



Date: May 31, 2010

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

Subject: GUINEA WORM WRAP-UP #197

To: Addressees

Detect Every Case! Contain all transmission! Explain every source!

NO UNCONTAINED CASE OUTSIDE OF SUDAN IN JANUARY-APRIL 2010

According to provisional surveillance reports received to date, only 20 cases of dracunculiasis were detected outside of Sudan during January-May 2010, all but one of which were reportedly contained and the sources adequately explained. This compares to 223 cases reported from the same three countries during the same period of 2009, of which 9 cases were reportedly uncontained. Ethiopia reported 11 cases in 2010, including one uncontained case in May (vs. 13 in January-May 2009, all allegedly contained), Ghana reported 8 cases (vs. 209 in January-May 2010, 9 of which were reportedly contained), and Mali reported one case during January-May 2010 versus one case during the same period in 2009. Southern Sudan reported a provisional total of 303 cases, 78 of which were not contained in January-April 2010 (Tables 1 and 4, and Figure 1).

Table 1

Eradication Countdown January-April 2010

Country	Total cases reported*	Uncontained cases*
Sudan (1)	303	78
Ghana (2)	7	0
Mali (3)	0	0
Ethiopia (4)	9	0

\*Provisional. (1) peak transmission season April-October, (2) peak season October-May, (3) peak season May-December, (4) transmission season February-August

Ghana's last known uncontained case was in September 2009, Mali's last known uncontained case was in November 2009, and Ethiopia's last known uncontained case before May 2010 was in June 2009. The Worm will soon challenge these assertions, starting next month.

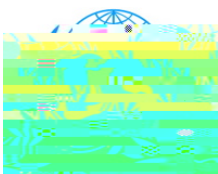
ETHIOPIA

A team comprising Dr. Dieudonne Sankanda, Dr. Abderrahmane Kharchand and Mr. Getachew Temecheof WHO, Mr. Teshome Gebrem and Ms. Jessica Flannery The Carter Center, and Mrs. Getachew Bat Head of Public Health Emergency, Nena Okere Regional Guinea Worm Coordinator and Mr. Garwich Nuer Zone GW Coordinator, of the Gambella Regional Health

Bureau, visited Gambella Region in April to monitor progress of Guinea worm eradication efforts in the region, including especially Gog, Abobo, Larie and Itang woredas (districts). They reported the main strengths of program activities were intensification of efforts in Gog woreda (where all currently confirmed endemic foci are located) and a well functioning case containment center. Although the EDEP (with WHO assistance) trained 374 health extension workers in Gambella Region during 2009-2010 on GWD eradication, including surveillance, the main weaknesses that they identified included failure to develop a plan of work by program staff outside of Gog woreda, weak supervision at all levels, very low community awareness about the reward system, an ineffective Integrated Disease Surveillance and Response System (IDSR), and non-functioning village based volunteers in the formerly endemic woredas.

Immediately before the Informal Meeting on Dracunculiasis during the 2010 World Health Assembly, Ethiopia's state minister of health Mr. K. W. Admasu and Dr. Tsehaynesh Messele, director-general of the Ethiopian Health & Nutrition Research Institute met with Drs. Donald Hopkins and Ernesto Ruiz-Tiben of The Carter Center and Drs. Alhousseini Maiga, Gautam Biswas, and Dieudonne Sankara of WHO to discuss the urgency of improving supervision, nationwide surveillance and government support for stopping transmission of dracunculiasis in Ethiopia this year. The line-listing of cases reported in Ethiopia so far in 2010 is given in Table 3. Ethiopia reported 41 cases in 2008 (vs. 38 cases in Nigeria), 24 cases in 2009 (vs. 0 in Nigeria), and 11 cases so far in 2010 (vs. 0 in Nigeria).

#### **ENDEMIC SUDANESE VILLAGES GET SAFE DRINKING WATER**



In January-April 2010, the Southern Sudan Ministry of Water Resources and Irrigation, UNICEF, and other partners have completed new functioning borehole wells in 43 Guinea worm-endemic villages of Warrab (41) and Lakes (2) States. These villages reported a total of 392 cases of dracunculiasis in 2009 (14.3% of total cases). The main current concern is to get hand pumps on 13 other borehole wells that have been drilled but do not have pumps, before these areas (mainly Kirik, Thiet and Abuyong Payams) become inaccessible due to the rains. Maintaining existing borehole wells in functioning condition year-round is another crucial concern. Strategically targeted provision of safe drinking water to endemic villages must continue to help accelerate elimination of dracunculiasis in Southern Sudan.

