South Sudan COVID-19 Weekly Epidemiologic Bulletin

Issue #: 10

8 – 14 March 2021

Epidemiologic Week 10

Summary statistics for Epidemiologic Week 10

678	9554	2	104	1750	121504
New Confirmed Cases	Total Confirmed Cases	New Deaths	Total Deaths	Contacts Under Follow-up	Cumulative Samples Tested

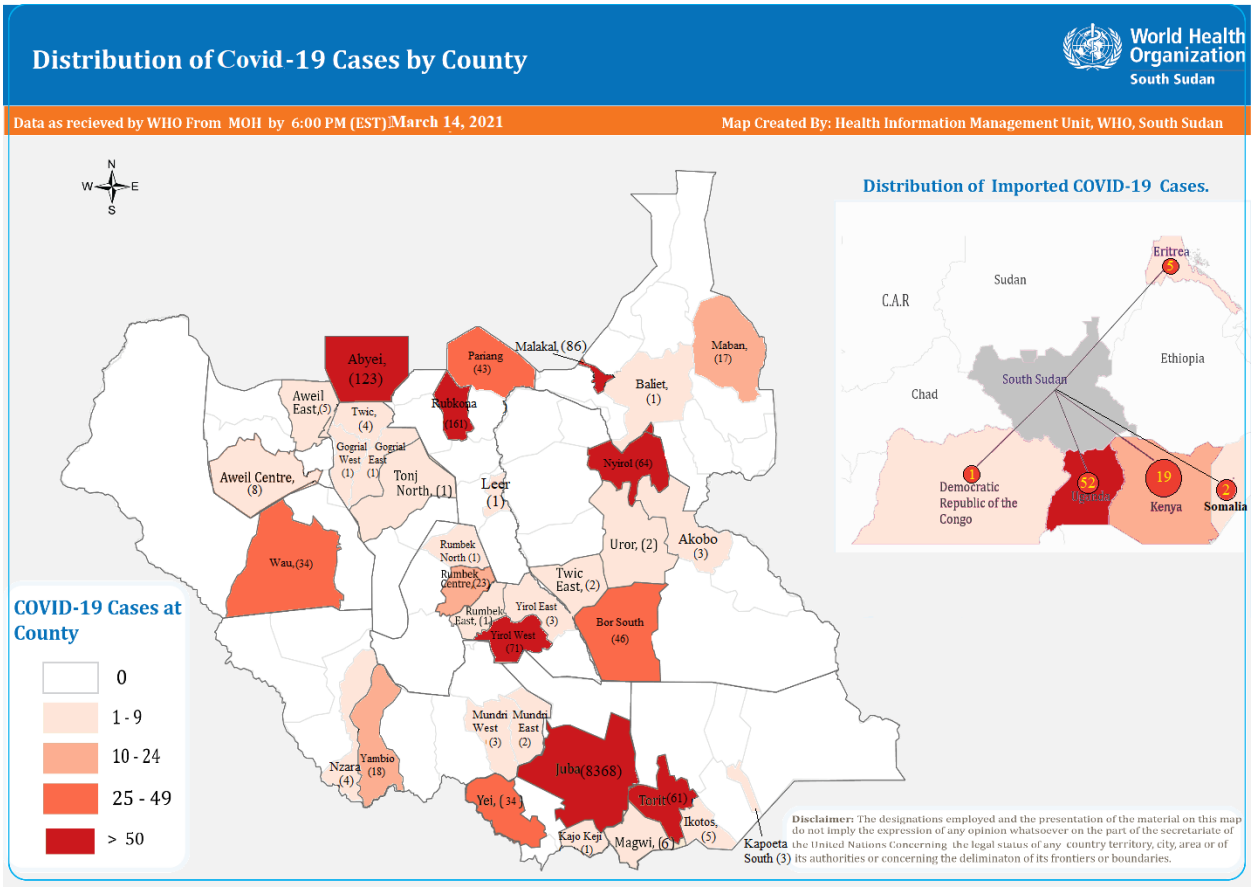

Figure 1. Map of cumulative reported COVID-19 cases, by county

Map source: WHO Weekly Bulletin

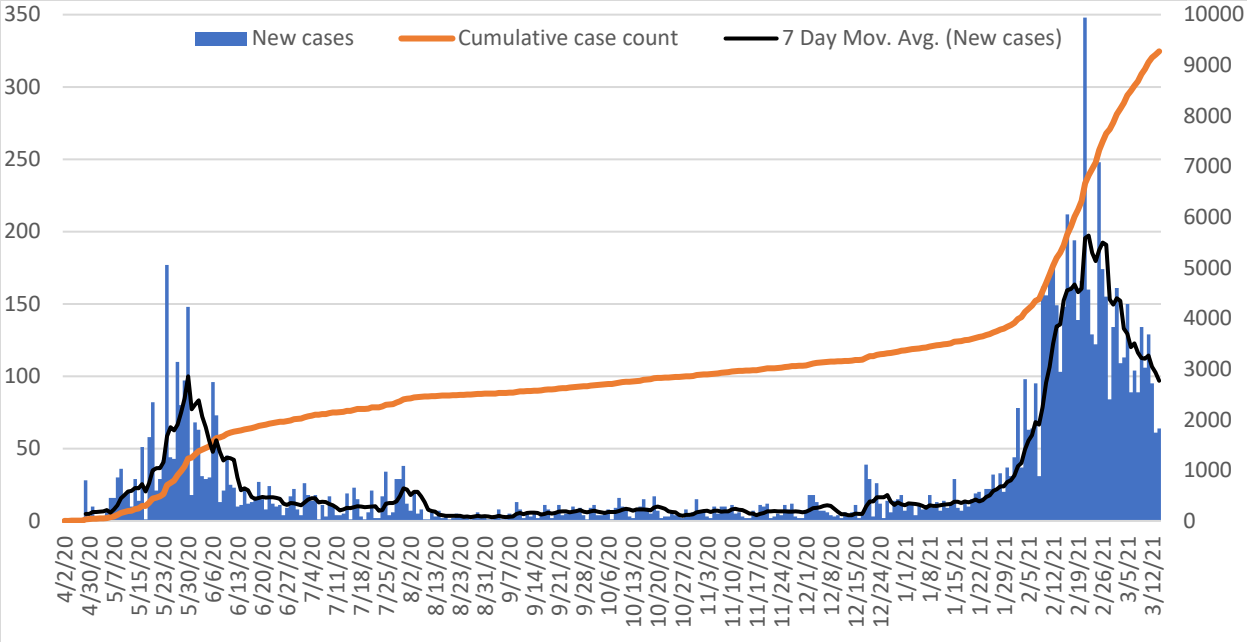

Figure 2. Epidemiological curve of reported cases through Week 10, showing new cases (blue bars), rolling 7-day average of reported cases (black line), and total cumulative reported cases (yellow line)

Epidemiology and Surveillance Update

Six hundred and seventy-eight new cases were identified in Week 10, bringing the cumulative number of confirmed cases to 9554[1], including 328 imported cases mainly from South Sudanese returnees (157), Uganda (52), and Kenya (19). There were three new imported cases in Week 10. In addition, 9 healthcare workers were confirmed as cases in Week 10 with an infection cluster continuing in Mapourdit Hospital, bringing the cumulative case tally among healthcare workers to 249. Similar to trends observed in the last three epi weeks (07-09), the case count and average positivity yield continued to decline in Week 10. This week's tally shows a decrease of 21.2% in reported cases compared to Week 09, which also showed a 19.8% in reported cases compared to Week 08. Moving averages for yield, case count, and proportional daily case change continue downward trends in