MSF is supporting the Mayenabun PHCC, which received the initial samples and is managing cases. Fortunately, there have been no reported deaths and no new cases have been reported so far.

Yellow Fever Outbreak in Yambio

As of the week ending on 26 February, a cumulative total of seventy-one (78) Yellow Fever cases (75 suspected and 03 confirmed) were reported from six counties in Western Equatoria state: Yambio (42), Tambura (15), Nzara (10), Ezo (06), Ibba (04), and Maridi Counties (01). No new deaths were reported during the last seven days. The total number of suspected deaths reported is 6, giving a case fatality rate of 7.7%.

Figure 4: Epi curve showing suspected Yellow Fever cases by date of onset



Response update

The Honorable Minister for Health launched a reactive Yellow Fever vaccination campaign on 13 February 2024. Three (03) out of the five (5) counties have completed the reactive Yellow Fever campaign. A total of 351,131 individuals, representing 86.3% of the targeted population, have been vaccinated. Response activities (coordination, surveillance, laboratory, case management, risk communication and community engagement, vaccination, infection prevention and control, logistics support, etc) are being reinforced by State Ministry of Health and supported by partners (WHO, UNICEF, WVI-CGPP, CDTY, CMMB, Red Cross South Sudan, AMREF, JRS, IMA and TRI-SS) Activeness surveillance are being strengthened in states (Lake and Western Bahr El Ghazal) and counties bordering Tambura and Ibba through guidance from Ministry of Health and State Ministry of Health with support from partners (WHO, UNICEF, CARE, Johanitter, AFOD, and CORDAID).

Measles Update

As of Epi week 8, 2024, a total of 411 suspected measles cases were reported, including 103(25.1%) lab-confirmed and 4 deaths giving a case fatality rate of 0.97%. Seventy-six (76) late cases were reported from weeks 2-7, where 4 cases were lab confirmed, 27 cases epi-linked and 45 cases clinically compatible.

Three (3) newly confirmed cases have been reported from Rumbek Centre in week 8, 2024. Three (3) additional deaths recorded in weeks 2&3 in Maridi were reported in this current week. Eight (8) ongoing outbreaks in the week under review (Aweil Centre, Aweil West, Aweil South, Ibba, Juba, Wulu Yei and Rumbek Centre). Abiemnhom, Kapoeta North, Mundri West, Pibor, Tambura, Terekeka, Torit, and Maridi continue to report suspected/confirmed cases that have not reached the outbreak threshold in February. As per the revised SOP, more samples need to be collected for testing.

Measles cases have been reported from different counties throughout 2023-2024. The observed peaks are driven by different counties that experienced a surge in measles cases at different times. The Sudan crisis started in week 14 of 2023, with the influx of returnees and refugees since then contributing to a higher caseload. The nationwide MFUPC took place from week 17-20, and 24 reactive campaigns were conducted from week 29 to 51 of 2023.

