



South Sudan COVID-19 Weekly Epidemiologic Bulletin

Issue #: 14

05– 11 April 2021

Epidemiologic Week 14



Summary statistics for Epidemiologic Week 14

100 New Confirmed Cases	10381 Total Confirmed Cases	1 New Death	114 Total Deaths	1524 Contacts Under Follow-up	139846 Cumulative Samples Tested
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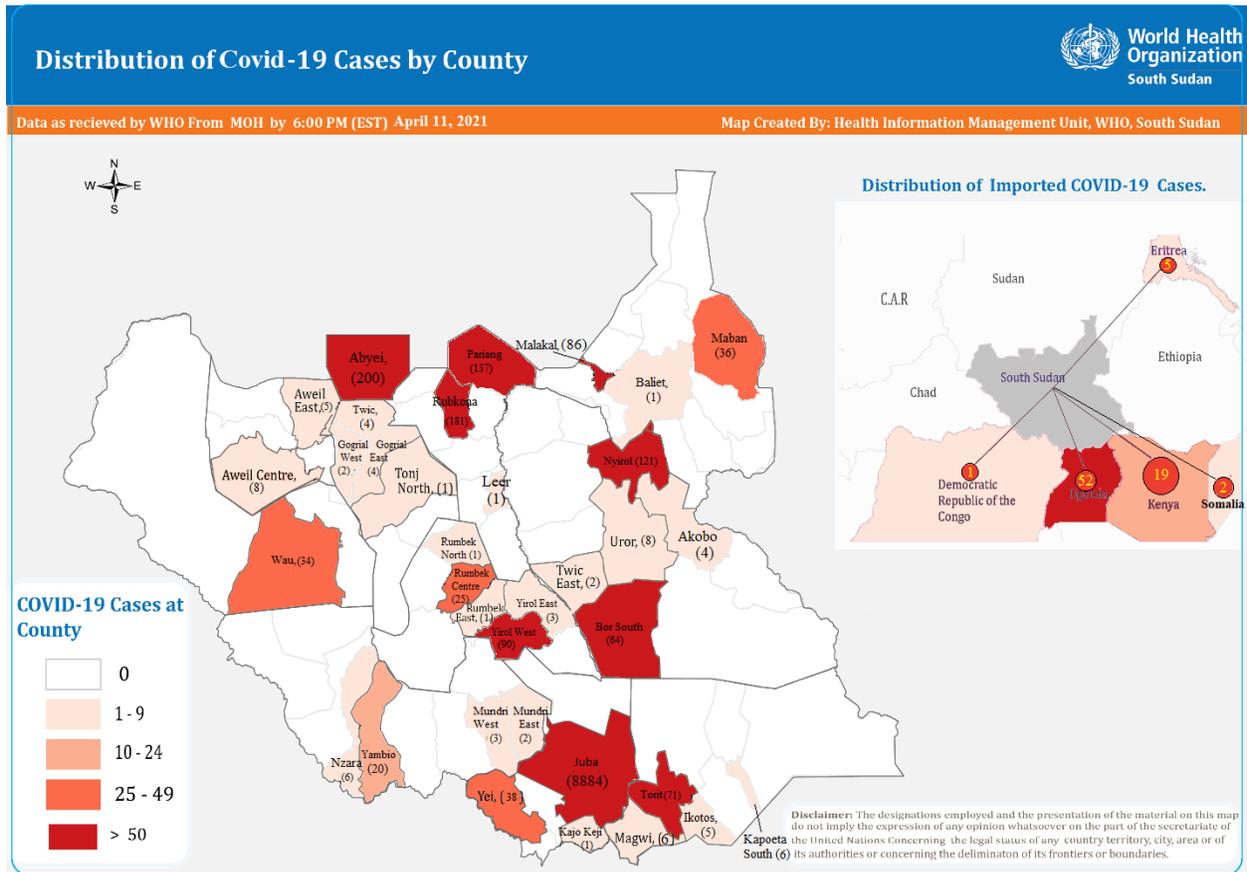


Figure 1. Map of cumulative reported COVID-19 cases, by county

Map source: WHO Weekly Bulletin

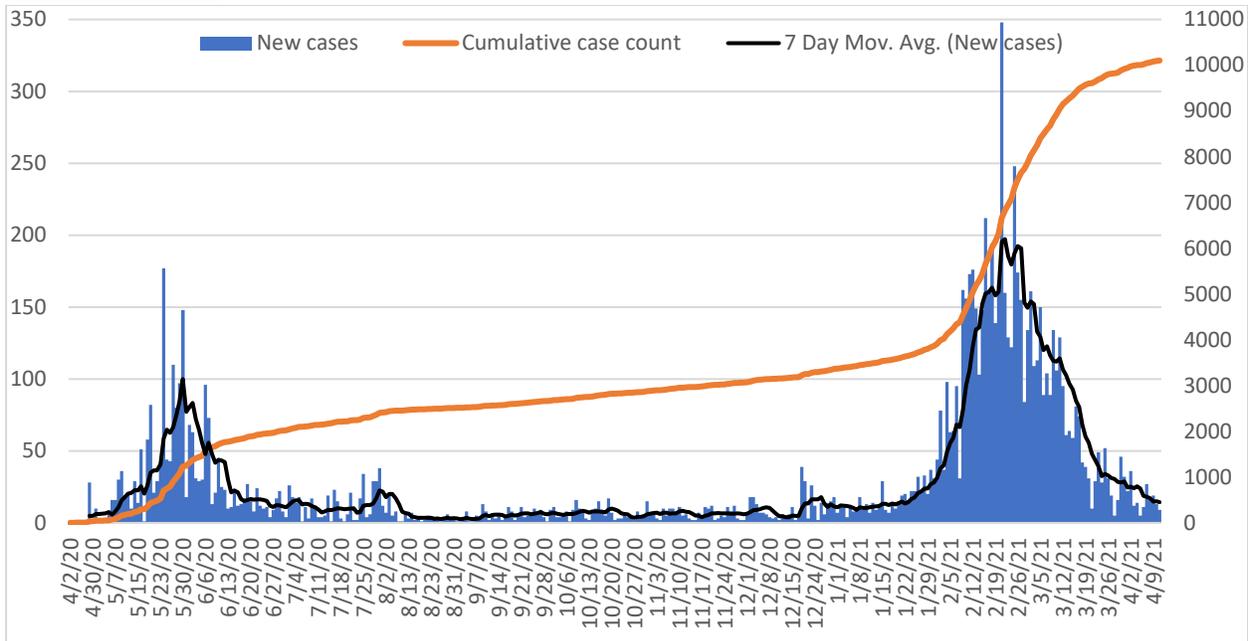


Figure 2. Epidemiological curve of reported cases through Week 14, showing new cases (blue bars), rolling 7-day average of reported cases (black line), and total cumulative reported cases (yellow line)

