



Republic of South Sudan

Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin

Reporting period: Epidemiological Week 34
19-25 August 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 34 of 2024, the IDSR reporting timeliness and completeness were at 62% and 86% respectively. This is an improvement in Timeliness which increased from 59% reported in week 33. There is a slight decline in completeness from 87% reported in the previous week 33.
- At the EWARN mobile sites, the Timeliness and Completeness of IDSR performance were at 80% and 89% respectively while the private facilities reporting of Timeliness and Completeness in Juba and Wau stands at 87% and 90% respectively. This performance level is an improvement from what was reported in the previous week 33.
- In week 34, 2020 alerts were triggered, and the proportion of verified alerts increased from 78% (172/220) in week 33 to 82% (180/220) in week 34. Most of the alerts were for AWD (23%), Malaria (21%), ABD (17%), Guinea Worm (16%) and ARI (15%).
- Malaria constituted 31% of total consultations in week 29 of 2024, maintaining its status as the primary cause of morbidity.
- Updates on ongoing outbreaks in multiple counties (Anthrax, cVDPV2, Hepatitis E and Mpox).

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 34** were at **62% and 86%**, respectively.

Table 1: Timeliness and completeness of IDSR reporting by State for week 34,2024.

State	Total facilities	Number of facilities reported (Completeness) Wk34	Current Reporting Period				Cumulative since (2024)	
			Timeliness		Completeness		Timeliness	Completeness
			Week.34	Week.33	Week.34	Week.33		
Lakes	112	105	55%	80%	94%	94%	85%	98%
NBGZ	87	80	75%	83%	92%	95%	83%	92%
Unity	84	84	99%	94%	100%	100%	94%	100%
WBGZ	113	88	62%	79%	78%	81%	61%	74%
WES	191	191	38%	41%	100%	95%	79%	93%
Jonglei	120	100	76%	70%	83%	86%	80%	86%
Warrap	114	94	46%	31%	82%	85%	70%	86%
EES	112	85	38%	50%	76%	81%	75%	87%
RAA	19	16	37%	21%	84%	84%	39%	57%
CES	152	152	99%	67%	100%	99%	88%	95%
AAA	17	12	71%	35%	71%	35%	71%	78%
U/Nile	143	112	60%	41%	78%	77%	59%	79%
GPAA	16	15	94%	100%	94%	100%	100%	91%
Total	1280	1134	63%	60%	89%	89%	77%	90%

KEY:

>80%	Good performance
60-79%	Fair performance
<60%	Poor performance

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, week 34 of 2024.

Admin area	# Of Reporting Mobile Sites	% of Timeliness in week 34	% Of Completeness in week 34	Payam	# Of Reporting Private Health Facilities	% Of Timeliness in week 34	% Of Completeness in week 34
IMC	4	0%	0%	Kator	3	100%	100%
SSHCO	1	0%	0%	Marial Baai	1	100%	100%
SMC	1	0%	0%	Northern Bari	1	100%	100%
SCI	2	100%	100%	Rajaf	3	100%	100%
HFO	4	75%	100%	Munuki	12	100%	92%
WVI	2	100%	100%	Wau South	20	85%	90%
CIDO	1	100%	100%	Wau North	12	58%	75%
TOTAL	15	53%	60%	Juba	10	100%	100%
				Mangala	1	100%	100%
				Total	63	87%	90%

Epidemic alerts reporting and verification

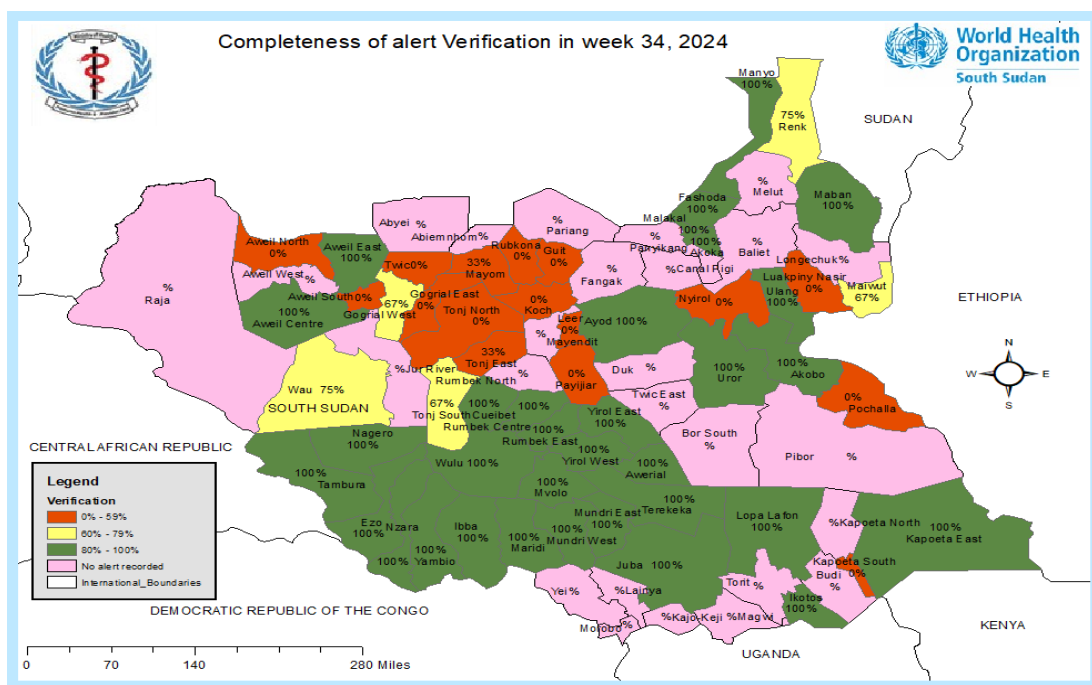
A total of 220 alerts have been triggered in the EWARS system, with 82% (180/220) verified in the system which is Higher than the previous week (33). Most of the alerts were for AWD (23%), Malaria (21%), ABD (17%), Guinea Worm (16%) and ARI (15%). See Table 3 below for more details.

