



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 17
22 -28 April 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 17 of 2024, the IDSR reporting timeliness and completeness were 78% and 88%, respectively. This timeliness and completeness is less than 81% and 93% reported in the previous week
- IDSR performance at the EWARD mobile sites was 93%, similar to what was reported in the previous week 16.
- Completeness of IDSR reporting at private Health facilities in Juba and Wau was at 97%, which is an improvement from 95% in the previous week
- The alerts triggered in the EWARS system reduced from 276 in week 16 to 234 in the reporting week 17. Similarly, the proportion of verified alerts declined from 62% (171/276) to 44% (103/234) in weeks 16 and 17, respectively. Most of the alerts in week 17 were for AWD (18%), Measles (16%) and Malaria (15%)
- Five additional cases of suspected meningitis were reported from Aweil Hospital in week 17 with two deaths, giving a cumulative of suspected *N. meningitidis* to 71 cases with 15 deaths and a CFR of 21.1%
- As of Epi week 17, 2024, 2,271 suspected measles cases were reported, with 146 (6.4%) lab-confirmed, 39 suspected Measles deaths, and a case fatality rate of (1.7).
- Updates on ongoing Hepatitis E Outbreaks from Bentiu IDP camp, Fangak and Wau counties

Surveillance System Performance

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 17 were at 78% and 88%, respectively.

Table 1: Timeliness and completeness of IDSR reporting by State for week 17, 2024

State	Total facilities	Number of facilities reported (Completeness)†	Timeliness		Completeness		Cumulative since year start (2024 level)	
			Wk 16	Wk17	Wk 16	Wk17	Timeliness	Completeness
			Lakes	112	112	91%	82%	95%
NBGZ	89	80	91%	89%	100%	90%	86%	91%
Unity	84	84	98%	100%	100%	100%	92%	100%
WBGZ	81	59	59%	72%	86%	73%	78%	81%
WES	183	146	69%	64%	100%	80%	87%	95%
Jonglei	119	101	76%	75%	88%	85%	86%	89%
Warrap	111	105	92%	71%	95%	95%	83%	92%
EES	107	101	88%	91%	99%	94%	87%	95%
RAA	16	7	31%	38%	38%	44%	56%	71%
CES	122	119	89%	97%	89%	98%	91%	95%
AAA	17	17	94%	82%	94%	100%	67%	73%
Upper Nile	141	107	68%	61%	77%	76%	65%	79%
GPAA	15	15	100%	100%	100%	100%	98%	99%
Total	1197	1053	81%	78%	93%	88%	83%	91%

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 17	% Of Completeness in week 17	Payam	# Of Reporting Private Health Facilities	% Of Timeliness in week 17	% Of Completeness in week 17
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	50%	50%	Wau South	20	100%	100%
CIDO	1	100%	100%	Wau North	12	83%	83%
TOTAL	14	93%	93%	Juba	10	100%	100%
				TOTAL	62	97%	97%



