

Memorandum



Date: May 9, 2014

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

Subject: GUINEA WORM WRAP-UP #226

To: Addressees

**Contain Every Worm! Trace Every Source! Raise Reward Awareness!**

**IN THE BEGINNING THERE WAS CDC**

As the Guinea Worm Eradication Program nears its end, it is worthwhile to recall how it began. The global campaign to eradicate dracunculiasis (Guinea worm disease) was conceived and nurtured at CDC beginning in October **1980** by Dr. Donald Hopkins, Dr. Robert Kaiser, Dr. Myron Schultz and others, including Dr. Ernesto Ruiz Tiben, with the enthusiastic concurrence and support of CDC director Dr. William Foege. Originally promoted as a sub-objective of the International Drinking Water Supply and Sanitation Decade (IDWSSD; 1981-1990), CDC persuaded Dr. Peter Bourne of the United Nations Development Program (UNDP) to champion the idea with the Steering Committee of the IDWSSD, which endorsed it in April **1981** and it was added to the World Health Assembly resolution on the IDWSSD the next month. Dr. Myron Schultz of CDC chaired the first international meeting on the disease, which was proposed by CDC and held in Washington, DC in **1982** under the auspices of the U.S. National Research Council, funded by the United States Agency for International Development (USAID), and co-sponsored by WHO. India officially launched its national eradication program in **1983** after years of advocacy by Dr. M.I.D. Sharma. CDC was named the WHO Collaborating Center for Research, Training and *Control* of Dracunculiasis in **1984** (the name was changed to *Eradication* years later). Nigeria held its first National Conference on Dracunculiasis in **1985**. In **1986** the World Health Assembly adopted its first resolution on *Elimination* of Dracunculiasis in May (with lobbying by Hopkins of CDC, a member of the United States' delegation), and the First African Regional Conference on Dracunculiasis met in Niamey, Niger in July (funded mainly by a grant solicited by CDC from the Carnegie Corporation of New York; co-sponsored by WHO). The campaign accelerated greatly when former U.S. President Jimmy Carter and The Carter Center agreed to spearhead the initiative and launched direct assistance to begin the Guinea Worm Eradication Program in Pakistan with technical assistance by CDC in November 1986. Medical geographer Dr. Susan Watts estimated there were 3.5 million cases of dracunculiasis globally that year. Over the next decade President Carter made advocacy visits in support of Guinea worm eradication to 16 endemic countries. Hopkins retired from CDC and began leading the efforts at The Carter Center in **1987**. The Carter Center began assisting national GWEPs in Ghana in 1987 and Nigeria in **1988**, the year when African ministers of health adopted a resolution calling for the eradication of dracunculiasis by 1995. The Carter Center funded an International Donors Conference for Dracunculiasis Eradication which was co-sponsored by UNDP and UNICEF, in Lagos in **1989**. The World Health Assembly adopted the first global resolution calling for *Eradication* of Dracunculiasis in **1991**. The Carter Center began assisting national GWEPs in Uganda in 1991 and in Mali and Niger in **1992**. Dr. Ernesto Ruiz-Tiben retired from CDC and joined The Carter Center in 1992. WHO established its unit for dracunculiasis eradication in August **1994**. President Carter negotiated the "Guinea Worm Cease-fire" to kick-start the Sudan GWEP, with direct Carter Center a

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SOUTH SUDAN	0/0	0/0	3/3	2/2	/	/	/	/	/	/	/	/	5/5	100
CHAD	1/1	1/1	1/1	1/1	/	/	/	/	/	/	/	/	4/4	100
MALI <sup>§</sup>	0/0	0/0	0/0	0/0	/	/	/	/	/	/	/	/	0/0	
ETHIOPIA	0/0	0/0	0/0	0/0	/	/	/	/	/	/	/	/	0/0	
TOTAL*	1/1	1/1	4/4	3/3	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	9/9	100
% CONTAINED	100	100	100	100									100	

COUNTRIES REPORTING CASES	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED												TOTAL*		
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER			
SA	/	/	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	0%
TOTAL	1 / 1	1 / 1	4 / 4	3 / 3	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1009 / 9

\*Provisional  
  


^A Carter Center consultant, deployed to Kafia-Kingi area in South Darfur in March 2011. He informed Kd nagit inned vfid ur get-bas ad-snrskw Mllkllnges, and began monthly reporting.

### Number of Reported Cases of Guinea Worm Disease Contained and Number Reported

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SOUTH SUDAN <sup>^</sup>	0/0	1/2	1/4	18/25	19/24	13/19	8/14	7/11	7/11	2/3	0/0	0/0	76/113	67
CHAD	0/0	0/0	0/0	3/3	1/1	0/1	3/3	1/1	0/0	0/0	0/3	0/2	8/14	57
MALI <sup>§</sup>	0/0	0/0	0/0	0/0	0/3	1/1	0/0	0/0	1/1	1/2	4/4	0/0	7/11	64
ETHIOPIA	1/1	0/0	0/0	0/1	3/4	0/1	0/0	0/0	0/0	0/0	0/0	0/0	4/7	57
TOTAL*	1/1	1/2	1/4	21/29	23/32	14/22	11/17	8/12	8/12	3/5	4/7	0/2	95/145	66
% CONTAINED		50	25	72	72		65	67	60	57				

JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER TOTAL\*


## THE STATUS OF ERADICATION AND OF REPORTED CASES OF DRACUNCULIASIS DURING JANUARY – APRIL 2014

The four remaining endemic countries provisionally reported 9 cases of dracunculiasis (all contained) during the first four months of 2014 (Table 1): South Sudan reported 5 cases and Chad four cases; Ethiopia and Mali reported zero cases. These 9 cases of dracunculiasis represent a 77 % reduction from the 39 cases reported during the same period in 2013 (Figure 1, Table 1). Rates of eradication in the 21 affected countries is shown in Figure 6 and the inter-country race to end dracunculiasis in Figure 7.

**Figure 1**

Number of Indigenous Cases Reported During the Specified Period in 2013 and 2014\*, and Percent Change in Cases Reported

Country	2013	2014*
South Sudan (4)	31	5
Ethiopia (4)	2	0
Mali § (4)	0	0
Chad (4)	3	4
Sudan^ (4)	3	0
Total	39	9

\* Provisional: Numbers in parentheses denote months for which data received, e.g., (4)= January- April

§

^ Under pre-certification of eradication; reported three cases in 2013 from Kafia Kingi area of South Darfur State. A Certification team was deployed to Kafia-Kingi area in March 2014 to implement active village-based surveillance and interventions in Kafia Kingi and four other at-risk villages, all of which began reporting monthly as of the end of March.





Coordinators of SSGWEP activities during their service in endemic areas of Eastern Equatoria State. We are very grateful to them for their leadership, contribut

## CHAD: ACTIVE SURVEILLANCE UNDERWAY IN 64 OF 81 PRIORITY VILLAGES

Chad's Guinea Worm Eradication Program (GWEP) has detected emerging Guinea worms from humans and/or dogs during 2010-2014 in a total of 81 villages, all of which are considered to be at high risk of transmission of the infection to humans and contamination of water by humans and/or dogs. Epidemiologic evidence suggests most or all recent infections in Chad are likely transmitted to humans by eating undercooked fish, and to dogs by eating raw fish that are discarded during mass harvesting and preparation of fish, primarily along the Chari River. Transmission is assumed now to be occurring year-round (Figure 4 and 5). The Carter Center is helping the national coordinator of Chad's GWEP, Dr. Mahamat Ali Tahir, to implement active surveillance and all appropriate interventions, including ABATE@ Larvicide, as fully as possible in all 81 villages, including those associated with the recently discovered focus around the village of Maimou in Sarh District of Moyen Chari Region. As of the end of April 2014, active surveillance was underway in 64 of the 81 high risk villages, along with health education, and more than half of the villages have at least one safe source of drinking water (Table 3). Cloth filters to prevent possible transmission to humans by drinking water are distributed to households in villages with human cases in two successive years. Use of Abate is limited because of the extremely large sizes, numbers, and heavy vegetation in the shallow lagoons used for fishing that appear to be the main transmission sites.

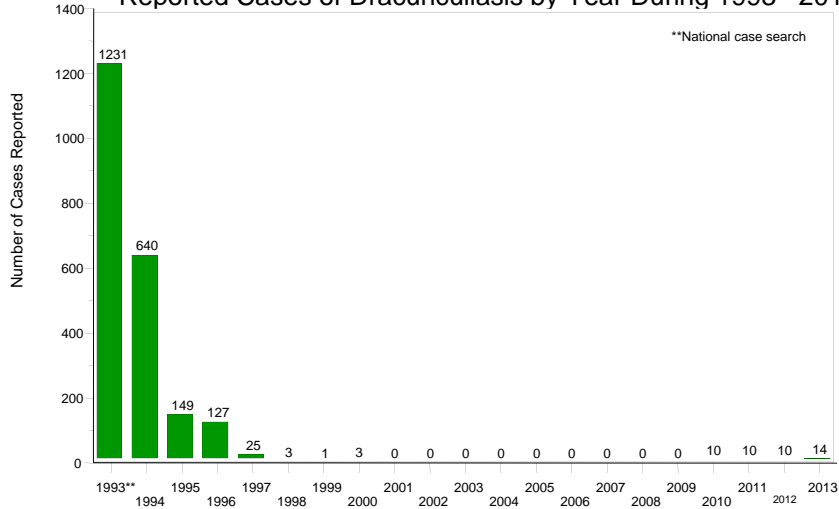
Chad has reported 4 cases of Guinea worm disease sporadically in January-April 2014. All four were contained, but three are not related to each other with respect to time and place of infection a year ago, nor to other cases in 2013. One case, detected in January 2014 in

