South Sudan COVID-19 Weekly Epidemiologic Bulletin

Issue #: 08

22 – 28 Feb 2021

Epidemiologic Week 08

Summary statistics for Epidemiologic Week 08

1072	8010	7	94	686	110226
New Confirmed Cases	Total Confirmed Cases	New Deaths	Total Deaths	Contacts Under Follow-up	Cumulative Samples Tested

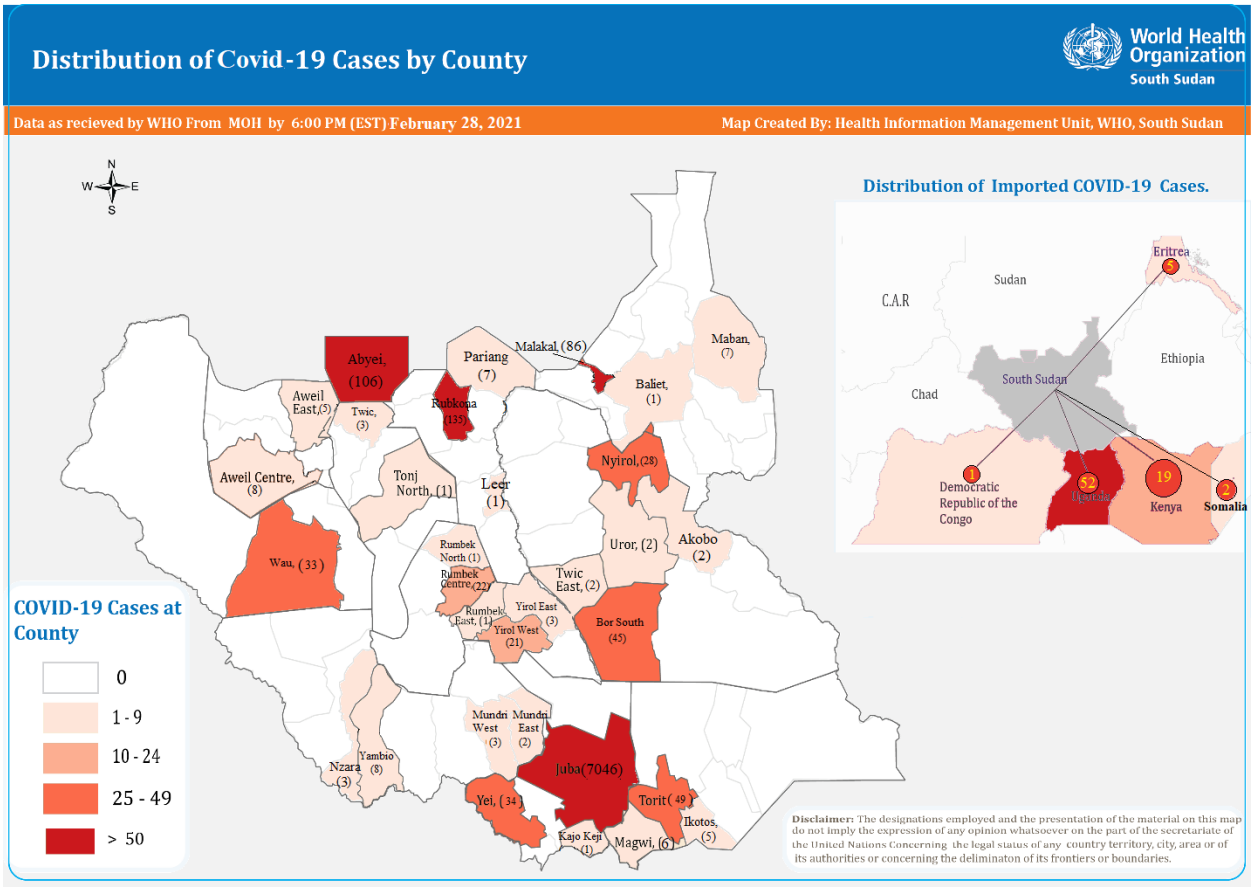

Figure 1. Map of cumulative reported COVID-19 cases, by county

Map source: WHO Weekly Bulletin

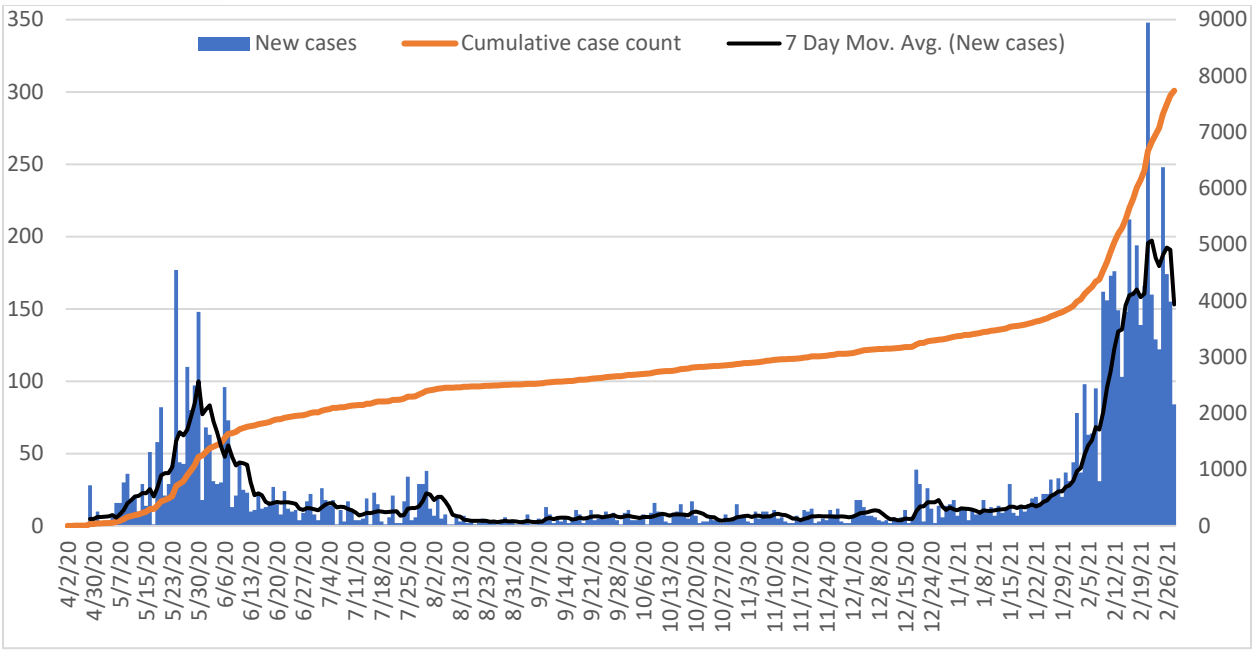

Figure 2. Epidemiological curve of reported cases through Week 08, showing new cases (blue bars), rolling 7-day average of reported cases (black line), and total cumulative reported cases (yellow line)

