



Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

Issue number: 13
 Issue Date: 25 April 2023
 Epidemiological week: Week 16 (April 17 - 23, 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 16, 2023, shows that a total of 65 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-two (22) counties conducted reactive campaigns with 984,539 children vaccinated. A cumulative sum of 6,046 suspected cases have been reported; 4,137 and 1,909 in 2022 and 2023, respectively. An attack rate of 0.4 cases per 1000 population and a non-measles febrile rash rate of 4.3 cases per 100,000 population, respectively reported in this outbreak.

Key weekly Situation Update as of 23 April 2023

- No suspected case has been reported during the reporting week
- No death was reported in week 16
- No newly confirmed outbreak this week
- Additional cases from nineteen (19) samples tested were within week 10-15.

Key Update for 2023

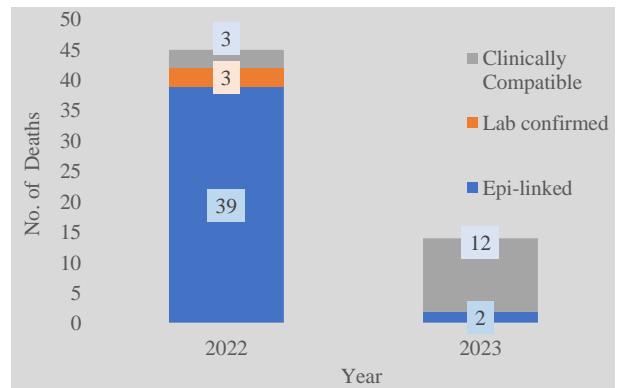
- Fifty one (51) counties have reported suspected measles cases in 2023, of which thirty-five (35) counties have at least one confirmed case
- Sixteen (16) counties (Mvolo, Mundri East, Pariang, Awerial, Rumbek Centre, Kapoeta South, Tonj South, Tonj North, Bor South, Aweil Centre, Rumbek East, Gogrial East, Juba, Tonj East, Wulu and Lafon) have confirmed outbreaks in 2023.
- Reactive vaccination campaigns were conducted in 22 counties (16 counties in 2022, 6 counties in 2023), with 858,274 and 984,539 children vaccinated respectively
- The latest reactive measles campaign was conducted in Pariang (Pamir refugee camp)
- EPI-TWG recommends no more reactive campaign rather the focus now is to support the national campaign starting in week 17 (25th April, 2023)

Summary of cases as of 23 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	200	10.7	592
Epi-linked	2,825	68.3	284	15.3	3,109
Clinically Compatible	391	9.5	1,321	70.9	1,712
Total	3,608	87.2	1,805	96.9	5,413
Discarded (-ve)	529	12.8	104	5.6	633
Grand Total	4,137	100.0	1,909	100.0	6,046

Figure 1: Deaths by year and final classification



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%

Out of the 6,046 suspected measles cases, 3,109(51.4%) are epi-linked, 592(9.8%) lab-confirmed, 1,712(28.3%) clinically compatible, and 633(10.5) discarded cases have been reported from epidemiological week 1, 2022, to week 16, 2023. A total of 198 rubella positive cases from the discarded(negative measles cases)



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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
<i>CES</i>	Terekeka	65	17	0	0.0	0.3	09/05/2022	19/01/2023	2-9 Nov	106%	Controlled with Response
<i>EES</i>	Torit	49	24	2	4.1	0.3	18/01/2022	12/02/2023	9-31 Mar	95%	Controlled with Response
	Kapoeta South	7	6	0	0.0	0.0	01/01/2023	04/02/2023			Controlled without Response
<i>JONGLEI</i>	Nyiror	124	27	1	0.8	0.7	02/11/2022	17/03/2023	Ongoing		Controlled with Response
	Bor South	28	18	0	0.0	0.1	23/03/2022	14/02/2023			Controlled with Response
<i>LAKES</i>	Cueibet	186	19	9	4.9	0.8	24/01/2022	09/02/2023	18-24 Jan	88%	Controlled with Response
	Yirol West	449	24	6	1.3	2.3	20/05/2022	15/03/2023	18-24 Jan	129%	Controlled with Response
	Rumbek Centre	18	6	0	0.0	0.1	01/01/2023	07/02/2023			Controlled without Response
	Rumbek East	8	4	0	0.0	0.0	26/02/2022	22/02/2023			Controlled without Response
<i>UNITY</i>	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
	Panyijar	179	1	1	0.6	1.8	09/02/2022	17/02/2023			Controlled without Response
	Pariang	94	28	0	0.0	0.6	17/12/2022	15/02/2023			Response Recently Conducted
<i>UPPER NILE</i>	Maban	202	6	0	0.0	2.5	02/01/2022	16/11/2022	7-15 Mar	98%	Controlled with Response