Epidemiology and Surveillance Update

One hundred new cases were identified in Week 14, bringing the cumulative number of confirmed cases to 10381¹, including 335 imported cases mainly from South Sudanese returnees (164), Uganda (52), and Kenya (19). There were four new imported cases in Week 14. Similar to trends observed in the last seven epi weeks (07-13), the case count and average positivity yield continued to decline in Week 14. This week's tally is the lowest since epi week 02 when the country confirmed 87 cases. It also shows a decrease of 43.8% in reported cases compared to Week 13, which also showed a 16.4% decrease compared to Week 12. Moving averages for yield, case count, and proportional daily case change continued downward trends in Week 14. There was one reported death in Week 14 compared to four in Week 13 (a 75% decrease), 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 eight epi weeks based on the 7-day moving average [Figure 2]. The case tally for Week 14 represents only 1.0% of the cumulative case total (compared to a high of 19.8% in Week 07). While it is more likely that the recent surge in the number of cases meant the country was 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 may have contributed to the increased case tally.

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 14, 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-eight percent of cases reported their nationality as South Sudanese, with a significant proportion (20.9%) 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 lists 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 (57) in Week 14 were reported through traveler screening mainly at Med-Blue (30). Cumulatively, pre-travel screening account for the greatest proportion of cases (63.5%), followed by contact tracing (11.8%), and alerts (7.9%) [Figure 5B]. Most of the reported cases (59.0%) in Week 14 came from Central Equatoria. Ruweng Administrative Area (24.0%), Abyei Administrative Area (6.0%), Jonglei and Eastern Equatoria (4.0%), Lakes (2.0%), and Unity (1.0%) contributed the remaining cases to the weekly case tally. Upper Nile, Western Bahr el Ghazal, Northern Bahr el Ghazal, Western Equatoria, and Warrap did not report any cases in Week 14 [Figure 6]. In Week 14, no healthcare worker was confirmed as a case, so the cumulative case tally among healthcare workers remained at 256. Most of the cases among healthcare workers came from Central Equatoria (218), 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 there is community transmission in the states because there is still not enough testing being done. Nevertheless, notable clustered outbreaks have been reported in past epi weeks 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.