Epidemiology and Surveillance Update

One thousand and seventy-two new cases[1] were identified in Week 08, bringing the cumulative number of confirmed cases to 8010[2], including 316 imported cases mainly from South Sudanese returnees (145), Uganda (52), and Kenya (19). There were three imported cases in Week 08. In addition, 23 healthcare workers were confirmed as cases in Week 08 with infection clusters in Bor and Mapourdit hospitals, bringing the cumulative case tally among healthcare workers to 229. Similar to trends observed in Week 07, the rate of change in cases has been flattening. This week's tally shows a decrease of 21.7% in reported cases compared to Week 07, the first such decrease in weekly case tally since Week 01. The death count has also been flattening with a 30% decrease in deaths in Week 08 compared to Week 07, which also recorded a 9.1% decrease compared to Week 06. Cases have surged in the country since the beginning of 2021, but the case count is decreasing based on the 7-day moving average [Figure 2]. The case tally for Week 08 represents 13.4% of the cumulative case total (down from 19.8% in Week 07). While it is more likely that the recent surge in the number of cases means the country is detecting more of cases from widespread community transmission due to increased testing, other factors including non-adherence to COVID-19 testing standard operating procedures by private testing facilities and double counting due to testing at multiple locations during the 14-day follow-up period also need to be taken in consideration.

At the end of Week 08, 32 (40.0%) of the 80 counties in the country have a confirmed case [Figure 1]. There was no county with a first confirmed case this week. Cumulatively, the age distribution of cases

[1] Seven backlogged cases reported in Week 08 were added to the cumulative case tally but not to this week's tally
[2] The cumulative case tally is likely an underestimate with backlogged data from some GeneXpert testing sites still to be added

reported is skewed towards people under 50 years old, with most cases occurring in the 20-49 age group and skewed heavily towards males [Figure 3]. Fifty-four percent of cases reported their nationality as South Sudanese, with a significant proportion (17.4%) with unknown nationality [Figure 4]. Despite expanded testing and increases in cases, the demographic breakdown profiles of the cases have not changed since the beginning of the outbreak. Certainty about the case profiles is however affected by increased lack of individual-level data and line listings especially from private testing facilities and GeneXpert (GXP) testing sites. This affects our ability to properly detect any changes in profiles.

Similar to trends in the last several epi weeks, most cases (896) in Week 08 were reported through traveler screening mainly at Med-Blue (531). However, the weekly proportion of cases identified through contact tracing has steadily increased in recent epi weeks (5.4% in Week 05, 8.8% in Week 06, 7.2% in Week 07, and 8.2% in Week 08). Cumulatively, pre-travel screening account for the greatest proportion of cases (60.8%), followed by contact tracing (15.4%), and alerts (9.9%) [Figure 5B]. Almost all reported cases (95.3%) in Week 08 came from Central Equatoria. Unity (2.4%), Eastern Equatoria (0.8%), Jonglei (0.7%), Lakes (0.4%) and Western Equatoria (0.3%) contributed the remaining cases to the weekly case tally [Figure 6]. Despite Juba having community-wide transmission, notable cluster outbreaks in various states have been reported recently (e.g., in Nzara, Yirol, Bentiu, and Bor), however epidemiological data usually lag in communication to the national authorities once the outbreaks are in the flourishing stages. Overall, COVID-19 surveillance and testing at sub-national levels continue to be weak and are in need of scaling up.

