



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 03
15 January 2024 to 21 January 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 03 of 2024, the IDSR reporting timeliness and completeness were at 83% and 95%, respectively, and IDSR performance at the EWARN mobile sites was at 64% and 81 for the EWARN sites.
- Completeness of reporting for IDSR at private Health facilities in Juba and Wau was only at 93%.
- A total of 255 alerts were triggered in week 03, 2024, and acute watery diarrhea accounted for the majority of the alerts (23%), followed by Measles (16%), Malaria (15%), and ARI (12.5%).
- As of Epi week 03, 2024, a total of 30 suspected cases of Yellow Fever Cases were reported and investigated in Western Equatoria.
- Ongoing preparedness measures and readiness are underway in Renk County, Upper Nile State, in response to a Ministry of Health statement on imported cholera case from Sudan in November 2023.
- During the same Epi week, 196 suspected measles cases were reported, with 26 (12.3%) lab- confirmed and 0 deaths. Cumulatively, there were 8,155 cases reported from 2023 to 2024, with 182 deaths, giving a case fatality rate (CFR) of 2.2%.
- Other emergencies during the reporting period 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 03

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 03 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	92%	100%	95%	100%
NBGZ	89	79	83%	89%	87%	93%
Unity	90	86	82%	96%	81%	96%
WBGZ	112	102	79%	91%	77%	91%
WES	183	185	95%	100%	89%	94%
Jonglei	118	109	90%	92%	91%	92%
Warrap	111	108	77%	97%	87%	97%
EES	107	102	84%	95%	85%	96%
RAA	16	16	38%	100%	67%	92%
CES	151	149	99%	99%	80%	89%
AAA	17	6	6%	35%	35%	47%
Upper Nile	136	120	61%	88%	68%	86%
GPAA	15	15	93%	100%	98%	100%
Total	1257	1189	83%	95%	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 03	Completeness in week 02	Payam	Number of Private facilities reported	Completeness in week 03	Completeness in week 02
IMC	4	100%	100%	Kator	3	100%	100%
SSHCO	1	100%	100%	Marial Baal	1	100%	100%
SMC	1	100%	100%	Juba	10	100%	100%
SCI	2	100%	100%	Northern Bari	1	100%	0%
WVI	2	100%	100%	Rajaf	4	100%	0%
SP	4	100%	100%	Muniki	12	100%	0%
CIDO	1	100%	100%	Wau North	13	85%	92%
HFO	3	100%	100%	Wau South	20	95%	100%
TOTAL	18	100%	100%	TOTAL	64	95%	72%

Epidemic alerts

Table 3: Summary alerts for week 03

State/Admin Area	Acute jaundice syndrome		Acute Respiratory Infections (ARI)		Acute Watery Diarrhoea		AFP		Bloody Diarrhoea		Cholera		EBS		Guinea Worm		Malaria (Confirmed)		Measles		Neonatal Tetanus		Yellow Fever		Grand Total		
	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	#R	#V	
AAA	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
CES	0	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0	1	1	0	0	0	0	0	11	1
EES	1	1	4	4	4	4	0	0	5	5	0	0	0	0	0	0	3	3	2	2	0	0	0	0	0	19	19
GPAA	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Jonglei	3	0	2	0	6	0	0	0	2	0	0	0	0	0	0	7	0	1	0	6	0	1	0	0	0	28	0
Lakes	0	0	5	5	9	9	0	0	0	0	0	0	1	1	8	8	4	4	0	0	0	0	0	0	0	27	27
NBGZ	0	0	4	4	5	5	0	0	2	2	0	0	0	0	0	0	1	1	11	11	0	0	0	0	0	23	23
RAA	0	0	0	0	2	0	0	0	1	0	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	8	0
Unity	3	2	4	1	4	1	0	0	2	1	1	1	0	0	0	0	4	1	0	0	0	0	0	0	0	18	7
Upper Nile	1	0	7	3	8	7	0	0	6	4	0	0	0	0	0	0	4	2	7	7	0	0	0	0	0	33	23
Warrap	0	0	2	0	4	0	0	0	2	1	0	0	0	0	1	1	3	0	6	2	0	0	0	0	0	18	4
WBGZ	1	1	1	1	8	6	1	1	4	4	0	0	2	1	3	0	6	6	2	2	0	0	1	1	1	29	23
WES	0	0	1	0	7	1	0	0	4	2	0	0	7	0	0	0	9	3	7	3	0	0	3	0	38	9	
Grand Total	9	4	32	18	61	34	1	1	30	20	1	1	14	2	19	9	40	20	43	28	1	0	4	1	255	138	

#R= reported

#V= verified

Weekly Update on Indicator-Based Surveillance (Week 03)

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 monitored and reported from health facilities across the country on regular basis.

