

Memorandum



Date: July 19, 2016

From: WHO Collaborating Center for
Research, Training and Eradication of Dracunculiasis, CDC

Subject: GUINEA WORM WRAP-UP #242

To: Addressees

Detect and Contain Every Guinea Worm Infection Immediately!!!

MALI'S MINISTER OF HEALTH VISITS ENDEMIC VILLAGES



On June 16-17, 2016 Mali's Minister of Health the Honorable Dr. Marie Madeleine Togo, made an historic visit to Tominian district (Segou Region), which reported one of the five human cases of Guinea worm disease and the only infected dog reported in Mali in 2015. The minister's large delegation included the Governor of Segou Region, the *Prefet* of Tominian, the Regional Director of Health of Segou, the National Program Coordinator of Mali's Guinea Worm Eradication Program Dr. BERTHE Mohamed, Carter Center Country Representative Mr. Sadi Moussa, and the Mayor of Fangasso, as well as many other officials and persons. During her visit to Tominian, the district capital, after hearing a presentation on health with a focus on Guinea worm disease by the district medical officer in the district hospital, the minister urged the governor and the *prefet* to support the health staff in the struggle to eradicate Guinea worm disease.

On the second day, the minister and her entourage visited the village and health center at Fangasso, which reported one case of Guinea worm disease in its catchment area from the village of Parasilame in August 2015, as well as the village and health center at Ouan, which reported one infected dog in December 2015. The minister reminded the audience at Fangasso that the President of Mali has committed to stop transmission of Guinea worm disease in 2016, and she asked the national program coordinator to speak about the disease, its prevention, and the cash reward for reporting Guinea worm infections in humans or animals. In Ouan the welcome was especially effusive, because the Member of Parliament accompanying the minister is from that village. The Minister, Governor, Member of Parliament, National Program Coordinator and the Country Representative of The Carter Center addressed the crowd at the health center. All the events at Tominian, Fangasso and Ouan were covered by the mass media (television and radio). Fangasso is located 40 kilometers (~24 miles) from Tominian; Ouan is 70 kilometers (~42 miles) from Tominian.

The secretariat of the Guinea Worm Eradication Program (GWEP) visited several other areas in Tominian district after the minister departed to visit Mopti Region, where she also spoke about Guinea worm eradication. In the village of Dimana, about 2 kilometers from Fangasso, the team was informed of a dog with three Guinea worms, the first of which began emerging on June 15.

The owner had tied the dog up after he noticed signs of infection before the worms began emerging. The dog had been purchased from a village located in Tenenkou district of adjacent Mopti Region. An investigation is underway in the implicated areas of Mopti Region. Two other dog infections are suspected also, one each in Mempe, which is located about 8 kilometers from Fangasso and Maso, located about 9 kilometers from Fangasso, all in Tominan district of Segou Region. All three dogs were imported from villages along the Niger River or one of its tributaries in Tenenkou or Mopti districts of Mopti Region.

Mali has reported no case of Guinea worm disease in January-June 2016.

On June 9, the week before the minister's visit, the Governor of Segou led the Malian delegation to a cross border meeting of about 40 participants from Mali and Burkina Faso that was held in Segou at Tominian (see under Cross Border Meetings, below). Three members of Mali's National Commission for the Certification of Guinea Worm Eradication also participated in the meeting, which was supported by the World Health Organization (WHO). WHO certified Burkina Faso, which borders Mali's Tominian district, as Guinea worm-free in 2011.

In May, the GWEP secretariat was able to conduct supervision in Kidal for the first time in two years. They reported rumors of two alleged cases in one family in Kidal in 2015 that were not reported at the time because of insecurity. The GWEP monitored all 5 patients of 2015 in May. The national radio and television stations began broadcasting messages about Guinea worm disease and the cash reward on May 19 for two months. The latest surveys of cash reward awareness conducted in Gourma Rharous, Gao, Djenne and Tominian districts in May showed an average of 92% awareness of the reward for reporting an infection in humans among 531 persons surveyed in Level I and Level II areas, and an average of 86% awareness of the reward for reporting an infected dog among 66 persons surveyed in the same areas.