The number of cases reported and contained during 2010 by month, county, and state is shown in Table 5, and the number, place and nature of insecurity incidents during 2010, so far, is shown in Table 6.

#### **INFORMAL MEETING ON DRACUNCULIASIS AT WORLD HEALTH ASSEMBLY**



The World Health Organization convened an Informal Meeting with Ministers of Health of Guinea worm-affected countries from 6 to 8 pm on May 19, 2010 during the 63<sup>rd</sup> World Health Assembly in Geneva, Switzerland. The theme of this year's meeting was "Guinea Worm Eradication Into Extra Time." The meeting was co-chaired by the regional director for WHO's Eastern Mediterranean Region, Dr. Hussein Abdul R. Gezairy, and Dr. Lusamba, deputy

Table 2

**Ghana Guinea Worm Eradication Program  
Line Listing of Cases of Dracunculiasis in 2010**

Case No.	Age (year)	Gender	Date case detected	Date Guinea worm emerged	Likely Source
1	15	M	22-Jan	30-Jan	Sheigbuni farm pond
2	35	F	30-Jan	31-Jan	Unnamed farm pond (near Yaa)
3	27	M	1-Feb	3-Feb	Jahnifo farm pond
4	50	M	21-Jan.*	20-Feb	Jahnifo farm pond
5	30	M	25-Feb	27-Feb	Jahnifo farm pond
6	9	M	27-Feb	2-Mar	Jahnifo farm pond
7	43	M	25-Mar	6-Apr	Kugyini farm pond
8	41	F	4-May	11-May	Jahnifo farm pond?

\* As a suspected case

Table 3

**Ethiopia Dracunculiasis Eradication Program  
Line Listing of Cases of Dracunculiasis in 2010**

Case No.	Age (year)	Gender	Date case detected	Date Guinea worm emerged	Likely Source
1	14	F	14-Feb	14-Feb	walking path Abwiri / Agenga
2	18	M	8-Mar	8-Mar	walking path Abwiri / Agenga
3	35	F	6-May	17-Mar	walking path Abwiri / Agenga ?
4	60	F	8-Apr	7-Apr	walking path Abwiri/Utuyo
5	20	M	16-Apr	16-Apr	walking path Abwiri / Agenga
6	18	M	26-Apr	25-Apr	walking path Abwiri / Agenga
7	30	M	24-Apr	27-Apr	Dimyu Pond, Athetii
8	45	M	19-Apr	27-Apr	walking path Abwiri/Utuyo
9	40	F	27-Apr	30-Apr	walking path Abwiri / Chayanak
10	35	F	16-May	20-May	Atheti-Wicini-Pugnido Path
11	40	M	29-May	20-May	Atheti-Wicini-Pugnido Path



Figure 1

Number of Indigenous Cases Reported During the Specified Period in 2009 and 2010\*, and Percent Change in Cases Reported

Country	Indigenous Cases Reported	
	2009	2010*
Ghana (5)	209	8
Ethiopia (5)	13	11
Mali (5)	1	1
Sudan (4)	298	303
Total	521	323
All countries, excluding Sudan	223	20

\* Provisional: excludes cases exported from one country to another

(5) Indicates months for which reports were received, i.e., Jan. -May. 2010\*

Figure 2

MALI GUINEA WORM ERADICATION PROGRAM  
NUMBER OF REPORTED CASES OF DRACUNCULIASIS: 2009 - 2010\*

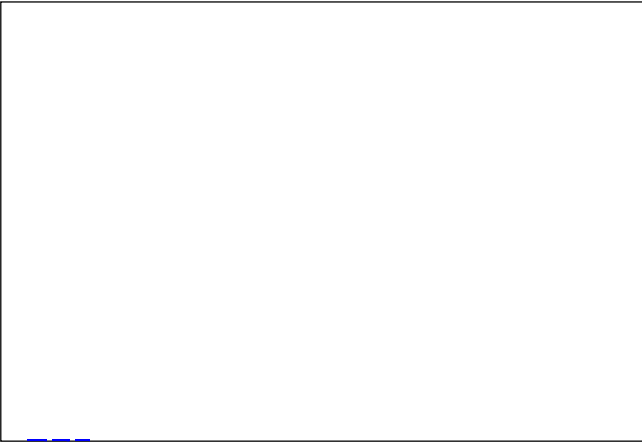


Table 5

			Mar		May	Jun	Jul		Ses43401046373NyO4 Td ia						
Warrab	Tonj North	1 / 1	2 / 2	0 / 0	3 / 4	/	/	/	/	/	/	/	/	6 / 7	86%
	Tonj East	0 / 0	1 / 1	1 / 1	7 / 8	/	/	/	/	/	/	/	/	9 / 10	90%
	Tonj South	0 / 0	1 / 1	0 / 0	1 / 1	/	/	/	/	/	/	/	/	2 / 2	100%
	Gogrial East	0 / 0	0 / 0	1 / 1	0 / 0	/	/	/	/	/	/	/	/	1 / 1	100%
STATE TOTAL		1 / 1	4 / 4	2 / 2	11 / 13	/	/	/	/	/	/	/	/	18 / 20	90%
Eastern Equatoria	Kapoeta North	0 / 0	0 / 0	11 / 14	39 / 52	/	/	/	/	/	/	/	/	50 / 66	76%
	Kapoeta East	2 / 2	17 / 25	72 / 84	49 / 83	/	/	/	/	/	/	/	/	140 / 194	72%
	Kapoeta South	0 / 0	0 / 0	0 / 1	4 / 6	/	/	/	/	/	/	/	/	4 / 7	0%
			2 / 2	17 / 25	83 / 99	92 / 141	/	/	/	/	/	/	/	/	194 / 267
	Awerial	0 / 0	1 / 1	0 / 0	4 / 4	/	/	/	/	/	/	/	/	5 / 5	100%
		0 / 0	1 / 1	0 / 0	4 / 4	/	/	/	/	/	/	/	/	5 / 5	100%
	Terekeka	1 / 2	1 / 3	2 / 2	0 / 0	/	/	/	/	/	/	/	/	4 / 7	57%
		1 / 2	1 / 3	2 / 2	0 / 0	/	/	/	/	/	/	/	/	4 / 7	57%
	Jur River	1 / 1	0 / 0	0 / 0	1 / 1	/	/	/	/	/	/	/	/	2 / 2	100%
		1 / 1	0 / 0	0 / 0	1 / 1	/	/	/	/	/	/	/	/	2 / 2	100%
	Mvolo	1 / 1	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	1 / 1	100%
		1 / 1	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	1 / 1	100%
	Nyriol	0 / 0	1 / 1	0 / 0	0 / 0	/	/	/	/	/	/	/	/	1 / 1	100%
		0 / 0	1 / 1	0 / 0	0 / 0	/	/	/	/	/	/	/	/	1 / 1	100%
		6 / 7	24 / 34	87 / 103	108 / 159	/	/	/	/	/	/	/	/	225 / 303	74%

Table 6

## SOUTHERN SUDAN GUINEA WORM Eradication PROGRAM. 2009-2010 INCIDENTS IN SECURITY

			2009	2010*		County	State	Incident	Outcome
1	17-Jan	Alabek	see #4	see #4	Alabek	Tonj North	Warab	Area Fighting (ethnic clashes)	Disrupted GW activities
2	18-Jan	Wunlit	see #4	see #4	Wunlit	Tonj East	Warab	Area Fighting (ethnic clashes)	Disrupted GW activities
3	20-Feb	Cueibet	41	0	Cueibet & Tonj	Cueibet	Lakes & Warrab	Area Fighting (ethnic clashes)	Disrupted GW activities, shipment of supply and trainings
4	21-Feb	Greater Tonj	1,137	19	Tonj South, North and East	Greater Tonj	Warrab	Area Fighting (ethnic clashes)	Disrupted shipment of supply pre-transmission for all of Warab and Western Bahr Al Gazal States
5	2-Mar	Palal Town	see #4	unknown	Palal	Tonj East	Warab	SPLA retaliation Guard attacked and beaten. Compound robbed	All GW activities stopped. GW Area Supervisor killed. GW sub store looted of intervention materials and training supplies
6	14-Mar	Namoropus base	139	149	Kaldo	Kapoeta	East Equatoria		Disrupted GW activities
8	15-Mar	Rumbek - Juba - Wau road	ALL CASES	W OF THE NILE AFFECTED			Central Equatoria and BEG	Armed robbers looted TCC supply trucks	Disrupted GW activities
9	16-Mar	Rumbek - Juba - Wau road	ALL CASES	W OF THE NILE AFFECTED			Central Equatoria and BEG	Armed robbers looted TCC supply trucks	Disrupted GW activities
10	19-Mar	Rumbek - Juba - Wau road	ALL CASES	W OF THE NILE AFFECTED			Central Equatoria and BEG	Armed robbers looted TCC supply trucks	Disrupted GW activities
11	18-Apr	Alabek compound	(see #4)	unknown	Alabek	Tonj North	Warab	Staff termination (non-renewal of contract)	All GW activities disrupted. GW FO beaten and threatened
		<b>TOTAL</b>	<b>1,317</b>	<b>168</b>					

\*Provisional: January - April 2010



for program management in WHO's Regional Office for Africa, and attended by more than 70 persons, including the ministers of health of Cote d'Ivoire, Ghana, Niger, Nigeria and Sudan, the state minister of health of Ethiopia, the director-general of Mali's ministry of health, WHO deputy director-general Dr. Asamoah-Baah, WHO assistant director-general Dr. Hiro Nakatani, and other WHO headquarters staff, as well as representatives of Benin, Burkina Faso, Cameroon, Chad, and Uganda. The Carter Center, UNICEF, Bill & Melinda Gates Foundation, the United Kingdom's Department of International Development, Austrian Mission (Geneva), and Vestergaard Frandsen were also represented. Representatives from the International Federation of Red Cross and Red Crescent Societies also attended. Former U.S. President Jimmy Carter sent a message to the meeting via video. This was the 5<sup>th</sup> and best attended such meeting since President Carter met with ministers of health of the endemic countries during the World Health Assembly in May 2004.

### **IN BRIEF**

Nigeria. Former Nigerian Head of State General (Dr.) Yakubu Gowon made a "Thank you" visit to Cross River State on May 5, 2010 to commend and congratulate state authorities for their successful efforts to eradicate Guinea worm disease.

### **SURVEILLANCE IN GW-FREE AREAS OF GUINEA WORM ENDEMIC COUNTRIES: RUMORS, INVESTIGATIONS, REPORTING, AND USE OF REWARDS**

- With only 3,190 cases reported globally in 2009 from only 4 countries with endemic transmission of GWD, there is increasing national and international urgency to conclude the global eradication campaign. Averting outbreaks of GWD in areas already free of transmission by improving surveillance capacity for prompt detection of imported cases of the disease and/or prompt detection of local transmission should it suddenly occur is now more important than ever to the success of the campaign.
- In order to increase surveillance capacity in areas free of GWD, a concerted effort must be undertaken to inform and mobilize everyone (society at large, including government and non-governmental organization (NGO) staff, all other organizations and religious groups active in the country) about the national eradication effort, including the civic duty to immediately report all cases of GWD in order to interrupt transmission nationwide quickly, and about the national requirements for international certification of the country as free of the disease. The aim of mobilizing everyone is to engender allegations about possible cases of GWD i.e., "rumors," particularly from areas already free of transmission, so that all such rumors can be promptly investigated and the outcome of the investigation reported to the national GWEP and recorded in a national Guinea Worm Rumor Register.
- A **case** of Guinea worm disease (GWD) is defined as a person with a lesion on the skin with a Guinea worm protruding through the lesion. A person with GWD is declared a case only once during a calendar year, when the first Guinea worm emerges. Although transmission from each additional Guinea worm that might emerge later during the same calendar year from the same person must be prevented, each new worm emergence does not justify declaring that person again a case of GWD that same year.

- The monthly/weekly health returns from the national Integrated Disease Surveillance and Response System (IDSR) in each of the 4 remaining endemic countries contains line entries for confirmed cases of GWD. Hence, all district GWEPs should share monthly reports about all confirmed cases of GWD with the IDSR system.
- The IDSR system is geared to report only confirmed cases of diseases of public health importance (communicable diseases with epidemic potential). It is a facility (public health clinic) based system

- Year of report
- Informant
  - f* Name,
  - f* Age and gender
  - f* Occupation
  - f* Work affiliation
  - f* Address
  - f* Reasons for providing information about a possible case of GWD (e.g., rewards, civic duty to report, etc) and how did the informant come to know about need to report.
- Name of person alleged to have GWD
  - f* Signs and symptoms alleged
  - f* Date symptoms began
  - f* Age
  - f* Gender
  - f* Ethnicity
  - f* Occupation
  - f* Address
- Date rumor received
- Date rumor investigation began
- Outcome of investigation
  - f* GWD confirmed
    - Name, title, affiliation of person making the confirmation.
    - Date of confirmation
    - Date GW emerged
    - Date containment of transmission began
    - Imported?
      - Date cross-notified to place of origin.
      - Date reported to GWEP
    - Indigenous?
      - Date reported to GWEP.
    - Date GW completely removed.
    - Transmission contained (did or did not meet standards for case containment?)
    - Date reported to IDSR
  - f* Not GWD
    - Signs and symptoms observed
    - Further monitoring indicated (yes or no).
      - If yes, indicate who will monitor the patient, how often and for how long.
- Date rumor investigation completed.
- Date, name, title and affiliation of person signing final investigation report.



Table 7

Number of Districts<sup>1</sup> with endemic Guinea worm Disease (GWD) and Number non-endemic, Percent of Districts Reporting Monthly, Number of Rumors Received, Percent of Rumors Investigated, Number Residents Sampled, and Percent of Residents Sampled with Knowledge About the Need to Report GWD

January - April 2010											
Country	Districts <sup>1</sup>				Rumors of Alleged Cases of GWD Received from Non-Endemic Districts			Knowledge Among Residents			
	Endemic <sup>2</sup>		Non-Endemic <sup>2</sup>					About the Need to Report GWD		About Reward for Reporting GWD <sup>3</sup>	
	Number of Districts	% Reporting Monthly <sup>4</sup>	Number of Districts	% Reporting Monthly <sup>4</sup>	Number of Rumors Received	% of Rumors Investigated <sup>5</sup>	Number of Rumors Confirmed as GWD	Number of Residents Sampled.	% of Residents with Knowledge About the Need to Report GWD	Number of Residents Sampled.	% of Residents with Knowledge About a Reward for GWD
Sudan	18	100	29	26%	110	96%	0	NR	NR	NR	NR
Ghana <sup>6</sup>	9	100	161	5%	14	100%	0	NR	NR	NR	NR
Mali	5	100	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ethiopia <sup>7</sup>	1	100	735	0%	NR	NR	NR	NR	NR	NR	NR
Total	33	100	925	2%	124	96%	0	-	-	-	-

<sup>1</sup> Districts (Ghana); Cercles (Mali); Woredas (Ethiopia); and Counties (Southern Sudan)

<sup>2</sup> Surveillance in Endemic Districts is village-based and proactive with monthly reporting. Surveillance in non-endemic Districts is passive, but monthly reporting about alleged cases of GWD is required.

<sup>3</sup> Ghana and Sudan have no reward system in place at this time. However, all remaining endemic countries need to track monthly the proportion of sampled residents from GW-free districts with knowledge about the need to report cases of GWD.

<sup>4</sup> Number of district reports received / expected number of district reports.

<sup>5</sup> Include rumor investigations completed. Update ongoing rumor investigations in the next report.

<sup>6</sup> Ghana recorded and investigated 711 rumors (see Figure 3) during this period.

<sup>7</sup> Two Woredas (Districts) reported one alleged indigenous case each during 2009, but the real origin of those infections is uncertain. However, the two incriminated villages remain under surveillance.

