DEPARTMENT OF HEALTH & HUMAN SERVICES

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

Memorandum

Date: September 12, 2011

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

Subject: GUINEA WORM WRAP-UP #207

To: Addressees

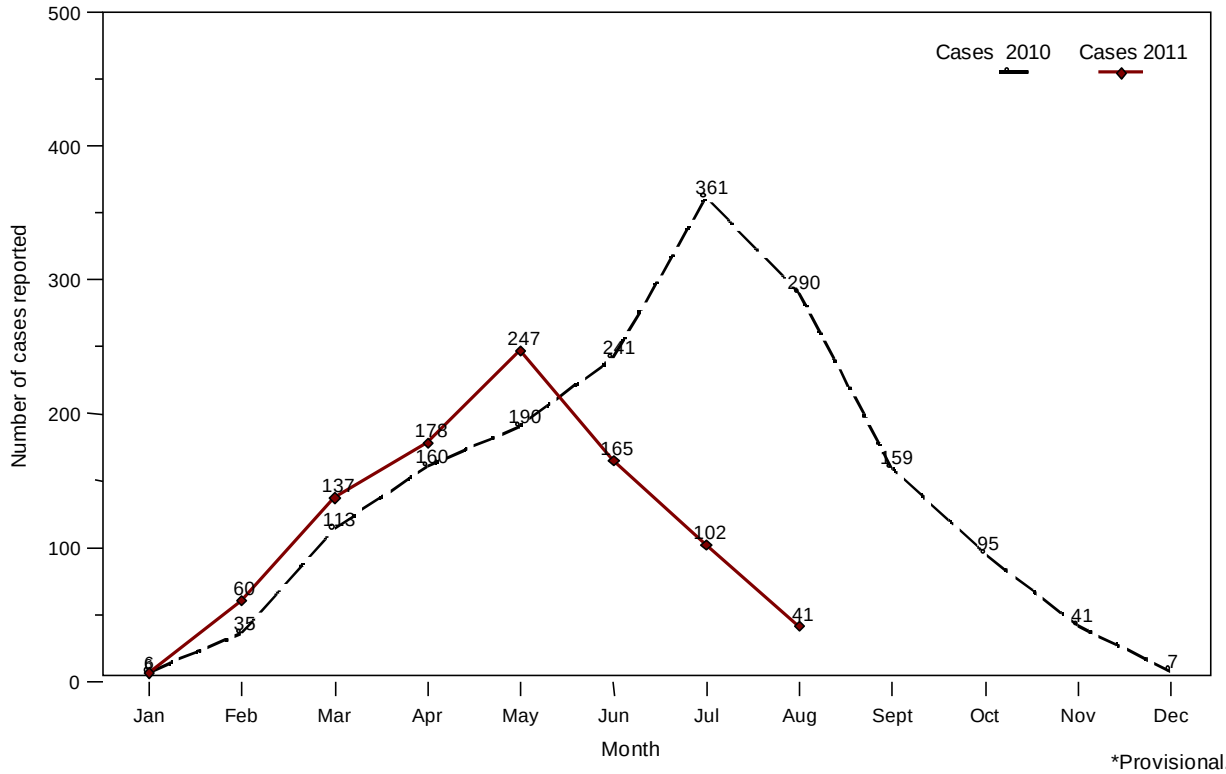
Detect every case! Contain every worm! Trace every source!

Number of uncontained cases in January-August 2011
South Sudan: 231 Chad: 5 Mali: 5 Ethiopia: 1

SOUTH SUDAN: SHARP DECLINE IN CASES IN JUNE, JULY, AUGUST

The South Sudan Guinea Worm Eradication Program (SSGWEP) recorded its most dramatic progress yet during this year's peak months of transmission, with reductions in reported cases of 25%, 71% and 86% for an overall reduction of 76% in June, July and August (Figure 1). This follows an overall increase in cases of 24% during January-May 2011. 78% of South Sudan's cases so far this year are reported from only two counties in Eastern Equatoria state: Kapoeta East (561 cases) and Kapoeta North (146 cases) (Figure 2, Table 2). South Sudan has contained 75% of its cases in January-August, compared to 74% contained during January-August 2010. Of the 944 cases reported in January-August, 530 (56%) were contained in a case containment center.

Figure 1 South Sudan Guinea Worm Eradication Program
Number of Reported Cases of Dracunculiasis: 2010 - 2011*



*Provisional.

The SSGWEP held its latest Task Force meeting on August 24, as scheduled. Key outcomes included a proposal to hold a multi-stakeholder forum with the SSGWEP, state authorities and donors in Kapoeta Town during the first week of October to advocate for safe water needs in greater Kapoeta. The Task Force also highlighted the need to improve coordination between the state governments, SSGWEP staff, the Ministry of Water and Irrigation, and drilling contractors to ensure boreholes are drilled in endemic villages requiring safe water. The SSGWEP was also charged to meet with staff of the Integrated Disease Surveillance and Reporting (IDSR) system to discuss the status of surveillance in Guinea worm-free areas, and to update the minister of health on the status of Guinea worm eradication, including the impact of insecurity on program operations. The next Task Force meeting will be held on September 30. Dr. Ernesto Ruiz-Tiben and Mr. Craig Withers of The Carter Center attended the mid-year review of the SSGWEP in Kapoeta Town on Augurst 17-18, after which Dr. Ruiz made a supervisory visit to Abuyong Payam, in Awerial County of Lakes State on August 20-22 and attended the Task Force meeting in Juba on August 24.

Of the 100-plus boreholes promised for villages with endemic Guinea worm disease at the beginning of 2011, 54 were allocated to high priority villages (reporting 5 or more cases in 2010), but only 9 of 18 boreholes drilled during January – July were made functional (Table 1). Water sector organizations in South Sudan have promised to intensify their borehole drilling campaign again during October – November 2011, the expected onset of the dry season.