Completeness of week 17, 2024



World Health Organization
South Sudan

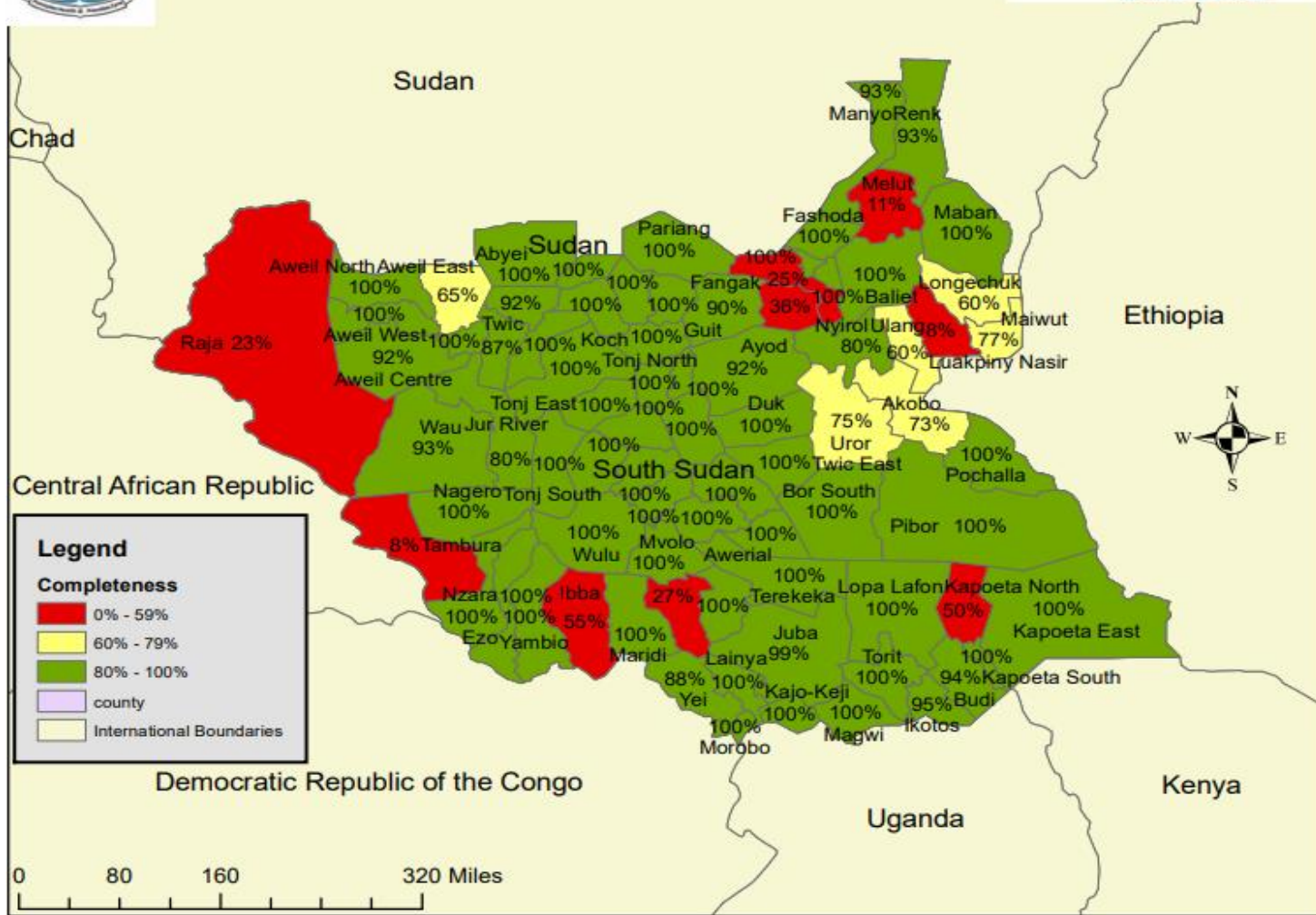


Figure 1: Completeness of IDSR reporting by county for week 17, 2024

Epidemic alerts

A total of 234 alerts have been triggered in the EWARS system, with 44% (103/234) verified in the system. Most of the alerts were for AWD (18%), Measles (16%), and Malaria (15%). See Table 3 below for more details.

Table 3: Summary alerts triggered week 17, 2024

Admin Area	Acute jaundice syndrome			Acute Respiratory Infections (ARI)			Acute Watery Diarrhoea			Bloody Diarrhoea			Cholera			Covid-19			EBS			Guinea Worm			Malaria (Confirmed)			Measles			Meningitis			Neonatal Tetanus			Relapsing Fever			Yellow Fever			Grand Total			Percentage				
	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	#R	#V	#P	%V	% Not Verified						
AAA	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	100%	0%			
CES	0	0	0	2	0	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	3	4	43%	57%			
EES	0	0	0	5	5	0	2	2	0	1	1	0	0	0	0	0	0	0	1	1	0	1	1	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	14	14	0	100%	0%			
GPA	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0%	100%			
JON	1	0	1	5	0	5	5	0	5	3	0	3	1	0	1	0	0	0	0	0	0	0	0	0	7	0	7	4	0	4	2	0	2	0	0	0	0	0	0	1	0	1	0	0	0	29	0	29	0%	100%
LAKEs	0	0	0	4	4	0	4	4	0	2	2	0	0	0	0	0	0	0	5	5	0	1	1	0	8	8	0	3	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	37	37	0	100%	0%
NB GZ	0	0	0	4	4	0	1	1	0	3	3	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19	0	100%	0%
RAA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2	0%	100%			
Unit Y	2	0	2	4	0	4	1	0	1	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	1	0	0	0	0	0	0	0	0	0	16	0	16	0%	100%			
UNS	0	0	0	4	0	4	2	0	2	5	0	5	1	0	1	0	0	0	0	0	0	0	0	0	4	4	0	4	4	0	6	0	6	1	0	1	0	0	0	0	0	0	0	0	0	19	0	19	0%	100%
WRP	0	0	0	0	0	0	5	1	4	4	0	4	0	0	0	0	0	0	0	0	0	4	4	0	5	3	2	0	0	0	8	1	7	0	0	0	0	0	0	0	0	0	0	0	0	26	9	17	35%	65%
WBG	0	0	0	1	1	0	5	4	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	1	3	3	0	4	4	0	1	1	0	1	1	0	1	1	0	19	17	2	89%	11%			
WES	0	0	0	0	0	0	1	0	1	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	0	1	0	0	0	1	0	1	0	0	0	40	0	40	0%	100%			
GT	4	1	3	2	1	1	4	1	2	3	7	1	7	2	2	0	2	2	2	2	0	1	1	1	3	2	1	3	1	2	3	1	2	3	1	2	0	2	1	1	1	3	1	1	3	44%	56%			

#R= reported
 #V= verified
 # =Pending

Weekly Update on Indicator-Based Surveillance (Week 16)

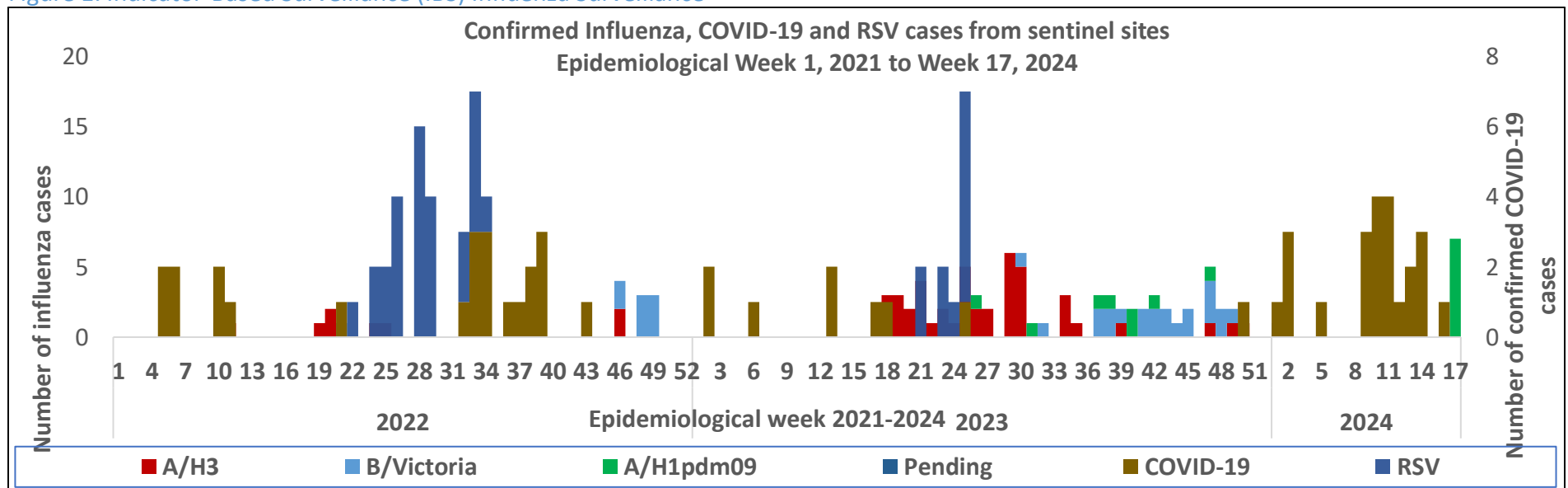
Indicator-based surveillance is implemented in South Sudan through the EWARS platform according to the IDSR 3rd guidelines, where approximately 59 priority diseases and public health events are regularly monitored and reported from health facilities across the country.