The Director of Public Health chaired a meeting of regional health directors and Guinea worm focal persons in Bamako on June 23-24, where National Program Coordinator Dr. Berthe and former national program coordinator Dr. Gabriel Guindo presented and discussed the Standard Operational Procedures for the GWEP.

CHAD

Chad reported a fourth case of Guinea worm disease (GWD), which was not contained, in a 38 year old woman resident of Mama Korkol village in Sarh district of Mayo Chari Region, whose worm emerged on June 2 (Table 1). The other three cases reported in Chad so far this year were all contained.

Chad has also reported 498 dogs infected with Guinea worms (81% contained) during January-May 2016, versus 196 dogs infected with Guinea worms during the same period of 2015, which is an increase of 154%. According to the most recent surveys, 89% of households in fishing villages and 98% of fish vendors were reportedly practicing safe disposal of fish entrails. In areas under active surveillance 85% of 66 residents surveyed knew of the cash reward for reporting a case of GWD and 68% knew of the cash reward for reporting an infected dog.

From June 20 to July 6, Dr. Ernesto Ruiz-Tiben, the director of The Carter Center's GWEP, led a large team from The Carter Center and from Exeter University in the United Kingdom to Chad, where they met with the Minister of Health Mr. Assane Nguéadom, the Director-General in the Ministry of Public Health, Dr. Jabbar Hadid; the National Program Coordinator, Dr. Phillip Ouakou; Carter Center Country Representative Ms. Melinda Denson; WHO Country Representative Dr. Jean Marie Vianny Yameogo; and other officials. The purposes of the visit were to follow up earlier studies underway to investigate possible treatment to prevent Guinea worm infections in dogs, collect and dissect specimens of aquatic animals, and initiate new studies of dog movements and food sources, as well as another potential medication to prevent infection of dogs.

Professor Robbie McDonald of Exeter University and two of his doctoral students, a graduate student from the University of Georgia, veterinarian Dr. James Zingesser of The Carter Center and Carter Center consultant Dr. Mark Eberhard were the other members of the team.

IN BRIEF

Ethiopia has reported two Guinea worm-infected dogs (both uncontained) from Ablen village of Gog district, Gambella Region, in May, and another infected dog (uncontained) in Atheti village of the same district in June. Ethiopia's only human case of Guinea worm disease this year, in Olane village of Gog district in May, was contained (Table 1). The Ethiopia Dracunculiasis Eradication Program is redoubling its efforts to treat all surface water sources in the endemic areas with Abate monthly.

South Sudan reported two cases of GWD during June, both contained: one from a 29 year old female in Rumcieth Village of Tonj East County, Warrap State, whose worm began emerging on June 4; and a second case from a 13 year old female from Angon Village, Jur River County of Western Bahr Al Ghazal State whose worm began emerging on June 9. Both patients were the only cases of GWD reported in their respective villages in August and July 2015, respectively (Table 1).

We regret that recent insecurity events in Juba and elsewhere beginning July 7th have forced the evacuation of all expatriate staff assisting the South Sudan GWEP. Our current understanding is that local staff have been given the option of returning to their home villages/towns when possible, or continuing to work if possible. It is unclear at this time what impact the disruption will have on the program, but it is the peak transmission season and any disruption is of concern. This disruption is disappointing given the amount of resources and political support invested in this successful program and heroic efforts made by staff since 2006 to reduce the number of cases of GWD from over 20,000 then, to only 5 cases in 2015.

CROSS BORDER MEETINGS

I. Burkina Faso and Mali: conducted in Tominian town, Mali on 9 June 2016:

The cross-border meeting convened delegates from Burkina Faso and Mali (currently endemic). The delegates discussed the current epidemiological situation in Mali, risk factors for continued

Guinea worm transmission in Mali and how best to interrupt the disease transmission at the earliest. Participants also discussed opportunities to strengthen cross border surveillance so as to prevent any resurgence of the disease in Burkina Faso and freed areas of Mali bordering Burkina Faso.