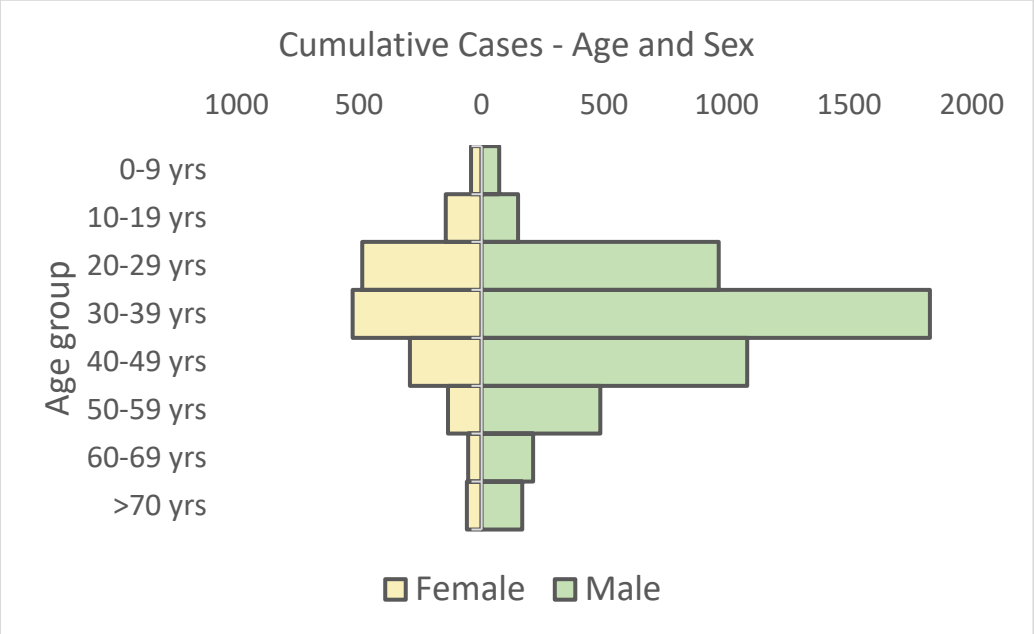

Figure 3. Distribution of cumulative reported cases by age and sex

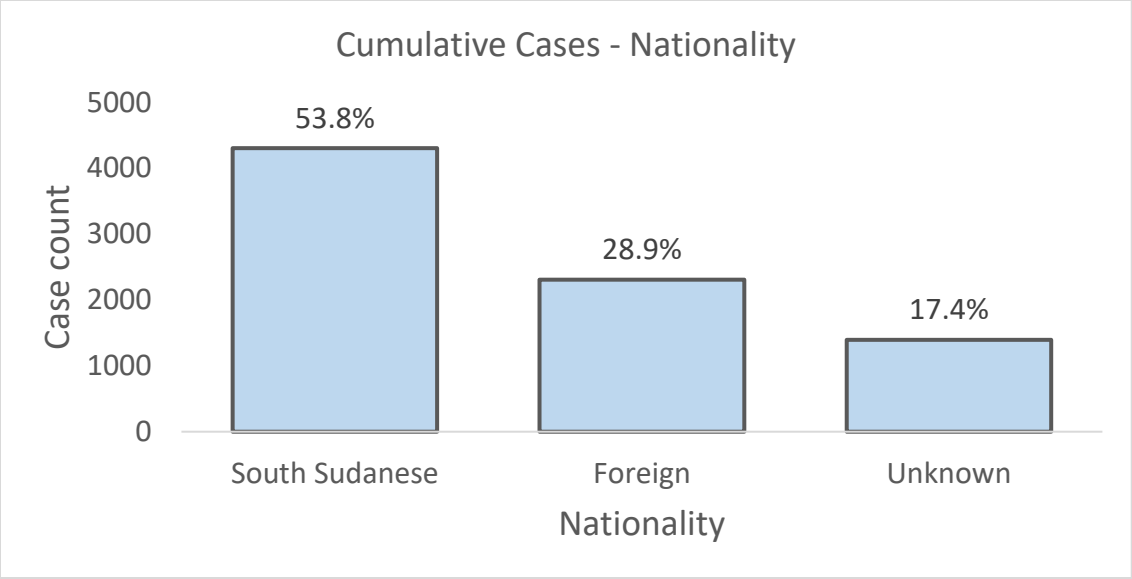

Figure 4. Distribution of cumulative reported cases by nationality

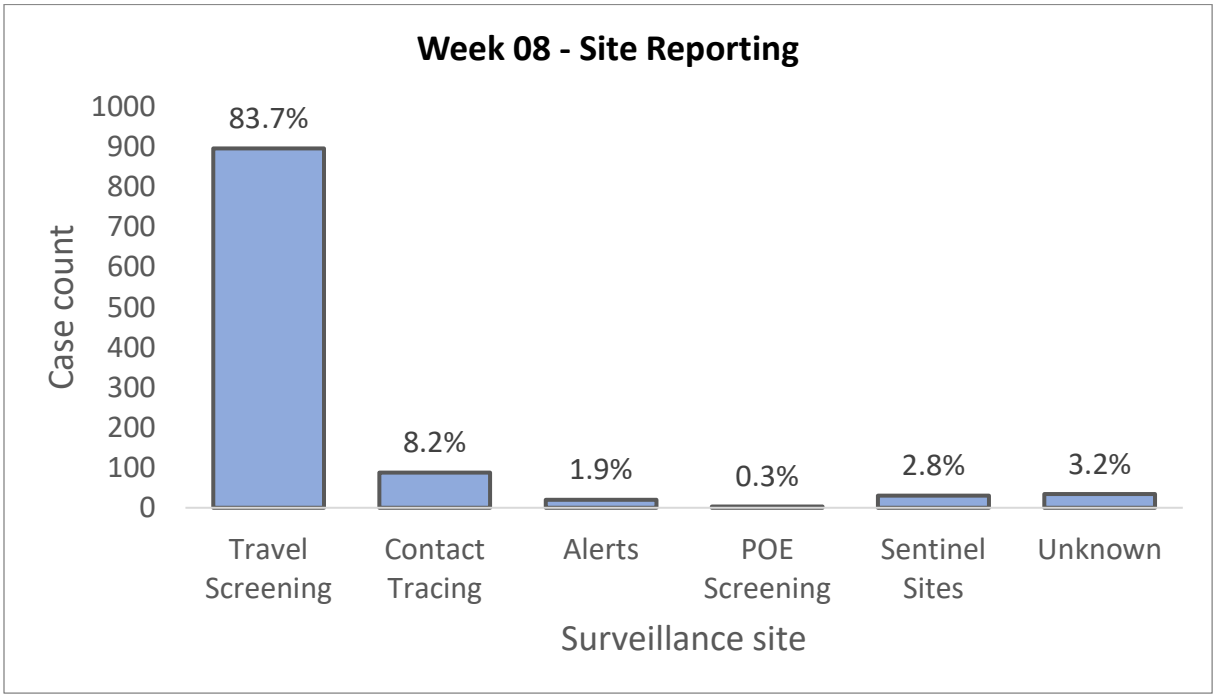

Figure 5A. Case by surveillance site (Week 08)