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WARRAP	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
	Gogrial West	94	19	0	0.0	0.2	02/01/2022	01/01/2023	1-8 Jun	95%	Controlled with Response
	Tonj North	52	0	0	0.0	0.2	10/03/2022	21/01/2023			Controlled without Response
	Tonj South	8	3	0	0.0	0.0	20/04/2023	10/01/2023			Controlled without Response
WBeG	Gogrial East	14	12	0	0.0	0.1	10/02/2023	21/02/2023			Controlled without Response
	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
WES	Wau	195	16	0	0.0	0.7	09/01/2022	22/12/2022	Not done		Controlled without Response
	Tambura	37	6	0	0.0	0.4	13/02/2022	28/09/2022	1-6 Apr	102%	Controlled with Response
	Mvolo	33	5	1	3.1	0.4	26/05/2022	11/03/2023			Controlled without Response
	Mundri East	23	3	0	0.0	0.4	18/04/2022	23/02/2023			Controlled without 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	Lafon	6	4	0	0.0	0.0	03/03/2023	08/03/2023			Active without Response
LAKES	Yirol East	126	4	2	1.6	1.0	12/04/2022	05/03/2023	18-24 Jan	141%	Active with Response
	Awerial	21	6	0	0.0	0.2	14/10/2022	14/03/2023			Active without Response

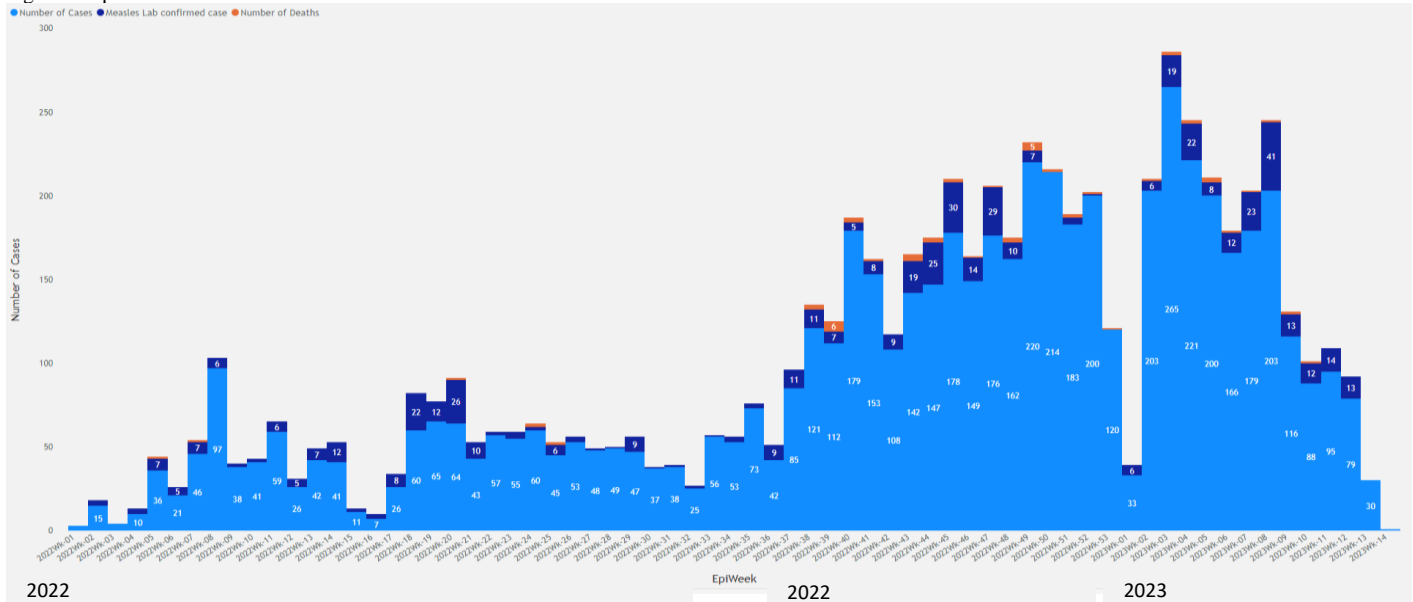


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	Wulu	30	16	0	0.0	0.4	06/03/2022	18/03/2023			Active without Response
NBeG	Aweil Center	393	73	1	0.4	3.8	21/03/2022	25/03/2023	14-22 Jun	155%	Active with Response
	Aweil East	431	29	4	0.9	0.8	10/03/2022	03/03/2023	13-26 Aug	91%	Active with Response
	Aweil North	71	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
WARRAP	Tonj East	10	8	0	0.0	0.0	11/02/2023	16/03/2023			Active without Response

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.



