



Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

Issue number 16
 Issue Date 23 May 2023
 Epidemiological week Week 20 (May 15 - 21, 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 May 21, 2023, shows that a total of 68 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 6,138 suspected cases have been reported; 4,137 and 2,001 in 2022 and 2023, respectively.

Key weekly Situation Update as of 21 May 2023

- No new suspected case as well as death has been reported during the reporting week
- No new confirmed outbreak this week
- Five (5) new samples received from Duk 2, Blue Nile State (Kurumuk-Sudan) 2 and Abyei (case from Sudan) 1, but yet to be tested
- Viral Transport Media (VTM) distributed to selected counties and yet to receive any Nasopharyngeal or Throat Swab for sequencing

Key Update for 2023

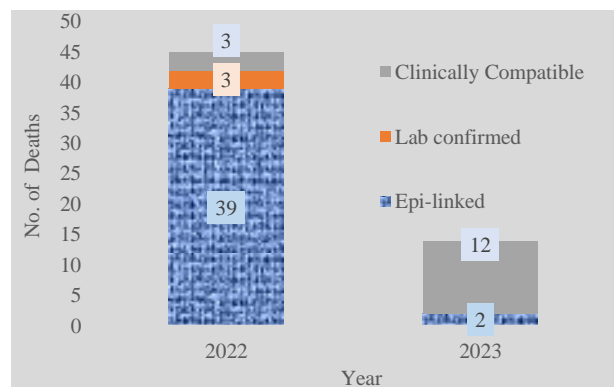
- Fifty-eight (58) counties have reported suspected measles cases in 2023, of which forty (40) counties have at least one confirmed case
- Sixteen (16) counties (Mvolo, Mundri East, Pariang, Awerial, Rumbek Centre, Kapoeta South, Tonj South, Tonj North, Bor South, Aweil Centre, Rumbek East, Gogrial East, Juba, Tonj East Wulu and Lafon) have confirmed outbreaks in 2023.
 - None of the above counties has reported suspected/lab-confirmed cases in the past five (5) weeks except Juba county
- 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
- EPI-TWG recommends no more reactive campaign rather the focus now is to support the ongoing national campaign (started 25th April, 2023)

Summary of cases as of 21 May 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 | 218 | 10.9 | 610 |
| Epi-linked | 2,825 | 68.3 | 284 | 14.2 | 3,109 |
| Clinically Compatible | 391 | 9.5 | 1,362 | 68.1 | 1,753 |
| Total | 3,608 | 87.2 | 1,864 | 93.2 | 5,472 |
| Discarded (-ve) | 529 | 12.8 | 137 | 6.8 | 666 |
| Grand Total | 4,137 | 100.0 | 2,001 | 100.0 | 6,138 |

Figure 1: Deaths by year and final classification



Out of the 6,138 suspected measles cases, 3,109(50.7%) are epi-linked, 610(9.9%) lab-confirmed, 1,753(28.5%) clinically compatible, and 666(10.8) discarded cases have been reported from epidemiological week 1, 2022, to week 19, 2023. A total of 209 rubella positive cases from the discarded (negative measles cases)

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.



Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

Table 2.0: Distribution of measles cases, deaths, attack rates, CFR, response by counties and their outbreak status, 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 | 1,147 | 18 | 19 | 1.6 | 1.7 | 16/01/2022 | 03/05/2023 | 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% | 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 |
| | Kapoeta South | 7 | 6 | 0 | 0.0 | 0.0 | 01/01/2023 | 04/02/2023 | | | Controlled without Response |
| | Lafon | 6 | 4 | 0 | 0.0 | 0.0 | 03/03/2023 | 08/03/2023 | | | Controlled without Response |
| JONGLEI | Nyirrol | 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 |
| LAKES | 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 |
| | Yirol East | 126 | 4 | 2 | 1.6 | 1.0 | 12/04/2022 | 05/03/2023 | 18-24 Jan | 141% | Controlled with Response |
| | Awerial | 21 | 6 | 0 | 0.0 | 0.2 | 14/10/2022 | 14/03/2023 | | | Controlled without Response |
| | Wulu | 30 | 16 | 0 | 0.0 | 0.4 | 06/03/2022 | 18/03/2023 | | | Controlled without Response |
| UNITY | Leer | 24 | 11 | 1 | 4.2 | 0.2 | 11/05/2022 | 29/01/2023 | | 95% | Controlled with Response |
| | Rubkona (Bentiu IDP) | 449 | 21 | 4 | 0.9 | 2.4 | 23/09/2022 | 23/04/2023 | 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 |



Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

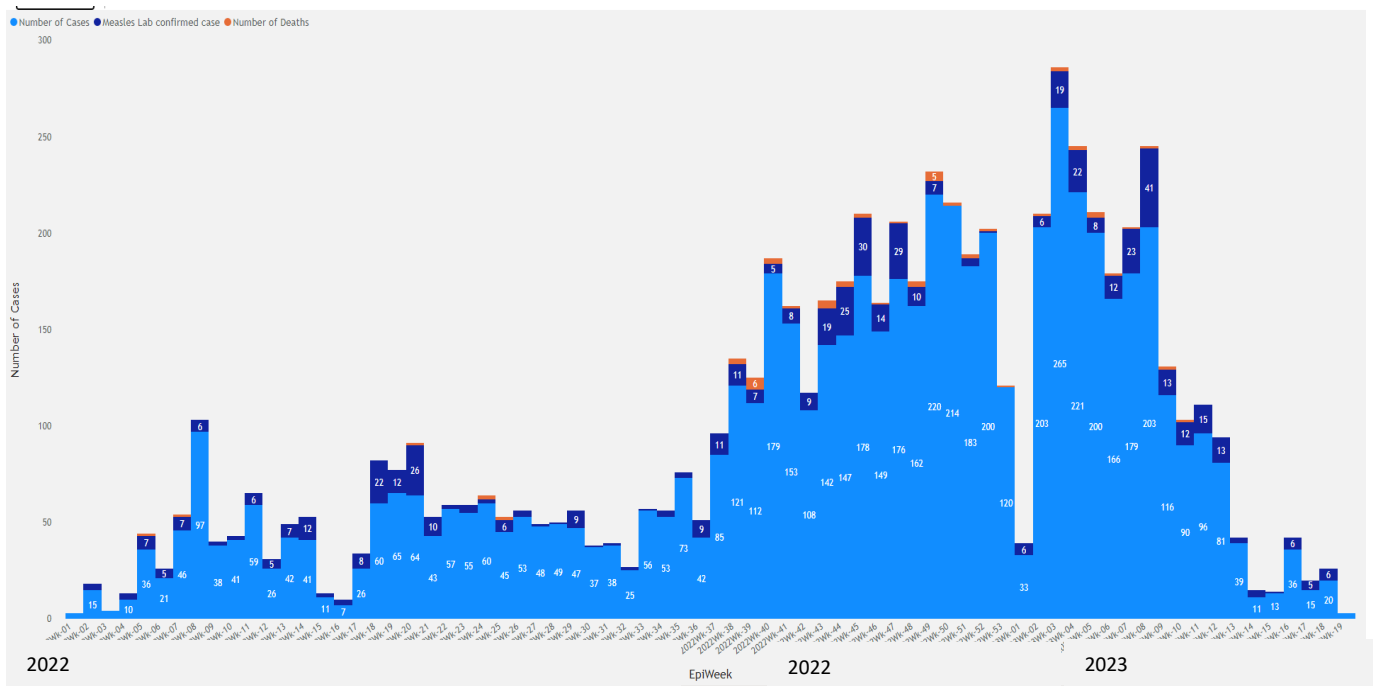
| | | | | | | | | | | | |
|------------|--------------|-----|----|---|-----|-----|------------|------------|-------------|------|-----------------------------|
| UPPER NILE | Maban | 202 | 6 | 0 | 0.0 | 2.5 | 02/01/2022 | 16/11/2022 | 7-15 Mar | 98% | Controlled with Response |
| | Melut | 163 | 12 | 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 |
| | 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 |
| | Gogrial East | 14 | 12 | 0 | 0.0 | 0.1 | 10/02/2023 | 21/02/2023 | | | Controlled without Response |
| | Tonj East | 10 | 8 | 0 | 0.0 | 0.0 | 11/02/2023 | 16/03/2023 | | | Controlled without 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 |
| | 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 |
| NBeG | Aweil Center | 393 | 73 | 1 | 0.4 | 3.8 | 21/03/2022 | 25/03/2023 | 14-22 Jun | 155% | Controlled with Response |
| | Aweil East | 431 | 29 | 4 | 0.9 | 0.8 | 10/03/2022 | 03/03/2023 | 13-26 Aug | 91% | Controlled with Response |
| | Aweil North | 71 | 15 | 0 | 0.0 | 0.3 | 03/03/2022 | 07/03/2023 | 14-21 Jul | 97% | Controlled with Response |
| | Aweil South | 156 | 17 | 3 | 1.9 | 1.2 | 20/04/2022 | 07/03/2023 | 13-26 Aug | 97% | Controlled with Response |
| | Aweil West | 722 | 27 | 3 | 0.4 | 2.5 | 06/01/2022 | 03/03/2023 | 14-22 Jun | 94% | Controlled with 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.



