South Sudan COVID-19 Weekly Epidemiologic Bulletin

Issue #: 11

15 – 21 March 2021

Epidemiologic Week 11

Summary statistics for Epidemiologic Week 11

336	9890	2	106	1721	125721
New Confirmed Cases	Total Confirmed Cases	New Deaths	Total Deaths	Contacts Under Follow-up	Cumulative Samples Tested

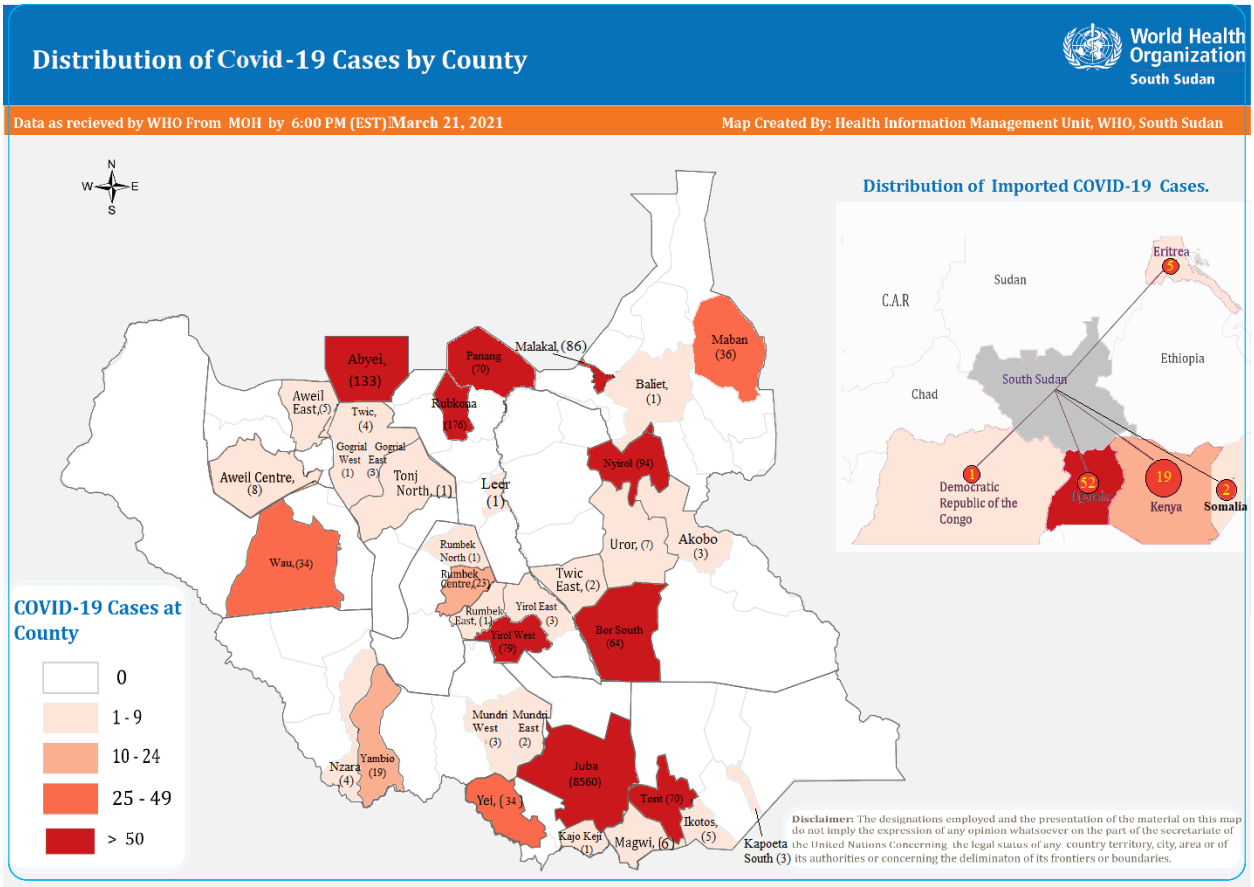

Figure 1. Map of cumulative reported COVID-19 cases, by county

Map source: WHO Weekly Bulletin

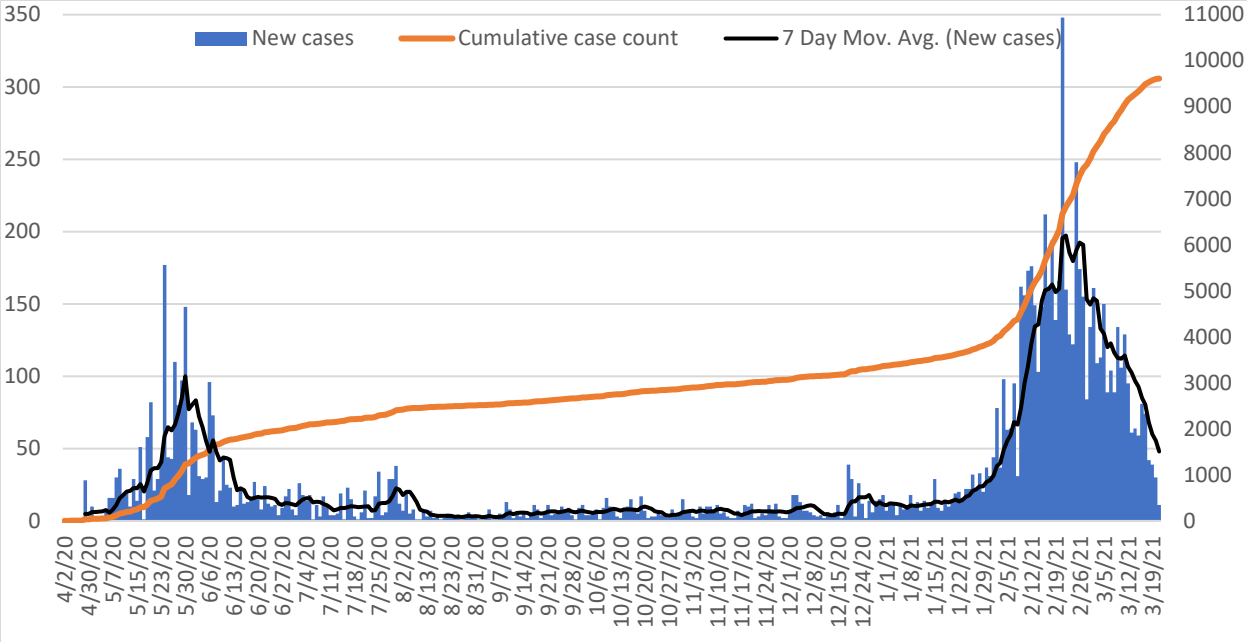

Figure 2. Epidemiological curve of reported cases through Week 11, showing new cases (blue bars), rolling 7-day average of reported cases (black line), and total cumulative reported cases (yellow line)