Week 10. There was a 75% decrease in reported deaths in Week 10 compared to Week 09, 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 four epi weeks based on the 7-day moving average [Figure 2]. The case tally for Week 10 represents 7.1% of the cumulative case total (down from 9.7% in Week 09). 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

[1] Seven backlogged cases (6 from Nojum and 1 from Med Blue) were added to the case tally this week. In addition, the cumulative case tally is likely an underestimate with backlogged data from some GeneXpert testing sites still to be added

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 10, 35 (43.8%) of the 80 counties in the country have a confirmed case [Figure 1]. There were two counties 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]. Sixty percent of cases reported their nationality as South Sudanese, with a significant proportion (18.7%) 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 (506) in Week 10 were reported through traveler screening mainly at Med-Blue (376). Cumulatively, pre-travel screening account for the greatest proportion of cases (64.2%), followed by contact tracing (12.9%), and alerts (8.4%) [Figure 5B]. Most of the reported cases (79.2%) in Week 10 came from Central Equatoria. Lakes (4.9%), Jonglei (3.7%), Unity (3.5%), Ruweng Administrative Area (3.5%), Eastern Equatoria (2.1%), Upper Nile (1.5%), Abyei Administrative Area (1.2%), and Warrap (0.4%) contributed the remaining cases to the weekly case tally [Figure 6]. 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.

