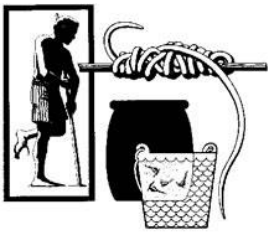
**DEPARTMENT OF HEALTH & HUMAN SERVICES**

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

Memorandum



Date: August 28, 2024

From: WHO Collaborating Center for Dracunculiasis Eradication, CDC

Subject: GUINEA WORM WRAP-UP # 312

To: Addressees

| **Surveillance** | **Containment** | **Investigation** | **Interventions** | **Political Support** |
|---|---|---|---|---|
| (Detect cases fast) | (Prevent contamination) | (Link cases) | (Prevent infection) | Minister visits |
| Active searches | Isolate cases | Source? | Abate, filters | Traditional leaders |
| Reward awareness | Tether infected dogs, cats | Contamination? | Proactive tethering | Safe water advocacy |
| Rumors | Health education | Infection mode? | Bury fish waste | Cease-fire advocacy |

## ERADICATE GW BY 2027 TO CERTIFY IN 2030

WHO's Roadmap for Neglected Tropical Diseases calls for certification of Guinea worm eradication by 2030, which means no new cases after 2027. That would allow three required consecutive years of no cases, with adequate surveillance. Currently there are three pairs of affected countries with different levels of infection.

**Angola & Cameroon**: Known GW infections since 2018, 2019, respectively. Transmission peaks early in the year. Both countries expanded surveillance in 2022. Angola has only 2 adjacent hotspots (districts with GW in 2023-July 2024 are Namacunde and Cuanahama). Angola had 85 animal infections in 2023; 2 confirmed and 35 pending animal infections in 2024 so far. Cameroon has 1 hotspot (Guere; in spillover from adjacent Bongor district in Chad), with 227 animal infections and 1 human GW case in 2023. It has 117 confirmed and 125 pending animal infections so far in 2024. *Elimination before 2027 is doable: hammer the 3 hotspots*.

**Ethiopia & South Sudan:** After decades of eradication work, GW is now limited to 2 hotspots in Ethiopia (adjacent Gog, Abobo districts) and 3 hotspots in South Sudan (adjacent Tonj East and Rumbek North, and Lafon counties). Transmission peaks in mid-year. Ethiopia had 1 infected dog in 2023 and no infections in 2024 so far. South Sudan had 2 human cases and 1 infected genet in 2023 and 2 human cases in 2024 so far. Sporadic insecurity, infected wildlife, inadequate safe drinking water are challenges. *Elimination by 2027 is doable: intensify surveillance nationwide and hammer the 5 hotspots*.

**Mali & Chad** share similar riverine ecology of GW transmission, which is year-round in Chad, but mainly second half of the year in Mali. Mali has 5 hotspots remaining (Macina, Markala, Djenne, Tominian, Mopti districts); Chad has 31 hotspots of 172 total districts; see *Guinea Worm Wrap-Up* #306). Mali had 1 human case and 47 animal infections in 2023, and no animal infection (see In Brief below) in January-June 2024. Chad had 9 human cases and 494 animal infections in 2023, and 2 human cases, 241 animal infections in 2024 so far, with 63% reduction in Bongor district adjoining Guere district of Cameroon. Mali's main challenge is insecurity in its hotpots. Chad's main challenges are widespread transmission and inadequate safe drinking water. *Elimination by 2027 is doable if Mali can get limited cease-fire in its endemic area and if Chad intensifies its surveillance, containment, and interventions*.

Table 1. Provisional Line List of Confirmed Human Guinea Worm Cases, 2024 (as of August 26)

| Country | District/Village | Sex/Age | Ethnicity | Worm Emerged | Contained? | Presumed Source of Infection | Likely Mode of Infection |
|---|---|---|---|---|---|---|---|
| Chad | Kyabe/Goho | F/60 | Sara Kaba | 29 May | No | Indigenous | Aquatic Animal |
| Chad | Kyabe.Moudjousso | M/14 | Sara Kaba | 3 July | No | Goho | Unclear |
| South Sudan | Tonj E/Gaak | F/15 | Dinka | 28 June | No | Indigenous | Water |
| South Sudan | Rumbek N/ Bardiak CC | M/13 | Dinka | 30 June | Yes | Unknown | Unclear |