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

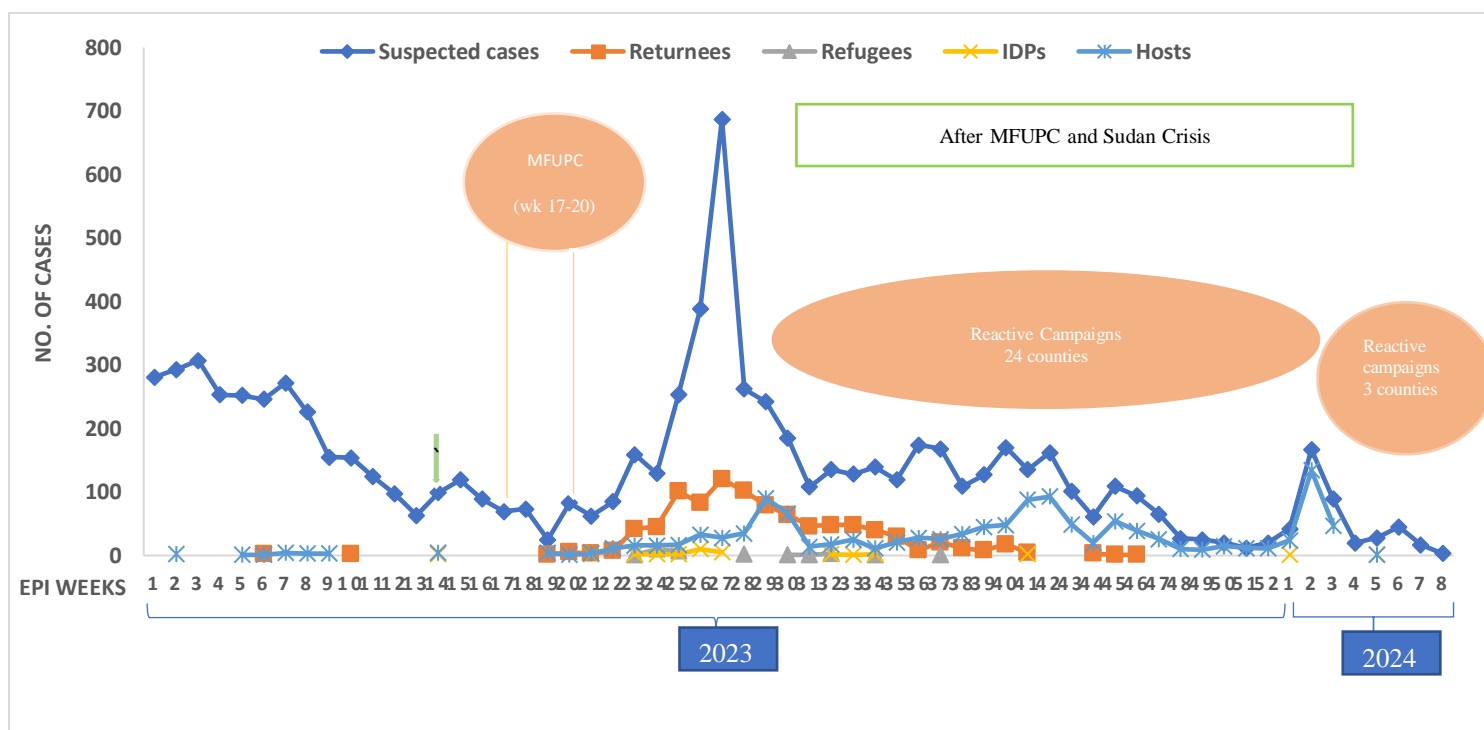


Table 5: Distribution of cases by final classification group in 2024

Final classification	No. of cases	%
Lab confirmed	103	25.1
Epi-linked	78	19.0
Clinically Compatible	184	44.8
Total	365	88.8
Discarded (-ve)	46	11.2
Grand Total	411	100.0

Table 6: Distribution of cases by age group in 2024

Age group in years	No. of cases	%	Deaths	%
<1	116	28.2	1	0.9
1-4	161	39.2	2	1.2
5-9	58	14.1	1	1.7
10-14	39	9.5	0	0.0
15+	37	9.0	0	0.0
Total	411	100.0	4	0.97

Out of the 411 suspected measles cases, 103 (25.1%) are lab-confirmed, 78 (19.0%) epi-linked, 184 (44.8%) clinically compatible, and 46 (11.2%) discarded cases have been reported as of epidemiological week 7, 2024. A total of 7 rubella-positive cases were identified from among the discarded (negative) measles cases.