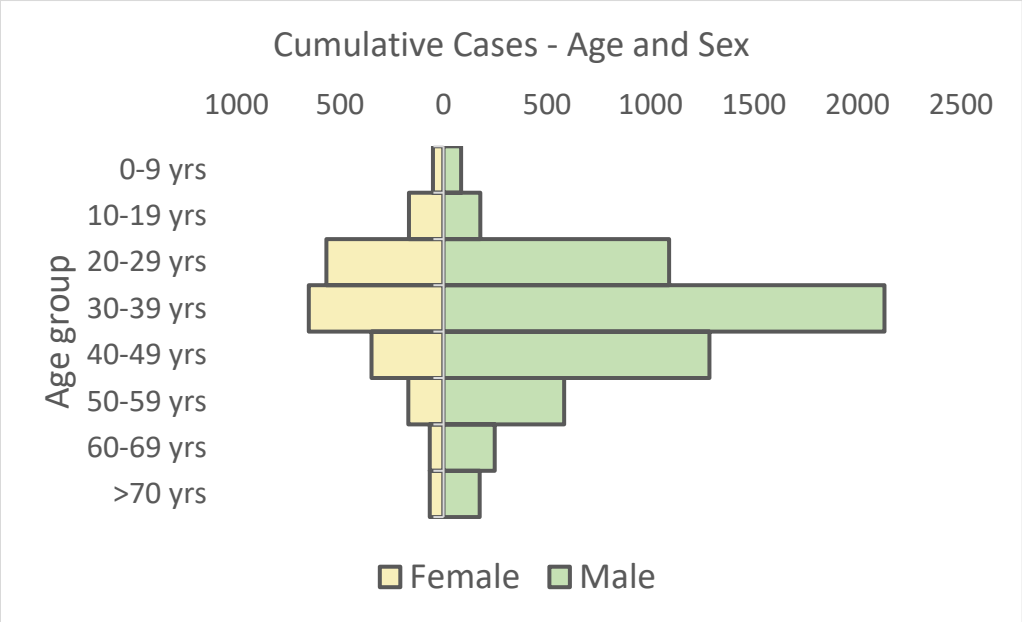

Figure 3. Distribution of cumulative reported cases by age and sex

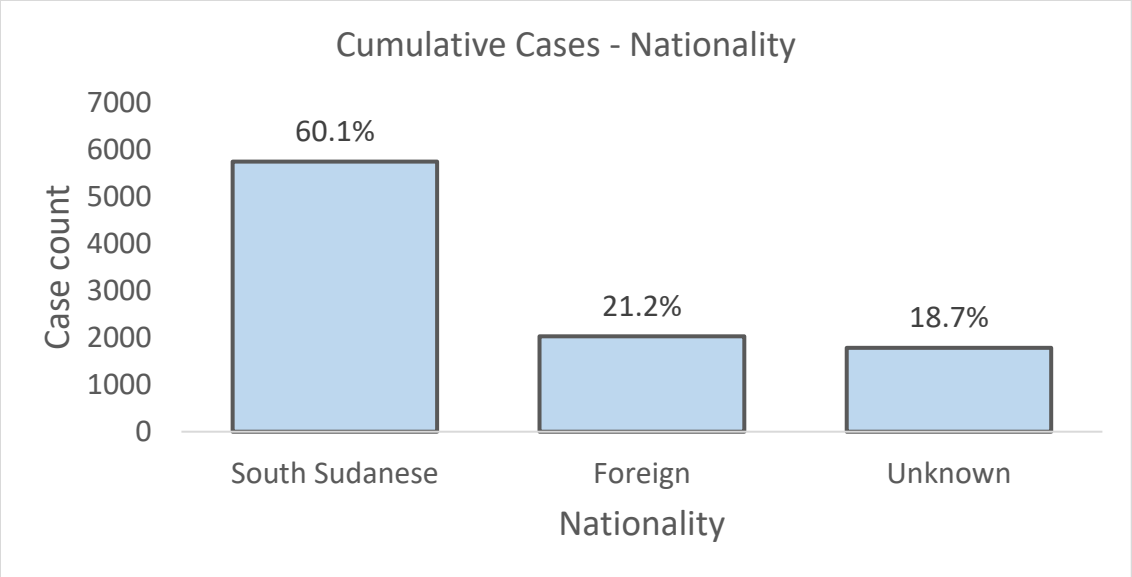

Figure 4. Distribution of cumulative reported cases by nationality

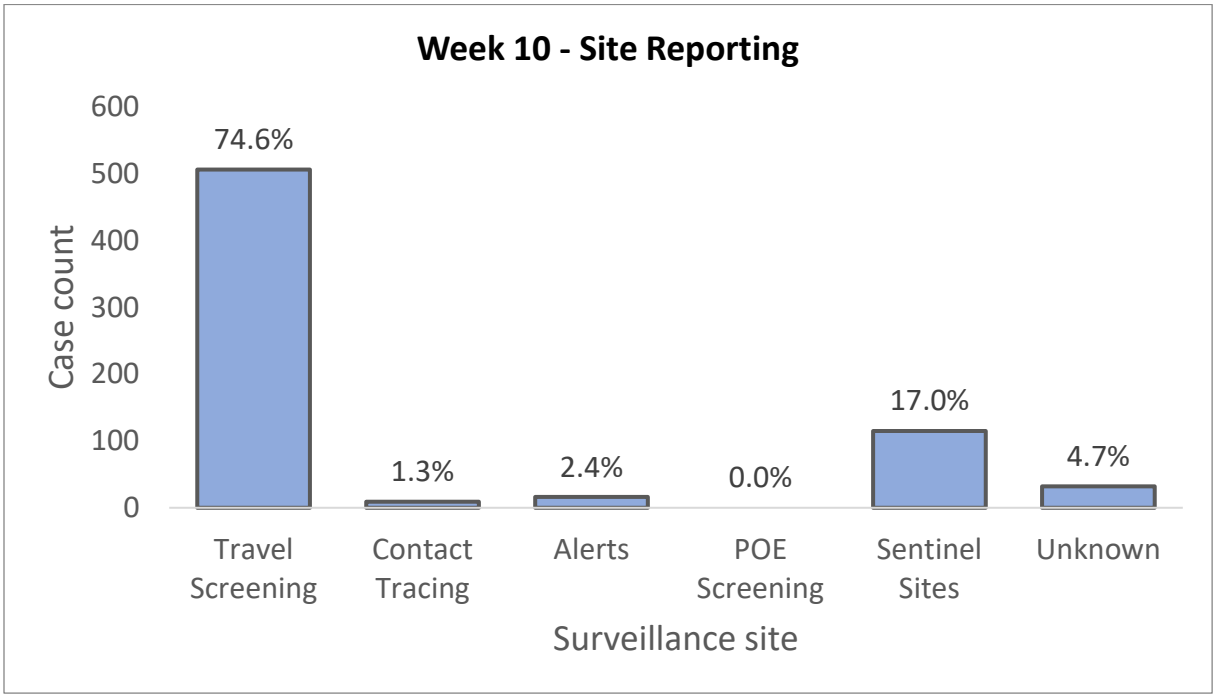

Figure 5A. Case by surveillance site (Week 10)

