



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 07
12 to 18 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 07 of 2024, the IDSR reporting timeliness and completeness were 80% and 91%, respectively, and IDSR performance at the EWARN mobile sites was 100%.
- Completeness of IDSR reporting at private Health facilities in Juba and Wau was only at 100%.
- A total of 233 alerts have been triggered in the EWARS system, with 59% (137/233) verified in the system. Most of the alerts were for AWD (18%), Measles (16%)
- Ministry of Health and partners launched the Yellow Fever reactive Vaccination Campaign in Yambio Western Equatoria state, targeting over 600,000 individuals aged 9 months to 90 years from 5 counties
- As of Epi week 7, 2024 a total of 335 suspected measles cases were reported, with 99(29.6%) lab-confirmed, one death, and a case fatality rate of 0.3%. Cumulatively, there were 12,439 cases and 228 deaths reported from 2022 to 2024 giving a CFR of 1.8%
- Other emergencies include circulating Vaccine Derived Polio Virus type 2 (cVDPV2) in Yambio and Juba counties, Hepatitis E in Fangak county, the Sudan crisis, and ongoing food security.

Surveillance system performance

Timeliness and Completeness of IDSR in week 07, 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 03 were at 83% and 95%, respectively.

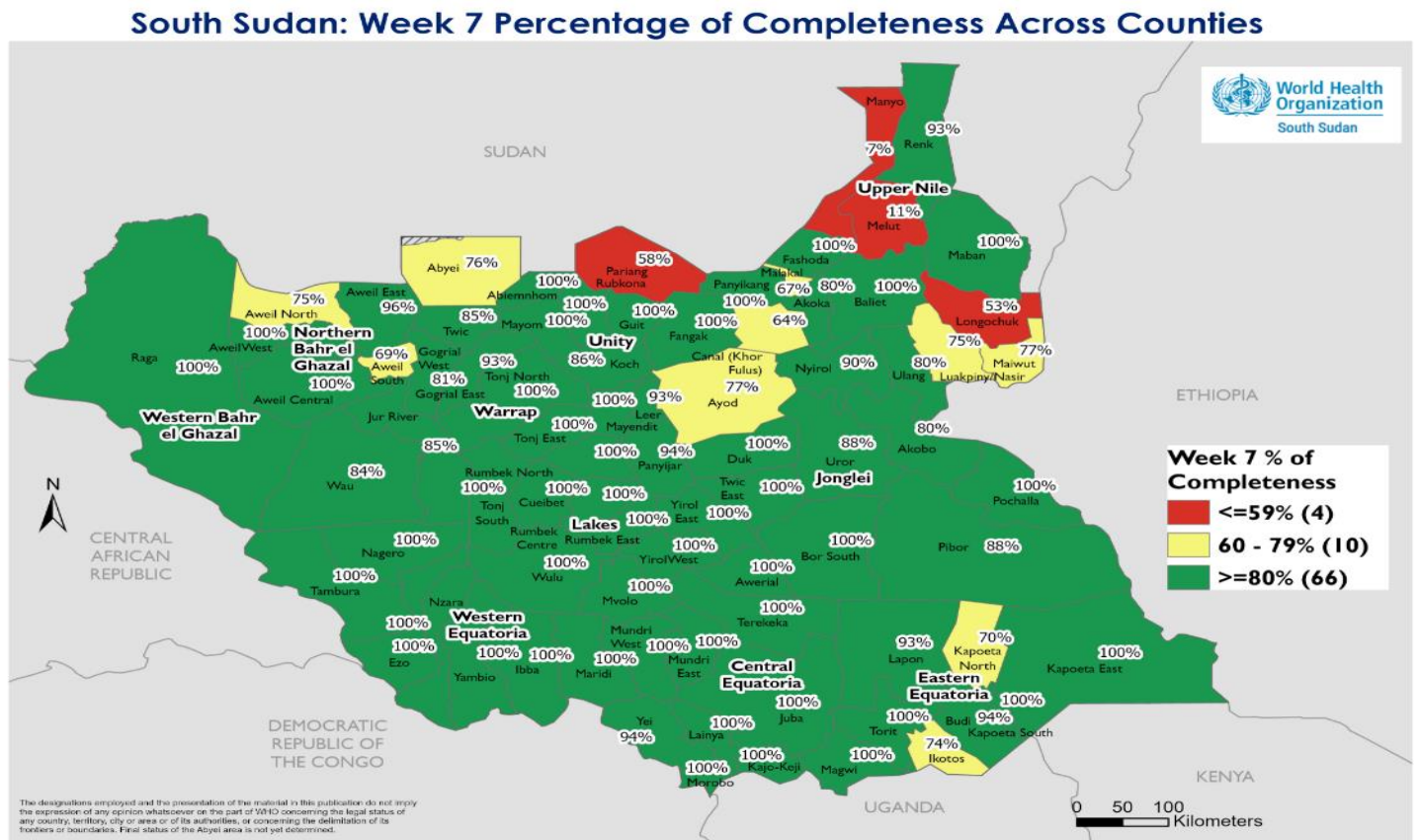
Table 1: Timeliness and completeness of IDSR reporting by State for week 07 2024

