DEPARTMENT OF HEALTH & HUMAN SERVICES

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

Memorandum



Date: April 4, 2014

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

Subject: GUINEA WORM WRAP-UP #225

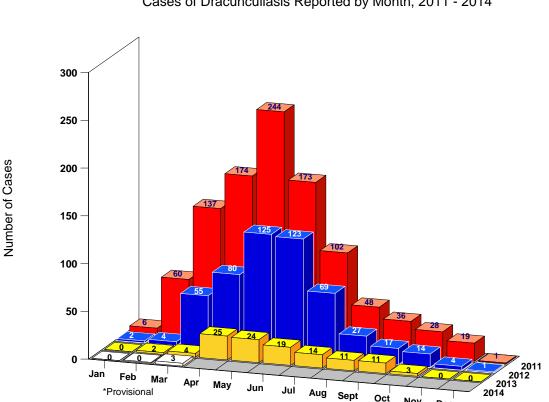
To: Addressees

You cannot form an effective response until you know the truth. - William Foege: lesson from smallpox eradication in India.

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

SOUTH SUDAN'S GWEP REPORTS ZERO CASES OF GWD FOR FOUR CONSECUTIVE MONTHS, OFFERS CASH REWARD FOR REPORTING A CASE

Upon examination at CDC, the worm specimen from the patient at Lopeat in Jie payam of Kapoeta East county of Eastern Equatoria state who was reported provisionally as a case of Guinea worm disease (GWD) for February 2014 has proven to be another example of spargana, a tapeworm larvae that was diagnosed from another patient in Lopeat in 2013. As a result, the South Sudan Guinea Worm Eradication Program (SSGWEP) has now recorded four consecutive Figure 1



South Sudan Guinea Worm Eradication Program Cases of Dracunculiasis Reported by Month, 2011 - 2014*

Nov

Dec

months, November 2013 – February 2014, with ZERO cases (Figure 1). Reporting rates from the 6,682 villages under active surveillance (VAS) for those four months averaged 100%. In March, the SSGWEP provisionally reported three cases of GWD, and began publicizing a cash reward of 500 South Sudanese Pounds (~US\$125) in the endemic areas of Greater Kapoeta Counties (Eastern Equatoria State), Awerial County (Lakes State), and Gogrial East County (Warrap state) for reporting a case of GWD.

South Sudan reported a final total of 113 cases of GWD in 79 villages for 2013. This is a reduction of 78% from the 521 cases in South Sudan in 2012 (Figure 2). Seventy-six (76), or 67% of the 113 cases were contained, and 77 (68%) of all cases were admitted to a Case Containment Center. Among the 106 endemic villages that had a case of GWD in the past 2 years as of 2013, 98% had cloth filters in all households, 96% were protected with ABATE treatments, 97% had monthly health education sessions, 95% had pipe filter coverage of at least 80%, and 33% had at least one safe source of drinking water. The director of the SSGWEP, <u>Mr. Makoy Samuel Yibi</u>, reported these final data for 2013 at the 18th Meeting of National Program Managers of GWEPs in Addis Ababa. The Minister of Health for Eastern Equatoria state, <u>Dr. Margaret Itto</u>, and the Commissioner for Kapoeta East County, <u>Mr. Titus Lokwachuma</u>, also participated in the meeting. Upon returning to South Sudan, Dr. Itto, the Kapoeta East county commissioner, and Mr. Makoy held a press conference in Juba to publicize the latest achievements of the program, and to officially announce the cash reward for reporting a case of Guinea worm disease. Mr. Makoy and the minister of health, <u>Dr. Riek Gai Kok</u>, were interviewed on television about the status of GWD eradication in South Sudan.

The SSGWEP's key indices for 2013 were: 67% case containment rate and 88% source tracing rate: the reward awareness rate was not applicable in South Sudan then.

According to a report released by Office for the Coordination of Humanitarian Affairs (OCHA), since 15th December 2013, more than 750,000 residents have been displaced as a result of the ongoing conflict in South Sudan. Of the these Internally displaced persons (IDPs), 76,400 are in Minkaman, Awerial County, 101,100 in Juba, Central Equatoria state, 145,700 in Jonglei, 116,300 in Upper Nile state and 186,000 in Unity state.