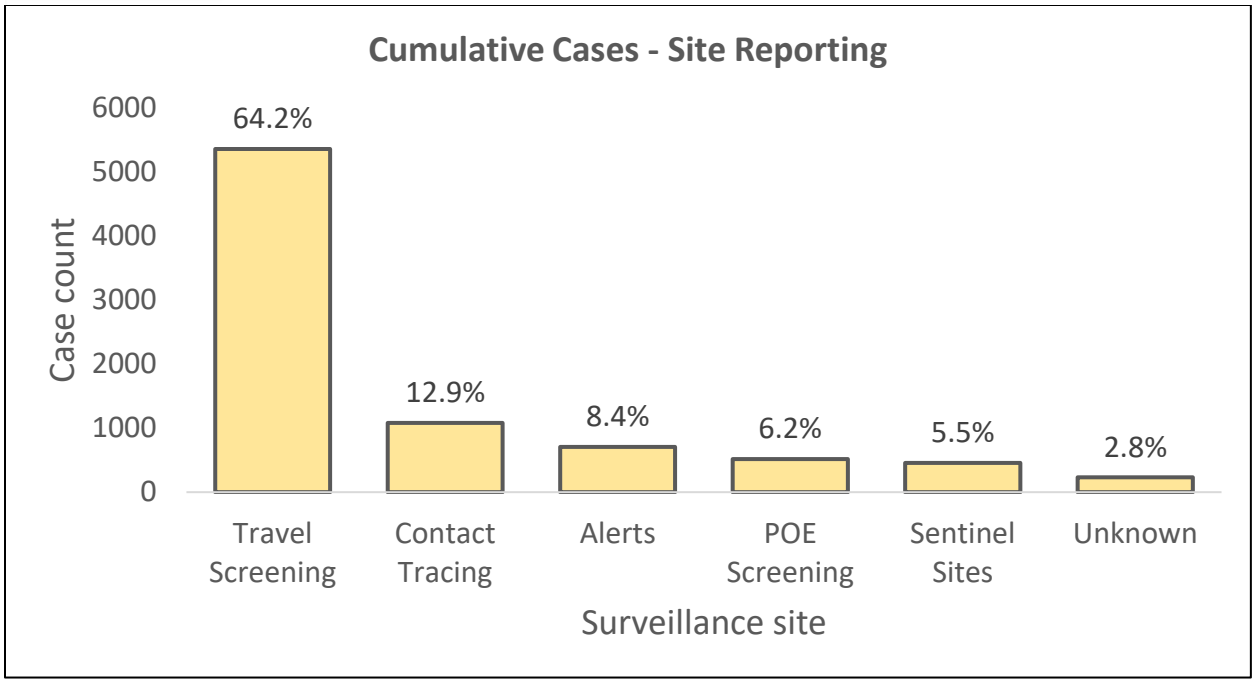

Figure 5B. Cases by surveillance site (cumulative)

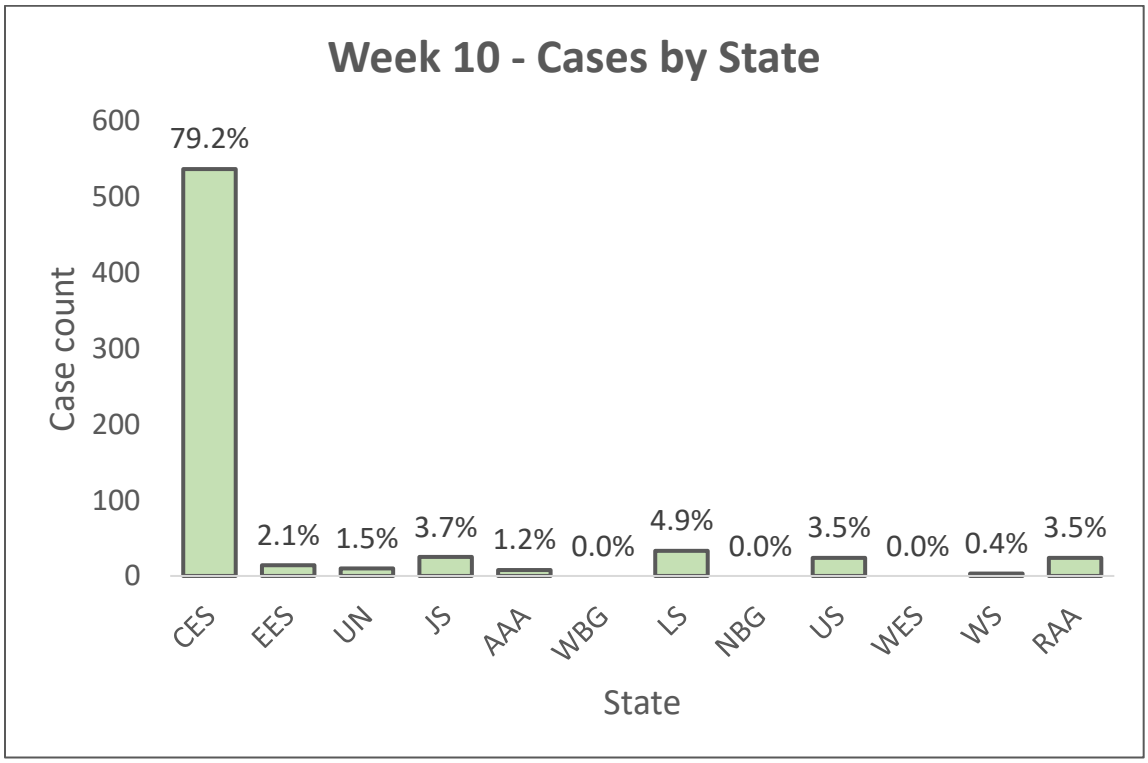

Figure 6. Case distribution by state (Week 10)

