

Date: July 16, 2012



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

Subject: GUINEA WORM WRAP-UP #213

To: Addressees

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

51% FEWER CASES, ONLY FOUR OUTSIDE OF SOUTH SUDAN IN JANUARY-JUNE 2012

In January-June 2012, South Sudan, Ethiopia, Mali and Chad have reported a provisional total of 391 cases of Guinea worm disease (GWD) (Figures 1 and 2, and Table 1). This is a reduction of 52% in cases compared to the 807 cases that were reported by the same four countries during the same months of 2011. All but four of the cases in 2012 were reported from South Sudan; 270 (69%) of the cases in 2012 were reportedly contained.

Figure 1.

Distribution By Country of 391 Cases of Dracunculiasis During 2012*

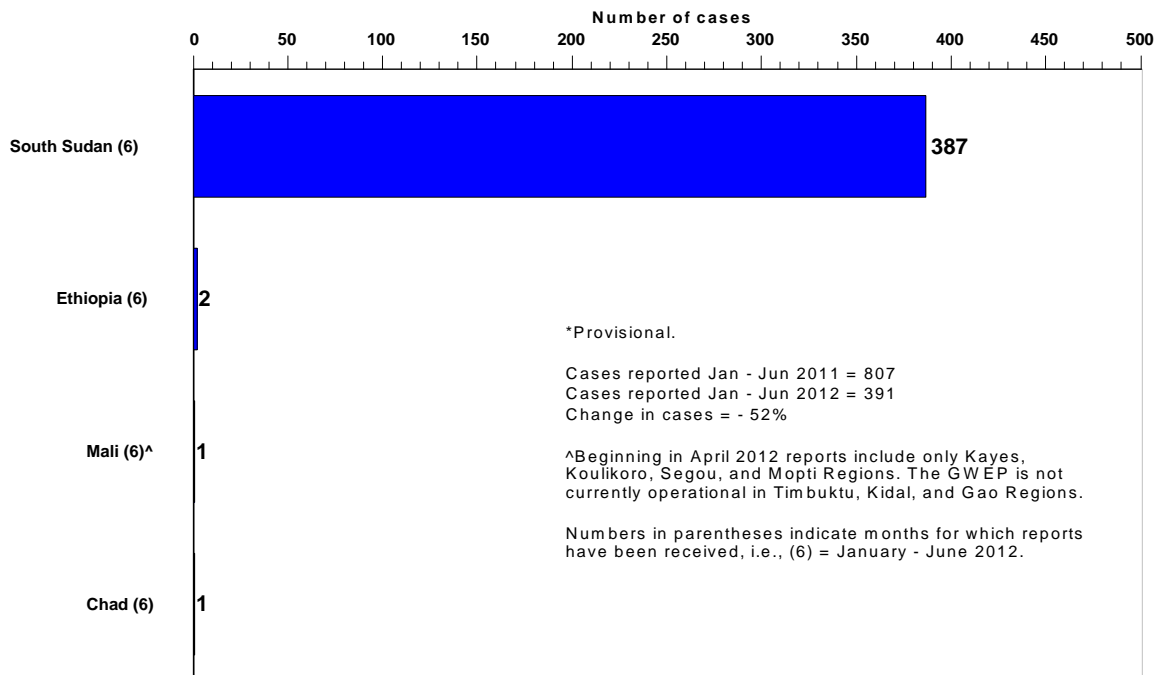


Table 1

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	39 / 56	52 / 81	84 / 122	88 / 122	/	/	/	/	/	/	268 / 387	69
MALI*	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	/	/	/	/	/	/	1 / 1	100
CHAD	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1	/	/	/	/	/	/	0 / 1	0
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 1	1 / 1	0 / 0	/	/	/	/	/	/	1 / 2	50
TOTAL*	2 / 2	3 / 4	39 / 56	52 / 82	85 / 123	89 / 124	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	270 / 391	69
% CONTAINED	100	75	70	63	69	72							69	
% CONT. OUTSIDE SUDAN	0	0	0	0	100	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, Koulikoro, 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 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 SUDAN	0	100	50	50	100	50	40	43	0	100	0	50	53	