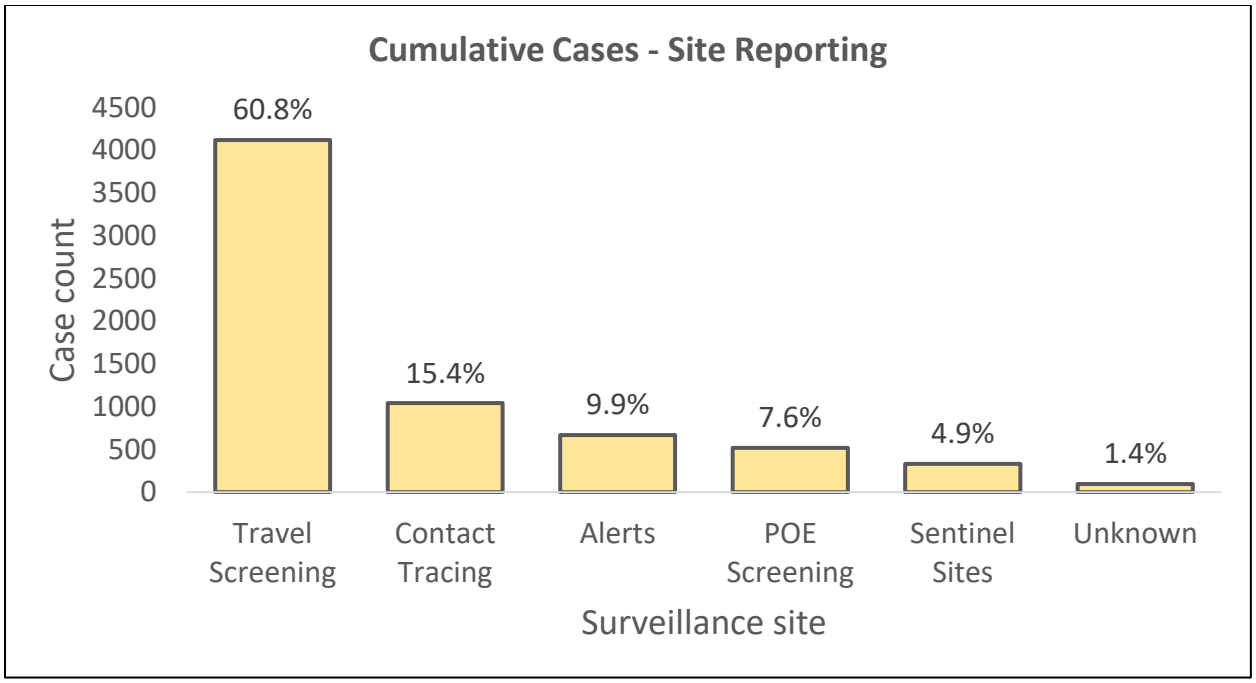

Figure 5B. Cases by surveillance site (cumulative)

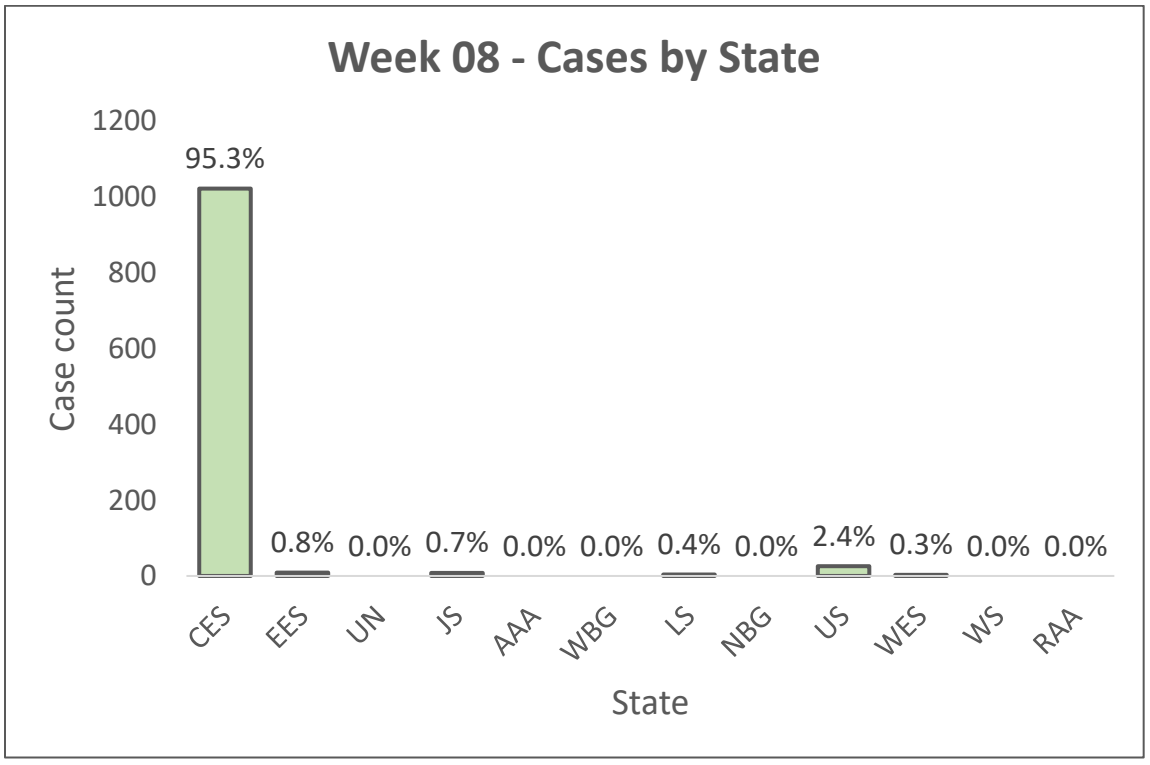

Figure 6. Case distribution by state (Week 08)

Interpretation and recommendations

- **This week showed a 21.7% decrease in the number of reported cases compared to Week 07, the first observed decrease in weekly case count since Week 01. There was a 30% decrease in death count compared to Week 07, which also observed a 9.9% decrease in case deaths compared to Week 06. However, there is a need for a more active mortality surveillance to identify COVID-19 deaths in the community.** While it is more likely that the country is detecting more cases from widespread community transmission due to increased testing, other factors including non-adherence to COVID-19 testing standard operating procedures by private testing facilities and double counting due to testing at multiple locations during the 14-day follow-up period need to be taken in consideration. **Epidemiological trends in surrounding countries do not show a big jump in cases, but there is need for the MOH to conduct genotyping (with support from partners such as the CDC and WHO) to identify any existing and dominating COVID-19 strains currently in circulation in the country and to understand their impact on the epidemiology of the outbreak**
- **Between Weeks 01 and 08 when a surge in the number of cases was observed, majority of the 243 alerts reported in Juba came from Munuki (27.6%), Tong Ping (12.8%), Kator (8.2%), and Gudele (7.0%). These four areas accounted for 55.6% of the alerts received by the EOC during this period (Annex A)**
- Identification of duplicated cases is an ongoing activity by the EOC data management unit with support from partners. Several duplicated cases have already been identified using a combination of core variables (e.g., name, age, and phone number). While this list is not exhaustive, the EOC will take steps to revise the case tally accordingly. In addition, the EOC has mandated all testing facilities to use the MOH approved CIF. Use of this form will allow for duplicate cases to be easily identified using a core group of variables including name, age, phone number, sex, and having had a previous COVID-19 test
- Improved quality of data collection on individuals tested with key variables including surveillance site, nationality, age, sex, previous test history, clinical profile/symptomology remains critical to understand and characterize cases. This is even more critical now with the transfer of traveler testing to private health clinics. **All three private testing facilities are expected to begin using the MOH approved CIF at sample collection in Week 09**. The lack of individual-level testing data from these sites as well as from some facilities using GXP testing continues to affect our ability to fully describe the outbreak in South Sudan
- **During Week 08, 88 contacts (mostly asymptomatic, only 5 symptomatic) tested positive for COVID-19, 8.2% of the week's case tally. This represents a 11.1% decrease in the number of contacts who tested positive compared to Week 06, ending an increasing trend observed in Weeks 06 and 07.** Cumulatively cases originating from contact tracing (15.4%) and alerts (9.9%) remain important to improve case surveillance in these populations with timely screening/testing of suspects and all listed contacts
- Despite recent improvement in reporting of results from GXP testing sites at sub-national level and the addition of backlogged data, only 6.2% of all confirmed cases have been detected in states other than Central Equatoria and Eastern Equatoria. **In addition, about 88.5% of all cases have been detected in Juba compared to 11.5% outside of Juba, indicating that surveillance,**

testing, and reporting need to be improved and expanded in locations outside Central Equatoria