Interpretation and recommendations

- **This week showed a 21.2% decrease in the number of reported cases compared to Week 09, a third consecutive week of a decreasing trend in case count. There was a 75% decrease in reported deaths compared to Week 09.** 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. Case increases have been seen globally during this epidemiological week (10% increase)[2] and in neighboring countries of Ethiopia (29%) and Kenya (100% increase) as well which pose an importation risk
- 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 is developing 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. 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 is taking place in 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 11 upon completion of the training by the EOC data management unit**. 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 10, 9 contacts (all asymptomatic) tested positive for COVID-19, 1.3% of the week's case tally. This represents a 70% decrease in the number of contacts who tested positive compared to Week 09, which also showed a decrease of 67% in the number of contacts who tested positive compared to Week 08.** Cumulatively cases originating from contact tracing (12.9%) and alerts (8.4%) 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 7.2% of all confirmed cases have been detected in states other than Central Equatoria and Eastern Equatoria. In addition, about 88.1% of all cases have been detected in Juba compared to 11.9% outside of Juba, indicating that surveillance, testing, and reporting need to be improved and expanded in locations outside Central Equatoria

[2] https://www.who.int/publications/m/item/weekly-epidemiological-update---16-march-2021

- Although there is improved reporting of data from GXP testing sites (they have had the greatest positivity yields over the past two 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

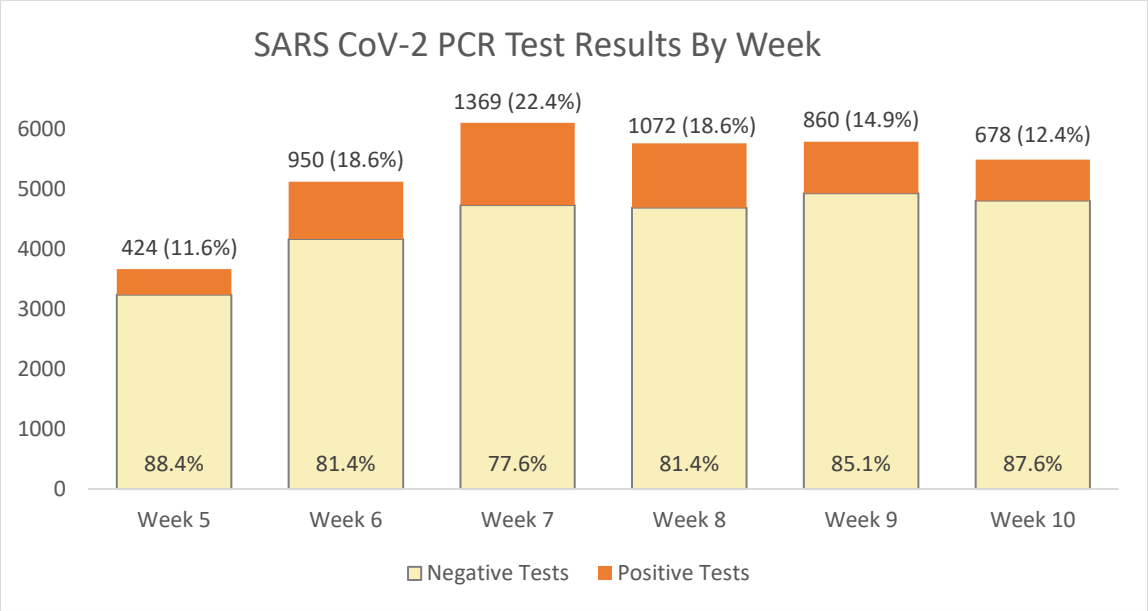

Figure 7. SARS-COV-2 PCR test results by week

Interpretation and recommendations

- **There was a 5.2% decrease in overall reported testing in Week 10 compared to Week 09.** 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. Average positivity yields have been declining for the last three epi weeks. 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

- **Except for Nimule (4.5%), Nojum (4.2%), and Nzara (0.0%), positivity yield was more than 5% for all other testing facilities that provided data in Week 10 [Figure 8]. However, except for yields from GXP sites that generally test persons likely to meet COVID-19 case definition, positivity yields have been on a downward trend in the last four epi weeks. Positivity yields were as follows in Week 10, NPHL (7.6% down from 8.8% in Week 09), Med Blue (15.5% down from 19.1% in Week 09), Queens Medical Complex (6.7% down from 10.8% in Week 09), Nojum (4.2% down from 6.7% in Week 09), Nimule (4.5% down from 5.6% in Week 09), Kapoeta (8.3% down from 11.1% in Week 09), Lakien (95.5% up from 78.6% in Week 09), Torit (18.2%), Nzara (0.0% down from 100% in Week 09), Gentil primary healthcare center (24.4%), Pariang (50.0%), Bentiu (25% same as in Week 09), Makpandu (21.3%), Agok (14.0% down from 26.1% in Week 09), Ruweng (40.8% up from 31.0% in Week 09), Mapourdit (61.5% down from 77.1% in Week 09), and UN Clinic (16.7% down from 34.6% in Week 09)[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 10, 2420 (44.1%) of the tests were run at Med-Blue, 1153 (21.0%) at the NPHL, 1342 (24.5%) at Queens Medical Complex, 142 (2.6%) at Nojum, and 66 (1.2%) in Nimule. Other tests were as follows: 55 (1.0%) in Torit, 50 (0.9%) in Agok, 49 (0.9%) in Ruweng, 47 (0.9%) in Makpandu, 41 (0.7%) in Gentil PHCC, 39 (0.7%) in Mapourdit, 30 (0.5%) in the UN clinic, 22(0.4%) in Lakien, 12 (0.2%) in Kapoeta, 8 (0.1%) in Bentiu and Pariang, and 1 (<0.1%) in Nzara. Approximately 121504 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 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. In addition, there is an ongoing infection cluster at Mapourdit Hospital in Lakes