Table 1

2011 South Sudan: Guinea Worm Borehole Allocation and Drilled

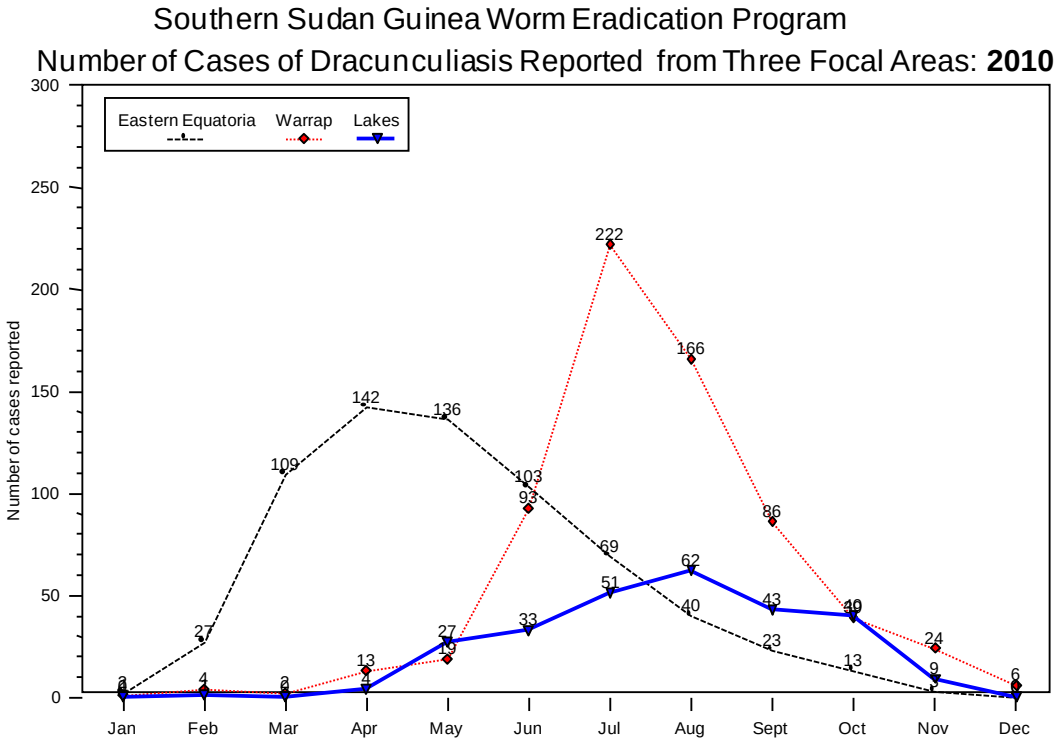
State	Total Cases Jan - July 2010	Total Cases Jan - July 2011	2011 BH Allocated	2011 BH Drilled	Comments
Central Equatoria	20	9	2	2	
Eastern Equatoria	585	722	15	1	
Jonglei	15	66	2	0	
Lakes	113	31	9	6	3 of 6 from 2010 allocation
W Bahr al Ghazal	12	3	0	0	
Warrab	354	71	26	0	
Grand Total	1099	902	54	9	9 BH drilled, no casings

The SSGWEP maintains active village-based surveillance for GWD in 14 counties, 10 of which have reported one or more cases during 2011. 405 (7%) of 5,873 villages under active surveillance in those counties have reported one or more cases so far in 2011, of which only 114 villages have reported indigenous cases. The rate of reporting from these villages in July 2011 was 100%. WHO is working with the Government of South Sudan (GOSS) ministry of health to ensure adequate surveillance for GWD in the remaining 56 counties in Guinea worm-free areas, based on passive reporting from the health facilities-based Integrated Disease Surveillance & Reporting (IDSR) system and on public awareness. The GOSS and WHO also support community-based surveillance in 206 villages which the SSGWEP considers to still be at high risk in the GW-free areas. In January-April 2011, 48 rumors were reported and investigated

from GW-free areas; none was confirmed as GWD. The GOSS does not offer a cash reward for reporting cases of GWD. (Map 1).

With its latest gains, the Republic of South Sudan is coming within striking distance of its goal of stopping all transmission by the end of 2012. Ensuring sufficiently sensitive surveillance for GWD in Guinea worm-free areas is increasingly critical to detecting and containing any imported cases immediately and to withstanding the intense scrutiny that is sure to come by the International Commission for the Certification of Dracunculiasis Eradication.

