

Memorandum



**Date:** May 31, 2023  
**From:** WHO Collaborating Center for Dracunculiasis Eradication, CDC  
**Subject:** GUINEA WORM WRAP-UP #298  
**To:** Addressees

*Detect early. Contain all. Find source.*

**SOUTH SUDAN:  
MINISTER OF HEALTH VISITS ENDEMIC AREA**



(Carter Center/Samir Bol)



South Sudan's Minister of Health Ms. Yolanda Awel Deng Juach led a visit to Lafon in Lopa/Lafon County of Eastern Equatoria State on Monday, April 24, 2023. Lopa/Lafon County was the location of the first case of Guinea worm disease that South Sudan's Guinea Worm Eradication Program (SSGWEP) reported in 2022 year, on July 27. The minister's entourage included SSGWEP Director Mr. Samuel Makoy Yibi, The Carter Center's CEO Ms. Paige Alexander, Vice President Craig Withers, Guinea Worm Program Director Adam Weiss and Deputy Director Sarah Yerian, and Country Representative Jim Niquette, among many others including national, state and local government.

With World Health Organization (WHO) support, the SSGWEP held a planning workshop on May 18-19, 2023 to sustain the Guinea Worm Community-Based Surveillance System in counties transitioning to Integrated Disease Surveillance and Response (IDSR) and in cross-border counties. The workshop included participants from Central and Eastern Equatoria, Jonglei, Lakes, Warrap, and Western Bahr El Ghazal

States. Dr. Andrew Seidu Korkor of WHO's Regional Office for Africa provided technical advice and updates/orientation on the revised criteria for certification.

South Sudan has reported no Guinea worm case or infection in January-April 2023.

### ANGOLA: MORE DOG INFECTIONS



Angola has reported 18 confirmed Guinea worm infections in dogs, all *uncontained*, 2 in February and 16 in March 2023, and an additional 46 provisional dog infections, all *uncontained*. These confirmed and provisional dog infections were reported from 25 villages in Namacunde municipality and Cuanhama municipality of Cunene Province, 19 of which were under active surveillance in 2022. Specimens from 18 of the first 64 provisional dog infections have been sent to the CDC laboratory for examination and confirmed; specimens from the other 46 provisional dog infections are in the process of being sent to CDC. The Angolan Guinea Worm Eradication Program responded to 94 rumors of Guinea worm infections in 85 animals and 9 humans in January-April 2023, which is a 370% increase from the 20 rumors reported during the same period of 2022. Angola has found no human cases this year.

After the surprise discovery of Guinea worm infection in a young girl in 2018, Angola reported a second human case and one dog infection in 2019, a third human case in 2020, no infections in 2021, and 7 *uncontained* infected dogs in 2022, all of which have occurred in the same areas as the infections in 2023, to which are added other new neighboring villages in the same municipalities. The upsurge in discovered dog infections in 2023 follows expanded community-based surveillance in 2022 and Angola's first ceremony held in October 2022 to distribute cash rewards for reporting the seven dog infections that year. Flooding has impeded interventions in 2023, including containment, proactive tethering, and use of Abate. The Abate which arrived in Angola in November 2022 is still in Luanda. The peak transmission season for Guinea worm transmission in Angola is January-May, which is the rainy season.

The WHO-supported field staff in Cunene Province are preparing to begin application of Abate. The program is also reinforcing community-based surveillance and active case searches, expanding the still-embryonic proactive tethering of dogs, and sensitizing community members to accelerate acceptance of proactive tethering of dogs, in preparation for the next transmission season.

The Carter Center and Angola's Ministry of Health signed a Memorandum of Understanding in November 2019. The Center expects to receive official registration by the Government of Angola soon to work as a Non-Governmental Organization in the country.

*The worm will be the judge of the quality of our work last year.*

MAKOY Samuel Yibi

[N.B.: The worm also is judging the quality of this year's work right now.]

### CAMEROON: MORE DOG INFECTIONS



Cameroon has detected 37 confirmed Guinea worm infections in dogs and cats (100% contained) and 146 provisional animal infections (80% contained) in January-April 2023. All are in Guere district of Cameroon's Extreme North Region and result from cross-border transmission with Bongor district in Chad's Mayo Kebbi Est Region.

These two districts are a single epidemiological zone on both sides of the Logone River, which is the international border between the two countries in this area and is shared by extended families. Cameroon began proactive tethering of dogs in the affected area late in 2021 and expanded active surveillance in January 2022. Since February 2023, teams have treated almost all eligible water sources with Abate. Cameroon held a district level cross-border meeting with Chad's GWEP on March 27, 2023, to discuss Abate, proactive tethering, and other shared interventions. The program is seeking to address deficiencies in proactive tethering and disposal of fish guts. The peak transmission season for Guinea worm infections here is January-April, the dry season. Cameroon has not found any human Guinea worm cases this year.

