

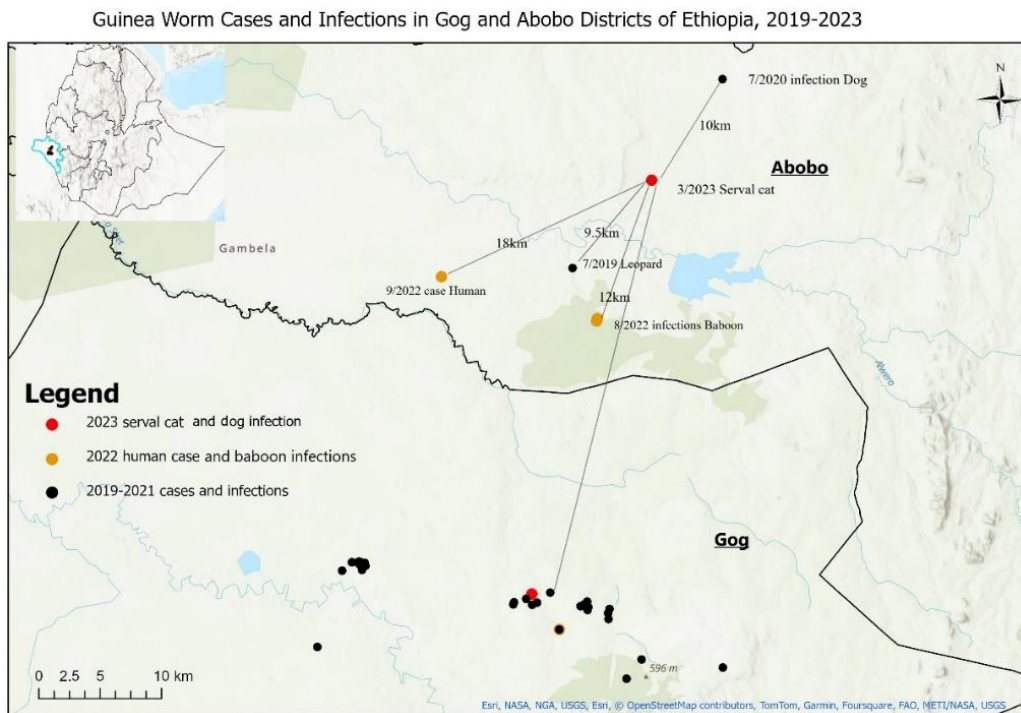


Date: March 26, 2024
From: WHO Collaborating Center for Dracunculiasis Eradication, CDC
Subject: GUINEA WORM WRAP-UP #307
To: Addressees

Detect immediately! Contain completely! Source specifically!

ETHIOPIA: 2 GW INFECTIONS IN 2023; STATE MINISTER OF HEALTH OPENS ANNUAL REVIEW

Figure 1



The CDC laboratory has confirmed that a worm found in a wild serval cat (*Leptailurus serval*) which an Ethiopian hunter trapped and killed on March 4, 2023, is *Dracunculus medinensis*. The hunter found the small cat on a commercial farm in Perbongo kebele of Abobo district in Gambella Region and discovered three un-emerged worms while inspecting the dead animal. Although the serval did not meet the technical case definition

for Guinea worm infection since the worms were un-emerged, the Ethiopia Dracunculiasis Eradication Program (EDEP) conducted all the usual responses as for emerged Guinea worms, including active case and infection searches, community notification, filter checking and distribution, Abate and vector control, mapping water sources, and health education-focused community meetings in four communities and thirty commercial farms in nearby areas. The EDEP also plans to establish baboon troop spotting and trapping sites in the area this year.

Ethiopia has reported confirmed *D. medinensis* worms in a total of 13 humans, 12 baboons, 11 cats (including a leopard and a serval, both of which had only un-emerged Guinea worms), and 9 dogs over the past five years (2019-2023):

- **2019 (9):** 0 human, 6 baboons, 1 leopard (un-emerged worm), 2 dogs
- **2020 (26):** 11 humans, 4 baboons, 8 cats, 3 dogs
- **2021 (4):** 1 human, 0 baboon, 1 cat, 2 dogs
- **2022 (4):** 1 human, 2 baboons, 0 cat, 1 dog
- **2023 (2):** 0 human, 0 baboon, 1 serval cat (un-emerged worms), 1 dog