Figure 2



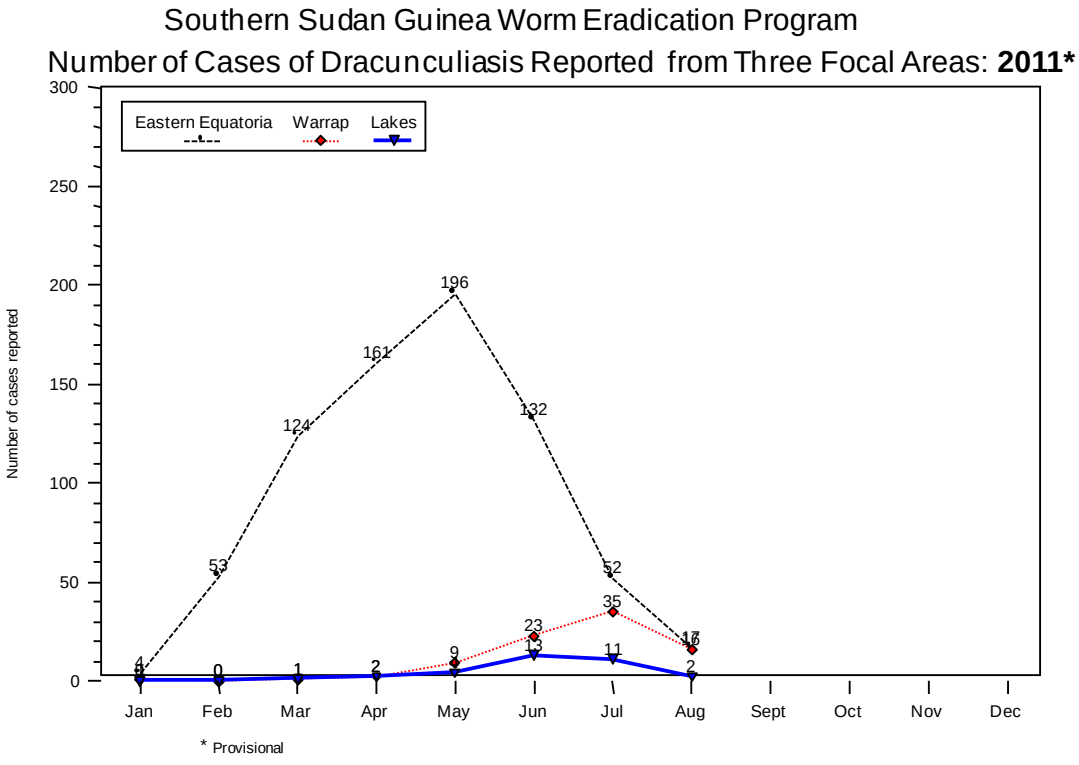


Table 2

South Sudan Guinea Worm Eradication Program

Cases Reported and Contained During 2011* by State, County and Month

State	County	Cases Contained / Cases Reported												% Contain-
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
Eastern Equatoria	Kapoeta East	3 / 4	32 / 39	76 / 96	96 / 115	133 / 154	76 / 100	32 / 39	11 / 14	/	/	/	/	459 / 561	82%
	Kapoeta North	0 / 0	12 / 14	18 / 27	30 / 35	26 / 31	20 / 24	8 / 13	2 / 2	/	/	/	/	116 / 146	79%
	Kapoeta South	0 / 0	0 / 0	0 / 1	6 / 11	10 / 11	4 / 8	0 / 0	1 / 1	/	/	/	/	21 / 32	66%
	Torit	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	0 / 0	0%
STATE TOTAL		3 / 4	44 / 53	94 / 124	132 / 161	169 / 196	100 / 132	40 / 52	14 / 17	/	/	/	/	596 / 739	81%
Warrab	Tonj North	1 / 1	0 / 0	1 / 1	2 / 2	4 / 4	8 / 13	4 / 8	9 / 11	/	/	/	/	29 / 40	73%
	Tonj East	0 / 0	0 / 0	0 / 0	0 / 0	3 / 4	7 / 9	13 / 15	1 / 3	/	/	/	/	24 / 31	77%
	Tonj South	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	1 / 1	3 / 4	3 / 3	/	/	/	/	8 / 9	89%
	Gogrial East	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 8	1 / 1	/	/	/	/	2 / 9	0%
	Gogrial West	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%
STATE TOTAL		1 / 1	0 / 0	1 / 1	2 / 2	8 / 9	16 / 23	21 / 35	14 / 18	/	/	/	/	63 / 89	71%
Lakes	Awerial	0 / 0	0 / 0	1 / 1	2 / 2	1 / 4	12 / 13	7 / 11	2 / 3	/	/	/	/	25 / 34	74%
	Cuibet	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%
	Yirol W.	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%
	Rumbek Centre	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%
STATE TOTAL		0 / 0	0 / 0	1 / 1	2 / 2	1 / 4	12 / 13	7 / 11	2 / 3	/	/	/	/	25 / 34	74%
Central	Terekeka	1 / 1	1 / 1	1 / 1	0 / 0	1 / 3	0 / 1	0 / 1	0 / 0	/	/	/	/	4 / 8	50%
	Juba	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	/	/	/	/	1 / 1	0%
TOTAL		1 / 1	1 / 1	1 / 1	0 / 0	1 / 3	0 / 1	1 / 2	0 / 0	/	/	/	/	5 / 9	56%
Jonglei	Pibor	0 / 0	5 / 6	5 / 10	1 / 9	7 / 36	2 / 5	0 / 0	2 / 3	/	/	/	/	22 / 69	32%
	Nyriol	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	0 / 0	0%
	Ayod	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%
TOTAL		0 / 0	5 / 6	5 / 10	1 / 9	7 / 36	2 / 5	0 / 0	2 / 3	/	/	/	/	22 / 69	32%
Western	Jur River	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 2	1 / 1	/	/	/	/	2 / 4	50%
TOTAL		0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 2	1 / 1	/	/	/	/	2 / 4	50%
SOUTHERN SUDAN TOTAL		**5 / 6**	**50 / 60**	**102 / 137**	**137 / 174**	**187 / 249**	**130 / 174**	**69 / 102**	**33 / 42**	**/**	**/**	**/**	**/**	**713 / 944**	**76%**
% CONTAINED		**83%**	**83%**	**74%**	**79%**	**75%**	**75%**	**68%**	**79%**					**76%**	

*Provisional

Map 1

South Sudan Guinea Worm Eradication Program
Geographical Areas of Surveillance for GOSS / WHO and GOSS / TCC

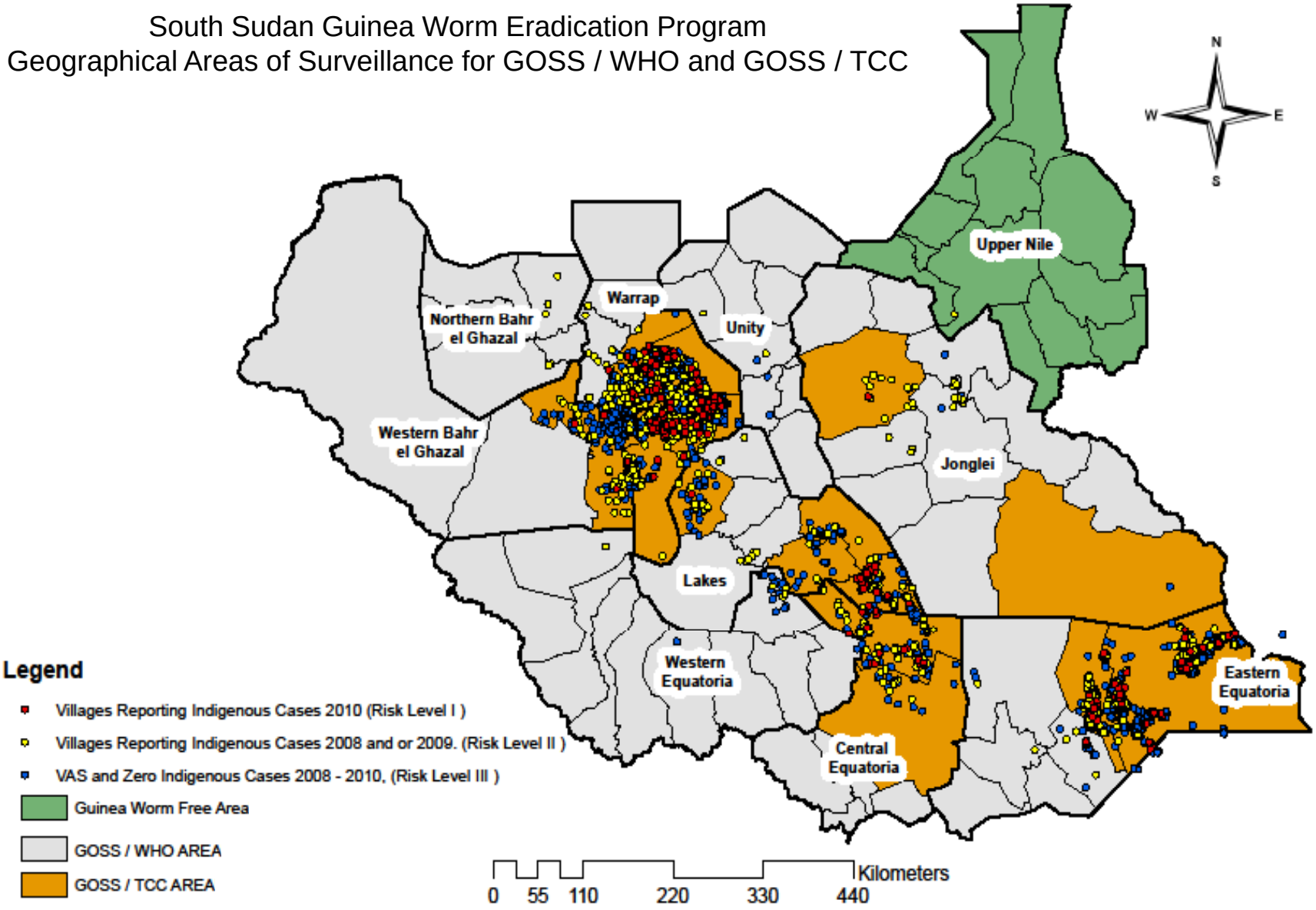


Table 3

Number of Cases Contained and Number Reported by Month during 2011* (Countries arranged in descending order of cases in 2010)

COUNTRIES REPORTING CASES	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													%
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.
SUDAN	5 / 6	50 / 60	102 / 137	137 / 174	187 / 249	130 / 174	69 / 102	33 / 42	/	/	/	/	**713 / 944**	76
MALI	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 3	1 / 3	2 / 3	/	/	/	/	**4 / 9**	44
ETHIOPIA^	0 / 0	0 / 0	1 / 2	1 / 1	4 / 4	1 / 1	0 / 0	0 / 0	/	/	/	/	**7 / 8**	88
CHAD	0 / 0	1 / 1	0 / 0	0 / 1	0 / 0	0 / 0	1 / 2	0 / 3	/	/	/	/	**2 / 7**	29
GHANA	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	**0 / 0**	0
TOTAL*	5 / 6	51 / 61	103 / 139	138 / 176	191 / 253	132 / 178	71 / 107	35 / 48	0 / 0	0 / 0	0 / 0	0 / 0	**726 / 968**	75
% CONTAINED	83	84	74	78	75	74	66	73					75	
% CONT. OUTSIDE SUDAN	0	100	50	50	100	50	40	33					54	

* provisional

Shaded cells denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were reported and contained that month.