Epidemiology and Surveillance Update

Three hundred and thirty-six new cases were identified in Week 11, bringing the cumulative number of confirmed cases to 9890[1], including 328 imported cases mainly from South Sudanese returnees (157), Uganda (52), and Kenya (19). There were no new imported cases in Week 11. Similar to trends observed in the last four epi weeks (07-10), the case count and average positivity yield continued to decline in Week 11. This week's tally is the lowest since epi week 04 when the country had 197 cases. It also shows a decrease of 50.4% in reported cases compared to Week 10, which also showed a 21.2% compared to Week 09. Moving averages for yield, case count, and proportional daily case change continue downward trends in Week 11. There was no change in reported deaths in Week 11 compared to Week 10 (each registered 2 deaths), but mortality surveillance and reporting in the community needs to be active (i.e., the mortality surveillance team needs to respond to all community death alerts and visit mortuaries every day to look for suspect deaths and swab them). Although cases have surged in the country since the beginning of 2021, the case count has been decreasing for the past five epi weeks based on the 7-day moving average [Figure 2]. The case tally for Week 11 represents only 3.4% of the cumulative case total (down from 7.1% in Week 10). 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.

[1] The cumulative case tally is likely an underestimate with backlogged data from some GeneXpert testing sites still to be added

At the end of Week 11, 35 (43.8%) 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 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-nine percent of cases reported their nationality as South Sudanese, with a significant proportion (19.5%) 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. However, certainty about the case profiles is 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 (171) in Week 11 were reported through traveler screening mainly at Med-Blue (125). Cumulatively, pre-travel screening account for the greatest proportion of cases (63.6%), followed by contact tracing (12.5%), and alerts (8.2%) [Figure 5B]. Most of the reported cases (57.1%) in Week 11 came from Central Equatoria (down from 79.2% in Week 10). Jonglei (15.8%), Ruweng Administrative Area (8.0%), Upper Nile (5.7%), Unity (4.5%), Abyei Administrative Area (3.0%), Eastern Equatoria (2.7%), Lakes (2.4%), Warrap (0.6%), and Western Equatoria (0.3%) contributed the remaining cases to the weekly case tally [Figure 6]. In Week 11, 5 healthcare workers were confirmed as cases, bringing the cumulative case tally among healthcare workers to 254. Most of the cases among healthcare workers came from Central Equatoria (214), followed by Abyei (13), Jonglei (10), and Eastern Equatoria (9). Three states (Upper Nile, Western Bahr el Ghazal, and Northern Bahr el Ghazal) have not reported any cases among healthcare workers [Figure 7].

We are starting to see more testing reported from the states, mostly driven by further decentralization of GXP machines throughout the country (at least 27 sites). However, it is still difficult to know if we are at the community transmission stages in the states because there is still not enough testing being done. Nevertheless, notable clustered outbreaks have been reported recently in Nzara, Yirol, Bentiu, Bor, Lakien, Ruweng, and Mapourdit, although 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.

