



Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

Issue number: 10
 Issue Date: 04 April 2023
 Epidemiological week: Week 13 (March 27 – April 02, 2023)



Background

The Measles outbreak was declared on the 10th of December, 2022, by the South Sudan National Ministry of Health. Data obtained from January 1, 2022, to April 02, 2023, shows that a total of 63 counties across all 10 States have reported at least one suspected measles case, with confirmed outbreaks in 37 counties (23 in 2022 and 16 in 2023 including 2 counties from 2022). Twenty-one (21) counties conducted reactive campaigns with 937,123 children vaccinated. A cumulative sum of 5,999 suspected cases have been reported; 4,137 and 1,673 in 2022 and 2023, respectively. An attack rate of 0.4 cases per 1000 population and a non-measles febrile rash rate of 4.0 cases per 100,000 population, respectively reported in this outbreak.

Key weekly Situation Update as of 02 April 2023

- Twenty four (24) suspected cases have been reported during the reporting week.
- One (1) death in week 11 was reported in week 13.
- No newly confirmed outbreak this week. However, Lafon was confirmed in week 10.

Key Update for 2023

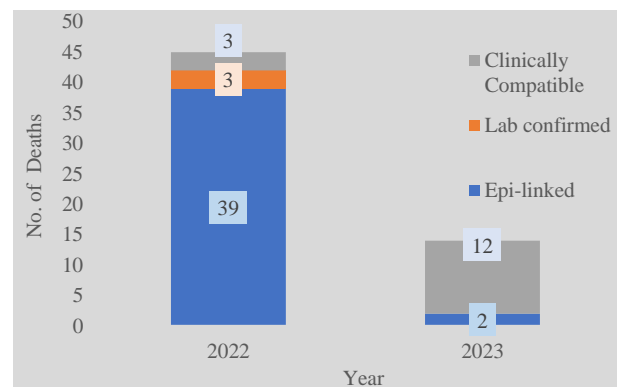
- Fourty five (45) counties have reported suspected measles cases in 2023, of which twenty-eight (28) counties have at least one confirmed case.
- Sixteen (16) counties (Mvolo, Mundri East, Pariang, Awerial, Rumbek Centre, Kapoeta South, Tonj South, Tonj North, Bor South, Aweil Centre, Rumbek East, Gogrial East, Juba, Tonj East, Wulu and Lafon) have confirmed outbreaks in 2023.
- Reactive vaccination campaigns were conducted in 21 counties (16 counties in 2022, 5 counties in 2023), with 937,123 children vaccinated.
- The latest reactive measles campaigns were conducted in Nyirol Bor South counties and Pamir refugee camp.
- Focus now is to support the national campaign.

Summary of cases as of 02 April 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	177	9.5	569
Epi-linked	2825	68.3	284	15.3	3109
Clinically Compatible	391	9.5	1320	70.9	1711
Total	3608	87.2	1781	95.6	5389
Discarded (-ve)	529	12.8	81	4.4	610
Grand Total	4137	100.0	1862	100.0	5999

Figure 1: Deaths by year and final classification



Out of the 5,999 suspected measles cases, 3,109(51.8%) are epi-linked, 569(9.5%) lab-confirmed, 1,711(28.5%) clinically compatible, and 610(10.2) discarded cases have been reported from epidemiological week 1, 2022, to week 13, 2023.

A total of 59 measles-related deaths were reported since January 2022, with only 3 deaths among the lab-confirmed measles cases and 41 among the epi-linked cases. The case fatality rate (CFR) is 1.0%