Table 3: Summary alerts triggered week 34, 2024.

State/Ad min	Acute jaundice syndrome		Acute Respiratory Infections (ARI)		Acute Watery Diarrhoea		AFP		Bloody Diarrhoea		Covid-19		EBS		Guinea Worm		Malaria (Confirmed)		Measles		Neonatal Tetanus		Relapsing Fever		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	# R	# V		
CES	0	0	4	4	5	5	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	13	13
EES	1	0	1	1	3	3	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	5	
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	0	1	0		
Jonglei	0	0	0	0	3	1	0	0	5	3	0	0	0	0	4	0	2	1	0	0	0	0	1	0	0	0	0	15	5	
Lakes	0	0	8	8	3	3	1	1	3	3	0	0	2	2	2	2	6	6	0	0	1	1	0	0	0	0	0	50	50	
NBGZ	0	0	2	1	2	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	2	
Unity	1	0	4	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	9	0	
Upper Nile	0	0	3	3	4	4	0	0	13	11	0	0	0	0	0	0	4	4	1	0	0	0	0	0	0	0	0	25	22	
Warrap	1	0	2	0	3	1	0	0	1	0	0	0	0	0	5	3	2	1	0	0	0	0	0	0	0	0	0	14	5	
WBGZ	1	0	1	0	3	3	0	0	1	1	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	8	6	
WES	0	0	9	9	3	3	3	3	8	8	2	2	0	0	0	0	6	26	1	1	0	0	0	0	0	0	0	72	72	
AAA	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	
RAA	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	
Grand Total	4	0	34	26	50	34	44	44	37	28	2	2	2	2	3	2	4	44	2	1	1	1	1	0	1	0	22	180		

#R= reported #V= verified

Figure 3: Alerts Verification rates by county of South Sudan for week 34, 2024.

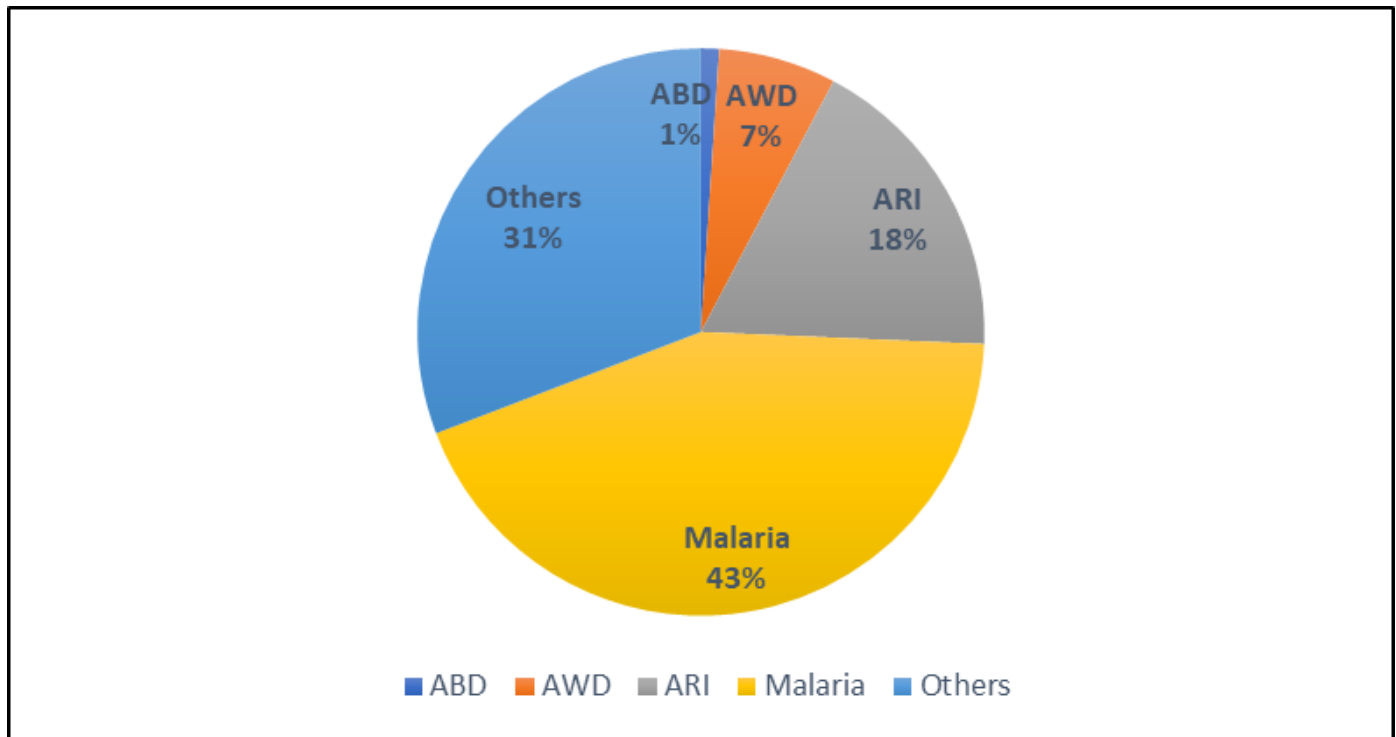


Weekly Update on Indicator-Based Surveillance (Week 34).

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.

