



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 12
18 -24 March 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 12 of 2024, the IDSR reporting timeliness and completeness were 89% and 94%, respectively, and IDSR performance at the EWARN mobile sites was 100%.
- Completeness of IDSR reporting at private Health facilities in Juba and Wau was at 92%.
- A total of 374 alerts have been triggered in the EWARS system, with 53% (197/374) verified in the system. Most of the alerts were for Measles (28%), Acute Watery Diarrhoea (AWD) (17%), Acute Bloody Diarrhoea (ABD) (13%) and Guinea Worm (13%).
- As of Epi week12, 2024 a total of 655 suspected measles cases were reported including 131(20.0%) lab-confirmed and 11 deaths representing a case fatality rate (CFR) of 0.7%.
- Other emergencies include circulating Vaccine Derived Polio Virus type 2 (cVDPV2) in Yambio and Juba counties and Upper Nile State, Hepatitis E in Twic, Fangak, Rubkona (Bentiu IDP camp) and Wau counties, the health impact of the ongoing Sudan crisis, and food insecurity.

Surveillance system performance

Timeliness and Completeness of IDSR in week 12, 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 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 12 were at 89% and 94%, respectively.

Table 1: Timeliness and completeness of IDSR reporting by State for week 12, 2024

State	Total facilities	Number of facilities reported (Completeness)†	Current reporting period		Cumulative since year start (2024 level)	
			Timeliness wk12	Completeness wk12	Timeliness	Completeness
Lakes	112	111	93%	99%	87%	99%
NBGZ	89	88	94%	99%	87%	92%
Unity	89	87	96%	98%	84%	94%
WBGZ	81	65	64%	80%	63%	59%
WES	183	183	95%	100%	88%	97%
Jonglei	119	112	93%	94%	91%	91%
Warrap	111	102	86%	92%	83%	92%
EES	107	105	88%	98%	87%	95%
RAA	16	7	44%	44%	59%	74%
CES	121	122	98%	99%	76%	79%
AAA	17	17	100%	100%	56%	63%
Upper Nile	141	116	76%	82%	68%	83%
GPAA	15	15	100%	100%	98%	98%
Total	1202	1130	89%	94%	83%	91%

Figure 1: Completeness of IDSR reporting by county for week 12, 2024

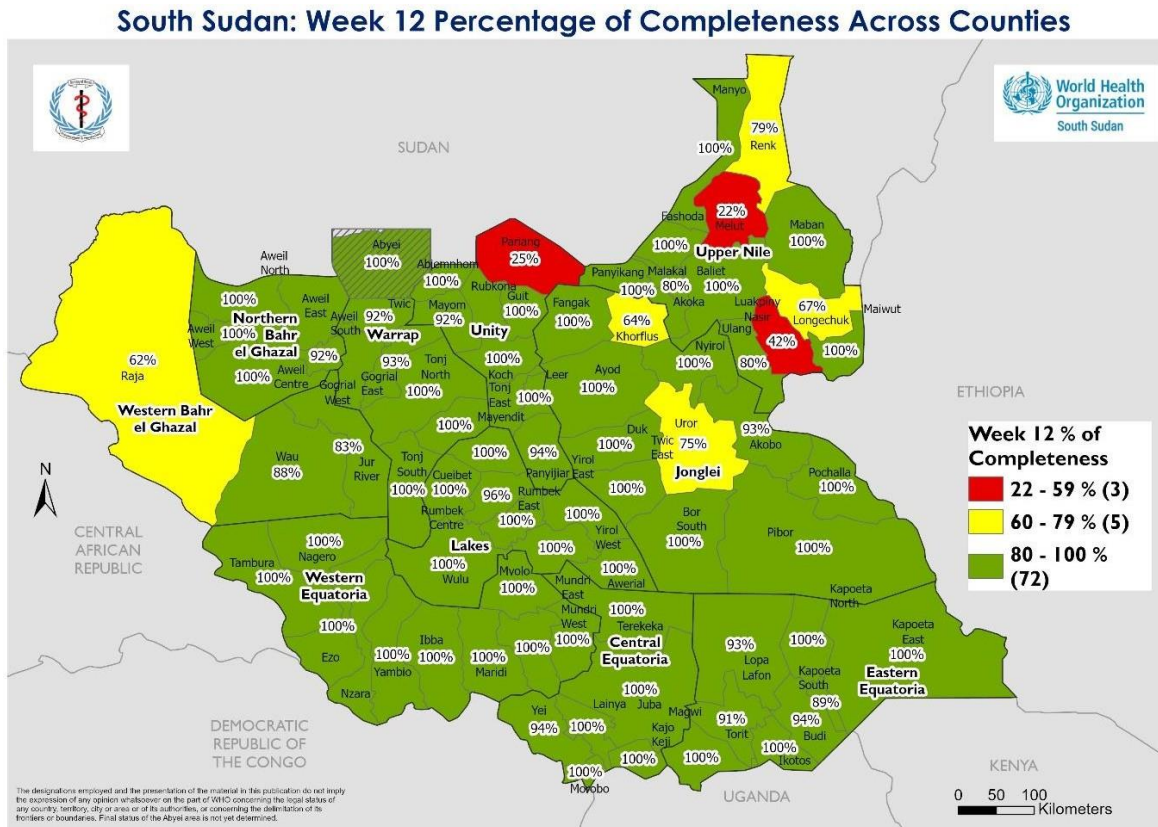


Table 2: Timeliness and completeness of reporting by Payam and Partner of IDSR reporting from NGO-run mobile health facilities and private health facilities in Juba and Wau

