

Organized by The Carter Center in cooperation with the World Health Organization (WHO) and attended by about one hundred persons, the International Review Meeting convened virtually on March 1-3, 2023. Carter Center CEO Mrs. Paige Alexander, Carter Center Board of Trustees Chairman Mr. Jason Carter, and World Health Organization (WHO) Director-General Dr. Tedros Ghebreyesus gave welcoming addresses in the opening session, which was chaired by Mr. Adam Weiss, Director of the Guinea Worm Eradication Program at The Carter Center. The Honorable Minister of Health of Ethiopia, Dr. Lia Tadesse, also greeted participants at the beginning of the

Chad GWEP Surveillance Snapshot 2022

Accessibility: 99+%

Villages under Active Surveillance (VAS):

Number of districts by surveillance level: 30 in level 1; 3 in level 2; 93 in level 3

Villages under Active Surveillance (VAS): 2,434 (2,371 level 1; 63 level 2)

Monthly reporting rate for VAS: 98%

Number of rumors: humans 129,996 (98% investigated in 24h), animals 117,574 (98% investigated in 24h)

Cash reward awareness: 72% humans, 72% animals

Integrated surveys: None

Number and reporting rate for Integrated Disease Surveillance and Reporting (IDSR): 2,353 (98%)

% presumed sources of human cases identified*: 17% (1/6)

% human and animal Guinea worm infections contained: 68% (417/612)

*see definition on page #12

MALI: MINISTER OF HEALTH ATTENDS PROGRAM REVIEW CLOSING CEREMONY

O kɔ' I wɔgc" Y qto " Gtcf lecvkp" Rtqi tco " *OI Y GR+" eqpxgpgf " ku" cppwcn' review meeting in Bamako on February 9-10, 2023. National Program Coordinator Dr. Cheick Coulibaly summarized the work of the program in 2022. The program included detailed summaries of MGWEP activities in the two remaining regions with endemic villages, Mopti and Segou, and discussed the strategy of proactive tethering of dogs and cats in parts of Macina district/Segou Region and Djenne district/Mopti Region. Mali tethered 434 dogs proactively in 2022 after pilot testing the intervention late in 2021. Mali reported no Guinea worm cases in humans and confirmed Guinea worm infections in 41 animals (39 dogs, 2 cats; 63% contained) in 2022. The coordinator of the Peace through Health initiative, Boukary Sangare presented an update on results and methods of the initiative and received very positive feedback from ministry of health officials and institutional partners. The Honorable Minister of Health, Mme. Diemnatou Sandare, attended the final session of the review and closed the meeting. Participants at the review included representatives of partner organizations The Carter Center (Mr. Adam Weiss), the World Health Organization (Drs. Dieudonné Sankara and Andrew Seidu Korkor), and UNICEF Mr. Alain Dembele. The summary of key intervention indices for the MGWEP in 2022 is in Figure 3; the MGWEP Surveillance Snapshot 2022 is below.

Mali GWEP Surveillance Snapshot 2022

Accessibility: 96%

Villages reporting 1+ GW infection: 21

Number of districts by surveillance level: 5 in level 1; 3 in level 2; 67 in level 3

Number of rumors: humans 461 (99% investigated in 24h), 426 animals (99% investigated in 24h)

Cash reward awareness: 84% humans, 81% animals

Integrated surveys: None.

Number and reporting rate for Integrated Disease Surveillance and Reporting (IDSR): 1,442 (79%)

% presumed sources of human cases identified*: N/A

% human and animal Guinea worm infections contained: 63% (26/41)