Influenza update

Currently, four designated Influenza sentinel surveillance sites in the country, three (3) in Juba (Juba Teaching Hospital, Al Sabbah Children’s Hospital, Juba Military Hospital) and one (1) in Rumbek State Hospital in Lakes State are collecting epidemiological data and samples from ILI/SARI cases.

During Epidemiological Weeks 1 to 17 in 2024, 490 ILI/SARI samples were collected; 456 tested negative for all pathogens, twenty-three (23) were positive for COVID-19, zero (0) for Influenza Type A (H3), one (1) for Influenza Type B (Victoria), nine (9) for Influenza A/(H1N1)pdm09, and zero (0) for RSV.

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



Ongoing confirmed epidemics

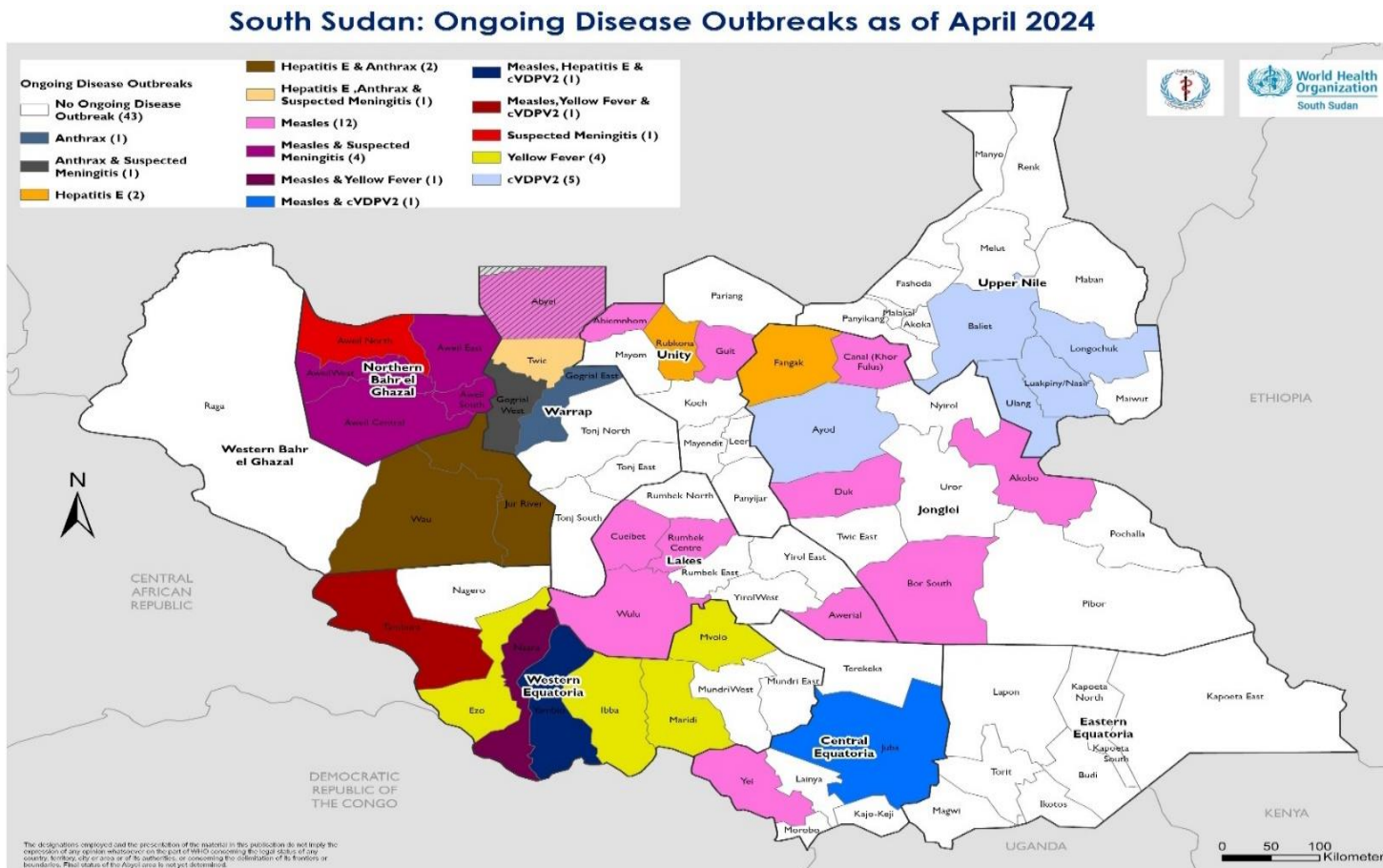
Table 4: Summary of new and ongoing confirmed epidemics