Figure 1 shows the locations of these 45 infected humans and animals in Gog and Abobo districts of Gambella Region in 2019-2023. Figure 2 shows the monthly distribution of Guinea worm cases and infections in 2019-2023. In 2023 and 2022, the Guinea worms in the human and in both dogs were all reportedly contained; the presumed sources were identified for the infected human and dog in 2022, but not for the 2 baboons in 2022 nor the dog or serval cat in 2023. Carter Center GWEP Veterinarian Epidemiologist Dr. Lexi Sack arrived in Ethiopia in early March 2024 to help supervise the first of three planned rounds of baboon trapping among at-risk baboon troops in Gog and Abobo districts this year. In addition to trapping, sedating, and examining baboons for signs of GW infection, the teams will place GPS collars on a subset of male and female baboons to help study patterns of troop movements.

Figure 2

Ethiopia Dracunculiasis Eradication Program Human Cases and Animal Infections from 2019 - 2023												
Year	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
2019							3		1			
2020			1	2	1	1	3	2	1			
2021		1						1		1	1	
2022								1	1			
2023			1					1				

The EDEP held its 28th Annual Review Meeting at the Skylight Hotel in Addis Ababa on February 27-28, 2024. State Minister of Health Dr. Dereje Dueguma opened the meeting and delivered the keynote speech. The Advisor to the President of Gambella Regional State, Mr. Peter Aman; the Director-General of the Ethiopia Public Health Institute, Dr. Mesay Hailu; the Acting Country Representative of WHO-Ethiopia, Dr. Paul Mainuka; and Carter Center GWEP Director Mr. Adam Weiss, MPH also spoke at the Opening Ceremony. The National Program Coordinator of the EDEP, Mr. Kassahun Demissie, summarized the performance, accomplishments, and plans of the Ethiopian program. In 2023 the EDEP queried nearly 190,000 persons during integrated surveys conducted cooperatively with mass drug administration, measles and human papilloma virus immunization, and COVID-19 campaigns. Surveys indicated estimated awareness levels of the cash reward for reporting human Guinea worm cases at 98% of 2,130 persons surveyed in Level 1 (endemic) villages, 90% of 4,040 persons in Level 2 (at-risk) villages, 36% of 2,800 persons in Level 3 (low risk) villages, and 76% of 2,720 persons surveyed in refugee camps. The EDEP investigated 35,289 rumors of GW infections or cases in 2023 and tethered 1,520 dogs and 186 cats. Senior Carter Center Country Representative Dr. Zerihun Tadesse and Deputy Carter Center GWEP Director Sarah Yerian, MPH, also participated in the review, as well as the Team Leader of WHO's Guinea Worm Eradication Program, Dr. Dieudonne Sankara, and Dr. Andrew Seidu Korkor of WHO's Regional Office for Africa. Carter Center Associate Director Giovanna Steel, MPH and Program Associate Mindze Nkanga remained in Ethiopia after the meeting to support technical trainings for field staff.

The Government of Ethiopia appointed Dr. Mekdes Feyssa as Minister of Health on February 8, 2024. Dr. Mekdes completed her medical degree at Hawassa University and a residency in obstetrics and gynecology at Addis Ababa University and did a post-doctoral Fellowship at the World Health Organization in Geneva. She has over ten years of experience in clinical practice, academics, and management. Welcome, Dr. Mekdes! And THANK YOU, Dr. Lia Tadesse!

CHAD: GOVERNORS SIGN “N'DJAMENA DECLARATION”



Following the Chad Guinea Worm Eradication Program's 11th Annual Review on January 23-25, 2024, the Governors of eight endemic provinces and the Delegate of N'Djamena met at the Hotel Amitie on February 23, 2024, under the patronage of the prime minister, who was represented by Minister of Territorial Administration and Decentralization the Honorable Mahamat LIMANE. The governors signed an “N'Djamena Declaration” in which they pledged “ourselves personally to concrete action” for implementing interventions against Guinea worm disease in Chad. The text of the Declaration is included below.



UNITY - WORK - PROGRESS

DECLARATION OF N'DJAMENA – FEBRUARY 23, 2024

Whereas the problem of eradicating Guinea worm disease is a global commitment to which Chad has subscribed.