- **Although there is improved reporting of data from GXP testing sites including data from refugee camp health facilities in Bentiu, the data are currently provided in aggregate versus at the individual level format. Partners supporting the GXP testing sites need to provide individual-level data for both positive and negative results in order to better characterize the outbreak in these locations**

Laboratory Update

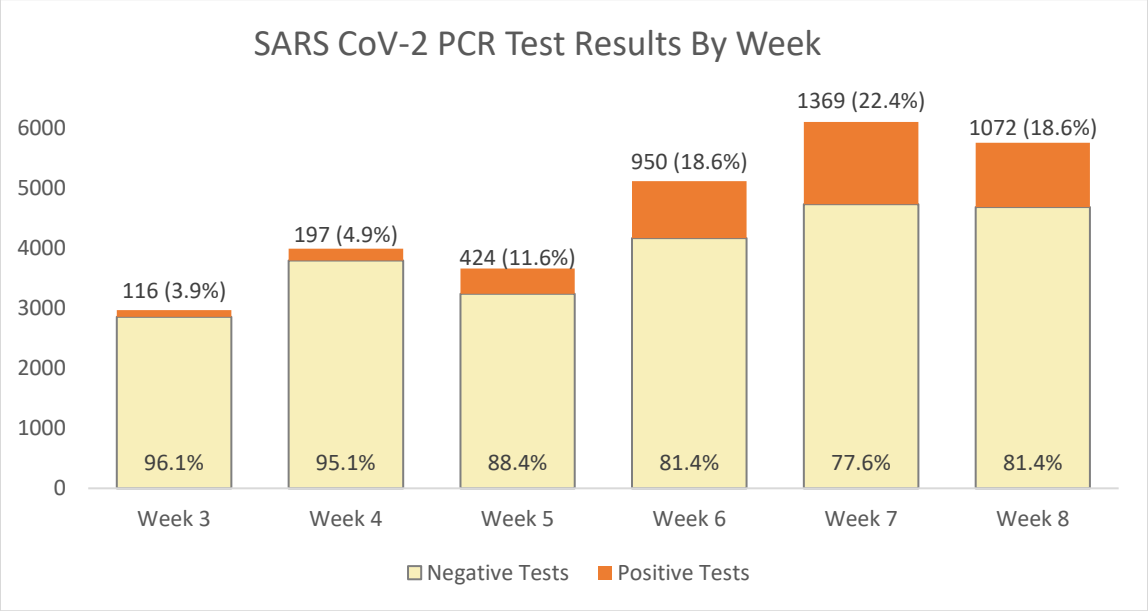

Figure 7. SARS-COV-2 PCR test results by week

Interpretation and recommendations

- **There was a 5.6% decrease in overall reported testing in Week 08 compared to Week 07, ending an increasing trend in Weeks 06 and 07.** However, with data on number of tests run missing for some state-level testing sites, there remains uncertainty about the true number of tests run in the country
- **Positivity has been more than 5% for the last four epi weeks, peaking at 22.4% in Week 07**. While it is likely that the country is simply detecting more of what has always been there – widespread community transmission, non-adherence to COVID-19 testing protocols in some testing facilities, with people being retested before they complete 14 days of follow-up could lead to double counting of follow up cases. **The EOC is actively identifying such duplicated cases, and these will be removed from the cumulative case tally.** There are also anecdotal reports of quality control challenges at the private testing clinics (e.g., positive result at a facility turning negative in another). The NPHL and EOC must implement a system of quality assurance for all COVID-19 testing laboratories in South Sudan. This can be adapted from the quality assurance system already in use for HIV and TB in the country

- Except for Nimule (4.1%), Kapoeta (0%), Torit (0%), Kapoeta (0%), Yambio (0%), Yei (0%), Rumbek (0%), Aweil (0%), Nyirol (0%), and Makpandu (0%), positivity yield was more than 5% for all other testing facilities that provided data in Week 08 [Figure 8]. **This mirrors positivity yields observed in Weeks 06 and 07. Positivity yields at Nojum which have been consistently below 10% increased to 13.3% in Week 08. Positivity yields were as follows in Week 08, NPHL (17.6% down from 22.0% in Week 07), Med Blue (19.5% down from 23.2% in Week 07), Queens Medical Complex (18.9% down from 24.2% in Week 07), Nojum (13.3% up from 8.3% in Week 07), Lakien (40%), Nzara (16.7%), Bor Hospital (27.3%), Bentiu (50.0%), Yirol (100.0%), Mapourdit (100.0%), and UN Clinic (42.1%)[3].** The private laboratories are supposed to be testing individuals for the purposes of travel which theoretically indicates that positivity yields should not be very high or at least lower than NPHL which conducts testing primarily for epidemiologically prioritized groups (alerts, contacts, sentinel sites). The positivity yield for the different laboratories is an indicator to continue monitoring closely as it speaks to either a wider community progression of transmission, potential data quality, and/or technical/operational errors
- In Week 08, 2721 (47.2%) of the tests were run at Med-Blue, 1703 (29.5%) at the NPHL, 962 (16.7%) at Queens Medical Complex, 173 (3.0%) at Nojum, 74 (1.3%) in Nimule, 38 (0.7%) in Bentiu, 22 (0.4%) in Bor Hospital, 19 (0.3%) in UN Clinic, 12 (0.2%) in Torit, 9 (0.2%) in Makpandu, 7 (0.1%) in Yambio, 6 (0.1%) in Nzara, 5 (0.1%) in Lakien and Yei, 4 (0.1%) in Rumbek, 3 (0.1%) in Nyirol and Mapourdit, 1 (<0.1%) in Yirol, Aweil, and Kapoeta. Approximately 110226 SARS-COV-2 PCR tests have been performed with 7.3% positivity (up from 6.6% in Week 07)
- **Currently, there is limited quality assurance (QA) oversight of private testing facilities by the NPHL. As discussed above, the NPHL must implement a QA system for all COVID-19 testing laboratories in South Sudan**
- **Moreover, refusal to use MOH data capture tools, late and aggregate reporting (i.e., no individual-level data), and refusal to facilitate the work of the contact tracing and case management teams, have been major challenges from working with the private testing facilities. It is important that the private testing labs fully cooperate with the country COVID-19 SOPs including on testing protocols and data collection and reporting requirements**
- Lastly, the EOC needs to produce a comprehensive testing dataset (combining positive and negative results with the CIF variables). This is important to calculate yields of sub-groups presenting for testing to see whether the epidemiology is changing for any of them (e.g., age groups, sex, clinical profile, testing category, etc.). For example, despite expanded testing and increases in cases, the demographic breakdown profiles of the cases have remained unchanged. A comprehensive testing dataset could tell us if the profile of those presenting for testing is the same as it was during the first six months of the outbreak

