DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control
and Prevention (CDC)

Memorandum

Date: April 22, 2013

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

Subject: GUINEA WORM WRAP-UP #218

To: Addressees

17TH REVIEW MEETING OF NATIONAL DRACUNCULIASIS ERADICATION PROGRAM MANAGERS MEETS IN OUAGADOUGOU

The 17th Meeting of National Program managers of national Dracunculiasis Eradication Programs met at the Azalai Independence Hotel in Ouagadougou, Burkina Faso on 9-12 April. Key participants included representatives of the final four remaining endemic countries (Chad, Ethiopia, Mali, South Sudan) (Figure 1), as well as representatives from several *formerly endemic* or never endemic countries that are now in the precertification stage (Angola, *Cote d'Ivoire*, Democratic Republic of Congo, *Ghana*, *Kenya*, *Niger*, *Nigeria*, Somalia, South Africa, *Sudan*). Also attending were representatives of sponsoring agencies (The Carter Center, Centers for Disease Control and Prevention, World Health Organization, UNICEF), and the Ministry of Health of the government of Burkina Faso. Prof. Ogobara Doumbo represented the International Commission for the Certification of Dracunculiasis Eradication, and Mr. Torben Vestergaard Frandsen represented Vestergaard Frandsen Disease Control Textiles. Features of reports presented by the endemic countries are summarized below.

Figure 1

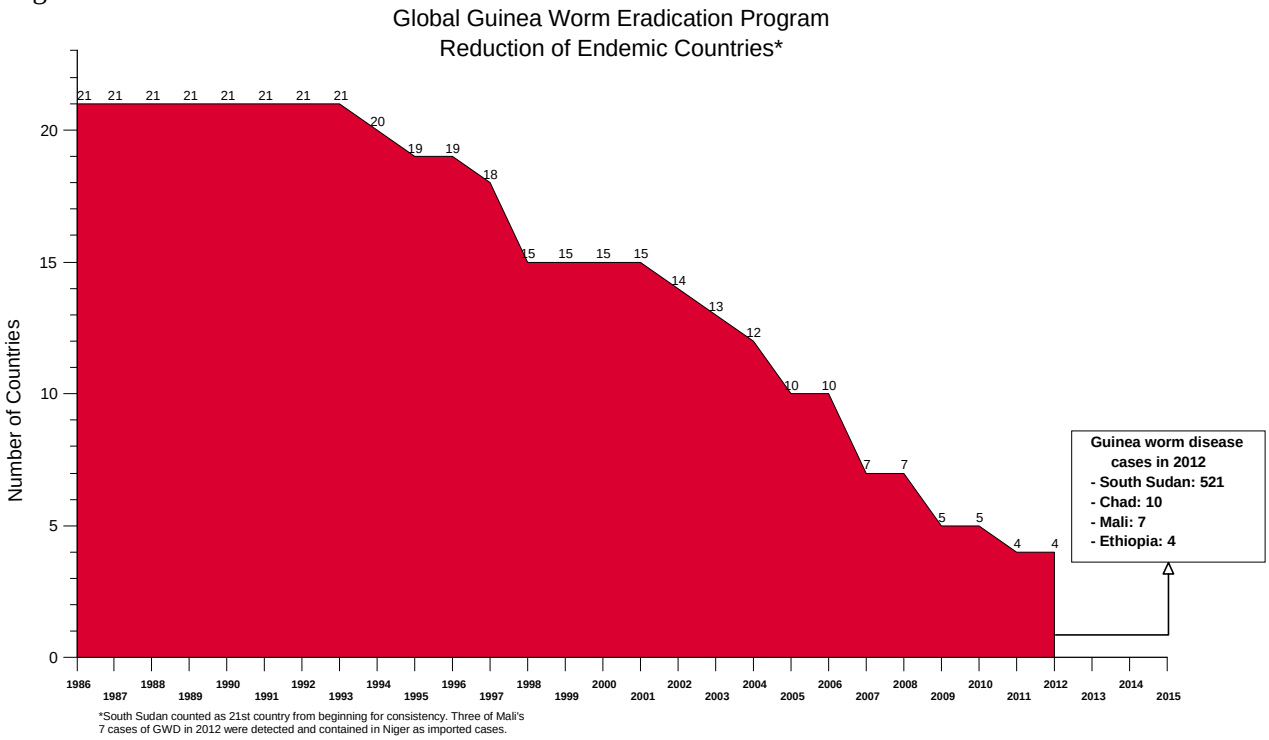


Table 1

Number of Cases Contained and Number Reported by Month during 2013*

(Countries arranged in descending order of cases in 2012)

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	1 / 2	2 / 4	/	/	/	/	/	/	/	/	/	3 / 6	50
CHAD	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	
MALI	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	
ETHIOPIA	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	
TOTAL*	0 / 0	1 / 2	2 / 4	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 6	50
% CONTAINED		50	50										50	

*Provisional

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

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

^ Beginning in April 2012 reports include only Kayes, Kouliokoro, Segou, Sikasso, Mopti Regions; the GWEP is not currently operational in Timbuktu, Kidal, and Gao Regions.

Number of Cases Contained and Number Reported by Month during 2012*

(Countries arranged in descending order of cases in 2011)

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	2 / 2	3 / 4	37 / 55	50 / 80	79 / 125	84 / 123	45 / 69	14 / 27	10 / 17	9 / 14	2 / 4	1 / 1	336 / 521	64
MALI^	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 3	0 / 0	*3 / 3*	0 / 0	0 / 0	0 / 0	4 / 7	57
CHAD	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 2	0 / 1	2 / 4	1 / 2	1 / 1	0 / 0	0 / 0	4 / 10	40
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 1	1 / 1	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 1	2 / 4	50
TOTAL*	2 / 2	3 / 4	37 / 55	50 / 81	80 / 126	85 / 126	45 / 73	17 / 32	14 / 22	10 / 15	2 / 4	1 / 2	346 / 542	64
% CONTAINED	100	75	67	62	63	67	62	53	64	67	50	50	64	

*Provisional

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

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

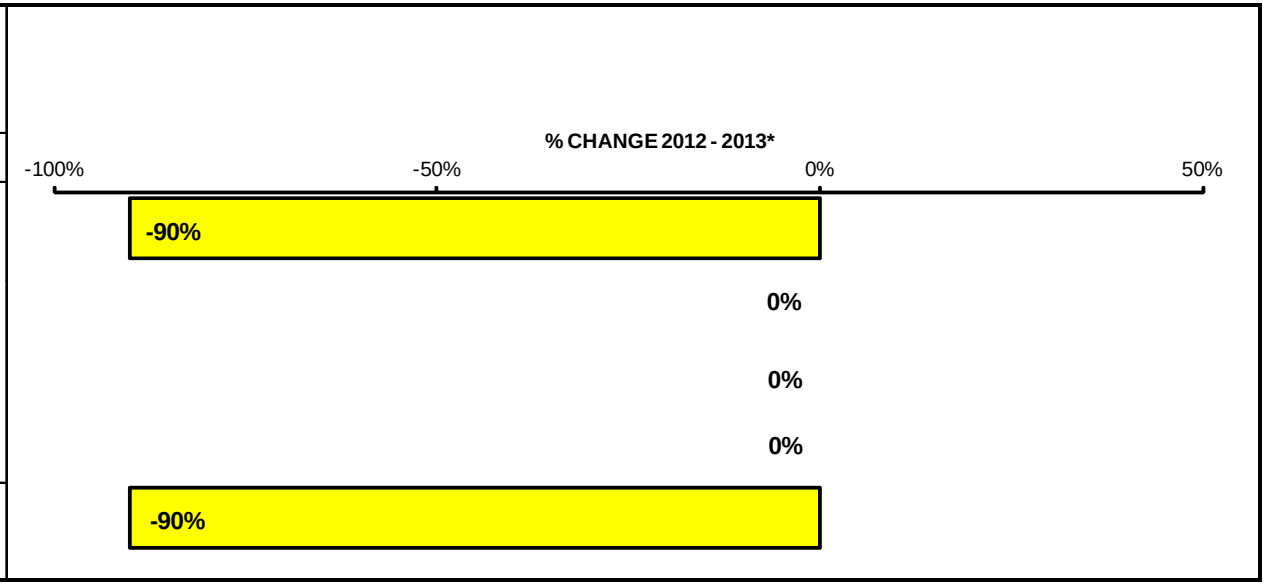
^ Beginning in April 2012 reports include only Kayes, Kouliokoro, Segou, Sikasso, Mopti Regions; the GWEP is not currently operational in Timbuktu, Kidal, and Gao Regions.