Admin area	# Of Reporting Mobile Sites	% Of Timeliness in week 12	% Of Completeness in week 12	Payam	# Of Reporting Private Health Facilities	% Of Timeliness in week 12	% Of Completeness in week 12
IMC	4	100%	100%	Kator	3	100%	100%
SSHCO	1	100%	100%	Marial Baai	1	100%	100%
SMC	1	100%	100%	Northern Bari	1	100%	100%
SCI	2	100%	100%	Rajaf	3	100%	100%
HFO	3	100%	100%	Muniki	12	100%	100%
WVI	2	100%	100%	Wau South	20	85%	90%
CIDO	1	100%	100%	Wau North	12	75%	75%
SP	4	100%	100%	Juba	10	100%	100%
TOTAL	18	100%	100%	TOTAL	62	90%	92%

Epidemic alerts

A total of 374 alerts have been triggered in the EWARS system, with 53% (197/374) verified in the system. Most of the alerts were for Measles (28%), AWD (17%), ABD (13%), Guinea Worm (13%). It is important to note that there were significant alerts for, Malaria, EBS, ARI and AJS. This week, Eastern Equatoria, Central Equatoria, Northern Bahr El Ghazal, Western Equatoria Western Bahr El Ghazal and AAA states show high alert verification rates. **See Table 3** below for more details.

Table 3: Summary alerts triggered week 12; 2024

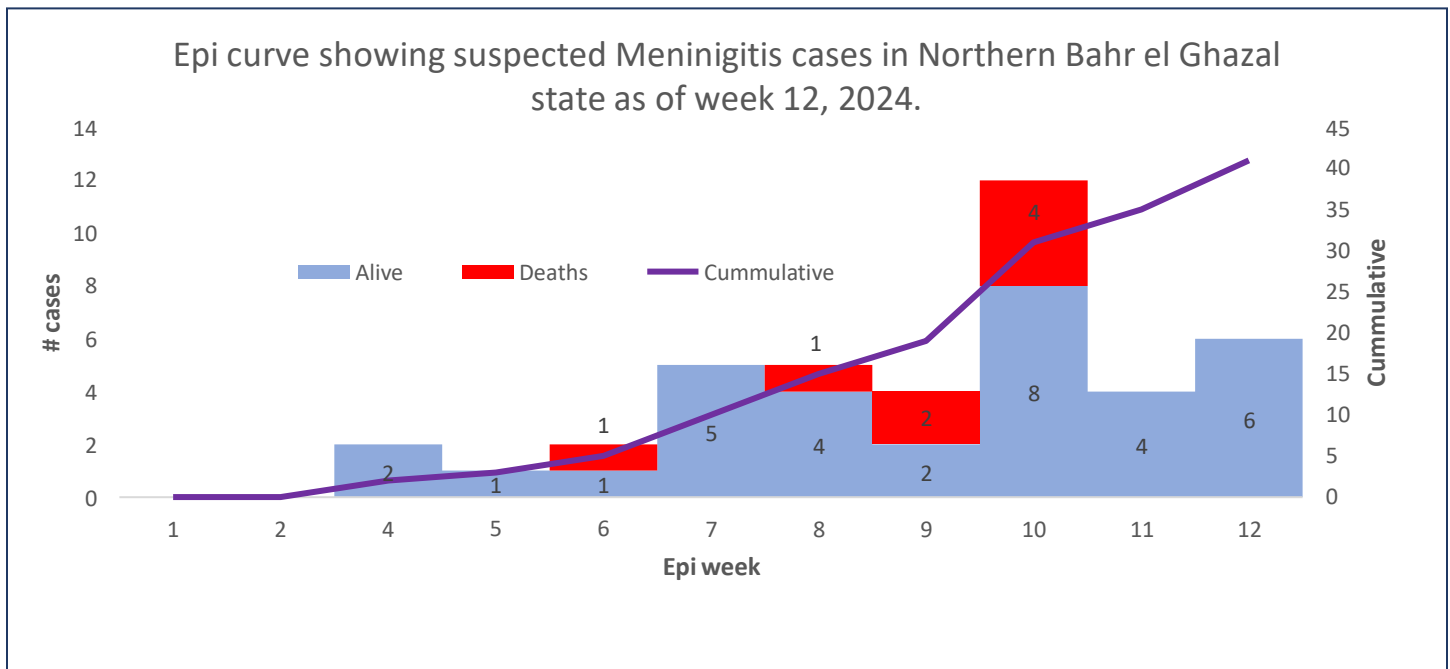
Admin area	Acute jaundice syndrome		Acute Respiratory Infections (ARI)		Acute Watery Diarrhoea		Bloody Diarrhoea		Cholera		Covid-19		EBS		Guinea Worm		Malaria (Confirmed)		Measles		Neonatal Tetanus		Grand Total		% Of Verification
	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	# R	# V	
AAA	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	4	3	75%
CES	0	0	1	1	6	6	1	1	1	1	0	0	0	0	0	0	0	0	4	4	0	0	13	13	100%
EES	0	0	2	2	7	7	10	10	0	0	0	0	1	1	0	0	4	4	1	1	0	0	25	25	100%
GPAA	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0%
Jonglei	1	0	9	0	9	0	11	0	0	0	0	0	0	0	12	0	5	0	5	0	0	0	52	0	0%
Lakes	0	0	2	2	0	0	0	0	0	0	0	0	6	6	29	11	2	2	3	3	0	0	42	24	57%
NBGZ	0	0	0	0	5	4	2	1	0	0	0	0	0	0	0	0	0	0	26	24	0	0	33	29	88%
RAA	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	3	0	0	0	11	0	0%
Unity	8	0	7	0	3	0	4	0	0	0	0	0	0	0	0	0	7	0	5	0	0	0	34	0	0%
Upper Nile	0	0	6	0	6	0	8	0	0	0	1	0	0	0	0	0	4	0	4	0	0	0	29	0	0%
Warrap	0	0	1	0	8	4	3	2	0	0	0	0	5	5	4	4	1	1	18	1	0	0	40	17	43%
WBGZ	0	0	1	1	6	5	3	3	0	0	0	0	0	0	3	2	9	8	6	6	1	1	29	26	90%
WES	0	0	1	1	13	13	6	6	0	0	0	0	0	0	0	0	12	12	28	28	0	0	60	60	100%
Grand Total	9	0	32	9	63	39	50	23	1	1	1	0	20	12	48	17	44	27	105	68	1	1	374	197	53%

