



Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

Issue number: 05
 Issue Date: 22 February 2023
 Epidemiological week: Week 7 (13 - 19 February 2023)



Background

South Sudan National Ministry of Health declared a Measles outbreak on 10 Dec 2022. Data obtained from January 1, 2022 to February 19, 2023, shows that a total of 59 counties across all 10 States have reported at least one suspected measles case. Twenty eight (28) counties have Measles lab confirmed outbreaks. A cumulative sum of 5,145 suspected cases have been reported; 4,137-(2020) and 1,008-(2023). An attack rate of 0.3 cases per 1000 population and a non-measles febrile rash rate of 3.7 cases per 100,000 population respectively reported in this outbreak. Reactive vaccination campaigns have been conducted in 19 counties, with 858,274 children vaccinated

Key weekly Situation Update as of 20 February 2023

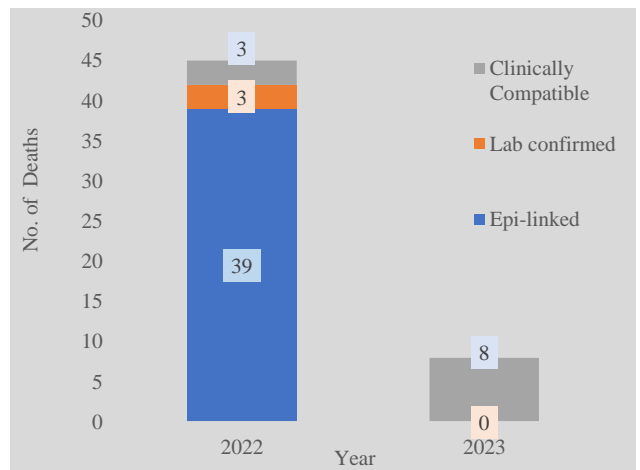
- Out of the 5,145 suspected measles cases, 2,881(55.9%) are epi-linked, 428(8.3%) lab-confirmed, 1,289(25.0%) clinically compatible, and 541(10.6) discarded cases have been reported from epidemiological week 1, 2022, to week 7, 2023. (see breakdown in table 1 below)
 - Fourteen (14) suspected cases have been reported during the reporting week
- A total of 53 measles-related deaths were reported since January 2022, with only 3 deaths among the lab-confirmed measles cases. The case fatality rate (CFR) is 1.0%. (see breakdown in figure 1 below)
 - No new measles-related death reported this week
- Twenty eight (28) counties have confirmed Measles outbreaks (23 counties in 2022 and 5 in 2023)
 - No newly confirmed outbreak this week
- Reactive vaccination campaigns were conducted in 19 counties (16 counties in 2022, 3 counties in 2023), with 858,274 children vaccinated
- Five counties namely Mvolo, Mundri East, Pariang, Awerial and Rumbek Centre have active transmission and require reactive vaccinations campaigns to interrupt the transmission
- Measles campaign is currently ongoing in Nyirol county targeting 30,675 children aged 6 months to 9 years
- The Ministry of Health, WHO, and partners plan to conduct reactive measles vaccination campaigns in Tonj North and Bor South in epidemiological week 8

Summary of cases as of 20 February 2023

Table1: Yearly distribution of cases by final classification

FINAL CLASSIFICATION	2022		2023		TOTAL
	NO. OF CASES	%	NO. OF CASES	%	
Lab confirmed	392	9.5	36	3.6	428
Epi-linked	2825	68.3	56	5.6	2881
Clinically Compatible	391	9.5	898	89.1	1289
Total	3608	87.2	990	98.2	4598
Discarded (-ve)	529	12.8	18	1.8	547
Grand Total	4137	100.0	1008	100.0	5145

Figure 1: Deaths by year and final classification





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Table 2.0: Distribution of measles cases, deaths, attack rates, CFR and response by counties with controlled outbreaks, 2022 - 2023

State	County with confirmed outbreak	Cases	Lab-confirmed cases	Deaths	CFR %	Attack rate/1000pop	Date of onset _1st Case	Date of onset _Latest Case	Date of response/Campaign	Campaign coverage (%)	Outbreak Status
EES	Torit	47	23	2	4.3	0.2	18/01/2022	29/12/2022	9-31 Mar	95%	Controlled with response
UNITY	Leer	21	8	1	4.8	0.2	11/05/2022	26/11/2022		95%	Controlled with response
UPPER NILE	Maban	202	6	0	0.0	2.5	02/01/2022	16/11/2022	7-15 Mar	98%	Controlled with response
WARRAP	Gogrial West	92	17	0	0.0	0.2	02/01/2022	01/04/2022	1-8 Jun	95%	Controlled with response
WBeG	Jur River	72	5	0	0.0	0.3	29/01/2022	28/10/2022	Not done		Controlled without response
	Raja	50	16	0	0.0	0.5	08/01/2022	21/11/2022	2 May-5 Jul	70%	Controlled with response
	Wau	195	16	0	0.0	0.7	09/01/2022	22/12/2022	Not done		Controlled without response
WES	Tambura	37	6	0	0.0	0.4	13/02/2022	28/09/2022	1-6 Apr	102%	Controlled with response