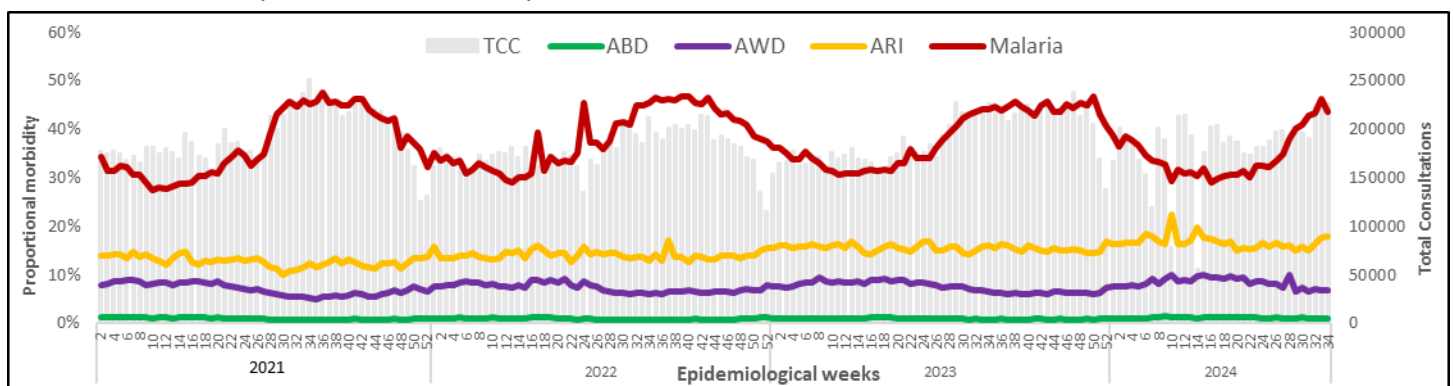
In week 34, a total of **226 483** morbidities were reported from all over South Sudan from across 1207 health facilities. Malaria was the top cause of morbidity accounting for 43% of all cases, followed by Acute respiratory illnesses (18%) and acute watery diarrhea (7%) as seen in Figure 5 below.

Figure 4: IDSR Proportional Morbidity in week 34 of 2024.



Analysis of proportional morbidity rates of the three primary illnesses in South Sudan, indicates no changes in the distribution patterns over the last four years, illustrated in figure 6 below.

Figure 5: Trends of top causes of morbidity in South Sudan 2021 to 2024.



As in all previous epidemiological weeks of 2024, Malaria remained the leading cause of morbidity, accounting for **98 537** cases and 30 suspected deaths, representing 43% of the overall morbidity.

A deep dive analysis of the National Malaria trends in week 34 of 2024 shows that the incidence remains in the normal range. Sub-national analysis of malaria trends in week 34 shows that Central Equatoria, Jonglei, Upper Nile and Unity States have surpassed their highest ever recorded numbers in the same epidemiological reporting period. A similar analysis by county shows that 30 counties had surpassed their 3-years weekly average for epidemiological week 34 (Figure 8 below). Therefore, every county should analyse their malaria incidence trends by health facility to identify geographies that have above normal transmission patterns. And where the reported malaria incidence is higher than normal, its recommended that malaria RDT/Slide positivity rates are tracked to confirm the suspicions.

Figure 6: Malaria Transmission Channel for the Republic of South Sudan, Week 34 of 2024.

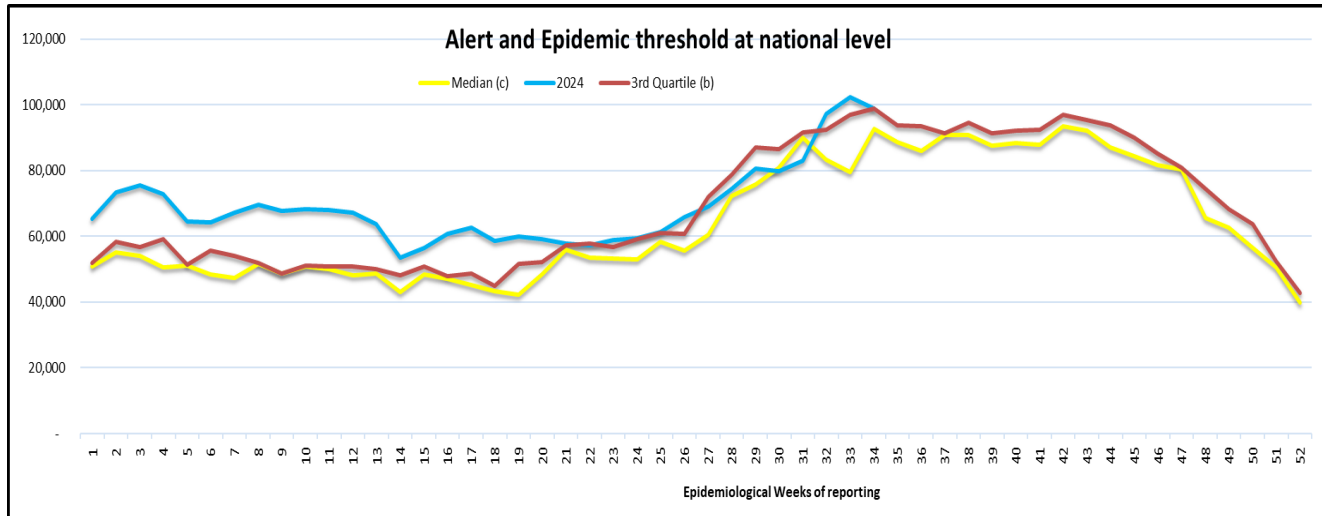
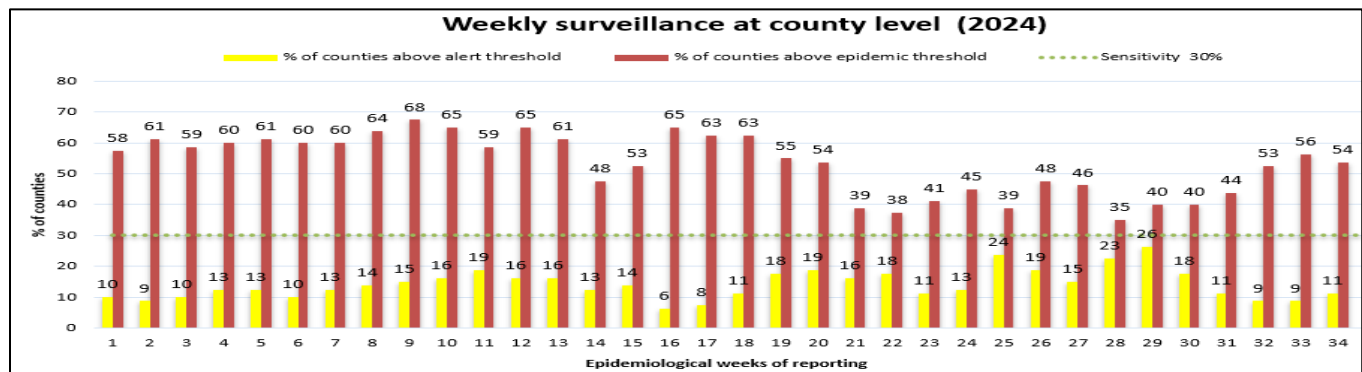