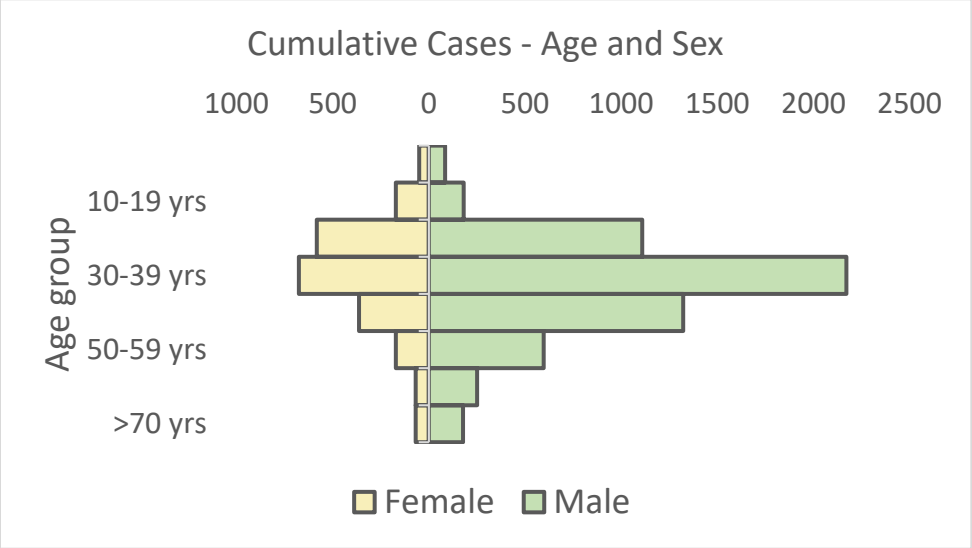

Figure 3. Distribution of cumulative reported cases by age and sex

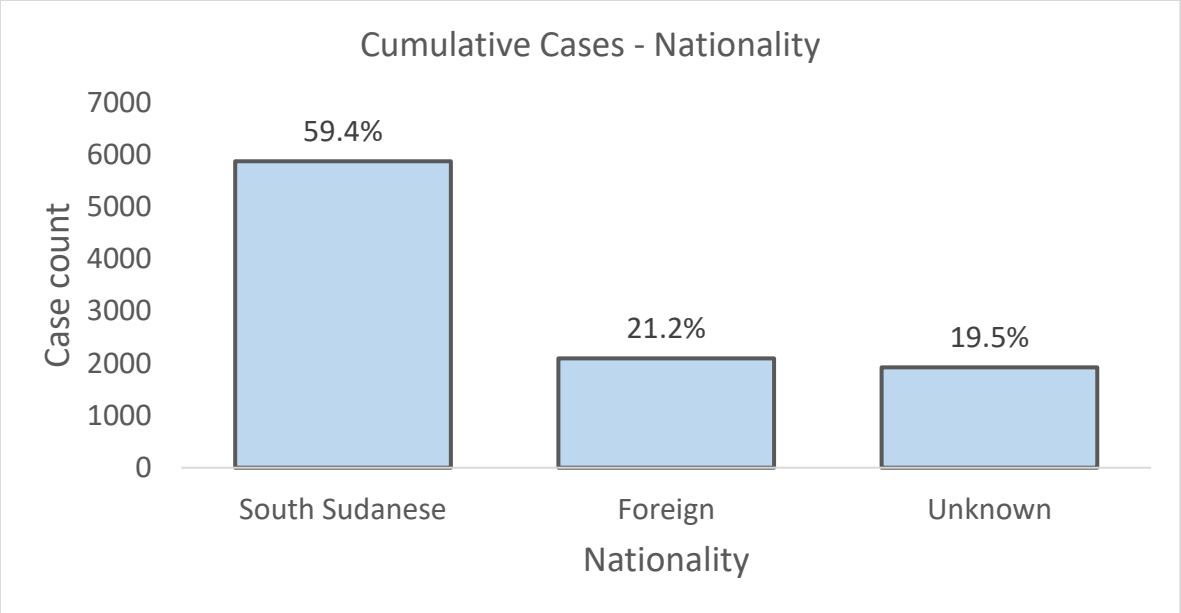

Figure 4. Distribution of cumulative reported cases by nationality

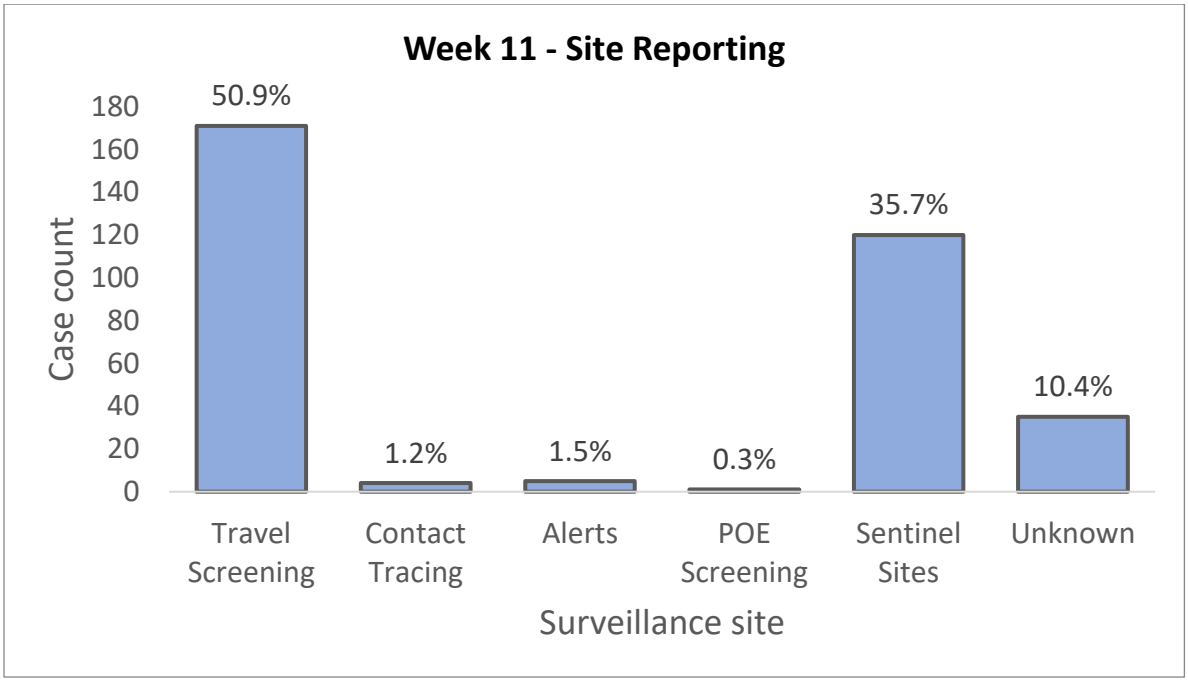

Figure 5A. Case by surveillance site (Week 11)