Table 2.1: Distribution of measles cases, deaths, attack rates, CFR and response by counties with active outbreaks, 2022 - 2023

State	County with confirmed outbreak	Cases	Lab-confirmed cases	Deaths	CFR %	Attack rate/1000pop	Date of onset _1st Case	Date of onset _Latest Case	Date of response/Campaign	Campaign coverage (%)	Outbreak Status
CES	Juba	976	14	18	1.8	1.5	16/01/2022	05/02/2023	29 Aug-29 Oct	69-98%	Active with response
	Terekeka	65	17	0	0.0	0.3	09/05/2022	19/01/2023	2-9 Nov	106%	Active with response
JONGLEI	Nyirol	64	10	0	0.0	0.4	02/11/2022	06/02/2023	Planned		Active with ongoing response
	Bor South	24	12	0	0.0	0.1	23/03/2022	05/02/2023			Active without response
LAKES	Cueibet	185	19	9	4.9	0.8	24/01/2022	09/02/2023	18-24 Jan	88%	Reactive Campaign done awaiting 30 days before new samples collected to determine impact of intervention
	Yirol East	108	4	2	1.9	0.9	12/04/2022	05/02/2023	18-24 Jan	141%	Reactive Campaign done awaiting



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											30 days before new samples collected to determine impact of intervention
	Yirol West	445	24	5	1.1	2.3	20/05/2022	08/02/2023	18-24 Jan	129%	Reactive Campaign done awaiting 30 days before new samples collected to determine impact of intervention
	Rumbek Centre	18	6	0	0.0	0.1	01/01/2023	07/02/2023			Active without response
	Awerial	15	6	0	0.0	0.2	14/10/2022	09/01/2023			Active without response
NBeG	Aweil Center	242	53	0	0.0	3.4	21/03/2022	27/01/2023	14-22 Jun	155%	Active with response
	Aweil East	355	23	4	1.1	0.7	10/03/2022	02/02/2023	13-26 Aug	91%	Active with response
	Aweil North	52	8	0	0.0	0.2	03/03/2022	02/02/2023	14-21 Jul	97%	Active with response
	Aweil South	152	14	3	2.0	1.2	20/04/2022	17/01/2023	13-26 Aug	97%	Active with response
	Aweil West	587	24	3	0.5	2.1	06/01/2022	05/02/2023	14-22 Jun	94%	Active with response
UNITY	Panyijiar	170	1	0	0.6	1.8	09/02/2022	08/02/2023	Confirmation pending		Active without response
	Rubkona (Bentiu IDP)	430	19	4	0.9	2.3	23/09/2022	13/01/2023	22-29 Nov	77.2	Active with response
	Pariang	18	9	0	0.0	0.1	17/12/2022	17/01/2023			Active without response
UPPER NILE	Malakal	130	11	0	0.0	0.6	08/07/2022	01/02/2023		73%	Active with response
	Melut	131	11	0	0.0	1.5	18/10/2022	31/01/2023	16-24 Dec	114%	Reactive Campaign done awaiting 30 days before new samples collected to determine impact of intervention
WARRAP	Tonj North	52	0	0	0.0	0.2	10/03/2022	21/01/2023			Active without response
WBeG	Raja	50	16	0	0.0	0.4	08/01/2022	21/11/2022	2 May-5 Jul	70%	Controlled with response