The World Health Organization (WHO) certified Cameroon as Guinea worm-free in 2007, ten years after the country reported its last indigenous case in 1997. The country reported no Guinea worm infections in 2008-2018, then reported 2 human cases, 15 infected dogs, and 1 infected cat in 2019-2021, followed by 28 infected dogs in 2022. Almost all of Cameroon's Guinea worm infections before 1997 were close to Nigeria on the northwest side of Extreme North Province, in or near the Mandara Mountains while all Guinea worm infections in Cameroon beginning in 2019 have occurred on the southeast side of Extreme North Province at the border with Chad.

*There are always results in Guinea Worm Eradication Programs. If you do good work, there will be good results. If you do bad work, there will be bad results.*  
Dieudonne Sankara

## CHAD



Chad's Guinea Worm Eradication Program has provisionally reported 90 Guinea worm infections in dogs (77% contained) in January-April 2023, compared to 97 dog infections (67% contained) in January-April 2022. It has reported 6 infections in cats (67% contained) and no cases in humans in January-April 2023 compared to 10 cat infections and 2 human cases during the same period of 2022. This is a reduction of 7% in dog infections so far this year.

## ETHIOPIA



Ethiopia has detected no confirmed Guinea worm infections in humans or animals in January-April 2023 despite submitting five specimens from humans and animals for laboratory examination. In January-April 2023, the Ethiopian Dracunculiasis Eradication Program (EDEP), ran surveillance and other program interventions in 420 villages (VAS) and non-village areas (NVAs) (farms, fishing, and gold mining areas) under active surveillance in Gog and Abobo districts of Gambella Region. EDEP also searched 108,141 households house-to-house, reaching 334,091 persons, and conducted an integrated search in cooperation with trachoma mass drug administration and measles immunization campaign that reached another 23,085 households and 81,635 persons. The EDEP also followed up 11,059 rumors in humans and animals, including inspection for signs of Guinea worm in 73 baboons/monkeys found dead in January-April 2023. A survey of cash reward awareness in Gog and Abobo districts conducted in March and April found 1,072 (99%) and 1,052 (97%) of 1,087 persons interviewed were aware of the reward scheme for reporting human Guinea worm cases and animal infections, respectively. The peak transmission season in Ethiopia is April-October.

The EDEP proactively tethered between 1,638-1,803 dogs and 218-224 cats each month in January-April 2023, in Gog and Abobo districts, and conducted a total of 1,279 Abate applications in the same two districts during those four months. Thirty-one percent (31%) of VAS and 86% of NVAs did not have access to safe water. Inhabitants of Abawiri village and Duli Farm in Gog district began using two Carter Center-assisted shallow wells that were completed in January 2023. The Carter Center also is planning to assist construction of two more shallow wells in Chieng village of Gog district and Gotok village of Abobo district. Those four villages have each had Guinea worm infections in the past few years.

Erratum: In *Guinea Worm Wrap-Up #295*, researchers from the Ethiopian Wildlife Conservation Authority (EWCA) were erroneously included as members of the research team who took part in the baboon study expedition in December 2022 when in fact the team included only researchers from the Ethiopian Public Health Institute (EPHI) and The Carter Center. The researchers from EWCA didn't take part in that mission but will support the upcoming trip to be carried out in June/July 2023. Apologies for the oversight.

*Hope is not an intervention.*  
Don Hopkins

## MALI



Mali has reported no Guinea worm infection in a human or animal in January-April 2023. Mali's GWEP has 2,215 villages under active surveillance. In February-March 2023, it received 48 rumors of human infections and 58 rumors of animal infections. Surveys of cash reward awareness in February and March found 92% awareness in level 1 areas and 93% awareness in level 2 areas for human and dog rewards. Surveys in Tominian district in March 2023 found 35 of 52 (67%) households practiced proper disposal of fish entrails. Program staff met 33 dog traders and inspected 334 dogs in Tominian district/Segou Region and 32 dog traders and 73 dogs in San district/Segou Region in February; in March they met 39 dog traders and inspected 408 dogs in Tominian and 52 dog traders and 147 dogs in San district. The MGWEP plans to expand proactive tethering of dogs and cats, including puppies, in 2023. The peak transmission season for Guinea worm transmission in Mali is June-September.