CC=Cattle Camp

**CHAD: FLATTENING THE CURVE**

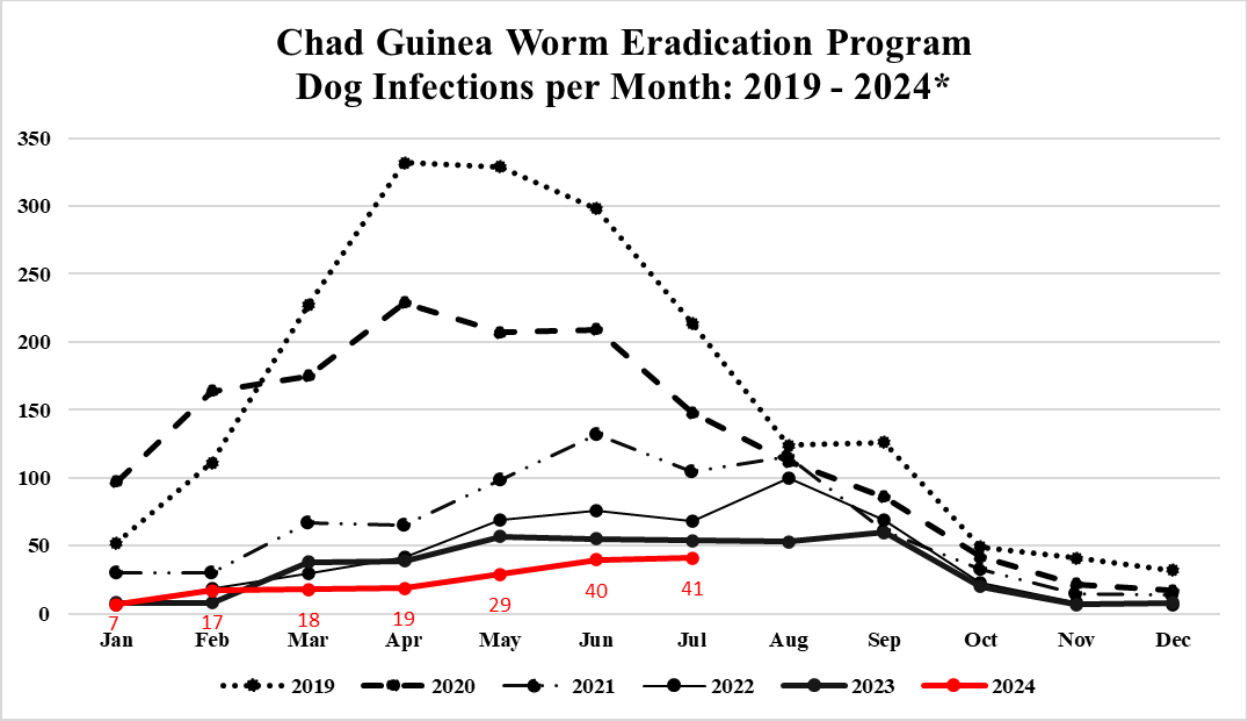



Figure 1. Chad dog infections from January 2019 – July 2024
*Provisional

Chad has reported 200 animals (66% contained) with GW infections in January-July 2024 compared to 292 infected animals (78% contained) in the same period of 2023, for a reduction of 32% so far this year. This rate of reduction, if sustained this year and in 2025-2027, would leave about 71 animals with GW infections in 2028, beyond the target for zero infections. Chad has reported 2 human cases of Guinea worm disease in January-July 2024 (Table 1), compared to 5 human cases in January-July 2023. Chad's second case of 2024 visited Goho in 2023. Goho, which reported GW infections annually since 2019, is the resident village of the first case of 2024 and does not have a source of safe drinking water. Possible exposures include drinking unfiltered water from unsafe sources and eating under-cooked fish caught there.