These included:

1. Establishing a mechanism to detect any cases of Guinea worm disease in humans and animals, especially dogs.
2. Identifying social mobilization strategies including ways and means to increase the community awareness of the cash reward for voluntarily reporting of guinea worm disease cases.

Participants at the meeting included the Deputy Governor (Director of Cabinet) of the Segou Region/Mali, the Administrative Head (*Haut-Commissaire*) of the Province of Kossi/Burkina Faso, the Mayor of Tominian town, the national coordinator of the Guinea Worm Eradication Programme of Mali, the Coordinator of NTDs of Burkina Faso and the focal point of Guinea worm eradication as well as a staff member from WHO country office in Burkina Faso. In addition, veterinary and animal welfare department staff and security forces from the Gendarmerie and the Police of Burkina Faso attended the meeting along with participants from national, regional and district levels of Mali.

II. East African Cross border meeting on GWEP involving Kenya, South Sudan and Uganda was conducted in Hawassa town, Ethiopia from 16-17 June 2016:

The cross-border meeting convened delegates from South Sudan and Ethiopia (both currently endemic), Kenya (in pre-certification phase) and Uganda (post-certified). The delegates discussed the current epidemiological situation in the region (East Africa), risk factors for Guinea worm transmission across their common borders and opportunities, recommendations and action points for strengthening cross-border surveillance in the region.

The Deputy Governor of SNNPR region opened the meeting on behalf of the Federal Minister of Health of Ethiopia. The WHO Country Representative, in a speech read for him, entreated countries to coordinate efforts and collaborate effectively to strengthen cross-border surveillance for GWD.

The meeting was facilitated by the WHO AFRO Focal Point for GWE, who made a presentation on how to ensure efficient use of resources through risk-based micro-planning and implementation to strengthen GWD surveillance in cross-border areas.

The meeting recommended that participating countries should:

1. Explore and use every opportunity to improve direct communication between countries at the operational level (Counties, Woreda, and District).
2. Continue to advocate with partners and the relevant government sectors to provide safe water sources in endemic and high risk areas in order to minimize the vulnerability to GW infection in these areas.
3. Share cross border plans and synchronize activities, wherever possible, e.g. active case search, awareness campaigns/ assessments, between their bordering districts.

4. Continue to update mapping of cattle camps and villages along the common borders regularly and promptly share their potential risks to the neighboring countries.
5. Ensure IEC materials with durable metal support are placed at all major and semi-major entry points between neighboring countries.
6. Properly investigate the Falata and other new nomadic arrivals, in order to determine the level of risk their activities pose to the eradication programme.

III. A Joint Technical support team from Ethiopia Dracunculiasis Eradication Programme (EDEP), WHO(HQ and AFRO/ISTWA), The Carter Center and the National Certification Committee of EDEP conducted a field mission to Amhara, a non-endemic region of the country from 18-30 June, 2016.

The mission was led by Mr. Amanu Shifara, National Coordinator EDEP; and included Dr Dieudonné Sankara, WHO/HQ; Dr Andrew Seidu Korkor, WHO/AFRO; Ms Alfa Gebre, TCC/Ethiopia; and Dr Tamrat Abebe of the National Certification Commission for dracunculiasis eradication of Ethiopia.

The purpose of the mission was to assess pre-certification activities currently on-going at various levels of the National Health system and advise on the way forward on scaling up pre-certification activities nationwide. The experts visited among others, Zonal Health and District Health Offices, 8 Health Facilities, thirteen (13) Communities, one hundred and sixty-three (163) households, and one market. They later briefed officials of the Amhara Regional Health Bureau, the Director-General of the Ethiopian Public Health Institute (EPHI) and the WHO Country Representative on the findings and made recommendations on the way forward.

GWEP MEETINGS

The 21st Program Managers Meeting of Guinea Worm Program Managers will be held at The Carter Center in Atlanta, Georgia USA on Monday and Tuesday, March 20-21, 2017. Participants will include representatives of the four remaining endemic countries: Chad, Ethiopia, Mali and South Sudan.