Figure 7: Percentage of counties above the alert and epidemic thresholds.



Updates on Monkeypox Alerts Investigation.

As of 3rd September 2024, a total of 47 suspected cases Mpox cases had been recorded across the Country (Juba: 17; Tambura = 11; Nzara = 2; Ezo= 1; Yambio=2; Aweil-Centre=6; Aweil East=1, Aweil North=1, Abyei=1; Gogrial West=1; Nimule=1 (discarded blood sample); Renk=1; Malakal =1; Rubkona=1). A total of 44 Mpox samples have been tested negative and 3 samples were pending testing. Given that the National Public Health Laboratory is conducting the Mpox PCR testing for the first time and all results this far are negative, external quality assurance and meta-genomic sequencing will be conducted on 18 samples at the Uganda Virus Research institute. Six (06) Mpox testing kits (equivalent to about 600 tests) have been received from EAC, WHO, and CDC.

Influenza update.

Currently, four (4) 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.

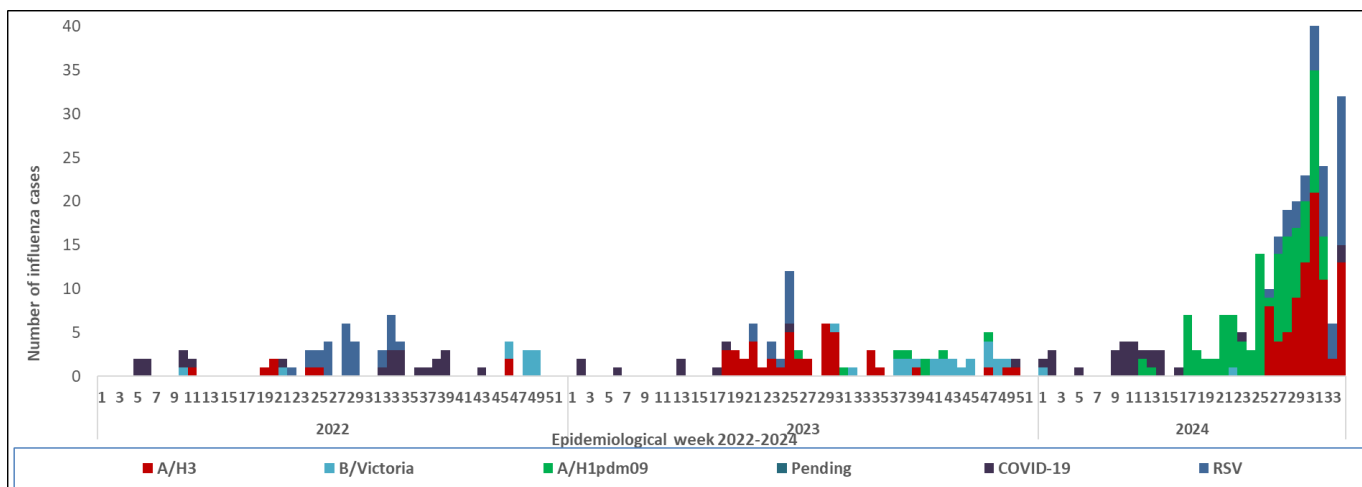


Figure 8: Confirmed Influenza, COVID-19, and RSV cases from sentinel sites Epidemiological Week 1, 2022 to Week 34, 2024.

During Epidemiological Weeks 34 of 2024, there were no reported confirmed Influenza, Covid-19 and RSV cases in all sentinel sites. The cumulative total number of ILI/SARI samples collected was 1237; 1006 tested negative for all pathogens, (24) were positive for COVID-19, (71) for Influenza Type A (H3), (2) for Influenza Type B (Victoria), (87) for Influenza A/(H1N1)pdm09 and zero (28) for RSV. The increasing number of ILI/SARI samples turning out positive spells improvements in a) adherence to standard case definitions at the sentinel sites, b) good specimen collection and handling procedures and c) improved laboratory methods instituted to improve positivity ratios. The dominance in Influenza A/H3 and A/H1pdm09 transmission continued as had been documented in the previous 20 weeks.