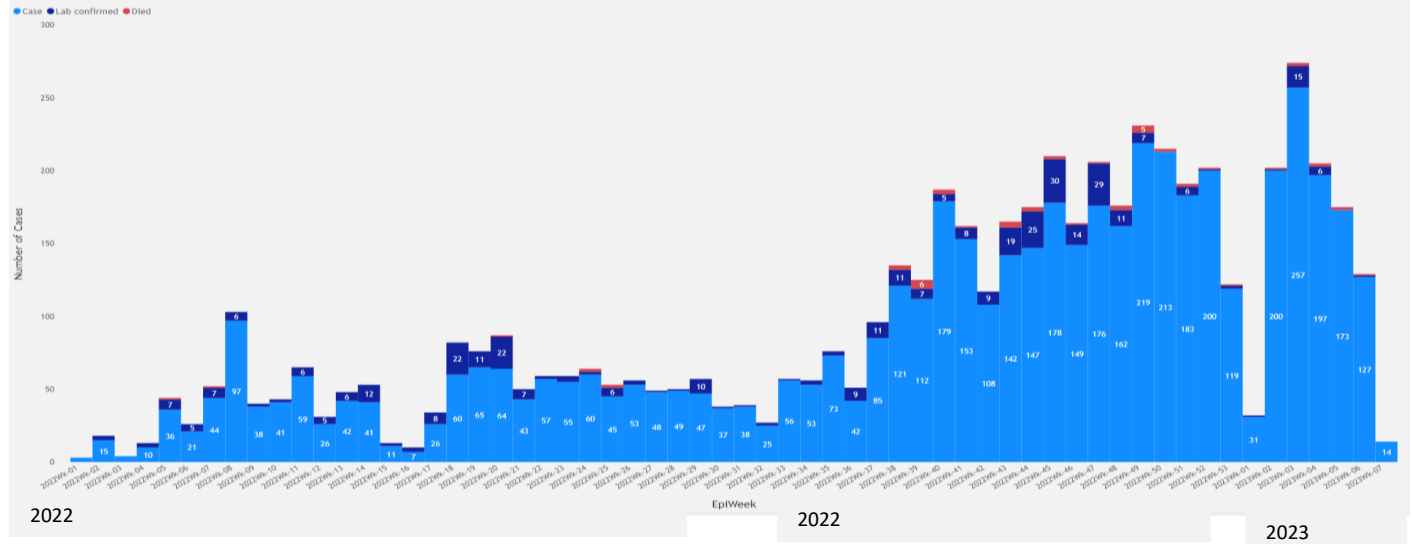


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WES	Mvolo	26	0	1	3.8	0.2	26/05/2022	22/01/2023		Active without response
	Mundri East	20	2	0	0.0	0.1	18/04/2022	31/01/2022		Active without response

Note: Cueibet (4.9%) and Leer (4.8%) are the counties with the highest case fatality rates while Aweil Centre (3 cases per 1000 pop) and Maban (2 cases per 1000 pop) have the highest attack rates among counties with confirmed outbreaks.

Figure 2: Epidemic curve of measles cases in South Sudan from 2022 to 2023



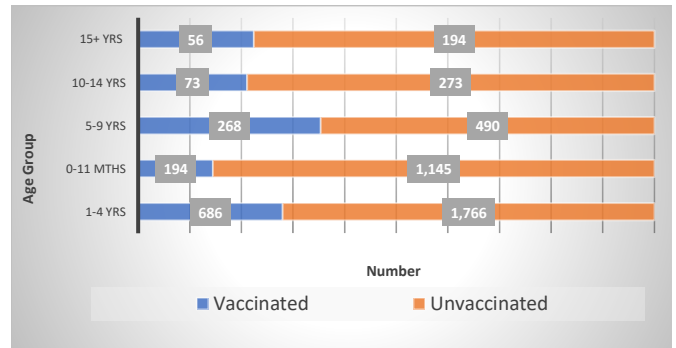
Note: Measles cases have been reported from different counties throughout 2022 and week seven of 2023. The observed peaks are driven by different counties that experienced surge in measles cases at different times.

Table 3: Distribution of reported measles cases and deaths by age groups in South Sudan, 2022-2023

Age Groups	Cases	Deaths	Proportion, %	CFR, %
0-11 months	1,339	10	26.0	0.7
1-4 years	2,452	32	47.7	1.3
5-9 years	758	6	14.7	0.8
10-14 years	346	3	6.7	0.8
15+ years	250	2	4.9	1.0
Total	5,145	53	100	1.0

Note: Majority (73.7%) of all the measles cases (with age variable collected) are children below 5 years of age. The case fatality rate is highest (1.4%) among children age 1-4 years. 42 out of the 53 deaths were among children below age 5 years