REPLICATING “COUNTDOWN TO ZERO”

On June 27, Dr. Maha Barakat, Director General of the Health Authority of Abu Dhabi, and His Excellency Saif Saeed Ghobash, Director General of Abu Dhabi Tourism and Culture Authority, opened a preview of *Countdown to Zero: Defeating Disease* at the Yas Mall in Abu Dhabi, United Arab Emirates. Carter Center Trustee Mr. Douglas Nelson joined the inauguration of the preview. The full exhibit will open in the United Arab Emirates in December. This will be a replica of the exhibition curated by the American Museum of Natural History in New York in cooperation with The Carter Center that was inaugurated by President Jimmy Carter in January 2015.

Table 1

**CHAD GUINEA WORM ERADICATION PROGRAM
LINE LISTING OF CASES OF GWD DURING 2016***

Case #	Village or Locality of detection			District	Region	Patient			Case Contained?		1 = imported 2= indigenous	Home Village or Locality			Presumed Source of infection identified?		Presumed Source of infection is a known VAS?	
						Age	Sex	Date GW emerged (D/M/Y)	(Yes, No, or Pending)	If no, date of Abate Rx		Name	1= VAS	3= VNAS	(Yes or No)	Name	(Yes or No)	Actions/Comments?
	Name	1 or 2= VAS	3= VNAS															
1.1	Sarh (quartier Kassai)		3	Sarh	Moyen Chari	12	M	28-Feb-16	Yes	-	2	Sarh (quartier Kassai)		3	No	-	-	Patient visits the health center during the day and returns to the house each evening with grandmother.
1.2								1-Mar-16	Yes	-	2							
1.3								29-Mar-16	Yes	-	2							
2.1	Ngara (quartier Mani)	1		Bailli	Chari Banguermi	5	M	29-Apr-16	Yes	-	2	Ngara	1		No			
3.1	Gole (quartier Massa)	1		Onoko	Chari Banguermi	11	F	25-May-16	Yes	-	2		1	Possible	Pond across the river	Yes		The household is in enclave separate from the VAS. No ASV was serving that specific area.
3.2								16-Jun-16	Yes	-	2							
4.1	Mama Korkol		3	Sarh	Moyen Chari	38	F	2-Jun-16	No	N/A (Chari)		Mama Korkol		3	No			Patient crossed river traveling to health center, with worm submerged in the water.

**ETHIOPIA DRACUNCULIASIS ERADICATION PROGRAM
LINE LISTING OF CASES OF GWD DURING 2016***

Case #	Village or Locality of detection			District	Region	Patient			Case Contained?		1 = imported 2= indigenous	Home Village or Locality			Presumed Source of infection identified?		Presumed Source of infection is a known VAS?	
						Age	Sex	Date GW emerged (D/M/Y)	(Yes, No, or Pending)	If no, date of Abate Rx		Name	1= VAS	3= VNAS	(Yes or No)	Name	(Yes or No)	Actions/Comments?
	Name	1 or 2= VAS	3= VNAS															
1.1	Olane	1		Gog	Gambella	14	M	20-May-16	Yes		?	Olane	1		?	?	?	March July 2015: Olane Village, Awako Village, Turkish commercial farm, Kothiaban hunting area

**SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM
LINE LISTING OF CASES OF GWD DURING 2016***

Case #	Village or Locality of detection			Payam	County	Patient			Case Contained?		1 = imported 2= indigenous	Home Village or Locality			Presumed Source of infection identified?		Presumed Source of infection is a known VAS?	
						Age	Sex	Date GW emerged (D/M/Y)	(Yes, No, or Pending)	If no, date of Abate Rx		Name	1= VAS	3= VNAS	(Yes or No)	Name	(Yes or No)	Actions/Comments?
	Name	1 or 2= VAS	3= VNAS															
1.1	Runhieth	1		Wunlit	Tonji East	19	F	4-Jun-16	No	30-May-16 9 June-16					Yes			Worm Specimen sent to CDC 6/15/2016
2.1	Angon	1		Udici	Jur River	13	F	9-Jun-16	Yes	NA					Yes			Worm Specimen sent to CDC 6/28/2016