* provisional

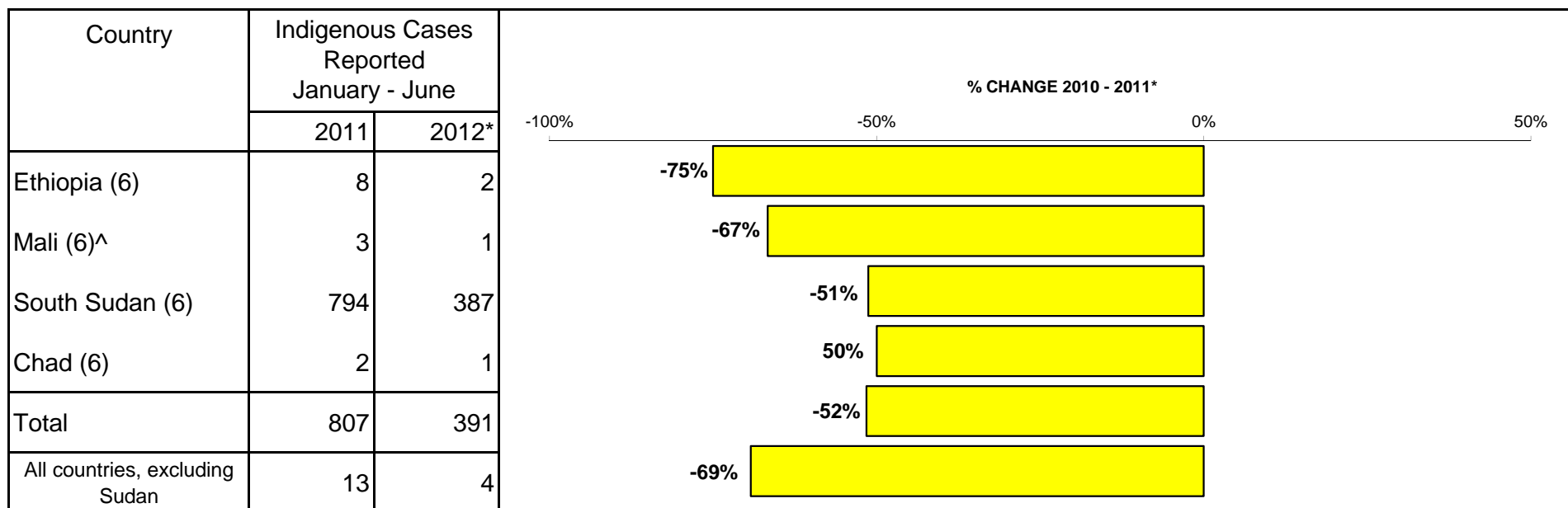
Cells shaded in black denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were reported and contained that month.