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	120	3 Laboratory confirmed	Ongoing	Done in 5 counties	Ongoing	Ongoing
Measles	69 counties	2022	32	14,376	1,154	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Fangak	2023		617	253	ongoing	ongoing	ongoing	ongoing
cVDPV	Yambio, Juba, Ulang, Nasir, Baliet, Ayod	19/Dec 2023	0	11	11	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	48	5269	-	ongoing	Done in 2021/22	ongoing	ongoing
Conjunctivitis	Nimule	8/April		-	-	Ongoing	-	Ongoing	Ongoing

Ongoing Confirmed Outbreaks

Since 2022, South Sudan has experienced several emergencies throughout the country. Based on data provided by the states and the EWARS system, most counties have reported ongoing disease outbreaks. These outbreaks include measles, anthrax, meningitis, cholera, hepatitis E virus, and others. Measures have been put in place to help mitigate the spread of these outbreaks. Below is a map of the current ongoing emergencies

Figure 2: Map showing ongoing disease outbreaks across the country



Response activities for ongoing/suspected outbreaks

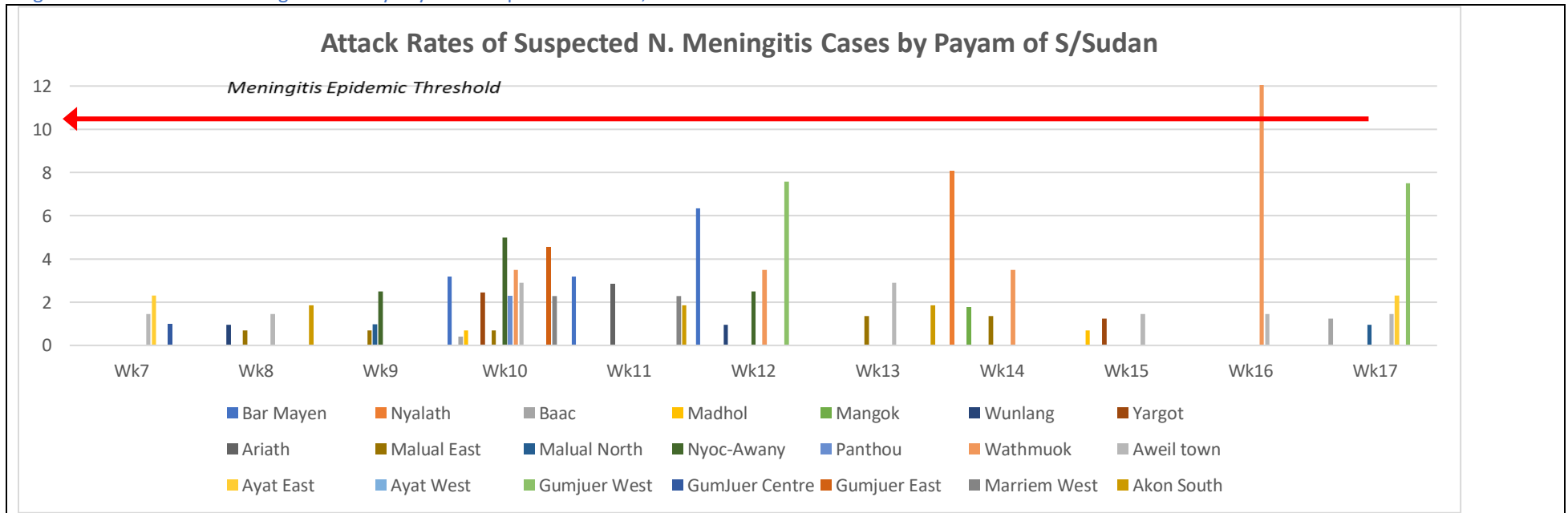
Vaccine-preventable Diseases

1- Meningitis Situation Updates

After thoroughly cleaning the meningitis data from Northern Bahr el Ghazal state, Seven additional suspected cases were reported in weeks 16 and 17, bringing the total number of cases to 71 with 15 deaths (21.1% CFR) between weeks 4 and 17 of 2024. Four new deaths were reported in Epi-week 16 and 17 of 2024. In Payams (sub-counties) with a population of less than 30,000 (indicated in red), no more than five cases have been reported in a week, and there has not been a doubling of the NM incidence over two to three consecutive weeks.

A total of 28 samples were sent to the National Public Health Lab from several counties, and 23 of those were referred to the WHO Collaborating Centre NICD in South Africa for confirmation. Results showed that 91.3% (21 /23) were positive for bacterial pathogens by PCR panel as follows: Neisseria meningitides W = 56.6 % (13/23), Streptococcus pneumonia = 13 % (3/23), Haemophilus influenzae = 8.7% (2/23). Streptococcus agalactiae (GBS) = 13% (3/23) Only two samples tested negative.