*Provisional

VAS = village under active surveillance in level 1 or 2 areas

VNAS = village not under active surveillance, level 3 areas

Table 2

Number of Reported Cases of Guinea Worm Disease Contained and Number Reported by Month during 2016*
(Countries arranged in descending order of cases in 2015)

COUNTRIES WITH ENDEMIC TRANSMISSION	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	0 / 0	1 / 1	1 / 1	0 / 1	/	/	/	/	/	/	3 / 4	75%
MALI [§]	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	0 / 0	0%
SOUTH SUDAN	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	2 / 2	/	/	/	/	/	/	2 / 2	100%
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	/	/	/	/	/	/	1 / 1	0%
TOTAL*	0 / 0	1 / 1	0 / 0	1 / 1	2 / 2	2 / 3	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	6 / 7	75%
% CONTAINED	0%	100%	0%	100%	100%	67%							67%	

*Provisional

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

Cells shaded in yellow denote months when a case of GWD did not meet all case containment standards.

[§]Reports include Kayes, Koulikoro, Segou, Sikasso, and Mopti, Tinbuktu, Gao, and Kidal Regions; reports from Kidal Region are contingent on security conditions during 2016 and times when the GWEP is able to deploy a technical advisor to Kidal Region to oversee the program there.

Number of Reported Cases of Guinea Worm Disease Contained and Number Reported by Month during 2015
(Countries arranged in descending order of cases in 2014)

COUNTRIES WITH ENDEMIC TRANSMISSION	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SOUTH SUDAN	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	1 / 2	0 / 1	0 / 0	0 / 0	0 / 1	0 / 0	2 / 5	40%
MALI [§]	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	3 / 3	0 / 1	0 / 0	3 / 5	60%
CHAD	0 / 0	0 / 1	0 / 2	0 / 1	0 / 0	0 / 2	0 / 1	0 / 1	0 / 0	0 / 1	0 / 0	0 / 0	0 / 9	0%
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	1 / 1	0 / 0	1 / 1	0 / 0	0 / 0	3 / 3	100%
TOTAL*	0 / 0	0 / 1	0 / 2	0 / 1	1 / 1	1 / 3	1 / 3	1 / 4	0 / 0	4 / 5	0 / 2	0 / 0	8 / 22	36%
% CONTAINED	0%	0%	0%	0%	100%	33%	33%	25%	0%	80%	0%	0%	36%	

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

Cells shaded in yellow denote months when transmission of GWD from one or more cases was not contained.

[§]Reports include Kayes, Koulikoro, Segou, Sikasso, and Mopti, Tinbuktu, Gao, and Kidal Regions; reports from Kidal Region were contingent on security conditions during 2015 and times when the GWEP was able to deploy a technical advisor to Kidal Region to oversee the program there.

LATEST PUBLICATIONS

Eberhard ML, Yabsley MJ, Zirimwabagabo H, Bishop H, Cleveland CA, Maerz JC, et al. (2016) Possible role of fish and frogs as paratenic hosts of *Dracunculus medinensis*, Chad. Emerg Infect Dis. 22(8), 1428-1430. <http://dx.doi.org/10.3201/eid2208.160043>

Galán-Puchades, M. T. (2016). Dogs and Guinea worm eradication. The Lancet. Correspondence. *Infectious Diseases*, 16(7), 770.

GUINEA WORM DISEASE IN THE NEWS AND CYBERSPACE

Jason B. How Are Health Workers Putting An End To Guinea Worms?. TED Radio Hour (NPR). June 24, 2016;

Jason, B. (2016). The Last Days of Guinea Worm. All Things Considered (NPR),

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 (gwwrapup@cdc.gov) or to Dr. Ernesto Ruiz-Tiben (eruizti@emory.edu), 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, Drs. Donald R. Hopkins and Ernesto Ruiz-Tiben of The Carter Center, Drs. Sharon Roy of CDC, Dr. Dieudonné Sankara of WHO, and and Mark Eberhard.

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Back issues are also available on the Carter Center web site English and French 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



CDC is the WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis