



Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

Issue number: 07
 Issue Date: 08 March 2023
 Epidemiological week: Week 9 (27 February – 05 March 2023)



Background

The Measles outbreak declared on the 10th December, 2022 by the South Sudan National Ministry of Health. Data obtained from January 1, 2022 to March 05, 2023, shows that a total of 62 counties across all 10 States have reported at least one suspected measles case, with confirmed outbreaks in 32 counties. Twenty (20) counties conducted reactive campaigns with 858,274 children vaccinated. Thirteen (13) counties currently have an ongoing outbreak.. A cumulative sum of 5,433 suspected cases have been reported; 4,137 in 2022 and 1,296 in 2023. 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 05 March 2023

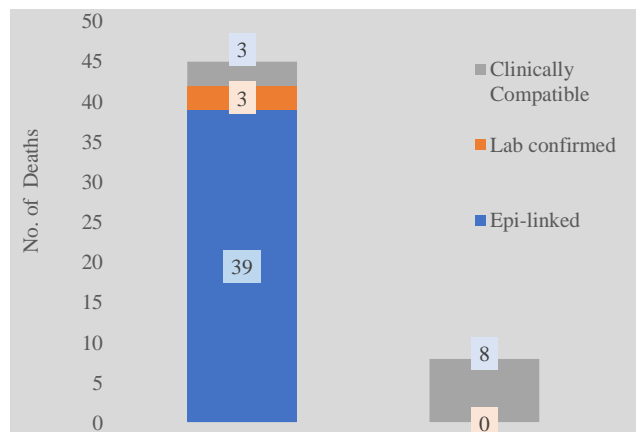
- Out of the 5,433 suspected measles cases, 2,976(54.8%) are epi-linked, 504(9.3%) lab-confirmed, 1,376(25.3%) clinically compatible, and 577(10.6) discarded cases have been reported from epidemiological week 1, 2022, to week 9, 2023 (as shown in table 1 below).
 - Thirty two (32) suspected cases have 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% (as shown in figure 1 below)
 - No new measles-related death reported this week
- Twenty three (23) counties have confirmed Measles outbreaks in 2022 and thirteen (13) counties in 2023
 - No newly confirmed outbreak this week
- Thirty nine (39) counties have reported suspected measles cases in 2023, of which twenty (20) counties have at least one confirmed case
- Thirteen (13) counties (Mvolo, Mundri East, Pariang, Awerial, Rumbek Centre, Kapoeta South, Tonj South, Tonj North, Bor South, Aweil Centre, Rumbek East, Gogrial East and Juba) have confirmed outbreaks in 2023.
- Reactive vaccination campaigns were conducted in 20 counties (16 counties in 2022, 4 counties in 2023), with 858,274 children vaccinated
- The latest reactive measles campaign was conducted in Nyirol county targeting 30,675 children
- The Ministry of Health, WHO, and partners plan to conduct reactive measles vaccination campaigns in Tonj North and Bor South

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 | 112 | 8.6 | 504 |
| Epi-linked | 2825 | 68.3 | 151 | 11.7 | 2976 |
| Clinically Compatible | 391 | 9.5 | 985 | 76.2 | 1376 |
| Total | 3608 | 87.2 | 1248 | 96.3 | 4856 |
| Discarded (-ve) | 529 | 12.8 | 48 | 3.7 | 577 |
| Grand Total | 4137 | 100.0 | 1296 | 100.0 | 5433 |

Figure 1: Deaths by year and final classification





Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

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 | 1029 | 14 | 18 | 1.7 | 1.6 | 16/01/2022 | 24/02/2023 | 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 |
| JONGLEI | Nyirrol | 106 | 11 | 0 | 0.0 | 0.6 | 02/11/2022 | 24/02/2023 | Ongoing | | Response recently Conducted |



Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

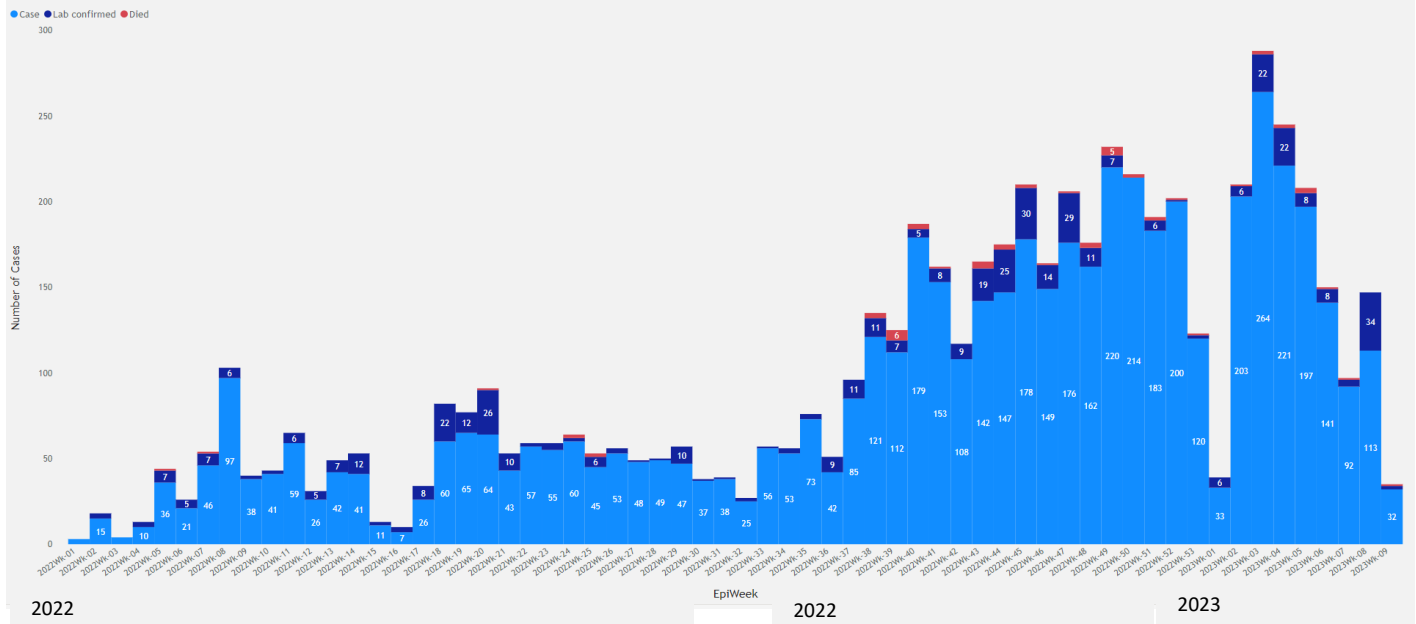
| | | | | | | | | | | | |
|---------------|---------------|-----|----|---|-----|-----|------------|------------|-----------|------|-----------------------------|
| | Bor South | 28 | 18 | 0 | 0.0 | 0.1 | 23/03/2022 | 14/02/2023 | | | Active without response |
| LAKES | Cueibet | 185 | 19 | 9 | 4.9 | 0.8 | 24/01/2022 | 09/02/2023 | 18-24 Jan | 88% | Response recently Conducted |
| | Yirol East | 108 | 4 | 2 | 1.9 | 0.9 | 12/04/2022 | 05/02/2023 | 18-24 Jan | 141% | Response recently Conducted |
| | Yirol West | 445 | 24 | 5 | 1.1 | 2.3 | 20/05/2022 | 08/02/2023 | 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 |
| NBeG | Aweil Center | 252 | 65 | 0 | 0.0 | 3.5 | 21/03/2022 | 27/01/2023 | 14-22 Jun | 155% | Active with response |
| | Aweil East | 355 | 29 | 4 | 1.1 | 0.7 | 10/03/2022 | 02/02/2023 | 13-26 Aug | 91% | Active with response |
| | Aweil North | 53 | 11 | 0 | 0.0 | 0.2 | 03/03/2022 | 02/02/2023 | 14-21 Jul | 97% | Active with response |
| | Aweil South | 152 | 15 | 3 | 2.0 | 1.2 | 20/04/2022 | 17/01/2023 | 13-26 Aug | 97% | Active with response |
| | Aweil West | 587 | 26 | 3 | 0.5 | 2.1 | 06/01/2022 | 05/02/2023 | 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 |
| | Gogrial East | 14 | 12 | 0 | 0.0 | 0.1 | 10/02/2023 | 21/02/2023 | | | Active without 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 (4.9%) and Leer (4.2%) 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.



Republic of South Sudan Measles Outbreak and Response Weekly Situation Update

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



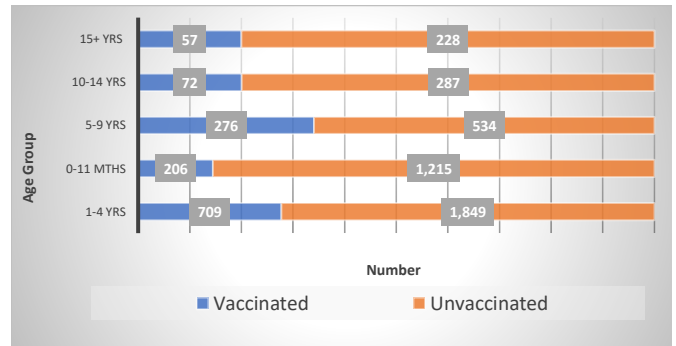
Note: Measles cases have been reported from different counties throughout 2022 and week seven of 2023. The observed peaks are driven by different counties that experienced surge in measles cases at different times.

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 | 1,421 | 10 | 26.2 | 0.7 |
| 1-4 years | 2,558 | 32 | 47.1 | 1.3 |
| 5-9 years | 810 | 6 | 14.9 | 0.7 |
| 10-14 years | 359 | 3 | 6.6 | 0.8 |
| 15+ years | 285 | 2 | 5.2 | 0.7 |
| Total | 5,433 | 53 | 100 | 1.0 |

Note: Majority (73%) 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. 42 out of the 53 deaths were among children below age 5 years

Figure 3: Distribution of measles cases and their vaccination status, 2022-2023

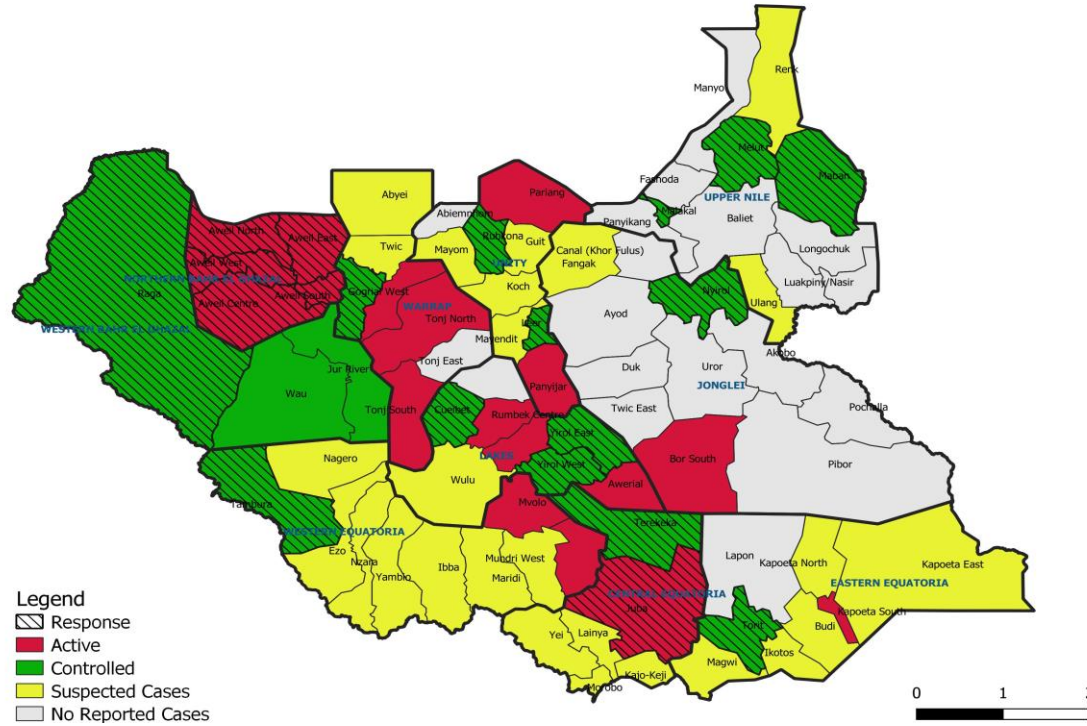


Note: Generally, 4,113(75.7%) were unvaccinated including 3,064(56.4%) children <5 years. Among children less than one year old (1,421 cases), 85.5% (1,215 cases) have not been vaccinated against measles compared with 206(14.5%) vaccinated. This trend is observed across all the age groups.



Republic of South Sudan Measles Outbreak and Response Weekly Situation Update

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.
- Working with MOH to develop a Measles Reactive Response Guideline
- Validation of measles outbreak strategic response plan (MOHSRP) for 2023/2024

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.
- Planned deployment of RRTs to Fangak



Republic of South Sudan Measles Outbreak and Response Weekly Situation Update

Case Management

- Ongoing to reduce mortality

Vaccinations

- The MOH, WHO, and partners are planning to start reactive measles campaign in Tonj North (CCM, AMREF, Islamic Relief) and Bor South (LIVEWELL)
- Reactive vaccination campaign still underway in Nyirol County(MEDAIR) targeting to vaccinate 30,675 children
- 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 to start 25 April 2023.
- Measles microplan training planned 7 to 9 March 2023

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)

- Establishing 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 in counties reporting suspected measles
- Inadequate sample collection for laboratory confirmation and classification cases of suspected measles cases
- The delayed laboratory turnaround time to provide feedback on laboratory results and confirm outbreaks
- A high proportion of unvaccinated children (75.4%) was detected among the cases, noting routine immunization gaps.
- Late reporting of Measles cases leading to data batching

For more information, please contact:

| | | | |
|---|--|--|--|
| Dr. John Rumunu Incident Manager E: ori.moiga@gmail.com P: +211 924 767 490 | Dr. Joseph Lasu Emergency Preparedness & Response Director E: josh2013.lasu@gmail.com P: +211 921 395 440 | South Sudan PHEOC E: sspheoc@gmail.com P: +211 925 851 662/ +211 917 235 355 | Dr Aggrey Bategereza EP&R TL, WHO E: bategerezaa@who.int P: +211 924222030 |
|---|--|--|--|

This report was prepared with technical support from World Health Organization, Juba.



Republic of South Sudan
Measles Outbreak and Response Weekly Situation Update