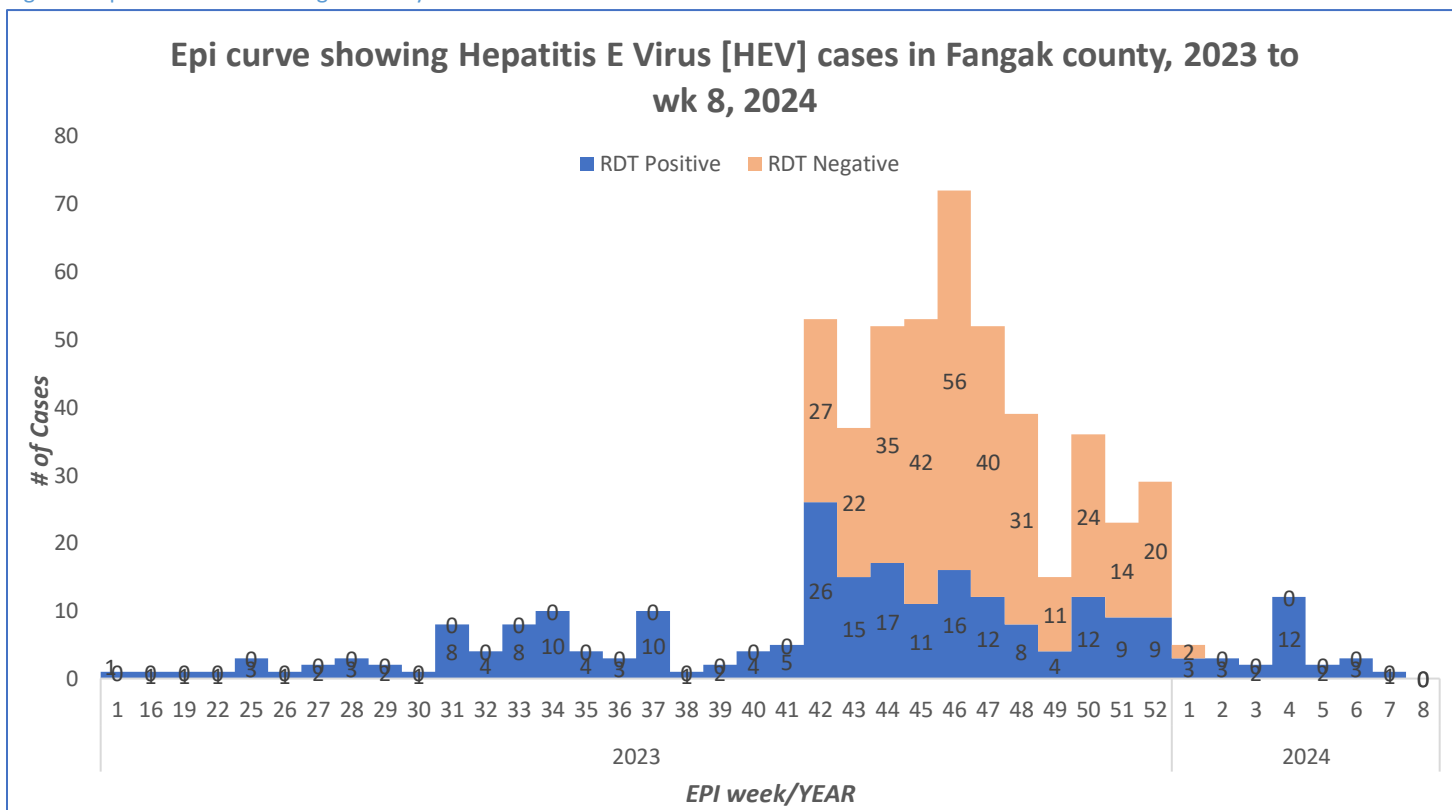
Response activities (measles)

South Sudan implemented a vaccination campaign in 21 counties, vaccinating 1,004,230 children under 15 years old, including 169,316 returnees and refugees. Polio vaccine was integrated into 16 counties, reaching 664,526 children. Partners supported seven counties, and WHO provided financial and technical support to MOH to implement in 14 counties, while UNICEF supplied all the vaccines required. Preparation for the reactive campaign is ongoing in Tonj South, and monitoring of confirmed cases is underway. POE/Temporary transit post vaccination is ongoing in prioritized sites. Phase II POE activities will restart from March 2024.