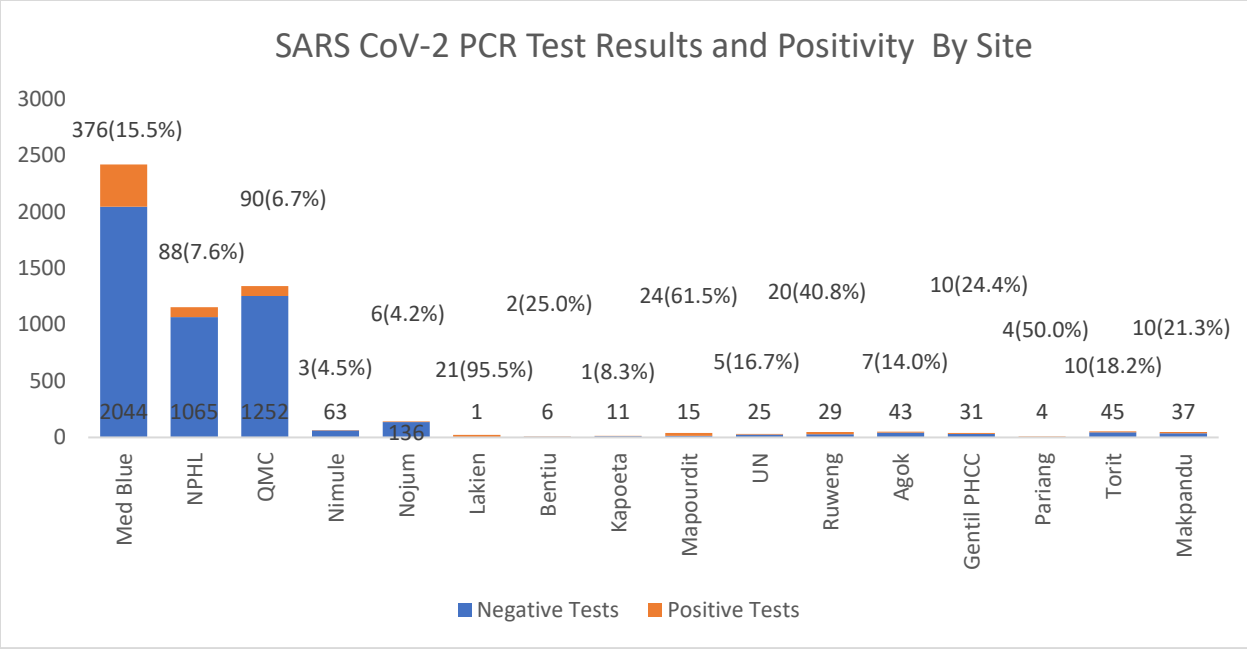

Figure 8. SARS-COV-2 PCR test results and positivity by testing site (Week 10)

Hotline/Alert System Update

During Week 10, the call center received 4363 calls, an increase of 3% from Week 09. Most calls came from callers living in Central Equatoria (32.0%). Of the calls received, 1109 (25.4%) inquired about the cause of COVID-19 (up from 20.6% in Week 09), 1095 (25.1%) sought information on signs and symptoms of COVID-19 (up from 23.6% in Week 09), and 831 (19.0%) asked about prevention of COVID-19 (down from 19.8% in Week 09). Overall, 3245 (74.4%) of the calls in Week 10 were COVID-19 related.

The trend in reported alerts has been downward in the last five epi weeks since a high of 145 alerts was recorded in Week 06. There were 67 potential COVID-19 alerts (61 through the hotline; 6 self-reported) [Figure 9] in Week 10, a decrease of 28.7% compared to Week 09, which also showed a decrease of 19.7% compared to Week 08. Between Weeks 06 and 10, there has been a 53.8% decrease in the number of alerts, mirroring the observed decreases in case count and positivity yield in recent weeks. Sixty-six of the 67 alerts (99%) were verified and investigated by the rapid response team (RRT). Samples were collected from all 66 (100%) of investigated alerts [Figure 9]. About 52.2% of the potential alerts were from Central Equatoria (down from 84% in Week 09) followed by Western Equatoria (11.9%), Unity and Warrap (9.0%), Northern Bahr el Ghazal (7.5%), Western Bahr el Ghazal (6.0%), Upper Nile (3.0%), and Lakes (1.5%). Eastern Equatoria and Jonglei were the only states without any reported alerts in Week 10 [Figure 10]. Sixteen alerts tested positive for COVID-19, which represents 24.2% of the alerts sampled this week (up from 22.3% in Week 09). Cumulatively, 2252[4] alerts have been reported, of which 2145 (95.2%) have been verified, and 2064 (96.2%) of the verified alerts were sampled.