^ one case of GWD (not contained) was imported into Ethiopia from South Sudan during March.

Number of Cases Contained and Number Reported by Month during 2010 (Countries arranged in descending order of cases in 2009)

COUNTRIES REPORTING CASES	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													%
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.
SUDAN	5 / 6	21 / 35	78 / 113	119 / 160	144 / 190	173 / 241	273 / 361	226 / 290	118 / 159	71 / 95	31 / 41	5 / 7	**1264 / 1698**	74
GHANA	2 / 2	3 / 3	1 / 1	1 / 1	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	**8 / 8**	100
MALI	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	4 / 6	6 / 6	13 / 19	18 / 19	3 / 5	0 / 1	**45 / 57**	79
ETHIOPIA^	0 / 0	1 / 1	2 / 2	6 / 6	1 / 2	1 / 2	1 / 1	2 / 2	1 / 1	1 / 1	2 / 2	1 / 1	**19 / 21**	90
CHAD	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	0 / 1	0 / 3	0 / 3	0 / 1	0 / 1	0 / 0	0 / 0	**0 / 10**	0
NIGER^	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	2 / 2	0 / 1	0 / 0	**2 / 3**	67
TOTAL*	7 / 8	25 / 39	81 / 116	126 / 168	147 / 194	174 / 244	278 / 371	234 / 301	132 / 180	92 / 118	36 / 49	6 / 9	**1338 / 1797**	74
% CONTAINED	88	64	70	75	76	71	75	78	73	78	73	67	74	
% CONT. OUTSIDE SUDAN	100	100	100	88	75	33	50	73	67	91	63	50	75	

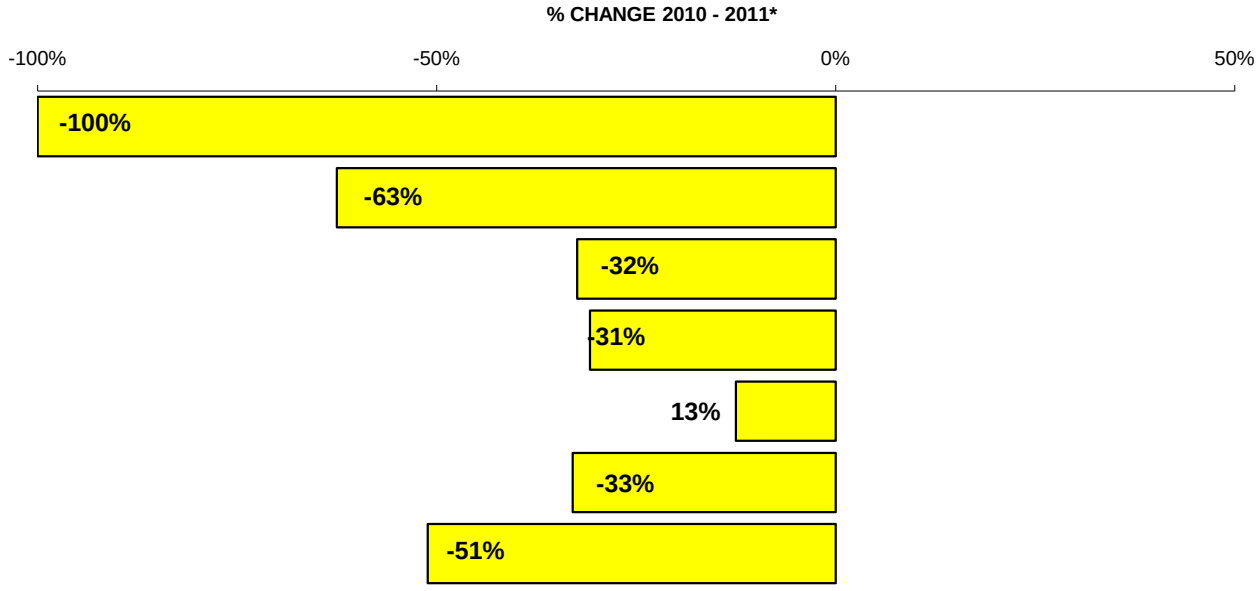
^ Ethiiopia reported and imported case from Southern Sudan in June, and Niger reported three imported cases from Mali (2 in October and 1 in November).The origin of cases in Chad is uncertain.

Shaded cells denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were reported and contained that month.

Figure 3

Number of Indigenous Cases Reported During the Specified Period in 2010 and 2011*, and Percent Change in Cases Reported

Country	Indigenous Cases Reported	
	2010	2011*
Ghana (8)	8	0
Ethiopia (8)	16	6
South Sudan (8)	1396	944
Mali (8)	13	9
Chad (8)	8	7
Total	1441	966
All countries, excluding Sudan	45	22