Hepatitis E Virus in Fangak County, Jonglei State

A total of 564 AJS cases, including 21 deaths, have been reported from week 1 of 2023 to week 8 of 2024. Most cases were reported among the age group 15 years and above. Females accounted for 67% (336/564) while Males accounted for 33% (160/564) of cases. The outbreak peaked in week 42 of 2023, with an RDT positivity rate of more than 60%. Until week 52, 2023. All cases from weeks 2 to 7 tested negative using RDT.

Figure 6: Epicurve of HEV in Fangak County



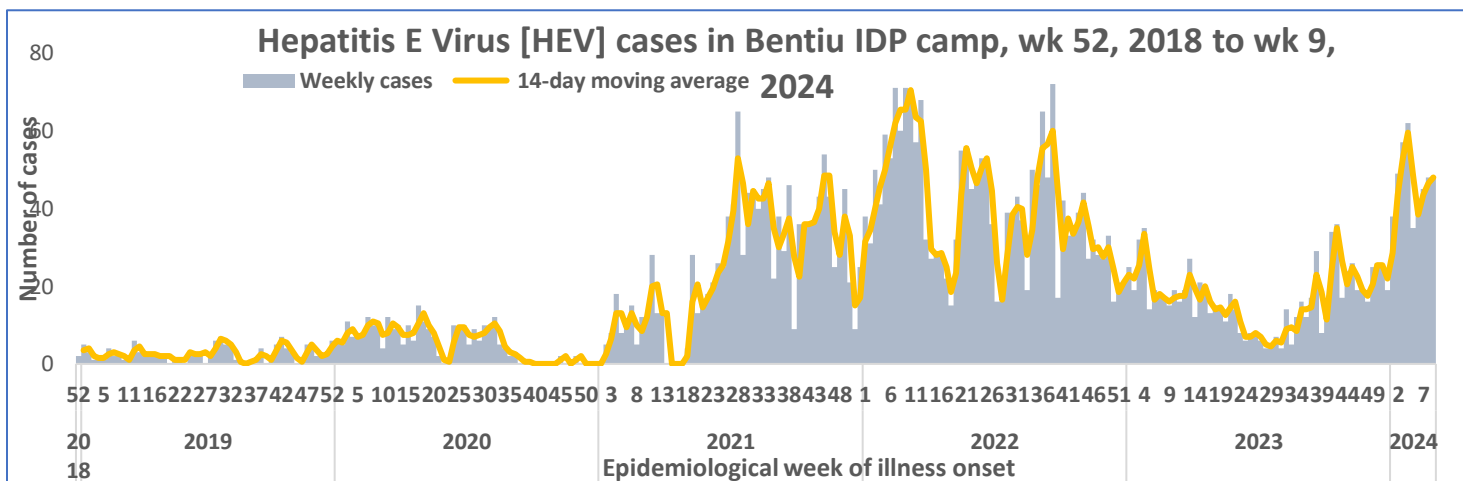
Response activities include WASH intervention through community engagement. The vaccination using Hecolin has been concluded, with 5,820 and 8,585 persons vaccinated for first and second round respectively and plans are underway to conduct the second and third rounds of vaccination campaigns in Fangak.

Hepatitis E outbreak in Twic In Warrap State

Hepatitis E outbreak in Bentiu IDP Camp in Unity State

The continuous transmission of HEV in Bentiu IDP camp continues with 5102 cases, including 27 deaths since the end of 2018. A total of 48 new cases and zero deaths were reported in week 09, 2024. The majority of the cases were reported among the age group 15 – 44 years; and Male account for 52% (2, 626), while females account for 48% of all the cases.

Figure 7: Epicure of HEV in Bentiu IDP camp, Unity State



Vaccination Response in 2022 (Hepatitis E Virus in Bentiu)

The HEV vaccination campaign was conducted in March 2022; first-round coverage was 91%, and the second round was 82% in Bentiu IDP camp were vaccinated aged 16-40 years (incl. pregnant women)

Ongoing case management in the camp hospital supported by MSF. There is a need to continue to engage in community and risk communication to support behavioral changes to meet the WASH investment done by WASH partners.