WHO mapped all the IDP camps, trained health workers, and increased awareness on Guinea worm disease among residents. In March 2014, WHO supported trainings of 67 Home visitors in the two Camps in Juba town on GWD. They have been tasked to conduct surveillance in the camp and giving health education on GWD alongside other diseases. Training for remaining camps (Awerial, Bentiu, Bor and Malakal) will be conducted in April 2014

The SSGWEP convinced all the humanitarian partners working in the IDP camps to report on GWD using the standard epidemic prone template provided by WHO. No GWD cases were reported from the IDP camps in March 2014.

The SSGWEP has transitioned 1,993 villages under active surveillance in the counties of Tonj South, Tonj East, Tonj North and Jur River because transmission of GWD in these areas was interrupted more than one year ago. Mapping of all health facilities in these areas was conducted in February 2014. All the payams in these new GW-free areas have been identified and SSGWEP is designating and training payam supervisors with the support of the County Health Departments (CHD).

Because of the proximity and of population movements of Darfurians between Kafia Kangi area, El Radon Locality, South Darfur, Sudan and Firkha area, Raja County, South Sudan, both highly militarized zones along the Sudan and South Sudan border, presence of South Sudanese troops recruited from endemic areas of South Sudan, and poor accessibility of safe drinking water, a team visited the Firkha area in Raja county. Under the protection of the United Mission in South Sudan (UNMISS) Kenvan Battalion (KENBAT), a team consisting of members from UNMISS, WFP, WHO, UNHCR and the Danish Diminution Group along with the Ministry of Health visited Timshah and Firkha in Raja county from the 17th to 23rd February 2014. During the eight days assessment, no patent cases of Guinea worm disease were detected. A total of 12 suspected cases (rumors) of GWD were recorded in Raja County in 2013. Three suspects were claimed in September 2013 (Gosinga), one in May 2013 (New-cite), one in August 2013 (Dalieb) and the remaining reported between July and October 2013 (Firkha). In Timshah, only three out of the eleven boreholes are functioning and Firkha has only three functional boreholes. Most of the community drinks water from unprotected ponds and from pools along the riverbed. In view of these risk factors, the SSGWEP, with the support from the South Sudanese Army Medical Corps, should establish a surveillance system with monthly reporting in this area of South Sudan, including social mobilization to enhance education about GWD and its prevention, and to increase awareness about the rewards for cases of GWD. National Immunization Day drives in this area also provide opportunities for periodic assessments of GWD.

SUDAN: THREE CASES REPORTED IN 2013 WERE CONTAINED

According to data presented by the Government of Sudan at the 18th Meeting of National Program Managers in Addis Ababa on March 19, 2014, the three cases of Guinea worm disease that were reported from Kafia Kingi Village, South Darfur, Sudan in 2013 were seen and contained by a former worker in Sudan's GWEP. The data are as follows:

- 45y/o Female: worm emerged 7 June; case detected 8 June; control measures began 8 June
- 18y/o Female: worm emerged 14 June; case detected 14 June; control measures began 14 June
- 4y/o Female: worm emerged 14 Sept.; case detected 14 Sept.; control measures began 14 Sept.

Training of village-based volunteers in Kafia Kingi and other at-risk villages began in March 2013. The reward awareness rate among 42 persons sampled in Sudan in 2013 was 24% (Figure 3). Sudan is offering 250 Sudanese pounds (~US\$ 44) for reports about cases of GWD.

ETHIOPIA: NO CASES REPORTED FOR NINE CONSECUTIVE MONTHS

Ethiopia's Dracunculiasis Eradication Program (EDEP) convened a National Review Meeting for the first time in several years in Addis Ababa on March 17-18 under the leadership of the national director of the program, <u>Mr. Gole Ejeta</u>. About 50 persons participated, including representatives of the Federal Ministry of Health; regional and district health officials from Gambella Region, including Gog, Abobo and Itang districts, each of which reported one or more cases of GWD in 2013; and from the South Sudan-bordering districts of Southern Nations Nationalities and Peoples Region (SNNPR) and Bench Maji Region.