State	Total facilities	Number of facilities reported (Completeness)†	Current reporting period		Cumulative since year start (2024 level)	
			Timeliness	Completeness	Timeliness	Completeness
Lakes	112	112	96%	100%	91%	100%
NBGZ	89	89	85%	89%	90%	93%
Unity	89	89	96%	97%	82%	95%
WBGZ	112	112	71%	87%	75%	85%
WES	183	183	88%	100%	88%	96%
Jonglei	119	119	90%	90%	89%	89%
Warrap	111	111	90%	90%	86%	95%
EES	107	107	87%	91%	85%	95%
RAA	16	16	38%	69%	63%	86%
CES	151	151	99%	99%	88%	92%
AAA	17	17	41%	76%	34%	45%
Upper Nile	141	141	68%	70%	64%	81%
GPAA	15	15	93%	93%	96%	97%
Total	1262	1149	86%	91%	83%	92%

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

Admin area	# Of Reporting Mobile Sites	Completeness in week 07	Completeness in week 06	Payam	Number of Private facilities reported	Completeness in week 07	Completeness in week 06
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%
WVI	3	100%	100%	Muniki		100%	100%
SP	2	100%	100%	Wau South		90%	90%
CIDO	1	100%	100%	Wau North		77%	85%
HFO	4	100%	100%	Juba		100%	90%
TOTAL	18	100%	100%	TOTAL		92%	92%

Figure 1: Completeness of IDSR reporting by county for week 07, 2024



Epidemic alerts

A total of 233 alerts have been triggered in the EWARS system, with 59% (137/233) have been verified in the system. Majority of the alerts were for AWD (18%), Measles (16%) and ABD (16%) It is important to note that there were significant alerts of Guinea worm, AJS, EBS and cholera, Malaria. See table 3 below for more details.

Media alerts

Livestock deaths: In Ayod County, there have been reports of unknown diseases causing the deaths of over 7,000 cows across four payams. The livestock officer from Ayod County has confirmed these deaths, and the Ministry of Livestock, along with the FAO, is currently conducting a detailed investigation in the county.

Table 3: Summary alerts triggered week 07; 2024

Admin Area	AJS		(ARI)		AWD		AFP		BD		Cholera		EBS		Guinea Worm		Malaria (Confirmed)		Measles		Neonatal Tetanus		Viral Hemorrhagic 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	Total # R	Total # V
AAA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
CES	0	0	6	6	1	1	0	0	2	2	0	0	0	0	0	0	1	1	1	1	0	0	0	0	11	11
EES	0	0	2	2	5	5	0	0	5	5	0	0	1	1	0	0	1	1	1	1	0	0	0	0	15	15
GPAA	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Jonglei	2	0	1	0	3	0	0	0	1	0	0	0	0	0	4	0	2	0	2	0	0	0	0	0	15	0
Lakes	0	0	6	3	5	3	0	0	9	4	0	0	6	3	8	4	3	1	1	1	0	0	0	0	48	29
NBGZ	2	2	2	2	2	2	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	18	18
RAA	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	0	0	0	0	5	0
Unity Upper Nile	4	1	3	0	1	0	0	0	4	1	0	0	0	0	0	0	1	0	1	0	1	0	1	0	16	2
Warrap	0	0	0	0	4	3	1	0	4	3	0	0	4	0	4	3	0	0	7	0	0	0	0	0	24	9
WBGZ	0	0	1	1	6	3	0	0	1	1	0	0	2	1	3	1	3	1	4	4	0	0	0	0	20	12
WES	0	0	0	0	1	1	0	0	3	3	0	0	5	5	0	0	13	13	6	6	0	0	0	0	39	39
Grand Total	8	3	24	14	42	30	3	0	37	20	1	0	22	10	29	18	27	17	38	25	1	0	1	0	233	137

#R= reported
#V= verified

Weekly Update on Indicator-Based Surveillance (Week 07)