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

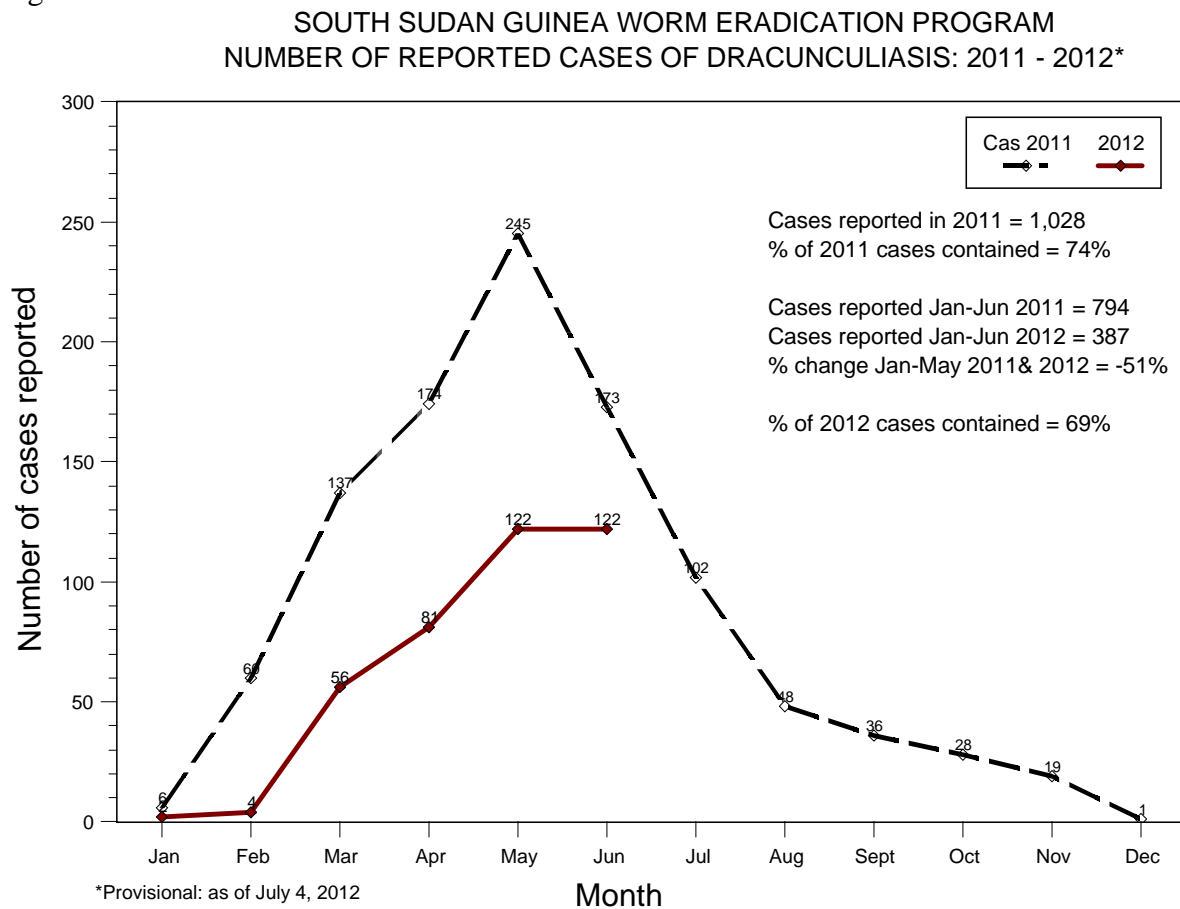


* Provisional. Numbers in parentheses indicate months for which reports have been received, i.e., (6) = January - June. Excludes cases exported from one country to another.

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

In **SOUTH SUDAN**, the South Sudan Guinea Worm Eradication Program (SSGWEP) Task Force met in Juba on June 25 in the presence of Minister of Health the Honorable Dr. Michael Milly Hussein, Undersecretary Dr. Makur Matur Kariom of the Ministry of Health, as well as the National Coordinator of the Program, Mr. Samuel Makoy Yibi. Dr. Ernesto Ruiz-Tiben of The Carter Center and Dr. Gautam Biswas of the World Health Organization also attended the meeting as part of a supervisory visit to the country, during which they reviewed program activities in Kapoeta East County of Eastern Equatoria State, which has reported 82% of all cases in South Sudan so far this year. Representatives from UNICEF, PACT, Catholic Relief Services (CRS) and the South Sudan Polio Eradication Program also participated, but the Integrated Disease Surveillance and Response (IDSR) group was not represented. The CRS promised to repair 35 boreholes in Eastern Equatoria by the time the Task Force meets in July, and the SSGWEP promised to continue engaging with government officials and external partners to restore the Lokura River (Kauto) bridge in Kapoeta East County. UNICEF reported completion of 47 of 100+ borehole wells targeted for 2012. No cases have been reported during the first six months of this year from Central Equatoria or Lakes States. The trends in reported cases of dracunculiasis in South Sudan during 2011 and 2012, so far are shown on Figure 3.