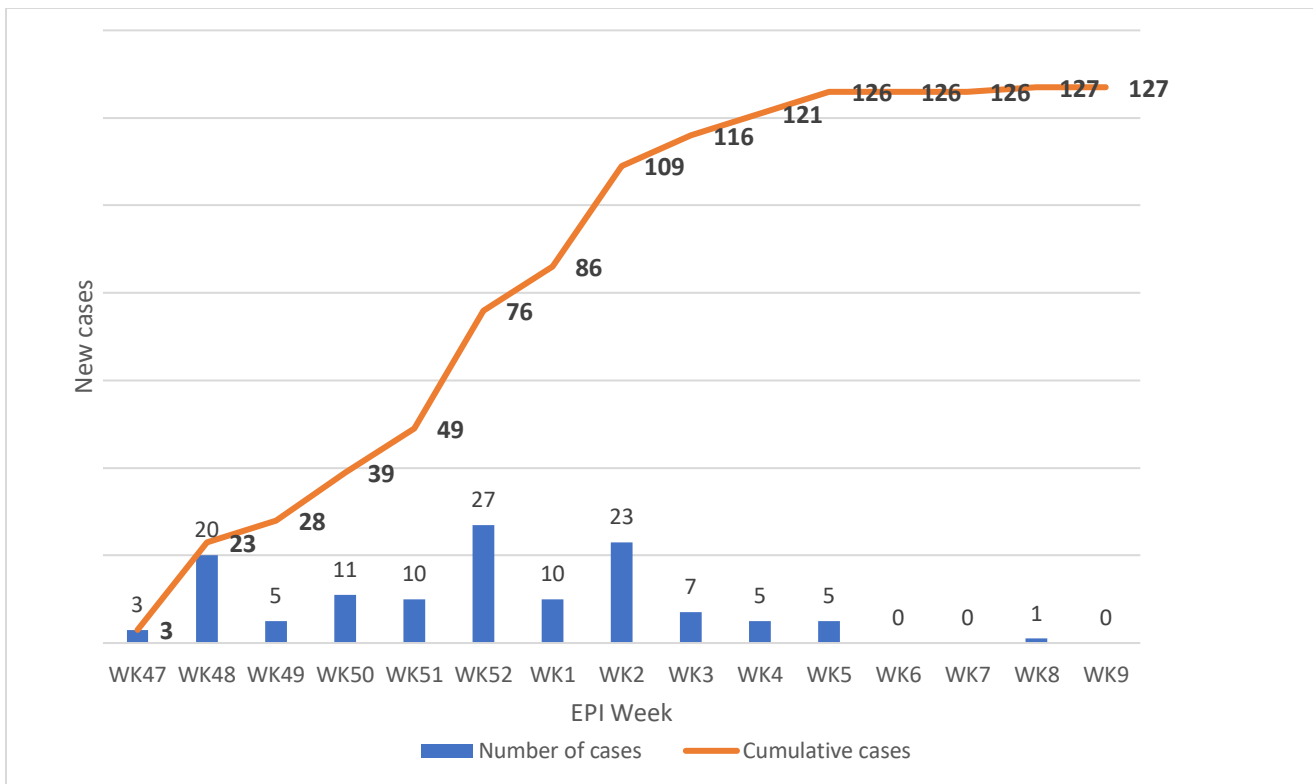
Circulating Vaccine Derived Polio Virus type-2 (cVDPV2)

As of 31 January 2024, a total of 02 cVDPV2 cases were reported from Yambio – Western Equatoria and Juba Central Equatoria. Three (3) samples collected from healthy children from Western Equatoria were tested, and the cVDPV2 variant was confirmed, and the virus closely matches the index case from West Equatoria State. The most recent cVDPV2 case from the AFP sample was reported from Juba County, Central Equatoria state, with the date of onset of paralysis on 4th November 2023. However, there are samples in the laboratory pending testing. There’s an ongoing preparation to conduct a nationwide outbreak response campaign using the nOPV2 vaccine tentatively planned for 20-23 Feb 2024.