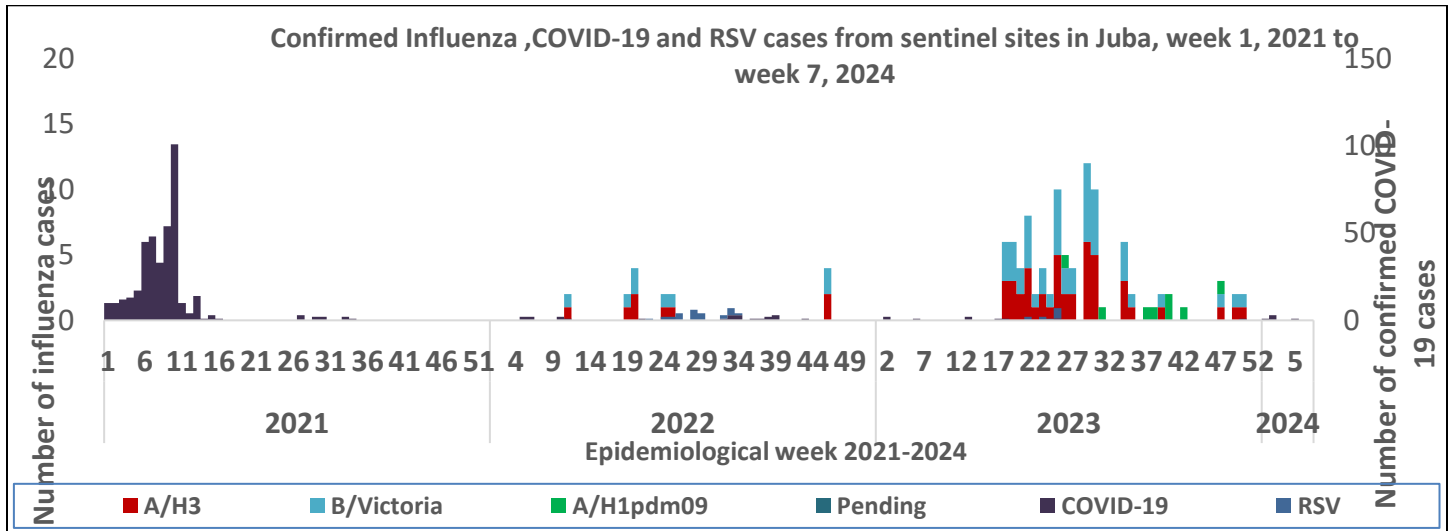
Indicator-based surveillance is implemented in South Sudan through the EWARS platform according to the IDSR 3rd guidelines, where approximately 59 priority diseases and public health events are regularly monitored and reported from health facilities across the country.

Influenza update

Four designated Influenza sentinel surveillance sites in Juba (Juba Teaching Hospital and, Al Sabah Children’s Hospital, Rumbek State Hospital & Juba Military Hospital) are collecting epidemiological data and samples from ILI/SARI cases.

From week 7, 2024, a total of (175) ILI/SARI were collected: (169) tested negative, (5) were positive for COVID-19, (0) Influenza types A (H3), (1) B (Victoria), (0) for A/H1pdm09 and (0) for RSV in week 7,2024