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

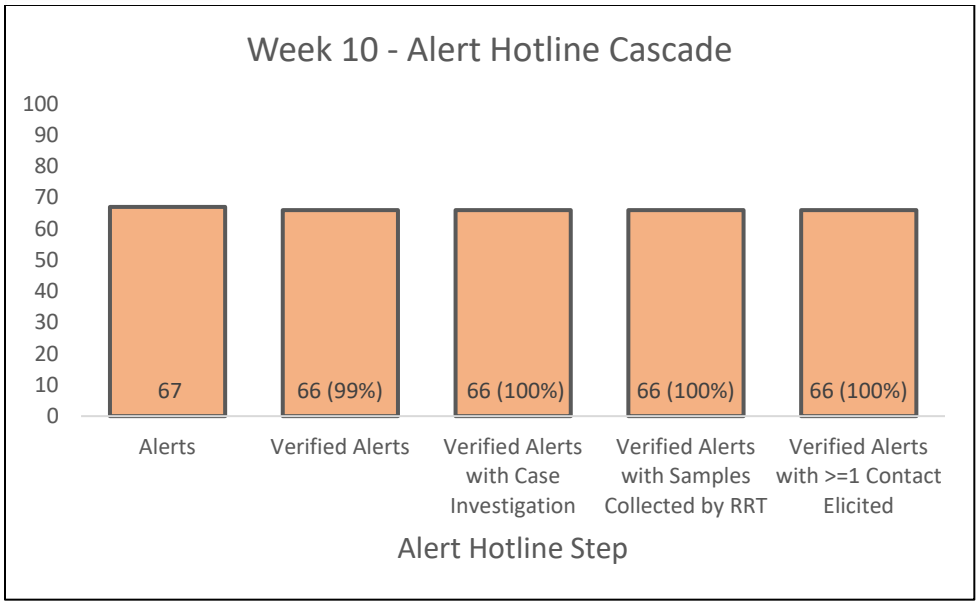

Figure 9: COVID-19 related alerts cascade (Week 10)

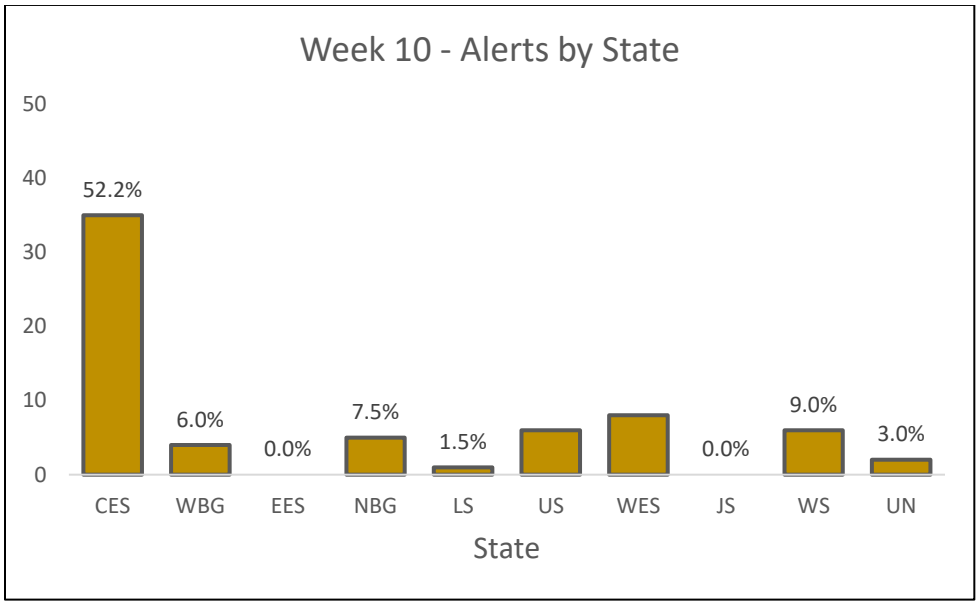

Figure 10: COVID-19 related alerts by state (Week 10)

Interpretation and recommendations

- **This week showed a decrease of 28.7% in the number of alerts compared to Week 09, which also showed a decrease of 19.7% compared to Week 08, continuing a downward trend in the number of reported alerts**

- All verified alerts (66) screened to meet case definition for COVID-19 were investigated and sampled
- **Sixteen (24.2%) of the 66 investigated alerts in Week 10 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 10, there were 537 cases in Juba County, of which 451 (84.0%) were allocated to ICAP by the EOC for contact listing and tracing. Of the 451 cases, 72 (16.0%) provided contacts (up from 12.5% in Week 09) and 379 (84.0%) either refused to provide contacts/denial (92), did not pick up after their phone (173), had no phone number (74), phone number was wrong (29), or phone number was not going through (11). From the 72 cases that provided contacts, a total of 601 contacts were listed, providing a case to contact ratio of 1:8.3 (down from 1:8.7 in Week 09). Since community-based contact tracing started in early October 2020, a total of 3953 contacts have been elicited from 449 cases (a ratio of 1:8.8), of which 1750 (44.3%) are still under active follow-up. One hundred and sixty-six contacts have completed 14 days of follow up this week, with a cumulative total of 1834 (46.4%) thus far. None of the 1750 contacts followed up in Week 10 reported COVID-19 related symptoms. Samples were collected from 82 contacts this week. Seven contacts (8.5%) sampled this week tested positive for COVID-19. Cumulatively, 13813[5] contacts have been listed and followed up since the first confirmed case was reported in April 2020, of which 12486 (90.4%) 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 10, 379 (84.0%) of the cases allocated 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 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)

[5] 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

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 (43.0%), with very few admitted to a health facility or hospital. A significant proportion of cases continues to have "unknown" (56.6%) 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 10. Eighty-three percent (7905) of all cases were discharged as of Week 10, with 1545 cases (16.2%) under active follow-up. One hundred and four cases have died, yielding a case fatality rate of 1.09% (down from 1.15% in Week 09) [Fig 11].