Figure 6: Attack rate of Meningitis cases by Payam and Epi-week 4 to 17, 2024



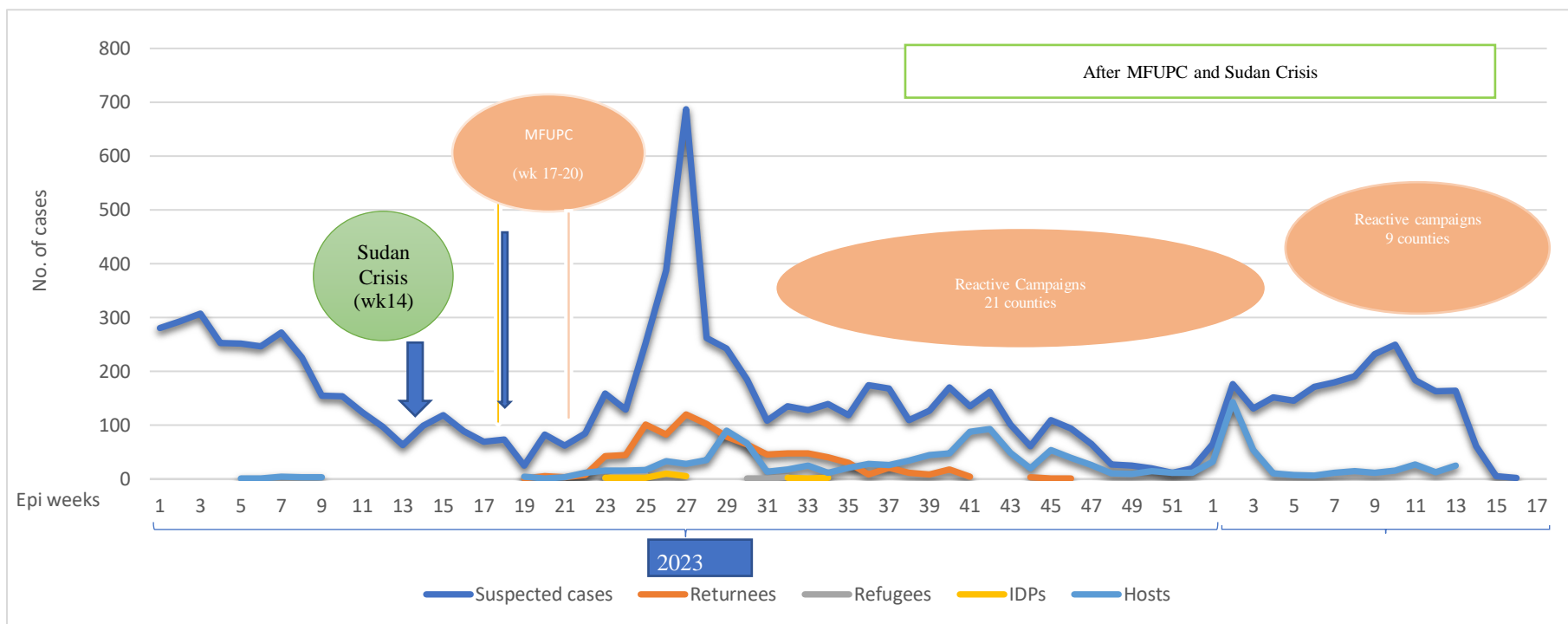
Response activities

The Public Health Emergency Operations Center (PHEOC) is currently in alert phase due to a potential meningitis outbreak. Coordination efforts are underway both at the national and sub-national levels. The Meningitis Response Plan is being reviewed, and an in-depth investigation is being conducted by the SRRT and NRRT in Northern Bahr el Ghazal and Warrap states to improve active case search, safe sample collection, and RCCE. TI Media is being prepositioned at the subnational level, and an application for Ceftriaxone from ICG is being finalized. Additionally, healthcare workers were oriented on early case detection, sample collection, testing, packaging, and case management.

2- Measles outbreak

As of Epi week 17, 2024, 2,271 suspected measles cases were reported, out of the 2,271 suspected measles cases, 146 (6.4%) were lab-confirmed, 772 (34.0%) epi-linked, 1,254 (55.2%) clinically compatible, and 99 (4.5%) discarded cases have been reported as of epidemiological week 16, 2024. A total of 25 rubella positive cases from the discarded (negative measles cases). Epi week 17 data shows no ongoing outbreak, but eight (8) counties Aweil West, Abyei, Fashoda, Fangak, Lainya, Ibba, Tonj East and Yirol West are reporting suspected/confirmed. The observed surges in cases are due to other counties experiencing an increase in measles cases at different times. The Sudan crisis began on week 14 of 2023 and has resulted in an influx of refugees and returnees since then. Additionally, the nationwide Measles Follow UP Campaign occurred from week 17-20 of 2023.

Figure 7: Epi-curve of suspected measles cases against their residential status by Epi week



Measles Vaccination Updates

In 2024, the reactive vaccination campaigns against measles continued. By Epi week 17, nine counties had implemented the campaign, vaccinating 347,812 (86%) children under the age of five. The final data from 5 counties of NBG is yet to be submitted. Out of the total vaccinated, 9,119 (2.6%) were returnees from Sudan. Four counties, namely Maridi, Mundri East, Tonj North, and Tonj South, have completed the campaign. The campaign is still ongoing in five counties of NBG, namely AWE, AWS, AWC, AWN, and AWW. It is expected to be finalized next coming weeks. Preparations are currently underway for an additional five counties in WES, namely Yambio, Ezo, Nzara, Ibba, and Tambura. This implementation is scheduled for 7th May 2024. The main reason for the delay is multiple activities ongoing in the state, such as the Yellow Fever mass vaccination, nOPV2 vaccination campaign, and COVID-19 vaccination activities in some counties.