[3] The high positivity yields in the GXP testing sites and UN Clinic is due to these sites mostly testing persons who meet COVID-19 case definition, therefore the few tests they run are likely to be positive

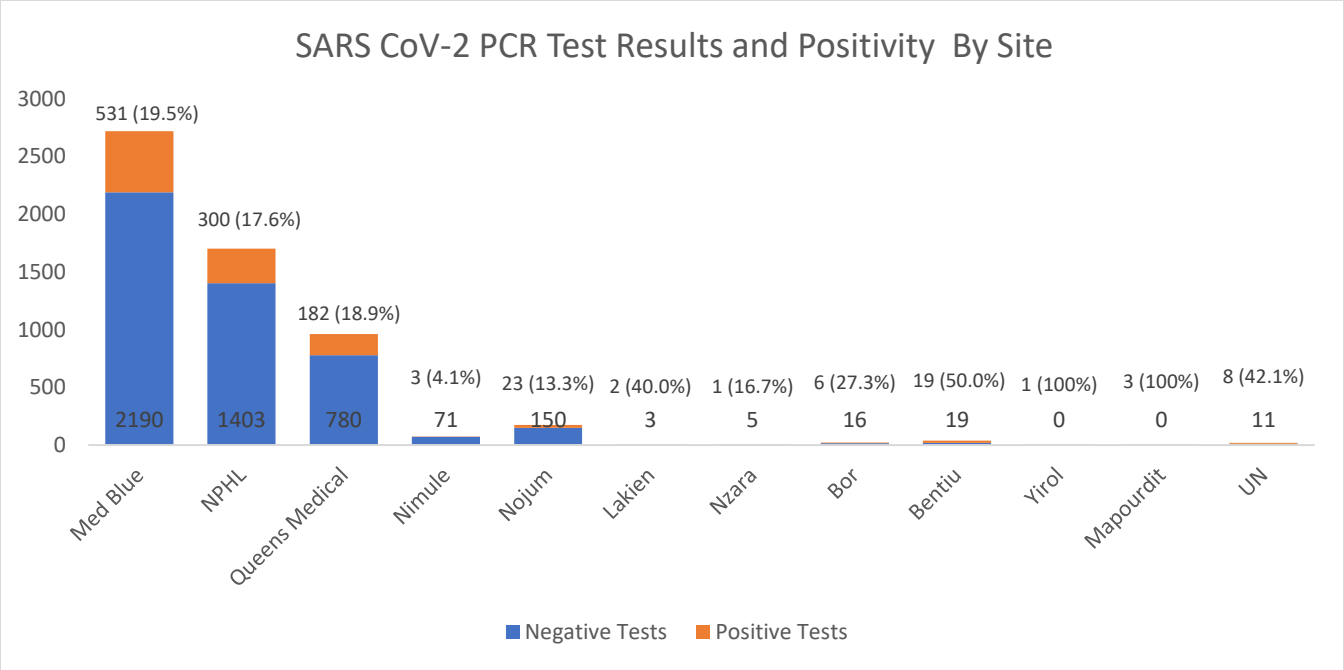

Figure 8. SARS-COV-2 PCR test results and positivity by testing site (Week 08)

Hotline/Alert System Update

During Week 08, the call center received 3591 calls, a decrease of 1.0% from Week 07. Most calls came from callers living in Central Equatoria (32.4%). Of the calls received, 790 (22.0%) inquired about the cause of COVID-19 (up from 9.2% in Week 07), 1007 (28.0%) sought information on signs and symptoms of COVID-19 (up from 15.7% in Week 07), and 792 (22.1%) asked about prevention of COVID-19 (up from 16.0% in Week 07). Overall, 2682 (74.7%) of the calls in Week 08 were COVID-19 related.

Consistent with the surge in the number of cases in recent epi weeks, there was a large number of alerts in Week 08. There were 117 potential COVID-19 alerts (106 through the hotline; 11 self-reported) [Figure 9] in Week 08, a decrease of 13.3% compared to Week 07, which also showed a decrease of 6.9% compared to Week 06, ending an increasing trend between Weeks 04 and 06. All the 117 alerts were verified, and all (100%) were investigated by the rapid response team (RRT). Samples were collected from all 117 (100%) of investigated alerts [Figure 9]. About 76.1% of the potential alerts were from Central Equatoria followed by Jonglei and Upper Nile (4.3%), Western Bahr el Ghazal and Warrap (3.4%), Lakes (2.6%), Northern Bahr el Ghazal, Unity, and Western Equatoria (1.7%), and Eastern Equatoria (0.9%). All 10 states reported at least one alert in Week 08 [Figure 10]. Twenty alerts tested positive for COVID-19, which represents 17.1% of the alerts sampled this week (down from 40.0% in Week 07). Cumulatively, 2134[4] alerts have been reported, of which 2027 (95.0%) have been verified, and 1946 (96.0%) of the verified alerts were sampled.