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



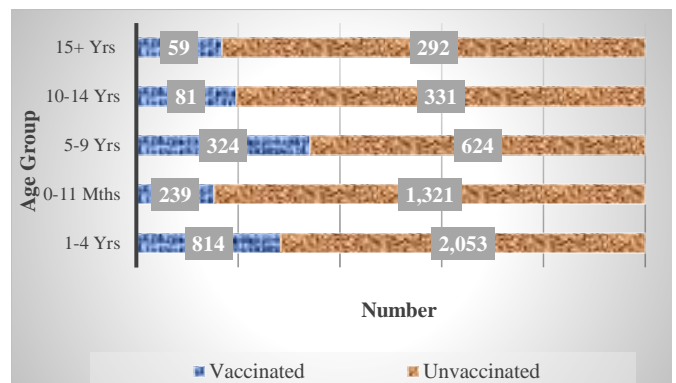
Note: Measles cases have been reported from different counties throughout 2022 and week seven of 2023. The observed peaks are driven by different counties that experienced surge in measles cases at different times.

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

| Age Groups | 2022 | | | | 2023 | | | |
|--------------|--------------|--------------|-----------|------------|--------------|--------------|-----------|------------|
| | No. of cases | % | Deaths | % | No. of cases | % | Deaths | % |
| 0-11 mths | 1,137 | 27.5 | 10 | 0.9 | 423 | 21.1 | 2 | 0.5 |
| 1-4 yrs | 1,931 | 46.7 | 27 | 1.4 | 936 | 46.8 | 8 | 0.9 |
| 5-9 yrs | 612 | 14.8 | 4 | 0.7 | 336 | 16.8 | 3 | 1.0 |
| 10-14 yrs | 277 | 6.7 | 2 | 0.7 | 135 | 6.7 | 1 | 0.8 |
| 15+ yrs | 180 | 4.4 | 2 | 1.1 | 171 | 8.5 | 0 | 0.0 |
| Total | 4,137 | 100.0 | 45 | 1.1 | 2,001 | 100.0 | 14 | 0.7 |

Note: Majority 4,427(72.1%) of all the measles cases 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

