DEPARTMENT OF HEALTH & HUMAN SERVICES

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

Memorandum

Date: January 17, 2013

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

Subject: GUINEA WORM WRAP-UP #216

To: Addressees

A WORLD WITHOUT GUINEA WORM DISEASE: THE END IS IN SIGHT

While it is not yet the end of Guinea worm disease (GWD), the world took another step towards the interruption of transmission of the disease globally during 2012. Only 542 cases of GWD were reported and fewer than 100 endemic villages remained. Ninety-six percent (96%) of the 542 cases were reported from South Sudan, and 21 cases from the other 3 remaining endemic countries; Chad reported 10, Mali 7, and Ethiopia 4 cases (Table 3, Figures 2 and 4). This is a reduction of over 99.99% from the 3.5 million cases estimated in 1986, when The Carter Center began leading the eradication campaign. Despite surveillance and implementation challenges, progress towards eradication of GWD in South Sudan, as reported below, continued to accelerate thanks to the hard work and tenacity of its Guinea worm warriors and leadership of its director, Mr. Makoy Samuel Yibi. Since 2008, when South Sudan Guinea Worm Eradication Program reported 3,618 cases and 947 villages with endemic transmission in 28 counties, cases have been reduced to 521, endemic villages to 76, and endemic counties to 8, as of the end of 2012 (Figure 1).

Figure 1

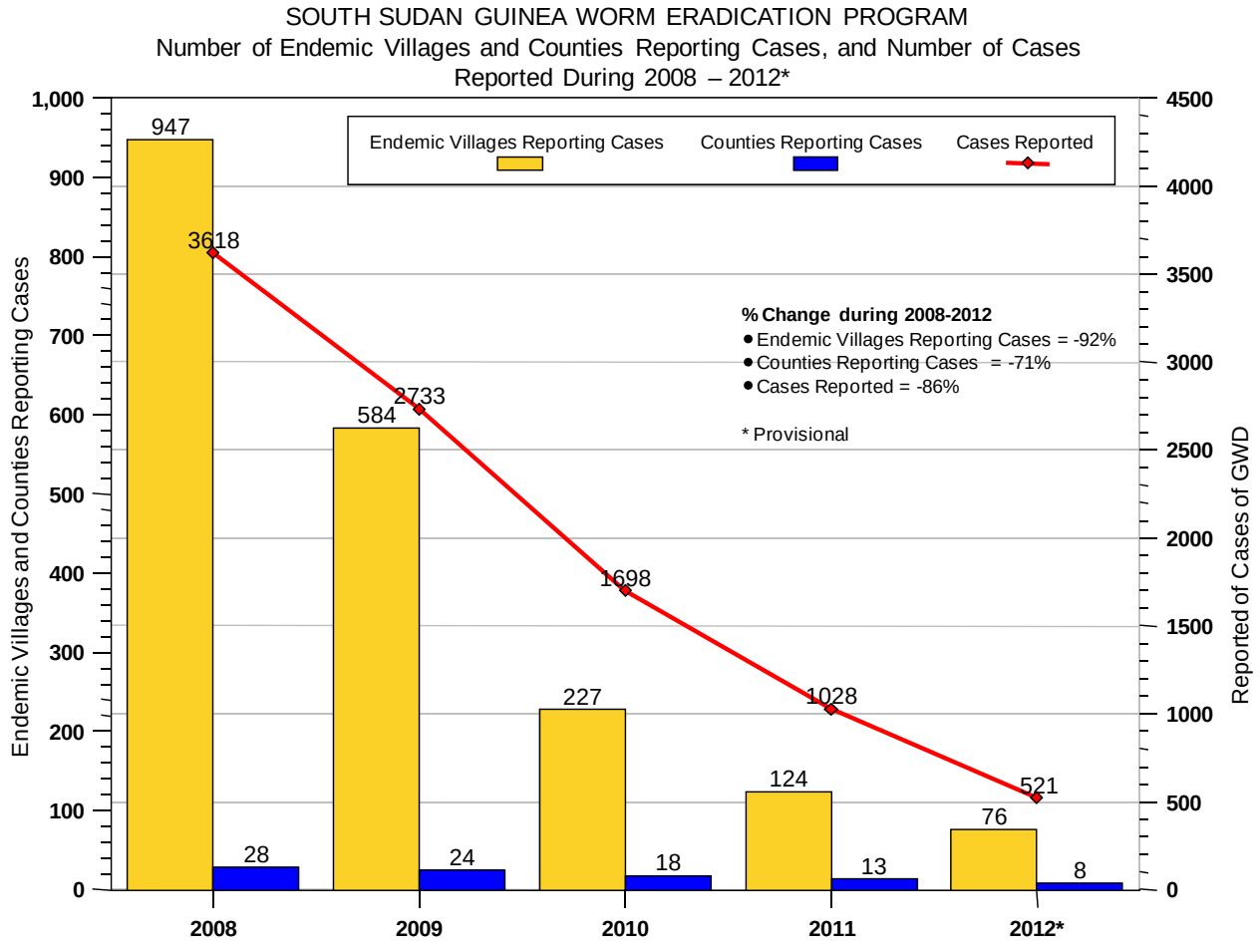


Table 2

SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM

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

State	County	Cases Contained / Cases Reported														% Contained
		Dec-11	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	267 / 420	64%
	Kapoeta North	0 / 0	1 / 1	1 / 1	1 / 2	1 / 3	4 / 8	3 / 4	4 / 5	2 / 4	0 / 0	0 / 0	0 / 0	0 / 0	17 / 28	61%
	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	71%
	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%
SOUTH SUDAN TOTAL		**1 / 1**	**2 / 2**	**3 / 4**	**37 / 55**	**50 / 80**	**79 / 125**	**84 / 123**	**45 / 69**	**14 / 28**	**10 / 16**	**9 / 14**	**2 / 4**	**1 / 1**	**337 / 522**	**65%**

* Provisional

** Case in July was imported from Tonj South County

1-4 cases of GWD

5-9 cases of GWD

10 + cases of GWD

Table 3

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

(Countries arranged in descending order of cases in 2011)

COUNTRIES REPORTING CASES	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	
% CONT. OUTSIDE S. SUDAN	0	0	0	0	100	33	0	60	80	0	75	0	48	

*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 cases exported from Mali to Niger during September (all 3 contained) are in included in Mali's reported cases.