Figure 3.



CHAD reported a case of GWD in June in a ~20 year old woman from the village of Mabaye, in Mandalia District of Chari Baguirmi Region. The case, which was not contained, was reported to health authorities on June 28, a few days after the worm emerged. The patient was farming in an area distant from Mabaye on the day of worm emergence and decided not to seek medical assistance. Her husband brought her to the health clinic. A case of GWD occurred in the same village in August 2011, and the possible linkage between these two cases is being investigated. ABATE® Larvicide was applied to potentially contaminated water sources within a few days after the infection was reported.

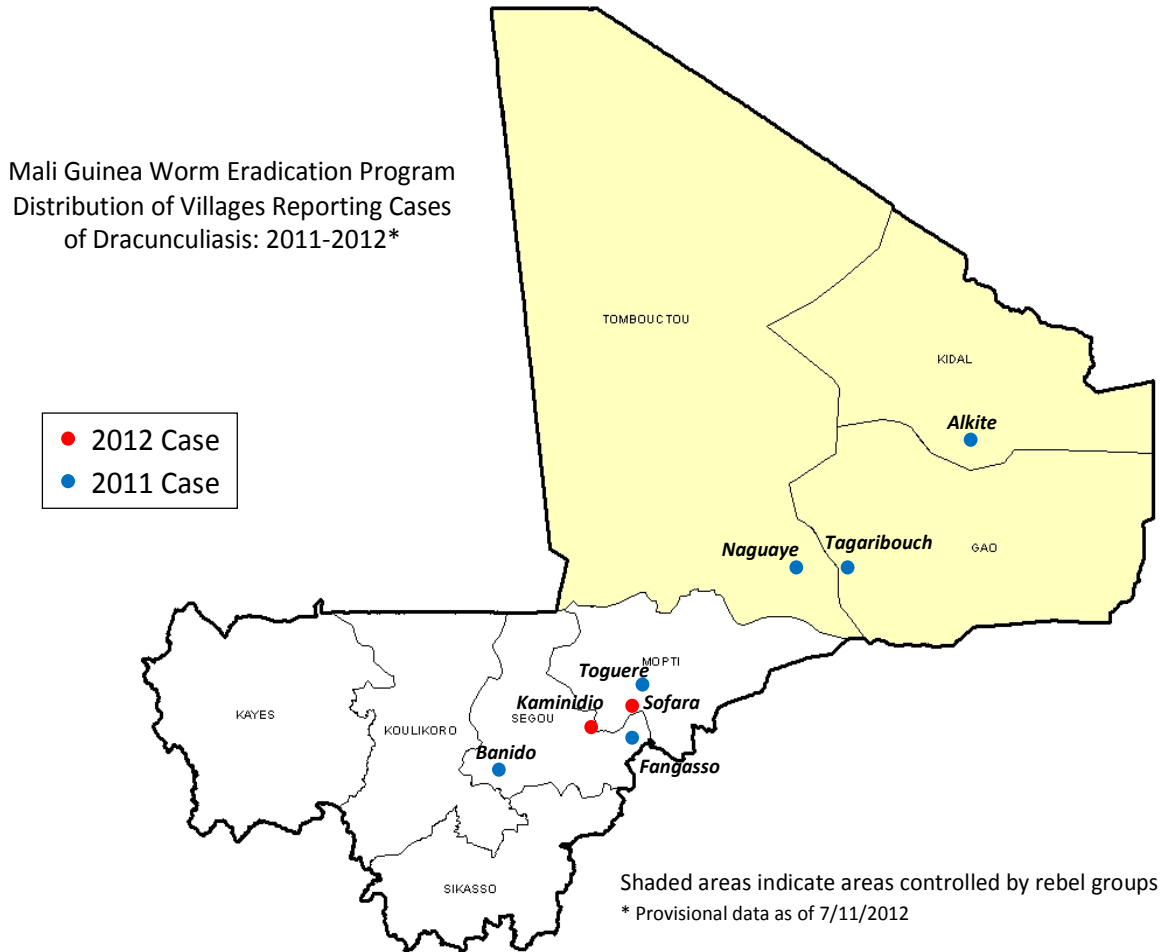
In the at-risk areas of Chad (where cases were reported in 2010-2011) four technical advisors have assisted the GWEP to implement and activate a village-based active surveillance system and monthly reporting about cases of GWD. Trainings of village volunteers began in October-November 2011, and by the end of May 1,388 trained village volunteers were in action, including 40 Agent Renforts, and 140 village volunteer supervisors who now monitor the active village-based system covering 723 inhabited villages, out of 740 villages in the at-risk areas (17 are currently uninhabited, which occurs seasonally). The challenge now is to ensure that surveillance and case detection/containment procedures are being observed all the time, correctly, and in all villages in the system.