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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
CES	Terekeka	65	17	0	0.0	0.3	09/05/2022	19/01/2023	2-9 Nov	106%	Controlled with response
EES	Torit	49	24	2	4.1	0.3	18/01/2022	12/02/2023	9-31 Mar	95%	Controlled with response
UNITY	Leer	24	11	1	4.2	0.2	11/05/2022	29/01/2022		95%	Controlled with response
	Rubkona (Bentiu IDP)	443	19	4	0.9	2.4	23/09/2022	24/02/2023	22-29 Nov	77.2	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
	Melut	163	12	0	0.0	1.5	18/10/2022	16/02/2023	16-24 Dec	114%	Controlled with response
	Malakal	130	11	0	0.0	0.6	08/07/2022	01/02/2023		73%	Controlled with response
WARRAP	Gogrial West	94	19	0	0.0	0.2	02/01/2022	01/01/2023	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	1108	18	19	1.8	1.7	16/01/2022	16/03/2023	29 Aug-29 Oct	69-98%	Active with response
EES	Kapoeta South	7	6	0	0.0	0.0	01/01/2023	04/02/2023			Active without response
	Lafon	6	4	0	0.0	0.0	03/03/2023	08/03/2023			Active without response



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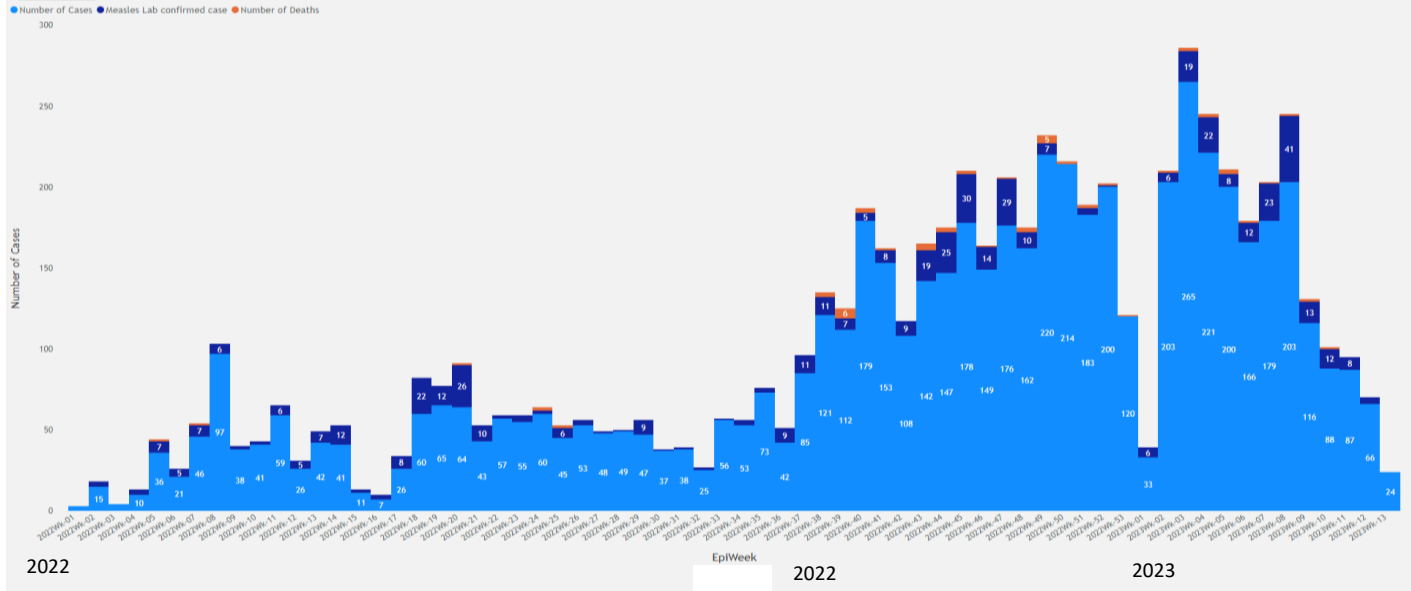
JONGLEI	Nyirrol	124	27	1	0.8	0.7	02/11/2022	17/03/2023	Ongoing		Response recently Conducted
	Bor South	28	18	0	0.0	0.1	23/03/2022	14/02/2023			Response recently Conducted
LAKES	Cueibet	185	19	9	4.9	0.8	24/01/2022	09/02/2023	18-24 Jan	88%	Response recently Conducted
	Yirol East	126	4	2	1.6	1.0	12/04/2022	05/03/2023	18-24 Jan	141%	Response recently Conducted
	Yirol West	449	24	6	1.3	2.3	20/05/2022	15/03/2023	18-24 Jan	129%	Response recently Conducted
	Rumbek Centre	18	6	0	0.0	0.1	01/01/2023	07/02/2023			Active without response
	Rumbek East	8	4	0	0.0	0.0	26/02/2022	22/02/2023			Active without response
	Awerial	15	6	0	0.0	0.2	14/10/2022	09/01/2023			Active without response
	Wulu	28	15	0	0.0	0.4	06/03/2022	12/03/2023			Active without response
NBeG	Aweil Center	393	73	1	0.4	3.8	21/03/2022	25/03/2023	14-22 Jun	155%	Active with response
	Aweil East	431	29	4	0.9	0.8	10/03/2022	03/03/2023	13-26 Aug	91%	Active with response
	Aweil North	68	15	0	0.0	0.3	03/03/2022	07/03/2023	14-21 Jul	97%	Active with response
	Aweil South	156	17	3	1.9	1.2	20/04/2022	07/03/2023	13-26 Aug	97%	Active with response
	Aweil West	722	27	3	0.4	2.5	06/01/2022	03/03/2023	14-22 Jun	94%	Active with response
UNITY	Panyijar	179	1	1	0.6	1.8	09/02/2022	17/02/2023			Active without response
	Pariang	89	25	0	0.0	0.6	17/12/2022	15/02/2023			Active without response
WARRAP	Tonj North	52	0	0	0.0	0.2	10/03/2022	21/01/2023			Active without response
	Tonj South	8	3	0	0.0	0.0	20/04/2023	10/01/2023			Active without response
	Tonj East	4	3	0	0.0	0.0	11/02/2023	26/02/2023			Active without response
	Gogrial East	14	12	0	0.0	0.1	10/02/2023	21/02/2023			Active without response
WES	Mvolo	33	5	1	3.1	0.4	26/05/2022	11/03/2023			Active without response
	Mundri East	23	3	0	0.0	0.4	18/04/2022	23/02/2023			Active without response