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													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SOUTH SUDAN	5 / 6	46 / 60	99 / 138	135 / 173	180 / 244	129 / 173	70 / 102	37 / 48	28 / 36	19 / 28	14 / 19	1 / 1	763 / 1028	74
MALI	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 3	1 / 3	2 / 3	0 / 1	1 / 1	0 / 1	0 / 0	5 / 12	42
ETHIOPIA^	0 / 0	0 / 0	1 / 2	1 / 1	4 / 4	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	7 / 8	88
CHAD	0 / 0	1 / 1	0 / 0	0 / 1	0 / 0	0 / 0	1 / 2	1 / 4	0 / 0	0 / 0	0 / 0	1 / 2	4 / 10	40
GHANA	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
TOTAL*	5 / 6	47 / 61	100 / 140	136 / 175	184 / 248	131 / 177	72 / 107	40 / 55	28 / 37	20 / 29	14 / 20	2 / 3	779 / 1058	74
% CONTAINED	83	77	71	78	74	74	67	73	76	69	70	67	74	
% CONT. OUTSIDE S. SUDAN	0	100	50	50	100	50	40	43	0	100	0	50	53	

* provisional

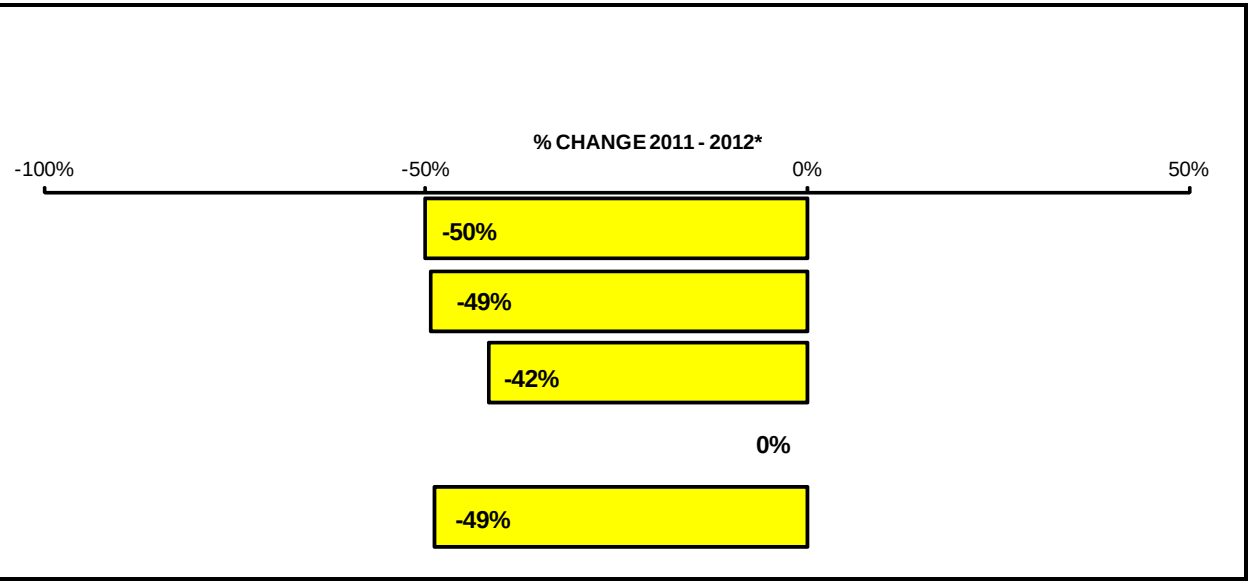
Cells shaded in black denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were reported and contained that month.
Cells shaded in yellow denote months when transmission of GWD from one or more cases was not contained.

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

Figure 2

Number of Indigenous Cases Reported During the Specified Period in 2011 and 2012*, and Percent Change in Cases Reported