#R= reported
#V= verified

Suspected meningitis in Northern Bahr el Ghazal

On 10 March 2024, South Sudan's National Ministry of Health was alerted to a possible meningitis outbreak in Aweil County, Northern Bahr el Ghazal state. 25 cases were suspected, resulting in 4 deaths. 7 samples were tested positive for meningitis (5 for *Neisseria meningitidis* serogroup Y and W, and 2 for *Streptococcus pneumoniae*). From week 4 of 2023 to week 12 of 2024, a total 41 suspected cases were reported, including 8 deaths, mostly in Aweil East and Aweil West.

Figure 2: Epicurve of suspect meningitis cases in Northern Bahr Edu Ghazal State



Response activities

Surveillance activities heighten in all the counties of NBGZ state and State teams are conducting an active case search with support from National RRT deployed to support.

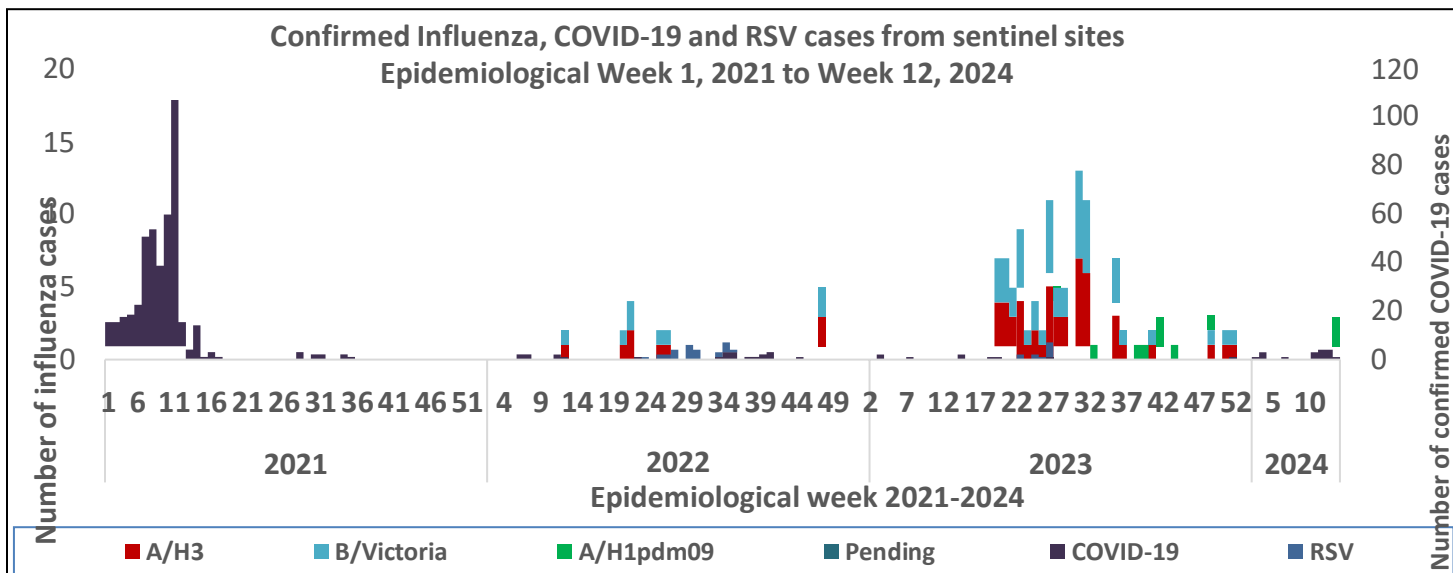
Essential supplies provided to partners ongoing case management mainly supported by MSF France at the Aweil State hospital.

Weekly Update on Indicator-Based Surveillance (Week 12)

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

Figure 3: Indicator-Based Surveillance (IBS) Influenza Surveillance



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.