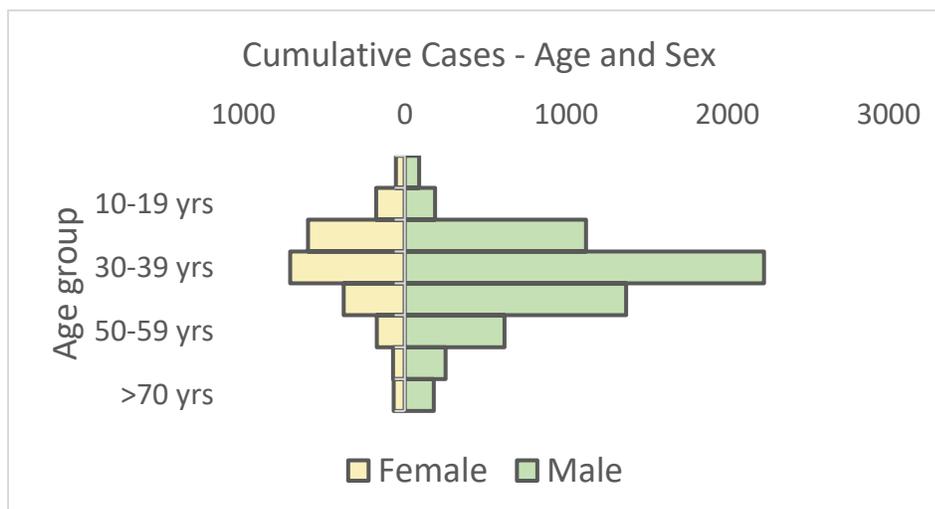


Figure 3. Distribution of cumulative reported cases by age and sex

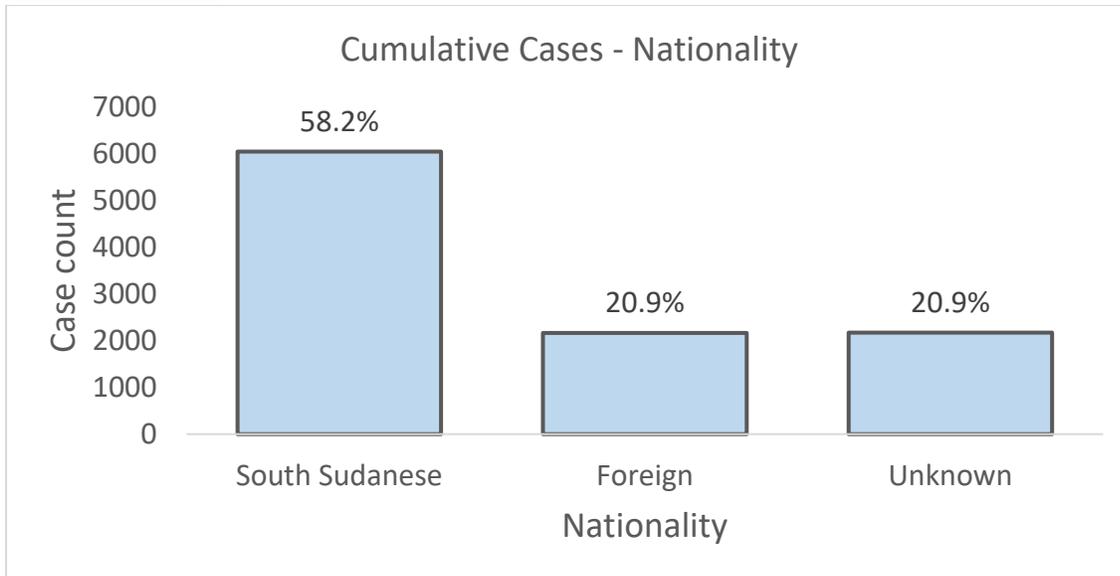


Figure 4. Distribution of cumulative reported cases by nationality

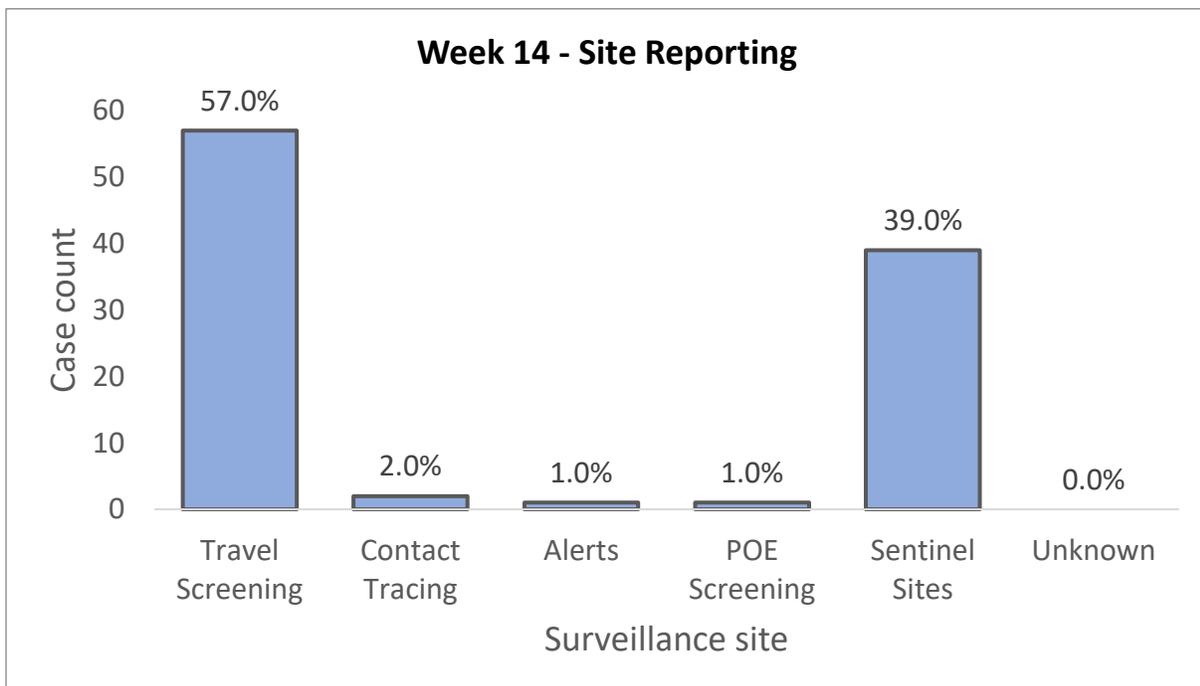


Figure 5A. Case by surveillance site (Week 14)

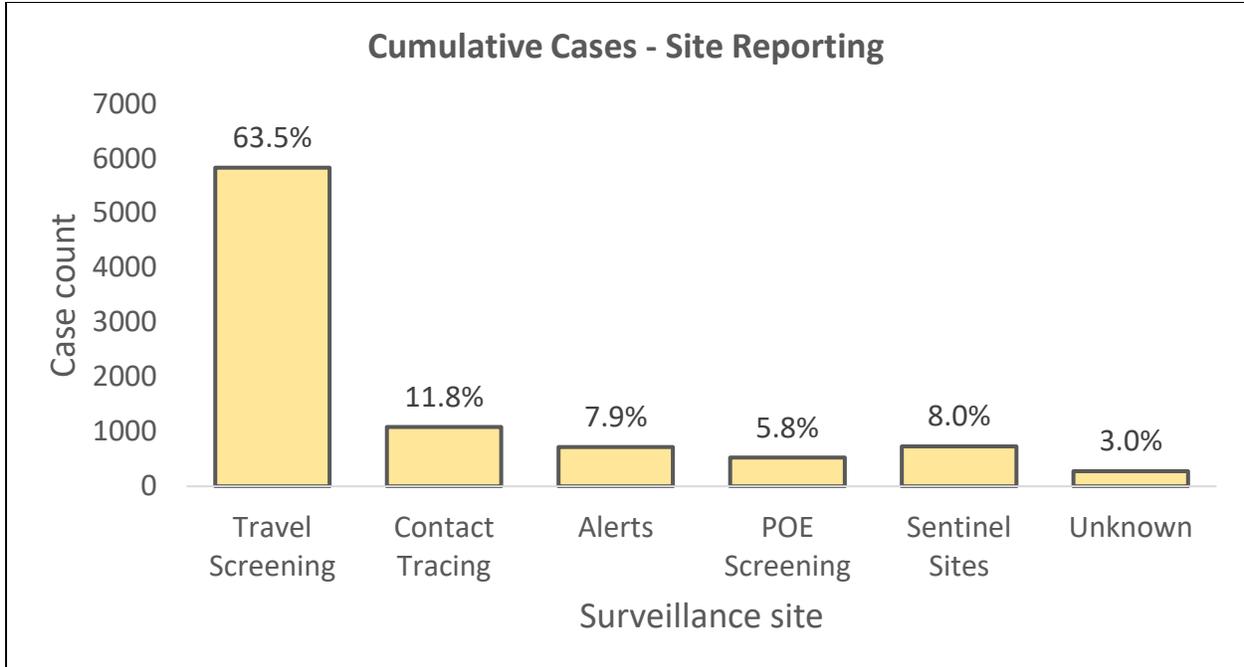


Figure 5B. Cases by surveillance site (cumulative)