Case management at first detection	Count	Percent of total cases
Home management	4069	43.0%
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	5361	56.6%

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

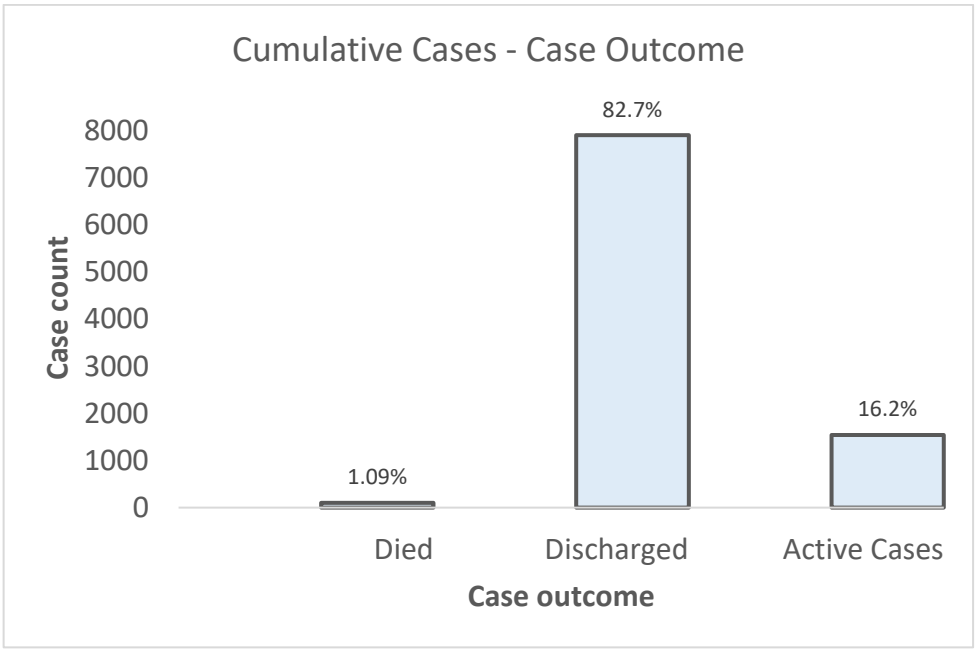

Figure 11. Distribution of case outcome for cumulative cases

Interpretation and recommendations

- Most cases with a case management type are managed at home. About 56.6% 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 1.09%, down from 1.15% in Week 09**

Risk Communication and Community Engagement Update

The following achievements were registered during Week 10 under the risk communication and community engagement (RCCE) pillar:

- Community mobilizers reached 52144 individuals (22162 male; 29982 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
- Thirty key opinion leaders including community leaders, teachers, religious leaders, and village chiefs across South Sudan, were oriented/trained on COVID-19 messaging
- Twenty community mobilizers received a refresher training on communication skills pertaining to COVID-19 messaging
- 382 radio jingles were aired in 10 local languages through different radio stations across all 10 states in the country
- Eight talk shows were conducted
- Community-based contact tracers supported by ICAP, provided information about COVID-19 to 3296 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 4713 (3454 male; 1259 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 14, 2021 is 573910.

Most of the travelers screened at Nimule PoE this week were truck drivers and returnees. Of the 4713 inbound travelers, 1528 were returnees from refugee camps in Uganda, 1227 were other nationals other than truck drivers, and 1958 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.

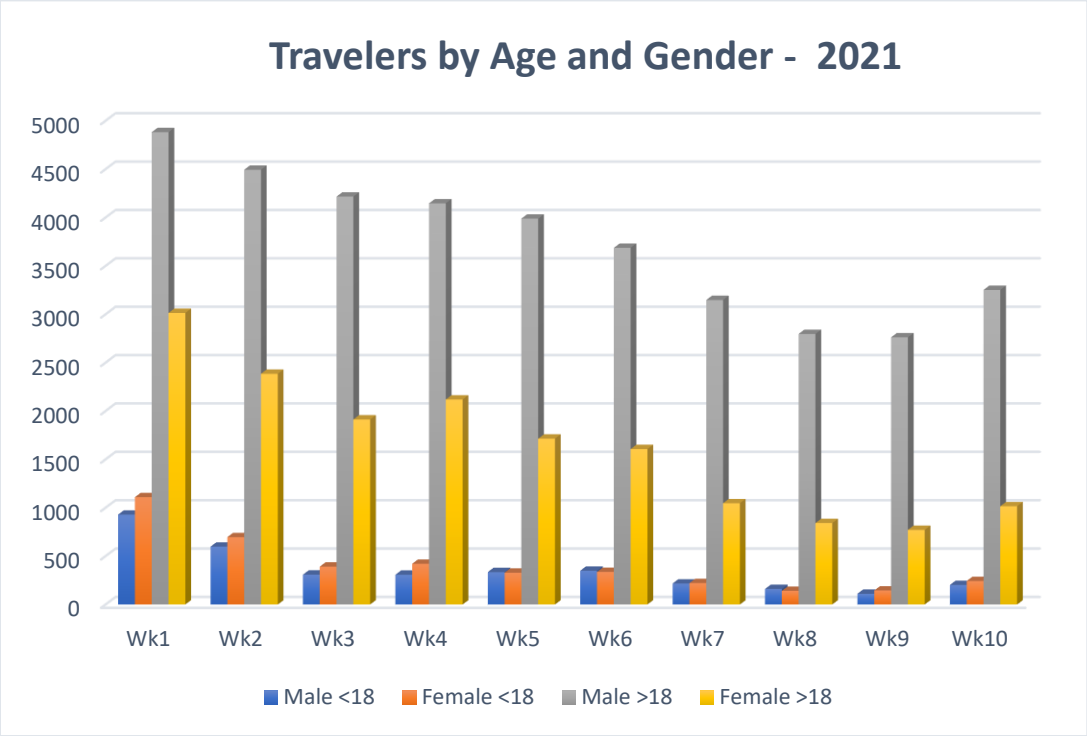

Figure 12. Numbers of travelers screened by sex and age

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