During Epidemiological Weeks 1 to 12 in 2024, a total of 316 ILI/SARI samples were collected; 296 tested negative for all pathogens, (17) were positive for COVID-19, zero (0) for Influenza Type A (H3), one (1) for Influenza Type B (Victoria), two (2) for Influenza A/(H1N1)pdm09 and zero (0) for RSV.

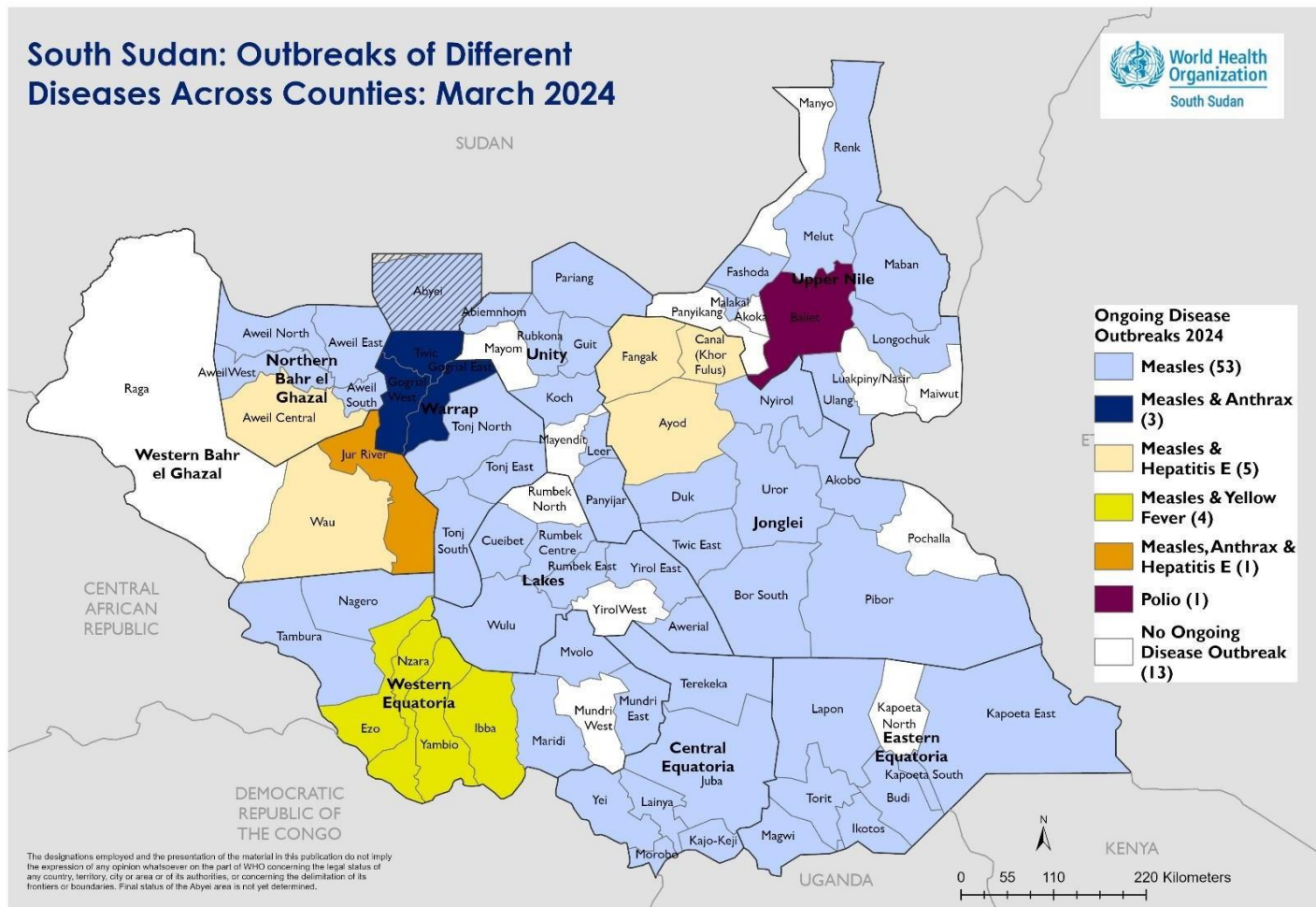
Ongoing confirmed epidemics

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	5	104	3 Laboratory confirmed	Ongoing	Done in 5 counties	Ongoing	Ongoing
Measles	69 counties	2022		12,706	1,083	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Fangak	2023		602		ongoing	ongoing	ongoing	ongoing
cVDPV	Yambio, Juba, Nasir and Baliet	19/Dec 2023	2	4	4	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	48		-	ongoing	Done in 2021/22	ongoing	ongoing

