



Date: June 27, 2022
From: WHO Collaborating Center for Dracunculiasis Eradication, CDC
Subject: GUINEA WORM WRAP-UP #289
To: Addressees

Find, Contain, and Explain Every Guinea Worm!

Total Guinea Worm Cases in Humans January-May 2020, 2021, 2022

2020	19 cases (Chad-10, Ethiopia-7, Mali-1, Angola-1)
2021	5 cases (Chad-4, Ethiopia-1)
2022	2 cases (Chad-2)

MALI: ONE SUSPECT DOG INFECTION



Mali has reported a suspected Guinea worm infection that emerged in a dog in Togo village of Tominian district/Segou Region on June 7, 2022. The dog was tethered on June 4 when a blister appeared, and the worm emerged three days later after immersion. The dog reportedly was imported as a 5 to 6-month-old puppy from a dog trader in Barcondaga village in Mopti district/Mopti Region in April 2021. A team led by *Medecin d'appui ver de guinee* Dr. Golo Togo and veterinarian Massa Mounkoro conducted an investigation in Togo village on June 7. They collected a specimen of the worm which was shipped to CDC on June 14th. Some residents of Togo village practice mass fishing in May and June and discard entrails from the fish casually. In January-June 2021, Mali reported no human cases but two infected dogs: one in Macina district/Segou in January and one in Markala district/Segou in May (see line-listing in *Guinea Worm Wrap-Up* #285).

National Program Coordinator Dr. Cheick O. Coulibaly and consultant Dr. Gabriel Guindo led a supervisory visit to the four Level 1 surveillance districts of Mali's Guinea Worm Eradication Program on May 10-20, 2022: Macina, Markala, and Tominian districts of Segou Region and Djenne district of Mopti Region. They met with the regional directors of health for both regions and visited two or three recently endemic villages in each district. In April, local GWEP workers met with 9 dog traders and inspected 66 dogs in Macina town and Kolongo Bozo village of Macina district, and with 18 dog traders and inspected 200 dogs in Tominian district. This year Mali is prioritizing villages with large dog populations in endemic and at-risk areas for proactive tethering and conducting daily inspections in all other villages with a known Guinea worm infection in a human or animal in 2021.

CHAD



Chad has reported 2 confirmed human cases (1 contained), 147 dog infections (102 contained) and 14 cat infections (10 contained) in January-May 2022. This compares to 4 human cases, 291 infected dogs, and 8 infected cats during the same five months of 2021, which are reductions of 50% and 49% in human and dog infections, respectively; and a 75% increase in cat infections. The Director General of Surveillance and Disease Control, Health Promotion and Nutrition, Dr. Sadi Daoud, chaired a meeting of Chad's GWEP Task Force on June 2, 2022, to brief government agencies and partners about the status of the GWEP.

The GWEPs of Chad and Cameroon held a cross border meeting in Guere district of Cameroon's Extreme North Province on June 20-July 1. NTD Regional Coordinator Ibrahim Mgbatou, Guere District Head Dr. Louis Roger Monthe, and others participated. Cameroon has shipped to CDC 43 suspected worm specimens retrieved from 23 dogs during January-April-2022 in the cross-border transmission zones; 3 new specimens from May have not been shipped yet. A detailed discussion and background of Guinea worm infections on the Cameroon-Chad border and map of the border area concerned are included in *Guinea Worm Wrap-Up* #285 (February 23, 2022).

ANGOLA



CDC has confirmed worm specimens from six dogs as Guinea worm infections. The dogs were all reported in Cunene Province between March 29 and May 10, 2022. Five infections were detected in Namacunde municipality, and one infection was detected in Cuanhama municipality. These dog infections were reported by the community. Cuanhama municipality reported Angola’s first human Guinea worm case in 2018. Namacunde municipality reported Guinea worm cases or infections in 2019 (1 human, 1 dog), and 2020 (1 human). Angola reported no human or animal Guinea worm infection in 2021. The GW infections in 2022 were not from the same villages as the GW cases/infections in 2018-2020. It appears that the areas of Cuanahama and Namacunde where the 2022 dog infections were detected border each other and five of the infections have two shared water sources: Chana Owanashi and Chimpaka Owanashi.

A total of 23 rumors were reported from January to May 2022 - 14 rumors in humans, and 9 rumors in dogs - including the 6 dogs with confirmed Guinea worm infections. Angolan teams have distributed additional filters and are conducting health education in response to these infections; the Angolan GWEP is seeking Abate to apply to suspected sources of water. Ms. Giovanna Steele of The Carter Center is assisting in Angola from June 20 to July 10.