Carter Center Vice-President for Overseas Operations Craig Withers made a supportive visit to Chad on August 11-13, 2024. He and the National Coordinator of Chad's Guinea Worm Eradication Program (GWEP), Dr. Tchindebet Ouakou, Carter Center Senior Country Representative Dr. Abdalla Meftuh, Deputy Country Representative Mr. Al Hassana Outman, Carter Center Senior Technical Coordinator Ms. Ariane Ngo Bea Hob, met with Minister of Public Health Dr. Abdel-Madjid Abderahim Mahamat and the minister of health's senior staff to discuss the status of the GWEP, which operates from 5 logistical provincial level hubs: Sarh, Bongor, Baili, Am-Timan, and Lai that are linked to the national program office. As reported in the previous issue, Chad will host a ministerial-level meeting of Chad, Cameroon, and Central African Republic to discuss cross-border issues on September 16-17, 2024, supported by WHO and The Carter Center.

## IN BRIEF:

**South Sudan** has detected two human cases of Guinea worm disease in June 2024 (Table 1), as well as four wild animals with un-emerged GW infections so far in 2024: a serval in April; and another serval, an African wild cat, and an African civet in June. The first three animals were detected in hotspot Tonj East County; the civet was in hotspot Lafon County. Since the worms were un-emerged, they did not contaminate water, and these infections do not meet the official definition of animal GW infections. South Sudan's GWEP is applying all appropriate interventions around the locations of those animals in those two hotspot counties as well as locations of the human cases.

**Mali** reported a jackal with 2 confirmed un-emerged Guinea worms that were detected on July 1, 2024. A hunter killed the animal in the forest near Soumouni, Kama, and Komara villages in Macina district of Segou Region. A dog with an uncontained GW infection was detected in Kama (located approximately 9 km—5.4 miles—from Soumouni) in September 2023. This area of Mali is controlled by Jihadist groups and not accessible to the health teams. Surveys conducted in June found 94% awareness of the cash reward for reporting Guinea worm case or infection among 6,406 persons queried in Level 1 (endemic) Tominian, Macina, San, Markala, and Djenne districts, and 94% awareness among 703 persons queried in Level 2 (at risk) Tenekou and Youwarou districts.

Data Manager Souleymane Diarra and Carter Center Consultant Dr. Gabriel Guindo made a supervisory visit to Tominian, Mopti, and Djenne districts on July 16-24. They reported that merchants have reduced transporting dogs from Tenenkou, Macina, Djenne, and Mopti districts because of insecurity in those areas. Dr. Elie Timbine, Guinea Worm Technical Advisor based in Djenne district of Mopti Region, received a certificate of recognition from Mopti' s governor on July 3, 2024, in recognition of his work for the program.

**Central African Republic**. Carter Center consultant Robyn Carter worked with the Ministry of Health on July 31-August 3 to train national and district level health workers on Guinea worm surveillance, prevention, and control. Health workers from Vakaga district, which reported one human case each in 2022 and 2023, traveled to Bangui to attend the training.

## 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 other human case(s) or an infected animal 10-14 months before infection, or

The patient lived in or visited the (specify) household, farm, village, or non-village area of a (specify) Guinea worm patient or infected domestic/peri-domestic animal 10-14 months before infection, or

The patient drank unsafe water from a (specify) known contaminated pond, lake, lagoon or cut stream 10-14 months before infection.

If none of the above is true, the presumed source/location of the infection is unknown. Whether the patient's residence is the same as the presumed source/locality of infection or not should also be stated in order to distinguish indigenous transmission from an imported case.

**DEFINITION OF A CONTAINED CASE****

A case of Guinea worm disease is contained if all of the following conditions are met:

1. The patient is detected before or within 24 hours of worm emergence; and
2. The patient has not entered any water source since the worm emerged; and
3. A village volunteer or other health care provider has properly managed the case, by cleaning and bandaging until the worm is fully removed and by giving health education to discourage the patient from contaminating any water source (if two or more emerging worms are present, the case is not contained until the last worm is pulled out); and
4. The containment process, including verification that it is a case of Guinea worm disease, is validated by a supervisor within 7 days of the emergence of the worm, and
5. ABATE® is used if there is any uncertainty about contamination of the source(s) of drinking water, or if a source of drinking water is known to have been contaminated.