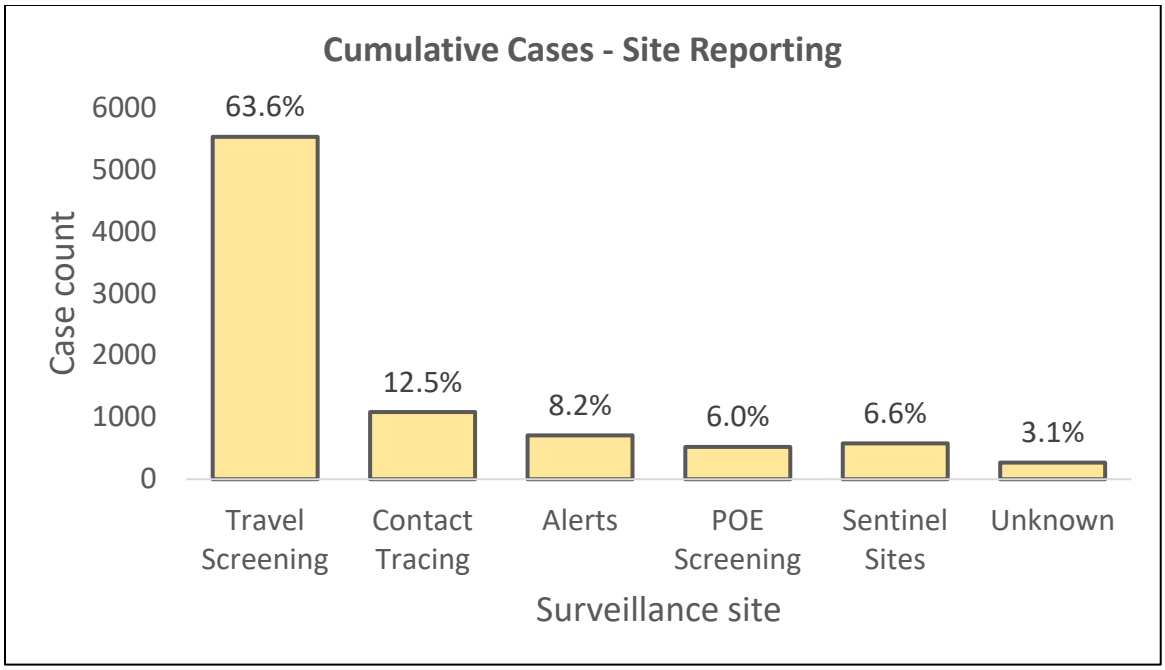

Figure 5B. Cases by surveillance site (cumulative)

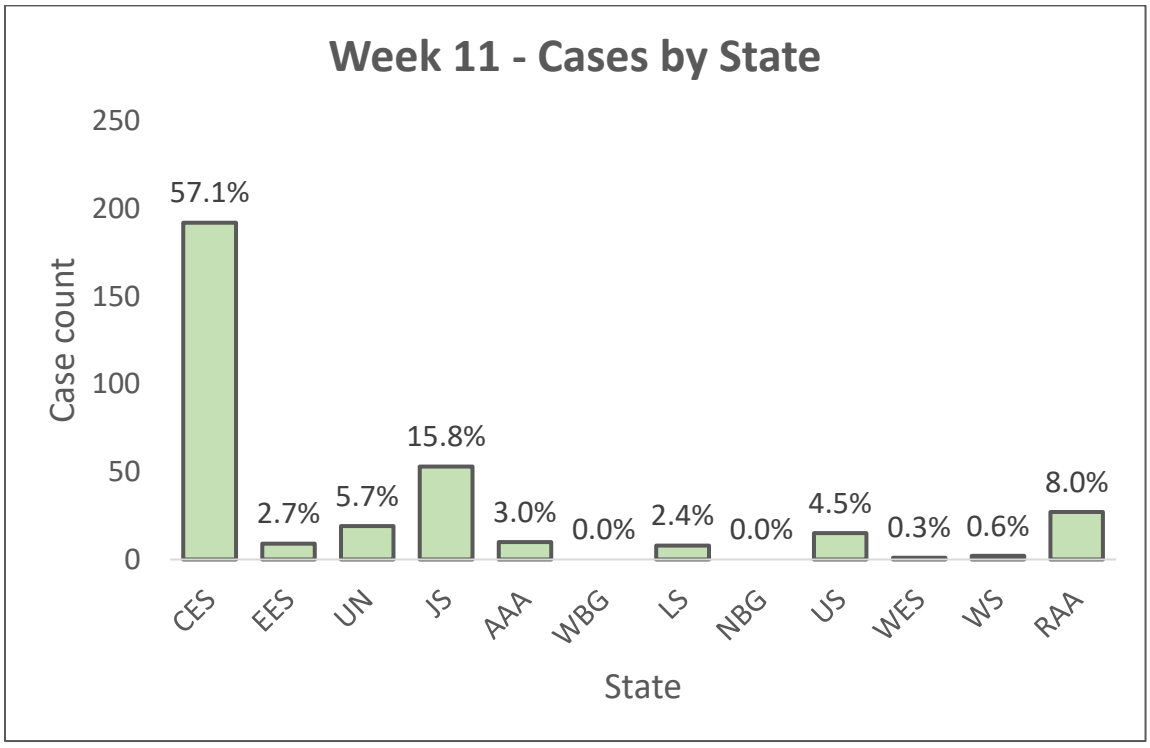

Figure 6. Case distribution by state (Week 11)

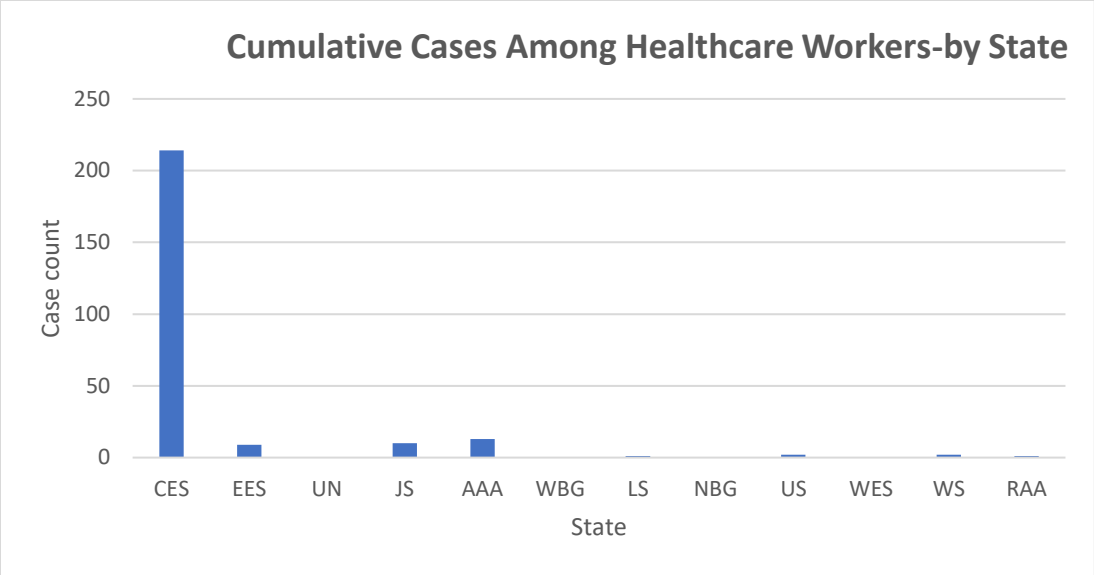

Figure 7. Cases among healthcare workers by state (cumulative)