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



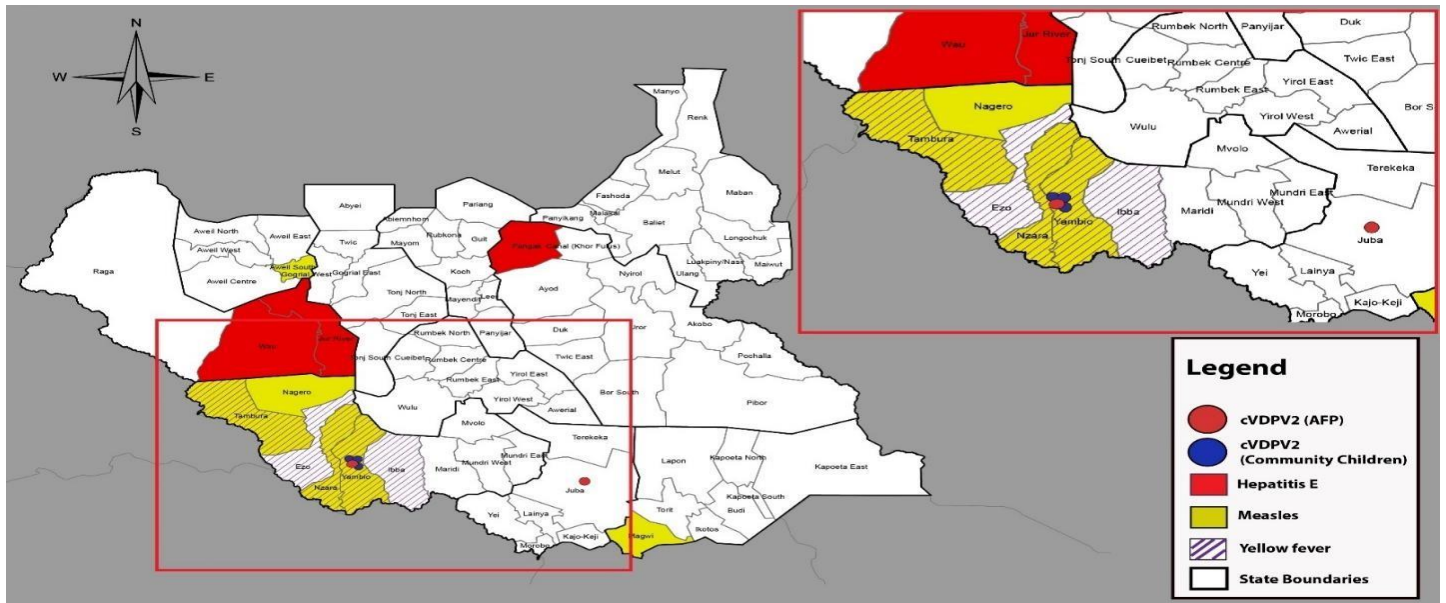
New and ongoing confirmed epidemics

Table 4 below lists ongoing and newly confirmed epidemics since the last reporting period. Cases are as reported to the epidemic alert and response system.

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>New epidemics</i>									
Yellow Fever	Yambio, Nzara, Ezo, Tambura, Ibba and Maridi	21 Dec 2023	7	71	3 Laboratory confirmed	Ongoing	Planned	Ongoing	Ongoing
<i>Ongoing epidemics</i>									
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	2	2	ongoing	ongoing	ongoing	ongoing

Figure 3: Map showing ongoing disease outbreak across the country



Weekly Update on Event-Based Surveillance (Week 07)

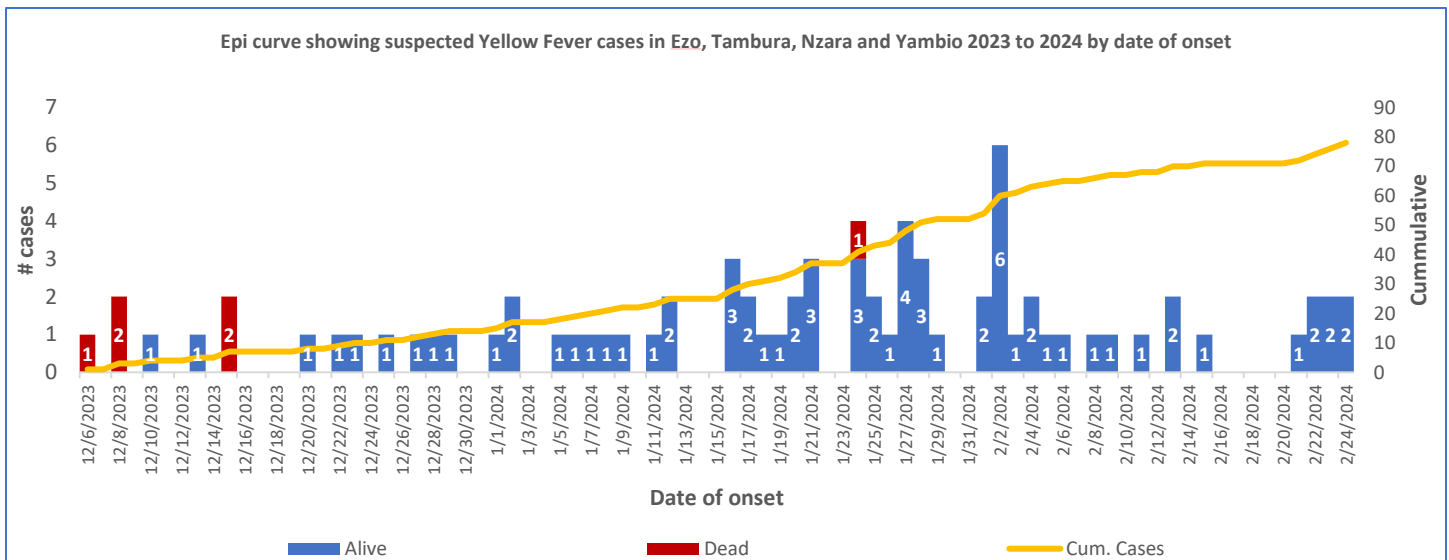
EBS is the organized collection, monitoring, assessment, and interpretation of mainly unstructured ad hoc information regarding potentially risky events to public health. This information could be rumors and other ad hoc reports transmitted through formal and informal channels, including media, health workers, community structures, NGOs, etc.