MALI has reported two cases in 2012 (see Figure 4):

- The first case, contained, was reported in an 11 year old boy, livestock herder, from the village of Koe/Kaminidio Village in Macina District of Segou Region. His worm emerged at a health center on June 12. The worm has been sent to CDC for analysis and has been confirmed to be *Dracunculus medinensis*. The origin of this infection is still unknown; the investigation is continuing. The latest known case in Koe/Kaminidio was in 2001. Eight stagnant sources of water along the routes to pastures used by this herder were treated with ABATE® Larvicide. The investigating team reported that knowledge about the reward for information leading to confirmation of a case of GWD in this area of Segou was absent.
- A second case, which was not contained, (considered a July 2012 case and not included in the tables and figures in this issue), is a 44 year old man, a Fulani cattle merchant from the village of Sofara in Djenne District of Mopti Region, which shares a border with Macina District of Segou Region. He revealed having a worm emerge on May 15 (not confirmed), and a second worm emerged on June 22. His infection was only reported to and confirmed by health authorities on July 3 by a student whose residence is close to the health clinic and who knew about the patient's condition. So far, the case investigation revealed this patient pastured his animals in Djikolo, a hamlet 20 kilometers distant from Sofara during July-December 2011 and 3 kilometers distant from the village of Sinakana where a local healer allegedly cared for a patient with GWD sometime during October-December 2011. As a result the investigating team reported ABATE® Larvicide applications in 19 water sources in Djikolo area, and distributed 20 cloth filters and 40 pipe filters. No control measures were implemented in Sofara. The team reported there was no knowledge of the reward for reporting a case of GWD among residents in Sofara, Djikolo and Sinkana.

The national program coordinator Dr. Gabriel Guindo, and the Carter Center resident advisor Mr. Sadi Moussa reviewed program activities in Segou and Mopti Regions during June 26-July 3.

Figure 4.



SUMMARY OF WORM SPECIMENS RECEIVED DURING JANUARY-JUNE 2012 BY THE WHO COLLABORATING CENTER AT CDC

Worm specimens (N= 26) from 2011-2012 patients suspected of infection with GWD that were examined at CDC during the first half of 2012 are shown below.

Country	Number of Specimens Tested	<i>Dracunculus medinensis</i>	
		Yes	No
South Sudan	4	0	4
Mali	1	1	0
Chad	9	9	0
Ethiopia	4	1	3
Cote d'Ivoire	5	0	5
Nigeria	3	0	3
Total	26	11	15

Of the 15 samples that were not *D. medinensis*, 10 were not parasitic in nature, and of the 5 remaining, 3 were *Ascaris*, 1 was *O. volvulus*, and 1 was a spargana. The number of specimens received in the first half of 2012 exceeds the largest number of samples received in any previous year, that being 20 for 2010. As programs get closer to interruption of transmission, it becomes increasingly important to confirm *D. medinensis* as the cause of infection in persons with signs and symptoms compatible with GWD.