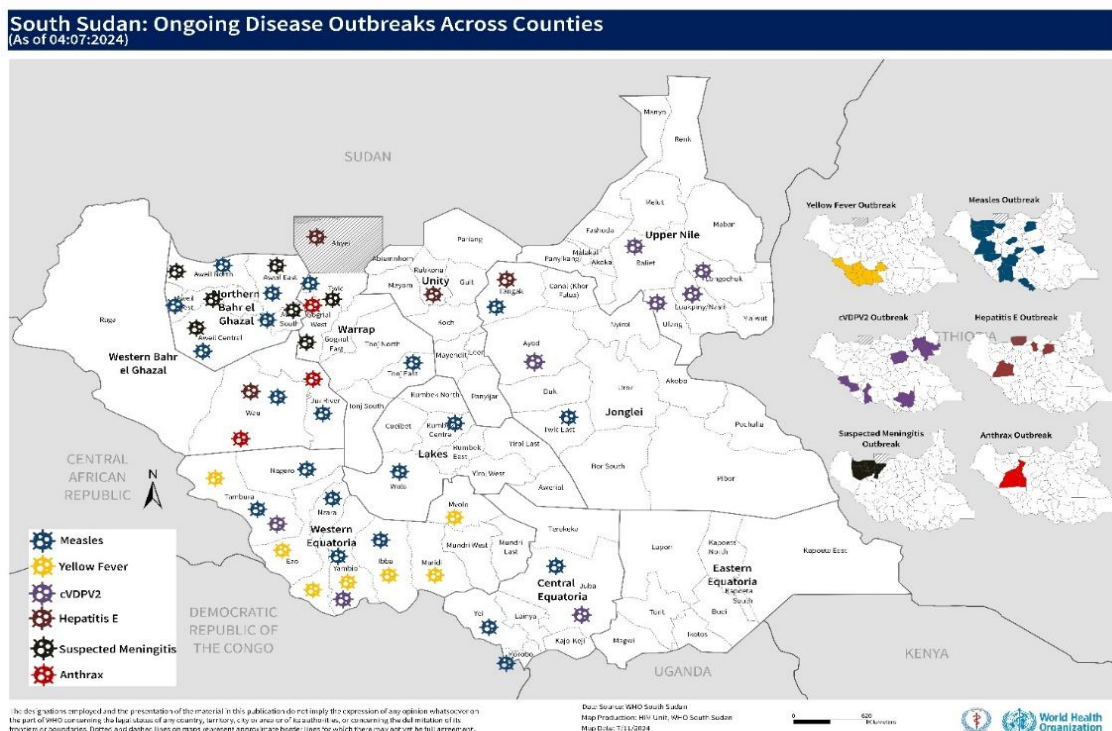
Ongoing epidemics

Table 4: Summary of ongoing and 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
Yellow Fever	Yambio, Nzara, Ezo, Tambura, Ibba and Maridi	21 Dec 2023	0	233	3 Laboratory confirmed	Ongoing	Done in 5 counties	Ongoing	Ongoing
Measles	Multiple counties	2022	0	14,507	1,154	ongoing	ongoing	ongoing	ongoing
Hepatitis E	Fangak	2023		655	253	ongoing	ongoing	ongoing	ongoing
cVDPV2	Yambio, Juba, Ulang, Nasir, Baliet, Ayod	19/Dec 2023	0	11	24	Not applicable	Completed 2 SIAs and 3 rd round planning is ongoing	ongoing	ongoing
Hepatitis E	Rubkona (Bentiu IDP Camp)	Dec/2018	11	5822	-	ongoing	Done in 2021/22	ongoing	ongoing
Hepatitis E	Twic	Feb 2024	-	32	1	ongoing	Not done	ongoing	ongoing
Anthrax	Gogrial west (WRP) and Jur River (NBG)	2022	0	142	3	ongoing	Ongoing in animal sector	ongoing	ongoing
Hepatitis E	Abyei	June 2024	-	26	3	ongoing	no	yes	yes

Since 2022, South Sudan has experienced several emergencies throughout the country. Based on data from 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 9: Map showing ongoing disease outbreaks across the country.



Response activities for ongoing/suspected outbreaks

Poliomyelitis

1. Circulating Vaccine Derived Polio Virus type-2 (cVDPV2).

Since the South Sudan Ministry of Health declared a cVDPV2 outbreak as a public health emergency on December 22nd, 2023, a cumulative total of 24 virus isolates have been reported. The cVDPV2 isolates were from **11 AFP cases**, 4 from AFP contacts, 4 from healthy community children's samples collected during investigations and 5 from environmental samples. Two outbreak response rounds of nOPV2 SIAs were conducted in all 80 counties reaching 103% (3,098,613 children) and 111% (3,335,861 children) in the 1st and 2nd response campaigns respectively. Notably, cVDPV2 virus detections continued beyond 6 weeks of conducting nOPV2 SIAs confirming breakthrough transmission in the country. As at week 34, there were three confirmed circulating lineages and one unclassified VDPV2 emergence group. RSS-WES-1 which had an index case with a date of onset of 7/11/2023, caused 4 Paralytic Infections and 3 non-paralytic infections detected in contacts had a last isolate detected on 23/2/2024, suggesting that this emergence group was interrupted by the initial response vaccination campaigns. RSS-UNL-1 which had its first isolate from an AFP case with a date of onset of paralysis on 10/12/23, caused 6 paralytic infections and 1 non-paralytic infection detected in a contact, had a latest isolate from an AFP case with a date of onset of paralysis on 28/6/2024, suggesting that the first two nOPV2 SIAs campaigns did not interrupt this circulating lineage. The third confirmed circulating lineage named RSS-JON-1 had its first isolate from an AFP case with Date of onset of paralysis on 12/4/2024 (between 1st and 2nd nOPV2 SIAs). This emergence group has since caused only one paralytic infection in Fangak County before an additional

5 non-paralytic infections were detected in the environmental samples collected from Juba county. With a latest isolate coming from a sample collected on 23/7/2024, this lineage definitely remains circulating. Lastly, a new and solo isolate from an environmental surveillance sample, that is not related to any other previously reported isolates was detected in Juba, spelling additional risks to new emergence groups in the post nOPV2 era. In turn, the global Polio Eradication Program has approved an additional 2 rounds of nOPV2 SIAs to mitigate the risks of sustained transmission. These two response SIAs are planned for the accessible dry season coming after November 2024.