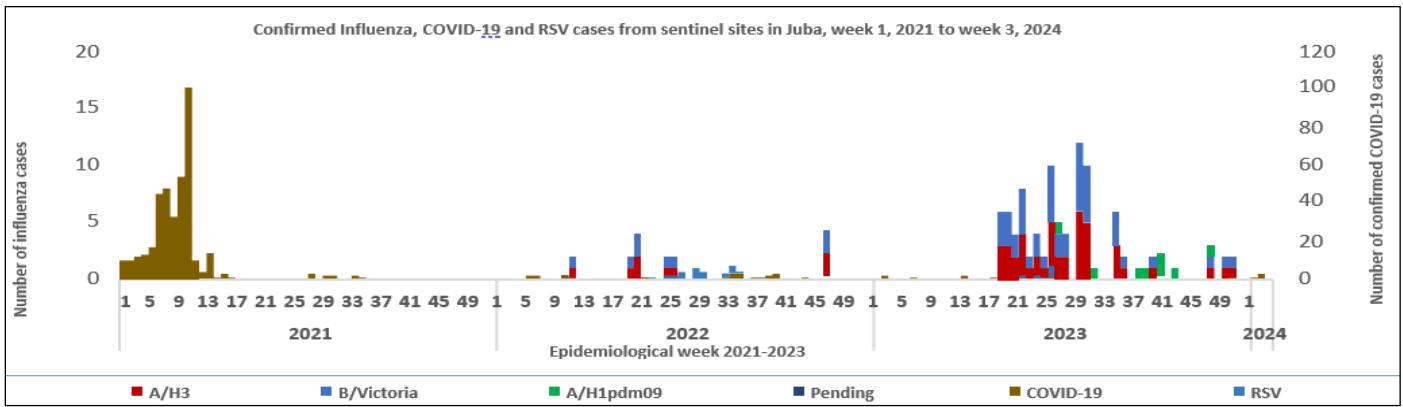
Influenza update

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

By the end of week 52; 2023, a total of 955 ILI/SARI were collected; all 861 tested negative, (8) positives for COVID-19, (40) Influenza types A (H3), (21) B (Victoria), (8) for A/H1pdm09 and 13 for RSV in weeks 52,2023

From week 3 2024, a total of (75) ILI/SARI were collected (70) tested negative, (4) positive for COVID-19, (0) Influenza types A (H3), (1) B (Victoria), (0) for A/H1pdm09 and (0) for RSV in week 3,2024.