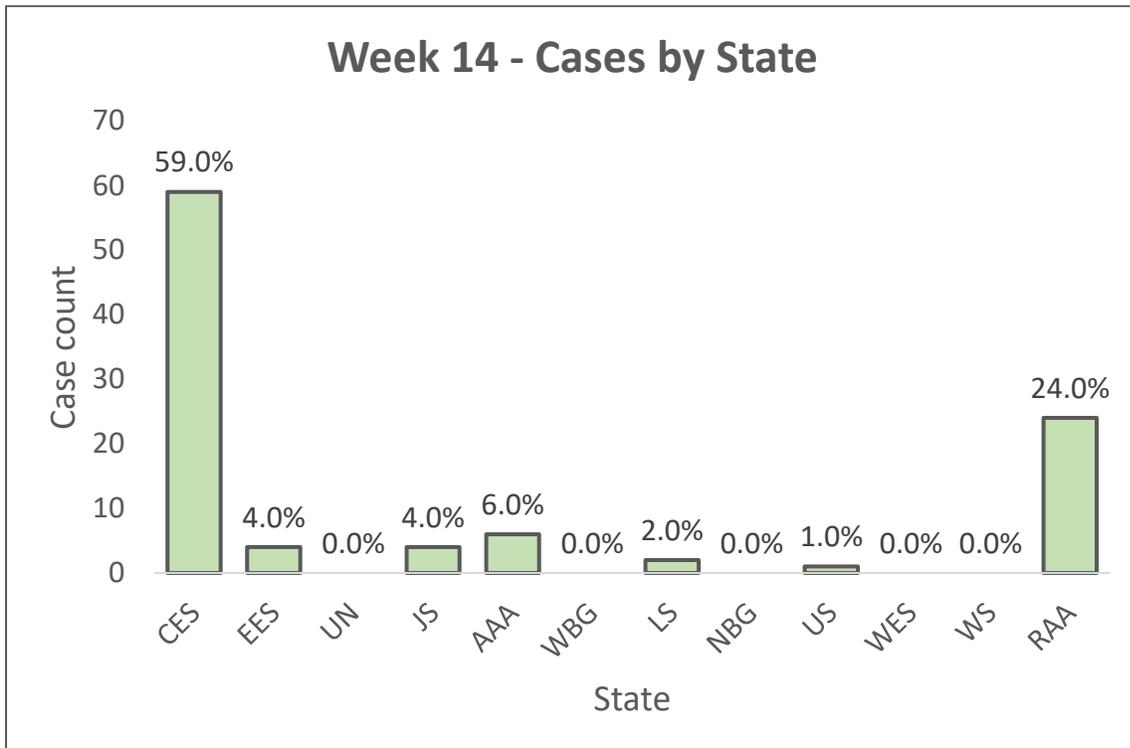


Figure 6. Case distribution by state (Week 14)

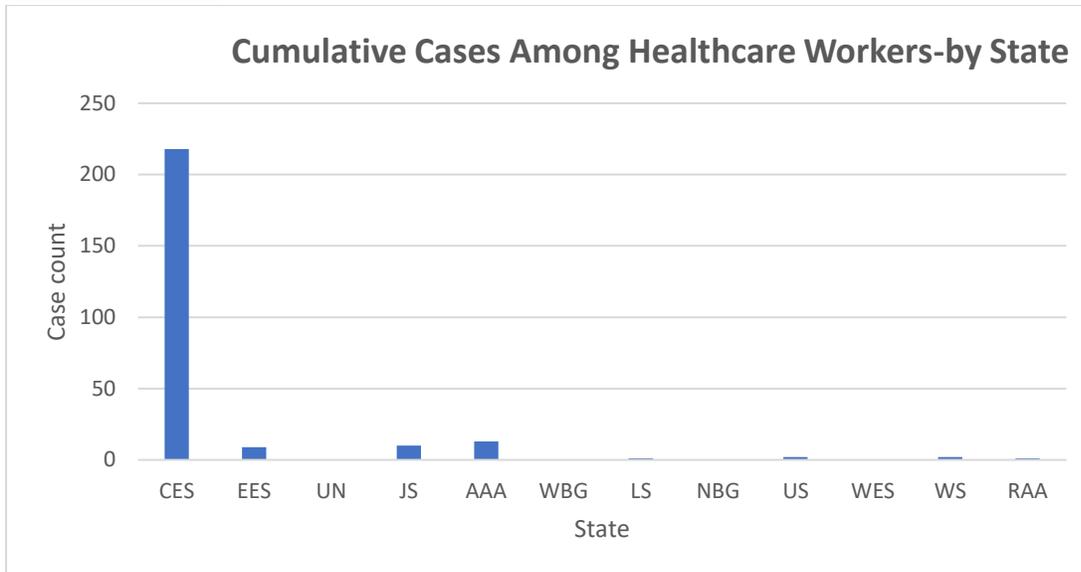


Figure 7. Cases among healthcare workers by state (cumulative)

Interpretation and recommendations

- **This week showed a 43.8% decrease in the number of reported cases compared to Week 13, a seventh consecutive week of a decreasing trend in case count. There was one reported death in Week 14, a 75% decrease compared to Week 13.** However, there is a need for a more active mortality surveillance to identify COVID-19 deaths in the community. **While trends in moving averages for proportional daily case change, case count and positivity yield have declined or stabilized in recent epi weeks, it is 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 private testing facilities to use the MOH approved CIF, **although this is currently only happening at Queens Medical Complex and Nojum and pending at 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
- 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. The lack of complete individual-level data from some private testing sites as well as from most facilities using GXP testing continues to affect our ability to fully describe the outbreak in South Sudan
- **Sentinel surveillance sites accounted for 39 (39.0%) of the weekly case tally, although there is potential of some cases (e.g., alerts and contacts of confirmed cases) from GXP sites being misclassified as from sentinel surveillance. Contact tracing and alerts accounted for 2.0% and**