[4] Excludes any alerts not reported by the Watch Desk

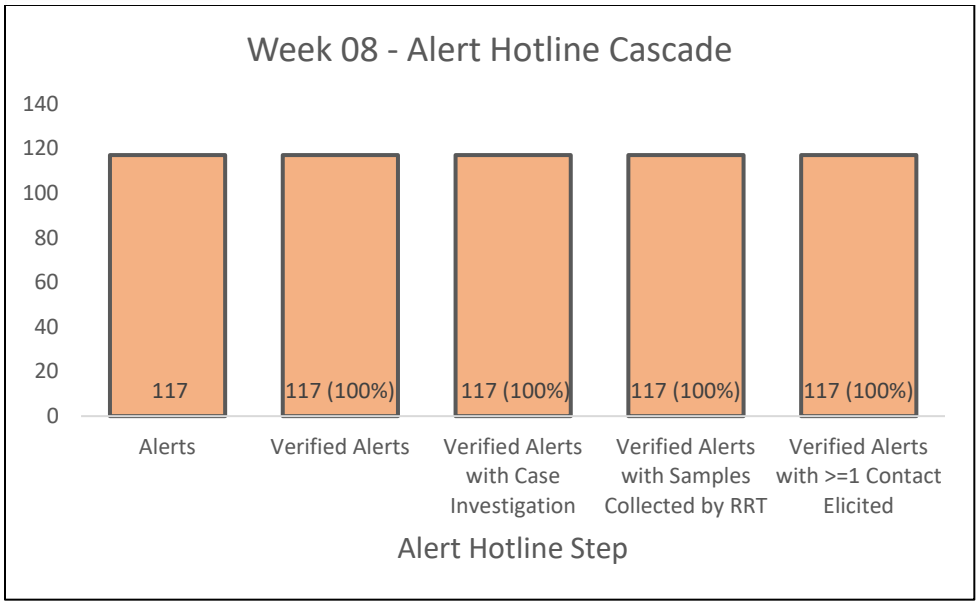

Figure 9: COVID-19 related alerts cascade (Week 08)

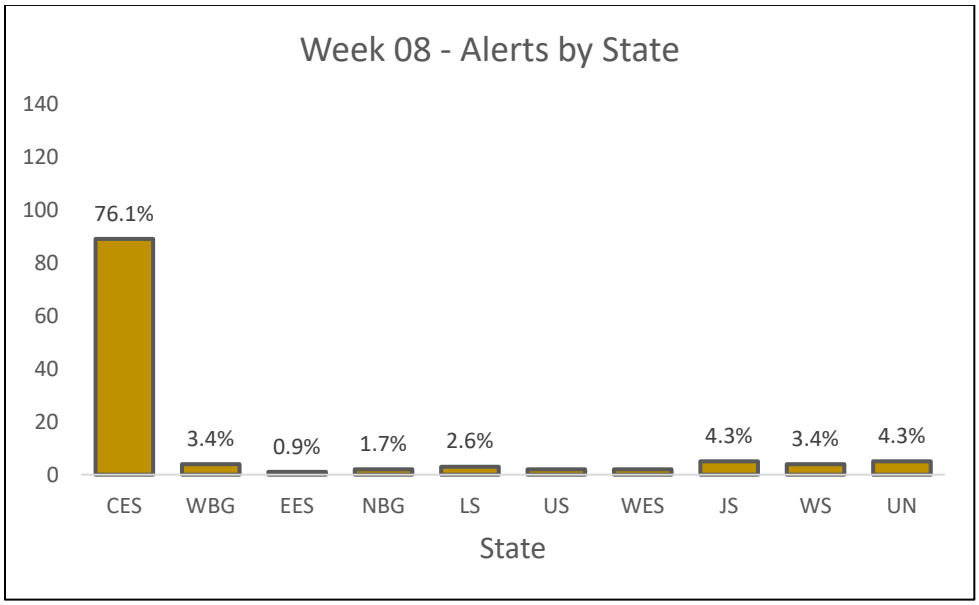

Figure 10: COVID-19 related alerts by state (Week 08)

Interpretation and recommendations

- **This week showed a decrease of 13.3% in the number of alerts compared to Week 07, which also showed a decrease of 6.9% compared to Week 06, ending an increasing trend between Weeks 04 and 06**
- All verified alerts (117) screened to meet case definition for COVID-19 were investigated and sampled

- **Twenty (17.1%) of the 117 investigated alerts in Week 08 tested positive**
- Alerts represent a small number of total tests run in South Sudan (1.8%). Understanding the reasons behind the low number of alerts via the call center/hotline should be investigated to identify root causes and potential drivers to remediate. Moreover, alerts outside of Central Equatoria are generally limited. Ongoing discussions to strengthen the hotline system and RRT, case investigation, contact tracing, sentinel sites, and mortality surveillance teams continue to be needed

Contact Tracing System Update

During Week 08, there were 1006 cases in Juba County, of which 659 (65.5%) were assigned to ICAP by the EOC. Alima, the other contact tracing partner supporting the EOC (initially in listing of contacts of cases identified through sentinel surveillance) has not provided any data since Week 04 and ended its contact tracing activities this week. The data provided in this report are from the ICAP-led program. Of the 659 cases assigned to ICAP, 49 (7.4%) provided contacts (up from 0.8% in Week 07) and 610 (92.6%) either refused to provide contacts/denial (104), did not pick up after their phone (174), had no phone number (28), phone number was wrong (232), or phone number was not going through (72). From the 49 cases that provided contacts, a total of 202 contacts were listed, providing a case to contact ratio of 1:4.1, a ratio significantly lower than the 1:15.1 for Week 07. Since community-based contact tracing started in early October, a total of 2502 contacts have been elicited from 279 cases (a ratio of 1:9.0), of which 686 (27.4%) are still under active follow-up. One hundred and fifty-eight contacts have completed 14 days of follow up this week, with a cumulative total of 1483 (59.3%) thus far. Five of the 686 contacts followed up in Week 08 reported COVID-19 related symptoms. Samples were collected from 119 contacts this week, bringing the cumulative number of samples collected from contacts to 1109. Eighty-eight contacts (73.9%) sampled this week tested positive for COVID-19[5]. Cumulatively, 12210[6] contacts have been listed and followed up since the first confirmed case was reported in April 2020, of which 11022 (90.3%) have completed 14 days of follow-up.