Figure 1: Indicator-Based Surveillance (IBS) Influenza Surveillance



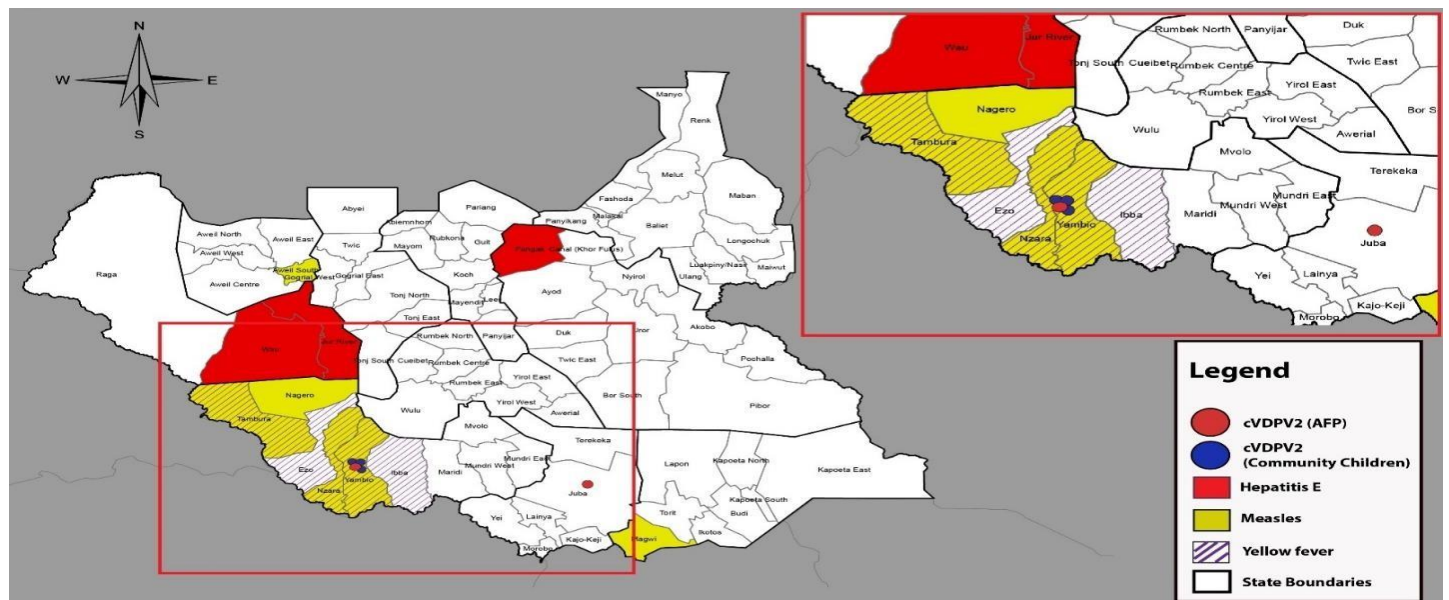
New and ongoing confirmed epidemics

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	21 Dec 2023	3	25	1 Laboratory confirmed	Ongoing	Planned	Ongoing	Ongoing	
<i>Ongoing epidemics</i>										
Measles	69 counties	2022	19	7964	609	ongoing	ongoing	ongoing	ongoing	
Hepatitis E	Fangak	2023		502		ongoing	ongoing	ongoing	ongoing	
cVDPV	Yambio and Juba	19/Dec 2023	2	2	2	ongoing	ongoing	ongoing	ongoing	

Figure 2: Map showing ongoing disease outbreak across the country



Weekly Update on Event-Based Surveillance (Week 03)

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 rumours and other ad hoc reports transmitted through formal and informal channels, including media, health workers, community structures, NGOs, etc. During Week 3, there were 3 alerts received from the community through media scan. These alerts were for suspected meningitis, increased AWD cases in Aweil East and Acute Jaundice syndrome in Aweil West.