Response activities for ongoing outbreaks

Yellow Fever outbreak in Yambio December 2023 to February 2024

On December 21, 2023, a 24-year-old male from Kangura village in Gangura Payam, Yambio County, presented symptoms of viral hemorrhagic fever. A sample was collected and tested positive for yellow fever virus on December 24. 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) as of 25 February 2024. No new deaths were reported during the last 7 days. The total number of suspected deaths were reported are 6, giving a case fatality rate of 7.7%

Figure 4: Epi curve showing suspected Yellow Fever cases 2 by date of onset



Response update

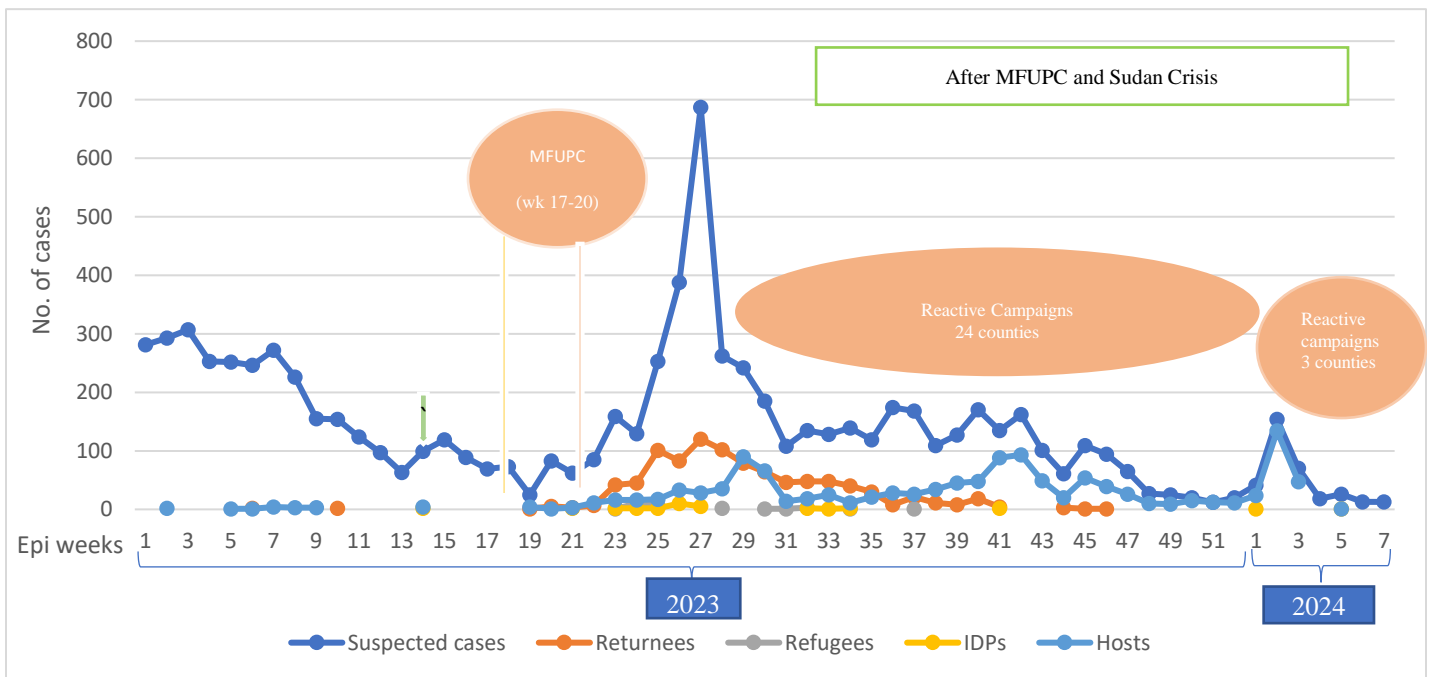
The Honorable Minister for Health launched a reactive Yellow Fever vaccination campaign on 13 February 2024. Three (03) out of the five (5) counties have started the reactive Yellow Fever campaign. A total of 351,131 individuals, representing 86.3% of the targeted population, have been vaccinated. Response activities (coordination, surveillance, laboratory, case management, risk communication and community engagement, vaccination, infection prevention and control 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 state 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 7, 2024 a total of 335 suspected measles cases were reported, with 99(29.6%) lab-confirmed, 1 death and a case fatality rate of 0.3. Cumulatively, there were 12,439 cases and 228 deaths reported from 2022 to 2024 giving a CFR of 1.8%

In weeks 2-6, 40 late cases were reported, of which lab tests confirmed 24 cases and 16 were discarded. In week 7, five newly confirmed cases were reported from Ibba (3), Juba (1), and Yei (1). No deaths were reported in that week. Six (06) ongoing outbreaks were reported: Aweil Centre, Aweil West, Aweil South, Ibba, Juba, Wulu, and Yei. While Abiemnhom, Kapoeta North, Mundri West, Pibor, Tambura, Terekeka, and Torit continue to report suspected/confirmed cases, they have not yet reached the outbreak threshold in February and need to collect more samples for testing as per the revised SOP.