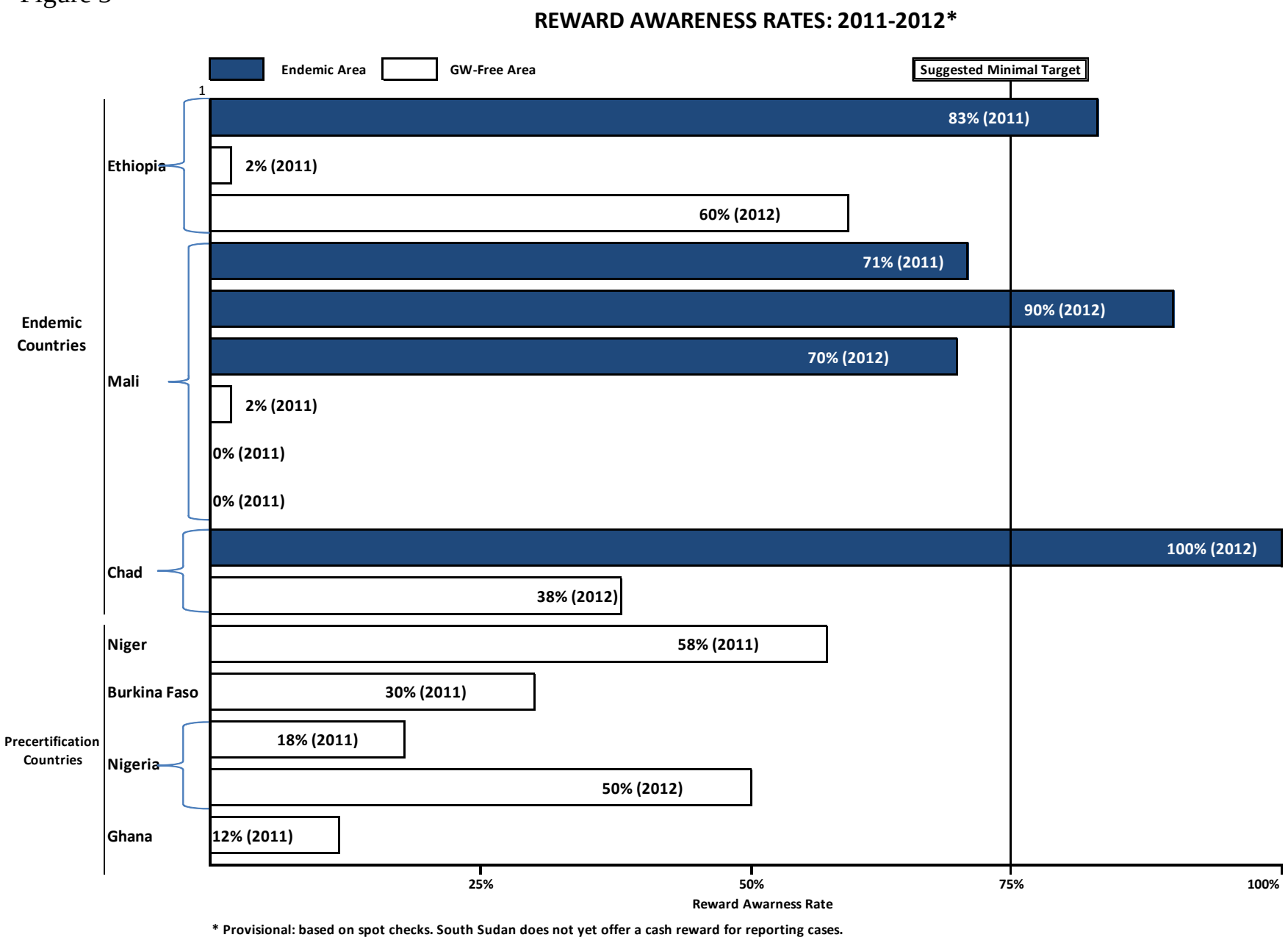
Country	Indigenous Cases Reported	
	2011	2012*
Ethiopia (12)	8	4
South Sudan (12)	1028	521
Mali(12)^	12	7
Chad (12)	10	10
Total	1058	542



* Provisional.Numbers in parentheses indicate months for which reports have been received, i.e., (12) = January -December. Excludes cases exported

^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 cases exported from Mali to Niger during September 2012 (all 3 contained) are included in Mali's reported cases.

Figure 3


REWARD AWARENESS RATES: 2011-2012*
Endemic Area
GW-Free Area
Suggested Minimal Target
1
Endemic Countries
Ethiopia
83% (2011)
2% (2011)
60% (2012)
Mali
71% (2011)
90% (2012)
70% (2012)
2% (2011)
0% (2011)
0% (2011)
Chad
100% (2012)
38% (2012)
Precertification Countries
Niger
58% (2011)
Burkina Faso
30% (2011)
Nigeria
18% (2011)
50% (2012)
Ghana
12% (2011)
25%
50%
75%
100%
Reward Awarness Rate
* Provisional: based on spot checks. South Sudan does not yet offer a cash reward for reporting cases.

IN 2013:

Detect Every Case!	**Contain Every Worm!**	**Trace Every Source!**
(Let none escape!)	(None shall transmit!)	(Where did this come from?)

SOUTH SUDAN HOLDS ANNUAL REVIEW MEETING

The South Sudan Guinea Worm Eradication Program (SSGWEP) held its Seventh Annual Program Review Meeting in Juba on December 11-12. The Deputy Minister of Health Dr. Yatta Lori Lugor opened the meeting by saying "There is only one option: STOP GUINEA WORM DISEASE IN SOUTH SUDAN IN 2013". National Program Director Mr. Makoy Samuel Yibi summarized the recent achievements and current status of the program. South Sudan recorded a 49% reduction in cases of GWD between 2011 and 2012, which is more than the 39% reduction in cases between 2010 and 2011, the 38% reduction between 2009 and 2010, and the 24% reduction between 2008 and 2009 (Table 1). Eastern Equatoria State accounted for 87% (452) of all cases. Eastern Equatoria's Kapoeta East County (KEC), which had the most cases (420) of all counties in 2012, also had the lowest reduction in cases: 29% between 2011 and 2012. The number of cases reported and contained by month (December 2011-December 2012) and by state, and county are presented in Table 2. Sixty-five percent (65%) of all cases were reportedly contained, including 254 (49%) that were contained at a case containment center. Of the 185 uncontained cases, 68 were detected after 24 hours and 142 entered a water source. Fifty-two percent (52%) of cases in KEC, where the peak transmission season is March-July, were internally imported. The program in KEC now has 4 senior supervisors and 13 supervisors. Of 24 cases in adjacent Pibor County of Jonglei State, 17 (74%) were male goat herders or cattle keepers; 78% belonged to the Jie ethnic group (the nucleus of which is resident in KEC), 22% were Toposa. In Lakes State, 43% of endemic villages have at least one source of safe drinking water (well above the national average), and 5 of the 7 cases reported (71%) were detected in a cattle camp.

A total of 159 villages, and 14 cattle camps (total 173), were officially endemic in South Sudan in 2012 (reported cases in 2011 and/or during 2012) of which 92 reported one or more cases in 2012, including 73 that reported indigenous cases. One hundred percent (100%) of 159 endemic villages received one or more applications of ABATE® Larvicide, 99% received health education monthly, 100% had cloth filters in all households, and 33% had at least one safe source of drinking water. Of 84 boreholes targeted in endemic villages of Eastern Equatoria and Warrap States in 2012, 43 (51%) were drilled, and 42 were functioning, including 12 drilled / 11 functioning of 33 targeted in Kapoeta East County. The proportion of endemic villages with at least one source of safe drinking water in KEC was increased to 16% in 2012, (from 6% in 2011), including safe water provided to the village with the highest number of cases in 2012 (29), Achkar, in Kauto Payam.