Response activities for ongoing outbreaks

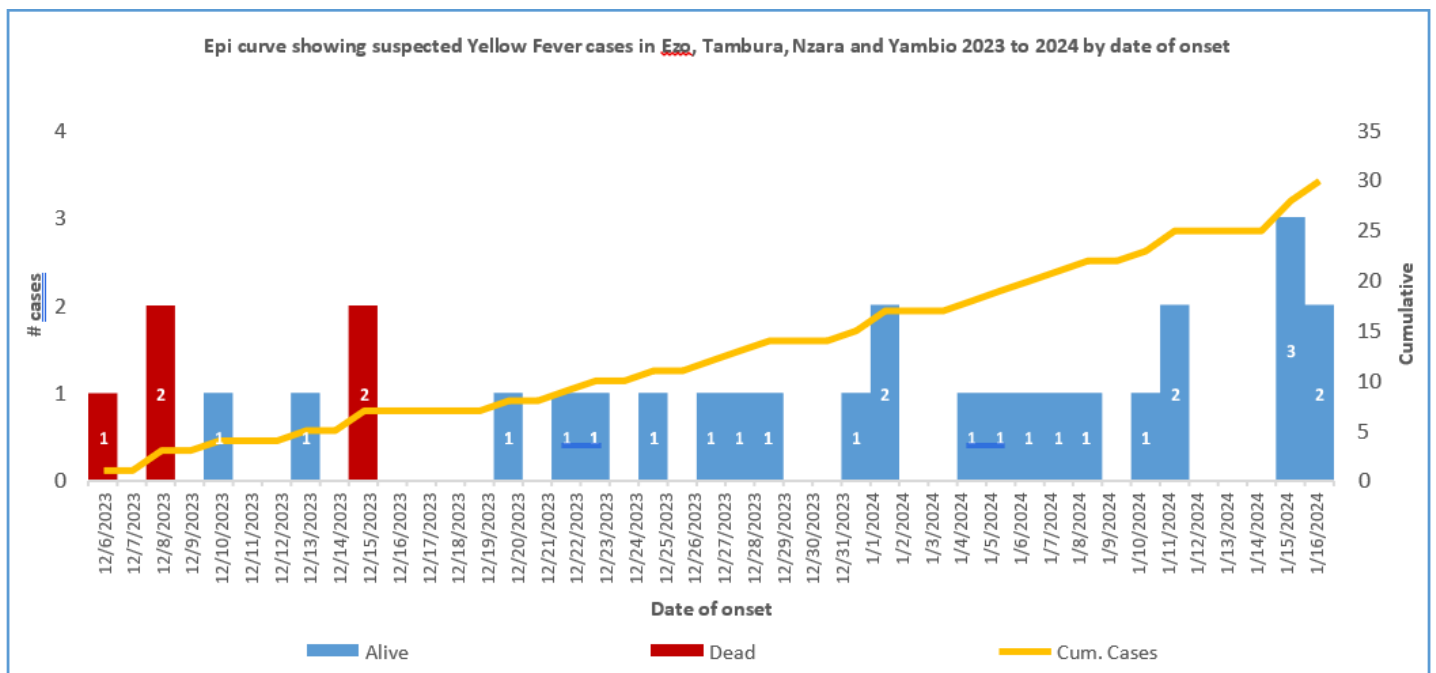
Yellow Fever outbreak in Yambio December 2023 to January 2024

On December 14, 2023, an 18-year-old male from Gangura Centre Village in Gangura Payam, Yambio County, developed an illness characterized by generalized body weakness, headache, epigastric discomfort, fever, and vomiting. Initially, the patient was diagnosed with typhoid and received treatment on the same day. However, a sample was collected on December 21, 2023, and tested positive for yellow fever virus on December 24 at the National Public Health Laboratory using RT-PCR. Consequently, the Minister declared a yellow fever outbreak in Yambio County.

As of January 21, 2024, there have been thirty (30) Yellow Fever cases reported in five counties of Western Equatoria state: Yambio County (15), Nzara County (05), Tambura County (07), Ibba (02), and Ezo (01). Of the total 30 cases, 29 are suspected, and one is confirmed. Unfortunately, there have been five deaths, resulting in a Case Fatality rate of 17%.

Among the total cases, 57% are males, and 43% are females. The majority (83%) of the reported cases are 15 years and above, while 17% are among 1 to 4-year-olds.

Figure 3: Epi curve showing suspected Yellow Fever cases 2 by date of onset



Response update

The Ministry of Health, in collaboration with the World Health Organization (WHO) and other partners, has prepositioned essential medical supplies in the affected areas to strengthen the management of Yellow Fever cases. Frontline healthcare workers are given refresher training on case definition, diagnosis, and treatment of Yellow Fever. A vaccine request has been submitted to the International Coordinating Group (ICG), and 410,596 doses have been approved for Yambio, Nzara, Tambura, Ezo, and Ibba Counties. A vaccination campaign is planned for February 2024.

An entomological assessment was concluded, and the preliminary findings reveal the presence of Yellow Fever vector (mosquito) larvae in many residential areas in the affected counties.