Interpretation and recommendations

- **This week showed a 50.4% decrease in the number of reported cases compared to Week 10, a fourth consecutive week of a decreasing trend in case count. There was a no change in reported deaths compared to Week 10 (both weeks reported 2 deaths each).** 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. It is also important to conduct genomic sequencing to know which variants of SARS-CoV-2 are in circulation since they might change the transmissibility, clinical presentation, and severity of the disease among the population
- 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). **The EOC will develop SOPs to standardize the process of removing duplicates and replacing them with new cases.** In addition, the EOC has mandated all testing facilities to use the MOH approved CIF**, although this is currently only happening at Queens Medical Complex and pending at Nojum and Med Blue.** 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. **A training on the CIF for all private labs took place during Week 11**
- 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 by Week 12 upon**

completion of the training by the EOC data management unit this week. 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 11, there was improved reporting of cases from sentinel surveillance sites, which accounted for 120 (35.7%) of the weekly case tally. Contact tracing and alerts accounted for 1.2% and 1.5% of the weekly case tally respectively.** Cumulatively cases originating from contact tracing (12.5%) and alerts (8.2%) 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 8.3% of all confirmed cases have been detected in states other than Central Equatoria and Eastern Equatoria. In addition, about 87% of all cases have been detected in Juba compared to 13% 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 (they have had the greatest positivity yields over the past three epi weeks), 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

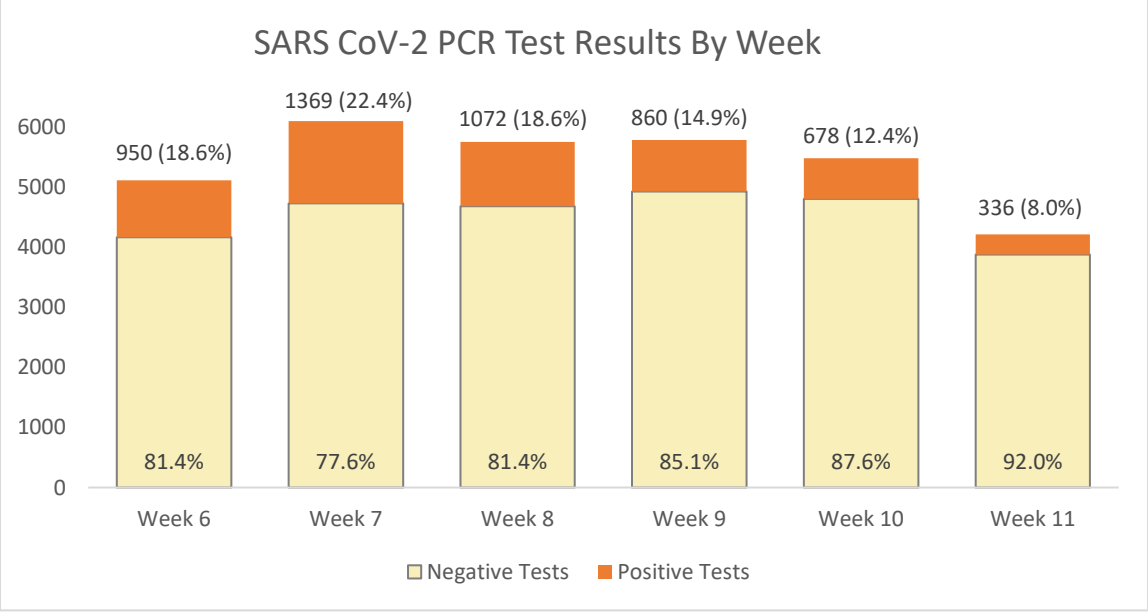

Figure 8. SARS-COV-2 PCR test results by week

Interpretation and recommendations

- **There was a 23.1% decrease in overall reported testing in Week 11 compared to Week 10, which is also showed a 5.2% decrease in tests run.** 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% since Week 05, peaking at 22.4% in Week 07. However, average positivity yields have been declining for the last four epi weeks, likely indicating the second wave is about to end**. While the recent surge in cases is likely due to the country 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 has so far identified 178 such duplicated cases, and these will be removed from the cumulative case tally once SOPs to standardize the removal process have been finalized. 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**
- **Positivity yields have declined significantly in recent epi weeks. However, positivity is still high in GXP testing sites due to the targeted testing (i.e., alerts, suspected cases, and contacts of cases) done at these locations.** Except for Nimule (0.0%), Kapoeta (0.0%), Nzara (0.0%), Makpandu (0.0%), Nojum (2.6%), and Queens Medical Complex (4.3%), positivity yield was more than 5% for all other testing facilities that provided data in Week 11 [Figure 9]. Positivity yields were as follows in Week 11, NPHL (7.8%), Med Blue (6.3%), Queens Medical Complex (4.3%), Nojum (2.6%), Nimule (0.0%), Kapoeta (0.0%), Lakien (80%), Torit (25%), Nzara (0.0%), Gentil primary healthcare center (33.3%), Pariang (69.2%), Pamir refugee camp (26.8%), Bentiu (21.7%), Makpandu (0.0%), Rumbek (20%), Agok (18.2%), Ruweng (50%), Bor (66.7%), Mapourdit (46.2%), and UN Clinic (31.6%)[2]
- In Week 11, 1980 (47%) of the tests were run at Med-Blue, 627 (14.9%) at the NPHL, 1059 (25.1%) at Queens Medical Complex, 191 (4.5%) at Nojum, and 5 (0.1%) in Nimule. Other tests were as follows: 60 (1.4%) in Bentiu, 57 (1.4%) in Gentil PHCC, 56 (1.3%) in Pamir, 44 (1.0%) in Agok, 27 (0.6%) in Bor, 20 (0.5%) in Lakien, 19 (0.5%) in the UN/UNMISS clinic, 16 (0.4%) in Makpandu, 13 (0.3%) in Pariang and Mapourdit, 10 (0.2%) in Rumbek, 8 (0.2%) in Torit, 6 (0.1%) in Ruweng, and 3 (0.1%) in Kapoeta and Nzara. Approximately 125721 SARS-COV-2 PCR tests have been performed throughout the outbreak with 7.9% positivity
- **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, reluctance 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