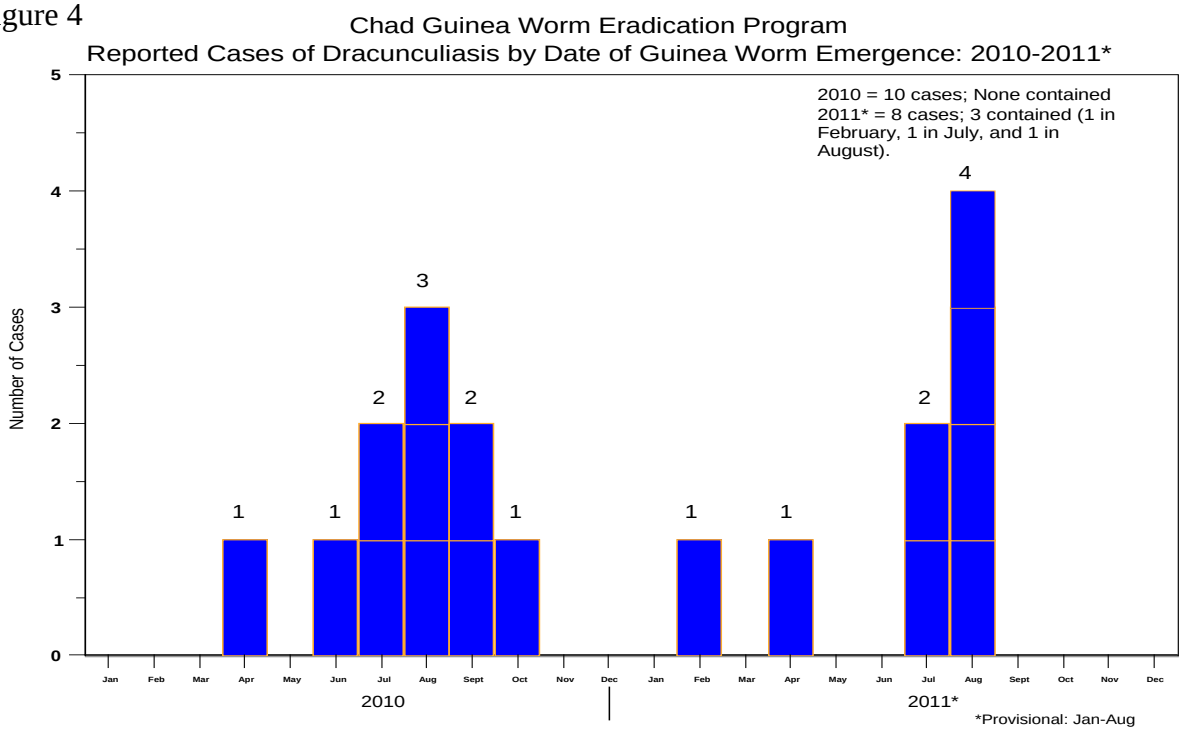


* Provisional. Excludes one case imported into Ethiopia from South Sudan in March.
(8) Indicates months for which reports were received, i.e., January - August.

CHAD: 8 CASES REPORTED SO FAR IN 2011

Chad has reported 8 cases of GWD in January-August 2011, of which 3 (38%) were contained, compared to 7 cases (none contained) discovered during the same period of 2010 (Figure 4). Three of this year's uncontained cases were detected the day after their worms emerged. This year's cases appear to have peaked in August, the same as last year. All of this year's cases so far have been reported from 7 new villages that did not report cases last year, and none of the villages that reported cases last year have reported a case in 2011 (Map 2). Five of eight cases this year are associated with Bousso District in Chari Baguirmi Region, and none have a known history of travel outside of Chad. Six of the patients are 16 years old or less and five are male (Table 4).

Figure 4



A memorandum of understanding was signed in August with the national radio and television network and four local FM radio stations to support national broadcasts to increase awareness of GWD and of the reward for reporting a case of the disease. The ministry of health appointed a new national program coordinator for the GWEP as of August 1, 2011: Mr. Ngarodjel DJIMADOUMADJI.

Table 5

Chad Guinea Worm Eradication Program: Status of Interventions: July 2011*

Number of reported cases (indigenous) in 2011*	Number of reported cases (imported) in 2011**	**% of all cases reported that were contained during 2010**	Villages/Localities								
			2010			Status of Interventions during July 2011					
			No. reporting one or more cases	No. reporting only imported cases***	No. reporting indigenous cases	At-Risk Villages 2010-2011^	% reporting monthly^	% with filters in all households^	% using Abate^	% with one or more sources of safe water^	% provided health education^
4	0	**50%**	8	0	8	36	97%	?	6	22%	94%

* Provisional: July report

** Imported from another country

*** imported from another country or from another in-country endemic

^ The base of the percentage is the number of villages/localities where the program applied interventions during 2010-2011

NA = not applicable

Table 4

Chad Guinea Worm Eradication Program
Reported Cases of Guinea Worm Disease: 2010 -2011*

Patient Number	CDC Specimen Accession Number	Village of Residence	Village Where Case Detected	District	Age	Gender	Date of Detection	Date of emergence of 1st Guinea worm (total worms emerged)	Date case confirmed	Date GW extracted	Contaminated Water	Contained	Travel History: Year, Village and District
1**	PDB10-10	Nanguigoto	Nanguigoto	Guelendeng	60	F	April 2010	04 2010 (2 GWs)	April 2010	1-Apr-2010	Yes	No	2008:Mitau Village, Guelendeng District; Bouram Village, Massenia District, and Moulkou Village, Moulkou District
2**	PDB10-9	Nanguigoto	Nanguigoto	Guelendeng	27	F	18-Jun-10	18 June 2010 (1 GW)	19-Jun-2010	23-Jun-2010	Yes	No	2008:Mitau Village, Guelendeng District
3		Matassi	Mouray	Massenya	27	F	20-Aug-10	24-Aug-2010 (1 GW)	12-Sept-2010	24-Aug-2010	Yes	No	2005 and 2009:Matassi Village, Massenya District
4**	PDB10-17	Madjafa and Matassi	Matassi	Dourbali	25	F	24-Aug-10 (2 worms)	10-Aug-10	25-Aug-10	16-Sep-2010	Yes	No	2009:Raihoutou Village, Guelendeng District
5	PDB10-16	Abba Limane since June 2010	Abba Limane	Guelendeng	15	M	24-Aug-10	10-Aug-10 (1 GW) Sep 2010 (1 GW)	30-Aug-2010 and Sept 2010	2-Sept-2010 and Sept 2010	Yes	No	2010:Abba Limane Village, Guelendeng District
6**	PDB10-15	Abourgoui	Abourgui	Massenya	60	M	2-Sep-10	July-2010 (5 GWs??)	13-Sept-10	13-Sept-10	Yes	No	1950s Abourgui Village, Dourbali District
7**	PDB10-19	Moulkou	Moulkou	Guelendeng	4	F	17-Sep-10	17-Sept-2010 (1 worm)	17-Sept-10	23-Sep-2010	Yes	No	2009:Cigague Village, Bousso District
8	PDB10-18	Kakoua	Kakoua	Sarh	9	M	1-Oct-10	1-Oct-2010 (2 worms)	1-Oct-10 and 3-Oct-10	10/11/2010 (both worms)	Yes	No	Kakoua
9		Sila	Sila	Melfi	10	F	31-Jul-10	15-Jul-10 (1 GW) 15-Sept-10 (1GW)	??	22-Sep-2010	Yes	No	??
10		Sila	Sila	Melfi	42	F	15-Sep-10	15-Sept-10 (2worms)	15-Sep-10	22-Spt-10	Yes	No	Maguau Village, Melfi District in 2009
11		Toulomeye-Bardai	Toulomeye-Bardai	Bera	11	F	17-Feb-11	18-Feb-11	18-Feb-11	18-Feb-11	No	Yes	Visited Missere and Gringa Villages in Lai and Bere Districts, Tandjile Region in Nov. 2010.
12		Wandal	Wandal	Bousso	12	F	14-Apr-11	5-Apr-11	14-Apr-11	29-Apr-11	No	No	No contamination reported. No travel history. Wandal village is a transit area for nomads.
13		Mailao	Mailao	Mandalia	12	M	17-Jul-11	17-Jul-11	17-Jul-11	22-Jul-11	No	Yes	Imported case from Mourai haousa/Naira, Bousso District (where patient resided until October 2010). Visited Hahourou, Bailli, Mourai haousa, Daradja, Boi, Kelengue villages: all in Bousso District.
14		Mossio	Mossio	Bousso	55	F	17-Jul-11 (2 GWs)	17-Jul-11	18-Jul-11	Pending	Yes	No	Travels every week to Bere, passing by Lobobo and Bortelli Villages. Patient claimed to have had a GW emerge from her breast in 2008, A scar on her left breast was confirmed by TA Denson.
15		Goudoumgudoum (Bailli)	Goudoumgudoum (Bailli)	Bousso	13	M	5-Aug-11	4-Aug-11	5-Aug-11	Pending	?	No	Village of origin is Nairu. Patient is herder. No travel history.
16		Goudoumgudoum (Bailli)	Goudoumgudoum (Bailli)	Bousso	16	M	7-Aug-11	6-Aug-11	7-Aug-11	Pending	?	No	No travel history.
17		Darkou	Darkou	Mandalia	22	M	10-Aug-11	10-Aug-11	14-Aug-11	Pending		No	Fisherman.During Oct-Nov 2010 patient was in Bliam oursi in Bongor District: Gr Kaka, Dourbali District. Jun-Aug: Bilo, Dourbali District.
18		Akoum	Akoum	Mandalia	6	M	29-Aug-11	29-Aug-11	29-Aug-11	Pending		Yes	No travel history.