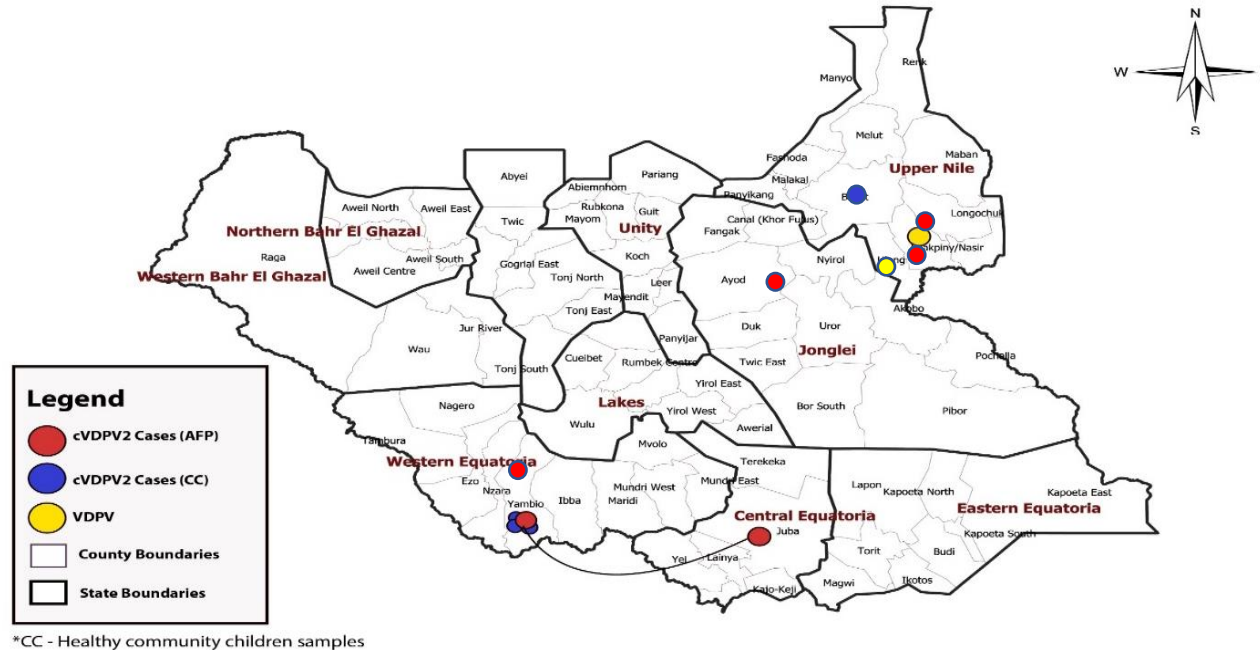
3- Poliomyelitis

Circulating Vaccine Derived Polio Virus type-2 (cVDPV2)

There are three circulating lineages of VDPV2 emergencies which are RSS-WEQ-1 detected in Yambio/WEQ and Juba CES detected in Ayod, Baliet and Nasir of UNL. An unnamed lineage has been detected in Tambura/WES and Longechuk/UNL. Additionally, there are two new unclassified VDPV2

emergencies, one in Ulang/UNL and one contact isolate in Nasir. The investigation of these unclassified emergencies is still ongoing. Two nationwide response SIAs using nOPV2 have already been completed and the LQAS results have been completed in 39 counties with only one more to be completed this week. We are enhancing surveillance activities in all states, counties, Payams and villages to identify any suspected cases promptly.

figure 8: Distribution of cVDPV2 cases isolates (All sources)



*CC - Healthy community children samples

1. Hepatitis E Virus in Fangak county Jonglei State

A total of 624 AJS cases, including 22 deaths, have been reported from week 1 of 2023 to week 15 of 2024. Most cases were reported among the age group 15 years and above; Females accounted for 66% (412/624) while Males accounted for 34% (212/624) of cases. The outbreak peaked in week 42 of 2023, with an RDT positivity rate of more than 60%. Until week 52, 2023, and week two of 2024 with four RDT positive cases.

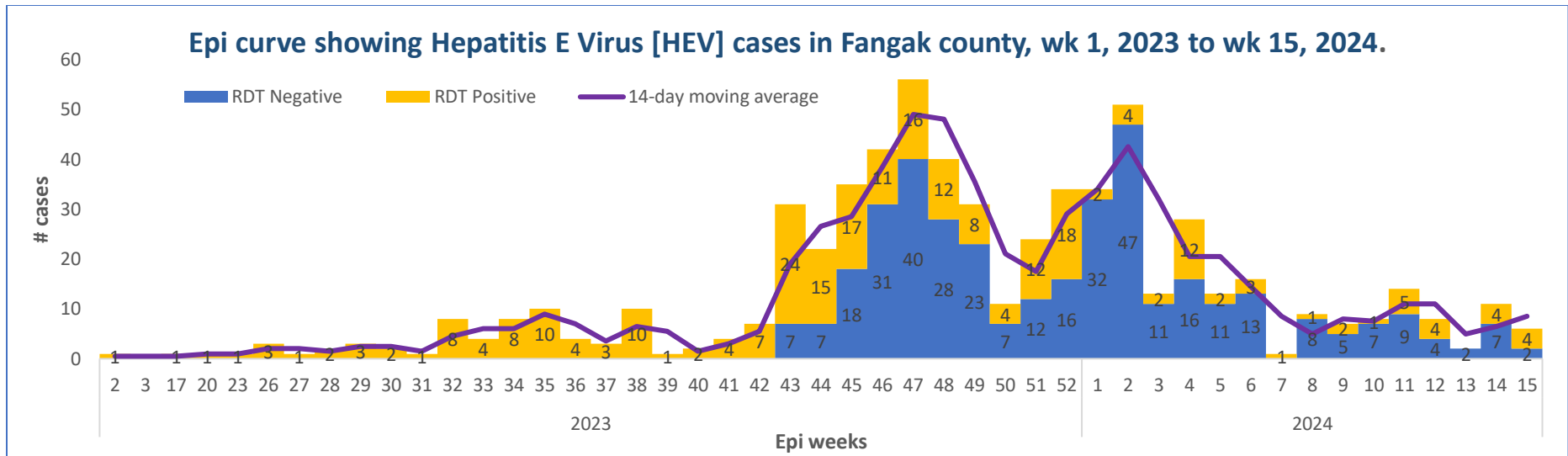
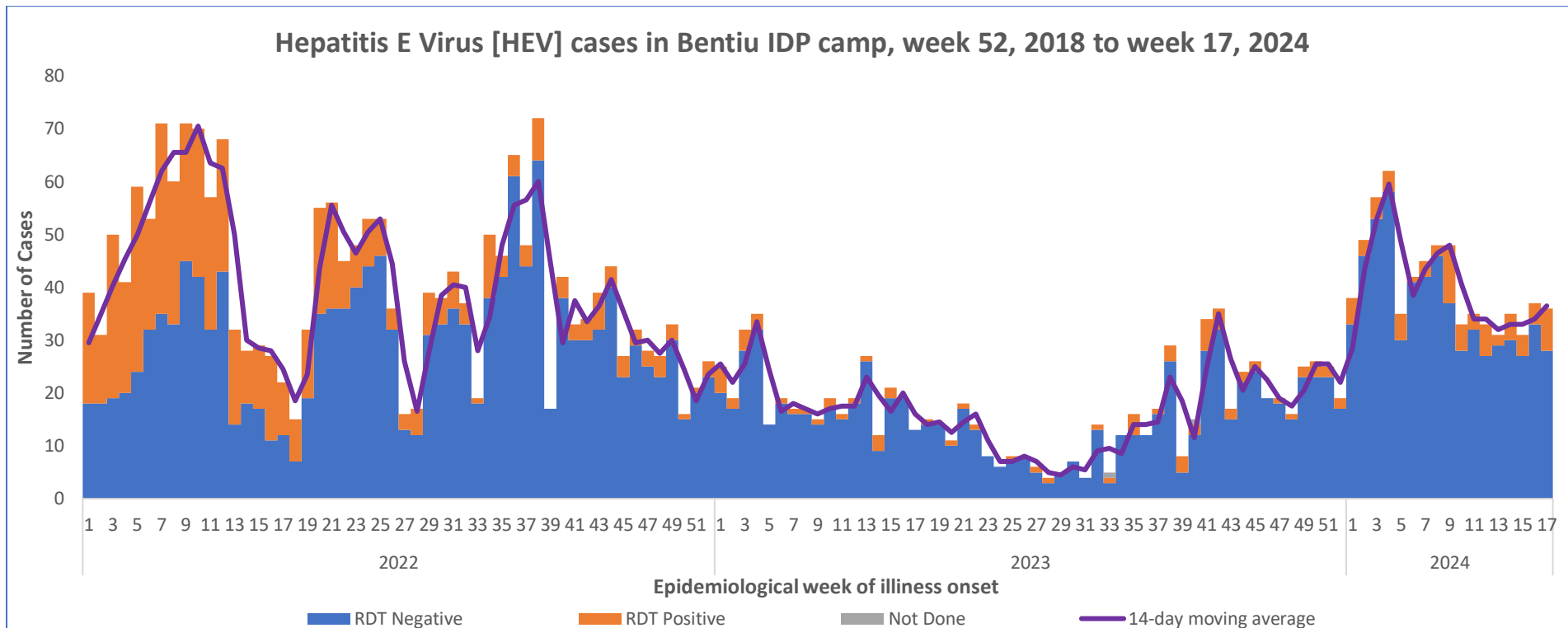