*see definition on page 12

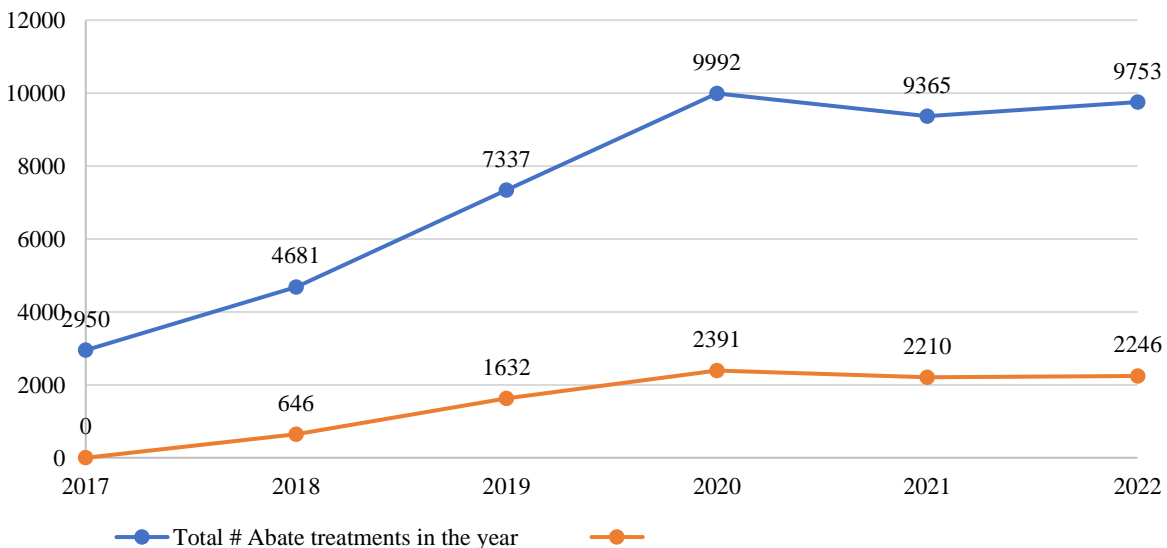
ETHIOPIA

Gj kqr kəu' F tcewpewlcuku' Gtcf lecvkp" Rtqi tco " *GF GR+ P cvkqpcn' Rtqi tco " Coordinator Mr. Kassahun Demissie r tguvpvf "Gj kqr kəu'tgr qtv'vq"vj g'xktwcn' kəvtpcvqpcnRtqi tco "Tgxky 'O ggkpi 0J g'pqvgf "Gj kqr kəu'kpcn'ucvku"qh'6" confirmed Guinea worm infections (2 contained) with a total of 11 worms reported in 2022: 2 baboons, 1 dog, and 1 human. The EDEP and Ethiopian wildlife authorities are discussing a protocol that will govern how they manage

live baboons that are discovered to have Guinea worm infection when they are trapped for study. As reported in the previous issue, since 2018 the EDEP has expanded Abate treatments and proactive tethering of dogs and cats aggressively in the limited remaining area of transmission in Gog district of Gambella Region.

Figure 2

Ethiopia Dracunculiasis Eradication Program Expansion of Abate Treatments and Proactive Tethering



Ethiopia tethered 1,607 dogs and 216 cats in 2022. The summary of key intervention indices for the EDEP in 2022 is in Figure 3; the EDEP Surveillance Snapshot 2022 is below.

Ethiopia GWEP Surveillance Snapshot 2022

Accessibility: 100%

Villages reporting 1+ GW infection: 3

Number of districts by surveillance level: 2 in level 1; 14 in level 2; 1,107 in level 3

Villages under Active Surveillance (VAS): 1,142 (198 level 1; 944 level 2); Non-Village Areas under Active Surveillance (NVAs): 321 (213 level 1; 108 level 2)

Monthly reporting rate for VAS: 100%

Number of rumors: humans 30,440 (99% investigated in 24h), 7,548 animals (100% investigated in 24h)

Cash reward awareness: 97% humans, 95% animals

Integrated surveys: 125,914 persons were in

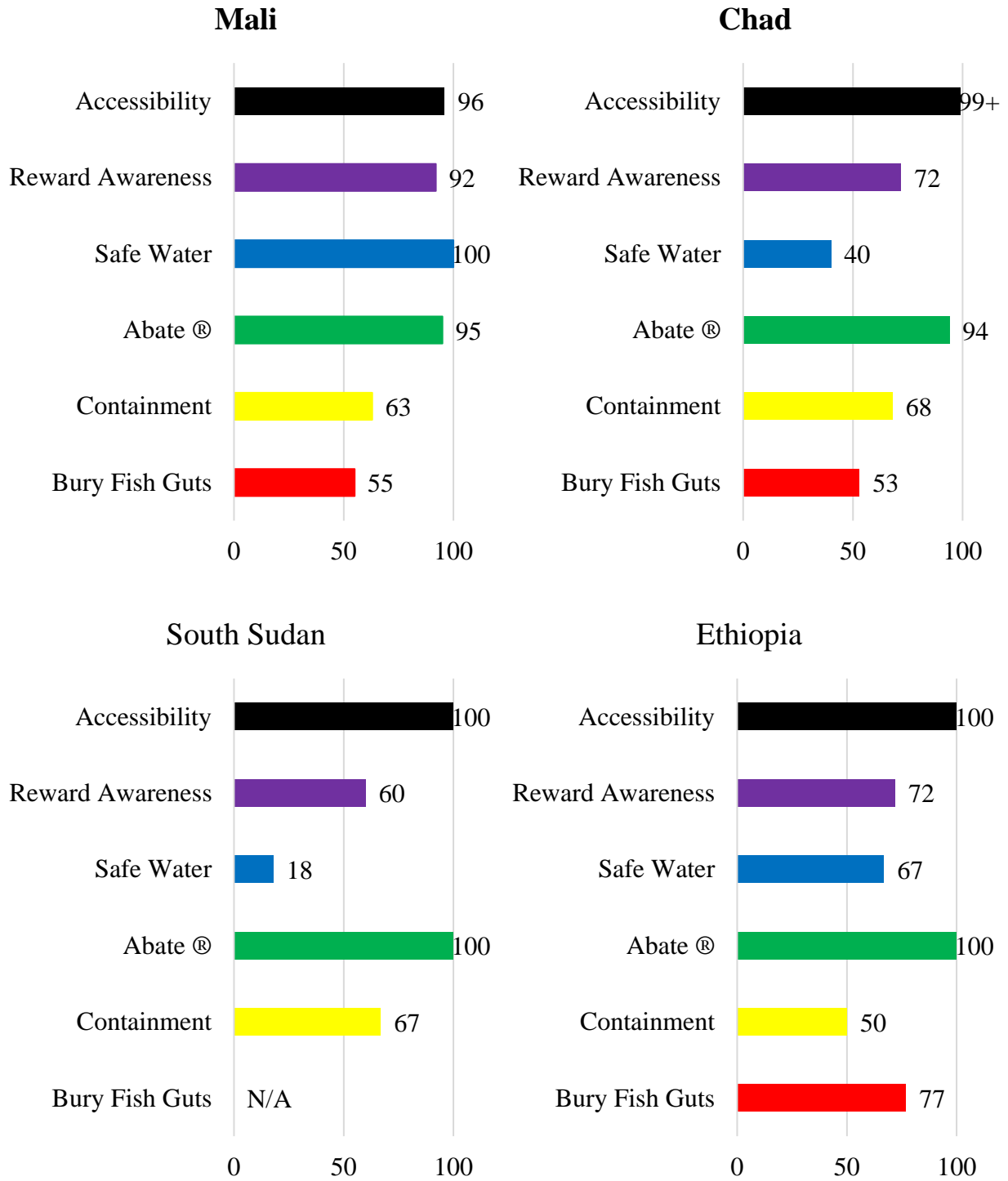
Angola received a shipment of Abate in November 2022, has trained health staff to use it, and plans to start using Abate as soon as the flooding recedes, likely in April-May 2023. The program began tying up some dogs with ropes in 2023 and is exploring how best to implement proactive tethering.