1.0% of this week's case tally respectively. Cumulatively, cases originating from contact tracing (11.8%) and alerts (7.9%) 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 9.4% of all confirmed cases have been detected in states other than Central Equatoria and Eastern Equatoria. In addition, about 86.0% of all cases have been detected in Juba compared to 14.0% 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 six 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

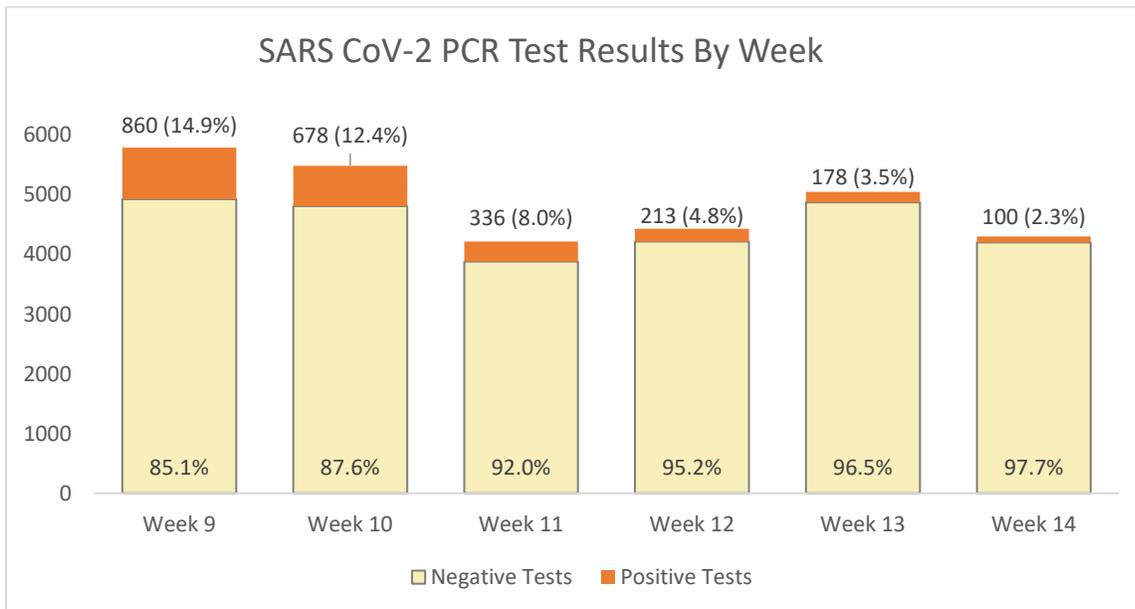


Figure 8. SARS-COV-2 PCR test results by week

Interpretation and recommendations

- **Average positivity peaked at 22.4% in Week 07. However, average positivity yields have been declining for the last seven epi weeks, reaching a low of 2.3% this week, likely indicating that the second wave has ended [Figure 8].** While the recent surge in cases was 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 have led to double counting of follow up cases. The EOC 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.** Positivity yields were as follows in Week 14: Med Blue (1.8%), NPHL (1.0%), Nimule (1.4%), Queens Medical Complex (1.0%), Nojum (5.3%) [Figure 9A], Kapoeta (0.0%), Torit (0.0%), Lakien (28.6%), Nzara (0.0%), Pariang (23.6%), Pamir (20.6%), Bentiu (3.6%), Makpandu (0.0%), Rumbek (0.0%), Agok (9.7%), Gordhim (0.0%), Mapourdit (16.7%), and UN/UNMISS (3.3%) [Figure 9B]. Approximately 139846 SARS-COV-2 PCR tests have been performed throughout the outbreak with 7.4% 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. A multi-pillar supervisory visit to the private labs is planned for next week (Week 15)**
- 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

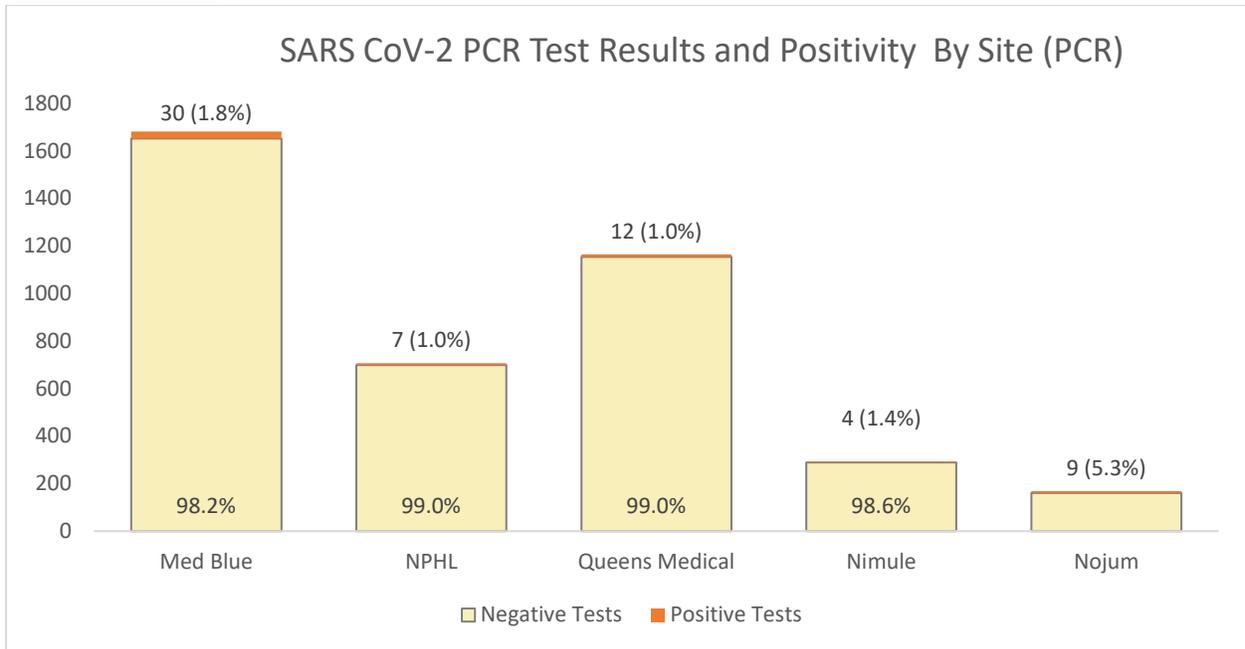


Figure 9A. SARS-COV-2 PCR test results and positivity by testing site [PCR] (Week 14)

