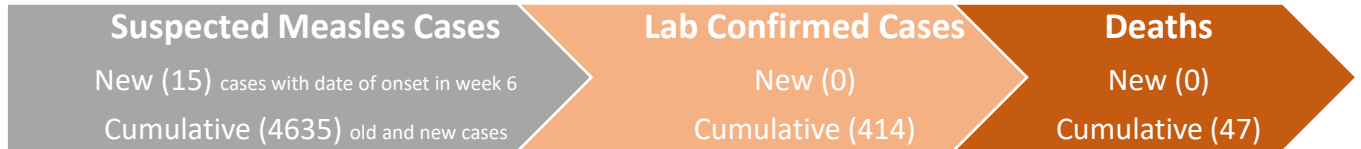




Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

Issue number: 04
 Issue Date: 16 February 2023
 Epidemiological week: Week 6 (06 - 12 February 2023)



Background

South Sudan National Ministry of Health (MOH) declared a measles outbreak on 10 December 2022, the second declaration of a measles outbreak, with the first one on 23 February 2022. A total of 58 counties across all 10 States have reported at least one suspected measles case. 26 counties have Measles lab confirmed outbreaks. Currently, 4,635 suspected cases have been reported. Reactive vaccination has occurred in 19 counties, with 858,274 children vaccinated.

Key weekly Situation Update as of 16 February 2023

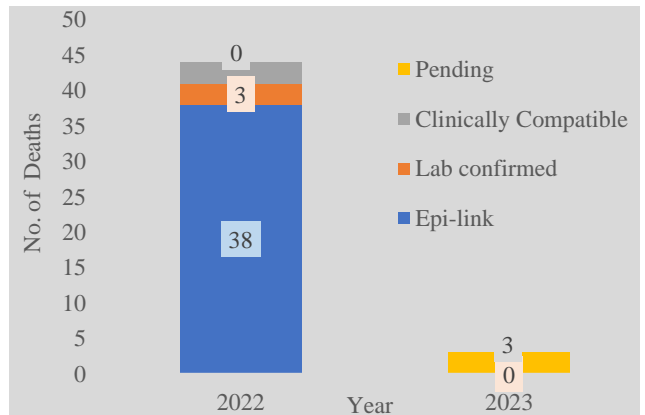
- There are cumulative 4,635 suspected measles cases among which 2,881 are epi-linked, 414 lab-confirmed, 805 clinically compatible, and 535 discarded between epidemiological week 1, 2022, and week 6, 2023.
 - Eleven (11) suspected cases have been reported this week (Week 7)
- A total of 47 measles-related deaths have been reported among which 3 laboratory confirmed. The case fatality rate (CFR) remains at 1.01% (n = 4,635).
 - There are no new measles-related death reported this week (Week 7).
- 26 counties have confirmed Measles outbreaks (23 counties in 2022 and 3 in 2023)
 - New outbreak has been confirmed in Pariang (Unity state)
- A reactive vaccination campaign conducted in 19 counties (16 counties in 2022, 3 in 2023) has resulted into 858,274 children vaccinated
- Outbreak counties without reactive campaigns in 2022 include; Wau, Panyijar, Jur River, Bor South, Nyirol.
- Counties without reactive campaigns in 2023 includes ; Mvolo, Mundri East and Pariang
- State MoH with support from the National MoH and WHO is carrying out latest reactive vaccination campaigns in Cuibet, Yirol East and Yirol West counties.
- The Ministry of Health, WHO and other partners plan to conduct reactive measles vaccination campaigns in Tonj North, Nyirol, Mvolo, Mundri East, and Panriang counties.

Summary of cases as of 16 February 2023

Table1: Yearly distribution of cases by Final classification

FINAL CLASSIFICATION	2022		2023		TOTAL
	NO. OF CASES	%	NO. OF CASES	%	
Lab confirmed	392	9.8	22	3.5	414
Epi-linked	2825	70.5	56	8.9	2881
Clinically Compatible	268	6.7	537	85.5	805
Total	3485	87.0	615	97.9	4100
Discarded (-ve)	522	13.0	13	2.1	535
Grand Total	4007	100.0	628	100.0	4635

Figure 1: Deaths by year and final classification





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State	County confirmed outbreak	with	Cases	Lab-confirmed cases	Deaths	CFR %	Attack rate/1000pop	Date of onset _1st Case	Date of onset _Latest Case	Date response/Campaign	of	Campaign coverage (%)	Outbreak Status
EES	Torit		40	23	2	5.0	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 3: Distribution of measles cases, deaths, attack rates, CFR and response by counties with active outbreaks, 2022 - 2023