^ Three Malian residents, confirmed as cases of GWD in Niger during September 2012 (shown in italics), are included in Mali's total for the year. Mali has not ascertained the apparent source of these cases

Figure 2

Number of Indigenous Cases Reported During the Specified Period in 2012 and 2013*, and Percent Change in Cases Reported

Country	Indigenous Cases Reported	
	2012	2013*
South Sudan (3)	61	6
Ethiopia (3)	0	0
Mali(3)^	0	0
Chad (3)	0	0
Total	61	6



* Provisional.Numbers in parentheses indicate months for which reports have been received, i.e., (3) = January -March 2013.

The delegation of the Government of **SOUTH SUDAN** was led by the Honorable Minister of Health of Eastern Equatoria State, Dr. Margaret Ito, who was accompanied by the Director General of Community and Public Health, Dr. Baba Samson, and the Director of the South Sudan Guinea Worm Eradication Program, Mr. Makoy Samuel. South Sudan reported 521 cases of Guinea worm disease (GWD) and 89 villages with indigenous disease transmission in 2012, which is a reduction of 49% in cases and 29% in villages from the numbers reported in 2011 (1,028 cases, 125 villages). The 89 "villages" with indigenous cases in 2012 included 14 cattle camps. The 6,410 villages now under active surveillance include 269 cattle camps. Of the cases reported in 2012, 51% were female, while 73% were Toposa, 17% Jie, 8% Dinka and 1% of the Nyangaton ethnic group. 87% of cases were from Eastern Equatoria State, 7% from Warrab, 5% Jonglei, and 1% from Lakes (Table 2). In 2012, 100% of endemic villages reported monthly, ABATE@ Larvicide was used at least once in 99%, cloth filters were in all households in 93%, health education reached 93%, pipe filters were in 83% and 30% had at least one source of safe drinking water. Eastern Equatoria State, which has the highest number of cases, has the lowest coverage with safe drinking water.

South Sudan has reported only 6 cases in January-March 2013, which is a reduction of 90% from the 61 cases reported in the same period of 2012 (Tables 1, and 3, Figure 2). All six cases were reported form known endemic areas, but only three of them (50%) were classified as contained, owing largely to discovery after 24 hours because of exceptional population mobility among the affected groups remaining. 69% of the 61 cases in January-March 2012 were contained. By deploying all other interventions, the SSGWEP continues to steadily increase the rate of reduction in cases despite lower case containment rates.

Dr. M. Tahir Ali, national coordinator of the national Guinea Worm Eradication Program of **CHAD**, reported on the status of GWD and the GWEP in that country. Chad reported 10 cases of GWD in 9 villages in 2012, of which only two villages had endemic transmission, each having also reported a case in 2011. Four of the cases in 2012 were contained. With ten cases reported in each of three consecutive years (2010-2012) after a decade in which no cases were reported but surveillance was poor, the epidemiologic manifestations of the disease in Chad over the past three years is unusual. Of the 7 districts affected, two (Bousso and Mandelia) are endemic. Active village-based surveillance by 1,959 trained village volunteers is underway in 724 villages in the apparent at-risk zone, located mostly along the Chari River, beginning in February 2012. Since early 2012 Chad's GWEP has also assisted the country's polio eradication efforts in Mayo Kebbi East and Chari Baguirmi Regions logistically and in surveillance for acute flaccid paralysis. Two surveys of reward awareness in non-endemic areas in 2012 found awareness levels of 38% and 19%. As of this review meeting, Chad had reported 3 cases of GWD so far in 2013, all in April (Table 4). Chad is seeking to revive its National Certification Committee, and the program joined a WHO-sponsored cross-border meeting of GWEPs of Cameroon, Chad and Nigeria in Bongor, Chad on March 27-29. Following the cross-boarder meeting Dr. Gautam Biswas, WHO/Geneva, Andrew Seidu-Korkor, and Mr. Guy Patrick of WHO/AFRO visited 8 districts in Chari Baguirmi, Moyen Chari and Tandjile regions to review the status of surveillance in dracunculiaiss free areas and provide assistance in providing awareness. Dr. Ernesto Ruiz-Tiben, director of The Carter Center's GWEP and his assistant, Mr. AdamWeiss, conducted a supervisory visit to Chad's GWEP in March.

Dr. Zeyede Kebede Zeleke, the National Guinea Worm Eradication Program Officer for WHO- Addis Ababa, presented **ETHIOPIA's** report of its Dracunculiasis Eradication Program. Four cases were reported in 2012, one case each in April (uncontained), May (contained), August (contained) and December (uncontained). The first three cases occurred in or were traced to the endemic village of Utuyu in Gog District of Gambella Region; the last case was detected in adjacent Abobo District of the same region too late to be contained, and its likely source of infection has not been ascertained. The average

Table 2

SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM

CASES REPORTED AND CONTAINED DURING DECEMBER 2011 AND CALENDAR YEAR 2012* BY STATE, COUNTY AND MONTH

State	County	Cases Contained / Cases Reported														% Contained
		Dec 2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
Eastern Equatoria	Kapoeta East	1 / 1	1 / 1	2 / 3	33 / 47	45 / 68	61 / 96	66 / 100	34 / 57	10 / 21	9 / 14	6 / 11	0 / 2	0 / 0	268 / 421	64%
	Kapoeta North	1 / 1	1 / 1	1 / 1	1 / 2	1 / 3	4 / 8	3 / 4	4 / 5	2 / 4	0 / 0	0 / 0	0 / 0	0 / 0	18 / 29	62%
	Kapoeta South	0 / 0	0 / 0	0 / 0	1 / 1	1 / 2	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 4	75%
Jonglei	Pibor	0 / 0	0 / 0	0 / 0	1 / 4	3 / 7	4 / 7	4 / 5	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	13 / 24	54%
	Ayod	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	0 / 0	0%
	Wuror	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	0 / 0	0%
Warrap	Tonj North	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 5	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	4 / 6	67%
	Tonj East	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	0 / 0	0%
	Tonj South	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	100%
	Gogrial East	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	7 / 9	9 / 12	6 / 6	1 / 1	0 / 0	1 / 1	0 / 0	0 / 0	25 / 30	83%
	Gogrial West	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	0 / 0	0%
	Twic Mayardit	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	0 / 0	0%
Western Bahr Al Ghazal	Jur River**	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	100%
Lakes	Awerial	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1	1 / 2	2 / 2	2 / 2	0 / 0	5 / 7	0%
	Cuibet	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	0 / 0	0%
	Yirol E.	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	0 / 0	0%
	Yirol W.	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	0 / 0	0%
	Maper	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	0 / 0	0%
	Rumbek Centre	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	0 / 0	0%
	Rumbek East	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	0 / 0	0%
Central Equatoria	Terekeka	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	0 / 0	0%
	Juba	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	0 / 0	0%
SOUTHERN SUDAN TOTAL		**2 / 2**	**2 / 2**	**3 / 4**	**37 / 55**	**50 / 80**	**79 / 125**	**84 / 123**	**45 / 69**	**14 / 28**	**10 / 16**	**9 / 14**	**2 / 4**	**1 / 1**	**338 / 523**	**65%**

* Provisional:

**The July case was imported from Tonj South

Months during which 1-4 cases of GWD were reported

Months during which 5-10 cases of GWD were reported

Months during which >10 cases of GWD were reported

Table 3

SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM
LINE LISTING OF CASES OF GWD DURING 2013*

Case #	Village or Locality of Detection			Payam	County	Age	Sex	Date GW emerged	Case Contained?		1 = Imported 2= Indigenous	Home Village or Locality			Presumed Source of infection identified?		Presumed Source of infection is a known EVA?	
	Name	1 = EVAS	2 = NEVAS						(Yes, No, or Pending)	If no, date of Abate Rx*		Name	1 = EVAS	2 = NEVAS	(Yes / No)	Name	(Yes / No)	Actions?
1.1^	NABOLISO CC		2	KAUTO WEST	KAPOETA EAST	35	M	2/19/13	No	23-Feb-13	1	NAROO		2	Yes	Lolagam Cattle Camp	No	On high alert- further investigations are being conducted due to concerns that a source at the village level may be of concern
2.1^^	LOTUKUTAN CC	1		NARUS	KAPOETA EAST	17	M	2/9/13	Yes	NA	2	?			Yes	Lotukutan CC Wells within Lomuta Cattle Camp Zone (or Lomuta Boma- Napisya Endemic Cluster)	Yes**	The whole endemic cluster is being treated with all the necessary interventions for an endemic boma.
2.2	LOTUKUTAN CC	1		NARUS	KAPOETA EAST	17	M	3/14/13	Yes	NA	2	?			Yes	Lotukutan CC Wells within Lomuta Cattle Camp Zone (or Lomuta Boma- Napisyia Endemic Cluster)	Yes**	The whole endemic cluster is being treated with all the necessary interventions for an endemic boma
3.1	KARENGEMUK CC		2	KAUTO WEST	KAPOETA EAST	38	M	3/19/13	No	NA	1	NANGILABOK		2	Yes	Lolagam Cattle Camp	No	On high alert- further investigations are being conducted due to concerns that a source at the village level may be of concern
3.2	KARENGEMUK CC		2	KAUTO WEST	KAPOETA EAST	38	M	3/19/13	No	NA	1	NANGILABOK		2	Yes	Lolagam Cattle Camp	No	On high alert- further investigations are being conducted due to concerns that a source at the village level may be of concern
3.3	KARENGEMUK CC		2	KAUTO WEST	KAPOETA EAST	38	M	3/23/13	No	NA	1	NANGILABOK		2	Yes	Lolagam Cattle Camp	No	On high alert- further investigations are being conducted due to concerns that a source at the village level may be of concern
3.4	KARENGEMUK CC		2	KAUTO WEST	KAPOETA EAST	38	M	3/31/13	No	NA	1	NANGILABOK		2	Yes	Lolagam Cattle Camp	No	On high alert- further investigations are being conducted due to concerns that a source at the village level may be of concern
4.1	WUTAWEEN		2	TOCH EAST	GOGRIAL EAST	13	M	3/20/13	No	NA	1	WUTAWEEN		2	Yes	Dhok Pan Magot	Yes/No	Already receiving extensive interventions
5.1	NATOWI		2	KAUTO EAST	KAPOETA EAST	20	M	3/27/13	Yes	NA	1	NATOWI		2	Yes	Lokiding Cattle Camp or Lolagam Cattle Camp	Yes	Lokiding CC is Endemic but Lolagam has not previously reported indigenous cases
6.1	THURAMOTH		2	TOCH WEST	GOGRIAL EAST	9	M	3/29/13	Yes	NA	1	THURAMOTH		2	Yes	Dhok Pan Magot	Yes	Already receiving extensive interventions

* Provisional

^ 1.1 is the only patient that is noted as contaminating water, the other dates for abate were taken as precautionary measures.

^^ Patient 2.1 is from Lomuta Boma but gave multiple different home villages, each time he was interviewed.
He was dropped off at a village he did not mention as his home village. He moves in the Cattle Camps most of the year and has family throughout the Supervisory Area.

** The cattle camp is now classified as an endemic cattle camp, but it was not previously known as an endemic source

Use the 1.1, 1.2…etc. system to designate number of GWs emerging from same case-patient.

EVAS endemic village under active surveillance

NEVAS non endemic village under active surveillance

Table 4

CHAD GUINEA WORM ERADICATION PROGRAM
LINE LISTING OF CASES OF GWD DURING 2013*

Case #	Village or Locality of detection			Zone / 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 EVAS?	
	Name	1 = EVAS	2 = NEVAS			Age	Sex	Date GW emerged	(Yes, No, or Pending)	If no, date of Abate Rx		Name	1 = EVAS	2 = NEVAS	(Yes / No)	Name	(Yes / No)	Actions?
1.1	Miskine banana		2	Gambarou/ Mandelia	Chari Baguirmi	3	F	4/2/2013	Pending		2	Miskine banana		2	ND			
2.1	Koutoungolo		2	Onoko /Massenya	Chari Baguirmi	35	F	4/8/2013	Pending		2	Koutoungolo		2	ND			
3.1	Gasse		2	Onoko /Massenya	Chari Baguirmi	50	F	4/9/2013	Pending		2	Gasse		2	ND			

* Provisional
use the 1.1, 1.2…etc. system to designate number of GWs emerging from same case-patient.
EVAS endemic village under active surveillance
NEVAS non endemic village under active surveillance
ND Not Determined

number of worms per patient was 2.5. Ethiopia has reported no case so far in 2013. The only discovered survey of reward awareness in Guinea worm-free areas in 2012 showed an awareness level of 60%.

The national coordinator of the Guinea Worm Eradication Program of **MALI**, Dr. Gabriel Guindo, presented his country's report. During 2012 Mali reported 1 case (contained) in June and 3 cases (2 contained) in July. Niger detected and contained 3 cases in September 2012 that reportedly originated in Ansongo District of Gao Region in Mali, although the Malian program did not confirm the alleged source of infection. The four cases detected in Mali were in 3 villages, 1 of which was in Mopti Region, 1 in Segou, and 1 in Kidal. Three Malian residents, confirmed as cases of GWD in Niger during September 2012 (shown in italics in table 1), are included in Mali's total for the year. Mali has not ascertained the apparent source of these cases. Surveys of reward awareness in 2012 found awareness levels of 4% in a non-endemic area and 78% in an endemic area. Mali has reported no case so far in 2013. Surveillance of GWD in much of Mali, however, especially in Kidal, Gao, Mopti and Timbuktu Regions, has been very poor since the *coup d'etat* in March 2012. The season of peak transmission for GWD in Mali has been June-December. As security improves during 2013 in Segou, Mopti, Timbuktu and Gao Regions, the GWEP is reactivating local zonal GWEP workers, as well as nurses in health centers, to monitor for rumors, and to detect and contain any cases of GWD in those areas.

BASF EXTENDS ABATE® DONATION THROUGH 2015

BASF, a valued partner in the campaign to eradicate Guinea worm disease, has extended their donation of ABATE® larvicide through two additional years: 2014 and 2015, if necessary. For more than 13 years, BASF has contributed ABATE® larvicide to the Guinea Worm Eradication Program. Their generous partnership is demonstrative of the company's long-standing commitment to sustainable development. As part of their corporate mission, BASF aims to help meet the current and future needs of society through science and innovation. The company's public health business is dedicated to improving the quality of life for people in developing nations around the globe through disease prevention. This goal is accomplished by working with international health, government, and humanitarian organizations to provide vector control products and programs. The public health business is part of BASF's crop protection division, a strong partner to the farming industry that provides well-established and innovative fungicides, insecticides and herbicides to improve crop yields and quality. BASF's continued commitment to improving global health is greatly appreciated in the fight against Guinea worm disease.

Please see the following link for details: www.publichealth.basf.com.

GUINEA WORM DISEASE ON THE WORLDWIDE WEB AND TELEVISION

President Carter's appearance discussing Guinea worm disease with Jon Stewart on *The Daily Show* on April 9, 2013 may be viewed online at http://www.thedailyshow.com/full-episodes/tue-april-9-2013-jimmy-carter?xrs=synd_twitter

As of early April 2013, the award-winning Guinea worm documentary *Foul Water Fiery Serpent* produced by Cielo Productions in 2010 has now been shown 2,029 times on 316 channels, covering more than 83% of the television viewing market in the United States.

17th MEETING OF PROGRAM MANAGERS OF GUINEA WORM ERADICATION PROGRAMS
OUAGADOUGOU, BURKINA FASO, APRIL 9-12, 2013
DRAFT RECOMMENDATIONS

General:

1. Where not in place, countries should revive the coordination committee or the National Task Force, composed of MoH, and other stakeholders like The Carter Center, WHO, UNICEF and any other locally active partner(s). The coordination committee should meet every month to review progress and micro-plan for the following months.

2. Countries should follow up and contain each worm emergence. Track the movement of each case since the emergence of the worm till its final emergence should be recorded and mapped by GPS.

3. Countries should increase the reporting rate from health facilities from its present rate and the need for record keeping of dracunculiasis cases, including zero cases must be emphasized. The reports should include the surveillance data on dracunculiasis from the catchment area

4. Countries should increase the outreach of dracunculiasis surveillance to the communities by making use of all existing opportunities available, e.g. community health workers and volunteers, including that in poliomyelitis/EPI surveillance, Community Directed Treatment for ivermectin (CDTI) and mass drug administration under the upcoming NTD Programs, schools and markets and other country-specific opportunities. Record the village and household coverage during such surveys and outreach activities to strengthen the evidence on dracunculiasis surveillance.

5. Countries need to enhance communication activities to increase nation-wide, the awareness on guinea worm disease surveillance and on the reward, using an appropriate mix of media (radio, print media, etc) and non-media channels (face-to-face, village meetings, town-criers, village markets and schools). Partners with expertise in implementing communication strategies should support all communication activities. Countries should periodically assess the level of such awareness in the community using the 20x11survey protocol and the village and individual questionnaires.