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



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. The nationwide MFUPC also took place from week 17-20, and 24 reactive campaigns were conducted from week 29 to 51 of 2023.

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

Final classification	No. of cases	%
Lab confirmed	99	29.6
Epi-linked	52	15.5
Clinically Compatible	138	41.2
Discarded (-ve)	46	13.7
Grand Total	335	100.0

Table 5 and 6: Distribution of cases by age group in 2024

Age group in years	No. of cases	%	Deaths	%
<1	117	34.9	1	0.9
1-4	118	35.2	0	00
5-9	39	11.6	0	00
10-14	33	9.9	0	00
15+	28	8.4	0	00
Total	335	100.0	1	0.3

Out of the 335 suspected measles cases, 99 (29.6%) are lab-confirmed, 52 (15.5%) epi-linked, 138 (41.2%) clinically compatible, and 46 (13.7%) discarded cases have been reported as of epidemiological week 7, 2024. A total of 7 rubella-positive cases from the discarded (negative measles cases)

Response activities (measles)

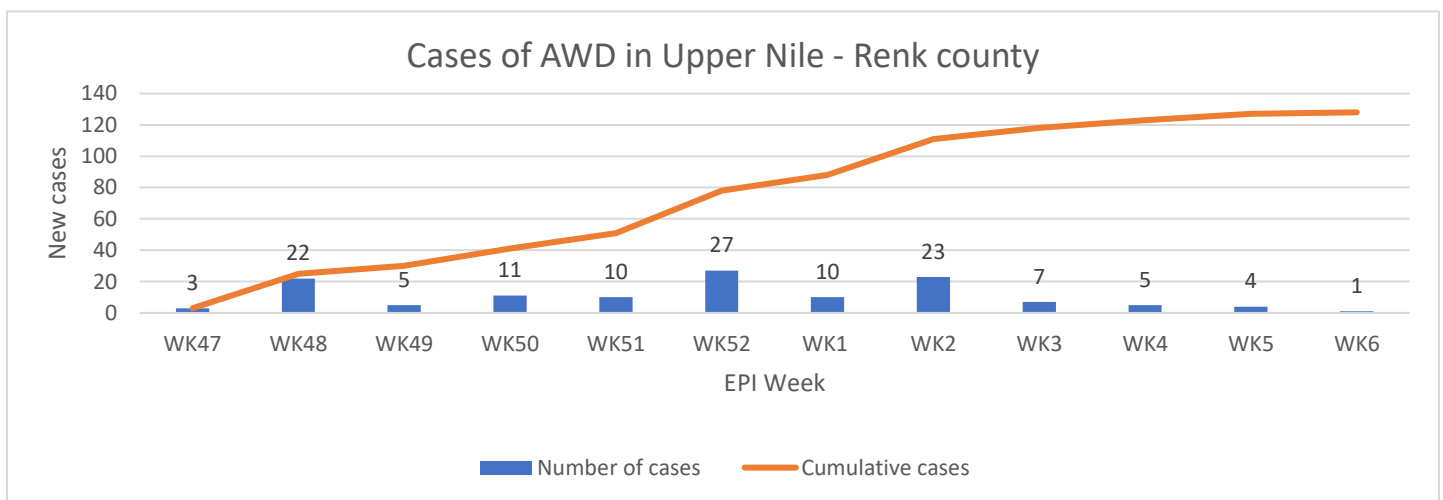
South Sudan implemented a vaccination campaign in 21 counties, vaccinating 1,004,230 children under 15 years old, including 169,316 returnees and refugees. Polio vaccine was integrated into 16 counties, reaching 664,526 children. Partners supported seven counties, and WHO provided financial and technical 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.

Cholera Preparedness and Readiness updates in Renk

A health screening desk was established at Wanthou/Joda, and since 19 December 2023, 131,393 people have been screened for AWD at Wunthou point of entry – Renk county.

A total of 8,905 consultations were conducted this week, a reduction of 15% from last week. During the reporting period, the number of ARI reported stood at 29%, Malaria at 21%, and Acute Watery Diarrhea (AWDs) at 11%. with 77 samples collected, four tested positive for cholera RDT, all negative by culture, as seen in the graph below.