* Provisional

** Worm specimens obtained from these patients were confirmed to be *Dracunculus medinensis* by the Centers for Disease Control and Prevention in Atlanta.

Patients 1 and 4 dates (underlined) are puzzling.

PDB10-15, 17, 19 "preserved" in water

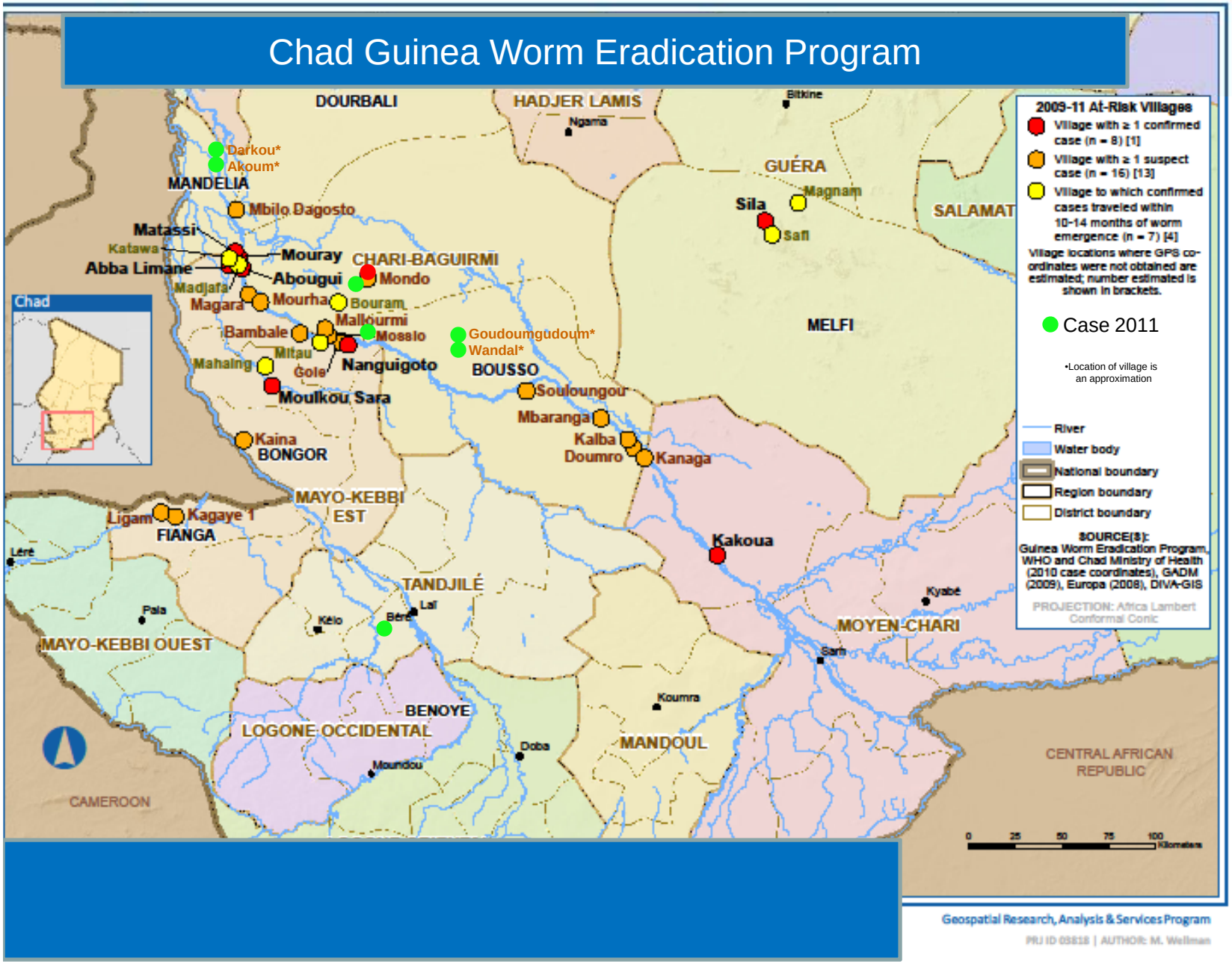
PDB10-16 no specimen in container. However there is an photograph of this patient with a GW emerging from his ankle.

PDB10-18 fixed in formalin

Case # 1 = Aunt of case # 2

Cases # 4 , 5 are siblings.

Map 2


Chad Guinea Worm Eradication Program
DOURBALI
HADJER LAMIS
Ngama
Bitkine
GUÉRA
Magnam
Sila
Safi
SALAMAT
MELFI
Darkou*
Akoum*
MANDELIA
Mbilo Dagosto
Matassi
Katawa
Abba Limane
Mouray
Abougui
CHARI-BAGUIRMI
Mondo
Madjafa
Magara
Mourha
Bouram
Malkourmi
Bambale
Mossio
Goudoumgudoum*
Wandal*
Mitau
Mahaing
Gole
Nanguigoto
BOUSSO
Souloungou
Moulkou Sara
Mbaranga
Kalba
Doumro
Kanaga
Kaina
BONGOR
Chad
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TANDJILÉ
Laï
Pala
Kélo
Béré
Kyabé
MOYEN-CHARI
MAYO-KEBBI OUEST
Sarh
Koumra
BENOYE
LOGONE OCCIDENTAL
Doba
MANDOUL
Moundou
CAMEROON
CENTRAL AFRICAN REPUBLIC
0 25 50 75 100 Kilometers
2009-11 At-Risk Villages
Village with ≥ 1 confirmed case (n = 8) [1]
Village with ≥ 1 suspect case (n = 16) [13]
Village to which confirmed cases traveled within 10-14 months of worm emergence (n = 7) [4]
Village locations where GPS co-ordinates were not obtained are estimated; number estimated is shown in brackets.
Case 2011
•Location of village is an approximation
River
Water body
National boundary
Region boundary
District boundary
SOURCE(S):
Guinea Worm Eradication Program, WHO and Chad Ministry of Health (2010 case coordinates), GADM (2009), Europa (2008), DIVA-GIS
PROJECTION: Africa Lambert Conformal Conic
Geospatial Research, Analysis & Services Program
PRJ ID 03818 | AUTHOR: M. Wellman