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Note: Cueibet (4.9%) and Leer (4.2%) are the counties with the highest case fatality rates while Aweil Centre (3.8 cases per 1000 pop) and Maban (2.5 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



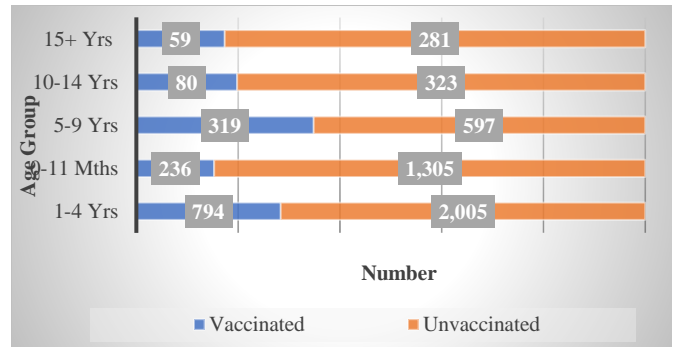
Note: Measles cases have been reported from different counties throughout 2022 and week seven of 2023. The observed peaks are driven by different counties that experienced surge in measles cases at different times.

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	1,541	12	25.7	0.8
1-4 years	2,799	35	46.7	1.3
5-9 years	916	7	15.3	0.8
10-14 years	403	3	6.7	0.7
15+ years	340	2	5.7	0.6
Total	5,999	59	100.0	1.0

Note: Majority (72.3%) of all the measles cases (with age variable collected) are children below 5 years of age. The case fatality rate is highest (1.3%) among children age 1-4 years. 47 out of the 59 deaths were among children below age 5 years