The EDEP reported 7 cases in 5 villages (Abobo 3, Gog 1, Itang 1) in 2013, of which 4 cases were contained, although all 7 patients were admitted to a Case Containment Center. This was an increase

of 75% from the 4 cases reported in 2012 (Figure 2). The three uncontained cases in 2013 occurred in Itang district in April, Gog district in May, and Abobo district in June. All of Ethiopia's cases in 2013 except one occurred in April-June. All 72 villages in Gog district have been under active village-based surveillance since 2012, and all 77 villages in Abobo district began active village-based surveillance by the end of 2013 with assistance to the EDEP by The Carter Center. Twelve of approximately 20 villages at high risk in Itang district (Elia Kebele and adjacent villages) began active surveillance in March 2014 and the remainder will do so in April with assistance by The Carter Center. WHO will assist the EDEP in areas of Itang district that remain under passive surveillance. Of the 2 known endemic villages in Ethiopia as of 2013, both had received cloth and pipe filters, monthly health education sessions, were treated with ABATE@ Larvicide, and both had at least one safe source of drinking water.

EDEP's key indices for 2013 were: 57% case containment rate, 14% source tracing rate, and 15% reward awareness in passive surveillance areas (Figure 3). A later survey of 78 persons in Oromia Region and 577 persons in SNNPR in December 2013 found reward awareness rates in passive surveillance areas of 0% and 32%, respectively. Ethiopia's cash reward for reporting a case of GWD is 1000 birr (~US \$54).

MALI: SECURITY IMPROVING?



Mali's GWEP reported 11 cases in 8 villages in 2013, of which 7 cases were contained. These 8 villages each reported zero cases or made no report at all in 2012. All 11 patients (8 black Tuaregs; the others white Tuaregs or Arab) were admitted to a Case Containment Center. This was an increase of 57% over the 7 cases reported in 2012. The largest cluster of 6 cases, 5 of which were contained, occurred in and near Tanzikratene village in Ansongo district of Gao Region in

October - November 2013. One case that occurred in Djenne district of Mopti Region in May 2013 had 6 worms, was uncontained, Abate was not used, and the source of infection of that case is unknown. Three cases, one of which was contained, occurred in Kidal Region in May-June 2013; no Abate was used. One of the cases in Kidal had 5 worms, one had 3 worms, and the other had 1 worm. One case, contained, occurred in Gourma Rharous district of Timbuktu Region in September 2013. Four of Mali's 8 regions reported zero cases in 2013. Six (75%) of the 8 endemic villages in 2013 received full coverage with cloth filters and 80% coverage with pipe filters; 75% were treated with Abate; 50% had at least one safe source of drinking water, but only 2 (25%) received monthly health education sessions, the latter owing largely to inaccessibility due to insecurity. A total of 101 villages are under active surveillance. Two new water points are planned for the village of Tanzikratene in 2014.

Mali GWEP's key indices for 2013 were: 64% case containment rate, 91% source tracing rate, and 43% reward awareness rate in passive surveillance areas (Figure 3). Mali's cash reward for reporting a case of GWD is 20,000 CFA francs (~US \$40).

CHAD: 14 CASES IN 2013, 3 CASES IN 2014



Chad's GWEP reported 14 cases of GWD in humans, 8 of them contained, in 10 villages in 2013, plus 54 cases in dogs in 38 villages, including 4 villages with cases in humans and dogs, for a total of 44 villages with emergent Guinea worms in humans and/or dogs in 2013. So far in 2014, Chad has reported 3 cases, all contained, in humans and 5 cases in dogs (Line listing 2014).

Fishing lagoons were tentatively identified as likely sources of infection for 2 of the human cases in 2014. All of the human cases in 2013 were admitted to a Case Containment Center. The cases reported in 2013 were an increase of 40% over the 10 cases reported in 2012. To date, there has only been one significant cluster of 6 cases in a single village in Chad. This occurred in the village of Maimou (Sarh District, Moyen Chari Region) in November 2013 – January 2014. (Tables 1 and 2). As of January 2014 Chad's GWEP currently has 597 VAS in the at-risk area with more being added in the newly discovered affected area of Sarh district. A total of 106 VAS in Bongor and Fianga Districts of Mayo Kebbi-Est Region were transitioned to passive surveillance during December 2013, as no cases of GWD were detected in these districts since 2010.

Chad GWEP's key indices for 2013 were: 57% case containment rate, 0% source tracing rate, and 16% reward awareness in pa ssive surveillance areas (Figure 3).

	CHAD GUINEA WORM ERADICATION PROGRAM LINE LISTING OF CASES OF GWD DURING 2014																								
Case #	Village or Locality of Detection			cality of Detection		Locality of Detection		ocality of Detection		Region	Age	Sex	Date GW Emerged	Case Contained?		Imported ndige nous	Home Village or Locality			ality	Dogs with GWs present in	Presumed Source of Infection Identified?		Presumed Source of Infection is a Known EVAS?	
	Name	1= EVAS	2 = NEVAS	3 = PSV						(Yes, No, or Pending)	If No, Date of Abate Rx*	1 = 2 = l	Name	1= EVAS	2 = NEVAS	3 = PSV	2013	(Yes / No)	Description	(Yes / No)	Actions?				
1.1	Maimou			3		Moyen Chari	9	F	18-Jan-14	YES		2	Maimou			3	YES residents reported at least 6 dogs	YES	Fishing Iagoon	NO	Too large to ABATE				
2.1	Yadjime			3		Chari Baguirmi	52	F	14-Feb-14	YES		2	Yadjime			3	NO	YES	Fishing lagoon	NO	Too large to ABATE				
3.1	Nanguigoto		2			Mayo Kebbi Est	11	F	7-Mar-14	YES		1	Diganali		2		YES	YES	Fishing lagoon	NO	Too large to ABATE				

Table 1

EVAS= Endemic villages under active surveillance

NEVAS= Non-endemic villages under active surveillance

PSV = Passive surveillnce areas

STATUS OF THE GLOBAL CAMPAIGN TO ERADICATE DRACUNCULIASIS

The four endemic countries (Chad, Ethiopia, Mali, and South Sudan), and one in pre-certification of eradication (Sudan) reported 148 cases of dracunculiasis during 2013 from 102 villages, a reduction of 73% in cases and 62% in villages, compared to 542 cases reported from 271 villages in 2012. South Sudan reported 113 (76%) of the 148 cases; only 39 villages reported indigenous cases); and 76 (67%) of the 113 cases reported were contained (Table 3 and Figure 2).

CHAD GUINEA WORM ERADICATION PROGRAM Villages Reporting Cases of Dracunculiais: 2010-2014*

				Villages Reporting			Cases		
		Vill	Village	District		Number Con	ained / Num	per Reported	
		#	_		2010	2011	2012	2013	2014*
		1	Nanguigoto	Guelendeng	0 / 2	0 / 0	0/0	0 / 0	1 / 1
		2	Mouraye	Massenya	0 / 1	0 / 0	0/0	0 / 0	/
		3	Matassi	Mandalia	0 / 1	0 / 0	0/0	0 / 0	/
		4	Abba Limane	Guelendeng	0 / 1	0 / 0	0 / 0	0/0	/
8 Vill. –		5	Aborgui	Massenya	0 / 1	0 / 0	0/0	0/0	/
		6	Molkou**	Guelendeng	0 / 1	0 / 0	0 / 0	0/0	/
		7	Kakoua	Sarh	0 / 1	0 / 0	0 / 0	0/0	/
		8	Sila	Melfi	0 / 2	0 / 0	0/0	0 / 0	/
		9	Toulomeye-Bardai	Bere		1 / 1	0 / 0	0 / 0	/
		10	Wandal	Bousso		0 / 1	0 / 0	0 / 0	/
		11	Mailao marba	Mandelia		1 / 1	0 / 0	0 / 0	/
		12	Mossio Massa	Bousso		0 / 1	2/2	0 / 0	/
9 Vill. –	_	13	Goudoumgudoum**	Bousso		0 / 2	0 / 0	0 / 0	/
		14	Darkou	Mandelia		0 / 1	0 / 0	0 / 0	/
		15	Akoum/Mabaye	Mandelia		1 / 1	0 / 1	0 / 0	/
		16	Camp Sara Matassi	Mandelia		0 / 1	0 / 0	0 / 0	/
		17	Manglarie	Bousso		1 / 1	0 / 0	0 / 0	/
		18	Mourgagué	Guelendeng			0 / 1	0 / 0	/
		19	Hilele (Ambergan)	Aboudeia/Salamat			0 / 1	0/0	/
		20	Bouram Foulbe**	Massenya			1 / 1	0 / 0	/
7 Vill. –	_	21	Dangabo	Mandelia			0 / 1	0 / 0	/
		22	Kouno Centre	Bousso			0 / 1	0 / 0	/
		23	Kamanga 2 Camp	Kyabe			0 / 1	0 / 0	/
		24	Sarh Town	Sarh			1 / 1	0/0	/
		25	Miskine Banana	Mandelia				1 / 1	/
	Vill.	26	Koutoungolo	Massenya				1 / 1	/
		27	Gasse	Massenya				1 / 1	/
		28	Gourlong	Guelendeng		Number Contained / Number Ref 2011 2012 24 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 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 / 0 0 0 / 1 0 / 0 0 0 / 1 0 / 0 0 1 / 1 0 / 0 0 0 / 1 0 / 0 0 1 / 1 0 / 0 0 1 / 1 0 / 0 0 1 / 1 0 / 0 0 0 / 1 0 0 0 / 1 0 0 0 / 1 0 0 0 / 1 0	1 / 1	/	
		29	Djarbou Choufou	Mandalia Guelendeng Massenya Guelendeng Sarh Melfi Bere Bousso Mandelia Bousso Mandelia Mandelia Mandelia Mandelia Mandelia Mandelia Bousso Guelendeng Aboudeia/Salamat Massenya Massenya Mandelia Bousso Kyabe Sarh Mandelia Bousso Kyabe Sarh Mandelia Bousso Kyabe Sarh Mandelia Massenya Guelendeng Massenya Guelendeng Massenya Guelendeng Massenya Guelendeng Mandelia Bousso Massenya Guelendeng Mandelia Bousso Massenya Guelendeng Mandelia Bousso				0 / 1	/
10 Vill. –		30	Bogomoro	Bousso				1 / 1	/
		31	Madoubou Route	Masenya				1 / 1	/
		32	Médegué	Guelendeng				1 / 1	/
		33	Bougeméne	Mandelia				1 / 1	/
		34	Maimou	Sarh				0 / 5	1 / 1
		35	Yadjime	Bousso					1 1

* Provisional

** Cases of GWD (7) linked to Mossio village cluster.

Endemic villages

Table 3

Number of Reported Cases of Guinea Worm Disease Contained and Number Reported by Month during 2014* (Countries arranged in descending order of cases in 2013)

				(= = =		900 0.00								
COUNTRIES WITH ENDEMIC	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													%
TRANSMISSION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.
SOUTH SUDAN^	0 / 0	0 / 0	3/3	/	/	/	/	/	/	/	/	/	3/3	100
CHAD	1/1	1/1	1/1	/	/	/	/	/	/	/	/	/	3/3	100
MALI [§]	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	
ETHIOPIA	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	
TOTAL*	1/1	1/1	4/4	0/0	0 / 0	0/0	0/0	0/0	0 / 0	0 / 0	0/0	0/0	6/6	100
% CONTAINED	100	100	100										100	
COUNTRIES REPORTING	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
CASES	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	conti.
SUDAN	/	/	/	/	/	/	/	/	/	/	/	/	0 / 0	0%
TOTAL	1/1	1/1	4 / 4	0 / 0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	6/6	100
*Drovicional		•		•	•		•					•		

*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 transmission of GWD from one or more cases was not contained.

^ The SSGWEP evacuated expatriate staff on Dec. 16, 2013 because of armed conflicts and insecurity, but local volunteer and supervisory staff kept operating. Expatriate staff returned in February-March 2014. [§] Since April 2012 reports include only Kayes, Koulikoro, Segou, Sikasso, and Mopti Regions; the GWEP was not fully functional in Timbuktu, and Gao Regions throughout 2013, and not at all in Kidal Region.

Number of Reported Cases of Guinea Worm Disease Contained and Number Reported by Month during 2013* (Countries arranged in descending order of cases in 2012)

COUNTRIES WITH ENDEMIC					NUMBER (OF CASES CONT	TAINED / NUME	BER OF CASES	REPORTED					% CONT.
TRANSMISSION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.
SOUTH SUDAN^	0 / 0	1/2	1/4	18 / 25	<u>19 / 24</u>	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 [§]	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 / <u>11</u>	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	0	50	25	72	72	64	65	67	67	60	57	0	66	

COUNTRIES REPORTING					NUMBER	OF CASES CON	TAINED / NUMI	BER OF CASES	REPORTED					%
CASES	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.
SUDAN	/	/	/	/	/	0 / 2	/	/	0/1	/	/	/	0/3	0%
TOTAL	1/1	1/2	1/4	21 / 29	23 / 32	14 / 24	11/17	8 / 12	8 / 13	3/5	4 / 7	0 / 2	95 / 148	64

*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.

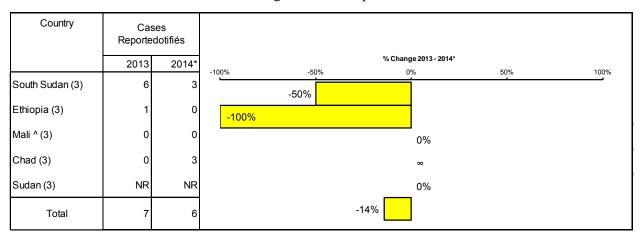
Cells shaded in yellow denote months when transmission of GWD from one or more cases was not contained.

^ The South Sudan GWEP ceased operations on December 16, 2013 as a result of armed conflicts and insecurity. Zero cases of GWD were reported during December 1-16, 2013.

[§] Since April 2012 reports include only Kayes, Koulikoro, Segou, Sikasso, and Mopti Regions; the GWEP was not fully functional in Timbuktu, and Gao Regions throughout 2013, and not at all in Kidal Region.

Figure 2

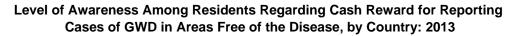
Number of Indigenous Cases Reported During the Specified Period in 2013 and 2014*, and Percent Change in Cases Reported

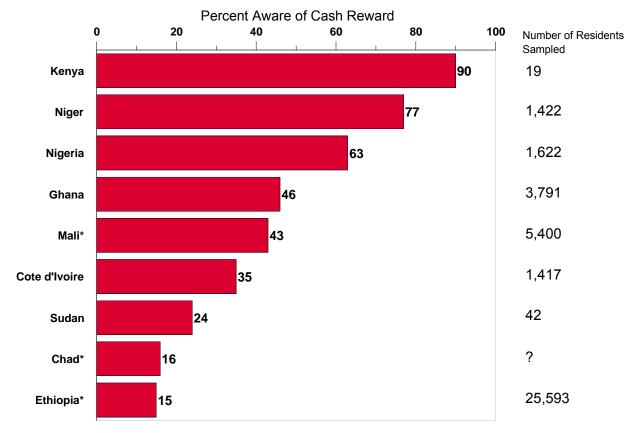


* Provisional: Numbers in parentheses denote months for which data received, e.g., (3)= January- March

^ During 2013 reports included Kayes, Kouliokoro, Segou, Sikasso, Mopti, Timbuktu, and Gao Regions. The GWEP is currently not operational in Kidal Region.

Figure 3





*Endemic country

HAROU OUMAROU PROMOTED

<u>Mr. Harou Oumarou</u>, who began as a supervisor in Niger's GWEP and eventually rose to become the Director of that national program, was promoted recently to the position of National Director of Hygiene, Sanitation and Health Education in Niger's Ministry of Health. CONGRATULATIONS Harou!! !!!

MEETINGS

The annual Informal Meeting on Dracunculiasis Eradication will be held during the 67th World Health Assembly at WHO headquarters in Geneva on Wednesday evening, May 21, 2014.

RECENT PUBLICATIONS

Jones AB, Becknell S, Withers PC Jr, Ruiz-Tiben E, Hopkins DR, Stobbelaar D, Makoy SY, 2014. Logistics of Guinea worm disease eradication in South Sudan. <u>Am J Trop Med Hyg</u> 90:393-401.

Definition of a contained case:

A case of Guinea worm disease is contained if <u>all</u> 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. The village volunteer has <u>properly managed</u> 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.

Working definition of a case source:

The source of a case is considered "probably known" if the patient resided in or visited a community under surveillance where a case of Guinea worm disease occurred within 10-14 months before the patient's worm emerged. Attribution to such a village or community is sufficient. Exact location of contaminated water source is not necessary.

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

Contributors to this issue were: the national Guinea Worm Eradication Programs, Drs. Donald R. Hopkins and Ernesto Ruiz-Tiben of The Carter Center, and Drs. Sharon Roy and Mark Eberhard of CDC.

WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, Center for Global Health, Centers for Disease Control and Prevention, Mailstop C-09, 1600 Clifton Road NE, Atlanta, GA 30333, USA, email: gwwrapup@cdc.gov, fax: 404-728-8040. The GW Wrap-Up web location is http://www.cdc.gov/parasites/guineaworm/publications.html#gwwp

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_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.

World Health Organization