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



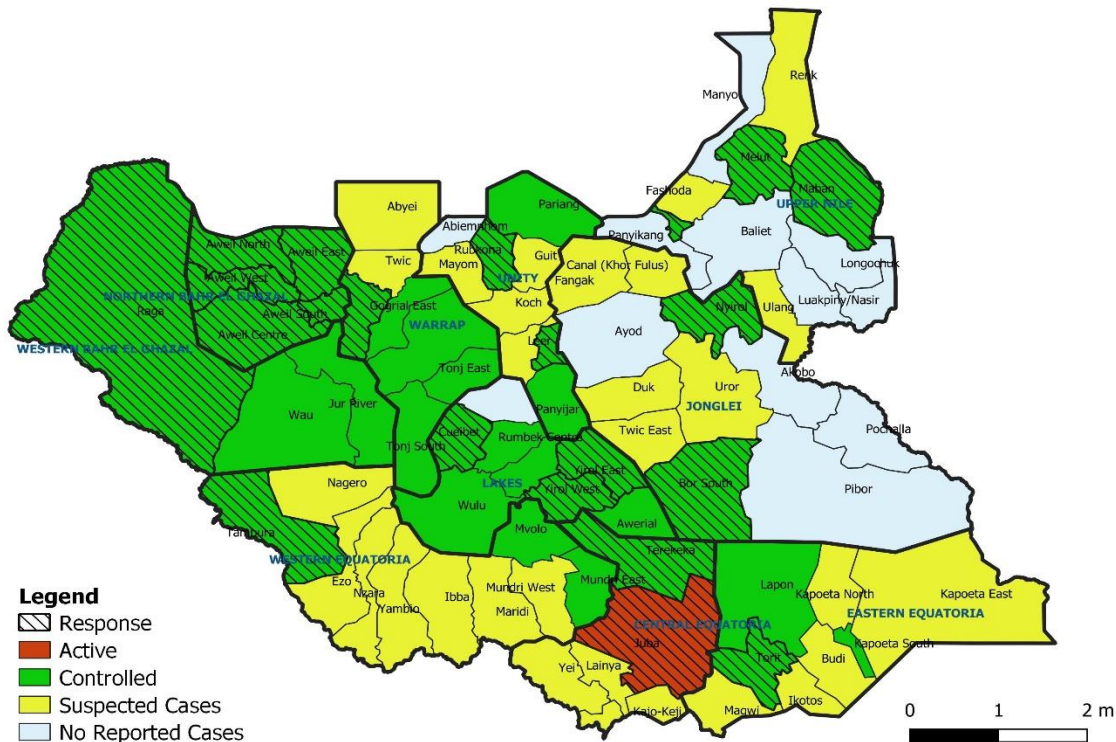
Note: Generally, 4,621(75%) were unvaccinated (zero, unknown) including 3,374(73%) children <5 years. Among children less than one year old (1,560 cases), 84.6% (1,321 cases) have not been vaccinated against measles compared with 239(15.4%) vaccinated. This trend is observed across all the age groups.



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.
- 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
- Sample collection on hold till 30 days after the nationwide campaign
- Set up enhanced screening post at all borders
- 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



Republic of South Sudan

Measles Outbreak and Response Weekly Situation Update

Vaccinations

- Nationwide measles campaign ongoing
 - The campaign kicked off on the 25th of April in three states (CES, NBG, and Lakes). The remaining seven states launched the campaign from the 28th to the 1st of May 2023
 - Seventy-five (75) Counties already completed the campaign as of 16th May 2023
 - Five (5) Counties in UNL, Jonglei, Rewung and Abeyi administrative area due to delayed supply distribution and other operational challenges
 - Three states (CES, EES and WES) integrated Periodic Intensification of Routine Immunization (PIRI) with IMFUP camping with the support of World Vision/CORE Group
 - Current data 2,218,381 (85.4%) were vaccinated with Measles vaccines, 1,421,228 received Vitamin A, 58,274 deworming, and 1,074,067 MUAC screening as at 17 May, 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.
- One (1) serious AEFI reported during the campaign and managed.

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.
- Post Campaign Evaluation to be conducted to determine the quality of the campaign
- Areas of low coverage planned for a Mop Up Routine Immunization (MURI)
- Plan for Response where Measles cases occur
- Refugee Situation with cases already reported from the Blue Nile (Guideline issued on Immunization) to be addressed

Way Forward

- MOH and partners to support ongoing 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

For more information, please contact:

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