Figure3: Distribution of measles cases and their vaccination status, 2022-2023

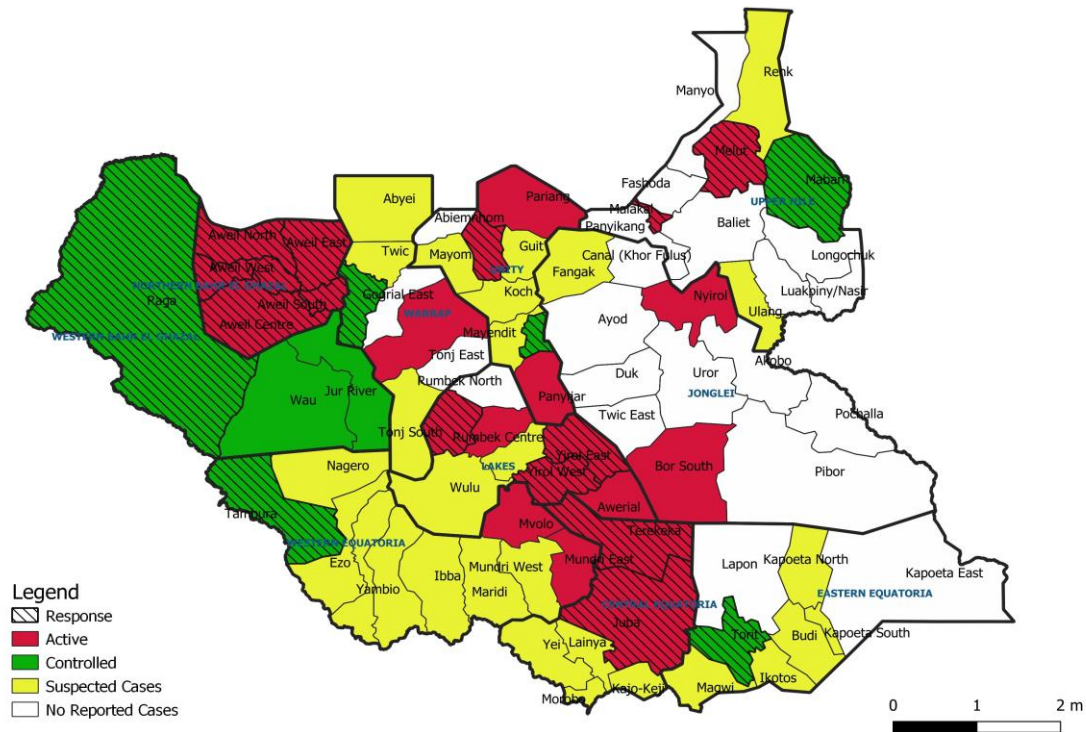


Note: Generally, 3,868(75%) were unvaccinated including 2,911(56.6%) children <5 years. Among children less than one year old (1,339 cases), 86% (1,145 cases) have not been vaccinated against measles compared with 194(14%) vaccinated. This trend is observed across all the age groups..



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Figure 4: A map showing counties affected by measles and their outbreak status in 2022 and 2023



Note: All the 10 states have been affected as the measles virus spread across the counties in 2022/2023

Coordination

- Incident management system in place to respond to the Measles outbreak
- The measles outbreak and its response have been adopted as a standing agenda in different fora (National Steering Committee, EPand R, HCC, and EPI TWG).
- Emergency Preparedness and Response (EP&R), EPI TWG, and Health Cluster forums discuss the response's technical and operational issues, challenges, and gaps.
- Working with partners identified counties for outbreak response and other interventions.

Surveillance and Laboratory

- Enhanced surveillance ongoing in silent counties
- Plans to collect samples in all counties with active outbreaks to ascertain previous measles intervention impact.
- Deployment of state RRTs to Mvolo, Mundri East planned to start in week 8



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Case Management

- Plans to train healthcare workers in Mvolo, Mundri East, and Tonj North on measles case management.

Vaccinations

- Reactive vaccination campaigns have been conducted in 19 counties with confirmed outbreaks, where counties vaccinated 858,274 children with support from partners.
- The MOH, WHO, and partners in close collaboration with the State Ministry of Health are planning to start reactive measles campaign in Tonj North (CCM, AMREF, Islamic Relief) and Bor South (LIVEWELL) in epidemiological week 8.
- Reactive vaccination campaign underway in Nyirol County(MEDAIR) targeting to vaccinate 30,675 children aged 6 months to 9 years
- World Vision International has been endorsed to apply to RRF for funds to support campaigns in Mvolo and Mundri East
- Planning is underway for a nationwide non-selective measles vaccination campaign in April 2023.
- Discussion on periodic intensification of routine immunization by partners in Mvolo and Mundri East underway

Operational challenges and gaps

- Inadequate detailed investigation of suspected measles cases in counties reporting suspected measles.
- Inadequate sample collection for laboratory confirmation of suspected measles cases.
- The delayed laboratory turnaround time to provide feedback on laboratory results and confirm outbreaks.
- A high proportion of unvaccinated children was detected among the cases, noting routine immunization gaps.
- Late reporting of measles cases leading to data batching.
- Inadequate availability of vitamin doses in health facilities to enable vitamin A supplementation as a key component of supportive care of measles cases.

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