

Public Health Service  
Centers for Disease Control  
And Prevention (CDC)

Memorandum

Date: April 30, 2024

From: WHO Collaborating Center for





Region (3 in Djenne district, 1 in Mopti district); the other infections were in Segou Region: 32 in Macina district, 9 in Markala, 2 in Tominian, and 1 in San. Genetic analysis suggests Mali is missing several uncontained Guinea worm infections.

*remaining may soon stop GW transmission. Trapping and examining baboons in the endemic area in June-July 2024 during the peak transmission season will be especially instructive.*

### **Ethiopia EDEP Surveillance Snapshot 2023**

Accessibility: 100%

Villages reporting 1+ GW infection: 2

Number of districts by surveillance level: 2 in level 1; 15 in level 2; 1,206 in level 3

Villages under Active Surveillance (VAS): 1,144 (199 level 1; 945 level 2; Non-Village Areas under Active Surveillance (NVAs): 315 (229 level 1; 86 level 2)

Monthly reporting rate for VAS: 100%

Number of rumors: humans 28,313 (99% investigated in 24h), animals 6,976 (100% investigated in 24h)

Cash reward awareness: 98% humans, 95% animals (level 1 areas)

Integrated surveys: 189,493 people (mass drug administration; measles, HPV, COVID-19 immunization)

Number and reporting rate for Integrated Disease Surveillance and Reporting (IDSR): 21,809 (83%)

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

% human and animal Guinea worm infections contained: 100%

\*see definition on page 11

### **SOUTH SUDAN: SPARSE INFECTIONS**

Mr. Samuel Yibi MAKROY. vj g F kt gevqt qh Uqwj Uwf cpøu I Y GR. rtgugpvf vj g tgr qtv qp j ku eqwpt {øu r tqi tco 0Uqwj Uwf cp tgr qtv gf 4 j wo cp ecugu qh I wkgc worm disease and 1 Guinea worm infection in a wild genet in 2023. None of the three infections was contained, and no presumed source was identified for any of them. The two human cases, young males 13 and 4 years-old, live about 5 km (3 miles) apart in Tonj East County of Warrap State. Their single worms emerged in August and September 2023, respectively. Epidemiological investigations (the-27(t)8((two 27(pTm0q(ge)4t(ss )228(mwo 27(ha(e)

whether among humans, domestic animals, wild animals, or some combination, is unknown. The status of SSGWEP surveillance and interventions are summarized in the Surveillance Snapshot below and in Figure 1. The SSGWEP engages communities to bury or burn fish guts.

### South Sudan GWEP Surveillance Snapshot 2023

Accessibility: 100%

Villages reporting 1+ GW infection: 3

Number of counties by surveillance level: 3 in level 1; 14 in level 2; 63 in level 3

Villages under Active Surveillance (VAS): 603 (220 level 1; 383 level 2) [1,866 level 3]

Monthly reporting rate for VAS: 99%

Number of rumors: humans 150,192 (99% investigated in 24h), 10,045 animals (99% investigated in 24h)

Cash reward awareness: 93% humans, 89% animals (level 1 areas)

Integrated surveys: Integrated GW awareness and case searches during food distribution and polio immunization campaigns, especially in risk level 2 and 3 counties

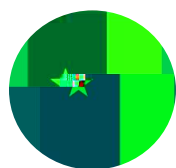
Number and reporting rate for Integrated Disease Surveillance and Reporting (IDSR): 87%

% presumed sources of human cases identified\*: 0%

% human and animal Guinea worm infections contained: 0%

\*see definition on page 11

### CAMEROON MOBILIZES VS. INCREASED INFECTIONS



National Program Coordinator F t0I gqti gu Dctvj grgo { P MQøC[ KUK Reported on Y j g ucwuiqhEco gtqqpøI wkpqc Y qto Gtcfkcvkqp Rtqi tco 0Eco gtqqpøO kpkvgt of Health Dr. Malachie Manaouda rnf j ku eqwpt { ø f grgi cvkqp vq y j ku kpvgtpevkpcn r tqi tco tgxky . ceeqo r cplgf d{ Y J Qøu Eqwpt { Tgr tgugpvcvkxg vq Eco gtqqp. Dr. Phanael Habimana.