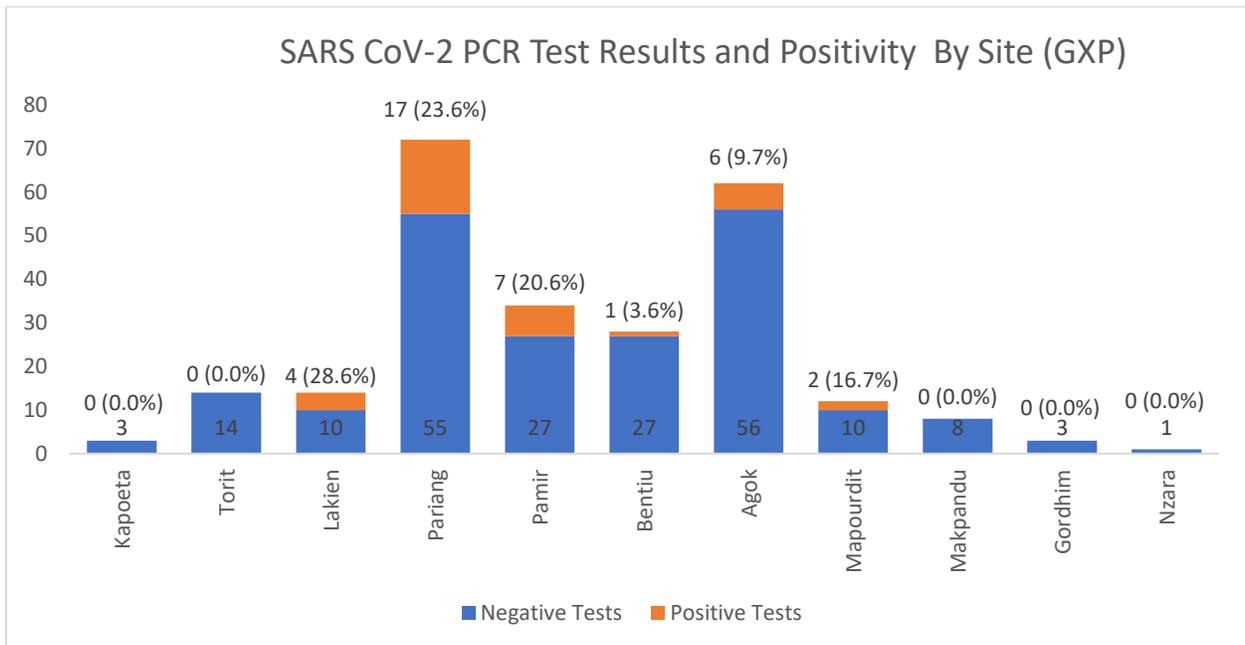


Figure 9B. SARS-COV-2 PCR test results and positivity by testing site [GXP] (Week 14)



Hotline/Alert System Update

During Week 14, the call center received 5546 calls, an increase of 16.8% from Week 13. Most calls came from callers living in Central Equatoria (26.7%). Of the calls received, 946 (17.1%) inquired about the cause of COVID-19 (up from 12.8% in Week 13), 1067 (19.2%) sought information on signs and symptoms of COVID-19 (up from 16.8% in Week 13), and 1016 (18.3%) asked about prevention of COVID-19 (up from 15.3% in Week 13). Overall, 3239 (58.4%) of the calls in Week 14 were COVID-19 related.

The trend in reported alerts has been downward in the last several epi weeks since a high of 145 alerts was recorded in Week 06. There were 47 potential COVID-19 alerts (all through the call center/hotline) in Week 14, an increase of 23.7% from the number of alerts in Week 13. Between Weeks 06 and 14, there has been a 67.6% decrease in the number of alerts, mirroring the observed decreases in case count and positivity yield in recent weeks. Forty-five of the 47 alerts (96%) were verified and investigated by the rapid response team (RRT). Samples were collected from all 45 (100%) of investigated alerts [Figure 10]. About 46.8% of the potential alerts were from Central Equatoria followed by Warrap (31.9%), Western Equatoria (6.4%), Northern Bahr el Ghazal, Western Bahr el Ghazal, and Eastern Equatoria (4.3%), and Upper Nile. Unity, Jonglei, and Lakes did not report any alerts in Week 14 [Figure 11]. One alert tested positive for COVID-19, which represents 2.2% of the alerts sampled this week (down from 2.7% in Week 13). Cumulatively, 2469² alerts have been reported, of which 2348 (95.1%) have been verified, and 2267 (96.6%) of the verified alerts were sampled.