Table 1

SOUTH SUDAN: DECREASING CASES, INCREASING RATE OF REDUCTION

Year	2008	2009	2010	2011	2012
Case Containment Rate	49%	78%	74%	74%	65%
Number of Cases	3,618	2,733	1,698	1,028	521
Percent Reduction in Cases		-24%	-38%	-39%	-49%

Participants at the meeting included Director-General Peter Mahal of the Ministry of Water Resources and Irrigation, UNICEF Country Representative Mrs. Yasmine al Haq, Head of WHO/Juba Office Dr. Abdi Aden Mohamed, Dr Ernesto Ruiz-Tiben, Mr. Craig Withers and Mr. Adam Weiss of Carter Center headquarters, Dr. Dieudonne Sankara of WHO headquarters and several County Commissioners and State Directors General of Health.

WHAT IS YOUR COUNTRY'S REWARD AWARENESS RATE?

Cash rewards for reporting information leading to confirmation of cases of GWD are now in place in all formerly endemic countries that are in the pre-certification stage, and in three (Chad, Ethiopia, Mali) of the remaining endemic countries (South Sudan does not yet offer a cash reward). Offering and publicizing cash rewards for reporting a case of GWD are an effective way to help ensure that surveillance is sensitive enough to detect any cases quickly, provided the rewards are widely known. This is especially important as countries transition from active to passive surveillance. At this end stage of the global campaign, the need for greater awareness of the cash rewards for reporting a case of GWD is very important, because the potential consequences of even one missed case are high, as happened in Ethiopia in 2007, Mali in 2008, and Chad in 2009. If people are not aware of the rewards, the rewards are useless and the danger of a missed case increases. Spot checks conducted in several countries in 2011 and 2012 (Figure 3) suggest urgent efforts are needed to raise awareness levels soon, especially in Guinea worm-free areas:

- Ethiopia September 2011: 83% (83/100) awareness in an endemic district of Gambella Region; 2% (2/100) awareness in a Guinea worm-free district of Amhara Region. October 2012: 60% (9/15) awareness in a Guinea worm-free district of Gambella Region. Dr. Joel Breman of the International Commission for Certification of Dracunculiasis Eradication (ICCDE) visited Ethiopia in May 2012 and reported that there was inadequate knowledge about the reward even among health workers.

- Mali December 2011: 71% (71/100) awareness in an endemic district of Gao Region; 2% (2/100) awareness in a Guinea worm-free district of Koulikoro Region. September 2012: 90% (9/10) and 70% (7/10) awareness during spot-checks in two endemic villages of Segou Region; 0% (0/10), 0% (0/10) awareness during spot-checks in two Guinea worm-free villages of Segou Region. These village spot-checks were part of an overall assessment performed by WHO/Ministry of Health joint missions to help elaborate a communication plan for more intensive awareness about GWD eradication and about the rewards for reporting about cases of the disease.

- Chad October 2012: 100% awareness among households (2-4 per village) and village volunteers (2-4 per village) in 10 at-risk villages of Mayo Kebbi West and Chari Baguirmi Regions. 38% awareness of the reward system in the districts of Mandalia, Guelendeng, Fianga, Kelo and Bere: a result of a WHO led external assessment conducted during 16-31 July 2012 by an independent communication expert assessing the impact of the local radio message broadcasting campaign to help elaborate a communication plan for more intensive awareness about GWD eradication and about the rewards for reporting about cases of the disease. .

- At the December 2011 ICCDE meeting, WHO reported these rates of awareness among countries in the pre-certification stage: Niger 58%, Burkina Faso 30%, Nigeria 18%, Ghana 12%. At its national Certification Committee on Guinea Worm Disease Eradication meeting in November 2012, Nigeria reported a current awareness rate of 50%, against its target of 80% awareness.

Spot checks of the percentage of people who know of the reward should be conducted regularly and systematically, and targets set for suggested minimal acceptable awareness levels of at least 75%. The level of reward awareness indicates how effective (or not) various inputs such as publicity, training, and funding, have been and can show where greater efforts are needed. The annual Program Managers Meeting for endemic countries that was held at The Carter Center in Atlanta in March 2012 recommended that Chad, Ethiopia and Mali each "should continue monitoring public knowledge about rewards periodically throughout 2012-2013 in areas with Guinea worm disease and areas free of Guinea worm disease." The regional review for managers in pre-certification and endemic countries that was held in Addis Ababa, Ethiopia later that same month recommended that WHO develop standard methodology for evaluating the level of reward awareness.

MALI'S GWEP STRUGGLES DURING 2012

The advent of political instability and insecurity in Mali since March 2012 precluded the Malian GWEP from normal operations in three of the five known regions with endemic transmission of GWD. Four (57%) of seven cases attributable to Mali during 2012 were contained: 4 indigenous cases from 3 localities in Segou (1 case, contained), Mopti (1 case, uncontained) and Kidal Regions (2 cases, all uncontained), and three cases (all contained) exported to Niger from Ansongo District, Gao Region in September (Table 5 and Figure 4). The locality of infection of the 3 exported cases is unknown as are the sources of the Segou and Mopti cases. All uncontained cases were during July.

Eighty-eight percent (88%) of 121 villages under active surveillance reported monthly (none reported cases during 2012). However 7 of 9 (78%) of 2011-2012 endemic villages reported monthly; 78% had cloth filters in all households; 78% received health education; 4 (57%) were protected with ABATE® Larvicide, and 5 (57%) had one or more sources of safe drinking water.