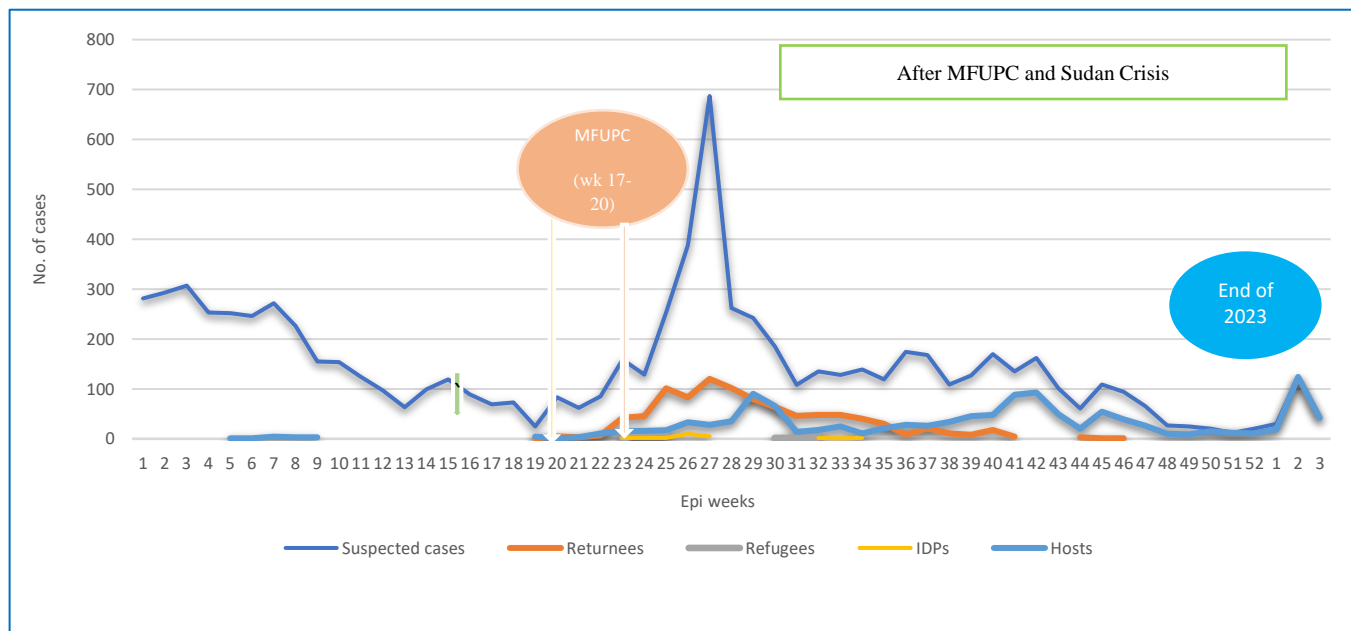
Measles Update

As of Epi week 3 of 2024, there were 196 suspected measles cases reported, with 26 (12.3%) lab-confirmed and 0 deaths. Cumulatively, there were 8,155 cases reported from 2023 to 2024 with 182 giving a CFR of 2.2%

During the 3 week of 2024, an additional 42 new cases were reported since the last update. Among these cases, there were seven lab-confirmed cases of measles, four of which were reported in Tambura and three in Nzara. This brings the total number of lab-confirmed measles cases to seven for the week.

There are currently three ongoing outbreaks in Tambura, Nzara, and Yambio, which involve three different payams. Meanwhile, suspected or confirmed cases have been reported in Nagero, Nzara, Rumbek North, Torit, Aweil South, Aweil West, Aweil East, Yei, Maridi, and Wau. These cases have not reached the outbreak threshold in the last four weeks, but more samples need to be collected for testing as per the revised SOP.

Figure 4: Trend of suspected measles cases against their residential status by epi week



Epi weeks 3 data shows three ongoing outbreaks (Tambura (1), Nzara (1) & Yambio (1)) involving three (3) payams as well as ten (10) counties reporting suspected/confirmed cases but yet to reach the outbreak threshold, warranting further investigation and laboratory validation.

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.

Table 5: Distribution of cases by final classification 2024

FINAL CLASSIFICATION	NO. OF CASES	%
Lab confirmed	26	13.3
Epi-linked	52	26.5
Clinically Compatible	111	56.6
Total	189	96.4
Discarded (-ve)	7	3.6
Grand Total	196	100.0

Out of the 196 suspected measles cases, 26 (13.3%) are lab-confirmed, 52 (26.5%) epi-linked, 111 (56.6%) clinically

compatible, and 7 (3.6%) discarded cases have been reported from epidemiological week 3, 2024. A total of 0 rubella positive cases from the discarded (negative measles cases).