Figure 11: Vaccine Derived Polio Virus Type 2 (VDPV2) emergence groups distribution in South Sudan.

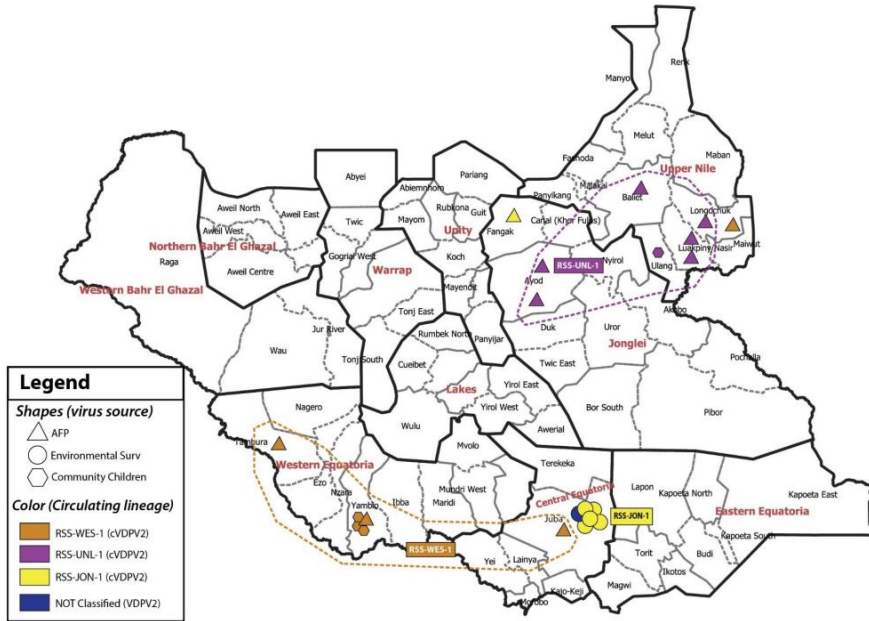
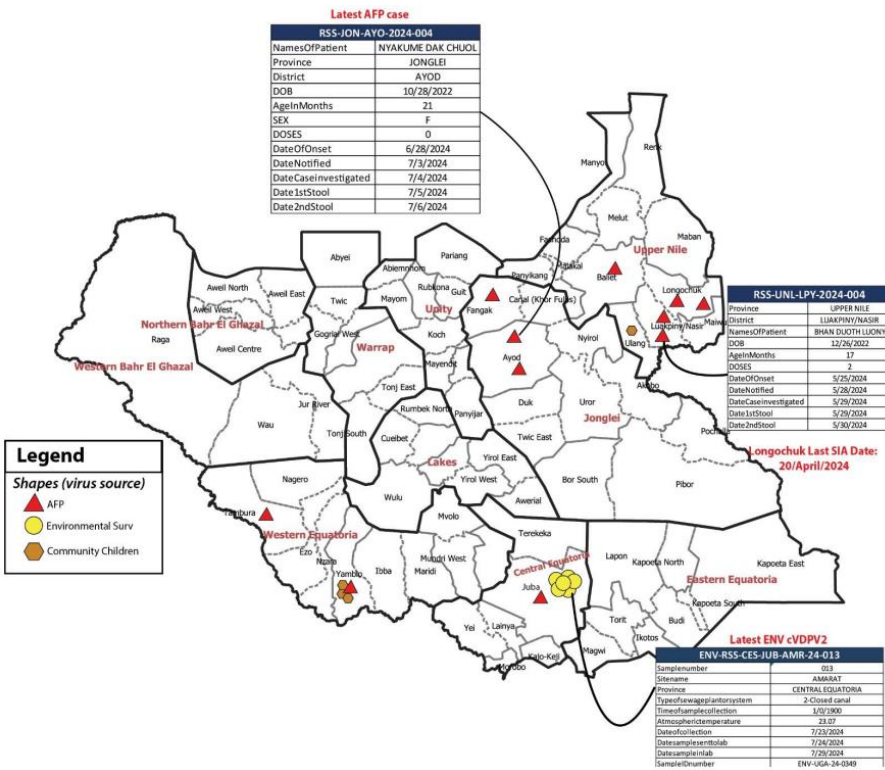