Table 1

#	Age	Sex	Host	Province	Municipality	Comuna	Village of Detection	Date of Detection	Date of emergence	Contained (Yes/No)	Entered Water (Yes/No)	Number of Worms
1	2	F	Dog	Cunene	Namacunde	Namacunde	Onanime	29/3/2022	29/3/2022	No	Yes	2
2	2	M	Dog	Cunene	Namacunde	Namacunde	Onanime	9/4/2022	9/4/2022	No	Yes	2
3	3	M	Dog	Cunene	Namacunde	Namacunde	Onanime	10/4/2022	10/4/2022	No	Yes	2
4	2	F	Dog	Cunene	Namacunde	Namacunde	Onanime	11/4/2022	11/4/2022	No	Yes	1
5	2	M	Dog	Cunene	Cuanhama	Ondjiva	Ohemeke	12/4/2022	12/4/2022	No	Yes	1
6	4	M	Dog	Cunene	Namacunde	Namacunde	Onanime	10/5/2022	10/5/2022	No	Yes	1

HONORED: Prof. Eka Braide

Professor Ekanem (Eka) Ikpi Braide has been named the 19th President of the Nigerian Academy of Sciences. She is the first female president in the society's 44 years of existence. Prof. Braide was seconded to the Nigerian Federal Ministry of Health from 1988 to 1998 as Zonal Facilitator for the South-East Zone (current South-East and South-South Zones) in the Nigerian Guinea Worm Eradication Program (NIGEP). She received the Jimmy and Rosalynn Carter Award for Guinea Worm Eradication in 1994 and was named an Officer of the Order of the Federal Republic (OFR) in 2010. CONGRATULATIONS Dr. Braide!!

HONORED: Prof. Sang Kiprop

On June 1, 2022, during the 59th Madaraka Day ceremonies at Uhuru Gardens in Nairobi, Kenya's President Uhuru Kenyatta conferred the Moran of the Order of the Burning Spear (MBS) to Professor David Sang Kiprop "for his role in the Guinea Worm Eradication Program and the elimination of malaria in Kenya". Prof. Sang was National Program Coordinator of Kenya's Guinea Worm Eradication Program. CONGRATULATIONS Prof. Sang!

NEW GUINEA WORM WARRIOR



The Carter Center's GWEP is delighted to welcome Dr. Obiora ("Obi") Eneanya as epidemiologist. Dr. Eneanya earned a Bachelor of Science degree in Parasitology and Entomology from Nnamdi Azikiwe University, Nigeria; a Master of Science in Applied Epidemiology from the University of Nottingham, England; and a PhD in Infectious Disease Epidemiology from Imperial College London. He joins the Center from a post-doctoral fellowship at Washington University School of Medicine in St. Louis, Missouri, where he worked on applying mathematical modeling, machine learning, and geospatial analytics to Neglected Tropical Diseases. His primary interest is in conducting epidemiological research using advanced statistical methods to describe the source of infections and to predict geographic areas most in need of interventions. He has experience conducting surveys in Africa. WELCOME to The Carter Center!

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 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 infected domestic/peri-domestic animal 10-14 months before infection, or

The patient drank unsafe water from (specify) a 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 or animal'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 sources 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 Cases of Guinea Worm Disease, and Number Reported Contained by Month during 2022*
 (Countries arranged in descending order of cases in 2021)

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	1/2	0/0	0/0	0/0								1/2	50 %
SOUTH SUDAN	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	N/A
ETHIOPIA	0/0	0/0	0/0	0/0	0/0								0/0	N/A
ANGOLA	0/0	0/0	0/0	0/0	0/0								0/0	N/A
TOTAL*	0/0	1/2	0/0	0/0	0/0								1/2	N/A
% CONTAINED	N/A	50 %	N/A	N/A	N/A								50 %	

**Provisional*

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

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Number of Laboratory-Confirmed Cases of Guinea Worm Disease, and Number Reported Contained by Month during 2021
 (Countries arranged in descending order of cases in 2020)

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	1/1	1/1	1/2	0/0	0/0	1/2	0/0	0/0	1/1	1/1	0/0	6/8	75 %
ETHIOPIA	0/0	1/1	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	1/1	100 %
SOUTH SUDAN	0/0	0/0	0/0	0/0	0/0	0/0	1/2	0/1	0/0	0/1	0/0	0/0	1/4	25 %
ANGOLA	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
MALI	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/1	1/1	0/0	0/0	0/0	1/2	50 %
TOTAL	0/0	2/2	1/1	1/2	0/0	0/0	2/4	0/2	1/1	1/2	1/1	0/0	9/15	60 %
% CONTAINED	N/A	100 %	100 %	50 %	N/A	N/A	50 %	0 %	100%	50 %	100 %	N/A	60 %	

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

Cleveland CA, Garrett KB, Box EK, *et.al.*, 2022. Investigating flubendazole as an anthelmintic treatment for Guinea worm (*Dracunculus medinensis*): clinical trials in laboratory-reared ferrets and domestic dogs in Chad. *Am J Trop Med Hyg* 106:1456-1465.

<https://doi.org:10.4269/ajtmh.21-1222>

World Health Organization, 2022. Dracunculiasis eradication: global surveillance summary, 2021. *Wkly Epidem Rec* 97:225-247. <https://apps.who.int/iris/handle/10665/354576>

Inclusion of information in the Guinea Worm Wrap-Up does not constitute “publication” of that information.

In memory of BOB KAISER

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 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.

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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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