State	County confirmed outbreak	with	Cases	Lab-confirmed cases	Deaths	CFR %	Attack rate/1000pop	Date of onset _1st Case	Date of onset _Latest Case	Date response/Campaign	of	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	Nyrol		64	10	0	0.0	0.4	02/11/2022	06/02/2023	Planned			Active without response
	Bor South		24	12	0	0.0	0.1	23/03/2022	05/02/2023				Active without response
LAKES	Cueibet		156	19	8	5.1	0.7	24/01/2022	05/01/2023	18-24 Jan		88%	Active with response
	Yirol East		49	4	0	0.0	0.4	12/04/2022	03/01/2023	18-24 Jan		141%	Active with response
	Yirol West		211	23	3	1.4	1.1	20/05/2022	06/01/2023	18-24 Jan		129%	Active with response



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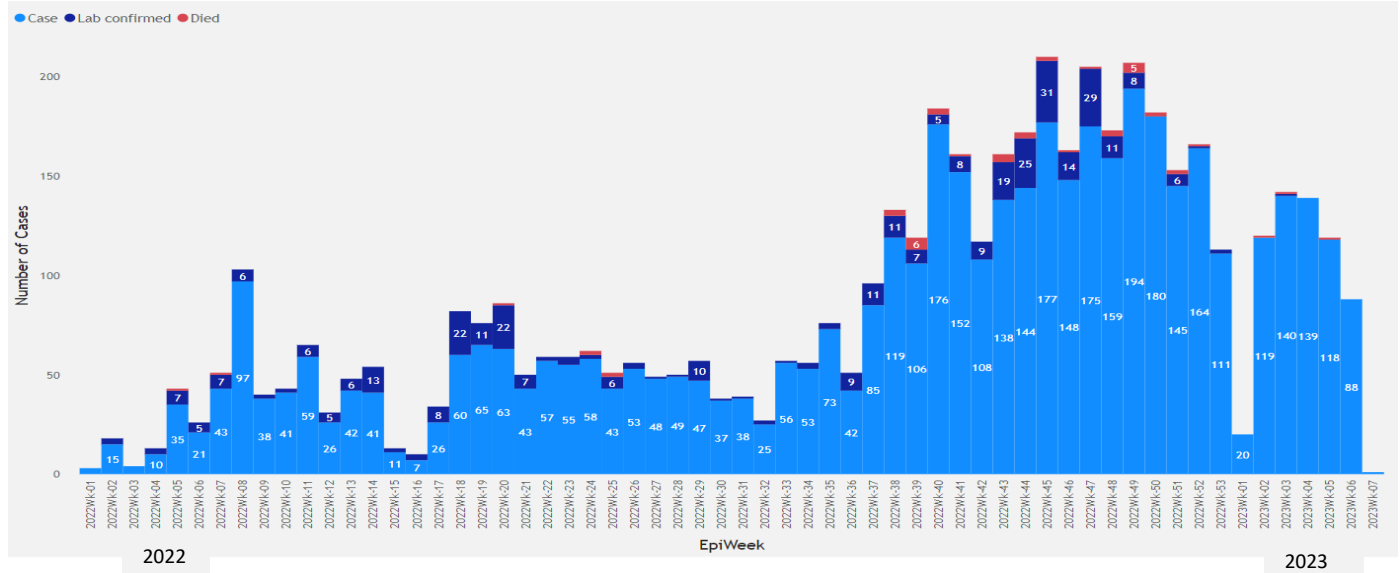
NBeG	Aweil Center	242	53	0	0.0	3.4	21/03/2022	27/01/2023	14-22 Jun	155%	Active with response
	Aweil East	355	23	4	1.1	0.7	10/03/2022	02/02/2023	13-26 Aug	91%	Active with response
	Aweil North	52	8	0	0.0	0.2	03/03/2022	02/02/2023	14-21 Jul	97%	Active with response
	Aweil South	152	14	3	2.0	1.2	20/04/2022	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	27	1	0	0.0	0.3	09/02/2022	30/11/2022	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%	Active with response
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
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 (5.1%) and Torit (5.0%) 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.



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Figure 2: Epidemiological Description of measles saturation from 2022 to 2023



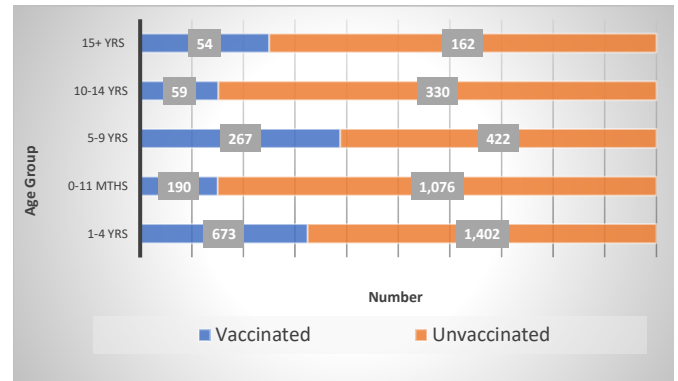
Note: Measles cases have been reported from different counties throughout 2022 and the first seven weeks of 2023. The observed peaks are driven by different counties that experienced surge in measles cases at different times.