Figure 4

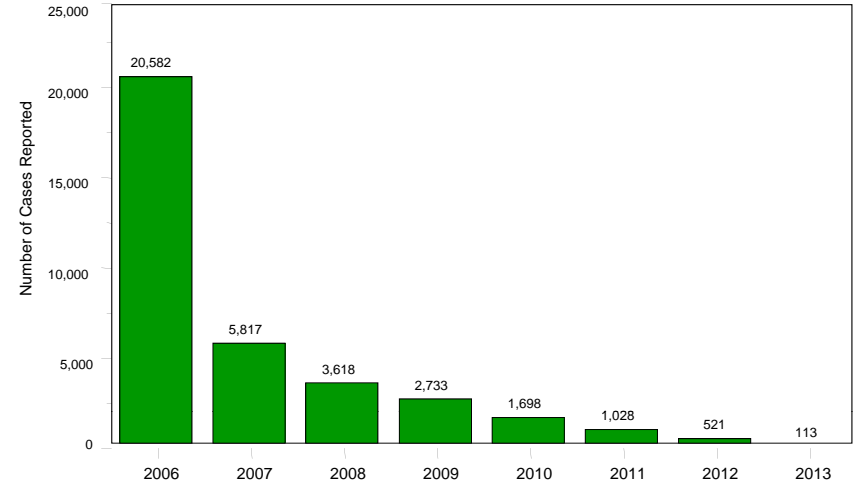


Table 3

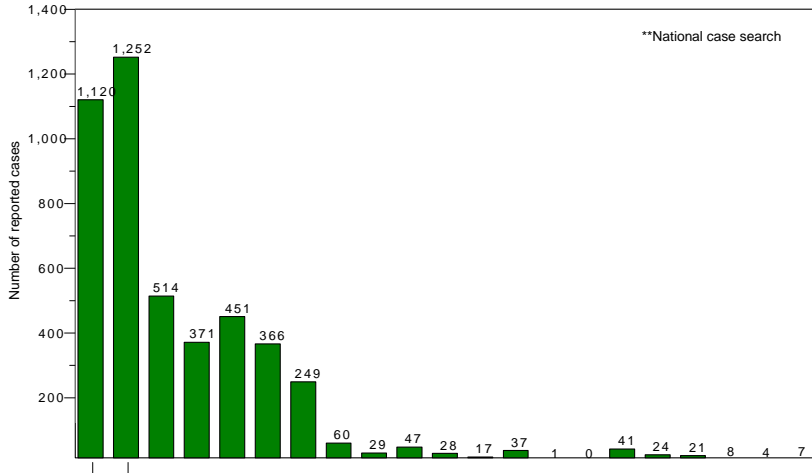
Chad Guinea Worm Eradication Program  
Reported Cases of Dracunculiasis by Year During 1993 - 2013



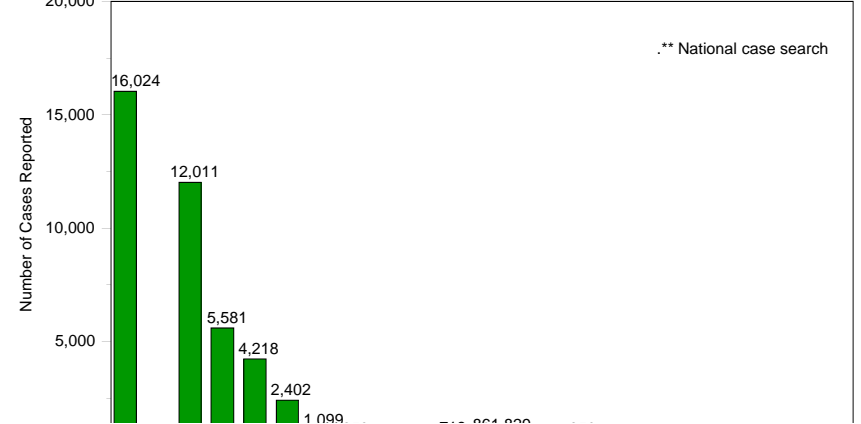
South Sudan Guinea Worm Eradication Program  
Reported Cases of Dracunculiasis by Year During 2006 - 2013



Ethiopia Guinea Worm Eradication Program  
Reported Cases of Dracunculiasis by Year During 1993 - 2013



Mali Guinea Worm Eradication Program  
Reported Cases of Dracunculiasis by Year During 1991 - 2013

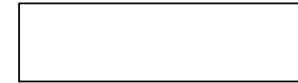


Sudan & South Sudan Guinea Worm Eradication Programs  
Villages Reporting Cases of Dracunculiasis in 2013


● 2013 Case

Mali Guinea Worm Eradication Program:  
Villages Reporting Cases of Dracunculiasis in 2013

Chad Guinea Worm Eradication Program:  
Villages Reporting Cases of Dracunculiasis in 2013



Ethiopia Guinea Worm Eradication Program:  
Villages Reporting Cases of Dracunculiasis in 2013

 2013 Case

Note of Label Change: Terchiru, Ojom and Umaha were previously labeled as Abidoc, Ojwom and Uma respectively.

## ETHIOPIA NOW TEN MONTHS WITH NO KNOWN CASES

Ethiopia's most recent case of Guinea worm disease was reported in June 2013 (Table 1). All but one of that year's 7 cases were reported in April (1 case), May (4 cases) or June (1 case). The two cases reported in April and June 2013 were not contained. The Ethiopian Dracunculiasis Eradication Program (EDEP) now has all 145 villages in Gog (1 case in 2013) and Abobo (5 cases in 2013) districts and 6 villages in Itang district (1 case in 2013) under active surveillance with the assistance of the Carter Center (Table 5). EDEP Coordinator Mr. Gole Ejeta brought a mobile health education van to Gambella Region for two weeks in early April 2014 to help reinforce health education messages in the affected and high risk districts. The WHO country office has recruited 4 Guinea worm officers for Gambella of which will be deployed to help augment surveillance in camps housing refugees from South Sudan. During March 24-April 4, Mr. Gole Ejeta, EDEP Coordinator, Dr. Abdulhakeem Alkohlan member of the International Commission for Certification of Dracunculiasis Eradication (ICCDE), and Dr. Dieudonne Sankwa WHO/Geneva Epidemiologist visited Gambella Region to assess the status of the program with particular attention to improving surveillance and response to possible cases of dracunculiasis in areas now free of the disease, while a second team led by Dr. Andrew Seidu Korkor from WHO/AFRO and Dr. Seyede Zeleke WHO focal point for dracunculiasis in Ethiopia visited the Southern Nations and Nationalities Peoples Region (SNNPR), an area free of endemic dracunculiasis since 2001, to assess the status of surveillance.

Table 5

ETHIOPIA DRACUNCULIAS ERADICATION PROGRAM  
STATUS OF INTERVENTIONS IN 151 VILLAGES UNDER ACTIVE SURVEILLANCE (EAS) DURING JANUARY-MARCH 2014<sup>a</sup>

GOGWORED: 68 VAS 39 208 POPULATION 762 HOUSEHOLDS 140 BOREHOLE WELLS

ITANGWORED: 6 VAS 958 POPULATION 1000 HOUSEHOLDS 93 BOREHOLE WELLS



## RECENT PUBLICATIONS

Al-Awadi AR, Al-Kuhlani A, Breman JG, Doumbo O, Eberhard ML, Guiguemde RT, Magnussen P, Molyneux DH, 2014. Guinea worm (Dracunculiasis) ~~eratic~~ eratic: update on progress and endgame challenges. Trans Roy Soc Trop Med Hyg:1093/trstmh/tru039.

World Health Organization, 2014. Monthly report ~~dracunculiasis~~ dracunculiasis cases, January-February 2014. Wkly Epidemiol Rec89:151.

Foster JM, Landmann F, Ford L, Johnston KL, Elsa ~~Se~~ Se Schulte-Hostedde AI, Taylor MJ, Slatko BE. 2014. Absence of Wolbachia endobacteria in the human ~~parasitic~~ parasitic nematode ~~Dracuncu~~ Dracuncul medinensis and two related Dracunculus species ~~of~~ of wildlife. Parasit Vectors2014 Mar 31;7(1):140.

### Definition of a contained case:

A case of Guinea worm disease is contained ~~if~~ if all the following conditions are met:

1. The patient is detected before or within 24 hours of worm emergence and

GuineaWorm Race:2013