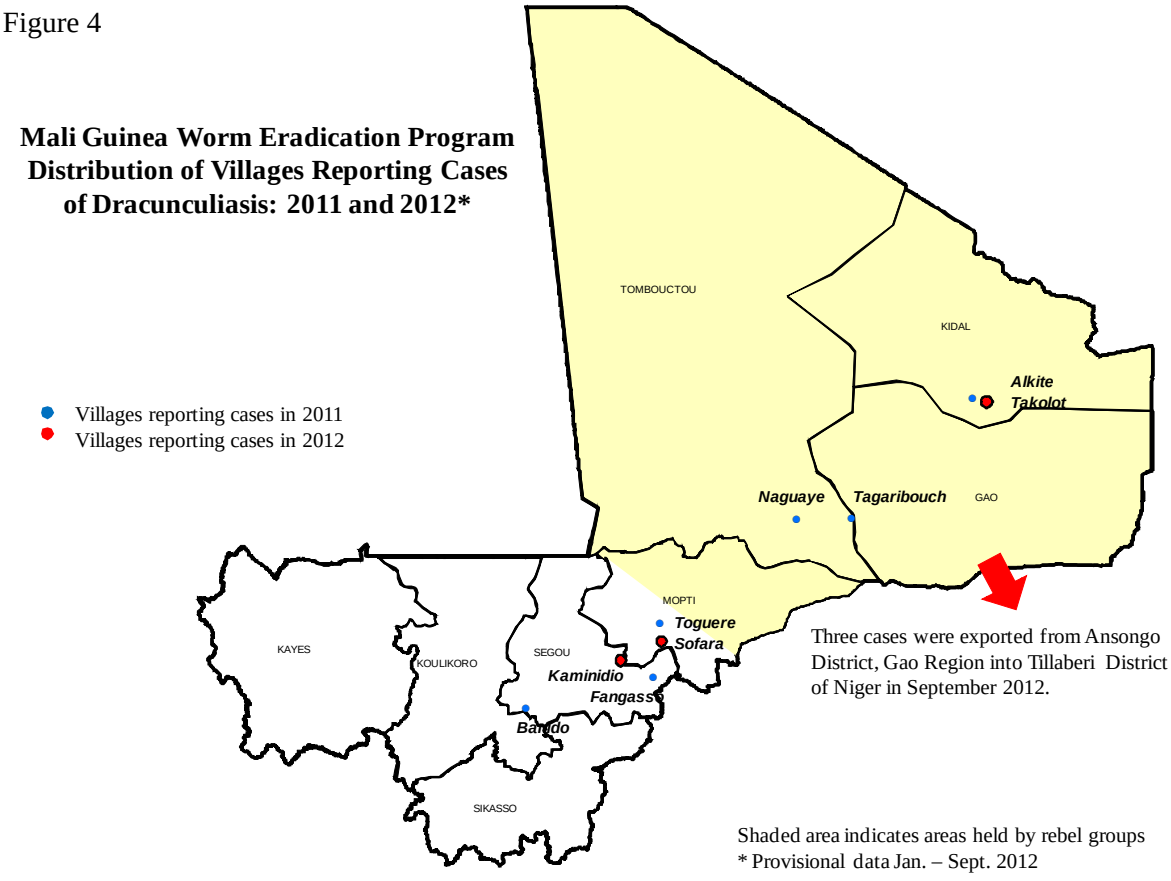
Table 4.

MALI GUINEA WORM ERADICATION PROGRAM
List of Guinea Worm Cases and Interventions Against Transmission During 2012*

Case #. Worm #	Age	Sex	Ethnic Group	Occupation	Village of Detection	District	Region	Worm Began to Emerge	Case Confirmed by a Supervisor	Dectected <24 hrs? (Yes/No)	Water Contaminated? (Yes/No)	ABATE Applied	Containment		Imported Case? (Yes/No)	Probable Origin of Infection (name of village, zone, or country)
													Case (Yes/No/ Pending)	Worm (Yes/No/ Pending)		
1.1	12	M	Bambara	Herder	Kaminidio/Koe	Mancina	Segou	12-Jun-12	12-Jun-12	Yes	Yes	Yes	Yes	Yes	No	Unknown
1.2								9-Jul-12	9-Jul-12		No			Yes		
2.1	44	M	Peuhl	Herder	Sofara	Djenne	Mopti	3-Jul-12	4-Jul-12		Yes	Yes	No	No	No	Unknown
3.1	40	M	Tamashek	Herder	Takalot	Kidal	Kidal	10-Jul-12	NA		Unknown		No	No	No	Agahbo, Kidal
4.1	20	M	Tamashek	Herder	Takalot	Kidal	Kidal	10-Jul-12	NA		Unknown		No	No	No	Agahbo, Kidal

*Provisonal: Three residents of Ansongo District in 2011 were detected as cases of GWD (all contained) in Niger during September 2012.

Figure 4



CHAD REPORTS 10 AND ETHIOPIA 4 CASES OF GUINEA WORM DISEASE DURING 2012

The line listing of the 10 cases reported by **Chad** during 2012 is shown in Table 5. As indicated in *Guinea Worm Wrap Up 215*, only two of the cases in 2012 could be linked in time and place to cases in the same villages in 2011; the other 8 cases were detected in villages that did not report cases in 2011 or 2010. Chad has now reported 30 cases in 3 years (2010 – 2012, ten cases each year), in 25 villages. Sixteen (16) of those cases were males, 20 victims were 15 years or older. Twenty-two patients had 1 worm each and 8 had 2 worms each.

The rumor about an alleged case of GWD in a patient who is resident in Yagoua, Cameroon surfaced in Bongor Town, in September 2012, and led a Chadian GWEP staff team to visit the patient and his family in Yagoua. The alleged clinical presentation (an abscess from which 4 pieces of a large worm were obtained) a few days before the Chadian team's visit, suggested the possibility of this person having had GWD. A report of the situation was communicated to WHO and subsequently staff of the ministry of health of Cameroon were dispatched to investigate the patient. However, the team was unable to locate the patient due to flooding of the area and displacement of residents. Surveillance officers from Bongor, Chad and the neighboring districts in Cameroon will meet during 26-28 February 2013 to improve communications and collaboration between country teams regarding surveillance of GWD.