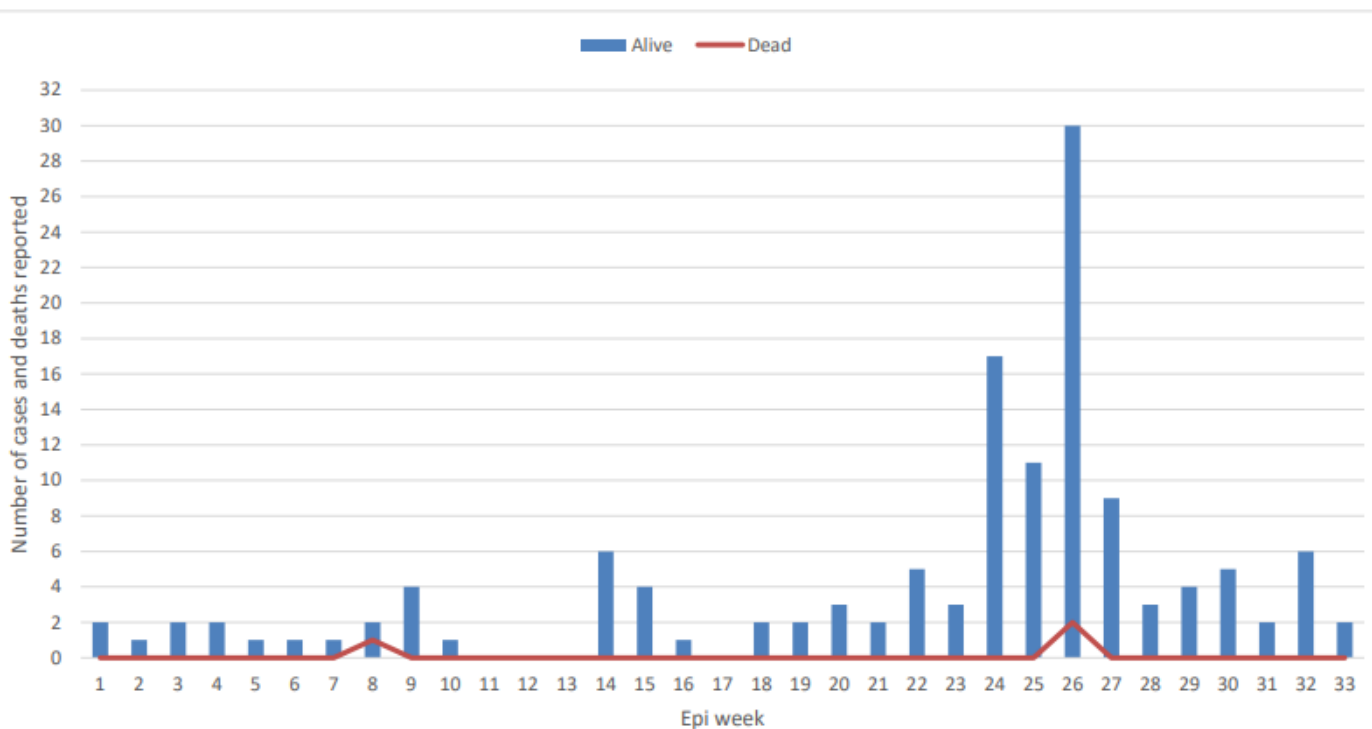
Figure 10: Distribution of cVDPV2 cases isolates (All sources).



2. Anthrax

- During week 34 of 2024, there were 9 reported cases of suspected anthrax. The cumulative number of human anthrax cases stands at 142 including three deaths (case fatality rate of 2.1%) across four counties in two states since January 2024. Jur River in Western Bar-El Gazal State has the highest recorded 80 cases representing attack rate of 32.6 per 100,000 population, followed by Gogrial West County in Warrap State with an attack rate of 10.3 per 100,000 population. Wau in Western Bar-El Gazal has an attack rate of 0.4 per 100,000 population, and Gogrial East in Warrap State has an attack rate of 0.5 per 100,000 population.
- Since 2024, a total of 736 animals have contracted the disease of which 569 have died representing case fatality rate of 77.3% in Animals.
- A total of 1,741 animals have been vaccinated across three Boma (Majok-Yienhliet, Malual-lukluk and Waar-Alel/Kuajok).
- The World Health Organization (WHO) has identified 17 health facilities. It has approved the shipment of 11 Interagency Emergency Health Kits (IEHK), containing supplementary medicines and various laboratory materials to the affected state. At the state level, One Health stakeholders are working on community-based waste management initiatives to mitigate the risk of Anthrax transmission.

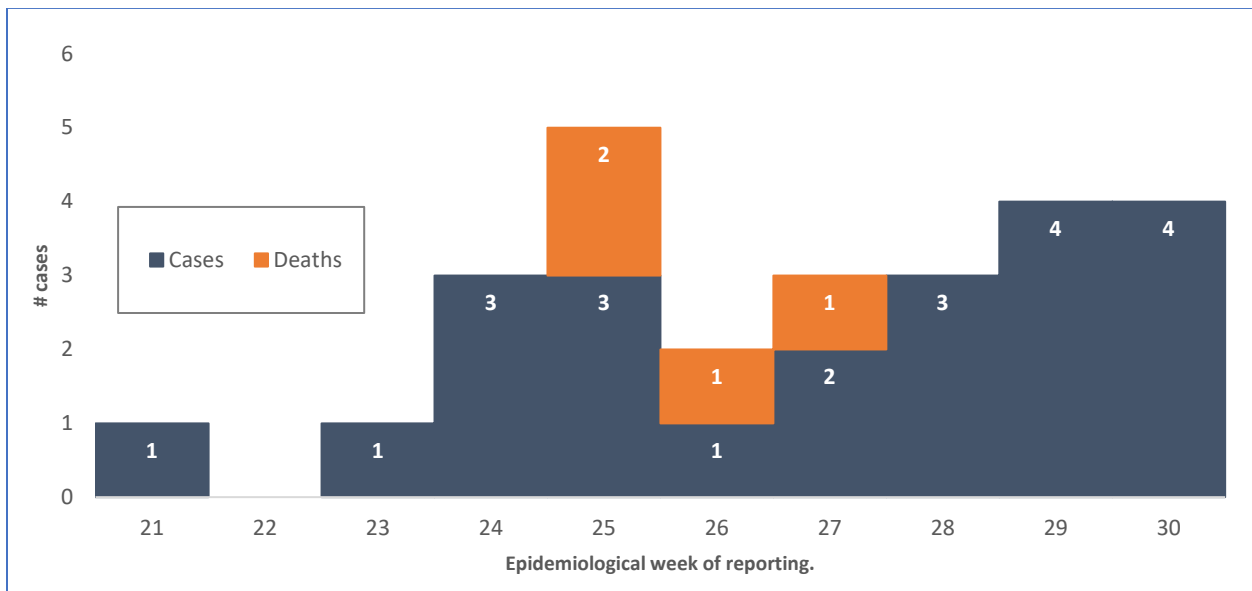
Figure 11: Epidemiological Curve showing Cases and Death of Anthrax cases in South Sudan; (Week 1 -34, 2024).