Figure 4: Map showing ongoing and confirm disease outbreaks across the country

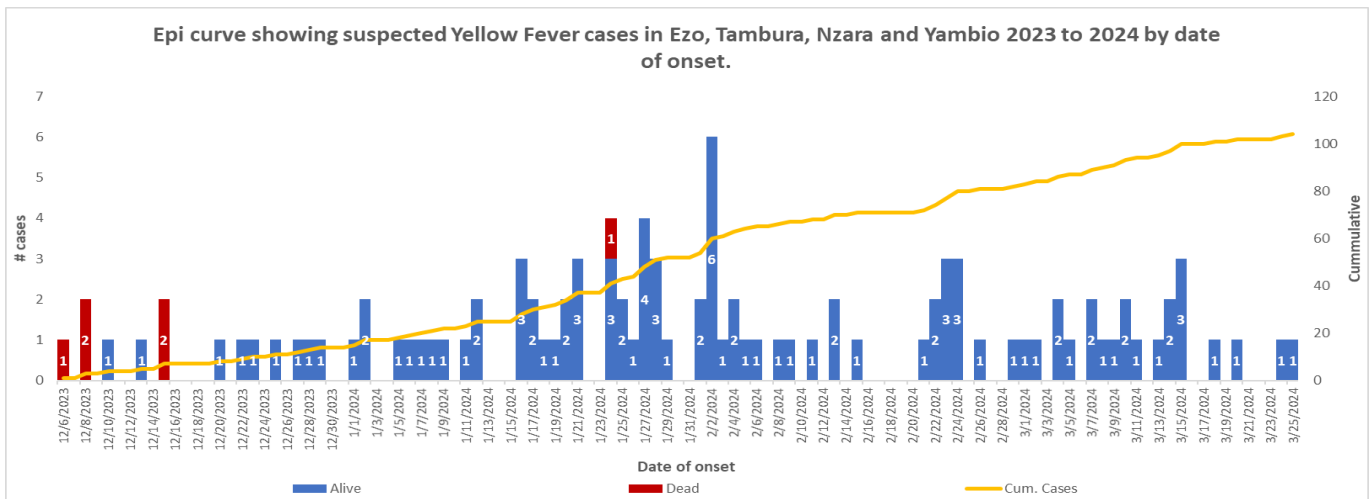


Response activities for ongoing outbreaks

Yellow Fever Outbreak in Yambio

Five (05) new suspected Yellow Fever cases reported in the last 07 days. The suspected cases were reported from Yambio county. As of 01 April 2024, one hundred and four (104) Yellow Fever cases (101 suspected and 3 confirmed) were reported from six counties in Western Equatoria state: Yambio (49), Tambura (25), Nzara (11), Ezo (11), Ibba (04), and Maridi (04) Counties. No new deaths were reported in the last 07 days. A total of six (06) suspected deaths were reported, giving a case fatality ratio of 5.8%.

Figure 5: 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. A total of 288 068 individuals, representing 71% of the targeted population in the three counties of Yambio, Nzara and Tambura, were vaccinated in phase 1 of the YF mass vaccination campaign. For Phase 2 of the YF vaccination campaign in Ibba and Ezo counties, 165 198 individuals have been vaccinated so far, representing 82% of the target population. A few Payams are yet to submit their data. 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) States MOH and partners continue to strengthen active surveillance in 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 12, 2024, a total of 655 suspected measles cases were reported including 131(20.0%) lab-confirmed and 11 deaths representing a CFR of 0.7%. Cumulatively, there were 12 760 cases and 239 deaths reported from 2022 to 2024, with a CFR of 1.87%.

Measles cases have been reported from different counties throughout 2023-2024. The observed peaks are driven by other counties that experienced a surge in measles cases at various 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.

Figure 6: Epicurve of suspected measles cases against their residential status by Epi week