Whereas the fight is multi-sectoral and requires the involvement of all stakeholders.

Recalling the World Health Assembly Resolutions WHA39.21, WHA42.29, WHA44.5, WHA50.35, WHA57.9 and WHA64.16 and the Nairobi Declarations on Neglected Tropical Diseases (NTDs) of 2019 and Abu Dhabi of 22 March 2022 on the eradication of Guinea worm disease worldwide;

Recalling Chad's commitment, like other endemic countries, to eradicate Guinea Worm disease, by setting up a National Guinea Worm Eradication Program in 1991 through the implementation of interventions for the interruption of this disease since 1996;

Noting that from 2001 to 2009 Chad did not report any cases of Guinea worm disease in the national territory and claimed a certification process in 2009 like other pre-certification countries;

Clearly aware of the insufficient epidemiological surveillance of Guinea worm disease, Chad has remained an endemic country since 2012 to the present day;

Commending Chad's efforts with the support of technical and financial partners (the Carter Center, the WHO and UNICEF) to implement interventions to eradicate the disease;

Noting that the epidemiological situation of Guinea worm disease in humans and animals remains a global concern and makes Chad the epicenter of the disease in 2023 (69% of cases and 75% of infections);

Appreciating the ongoing interventions (APCC, Abate® water source treatment, Communication for Social Behavior Change and DAA management) that are hopeful, but require a high level of involvement of the administrative authorities so that they are at the forefront of the fight;

Recognizing the urgent threat of Guinea worm disease and the progress to be made towards its eradication;

Aware of the efforts and other resources needed to halt transmission by 2027 and to qualify for certification in 2030 following the World Health Organization's Roadmap on Neglected Tropical Diseases (NTDs) globally;

Noting the low level of involvement of administrative, traditional and religious authorities in the process of eradicating Guinea worm disease;

Noting the low availability of drinking water in areas under surveillance;

Reiterating our expressed desire to be associated with all phases of interventions aimed at eradicating Guinea worm disease;

We, the Governors of the Provinces of N'Djamena, Mayo-Kebbi-Est, Mayo-Kebbi-Ouest, Chari-Baguirmi, Moyen-Chari, Mandoul, Guera, Salamat, Logone Oriental, Logone Occidental and the Tandjile, the only provinces endemic to Guinea worm disease, meeting on February 23, 2024, at the Amitié Hôtel in Ndjamenas under the leadership of the Ministry of Public Health and Prevention, we hereby commit to personally involve ourselves in concrete actions on the ground to enable the effective implementation of all ongoing interventions aimed at the eradication of Guinea worm disease throughout the national territory and more particularly in endemic areas, by ensuring:

1. The emotional involvement of administrative authorities (Governors, Prefects, Sub-Prefects) and traditional authorities and religious leaders in order to:
 - a) Monitor the proper implementation of activities (including the prolonged tethering of dogs and cats) relating to the eradication of Guinea worm disease;
 - b) Conduct targeted outreach missions to affected communities, involving local leaders (concerned sectors) and health personnel to strengthen prevention activities to accelerate the interruption of transmission.
2. Increased surveillance of Guinea worm disease in endemic and non-endemic areas;
3. Improving the quality of surveillance of Guinea worm disease in endemic and non-endemic areas;
4. Rigorous implementation of all appropriate interventions such as communication for behavior change, prolonged tethering of dogs and cats, case containment, treatment of water sources with Abate, appropriate management of aquatic animal waste and cash reward awareness creation;
5. Allocate the necessary financial resources to endemic provinces to strengthen the acceleration of the eradication of Guinea worm disease;
6. From the urgent supply of drinking water by 2026 to all endemic villages without access to drinking water and the promotion of the increased supply of healthy drinking water, prioritizing populations at risk of dracunculiasis transmission and strengthening local healthcare systems;
7. Informed decision-making by the administrative authorities (Governors, Prefects, Sub-Prefect) for the management of stray dogs and cats that are partly responsible for the spread of Guinea worm disease;
8. Cross-border collaboration in areas under surveillance.