After Cameroon eliminated Guinea worm disease in 1997, the World Health Organization certified the country as free of GWD in 2007. Cameroon detected three human Guinea worm cases and multiple dogs with Guinea worm infections in Guere health district of Extreme North Region dgw ggp 423; cpf 4244. cp ctgc cf lcegpv vq Ej cf øu gpf go ke Dqpi qt f kvtkv. y j gtg gz vgpf gf families live and share markets on both sides of the international border. The World Health Qti cpk cvkqp cuukvngf Eco gtqqpøu kpxguki cvkqpu cpf eqwvrol measures beginning in 2019, joined later by The Carter Center. The number of reported dog infections increased from 10 in 2021 to 28 in 2022, then to 251 infected dogs and 7 infected cats detected in 16 villages in 2023 (Table 2). Eighty-four percent (216/258) of the infected animals in 2023 were reportedly contained. Most (93%) of the infected animals in 2023 occurred in only 8 villages in Nouldaina sub-district of Guere health district. Genetic analysis of Guinea worms in this border area of Cameroon and Chad in 2023 suggests that the parasites form a single population, and that transmission is now endemic in Nouldaina sub-district of Cameroon. The affected area is fully accessible to the respective national GWEPs.

Eco gtqqpøu GWEP increased the number of Villages under Active Surveillance from 15 in 2022 all in Guere district to 26 in 2023 in Guere (24) and adjacent Yagona (2) health districts. It offers cash rewards of 100,000 CFA (~US\$165) for reporting a human case and 10,000 CFA

(~US\$16.55) for reporting an animal with Guinea worm infection. The GWEP did not assess the level of awareness of the cash rewards, but it responded to 226 rumors of GW in humans and 1,263 rumors of GW in animals. The program carried Abate in the top 11 (69%) of 16 villages with reported GW infections, began implementing proactive tethering in the top 10 villages, and distributed cloth and pipe filters in the top 9 villages. The program conducted additional training for Abate use in June 2023 and proactive tethering in July 2023, and it began helping communities construct pits for safe disposal of fish guts in July 2023. In the first quarter of 2024, the GWEP added three new technical advisors, raising the total to four, and engaged with EcoGrowth EFE-sponsored Field Epidemiology Training Program to help investigate GW infections and cases.