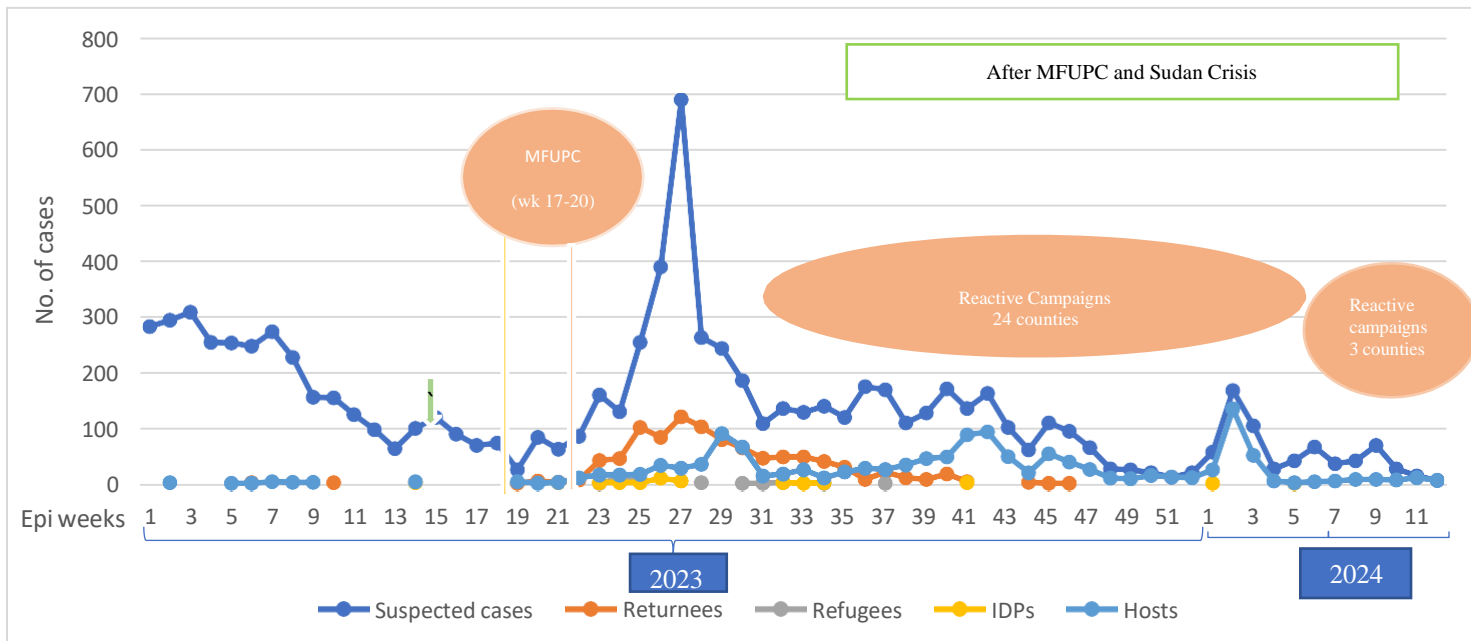


Table 5: Distribution of cases by final classification group in 2024

Final classification	No. of cases	%
Lab confirmed	131	20.0
Epi-linked	217	33.1
Clinically Compatible	241	36.8
Total	589	89.9
Discarded (-ve)	66	10.1
Grand Total	655	100.0

Table 6: Distribution of cases by age group in 2024

Age group in years	No. of cases	%	Deaths	%
<1	179	27.3	3	1.7
1-4	262	40.0	6	2.3
5-9	91	13.9	2	2.2
10-14	56	8.5	0	0.0
15+	67	10.2	0	0.0
Total	655	100.0	11	0.7

Out of the 655 suspected measles cases, 131 (20%) are lab-confirmed, 217 (33.1%) epi-linked, 241 (36.8%) clinically compatible, and 66 (10.1%) discarded cases have been reported as of epidemiological week 10, 2024. A total of 14 rubella-positive cases were discarded (negative measles cases). In 2024, most of the cases (67%) were in children less than 5 years of age, and (84%) were unvaccinated (zero, unknown), including 363 (66%) children less than 5 years.

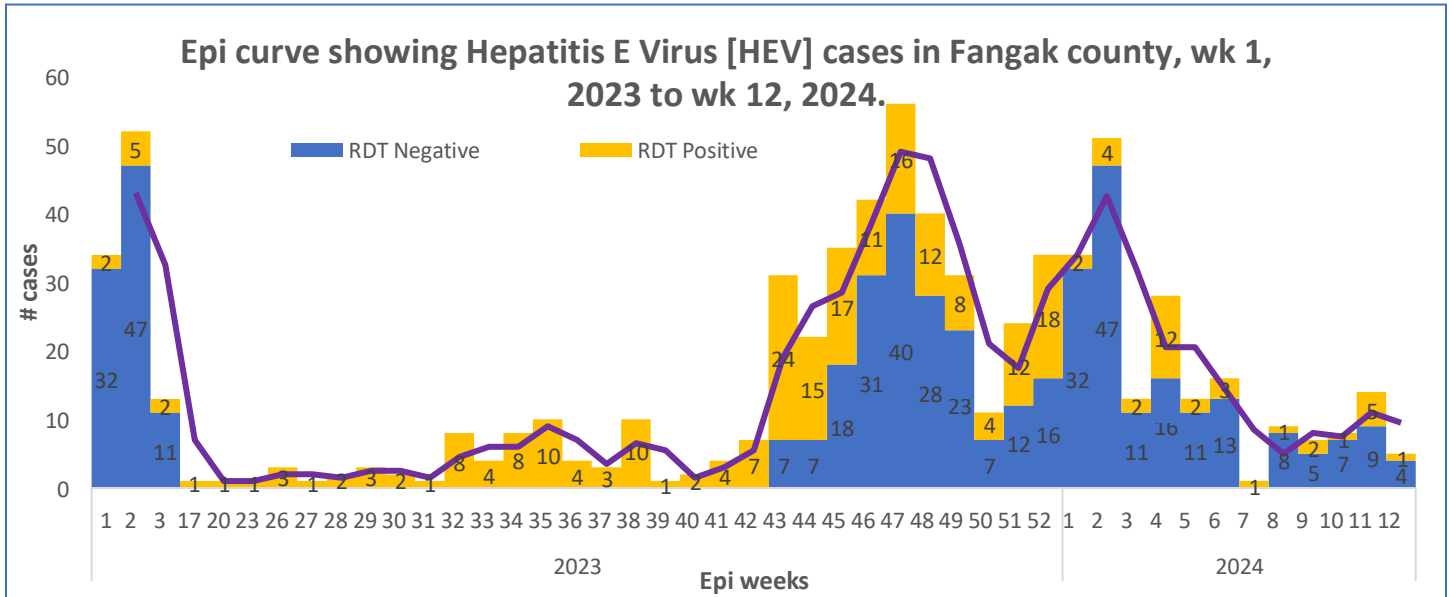
Response activities (measles)

South Sudan implemented a reactive 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 602 cases, including 22 deaths, have been reported from week 1 of 2023, to week 12 of 2024. Most cases were reported among the age group 15 years and above; females accounted for 66% (398) while Males accounted for 33% (204). Three outbreak peaks were observed in weeks 2 and 47 of 2023 and a similar peak in week 2 of 2024, with an RDT positivity rate of more than 60%.