Adopted in N'Djamena, on February 23, 2024

Déleguée Générale du Gouvernement
auprès de la Commune de N'Djamena
المنندوبة العامة للحكومة لدى بلدية أنجمينا



AMINA KODJIANA
امينة كوجيانا

Gouverneur du Logone Oriental
حاكم لقون الشرقي

TOKE DADY توك داداي

Gouverneur du Moyen-Chari
حاكم لشار الأوسط



ABDERRAHMANE AHMAT
BARGOU
عبد الرحمن أحمد برغو

Gouverneur du Chari-Baguirmi
حاكم شار باغورمي



AHMAT ABDALLAH FADOUL
أحمد عبد الله فضل

P. Gouverneur de la Tandjilé
عن حاكم تانجيلي



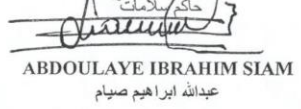
ABDOULAYE ELHADJ BOULAMA

Gouverneur du Mandoul
حاكم مندول



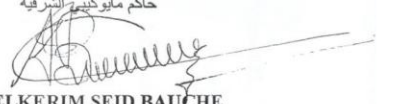
Dr ADOUM FORTEYE AMADOU
د. آدم فورتية أحمدو

Gouverneur du Salamat
حاكم سلامات



ABDOULAYE IBRAHIM SIAM
عبد الله إبراهيم صيام

Gouverneur du Mayo-Kebbi-Est
حاكم مايو كيبب الشرقية



ABDELKERIM SEID BAUCHE
عبد الكريم سعيد بوش

Gouverneur du Logone Occidental
حاكم لقون الغربي



IBRAHIM IBNI OUMAR
MAHAMAT SALEH
إبراهيم ابن عمر محمد صالح

Adopté à N'Djamena, le 23 Février 2024 إنجمينا في 23 فبراير 2024

IN BRIEF:

Cameroon. Robyn Carter, former Carter Center Technical Advisor in Chad and Cameroon and recruitment consultant, is in Cameroon for six weeks to train three new Technical Advisors, Nadia Hitimana, Cynthia Mboundja, and Issa Zongo, for the Cameroonian GWEP and provide supervisory support for the field teams. All are based at Nouldaina in Guere district of Far North Province, with the current Technical Advisor, Wilfred Ngwa.

Chad. Seven (64%) of the 11 villages with human Guinea worm cases in 2022-2023 do not have a safe source of drinking water.

South Sudan. Carter Center Associate Director Giovanna Steel, MPH is providing technical support to the SSGWEP in South Sudan March 12-24, 2024. This month The Carter Center also begins a pilot peace-health project (similar to the project that began in Mali in September 2020) in cooperation with authorities in Uror County of Jonglei State, which is a focal area for Guinea worm and trachoma activities and high rates of communal violence.

WHY WE DISTINGUISH HUMAN GW CASES AND ANIMAL GW INFECTIONS

The query sometimes arises as to why we make a distinction between Guinea worm *cases* in humans and Guinea Worm *infections* in animals in the *Guinea Worm Wrap-Up* memoranda. It is true that:

- *Dracunculus medinensis* causes GW infections in both humans and some animals,
- GW contamination of water caused by humans and animals are equally important,
- Vector control with Abate reduces GW transmission from humans and animals, and
- Guinea worm eradication requires that *D. medinensis* infections in humans and animals must be stopped, since both perpetuate GW transmission.

However,

- Relieving human suffering is the priority, even though eliminating GW infections in animals is required to secure eradication.
- The epidemiology and risk factors associated with the parasite can differ significantly depending on whether a human or animal is the definitive host, and the predominant modes of transmission may be different: humans by drinking contaminated water or occasionally by eating under-cooked aquatic animals, animals by eating raw aquatic animals or discarded fish waste and occasionally by drinking water.
- Preventive actions are also different: for example, we can neither proactively tether humans nor educate dogs to self-report promptly and not enter water when infected. A GW case in a human and GW infection in an animal represent different failures of a Guinea Worm Eradication Program.
- As we approach global eradication of *D. medinensis*, it is increasingly important to specify which definitive host(s) is/are affected, in order to provide clearer targets for interventions and for developing diagnostics and environmental testing tools.