3. Hepatitis E in Abyei.

During of week 34 of 2024, there were no reports of new suspected cases. The cumulative cases stand at 26 suspected Hepatitis E cases including (5) five deaths giving case fatality rate of 19.2%. Three tested positive by PCR out of the 5 samples sent to the National Public Health Laboratory in Juba. Most of the cases came from different villages in Ameth agouth payam with Aybei. The most affected age group ranged from 18-35 with (77%). Females accounted for 35% and males 65% of all cases. MSF is currently supporting case management at the hospital in Agok.

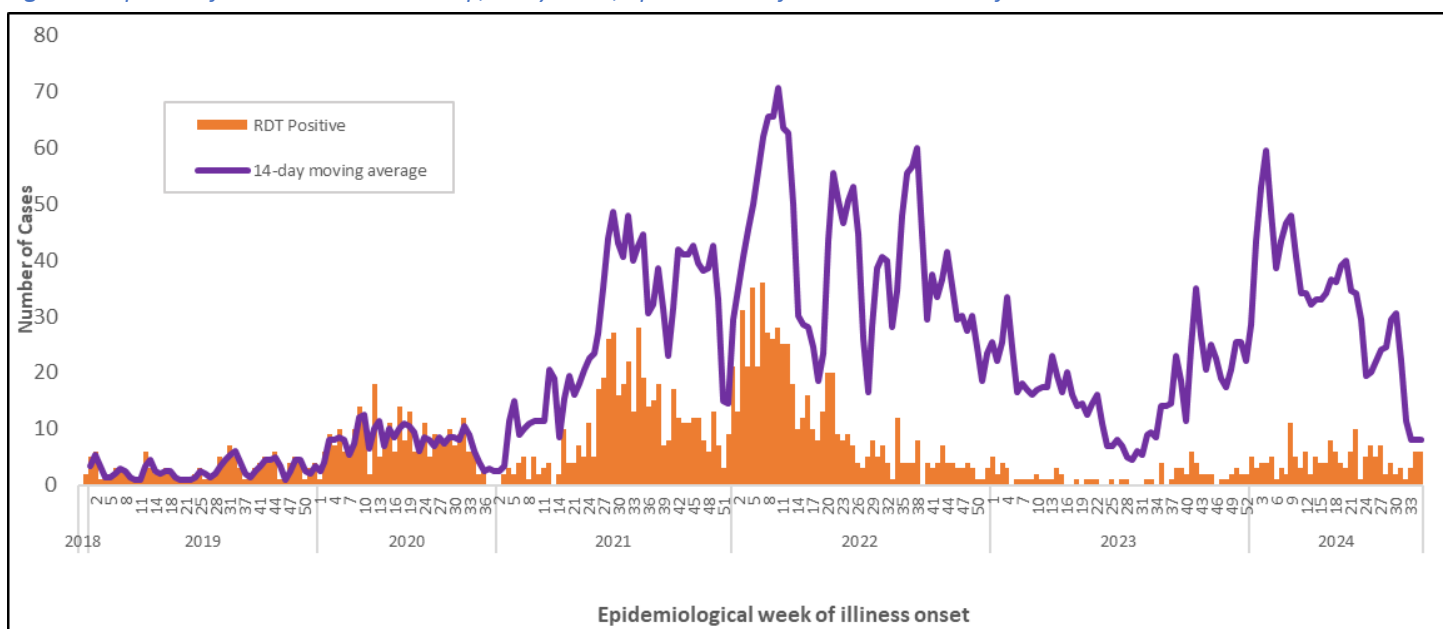
Figure 12: Epidemiological curve showing HEV cases in Abyei Administrative area as of week 35, 2024.



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

- During week 35 of 2024, there were 11 new reported cases with 6 RDT positive and 3 deaths reported.
- Since the outbreak began in 2018, a total of 5,822 cases have been recorded, resulting in 33 deaths.
- Majority of the cases (43%) are from patients aged 15 to 44 years old (figure 12 below).
- Males represented 52% (3,047 cases) of the total cases, while females accounted for 48% (2,775 cases).
- Age group 15 to 44 years old account for 43 cases out of the total number of cases recorded.

Figure 13: Epicure of HEV in Bentiu IDP camp, Unity State; Epi Week 52 of 2018 to Week 34 of 2024.



Other Events

Sudan crisis: As of Week34, at least **796,915** individuals have crossed from 18 different nationalities. Of this number, **75.94% (582,918)** are South Sudanese returnees and 23.36% are Sudanese refugees. Currently, 21 PoEs are being monitored, with Joda-Renk accounting for 68% of the reported influx figures. Hostcommunities and healthcare systems are struggling to cope with the increased demand for health and other Services, morbidity, and mortality among returnees and refugees. During week 32, there was a significant increase in the number of people seeking refuge in Renk Town from the conflict in Sinja, the capital of Sinnar State in Sudan, located east of Renk County.

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: There is an expectation of extensive flooding to occur in South Sudan in 2024 due to two separate climatic events. The tail end of the 2023-24 El Niño event is leading to significantly above-average rainfall in Uganda, which increases the water level of the White Nile, leading to increased flood risks downstream in South Sudan. Additionally, the onset of the El Nino event in 2024 is projected to lead to approximately 50% higher levels of rainfall in the northern and easter parts of South Sudan, which not only further exacerbates the flood risk along the White Nile and its tributaries but will also contribute to flooding in more distant regions, like those occurring during the triple-dip La Niña event of 2020-2023. Historical data indicates a peak in flooding around September.

As part of the preparedness plan, the MoH, WHO, and Health Cluster have developed the 2024 South Sudan Health Sector Flood contingency and response plan. The Health Cluster partners will support the Ministry of Health in implementing this plan, although a key limitation will be the availability of funds. The estimated budget needed for the response is USD 63 million.

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