Response activities (measles)

In Phase I; over 65,000 children under 15 years were vaccinated in five counties (Renk, Aweil East, Aweil North, Aweil West, and Rubkona)

Phase II: 17 counties had implemented the reactive campaign to vaccinate over 910,728 (92%) children under 15 years, of which 150,202(16%) are returnees and refugees. Seven counties (Ayod, Leer, Fangak, Abyei, Gogrial West, Bentiu POC, and Malakal) were supported by Partners (MEDAIR, IMA, HFO, IHO, MSF, and Save the Children). Kapoeta East: the campaign is completed late last year, and final data is yet to be submitted.

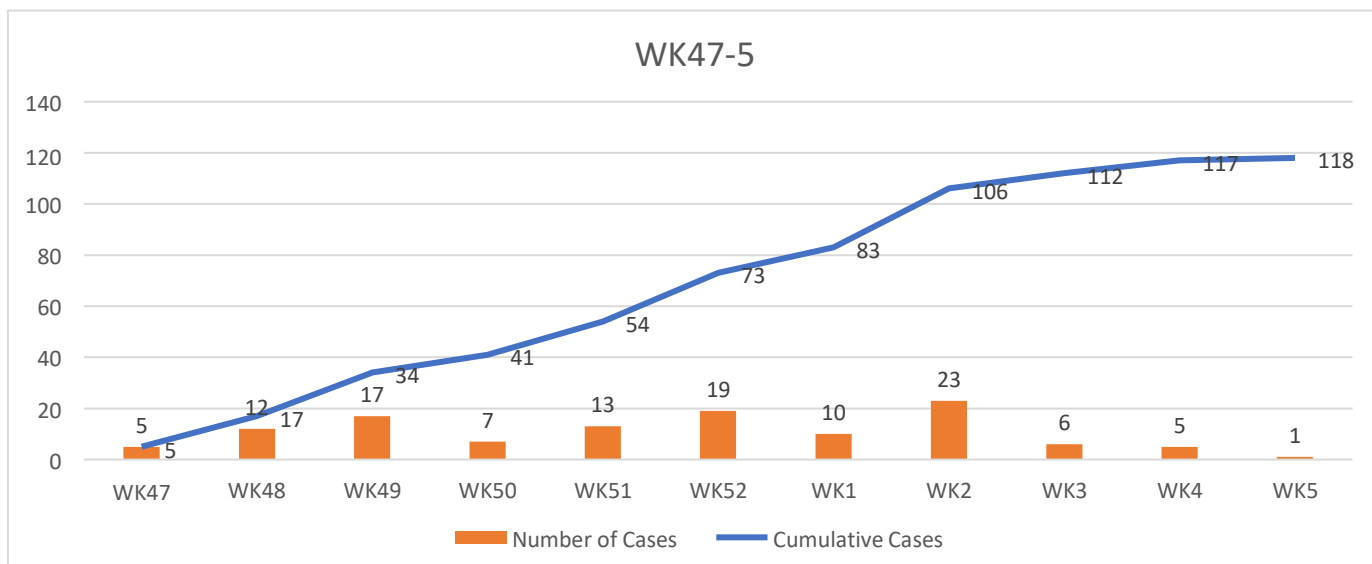
Sudan Crises response updates

As of 7 February, 1,228 individuals have entered South Sudan. The cumulative number of arrivals since 16 April 2023 is 548,195. Of this number, 437,762 individuals (79.8%) are returnees, while 110,433 individuals (20.2%) are refugees. Currently, 22 points of entry (PoEs) are being monitored, accounting for 83% of the total reported influx figures.

Cholera Preparedness and Readiness updates in Renk

A health screening desk was established at Wanthou/Joda, and as of week 05, 95,440 individuals were screened. 7,847 consultations were conducted, with ARI being the leading morbidity cause at 26%, followed by Malaria at 17%, and AWD at 6%. A total of 118 AWD alerts have been issued since December, with 77 samples collected on four tested positive for cholera RDT, all negative by culture as seen in the graph below.