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

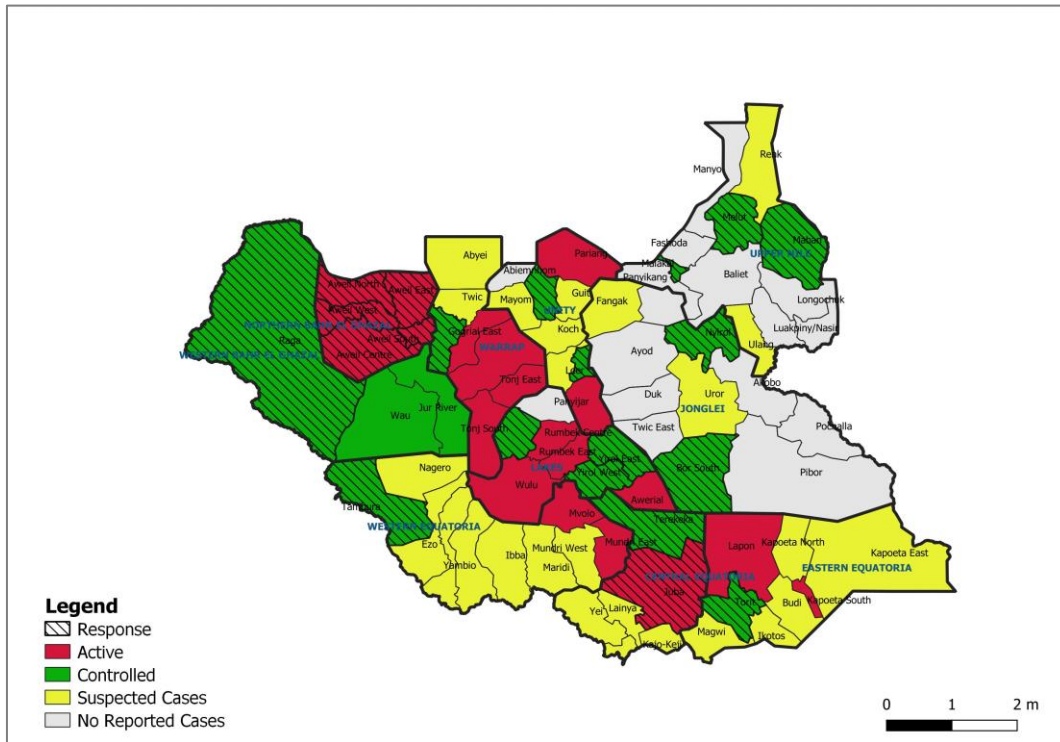


Note: Generally, 4,511(75.2%) were unvaccinated (zero, unknown) including 3,310(73.4%) children <5 years. Among children less than one year old (1,541 cases), 84.7% (1,305 cases) have not been vaccinated against measles compared with 236(15.3%) vaccinated. This trend is observed across all the age groups.



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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, EP and 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 in identified counties for outbreak response and other interventions.
- Measles sitrep shared on weekly basis.

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.

Case Management

- The MOH, WHO, and partners are intensifying measles case management (including vitamin A administration), surveillance, and risk communication in locations with suspected and confirmed outbreaks.



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- Training on use of measles kits to support case management is ongoing.

Vaccinations

- Reactive vaccination campaign is ongoing in Pamir refugee camp in Pariang.
- Planning is underway for a nationwide non-selective measles vaccination campaign to start on 25th April, 2023.
- Measles Follow-up campaign microplan compilation and validation is ongoing.

Deamand Generation/ Communication

- Bi-weekly Risk Communication and Community Engagement (RCCE)
- Leveraging on the activities of the Boma Health Workers (BHWs) within Payams for effective awareness creation.
- Capacity building of Payam vaccine champions for effective vaccination activities.

Adverse Events Following Immunization (AEFI)

- Strengthening AEFI reporting network from national to payam level ongoing.
- Distribution of standardized AEFI operational field guide for focal persons at all levels.

Operational challenges and gaps

- Inadequate detailed investigation of suspected measles cases and deaths in counties reporting
- Inadequate sample collection for laboratory confirmation and classification cases of suspected measles cases.
- A high proportion of unvaccinated/unknown status children (75%) was detected among the cases, noting routine immunization gaps.
- Late reporting of Measles cases leading to data batching.

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