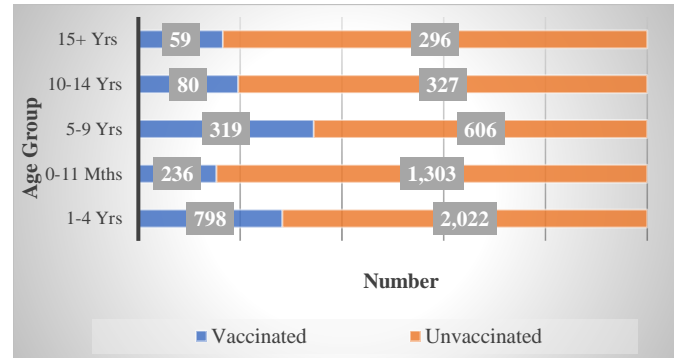
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Table 3: Distribution of reported measles cases and deaths by age groups in South Sudan, 2022-2023

Age Groups	2022				2023			
	No. of cases	%	Deaths	%	No. of cases	%	Deaths	%
0-11 mths	1137	27.5	10	0.9	402	21.1	2	0.5
1-4 yrs	1931	46.7	27	1.4	889	46.6	8	0.9
5-9 yrs	612	14.8	4	0.7	313	16.4	3	1.0
10-14 yrs	277	6.7	2	0.7	130	6.8	1	0.8
15+ yrs	180	4.4	2	1.1	175	9.2	0	0.0
Total	4,137	100.0	45	1.1	1,909	100.0	14	0.7

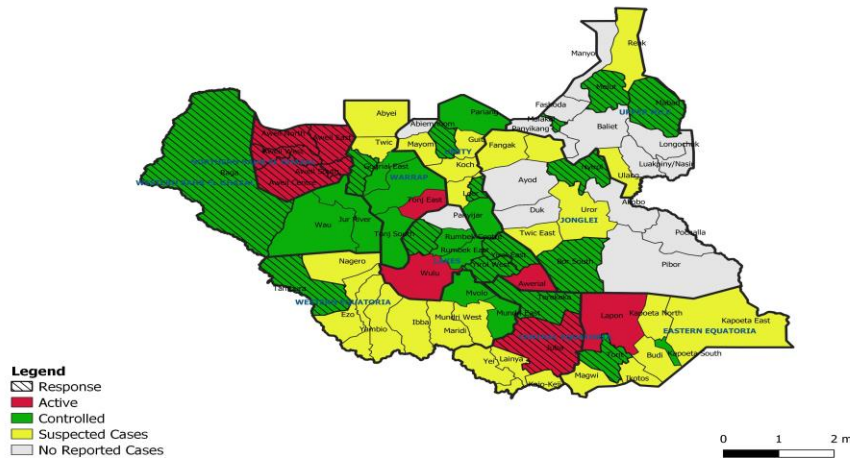
Note: Majority 4,359(72.1%) of all the measles cases (with age variable collected) are children below 5 years of age considering both years. The case fatality rate is highest (1.4% and 1.0%) among children age 1-4 years in 2022 and 5-9 years in 2023. 47 out of the 59 deaths were among children below age 5 years

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



Note: Generally, 4,554(75.3%) were unvaccinated (zero, unknown) including 3,325(73.%) children <5 years. Among children less than one year old (1,539 cases), 84.7% (1,303 cases) have not been vaccinated against measles compared with 236(15.3%) vaccinated. This trend is observed across all the age groups.

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



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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.
- MOH (state and county) to lead coordination activities of the planned measles campaign
- Partners Measles sitrep sent on weekly basis
- The Measles Outbreak Strategic Response Plan (MOSRP) for 2023/2024 has been validated and awaiting approval by the MOH

Surveillance and Laboratory

- Enhanced surveillance ongoing in silent counties
- Continue to collect samples in all counties with suspected measles cases.
- Ensure weekly reporting (including zero dose reporting where applicable)

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

Vaccinations

- Nationwide measles campaign to begin on the 25th April, 2023

Deamand Generation/ Communication

- Demand generation activities ongoing for the planned measles follow up campaign (radio talk shows and jingle broadcast)

Adverse Events Following Immunization (AEFI)

- Strengthening AEFI reporting network from national to payam level ongoing.

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 (75.3%) was detected among the cases, noting routine immunization gaps.



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Way Forward

- MOH and partners to support planned nationwide measles campaign
- State and County MOH to continue weekly reporting of measles cases (including zero reporting where applicable)
- Prompt detection and management of measles cases
- Strengthen routine immunization

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