STRENGTHENING SURVEILLANCE IN MALIAN REFUGEE CAMPS IN NIGER AND MAURITANIA



World Health Organization

To strengthen dracunculiasis surveillance in Malian refugee camps in Niger and Mauritania, the WHO/AFRO, NTD / IST West Africa conducted a follow-up mission from 4 to 18 May 2012 in four refugee camps of Niger and Mauritania to assess the impact of previous interventions aimed at increasing the sensitivity of surveillance of dracunculiasis. The mission concluded that the surveillance measures are satisfactory in Niger, but less so in Mauritania. Recommendations to improve surveillance and awareness on dracunculiasis, including about the cash reward system for information leading to confirmation of cases of GWD in the camps and surrounding communities were made to the relevant authorities and stakeholders in Niger and in Mauritania.

CROSS BORDER MEETING



World Health Organization

During July 16-18 WHO held a cross-border meeting to reinforce GWD surveillance in Chad and in neighboring countries in N'Djamena, Chad. Participants included representatives from national and bordering regional GWEP and/or IDSR (integrated disease surveillance and response) officers from Chad, Cameroon, Central Africa Republic, Nigeria and Niger. Staff from WHO country offices, WHO/AFRO, IST West Africa and Central Africa as well as WHO /Headquarters also are attending the meeting. A joint plan of action to reinforce GWD surveillance interventions in border and at risk areas will be developed along with indicators to monitor the implementation of the plan.

THE CARTER CENTER ANNOUNCES NEW PLEDGE OF ABATE® FROM BASF



The Carter Center is deeply grateful to BASF, a longtime supporter of the global Guinea Worm Eradication Program. In 2000, BASF took over the Cyanamid crop protection division from American Home Products Corporation. Together, these companies have donated more than 200,000 liters of ABATE® larvicide to the fight against Guinea worm disease since 1990, valued at more than \$4.1 million. The donation has been a key intervention against transmission in all 21 endemic countries in Africa and Asia.

In 2012, BASF provided a generous new pledge to The Carter Center of 1,100 additional liters of ABATE® for the Guinea Worm Eradication Program through 2013. The larvicide will be used in the Republic of South Sudan, Mali, Chad, and Ethiopia, as needed. Furthermore, BASF's new pledge includes 4,670 liters of ABATE® for the River Blindness Program in Uganda through 2020. The extended partnership is received at an important time for both programs, as the Guinea worm eradication campaign seeks to stop transmission of Guinea worm disease completely and the River Blindness Program in Uganda strives to be the first African country to eliminate river blindness nationwide.

BASF, the world's largest chemical company, is headquartered in Germany and employs approximately 111,000 staff members throughout the world. The business was founded in 1865 by Friedrich Engelhorn, the owner of a coal gas company in Mannheim, originally for the production of dyes. The company's portfolio now ranges from chemicals, plastics, performance products and crop protection products to oil and gas. In addition to ABATE® larvicide, BASF offers a range of products to protect homes, health, food and water from pests. These include malaria prevention tools such as long-lasting insecticide treated bed nets and chemicals used for indoor residual spraying of walls.

Further information can be found at www.publichealth.basf.com.

RECENT PUBLICATIONS

Nelson R, 2012. The Last Worm: a dreaded tropical disease is on the verge of eradication. Scientific American July: 24.

Jain R, 2012. Providing safe drinking water: a challenge for humanity. Clean Techn Environ Policy 14:1-4.

World Health Organization, 2012. Monthly report on dracunculiasis cases: January-April. Wkly Epidemiol Rec 87(25): 241-244.

*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.
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**World Health
Organization**

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