Figure 7: Epicurve of HEV in Fangak County



Response activities include WASH intervention through community engagement. The vaccination using Hecolin has been concluded, with 5820 and 8585 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 Bentiu IDP Camp in Unity State

A total of 5203 cases, including 27 deaths reported since the outbreak began in 2018; there are significant peaks since 2021, with a peak in week 2. A total of 33 new cases and zero deaths were reported in week 12, 2024; most of the total cases seen are from outside the IDP camp (47%), with 42% of the cases reported among the age group 15 – 44 years. Males account for 51% (2 735 cases), while females account for 49% (2 468 cases).

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

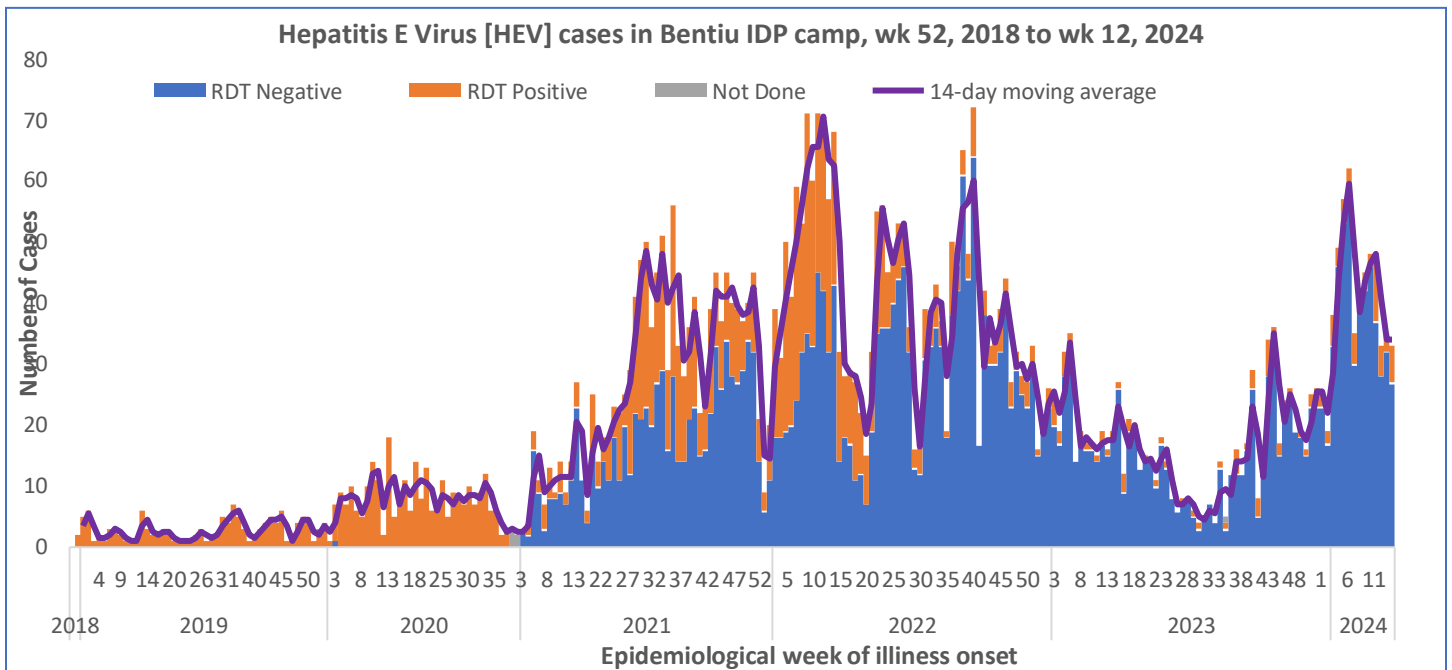
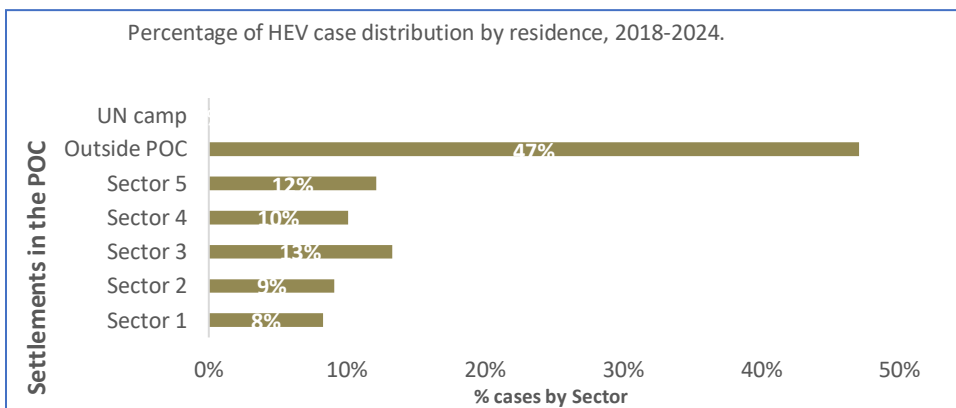


Figure 8: Distribution of HEV by Residence in Bentiu IDP camp MSF Hospital, Unity State



Vaccination Response in 2022 (Hepatitis E Virus in Bentiu)