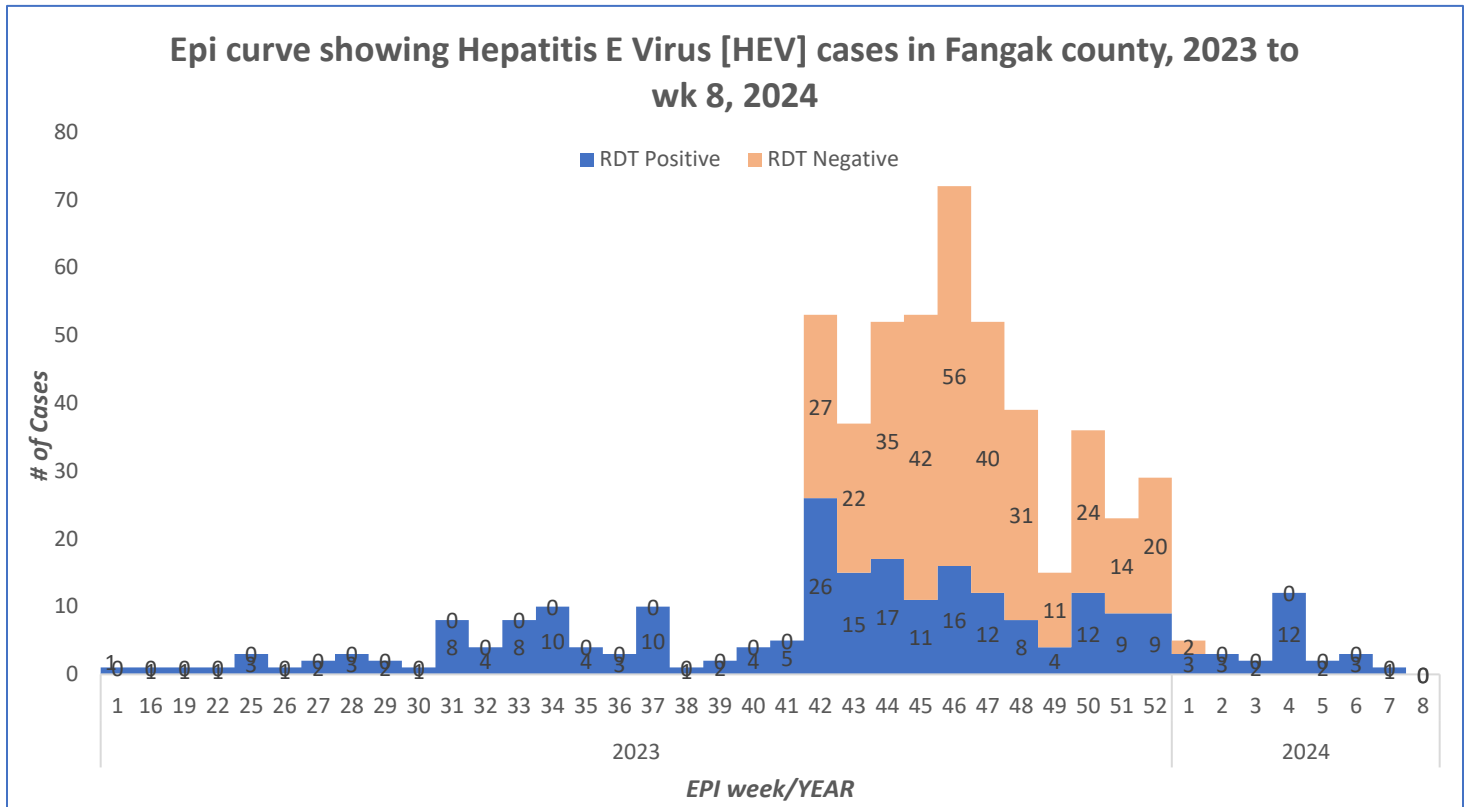
Figure 6: Alerts of Acute Watery Diarrhea Surveillance in Renk County from week 47 of 2023 to week 07 of 2024



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 7 of 2024. Most cases were reported among the age group 15 years and above; Females account for 67% (336/564) while Males account for 33% (160/564). 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: Epicure of HEV in Fangak County