***The criteria for defining a contained case of Guinea worm disease in a human should be applied also, as appropriate, to define containment for an animal with Guinea worm infection*

Table 2

**Number of Laboratory-Confirmed Human Cases of Guinea Worm Disease, and Number Reported Contained by Month during 2024***

(Countries arranged in descending order of cases in 2023)

| COUNTRIES WITH TRANSMISSION OF GUINEA WORMS | NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED | | | | | | | | | | | | | % CONT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTAL* | |
| CHAD | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 1** | **0 / 0** | **0 / 1** | | | | | | **0 / 2** | **0%** |
| SOUTH SUDAN | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **1 / 2** | **0 / 0** | | | | | | **1 / 2** | **50%** |
| CENTRAL AFRICAN REPUBLIC | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | | | | | | **0 / 0** | **N / A** |
| CAMEROON | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | | | | | | **0 / 0** | **N / A** |
| MALI | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | | | | | | **0 / 0** | **N / A** |
| TOTAL* | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | | | | | | **1 / 4** | **N / A** |
| % CONTAINED | **N / A** | **N / A** | **N / A** | **N / A** | **0%** | **50%** | **0%** | | | | | | **25%** | |

***Provisional***

Cells shaded in black denote months when zero indigenous cases were reported. Numbers indicate how many cases were contained and reported that month.

Numbers indicate how many cases were contained and reported that month.

**Number of Laboratory-Confirmed Cases of Guinea Worm Disease, and Number Reported Contained by Month during 2023**

(Countries arranged in descending order of cases in 2022)

| COUNTRIES WITH TRANSMISSION OF GUINEA WORMS | NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED | | | | | | | | | | | | | % CONT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTAL | |
| CHAD | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **1 / 1** | **1 / 1** | **1 / 3** | **1 / 1** | **1 / 2** | **1 / 1** | **0 / 0** | **0 / 0** | **6 / 9** | **67 %** |
| SOUTH SUDAN | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 1** | **0 / 1** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 2** | **0 %** |
| ETHIOPIA | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **N / A** |
| CENTRAL AFRICAN REPUBLIC | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 1** | **0 / 0** | **0 / 0** | **0 / 1** | **0 %** |
| MALI | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 1** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 1** | **0 %** |
| CAMEROON | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **1 / 1** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **1 / 1** | **100 %** |
| TOTAL | **0 / 0** | **0 / 0** | **0 / 0** | **0 / 0** | **2 / 2** | **1 / 1** | **1 / 3** | **1 / 3** | **1 / 3** | **1 / 2** | **0 / 0** | **0 / 0** | **7 / 14** | **50 %** |
| % CONTAINED | **N / A** | **N / A** | **N / A** | **N / A** | **100%** | **100%** | **33%** | **33%** | **33%** | **50%** | **N / A** | **N / A** | **50%** | |

Cells shaded in black denote months when zero indigenous cases were reported. Numbers indicate how many cases were contained and reported that month.

Numbers indicate how many cases were contained and reported that month.

Are the right people receiving the Guinea Worm Wrap-Up?

We remind leaders of National Guinea Worm Eradication Programs to make sure all appropriate persons are receiving the Guinea Worm Wrap-Up directly, by email. With frequent turnover of government officials, representatives of partner organizations, and recruitment of new Guinea worm program staff, keeping desired recipients up to date is challenging. Frequent review of who is receiving the newsletter directly is advised. To add an addressee, please send their name, title, email address, and preferred language (English, French, or Portuguese) to Dr. Sharon Roy at CDC (gwwrapup@cdc.gov).

Note to contributors: Submit your contributions via email to Dr. Sharon Roy (gwwrapup@cdc.gov) or to Adam Weiss (adam.weiss@cartercenter.org), by the end of the month for publication in the following month's issue. Contributors to this issue were: the national Guinea Worm Eradication Programs, Dr. Donald Hopkins and Adam Weiss of The Carter Center, Dr. Sharon Roy of CDC, and Dr. Dieudonné Sankara of WHO. Formatted by Mindze Nkanga.

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Back issues are also available on the Carter Center web site in English, French, and Portuguese and are located at http://www.cartercenter.org/news/publications/health/guinea_worm_wrapup_english.html.

http://www.cartercenter.org/news/publications/health/guinea_worm_wrapup_francais.html

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World Health Organization

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