Ethiopia reported a fourth case of Guinea worm disease for 2012 in December, a 55 year old male resident in Uma village, in Perpengo Kebele of Abobo Woreda (Figure 5). According to the investigating team the patient was not detected within 24 hours of the worm emergence, hence the standards for case containment were not met. Once reported, the patient was taken to a cases containment center in Gog Woreda. However, a pond which may have been contaminated by the patient was treated with ABATE®Larvicide within 10 days of emergence of the worm. A specimen of the emerging worm is being sent to CDC in Atlanta for confirmation. The patient, whose sight is impaired, was resident in Alelnyang village which is also in Abobo Woreda, in December 2011 (Table 6). However, Ethiopia's Dracunculiasis Eradication Program did not report cases of GWD from Alelnyang or elsewhere in Abobo Woreda during 2010 or 2011. The origin of this case is under investigation.

Figure 5

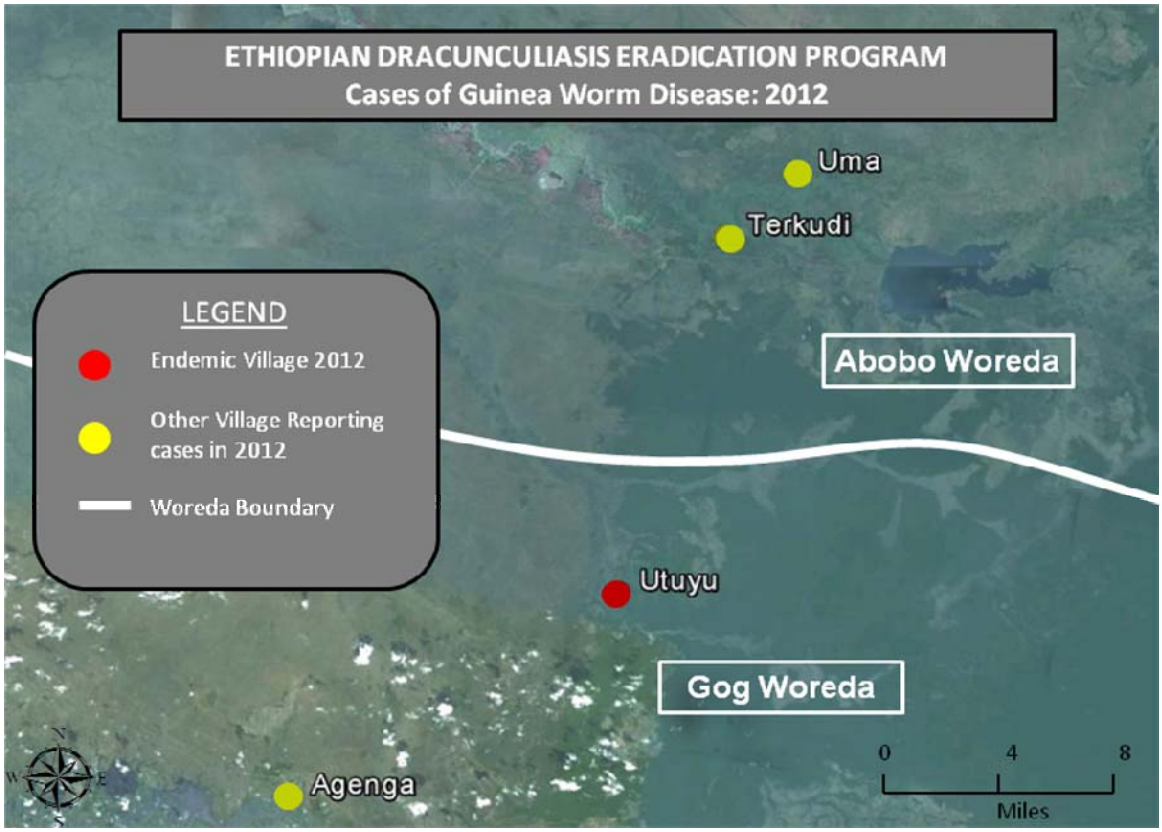


Table 5

CHAD GUINEA WORM ERADICATION PROGRAM

LINE LISTING OF CASES OF GUINEA WORM DISEASE DURING 2012

Case No.	Age	Sex	Ethnic Group	Occupation	Village of détection	Zone	Date						Case contained (Yes/ No)	Locally imported/ indigenous (Yes/No)
							Detection	Worm Emergence	Case confirmed	Hospitalized at health center	Guinea worm extracted	Released from health center		
1	20	F	Massa	Housewife	Mabaye	Gambarou (Mandalia District, Chari Baguirmi	28/6/2012	26/6/2012	28/6/2012	28/6/2012	6/7/2012	21/7/2012	**No**	indigenous
2	57	M	Boulala	Fisherman	Hilélé	Darasna (Aboudéia District, Salamat Region	2/7/2012	26/6/2012	2/7/2012	2/7/2012	4/7/2012	9/7/2012	**No**	**Imported (Habilé)**
3	9	M	Massa	Student	Mourgagué	Mogrom (Guelendeng District, Mayo	24/7/2012	23/7/2012	24/7/2012	24/7/2012	30/7/2012	13/8/2012	**No**	indigenous
4	34	M	Gabri	Farmer	Bouram Foulbé	Bouram (Massenya District, Chari Baguirmi Region)	1st GW 5/8/2012 2nd GW 8/8/2012	1st GW 5/8/2012 2nd GW 8/8/2012	1st GW 5/8/2012 2nd GW 8/8/2012	5/8/2012	1st GW 8/8/2012 GW cut	1/9/2012	**Yes**	**Imported (Mossio Massa)**
5	34	M	Massa	Farmer/ Fisherman	Mossio Massa	Bogomoro (Bousso District, Chari Baguirmi Region)	10/8/2012	10/8/2012	10/8/2012	11/8/2012	GW cut	24/8/2012	**Yes**	indigenous
6	68	F	Massa	Housewife	Dangabo	Bougouméne (Mandalia District, Chari Baguirmi	15/8/2012	14/8/2012	16/8/2012	16/8/2012	GW cut	wound infected: kept at health center;	**No**	indigenous
7	40	F	Goulaye	Farmer/ Fisherman	Kouno	Kouno (Bousso District, Chari Baguirmi Region)	28/8/2012	20/8/2012	28/8/12	28/8/2012	1/9/2012	8/9/2012	**No**	indigenous
8	28	M	Massa	Farmer/ Fisherman	Mossio Massa	Bogomoro (Bousso District, Chari Baguirmi Region)	14/9/2012	17/9/2012	18/9/2012	17/9/2012	GW cut		**Yes**	indigenous
9	30	F	Sara Kaba	Farmer/ Fisherman	Kamanga 2 (camp)	Marabé (Kyabé District, Moyen Chari Region)	21/9/2012	~14/9/2012	21/9/2012	21/9/2012	GW cut for the 3rd time (23/9/2012)	27/9/2012	**No**	indigenous
10	14	M	Mbaye	Student	Sarh (Quartier Kassaï)	Kassaï (Sarh District, Moyen Chari Region)	10/14/2012	10/14/2012	17/10/2012	10/14/2012	GW cut 14/10/2012	10/20/2012	**Yes**	indigenous