**Late Breaker:** Mali has reported 3 provisional dog Guinea worm infections, all contained, on May 24, 2023, in Kolongo Bozo town/village of Macina district/Segou Region. Mali's GWEP began tethering dogs in parts of Kolongo Bozo in November 2021. Kolongo Bozo had 11 dogs with confirmed Guinea worm infections in June-September 2022 and 5 infected dogs in August-December 2021. The three dogs in 2023 were puppies last year and the MGWEP did not tether puppies in 2022. The dogs were tethered in 2023, and Abate will be applied in the area as appropriate. Specimens of the worms will be sent to CDC for examination. Mali has now decided to tether all puppies in cooperating endemic areas also.

The Peace-Health Initiative facilitated a conflict mitigation, dialogue, and leadership training for youth and women in Tominian district on May 21-25, following similar trainings in Tenenkou district in February and in Macina district on May 6-7. The three districts are in Segou Region.

## CHAD AND SOUTH SUDAN MINISTERS ATTEND GW MEETING AT WORLD HEALTH ASSEMBLY



Representatives of Angola, Central African Republic, Chad, and South Sudan participated in the unofficial meeting on Guinea worm eradication hosted by The Carter Center at the John Knox International Center in Geneva on May 23, 2023, during the Seventy-sixth World Health Assembly. Representatives of Angola, Central African Republic, and Chad presented at the meeting and the representative from WHO's Eastern Mediterranean Office spoke on behalf of Sudan. Chad and South Sudan were represented by strong delegations, including Minister of Health Yolanda Awel Deng Juach, Director-General for Preventive Health Services at the Ministry of Health Dr. John Rumunu, and National Program Coordinator Samuel Makoy Yibi of South Sudan, and Minister of Health Dr. Abdel-Madjid Abderrahim Mahamat and Secretary General Dabsou Guidaoussou of Chad. Angola was represented by Secretary of State for Public Health Dr. Carlos Alberto Pinto de Sousa and Central African Republic by National Neglected Tropical Diseases Program Coordinator Dr. Bernard Boua.

The vigorous discussion highlighted the need to accelerate interventions, the importance of ministerial visits to the field, and pledges by countries to fulfill commitments of the 2022 Abu Dhabi Declaration. Donor representatives included the Bill & Melinda Gates Foundation, United Arab Emirates, Vestergaard, BASF, GLIDE, and others. Carter Center Vice President Dr. Kashef Ijaz and GWEP Director Adam Weiss attended the meeting, as well as World Health Organization Assistant Director-General Prof. Jérôme Salomon, NTD Director Dr. Socé Fall, and NTD Elimination and Eradication Team Lead Dr. Dieudonné Sankara, and other partner representatives. Dr. Ijaz, Prof. Salomon, Dr. Fall and Mr. Weiss each addressed the meeting. Ms. Tala Al Ramahi was invited to speak and shared reflections on the importance of disease eradication and the United Arab Emirates' longstanding commitment to Guinea worm eradication.

### GUINEA WORM WARRIOR DR. FERNANDO TORRES-VELEZ



Esteemed Guinea Worm Warrior Dr. Fernando Torres-Velez DVM, who joined The Carter Center Guinea Worm Team as Associate Director for Research in February 2020, left that position in May 2023 to join the U.S. Centers for Disease Control and Prevention as Director of their Division of High-Consequence Pathogens and Pathology. Over the past three years, Dr. Torres supported substantial expansion of an already significant research agenda to include as of now *D. medinensis* transmission dynamics, genomics, diagnostics, and immunology; investigation of flubendazole to potentially treat and prevent Guinea worm infection in dogs in Chad; environmental monitoring; and studies of Guinea worm infections in Ethiopian baboons. He accomplished all this despite the unprecedented COVID-19 pandemic, which spanned his entire tenure at The Carter Center. Some of the latest impressive results of this research were reported at the 26<sup>th</sup> Annual Review Meeting of GWEP Program Managers that was held virtually in March 2023. THANK YOU, Fernando!!



## RECENT PUBLICATIONS

World Health Organization, 2023. Dracunculiasis eradication: global surveillance summary, 2022. *Wkly Epidemiol Rec* 98:205-224. <https://apps.who.int/iris/bitstream/handle/10665/367924/WER9820-205-224.pdf?sequence=1&isAllowed=y>

### **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](mailto:gwwrapup@cdc.gov)).

Note to contributors: Submit your contributions via email to Dr. Sharon Roy ([gwwrapup@cdc.gov](mailto:gwwrapup@cdc.gov)) or to Adam Weiss ([adam.weiss@cartercenter.org](mailto: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 Jacqueline Mullen.

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