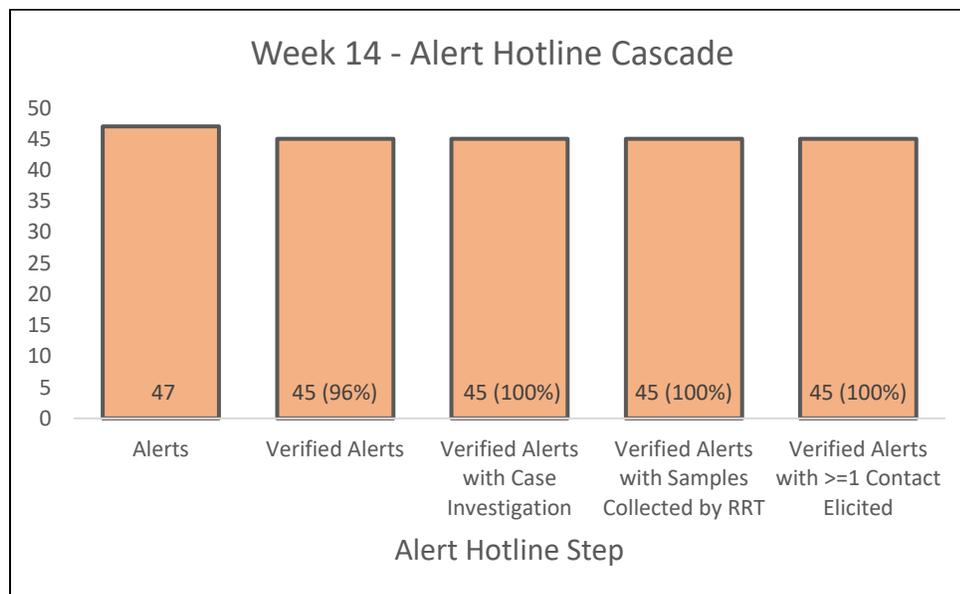


Figure 10: COVID-19 related alerts cascade (Week 14)

² Excludes any alerts not reported by the Watch Desk

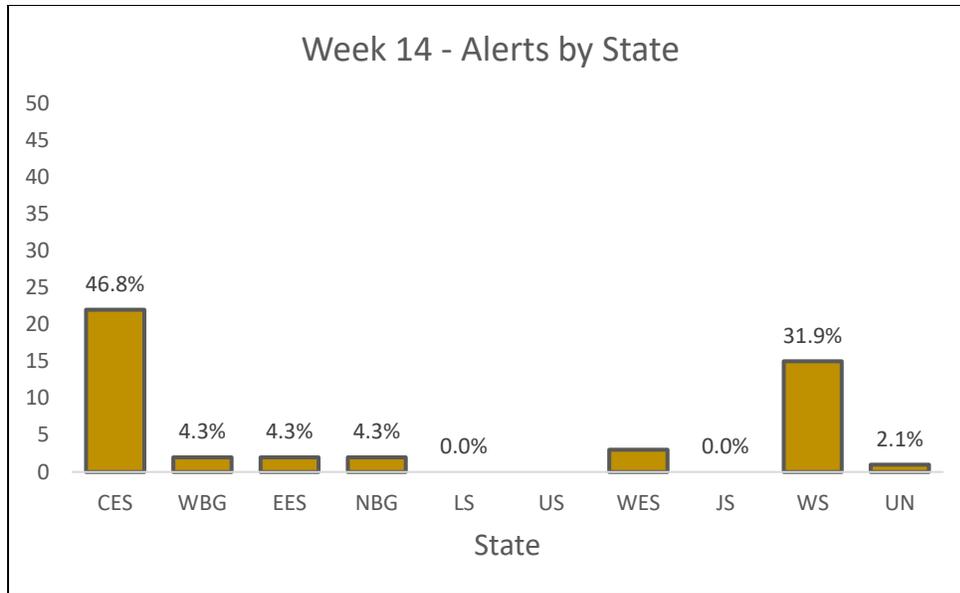


Figure 11: COVID-19 related alerts by state (Week 14)

Interpretation and recommendations

- All verified alerts (45) screened to meet case definition for COVID-19 were investigated and sampled
- **One (2.2%) of the 45 sampled alerts in Week 14 tested positive**
- Alerts represent a small number of total tests run in South Sudan (1.6%). 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 14, there were 59 cases in Juba County, of which 46 (78.0%) were distributed to ICAP by the EOC for contact listing and tracing. Forty cases (87.0%) had valid phone numbers, of whom 20 (50%) provided contacts (up from 43.3% in Week 13). Twenty-six cases (56.5%) either did not pick up after their phone (11), had no phone number (5), phone number was wrong (1), phone number was not going through (4), or other reasons (case in isolation [4], and duplicate case [1]). From the 20 cases that provided contacts, a total of 239 contacts were listed, providing a case to contact ratio of 1:12.0 (up from 1:3.3 in Week 13). Since community-based contact tracing started in early October 2020, a total of 4637 contacts have been elicited from 570 cases (a ratio of 1:8.1), of which 1524 (32.9%) are still under active follow-up. Eighty contacts have completed their follow-up period this week, with a cumulative total of 2743 (59.2%) thus far. Seven of the 1524 contacts followed up in Week 14 reported COVID-19



related symptoms. Samples were collected from 214 contacts this week. One (0.5%) of the contacts sampled this week tested positive for COVID-19. Cumulatively, 15291 contacts have been listed and followed up since the first confirmed case was reported in April 2020, of which 14143 (92.5%) have completed 14 days of follow-up.

Interpretation and recommendations

- The contact tracing team started applying the new 7 and 10-day (Q7/Q10) quarantine guidelines in Week 12
- Solicitation of contacts from cases continues to be a challenge for the contact tracing team. In Week 14, 56.5% of the cases distributed to ICAP did not have contacts listed due to various reasons including not picking their phone, case in isolation, and phone numbers not going through. The contact tracing team has 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 (41.4%), with very few admitted to a health facility or hospital. A significant proportion of cases continues to have “unknown” (58.3%) case management type at first contact. However, there are ongoing discussions between the EOC data management unit and the case management team to identify and enter the missing individual-level data into the EOC case database. Ninety-eight percent (10148) of all cases were discharged as of Week 14, with 119 cases (1.2%) under active follow-up. One hundred and fourteen cases have died, yielding a case fatality rate of 1.1% (same as in Week 13) [Fig 12].