Table 6

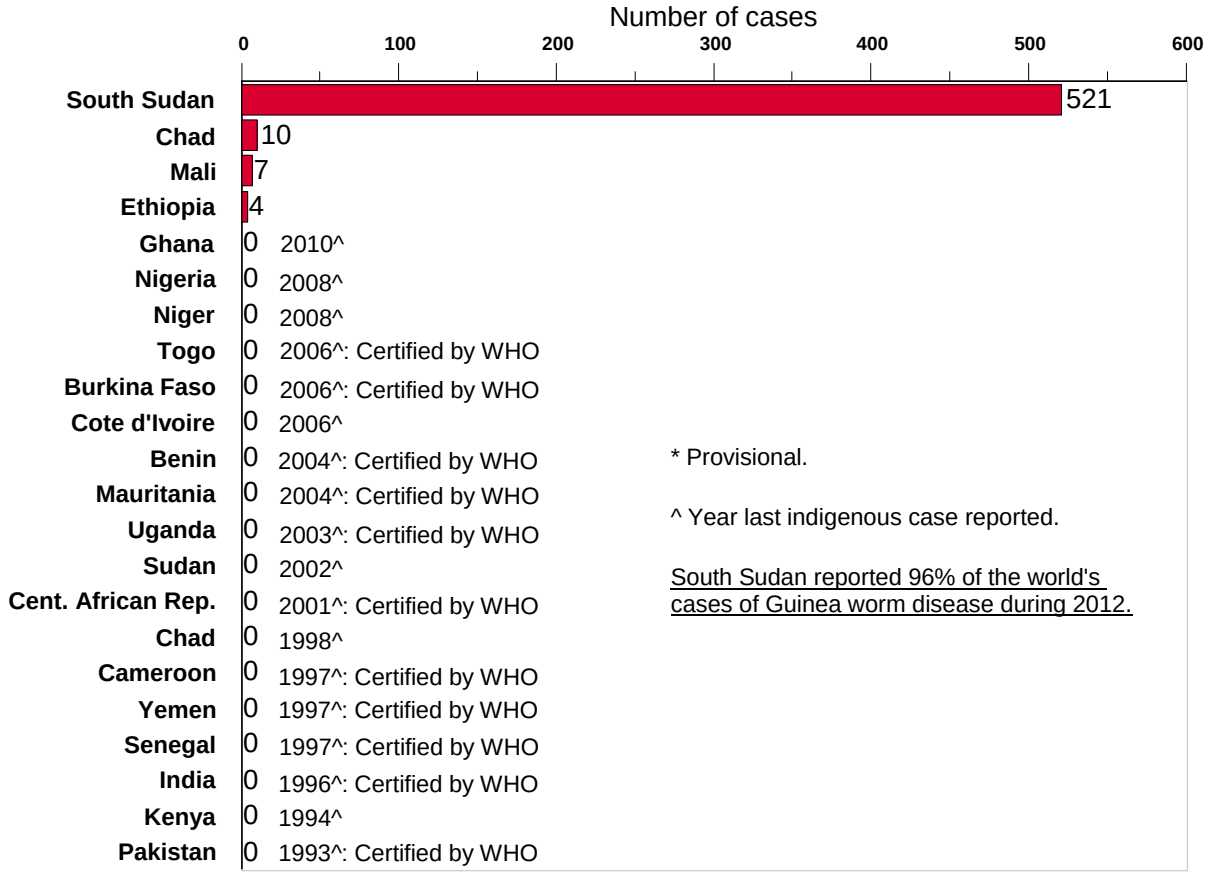
Ethiopia Dracunculiasis Eradication Program: List of Guinea Worm Cases and Interventions Against Transmission During 2012*