### ANGOLA NEEDS MORE HELP FAST

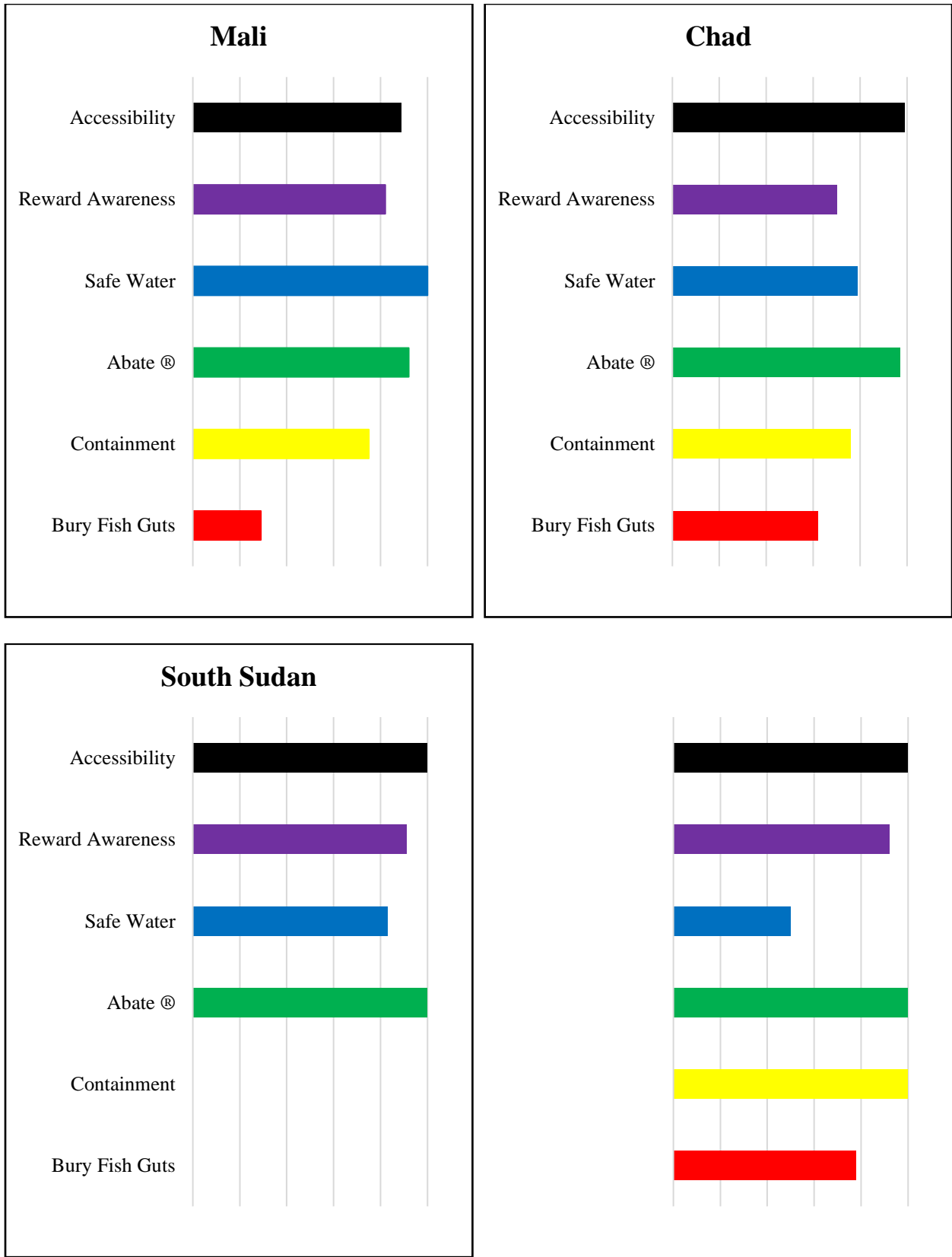
Neglected Tropical Diseases National Coordinator Dr. Cecilia de Almeida reported that 29 villages, all in Cunene Province and mostly on the porous border with Namibia. These are among a total of 3 human cases and 93 infected dogs reported since GW was discovered in Angola in 2018. The program has increased the number of villages under active surveillance from 61 villages in 2022 to 158 in 2023- in Namacunde (103), Cuanhama (44), and Cuvelai (11) municipalities. It also conducted integrated surveillance for GW in cooperation with polio immunization and trachoma control efforts in 2023. Angola investigated 27 rumors of human cases and 122 rumored animal GW infections in 2023, 79% of them within 24 hours. Preliminary genetic analysis shows that nearly all Guinea worm population probably expanded from a single source. The analysis also suggests multiple Guinea worm infections are being missed in Angola.

In 2023, Angola trained 171 workers to apply Abate and treated 94% of 262 water bodies, mostly in the off-peak period of June-December, and distributed cloth filters to 1,950 families. *Because the peak transmission season for Guinea worm in Angola is January-May, which is the rainy season when travel, logistics, and access to endemic areas are more difficult, the program must provide as much health education, training, supplies, and other interventions as it can during the dry season, which begins next month.* Angola detected 30 suspected GW infections in dogs in 19 villages in January-March 2024, but those specimens had not yet been shipped to CDC as of this report. The program also reported 10 suspected GW infections in humans in 19 villages in adjacent Namibia since 2018. The Carter Center has provided limited assistance but





Figure 1: Guinea Worm Eradication Program Indices Coverage for 2023



## MODIFIED INTERVENTION INDICES TO REFLECT VARIABLE MODES OF TRANSMISSION

With *D. medinensis* infections occurring in animals in the final six endemic countries 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 hET613 626/F1 12 Tf TtTf 0 1 eW\* nf operational indicators.

## **DEFINITION OF A PRESUMED SOURCE OF GUINEA WORM INFECTION**

A presumed source/location of a human dracunculiasis case is considered identified if:

The patient drank unsafe water from the same source/location (specify) as another human case(s) or an infected domestic animal 10-14 months before infection, or

The patient lived in or visited the (specify) household, farm, village, or non-village area of (specify) a Guinea worm patient or an infected domestic/peri-0-19(wa)s0 G[(/708.1/22172.P .00000912 0 61

Table 2

**Number of **Dogs** with Guinea Worm Infections and Number Reported Contained by Month during 2023**