6. Programs should adhere to the use of the existing definitions* for imported/indigenous case, endemicity status.

7. WHO should report on the rumor investigations in certified countries proximate to endemic countries (i.e.: Cameroon, Mauritania) and other non endemic countries (i.e. : India, Gabon).

* Weekly Epidemiological Record 2003, 78, 323-328

8. Countries should monitor the lag time between the receipt of rumour and its investigation by the designated staff. All rumors should be verified and within 24hours of receipt of their information.

9. AFRO is requested to advocate for accelerating activities in interrupting transmission in remaining countries as well as ensuring optimal surveillance in dracunculiasis free areas. A resolution on the eradication of dracunculiasis is proposed in the forthcoming Regional Committee meeting.

For all endemic countries:

10. The occurrence of cases in Chad, certain areas of Mali, Ethiopia and in South Sudan provide major challenge in identifying the source of transmission. More extensive epidemiological analysis in these areas is required to identify the possible source of transmission. Programs could seek assistance of experts from the WHO Collaborating Centre at CDC and other institutions could be sought for such analysis.

11. Chad, Mali, Ethiopia and South Sudan should aim for 100% case containment and all identified water sources should be treated with Temephos within 10 days of worm emergence. This may require additional measures or operational adjustments.

12. The line listing of each worm emergence should be submitted monthly to WHO, along with the line-list of villages with cases and district surveillance indicators.

Additional for Chad:

13. Provide active case searches in areas where a case has occurred and strengthen active surveillance in villages reporting cases or at-risk, to detect all cases that might occur in the area.
14. The Program should provide the appropriate level of interventions in all districts reporting indigenous cases in 2011, 2012 and/or 2013.
15. The Ministry of Public Health should negotiate with the mobile telephone companies (Airtel and/or TIGO) to transmit text and/or audio messages announcing the reward of 50.000 FCFA and to urge residents to report about persons on rumors of guinea-worm disease.
16. The Ministry of Public Health should install a toll-free telephone line in the secretariat of the program to encourage individuals to report on rumors of guinea-worm disease and for the Program to immediately respond to the rumors.
17. The Ministry of Public Health should immediately provide financial assistance to the program and by releasing approved funds for the purchase of vehicles, an active cases search, and the implementation of other program interventions.

Additional for Ethiopia:

18. The Ministry of Health at Federal level, the Regional Bureau of Health and District health authorities should accord greater priority and provide leadership in dracunculiasis eradication in their respective administrative levels.
19. In its final push to dracunculiasis, the Ministry of Health should designate a full-time National EDEP Coordinator for the program. The EDEP national coordinator should make supervisory visits to the endemic and high risk districts at least once every month, lead the effort to interrupt transmission and enhance active and passive surveillance.
20. The EDEP should be represented by appropriate official during subsequent meetings of review of dracunculiasis Programs.
21. EDEP should strengthen supervision and assessment of the Program. EDEP could invite experts from other successful Programs to review and assist EDEP in adapting and implementing experiences like STOG (Stop Transmission of Guinea Worm).
22. The of EDEP in collaboration with partners should organize quarterly review meetings held in the remaining endemic and at- risk regions.
23. Training courses of all frontline health workers (Health Extension Workers, HAD,etc) throughout the country should include a module on guinea worm disease surveillance, reporting and imparting awareness on the reward.
24. EDEP should increase the amount of the cash reward (currently USD 58) and increase its awareness nation-wide.
25. EDEP should implement the appropriate mix of interventions in the villages which reported cases or at-risk in Abobo to immediately detect and contain any future cases in 2013.

Additional for Mali

26. Mali should accelerate the installation of the National Certification Committee.

Additional for South Sudan

27. In areas where drilling work has proven to be difficult, urge the department of water supply to adopt alternative technologies and innovations for the provision of safe drinking water, e.g. by converting or protecting surface water sources into safe drinking water source, motorising some of the existing high yield bore-holes.

Countries in the Pre-certification stage:

28. Cote d'Ivoire, Niger and Nigerian Guinea Worm Eradication Programs should undertake internal assessments to ensure that surveillance data and documentation on interventions are available at designated levels before the visits of the International Certification Teams, in June-July 2013.