Figure 6: Epi-curve of HEV in Fangak County

2. Hepatitis E outbreak in Bentiu IDP Camp in Unity State

In week 17, there were a total of 36 new cases reported. Out of these, eight were RDT positive and there were no deaths. Since the outbreak began in 2018, there have been a total of 5,373 cases reported, with 27 deaths. Of all the reported cases, 43% were among people aged 15-44 years and 23% were among children under 5 years of age. Males accounted for 52% of the total cases, while females accounted for 48%.

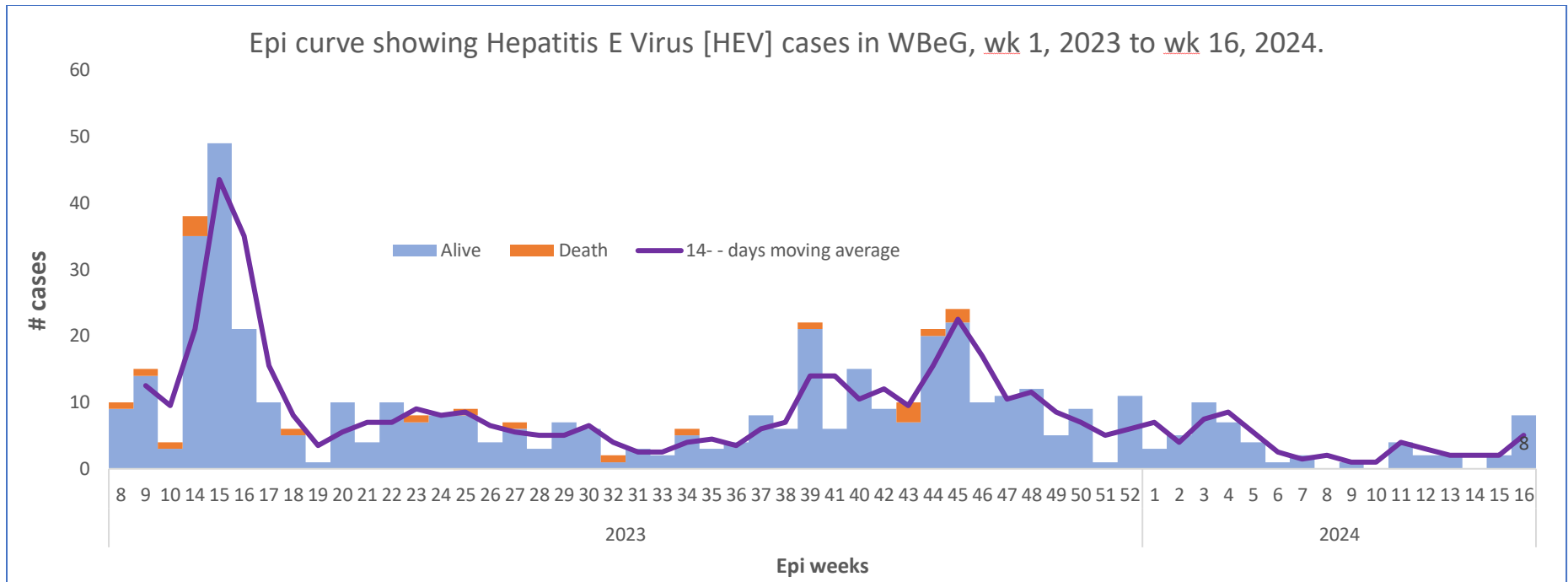
Figure 7: Epicure of HEV in Bentiu IDP camp, Unity State



3. Hepatitis E in Western Bahr EL-Ghazal State

A total of 481 cases including 19 deaths have been reported from week 8, 2023 to week 16, 2024. The majority of the cases were reported among the age group 15 years and above; In terms of the distribution of the cases by gender; Males account for 64% (308) while females account for 36% (173).