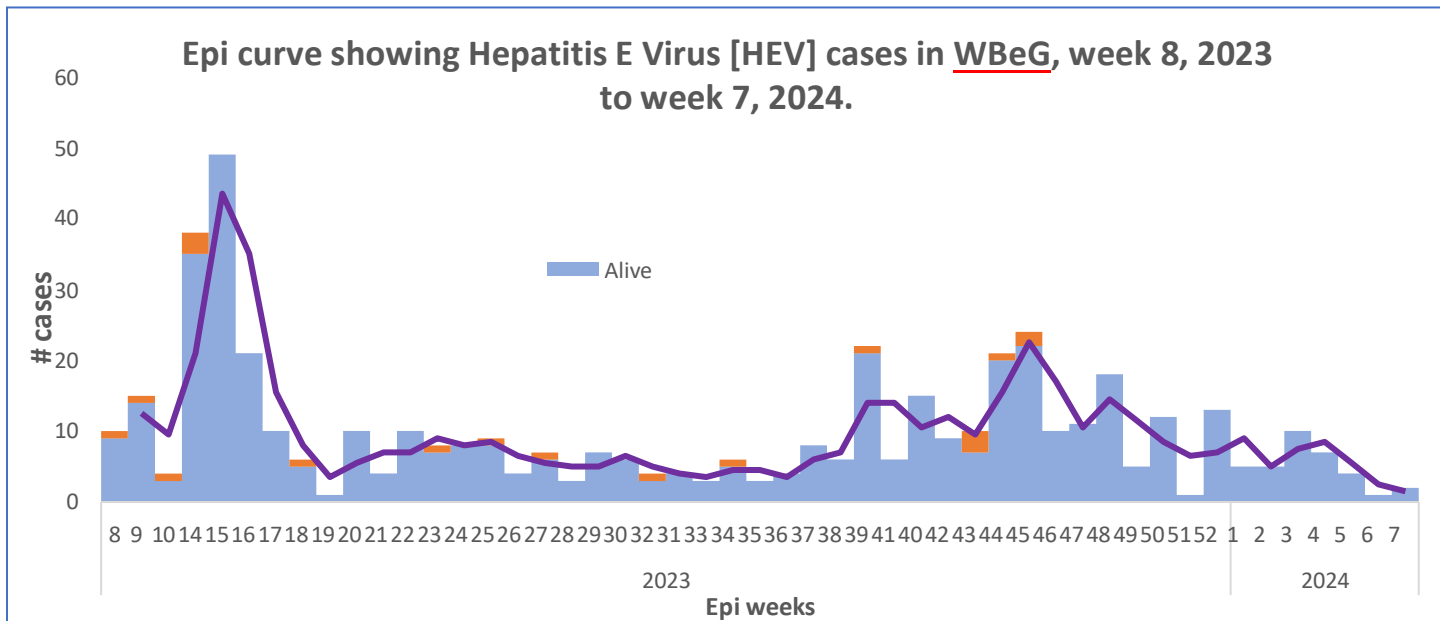
The HEV vaccination campaign was conducted in March 2022; first-round coverage was 91%, and the second round was 82% in Bentiu IDP camp were vaccinated aged 16-40 years (incl. pregnant women) Ongoing case management in the camp hospital supported by MSF. There is a need to continue to engage in community and risk communication to support behavioral changes to meet the WASH investment done by WASH partners.

Hepatitis E Updates in Wau, Western Bahr el Ghazal

Last year, on April 14, 2023, the national Ministry of Health declared an outbreak of Hepatitis E Virus (HEV) disease in Wau Western Bahr el Ghazal state. However, cases have continued to be reported since then. A total of 479 cases, including 19 deaths, have been reported from week 8, 2023, to week 7, 2024.

Most of the cases were reported among people 15 years of age and above, and males accounted for 63% (300), while Females accounted for 37% (179).

Figure 9: Epi curve of HEV in Western Bahr el Ghazal state



Circulating Vaccine Derived Polio Virus type-2 (cVDPV2)

As of April 2024, four AFP laboratory-confirmed cases of cVDPV2 were reported from four counties (Yambio, Juba, Nair, and Baliet) in Western Equatoria and Juba in Central Equatoria. Three samples were collected from healthy children in Western Equatoria, and after testing, the cVDPV2 variant was confirmed, which closely matched the index case from West Equatoria State. The most recent case of cVDPV2 was reported in Baliet and Nasir counties in Upper Nile State. However, there are still samples in the laboratory pending testing. To respond to the nationwide outbreak, a campaign was launched on 27th February 2024, using the nOPV2 vaccine, which has been completed in most counties. And plans are underway for the second round, scheduled to start on 16 April 2024

Other events

Sudan crisis: South Sudan has received Cumulatively 629 902 individuals from at least 19 nationalities, 78.9% (496 692) of the influx are South Sudanese returnees since 16th April 2023 who have entered South Sudan. 22 POEs **are currently being monitored, with Joda-Renk accounting for 85% of the reported influx figures**, 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 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 entry point. Suspect cholera cases are further screened and tested using rapid diagnostic tests (RDT). Since 19 December 2023, 134,302 individuals have been screened for AWD at the public health desk at the Wunthou point of entry. The distributed kits predominantly include IEHK, Pneumonia, Cholera Investigation, and Treatment Kits (featuring Cholera Investigation Test kits to enhance Cholera Surveillance).

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 Cholera Preparedness and Response plan has been developed, and ongoing coordination meetings are held 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.

SAM/MC kits and Field Sample Collection Kits. Notably, nine large WHO tents and V-Sat equipment have been delivered to Renk.

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. 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 a 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.
- Support detailed Measles outbreak investigations and risk assessment (root cause analysis) to understand the persistent 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>

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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

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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