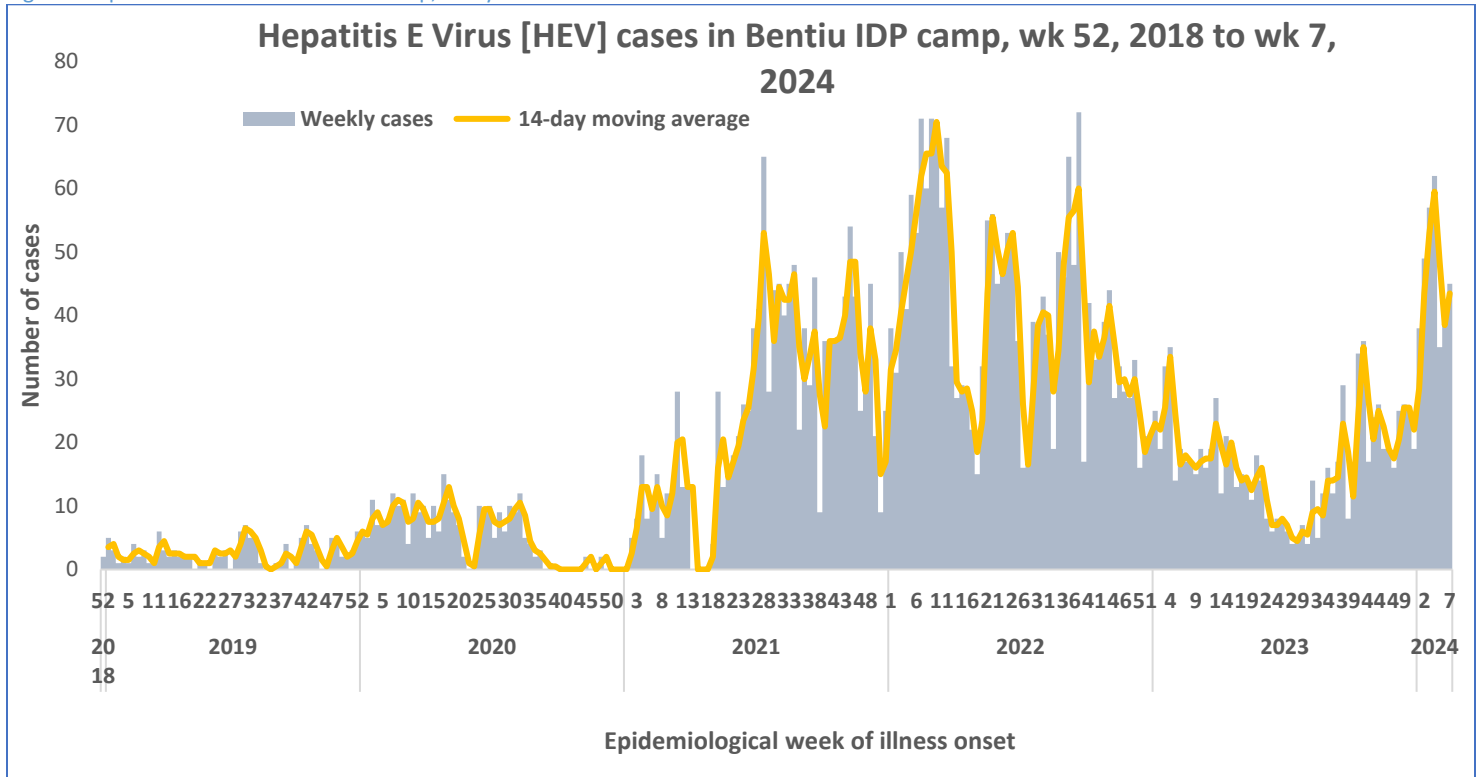


Response activities include WASH intervention through community engagement. The First round of vaccination using Hecolin has been concluded, and plans are underway to conduct the second and third rounds of vaccination campaigns in Fangak

Hepatitis E outbreak in Bentiu IDP Camp in Unity State

The continuous transmission of HEV in Bentiu IDP camp continues with **5006** cases including 27 deaths since the end of 2018. A total of 45 new cases and zero deaths were reported in week 7, 2024. Majority of the cases were reported among age group 15 – 44 years; and Male account for 52% (2, 626) while female accounted 48% (2, 380) of all the case.

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 strengthening community engagement 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 and tested also confirmed the cVDPV2 variant and the virus is closely matched with 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.

Other events

Livestock deaths: In Ayod County, there have been reports of unknown diseases causing the deaths of over 7,000 cows across four payams. The livestock officer from Ayod County has confirmed these deaths, and the Ministry of Livestock, along with the FAO, is currently conducting a detailed investigation in the county.

Flooding: During the last four consecutive years, South Sudan has experienced consecutive years of 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 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.

Sudan crises: 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. Host communities and healthcare systems are struggling to cope with the increased demand for health and other services, 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.

Acknowledgments

Thanks to the State Surveillance Officers, Health Cluster partners for sharing the weekly IDSR data. To access the IDSR bulletins for 2024 use the link below:

<https://www.afro.who.int/countries/south-sudan/publication/south-sudan-weekly-integrated-disease-surveillance-and-response-bulletin-2024>

This bulletin is produced by the Ministry of Health with Technical support from WHO

For more help and support, please contact:

Dr Joseph Lasu Hickson

Emergency Preparedness and Response

Ministry of Health Republic of South Sudan

Email: josh2013.lasu@gmail.com

Phone number +211921395440

Dr. John Rumunu

Director General Preventive Health Services Ministry of Health

Republic of South Sudan

Email: ori.moiga@gmail.com

Phone number: +211924767490

Dr BATEGEREZA, Aggrey Kaijuka

Notes

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

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

WHO-EPR Team Lead
Email: bategerezaa@who.int
Phone number : +211 924222030

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

Data source: DHIS-2 and EWARS