ETHIOPIA REPORTS ZERO CASES IN JULY & AUGUST

The Ethiopian Dracunculiasis Eradication Program (EDEP) reported zero cases of Guinea worm disease in July-August 2011, compared to three cases (all contained) that were reported in July-August 2010. In January-August 2011 Ethiopia has reported 6 indigenous cases plus 2 cases imported from South Sudan, of which 7 cases (88%) were contained. This is a reduction of 63% from the 16 indigenous cases that were reported during the same period of 2010. All 67 villages in Gog District, where transmission of all known indigenous cases has occurred for the past few years, are under active surveillance and 100% of them reported monthly. The status of reporting and knowledge of the cash reward for reporting in Guinea worm-free areas is unknown. The Carter Center's Resident Country Representative, Dr. Zerihun Tadesse made his second supervisory visit to Gog District on August 3-7, following his earlier visit on July 10-13. During his latest supervision he facilitated the meeting of Guinea worm officers, met with regional public health emergency officers, and visited the endemic village of Utuyu.

MALI: 9 CASES, 44% CONTAINED, 31% REDUCTION SO FAR

Mali's GWEP has reported 9 cases so far this year (Table 5), which is a reduction of 31% from the 13 cases that Mali reported in January-August 2010. More disappointing, however, is that only 4 (44%) of this year's cases were contained, and the program has been unable to trace the sources of too many cases, including in Segou Region, which has reported cases of undetermined origin for several consecutive years now. The first three cases this year were reported from Kidal Region in June. Only one of the 3 cases was contained, although according to the program, all surface water sources were dry and no transmission to others was possible. Two other cases reported from Kidal Region, one each in July and August, both contained, were from the same family in the same camp (Alkite) in Kidal as the 3 cases reported in June. One case reported from Naguaye locality in Gourma Rharous cercle of Timbuktu Region in July was contained. Two uncontained cases were reported from Fangasso, a town with safe drinking water in Tominian cercle of Segou Region in July and another uncontained cases was reported from Toguere locality in Mopti cercle of Mopti Region in August. The latter locality has three borehole wells, as well as three ponds that were treated promptly with ABATE® Larvicide. The area of insecurity in Mali because of Al Qaida associated groups now extends to all areas with endemic GWD in Mali. Mali's peak transmission season is July-November. (Table 5).

GHANA CELEBRATES THE END OF TRANSMISSION

The Vice-President of Ghana, the Honorable John Dramani Mahama; the Minister of the Northern Region, Honorable Moses B. Mabengba; and Minister of Health Dr. Joseph Y. Chireh were the leading dignitaries at a ceremony held in Tamale on July 28, 2011 to celebrate the end of indigenous transmission of Guinea worm disease in Ghana. The ceremony took place 14 months after Ghana's last case was reported in May 2010 (Figure 5), and after 23 years of struggle that began with a uniquely auspicious and much-envied personal inauguration by former head of state Jerry Rawlings' unprecedented visit to 21 endemic villages in the Northern Region in June 1988. The principal dignitaries and others also participated in visits to the last endemic communities of Diare, Savelugu and Fulfulso Junction on July 27. A highlight of the two day celebration was the introduction of Madam Azara Zakaria, who was the last case of Guinea

Table 5

Mali Guinea Worm Eradication Program

Line-Listing of Cases of Guinea Worm Disease and Interventions Against Transmission in Countries Reporting Few Cases: 2011

Case #	Date					# of worms that emerged during this period	Name of		Age	Sex	Ethnic group	Occupation	Probable Origin of infection (name of this village, other village, district or country)
	Worm emerged	Village volunteer began containment	Case & containment confirmed by supervisor	Case declared contained	ABATE used this year (as a result of this case)		Village	District					
1.1*	1-Jun	no	Yes 6/10/2011	**no**	no	1	Alkite	Kidal	40	M	TB	Herder	Agabo
1.2*	11-Jun	yes	Yes	no	NO	1	Alkite				TB		Agabo
2.1	6/2/2011	no	10 juin	**no**	no	1	Alkite	Kidal	60	F	TB	Housewife	Agabo
2.2*	6/2/2011	yes	11-Jun	no	no	1	Alkite	Kidal					
3.1	10-Jun	yes	13-Jun	**Yes**	no	1	Alkite	Kidal	18	F	TB	Herder	Agabo
3.2	16-Jun	yes	16-Jun	Yes	no	1	Alkite	Kidal					
3.3	2-Aug	yes	2-Aug	Yes	no	1	Alkite	Kidal					
4.1	4-Jul	no	4-Jul	**no**	yes	1	Fangasso	Touminian	55	M	Bobo	Blacksmith	Fangasso
4.2	5-Jul	no	23-Jul	no	yes	1	Fangasso	Touminian			Bobo		Fangasso
4.3	23-Jul	no	24-Jul	no	yes	1	Fangasso	Touminian					Fangasso
4.4	4-Aug	no	4-Aug	no	yes	1	Fangasso	Touminian					Fangasso
5.1	13-Jul	15-Jul	15-Jul	**No**	yes	1	Fangasso	Touminian	30	F	Bobo	Housewife	Fangasso
5.2	27-Aug	27-Aug	27-Aug	no	yes	1	Fangasso	Touminian					
6.1	29-Jul	29-Jul	29-Jul	**yes**	yes	1	Alkite	Kidal	17	F	TB	Housewife	Agabo
7.1	3-Aug	3-Aug	3-Aug	**yes**	yes	1	Alkite	Kidal	49	M	TB	Herder	Agabo
8.1	17-Aug	17-Aug	17-Aug	**yes**	yes	1	Nanguaye	G.Rharous	32	F	TN	housewife	Nanguaye
9.1	19-Aug	26-Aug	26-Aug	**no**	yes	1	Nantaga	Mopti	5	M	Songhoi	child	Natanga

1.1* = Serial case # 1 and first Guinea worm that emerged during calendar year.

1.2* = Serial case # 1 and second Guinea worm that emerged during calendar year.