MODIFICATION TO SHIPPING ADDRESS FOR GW SAMPLES

The CDC has modified the shipping address to which all GW samples should be shipped. Moving forward all GW sample samples should be shipped to:

Centers for Disease Control and Prevention
Vitaliano Cama
CDC STATT Lab
Attn. Unit 52
1600 Clifton Road NE
Atlanta, GA 30329
United States of America

DR. SAM Z. BUGRI (1943-2023), EARLY GUINEA WORM WARRIOR



We regret to report that the first National Program Coordinator of Ghana's pioneering Guinea Worm Eradication Program (GGWEP), Dr. Sam Z. Bugri, passed away on March 10, 2024. As Regional Director of Health Services (RDHS) in Ghana's Northern Region in 1988, Dr. Bugri directed surveys that documented over 12,000 cases of Guinea worm disease in a single district of his region in 1987, where Ghana had reported little more than 5,000 cases to the World Health Organization for the entire country in 1986. When Ghana conducted its first nationwide village-by-village search for cases in 1989, it counted almost 180,000 cases, more than half of them in the Northern Region.

Appointed to lead Ghana's national GWEP (in addition to his on-going duties as RDHS, based in the Northern Region's capital of Tamale) by Head of State Flt Lt Jerry Rawlings in 1988, Dr. Bugri had grown up in northern Ghana, earned his medical degree at the University of Sarajevo, Diploma in Public Health and Master of Science degrees at the University of London, and had been a sprinter on three Ghanaian Olympic teams in 1964-72. As head of Ghana's GWEP, he worked closely with The Carter Center, the Danish Bilharziasis Laboratory, United States Agency for International Development, World Health Organization, UNICEF, Japan International Cooperation Agency (JICA), U.S. Peace Corps, and others. The Carter Center awarded him a Jimmy and Rosalynn Carter Award for Guinea Worm Eradication in 1994. Ghana's program was the first to train village volunteers as the frontlines of the Guinea worm eradication campaign. After rapid initial progress, Dr. Bugri was still the director and worked hard to address the setback after ethnic clashes in the highly endemic eastern part of the Northern Region disrupted

Ghana's GWEP in 1994 and 1995. The Ministry of Health promoted him to lead the epidemiology division at the ministry's headquarters in Accra in 1993, where he continued to head the GGWEP, but appointed the new Deputy Director in charge of Public Health for Northern Region, Dr. Andrew Seidu Korkor, as Deputy director of the GWEP until Dr. Seidu Korkor succeeded Dr. Bugri as National Program Coordinator in 2000. Ghana's final GW case was in 2010.

We extend our sincere condolences to his family, the Northern Regional Health Services and the GGWEP, and applaud his contributions as the inaugural director of Ghana's pioneering GWEP for twelve momentous years.

IN MEMORIUM: MRS. NELOUMTA LUCIENNE NGAHOR (1965-2024)

With heavy hearts we regret to report that the former data manager for Chad's Guinea Worm Eradication Program, Mrs. Neloumta Lucienne Ngahor, passed away on March 13th. After serving as secretary for Chad's national GWEP from 1995 to 1997, the Ministry of Health appointed Mrs. Ngahor as Data Manager for the GWEP in 1998. From 2004 to 2009, she worked on temporary contracts for the World Health Organization before serving as Data Manager at the Integrated Epidemiological Surveillance Unit of the Ministry of Health in 2010 and returning to the national GWEP as Data Manager on behalf of The Carter Center from 2011 to 2015. May her family and friends find solace in all that she did for the people of Chad and beyond.

Table 1

Number of Laboratory-Confirmed 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	N/A
SOUTH SUDAN	0/0	0/0											0/0	N/A
CENTRAL AFRICAN REPUBLIC	0/0	0/0											0/0	N/A
CAMEROON	0/0	0/0											0/0	N/A
MALI	0/0	0/0											0/0	N/A
TOTAL*	0/0	0/0											0/0	N/A
% CONTAINED	N/A	N/A											0%	
<i>*Provisional</i>														
	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.													

RECENT PUBLICATIONS

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. Translation support by Valerie Mendes.

WHO Collaborating Center for Dracunculiasis Eradication, Center for Global Health, Centers for Disease Control and Prevention, Mailstop H21-10, 1600 Clifton Road NE, Atlanta, GA 30333, USA, email: gwwrapup@cdc.gov, fax: 404- 728- 8040. The GW Wrap-Up web location is <https://www.cdc.gov/parasites/guineaworm/wrap-up>

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

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



**World Health
Organization**

CDC is the WHO Collaborating Center for Dracunculiasis Eradication