Table 2: Distribution of measles cases and deaths by age groups in South Sudan, 2022-2023

Age Groups	Cases	Deaths	Proportion, %	CFR, %
0-11 months	1,266	10	27.5	0.8
1-4 years	2,075	29	44.8	1.4
5-9 years	689	4	14.9	0.6
10-14 years	389	2	8.4	0.7
15 & > years	216	2	4.7	1.0
Total	4,635	47	100	1.1

Note: The 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 (1.4%) among the children aged 1-4 years. 39 out of the 47 deaths were among children aged below 5 years

Figure 2: Distribution of measles cases and their vaccination status, 2022-2023

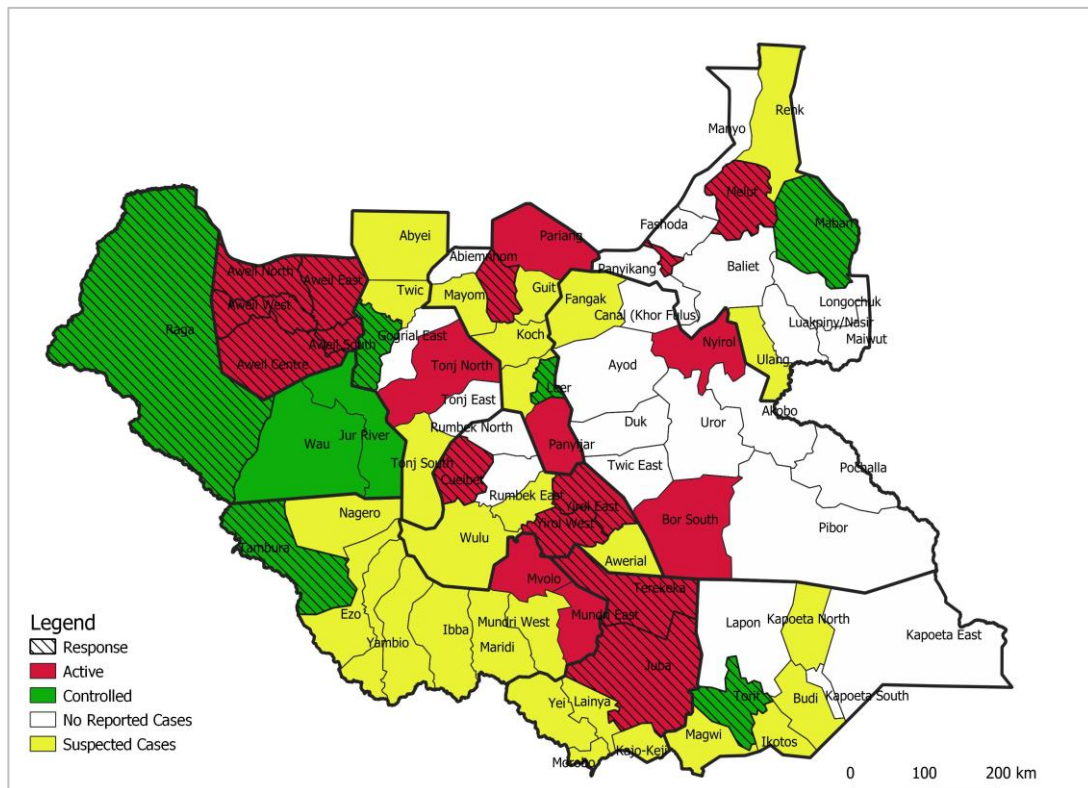


Note: Among children less than one year old (1,266 cases), 85% (1,076 cases) have not been vaccinated against measles. This trend is observed across all the ages.



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Figure 3: 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

- IM 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.
- WHO is planning a site mentorship and surge support to the laboratory at NPHL to improve rapid testing in order to reduce turnaround time.

Case Management



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- Plans to train health care 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 are planning a reactive measles campaign in Tonj North (CCM, AMREF, Islamic Relief) Nyirol (MEDAIR) in Feb 2023
- Planning is underway for a nationwide non-selective measles vaccination campaign in March 2023.
- Partners identified to support Mvolo, Mundri East (World Vision), reactive vaccination, micro plan ongoing.

Operational challenges and gaps

- Inadequate detailed investigation of suspected measles cases in counties reporting
- Inadequate sample collections to verify and classify cases as lab-confirmed
- Incompleteness of case investigation/Laboratory investigation forms
- The persistent prolonged laboratory turnaround time to 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

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