Case # Worm #	Age	Sex	Village of Detection	Woreda	Date				Detected <24hrs	Water Contaminated? (Yes/No)	Date ABATE Applied	Containment		Date Admitted to a Case Containment Center or Clinic?	Imported Case? (Yes/No)	Probable Origin of Infection (name of village zone, or country)
					Suspect Case Identified	Worm Began to Emerge	Village Volunteer, or Case Containment Center began to contain case	Date Supervisor Confirmed Case				Case (Yes/No /Pending)	Worm (Yes/No/ Pending)			
1.1	24	M	Terkudi	Abobo	§	26-Apr-12	26-Apr-12	28-Apr-12	Yes	Yes	^	No	No	30-Apr-12	Yes	Utuyu Vill., Gog Woreda
1.2	24	M	Terkudi	Gog		9-May-12	2-May-12	9-May-12		No		Yes	Yes	30-Apr-12	Yes	
2.1	11	F	Utuyu	Gog		23-May-12	24-May-12	24-May-12	Yes	No		Yes	Yes	24-May-12	No	Utuyu Vill., Gog Woreda
2.2	11	F	Utuyu	Gog		24-May-12	24-May-12	24/5/2012		No		Yes	Yes	24-May-12	No	
2.3	11	F	Utuyu	Gog		1-Jun-12	27-May-12	1-Jun-12		No		Yes	Yes	24-May-12	No	
3.1	14	F	Okodhi/ Agenga	Gog	§	23-Aug-12	16-Aug-12	23-Aug-12	Yes	No		Yes	Yes	23-Aug-12	Yes	Utuyu or Atheti Vill., Gog
3.2	14	F	Okodhi /Agenga	Gog		11-Nov-12	11-Jun-12	11-Nov-12		No		Yes	Yes	11-Aug-12	Yes	
4.1	55	M	Uma	Abobo		25-Dec-12	28-Dec-12	28-Dec-12	No	No	30/12/2012	No	No	29-Dec-12	±	±

* Provisional
§ Patient Self reported
^ Patient Bathed in fast flowing water
± Undetermined

Figure 6

Distribution of 542 Indigenous Cases of Dracunculiasis Reported during 2012*



VESTERGAARD FRANDSEN'S DONATIONS TO THE GUINEA WORM ERADICATION CAMPAIGN REACH MORE THAN $ 1 MILLION CUMULATIVELY

For 14 years, Vestergaard Frandsen has generously donated pipe and cloth filters to the Guinea Worm Eradication Program through The Carter Center. This past fall, a cumulative total value of more than $1 million was reached for in-kind donations provided by Vestergaard Frandsen since 1999. The company's annual contribution has increased steadily as a percentage of the total filters needed globally. In 2012, 100% of filters required for GWD prevention were donated by Vestergaard Frandsen. The campaign to eradicate GWD is honored to have Vestergaard Frandsen as a partner in the effort to improve global health.

Vestergaard Frandsen's charitable contributions are a testament to the company's enduring commitment to prevent suffering caused by devastating global health challenges that impact people at the base of the pyramid. The 55-year old international company is headquartered in Switzerland and has offices that span five continents. It's structured around a humanitarian entrepreneurship business model where doing good is good business. This approach supports achievement of the United Nations Millennium Development Goals.

Vestergaard Frandsen's game-changing solutions contribute to a healthier, more sustainable planet by fighting diseases like malaria, HIV/AIDS, diarrheal disease and neglected tropical diseases. The company is the largest producer of long-lasting insecticidal bed nets. About a half billion PermaNet® bed nets have contributed to the reduction in deaths from malaria by more than one third. The company's award-winning LifeStraw® water filter was named "One of Ten Things that Will Change the Way We Live" by *Forbes* magazine. The personal version of LifeStraw® has been deployed following almost every natural disaster since 2005, and the family version has provided much-needed safe drinking water to millions of families in developing countries without ready access to clean municipal water. Additional company initiatives targeting the MDGs focus on HIV testing, climate mitigation and food security.

JOHNSON & JOHNSON DONATES MEDICAL SUPPLIES FOR GUINEA WORM ERADICATION

The Carter Center is pleased to recognize Johnson & Johnson's donation of first-aid medical supplies to the Guinea Worm Eradication Program in 2012. Johnson & Johnson is a long-time supporter of the campaign, having donated similar items in 2000, 2001, 2004, and 2007. The company provided critical supplies including pain reliever, antiseptic wound wash, gloves, and bandages. These essentials are used by village volunteers and health workers when treating people suffering from Guinea worm disease, alleviating pain and preventing secondary infections. The donations are being used in South Sudan and Chad. In addition, the company recently donated supplies to the Center's Mental Health Liberia program.

Johnson & Johnson is the world's most comprehensive and broadly based manufacturer of health care products for the consumer, pharmaceutical, and professional markets. For more than 125 years, Johnson & Johnson's innovations and philanthropy have touched the lives of billions of people, particularly in areas of the world where access to basic health care is a challenge.

ETHIOPIA'S MINISTER TEDROS ADHANOM APPOINTED FOREIGN MINISTER

Ethiopia's former Minister of Health, Dr. Tedros Adhanom Ghebreyesus, was appointed Minister of Foreign Affairs on November 20, 2012. The new appointment came after Dr. Tedros had served as Ethiopia's distinguished minister of health for seven years. CONGRATULATIONS, Mr. Minister!!!

RECENT PUBLICATIONS

Hopkins, Donald R, 2013. Disease Eradication. N Engl J Med 368:54-63. (see NEJM.org).

Keating, Joshua E, 2012. The stories you missed in 2012: 4. A welcome end to a cruel disease. Foreign Policy December:13-14.

Ruiz-Tiben, Ernesto; Eberhard, Mark L; Roy, Sharon L, 2012. Progress toward global eradication of dracunculiasis–January2011-June 2012. MMWR 61:854-7.

Ruiz-Tiben, Ernesto; Eberhard, Mark L; Roy, Sharon L, 2012. Progress toward global eradication of dracunculiasis–January2011-June 2012. JAMA 107:129-132.

World Health Organization, 2012. Monthly report of dracunculiasis cases, January-August 2012. Wkly Epidemol Rec 87:419-420.

World Health Organization, 2012. Monthly report of dracunculiasis cases, January-September 2012. Wkly Epidemiol Rec 87:447-448.

MEETINGS

The Executive Board of the World Health Organization will meet in Geneva January 21-29, 2013.

The proposed dates for annual GWEP review meeting are April 9-12, in Ouagadougou, Burkina Faso.

The World Health Assembly will meet in Geneva about May 20-28, 2013 [PROVISIONAL]

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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