Case management at first detection	Count	Percent of total cases
Home management	4260	41.4%
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	5997	58.3%

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

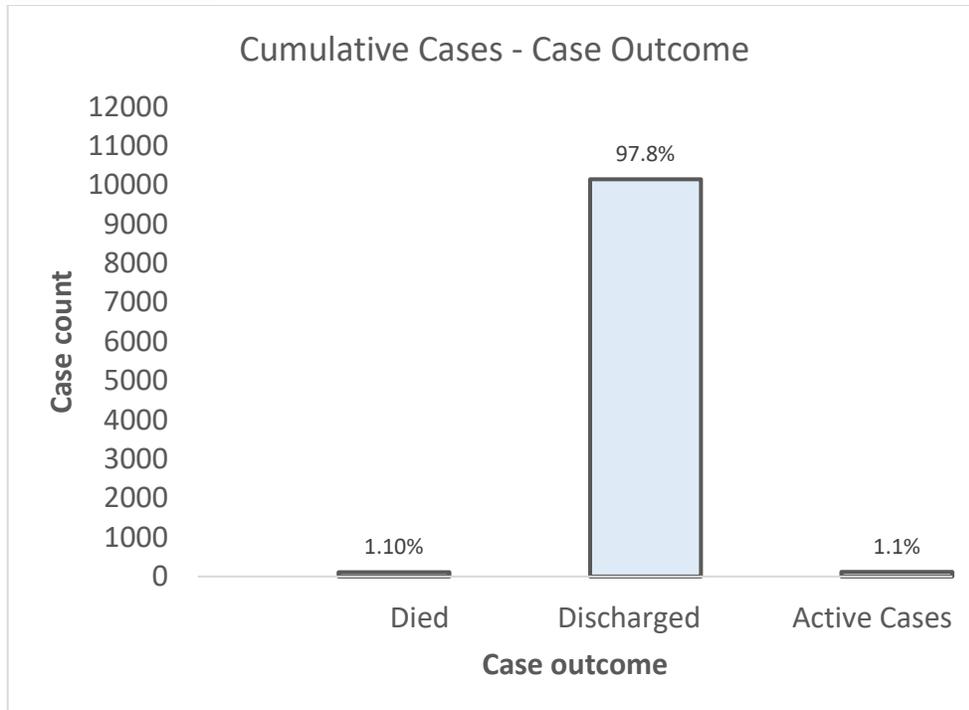


Figure 12. Distribution of case outcome for cumulative cases

Interpretation and recommendations

- Most cases with a case management type are managed at home. About 58.3% 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 1.1%, same as in Week 13**

Risk Communication and Community Engagement Update

The following achievements were registered during Week 14 under the risk communication and community engagement (RCCE) pillar:

- Community mobilizers reached 54812 individuals (23399 male; 31413 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
- Twenty key opinion leaders including community leaders, teachers, religious leaders, and village chiefs across South Sudan, were oriented/trained on COVID-19 messaging
- Eighteen community mobilizers received a refresher training on communication skills pertaining to COVID-19 messaging
- 320 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 2394 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 3199 (1988 male; 1211 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 April 11, 2021 is 589496.

Most of the travelers screened at Nimule PoE this week were truck drivers and returnees. Of the 3199 inbound travelers, 1709 were returnees from refugee camps in Uganda, 557 were other nationals other than truck drivers, and 933 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 taskforce meetings in Nimule.

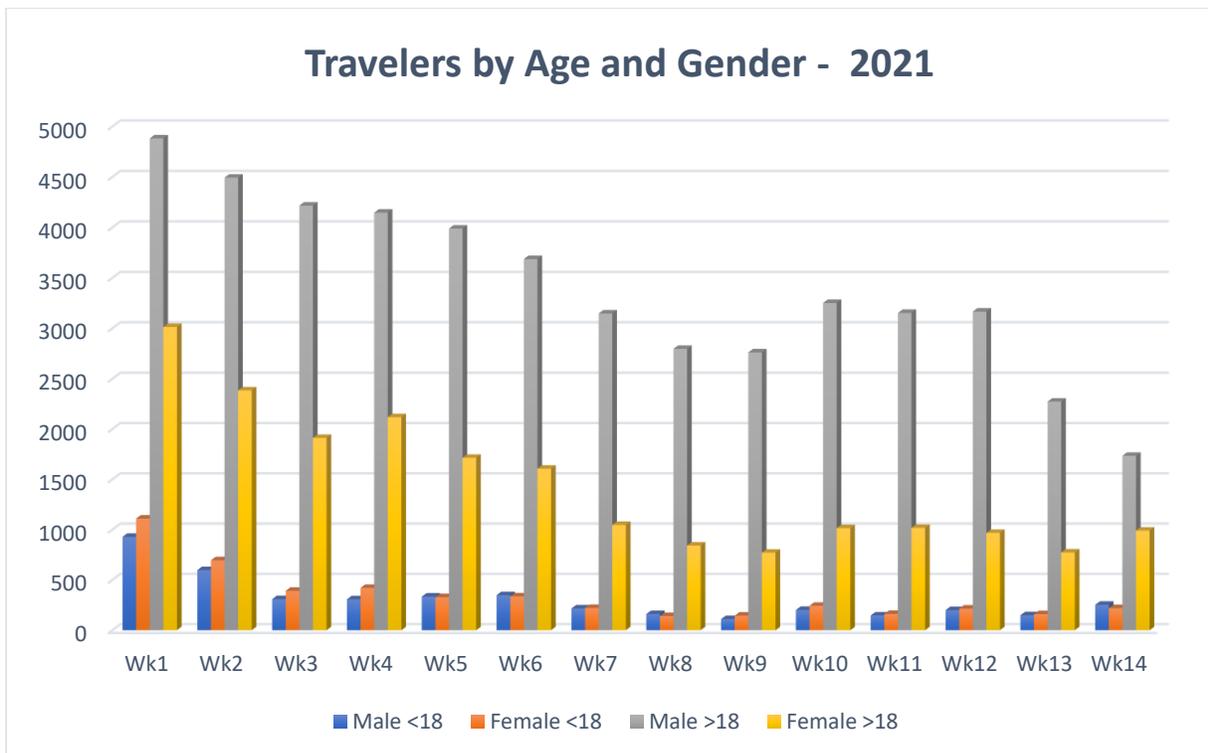


Figure 13. Number of travelers screened by sex and age



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