Cholera Preparedness and Readiness updates in Renk

A health screening desk was established at Wanthou/Joda, and since 19 December 2023, screened over 146,238 individuals, detecting 127 alerts, of which 77 were verified samples collected. Of the 77 samples collected, five tested positive for cholera RDT, all negative by culture, as seen in the graph below.

Figure 6: Alerts of Acute Watery Diarrhea Surveillance in Renk County from week 47 of 2023 to week 09 of 2024



Other readiness activities:

Coordination: The Cholera Technical Working Group (TWG) has established a biweekly meeting, which is attended by partners from the WASH, Nutrition, and Health sectors, as well as UN agencies, with WHO serving as the chair. A comprehensive plan for Cholera Preparedness and Response has been developed, with ongoing coordination meetings taking place between the Health, Nutrition, and WASH Clusters.

Ongoing active case search at all health facilities in the Transit Center, Renk Hospital, and around Renk.

Engaged Behavioral Health Volunteers (BHV) to conduct Community-Based Surveillance (CBS) in payams and boma.

Enhanced health facility reporting through Integrated Disease Surveillance and Response (IDSR), with a recognized improvement in timeliness and completeness.

Other events

Flooding: During the last four consecutive years, South Sudan has experienced devastating floods, affecting over 1 million people. The most impacted states include Northern Bahr el Ghazal, Warrap, Unity, Western Equatoria, Jonglei, and Upper Nile. These recurring floods have worsened an already dire situation, leaving people without food and viable land for cultivation. The same states affected by severe flooding are now receiving refugees and returnees from Sudan, further straining the capacity to respond. With the onset of the rainy season, the re-prioritization of limited resources is required to address people’s needs because the Sudan crisis has created gaps in flood preparedness efforts, posing challenges ineffectively responding to ongoing emergencies and preparedness measures. Insufficient funding and access limitations constrained the humanitarian response in 2023 and will continue to do so in 2024.

Sudan crisis: South Sudan has received Cumulatively 568,397 individuals since 16th April 2023 who have entered South Sudan at 22 POEs. **More than 449,743 (79.1%) returnees and 118,654 (20.9%) refugees** of these arrivals are South Sudan returnees, most of them are arriving through Joda in Renk County, and the majority prefer Upper Nile as their destination state. Hostcommunities and healthcare systems are struggling to cope with the increased demand for health and otherservices, morbidity, and mortality among the 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 point of entry. Suspect cholera cases are further screened and tested with the use of rapid diagnostic test (RDT). Of the 85,391 individuals that crossed through Wunthou point of entry since 19 December 2023, 16,889 were screened for AWD at the public health desk. Nutritional status assessment (MUAC) conducted on all children less than five years at Wunthou point of entry; referral of the severe acute malnourished children with medical complications for in-patient care in Renk County Hospital.

Food Insecurity: An estimated 7.8 million people are estimated to be in Crisis (IPC Phase 3) or worse acute food insecurity, with 43,000 people in Catastrophe (IPC Phase 5) in Akobo, Canal/Pigi and Fangak counties of Jonglei State; and Leer and Mayendit counties of Unity State between April and July. In March, several hunger-related deaths were reported in Kapoeta East, which triggered an IRNA and despite varying causes of death, 59% of assessed communities reportedly did not have access to adequate food.

Next step

- Strengthening active surveillance across the counties bordering with Sudan for potential cholera outbreak. Surveillance activities will also be strengthened in counties reporting disease outbreaks such as measles, HEV, Yellow Fever, and Circulating Vaccine Derived Polio Virus type-2 (cVDPV2).
- Support the reactive Yellow Fever vaccination campaigns in the Western Equatoria. Measles reactive vaccination campaigns will also be supported in counties with ongoing outbreaks.
- Support the nationwide Polio (NOPV) for two rounds, with a target of over 3 million children under 5.

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