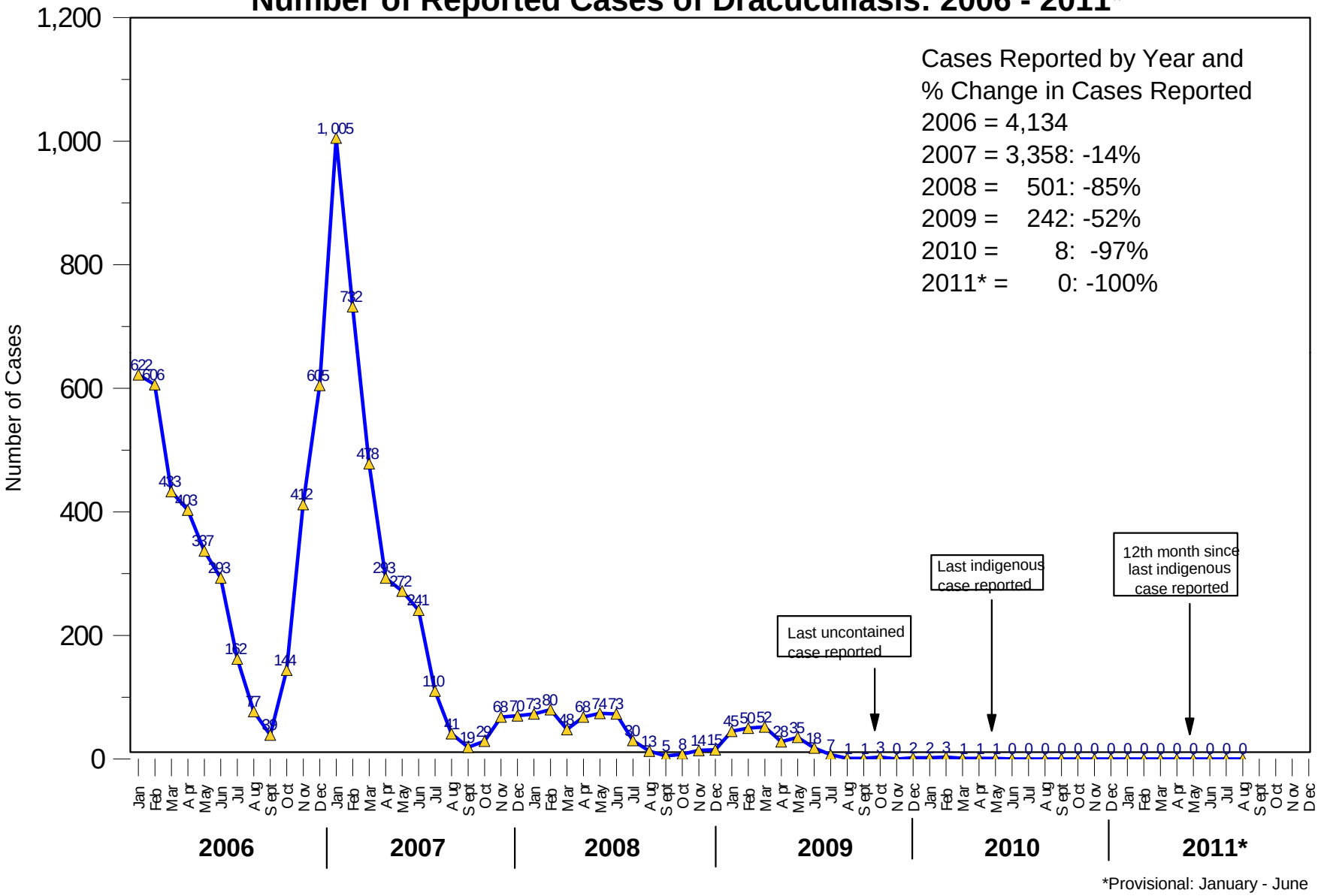
2.1 = Serial case # 2 and first Guinea worm that emerged from patient during calendar year.

Insert additional rows (using EXCEL) to record additional Guinea worms that might emerge from persons previously declared "a case of GWD" as shown above. For example, row with case # 1.2 would below case # 1.1 would indicate a second Guinea worm emerged from patient (case # 1.1) and other data associated with the containment of the second worm. Repeat as 1.3 should a third Guinea worm emerge from patient (case # 1.1), and similarly for other cases, if applicable.

Figure 5

Ghana Guinea Worm Eradication Program

Number of Reported Cases of Dracuculiasis: 2006 - 2011*



*Provisional: January - June

worm disease in Ghana, to great applause during the colorful durbar at Diare. She told the crowd that she was now "free".

At the Opening Ceremony, national program manager Dr. Andrew Seidu-Korkor summarized the work of Ghana's Guinea Worm Eradication Program, followed by remarks by Carter Center Vice-President Dr. Donald Hopkins, UNICEF Resident Representative Dr. Iyabode Olusanmi, WHO Technical Officer Dr. Sally-Ann Ohene, Japan International Cooperation Agency Project Coordinator Ms. Miyuki Tan, and finally by the three principal representatives of the Government of Ghana. All concerned stressed that this milestone is only the end of the first stage, and must be followed by vigilance and rigorous surveillance for a total of three years before WHO can certify that Ghana has eradicated Guinea worm disease. The minister of health announced that henceforth the cash reward for reporting a proven case of Guinea worm disease in Ghana would be doubled to 200 Ghana cedis (~US$130). Ghana has also established a telephone hotline for reporting any suspected case of the disease. WHO will conduct an external evaluation of Ghana's Guinea Worm Eradication Program on November 3-16, 2011.

Ghana's international music star Rocky Dawuni won the "Best African Artist" award on May 28, 2011 at the 30th International Reggae and World Music Awards held in Port of Spain, Trinidad. Rocky and his friend, the popular Ghanaian musician Sherriff Ghale have given concerts over the years in support of the Ghana Guinea Worm Eradication Program. In March this year, they both gave an impromptu performance during a visit to Diare as well as an evening concert in Tamale and went on radio stations to encourage people to keep looking for Guinea worm. CONGRATULATIONS, AND THANK YOU, ROCKY!!

LATE BREAKER

The Government of Rajasthan, India's Directorate of Medical & Health Services Integrated Disease Surveillance Project (IDSP) reported an alleged case of Guinea worm disease on August 28, 2011. The patient is a 45 year old man, resident of Phala-Kali magri Village, in Udaipur, Rajasthan, who presented with a blister on the left ankle, from where a worm was manually extracted. Although the origin of this infection is unknown, the patient is said to have been consuming safe water from a hand-pumped well. The worm specimen was sent to the Department of Nematology, Rajasthan College of Agriculture for examination on August 29th. The specimen was reportedly confirmed to be "Narubala" the local language Hindi word for Guinea worm, but the method(s) used for the reported confirmation are unknown. India's last indigenous case was reported in 1996, and the country was certified free of GWD by WHO in 2000.

Editorial note: Although, the patient's water source is known for the present, it is not known (or not reported) for 12 months ago when he would have been infected. No information was provided about this man's travel history during the previous 12 months. If the worm specimen is available, we suggest it be sent to the Dr. Mark Eberhard, Director, Parasitology Division, Center for Global Health, Centers for Disease Control and Prevention for confirmation of morphological features, and Dracunculus medinensis DNA. We also hope the worm specimen was preserved in alcohol and not in formalin. The former will not denature the specimen's DNA, the latter will.

MEETINGS

The 16th Program Review of National Guinea Worm Eradication Programs will be held at The Carter Center on March 1-3, 2012.

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

WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, Center for Global Health (proposed), Centers for Disease Control and Prevention, Mailstop F-22, 4770 Buford Highway NE, Atlanta, GA 30341-3724, USA, email: gwwrapup@cdc.gov, fax: 770-488-7761. The GW Wrap-Up web location is http://www.cdc.gov/ncidod/dpd/parasites/dracunculiasis/moreinfo_dracunculiasis.htm

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

World Health Organization