Figure 5: Alerts of Acute Watery Diarrhea Surveillance in Renk County from week 47 of 2023 to week 05 of 2024



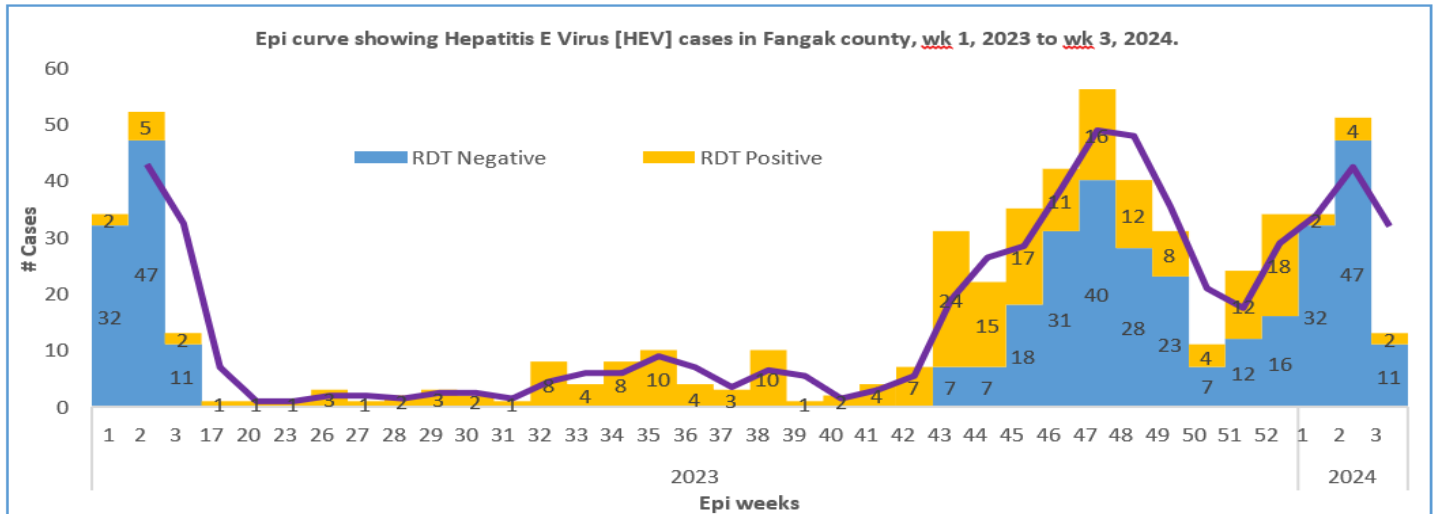
Acute Watery Diarrhea Surveillance Total alert 118

1. Number of samples collected 76
2. Number of samples tested positive by RDT 4, culture-negative
3. Number of samples tested negative by RDT 41
4. Number of samples discarded 31

Hepatitis E Virus in Fangak county Jonglei State

A total of 501 cases, including 21 deaths, have been reported from week 1 of 2023 to week 3 of 2024. Most of the cases were reported among people aged 15 years and above. Regarding sex, females accounted for 68% (340) of the cases, while males accounted for 32% (161). The RDT positivity rate was high from week 17, 2023, to week 42, 2023, when there was a sharp increase in cases due to the intervention by National RRT through active case search and risk communication activities.

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 round of vaccination campaign in Fangak.

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 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

Meningitis: Suspected meningitis outbreaks were reported in Akobo and Nyirol counties. In Nyirol County, five cases have been recorded, including two deaths. Akobo County (Walgak Payam) reported a total of eight cases as of January 22, 2024, with three deaths reported among these cases. To investigate the outbreak, two teams, consisting of members from WHO and NMOH, will travel to both locations this week. To enhance surveillance, WHO has prepositioned meningitis investigation kits in the region for suspected meningitis.

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 have constrained the humanitarian response in 2023.

Sudan crises: South Sudan has received 512,002 individuals at several (21) points of entry along the border with Sudan since April 2023. More than 81% (414,722) of these arrivals are South Sudan returnees, 433,609 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 forAWD 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 boarding with Sudan for potential cholera outbreak. Surveillance activities will also be strengthened in counties reporting disease outbreak 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 going outbreaks.

Acknowledgments

Thanks to the State Surveillance Officers, Health Cluster partners for sharing the weekly IDSR data. To access the IDSR bulletins for 2023 use the link below:

<https://www.afro.who.int/publications/south-sudan-weekly-disease-surveillance-bulletin-2023>

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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