[2] 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

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

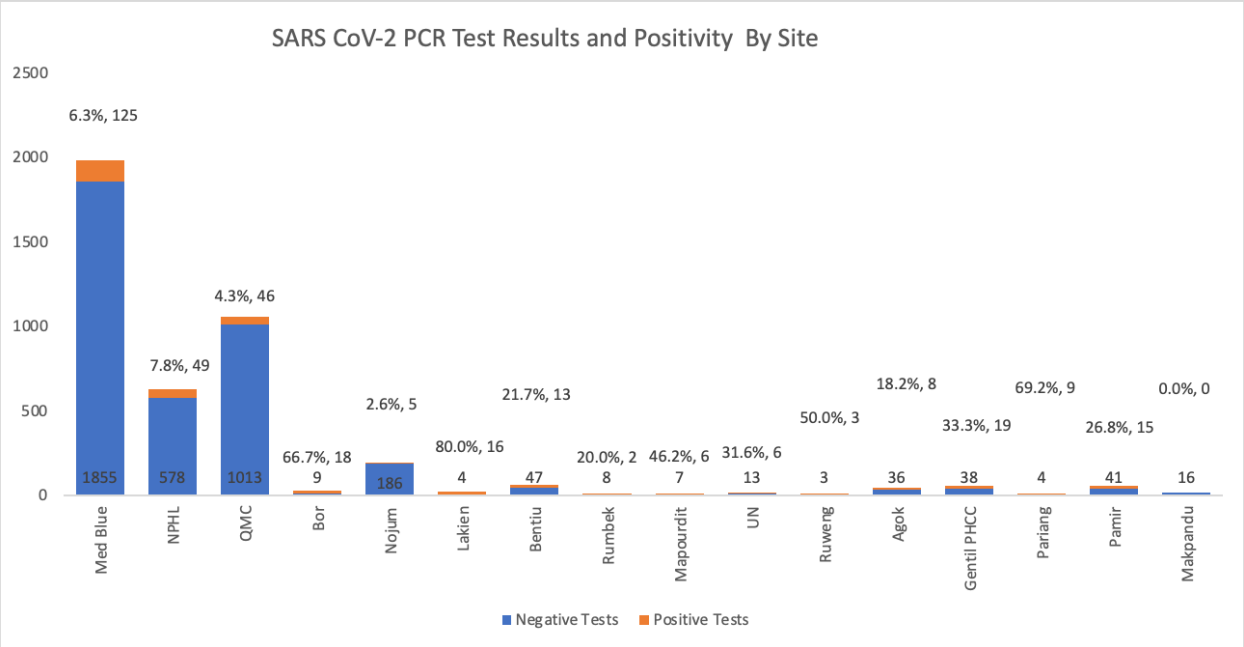

Figure 9. SARS-COV-2 PCR test results and positivity by testing site (Week 11)

Hotline/Alert System Update

During Week 11, the call center received 4980 calls, an increase of 14.1% from Week 10. Most calls came from callers living in Central Equatoria (29.6%). Of the calls received, 573 (11.5%) inquired about the cause of COVID-19 (down from 25.4% in Week 10), 909 (18.3%) sought information on signs and symptoms of COVID-19 (down from 25.1% in Week 10), and 900 (18.1%) asked about prevention of COVID-19 (down from 19% in Week 10). Overall, 2602 (52.2%) of the calls in Week 11 were COVID-19 related.

The trend in reported alerts has been downward in the last six epi weeks since a high of 145 alerts was recorded in Week 06. There were 41 potential COVID-19 alerts (all through the call center/hotline) [Figure 10] in Week 11, a decrease of 38.8% compared to Week 10, which also showed a decrease of 28.7% compared to Week 09. Between Weeks 06 and 11, there has been a 71.7% decrease in the number of alerts, mirroring the observed decreases in case count and positivity yield in recent weeks. All 41 alerts were verified and investigated by the rapid response team (RRT). Samples were collected from all 41 (100%) of investigated alerts [Figure 10]. About 63.4% of the potential alerts were from Central Equatoria (up from 52.2% in Week 10) followed by Western Bahr el Ghazal (12.2%), Warrap and Upper Nile (9.8%), and Northern Bahr el Ghazal and Unity (2.4%). Eastern Equatoria, Lakes, Western Equatoria,

and Jonglei did not report any alerts in Week 11 [Figure 11]. Five alerts tested positive for COVID-19, which represents 12.2% of the alerts sampled this week (down from 24.2% in Week 10). Cumulatively, 2272[3] alerts have been reported, of which 2165 (95.3%) have been verified, and 2084 (96.3%) of the verified alerts were sampled.