JOSEPH GIORDANO: EARLY GUINEA WORM WARRIOR

We deeply regret to report the passing of Joseph Giordano (1926-2023). He was the first director

Figure 3

Guinea Worm Eradication Program Indices Coverage for 2022*



*See criteria for indicator in text.

N/A = Not Applicable

MODIFIED INTERVENTION INDICES TO REFLECT VARIABLE MODES OF TRANSMISSION

With *D. medinensis* infections occurring in animals in three of the final four endemic countries (South Sudan is the exception) and evidence mounting to suggest that the infection is being transmitted to humans and animals not just by drinking water, as before, but likely also by people and animals eating raw or undercooked transport hosts such as small fish (up to 2-3.inches/5-7.5 cm long) and/or raw fish guts, as well as perhaps by eating undercooked aquatic paratenic hosts such as frogs and larger fish, Guinea Worm Eradication Programs have adopted new interventions to counter the new challenges. Given this new situation we suggest that national GWEPs monitor a modified set of operational indicators. Among the former indicators, trained village volunteers, regular health education, and reporting by villages under active surveillance, including endemic villages, can be assumed as at or near 100%. Coverage with cloth filters protects against contaminated drinking water, such as in Ethiopia in 2017, but not against eating an infected transport or paratenic host, which may now be the most common mode of infection for humans and animals in Chad and Mali. The suggested indicators now are:

- Reward awareness. Combined results for VAS levels I & II (endemic and high-risk villages) for reporting human and dog infections: % aware of persons surveyed. *Detect infections quickly.*
- Containment of infected humans and animals. % of infected humans and animals contained or tethered. *Prevent contamination.*
- Abate coverage. % Cumulative villages where Abate applied this year in villages with infections in current or previous year. Water bodies may be ineligible for Abate treatment from time to time when they become too large (>1000mx3) or dry up. *Prevent infection and contamination.*
- Bury fish guts. % of people surveyed in VAS level I villages with demonstrated fish gut burial practice. *Prevent Infection.*
- Uchg'y cvgt "uqwtg0" qh'XCU 'rgxgn'Kxkmi gu'y kj "cv'rgcu'qpg'hwpevwqplpi "uqwtg'qh'uchg" drinking water. *Prevent large point source outbreaks.*
- Accessibility. % of VAS level I villages (endemic villages+) that are safely accessible by the program.

The latter indicator, as first reported on in GW Wrap-Up #257, is intended to estimate GW programs' safe access to areas of greatest concern now for supervision and interventions. After transmission is interrupted nationwide, the entire country will need to be accessible for adequate surveillance and certification. Our first concern now, however, is to stop transmission, which requires safe access. The four main considerations for the new indicator are: 1) the denominator = surveillance level 1 (known or suspected endemic) plus option to include other areas if judged appropriate; 2) scores are 0 = not accessible for supervision and interventions, 1 = partly accessible, 2 = fully accessible; 3) administrative level= district or county; 4) all GW infections count, whether human or animal. Total score is sum of scores for all districts/counties of concern divided by maximal score (2x total number of districts/counties of concern) times 100 = percentage. A country's score may change with changes in security situations on the ground.

Note to contributors: Submit your contributions via email to Dr. Sharon Roy (gwrapup@cdc.gov) or to Adam Weiss (adam.weiss@cartercenter.org), by the gift of the author(s) to the journal. Contributions to this issue were: the nati