Interpretation and recommendations

- Solicitation of contacts from cases continues to be a challenge for the contact tracing team. In Week 08, 610 (92.6%) of the cases assigned to ICAP did not have contacts listed due to various reasons including denial of having had any contacts and phone numbers not going through. The contact tracing team needs to come up with strategies to reduce the high refusal to provide contacts by cases. **One strategy that has been discussed is listing contacts at the timing of CIF completion and sample collection, but this has not been received well by the private testing laboratories although it is part of the SOPs for COVID-19 testing in the country. The contact tracing team has instead embedded data clerks in two of the three private testing facilities**

[5] Most of the contacts sampled came from mini-clusters of COVID-19 infection in compounds of partners working in the COVID-19 response and business spaces

[6] Arriving passengers, who are not contacts, but being followed up for adherence to quarantine regulations may have been included in this tally in the early weeks of the response

(the third did not accept the data clerks) to facilitate contact listing and checking of listed phone numbers for active status when the contact tracer is still engaged with the case

- The main barriers to enroll contacts successfully continues to be:
    1) Unwillingness of cases to list contacts
    2) Incorrect contact addresses (physical location and phone number)
    3) Contacts not answering their phones or answering their phones and saying they are outside South Sudan (these are being followed up whenever possible)

Case Management Update

Most cases that record the type of case management are managed at home (33.7%), with very few admitted to a health facility or hospital. A significant proportion of cases continues to have "unknown" (65.8%) case management type at first contact. However, this will be rectified soon because a member of the EOC data management unit is currently working with the MOH case management data clerk to enter the missing individual-level data into the EOC case database. Unfortunately, this is still pending as of Week 08. Fifty-three percent (4217) of all cases were discharged as of Week 08, with 3699 cases (46.2%) under active follow-up. Ninety-four cases have died, yielding a case fatality rate of 1.17% (down from 1.27% in Week 07) [Fig 11].

Case management at first detection	Count	Percent of total cases
Home management	2675	33.7%
Hospital	18	0.2%
Isolation center	4	0.1%
UN health facility	2	<0.1%
UN home management	3	<0.1%
Died	10	0.1%
Unknown	5218	65.8%

Table 1. Distribution of case management type for cumulative cases, showing total count and as a percent of total cases. Data obtained for date of first contact with the patient

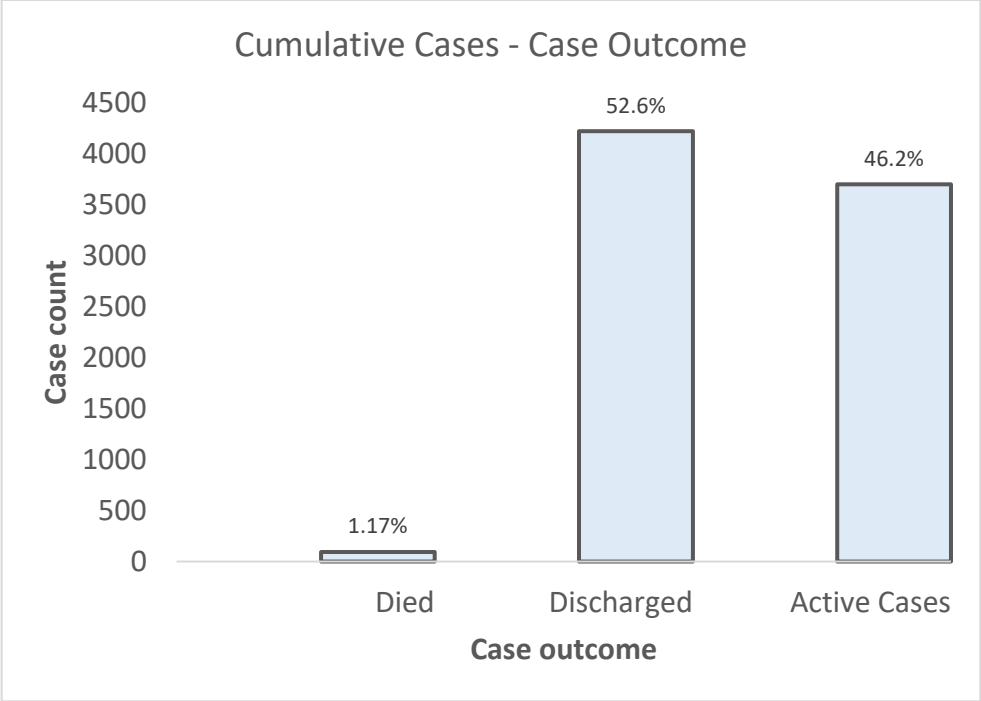

Figure 11. Distribution of case outcome for cumulative cases

Interpretation and recommendations

- Most cases with a case management type are managed at home. About 65.8% of all cases do not have case management type reported, with documentation entirely absent in several of the recent reporting weeks. The coordination of case management data needs to be improved between all reporting and receiving parties
- **The case fatality rate stands at about 1.17%, down from 1.27% in Week 07**

Risk Communication and Community Engagement Update

The following achievements were registered during Week 07 under the risk communication and community engagement (RCCE) pillar:

- A total of 52162 individuals were reached in their respective catchment areas with COVID-19 preventive messages and measures for the community to act and safeguard themselves against COVID-19 infection
- Twenty key opinion leaders including community leaders, teachers, religious leaders, and village chiefs across South Sudan, were oriented/trained on COVID-19 messaging
- Thirty community mobilizers received a refresh training on communication skills pertaining to COVID-19 messaging
- 324 radio jingles were aired in 10 local languages through different radio stations across all 10 states in the country
- Ten talk shows were conducted
- Community-based contact tracers supported by ICAP, provided information about COVID-19 to 2264 persons

- Main challenges for the RCCE pillar include:
    1) Community non-compliance with COVID-19 preventive measures
    2) Stigmatization of COVID-19 prevents people from reporting suspected cases to the hotline

Points of Entry Update

During the epidemiological week, IOM screened 3941 (2958 male; 983 female) travelers from Nimule land crossing. Nimule PoE screens only arriving travelers. No traveler underwent secondary screening. The cumulative number of travelers screened for COVID-19 from Feb 15, 2020 to February 28, 2021 is 565408. PoE screening at Wau was officially handed over to the state MOH on February 17, 2021.

Most of the travelers screened at Nimule PoE this week were truck drivers and returnees. Of the 3941 inbound travelers, 1369 were returnees from refugee camps in Uganda, 957 were other nationals other than truck drivers, and 1615 were truck drivers. The returnees from the camps are allowed to proceed to their destination without undergoing quarantine or presenting COVID-19 certificates but random samples are taken from at least one traveler per household. Other nationals and truck drivers are required to present valid COVID-19 free certificate to enter South Sudan.

IOM continues to actively participate in all the established coordination mechanisms for COVID-19 including technical working groups, state task force and national task force meetings in Nimule.

For more information, please contact the South Sudan Public Health Emergency Operation Centre [PHEOC]

Email: sspheoc@gmail.com
Tel #: +211922202028
For additional information follow these links:
http://moh.gov.ss/daily_updates.php
http://moh.gov.ss/covid-19.php

Note: COVID-19 testing in South Sudan is free of charge for alerts, contacts of cases, and suspected cases

Annex A: COVID-19 Alerts Reported in Juba