Additional for Cote d'Ivoire:

29. The country should consider increasing the amount of the reward. An announcement by the highest levels in the Government, The President or the Prime Minister could demonstrate the

political support and the resulting media coverage improve the nation-wide awareness on the reward.

30. The GWEP should reassess the level of awareness on guinea-worm disease and the reward among individuals prior to the visit of the International Certification Team (ICT) in the country.

Additional for Niger:

1. Technical and financial partners of the GWEP of Niger should support the Program in carrying out the priority activities included in the 2013 plan of action. Activities planned to be completed before the ICT mission should be given priority.

2. The Ministry of Health should negotiate with the mobile telephone companies the inclusion of textual and/or visual messages in the form of public announcements concerning the reward of 50.000 FCFA to increase awareness about dracunculiasis and to urge residents to report about persons with symptoms suggestive of GWD.

3. The Program, in collaboration with the Mali GWEP, should further investigate the three cases reported to be imported from Mali to identify the source of transmission in 2012.

Additional for Kenya:

4. The Program should urgently increase awareness on the reward system to all communities and health workers, in areas bordering South Sudan and Ethiopia which are at high risk of receiving imported cases.
5. A community based surveillance network needs to be setup in Turkana County (Turkana North) covering refugee camps and schools.
6. Conduct a cross- border assessment with South Sudan and Ethiopia including the Kakuma refugee camp as recommended in the Cross-border meeting held in Entebbe, Uganda, 2012.
7. The Program should first validate the data; remove data-entry errors, before reporting to higher levels. The Program should make full use of the electronic health information system and IDSR in reporting and responding to guinea worm disease rumors. Ensure that all rumors were investigated within 24 hours.
8. Program should accelerate the gazettment of the National Certification Committee for dracunculiasis eradication

Additional for Sudan:

9. The Program should take advantage of the upcoming meningitis mass vaccination campaign targeted in 8 states in May 2013 and the house-house bed-net distribution campaign in high malaria- risk states for guinea-worm disease case search and generating awareness on the reward

Countries without any recent history of dracunculiasis but yet to be certified:
For Angola:

31. The Ministry of Health should support to integrate active case searches for GWD into the activities of other programs (poliomyelitis surveillance, CDTI).
32. The Ministry of Health should update the current level of coverage of villages with safe drinking water.
33. The Ministry of Health should, after review of its guinea worm disease free status, submit its request for certification as a guinea worm disease free country.

For Somalia:

1. Ministry of Health, in its report for certification as a guinea-worm disease free country, should
    a. give a brief account of the various skin conditions that were reported as guinea worm disease rumors during the poliomyelitis survey;
    b. Indicate the denominators in terms of number of households covered when referring to coverage of household for guinea-worm disease survey carried out with the poliomyelitis survey;
    c. Indicate the extent of exclusion of districts, villages and households that were not accessible to the survey teams due to insecurity. Further measures taken to ensure these areas did not have any guinea worm disease.

2. **Operational Research to be undertaken in order to:**
    a. explore the unusual epidemiology of occurrence of cases without identified linkages to cases in the previous year;
    b. ensure surveillance and case containment in constantly mobile populations like the cattle camps dwellers and fishermen;
    c. increase and measure awareness of reward in the community;
    d. use mobile telephone technology for surveillance reporting.

MEETINGS

The International Commission for Certification of Eradication (ICCDE) plans to meet at WHO/Geneva during December 3-5, 2013.

RECENT PUBLICATIONS

Ridley M, 2013. When species extermination is a good thing. Wall Street Journal Feb 9, Sec C:4.

World Health Organization, 2013. Monthly report on dracunculiasis cases, January-February 2013. Wkly Epidemiol Rec 88:151-2.

Leslie K, 2013. Death of the Guinea worm draws near. The Atlanta Journal-Constitution Apr 20 http://www.myajc.com/news/news/death-of-the-guinea-worm-draws-near/nXQMX/?icmp=ajc_internallink_invitationbox_apr2013_ajcstubtomyajcpremium

McNeil D, 2013 Profiles in Science: Dr. Hopkins on Guinea Worm Disease. New York Times Apr 23 http://www.nytimes.com/2013/04/23/health/donald-r-hopkins-how-to-eradicate-guinea-worm-disease.html?pagewanted=all&_r=0

Inclusion of information in the Guinea Worm Wrap-Up
does not constitute "publication" of that information.
In memory of BOB KAISER

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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*

World Health Organization

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