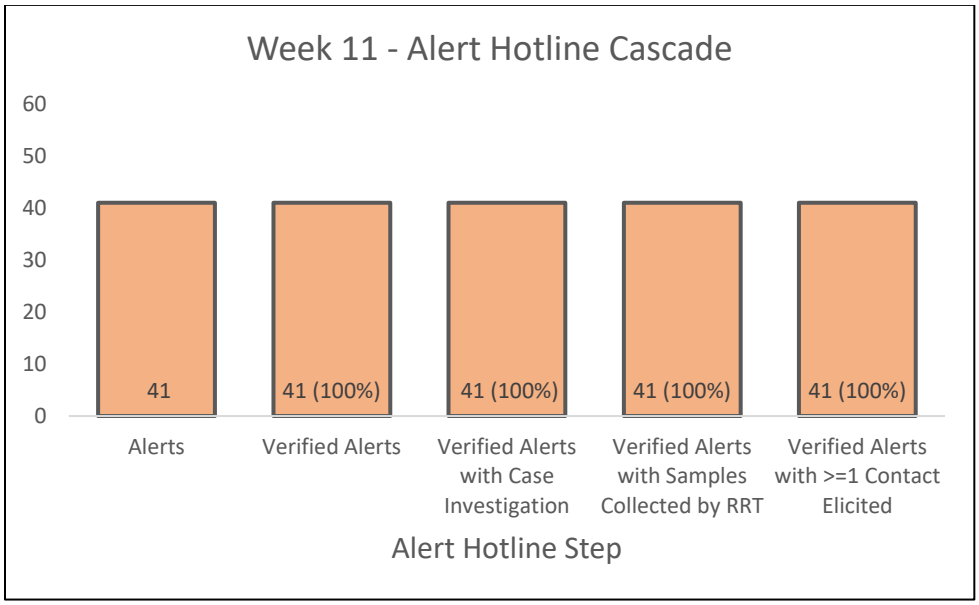

Figure 10: COVID-19 related alerts cascade (Week 11)

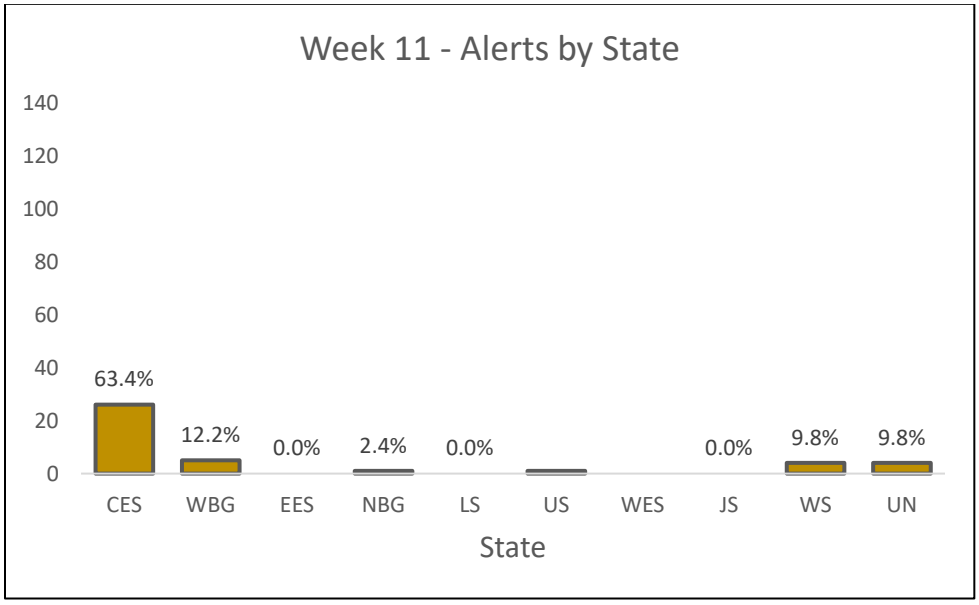

Figure 11: COVID-19 related alerts by state (Week 11)

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

Interpretation and recommendations

- **This week showed a decrease of 38.8% in the number of alerts compared to Week 10, which also showed a decrease of 28.7% compared to Week 09, continuing a downward trend in the number of reported alerts**
- All verified alerts (41) screened to meet case definition for COVID-19 were investigated and sampled
- **Five (12.2%) of the 41 investigated alerts in Week 11 tested positive**
- Alerts represent a small number of total tests run in South Sudan (1.7%). 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 11, there were 192 cases in Juba County, of which 159 (82.8%) were allocated to ICAP by the EOC for contact listing and tracing. Of the 159 cases, 32 (20.0%) provided contacts (up from 16.0% in Week 10) and 127 (79.9%) either refused to provide contacts/denial (6), did not pick up after their phone (28), had no phone number (4), phone number was wrong (12), phone number was not going through (23), or other reasons (case in isolation [48], refused to talk [3], duplicated case [2], and has a negative result [1]). From the 32 cases that provided contacts, a total of 132 contacts were listed, providing a case to contact ratio of 1:4.1 (down from 1:8.3 in Week 10). Since community-based contact tracing started in early October 2020, a total of 4085 contacts have been elicited from 481 cases (a ratio of 1:8.5), of which 1721 (42.1%) are still under active follow-up. One hundred and sixty-one contacts have completed 14 days of follow up this week, with a cumulative total of 1995 (48.8%) thus far. None of the 1721 contacts followed up in Week 11 reported COVID-19 related symptoms. Samples were collected from 105 contacts this week. Four contacts (3.8%) sampled this week tested positive for COVID-19. Cumulatively, 14232[4] contacts have been listed and followed up since the first confirmed case was reported in April 2020, of which 12706 (89.3%) 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 11, 127 (79.9%) of the cases allocated to ICAP did not have contacts listed due to various reasons including denial of having had any contacts, case under isolation, 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

[4] 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

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 the three private testing facilities 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 (42.8%), with very few admitted to a health facility or hospital. A significant proportion of cases continues to have "unknown" (56.8%) case management type at first contact. However, this will be rectified soon because a member of the EOC data management unit is 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 11. Eighty-nine percent (8779) of all cases were discharged as of Week 11, with 1005 cases (10.2%) under active follow-up. One hundred and six cases have died, yielding a case fatality rate of 1.07% (down from 1.09% in Week 10) [Fig 12].