Figure: 9 Distribution of HEV cases by age and sex



Hemorrhagic Fever

1- Yellow fever Outbreak

A total of one hundred and twenty (120) Yellow Fever cases (117 suspected and 3 confirmed) were reported from seven counties in Western Equatoria state: Yambio (64), Tambura (26), Nzara (11), Ezo (11), Ibba (03), Maridi (03) and Mvolo (02) Counties. In Epi week 16 one (01) new suspected Yellow Fever cases was reported from Yambio.

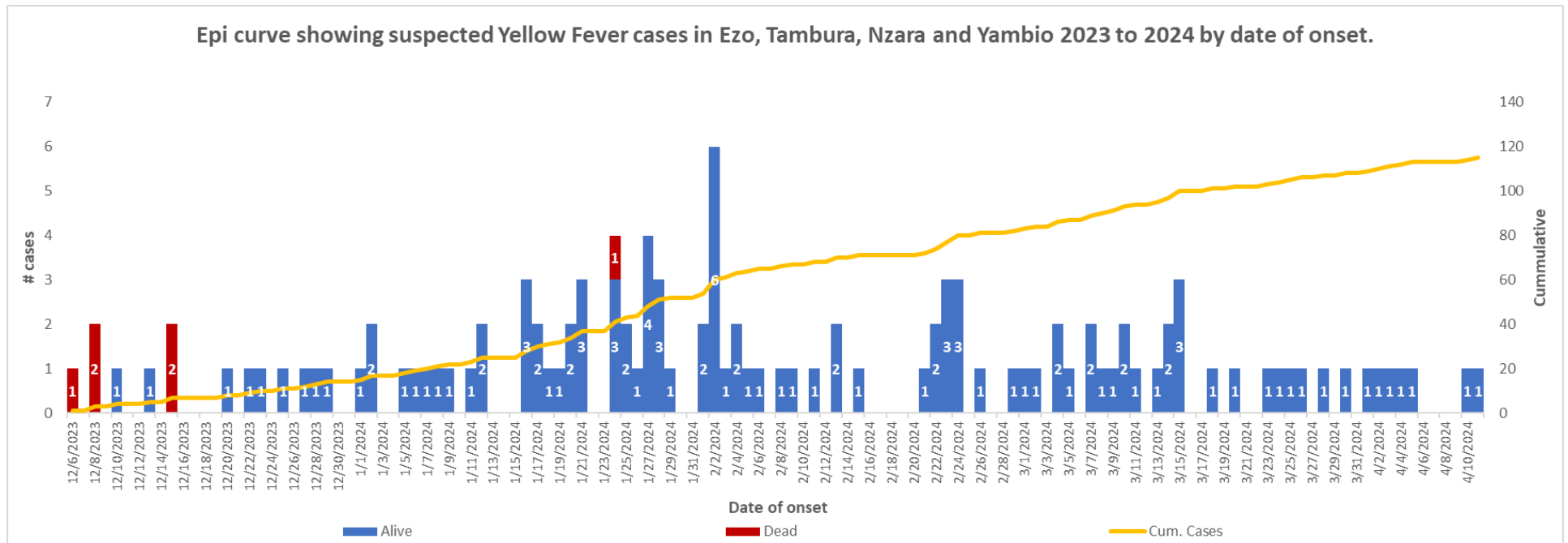


Figure 10: Trend of Yellow fever outbreak in Western Equatoria State

Red-eye (Conjunctivitis) outbreak In Magwi County

The Ministry of Health, Republic of South Sudan, declared to the public an outbreak of conjunctivitis, commonly known as red eye disease,” Minister of Health Yolanda Awel Deng Juach stated. This outbreak was first detected among travelers from Uganda, where similar cases have been reported, and an outbreak of conjunctivitis was declared by the Ministry of Health of Uganda.” She advised Health officials to set up screening at Nimule and other major entry points. As of April 30, 2024, more than 1,500 suspected cases were screened and managed, with cases also emerging in Juba. The Ministry of Health and partners have implemented measures including hygiene promotion, surveillance, treatment, public awareness campaigns, and healthcare worker training. The public is advised to wash hands frequently, avoid contact with infected persons, refrain from touching eyes or sharing personal items, and seek medical attention for suspected cases

Other Events

Sudan crisis: In Week 17, 6,145 individuals crossed into South Sudan from at least 21 different Points of Entry (PoEs). Since the start of the influx, at least 655,824 individuals have crossed from 19 different nationalities. Of this number, 78.7% (515,934) are South Sudanese returnees. Currently, 21 PoEs are being monitored, with Joda-Renk accounting for 83.4% of the reported influx figures. Hostcommunities and healthcare systems are struggling to cope with the increased demand for health and otherservices, 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). In this week 17, **4,098** individuals were screened for AWDs at the public health desk at the Wounthou Point of Entry (POE). 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 in 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 also remains a concern, in 2023, areas of Upper Nile and Unity states remained under floodwaters, with an estimated 7021 people still displaced in Rubkona.

Next step

- Strengthening active surveillance across the counties boarding 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).
- Training of RRT in Renk
- Support printing of IEC materials for red eye prevention awareness
- Support the ongoing PSH training in Renk County
- 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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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