Case management at first detection	Count	Percent of total cases
Home management	4194	42.8%
Hospital	19	0.2%
Isolation center	4	<0.1%
UN health facility	2	<0.1%
UN home management	3	<0.1%
Died	10	0.1%
Unknown	5572	56.8%

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

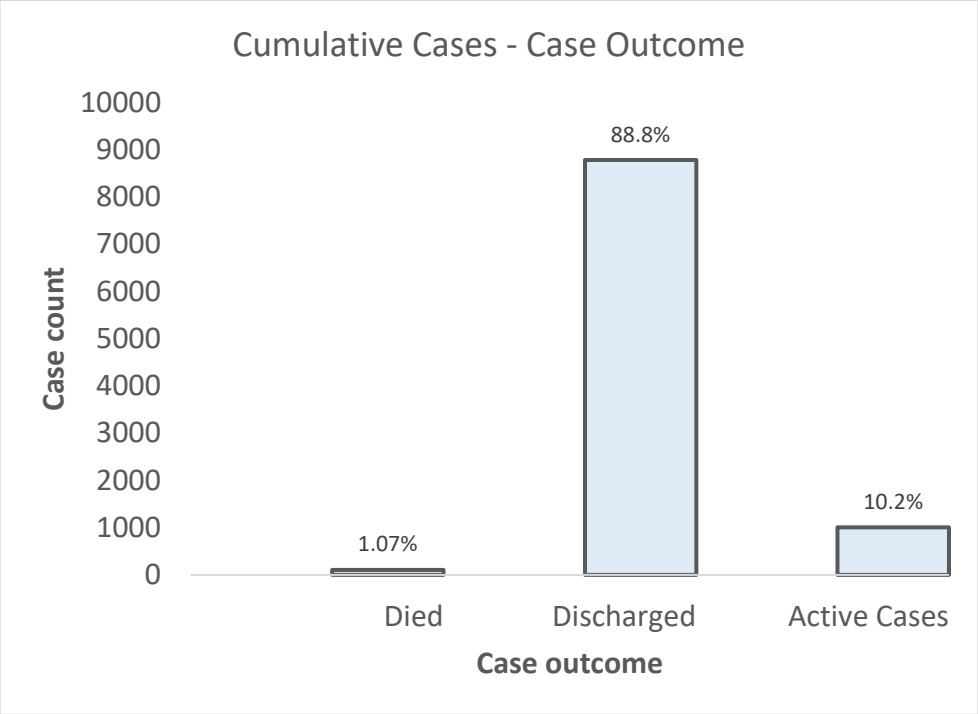

Figure 12. Distribution of case outcome for cumulative cases

Interpretation and recommendations

- Most cases with a case management type are managed at home. About 56.8% 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 1.07%, down from 1.09% in Week 10**

Risk Communication and Community Engagement Update

The following achievements were registered during Week 11 under the risk communication and community engagement (RCCE) pillar:

- Community mobilizers reached 53650 individuals (22533 male; 31117 female) with COVID-19 preventive messages and measures for the community to act and safeguard themselves against COVID-19 infection. This was through awareness sessions during house-to-house visits and megaphone broadcasts in the respective catchment areas
- Fifteen key opinion leaders including community leaders, teachers, religious leaders, and village chiefs across South Sudan, were oriented/trained on COVID-19 messaging
- Twelve community mobilizers received a refresher training on communication skills pertaining to COVID-19 messaging
- 384 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 2702 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 4481 (3301 male; 1180 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 March 21, 2021 is 578391.

Most of the travelers screened at Nimule PoE this week were truck drivers and returnees. Of the 4481 inbound travelers, 1604 were returnees from refugee camps in Uganda, 918 were other nationals other than truck drivers, and 1959 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.

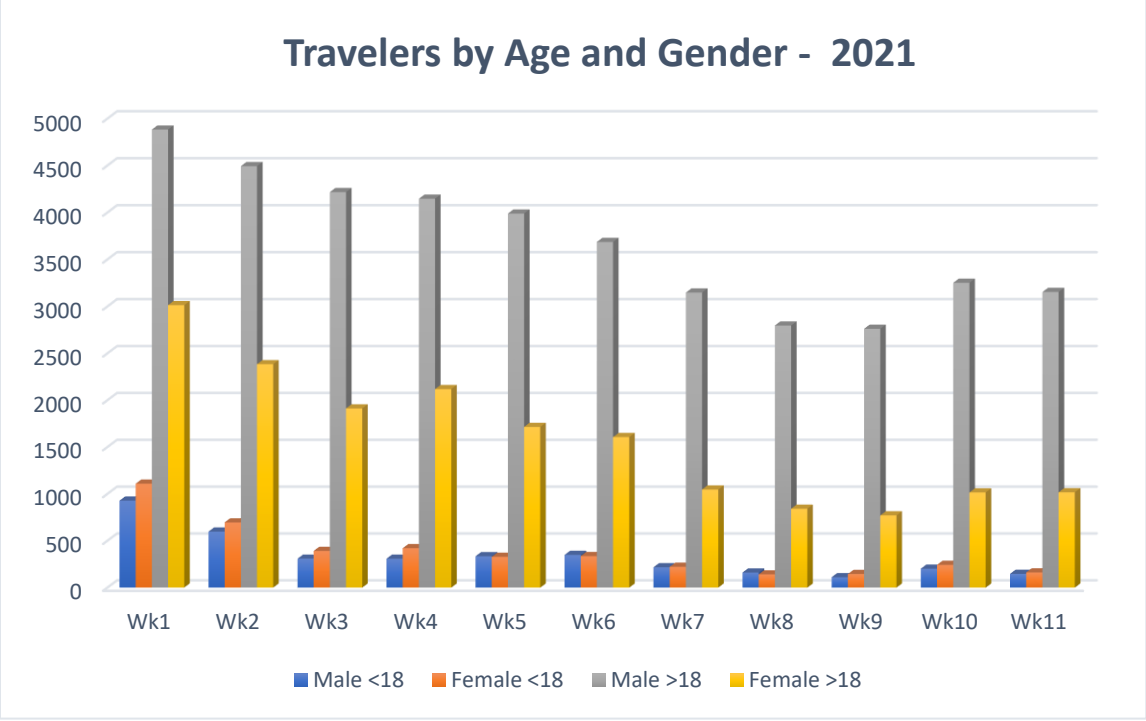

Figure 13. Numbers of travelers screened by sex and age

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