DEPARTMENT OF HEALTH & HUMAN SERVICES

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

Date: May 25, 2007

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

Subject: GUINEA WORM WRAP-UP #172

To: Addressees

Countdown to Glory
Consecutive months with zero indigenous cases:
Ethiopia 10
Cote d' Ivoire 7
Burkina Faso 5
Togo 4
Niger 3

EDITORIAL: INCLUSIVENESS, DISCIPLINE, AND ACCOUNTABILITY REQUIRED

As the urgency of dracunculiasis eradication increases, some are tempted to regard vector control with ABATE ® Larvicide or water supply, or any other single intervention as a hoped-for silver bullet. In the case of ABATE ® Larvicide, it is thought that that particular intervention can be entirely controlled by health staff without the cooperation of the affected villagers, unlike the other interventions which require behavioral changes. ABATE ® Larvicide has unique advantages and disadvantages as an intervention, but to be effective, vector control also requires the cooperation of endemic communities (to reveal their true sources of drinking water), their consent that ABATE ® Larvicide may be used in their water source(s), and it requires that health staff be properly trained, supervised and motivated to determine which water bodies are the source of infection, and to use the ABATE ® Larvicide properly. Because of its favorable margin of safety regarding human toxicity the World Health Organization's Expert Committee on Pesticides has allowed the use of ABATE ® Larvicide in drinking water at one part per million concentration. All Guinea Worm Eradication Programs and staff are duty bound not only to be good stewards of this product, but also to be fastidious with the measurement of water volume to ensure the calculation of the appropriate amount of ABATE ® Larvicide required to achieve the one part per million target dose. For these reasons, even if villagers are ignored, the health workers themselves still require careful supervision. Otherwise, increased use of ABATE ® Larvicide will not have increased impact. There are no substitutes or shortcuts around the need for discipline, obsession, and accountability among health staff and enlistment of community cooperation, as in the other complementary interventions. Each intervention against dracunculiasis has the potential of stopping transmission if applied with 100% effectiveness everywhere it is warranted and for as long as necessary, but in practice achieving this level of perfection on a large scale is unlikely. Hence experience dictates the need to emphasize the application of all interventions, in the most optimal mix for the circumstances of place and time, to enhance the probability that the combination of these barriers to transmission will succeed. Moreover, experiences from all the countries that have already stopped transmission of dracunculiasis also dictates that in the mix of interventions active daily surveillance for cases of the disease and effective containment of transmission from each emerging Guinea worm need to be emphasized. Guinea worms will continue to mock any failures to heed these rules of war.

MINISTERS OF ENDEMIC COUNTRIES MEET AT WORLD HEALTH ASSEMBLY; WHO DIRECTOR GENERAL URGES ERADICATION OF GUINEA WORM AND POLIO.

About 50 persons, including representatives of all nine Guinea worm endemic countries, convened in an informal meeting during the 60th World Health Assembly (WHA) in Geneva on May 16, 2007. The meeting, which was presided over by the WHO regional directors of the Eastern Mediterranean and African Regional offices as well as WHO assistant director general Dr. David L. Heymann, and International Commission for the Certification of Dracunculiasis Eradication (ICCDE), chairman, Dr. Abdul R. Al-Awadi, included the ministers of health of Mali, Niger, Sudan and Togo, the director generals of health of Burkina Faso, Ghana Niger, Sudan, and Togo, the director of Public Health of Nigeria, the sub-director of epidemiologic surveillance of Cote d'Ivoire, and representatives of The Carter Center and UNICEF. The main purpose of the meeting was to review the current status of dracunculiasis eradication one year after the similar meeting during the World Health Assembly in 2006. WHO's African regional director, Dr. L.G. Sambo, visited Ghana and Mali soon after the 2006 World Health Assembly in follow up to last year's informal consultation in Geneva on Guinea worm eradication.

In her official address to the 60th WHA on May 15th, WHO director general, Dr. Margaret Chan stated "the eradication of a disease is the ultimate contribution to sustainable health development. We have two such initiatives under way: for polio and for guinea worm disease. …Guinea worm disease has seen a dramatic decrease. Cases have declined from 3.5 million in 1985 to only 25,000 today. …we must finish the job." At the informal meeting, Dr. Donald Hopkins of The Carter Center reviewed the current status of the eradication campaign, and Dr. A.R Al-Awadi summarized the recommendations and conclusions of the March 2007 meeting of the ICCDE. ICCDE commission member Dr. Joel Breman said the members of the global commission are *pleased* with the progress so far, *disappointed* with delays in the remaining endemic countries, and *impatient* for Guinea worm to be eradicated everywhere. Sudanese minister of health, Dr. Tabita Shokai and Ghanaian director general of health, Dr. Elias Sory reaffirmed their governments' commitment to completing eradication of dracunculiasis by the end of 2009. The meeting agreed that a report on the status of Guinea worm eradication should be made to WHO's Executive Board meeting in January and to the 2008 World Health Assembly, and that another meeting of representatives of endemic countries and interested partners should be convened during the 61st WHA in May 2008.

GHANA CONTAINS 91% OF CASES DURING JANUARY – APRIL AND REPORTS A 26% CASE REDUCTION IN APRIL

Ghana's Guinea Worm Eradication Program reports steady increases in the rate of cases contained each month so far in 2007 (Table 3) for the whole country, including an 89% rate for April (264 of 297 cases contained). As of March 77 (16%) of 475 cases reported were contained in one of the 11 case containment centers. Other intervention indices as of March were: health education in 100% of endemic villages, cloth filters in all households in 94%, pipe filters in 40%, at least one source of safe drinking water in 46%, and ABATE@ Larvicide applied in 19% of endemic villages as of March this year. The top 20 endemic communities reported 50% (2,055) of the 4,132 cases in Ghana in 2006. Four of these communities (Diare, Zoosali, Kpabia, Kangbagu), which accounted for 486 cases (12% of the national total in 2006), now have adequate sources of safe drinking water. Unfortunately, a fire on March 1st, has caused a breakdown in the water plant serving Bimbilla, capitol of Nanumba North District, which is a serious danger to the program. Seventy students from the University of Development Studies have been trained and deployed to conduct outreach to communities in Savelugu, Tolon, Tamale, and Yendi Districts. Reflecting the high public profile of the campaign in recent months, during the televised national ceremony marking May Day, the secretary general of the Ghana Trade Unions stated that the current status of Guinea worm disease in Ghana was "unacceptable".

Table 1 compares the impact of the recent explosion of cases in Savelugu-Nanton District with progress in the rest of Ghana: increases of 177% and 320% in 2006 and so far in 2007, compared to reductions of -17% and -46%. Overall, Ghana shows a significant reduction in cases in April 2007 compared to the same month of 2006, the first such monthly reduction for the country in 2007 (Figure 1). Ghana exported its second case to Togo this year in April. It has also exported 2 cases to Burkina Faso in January.

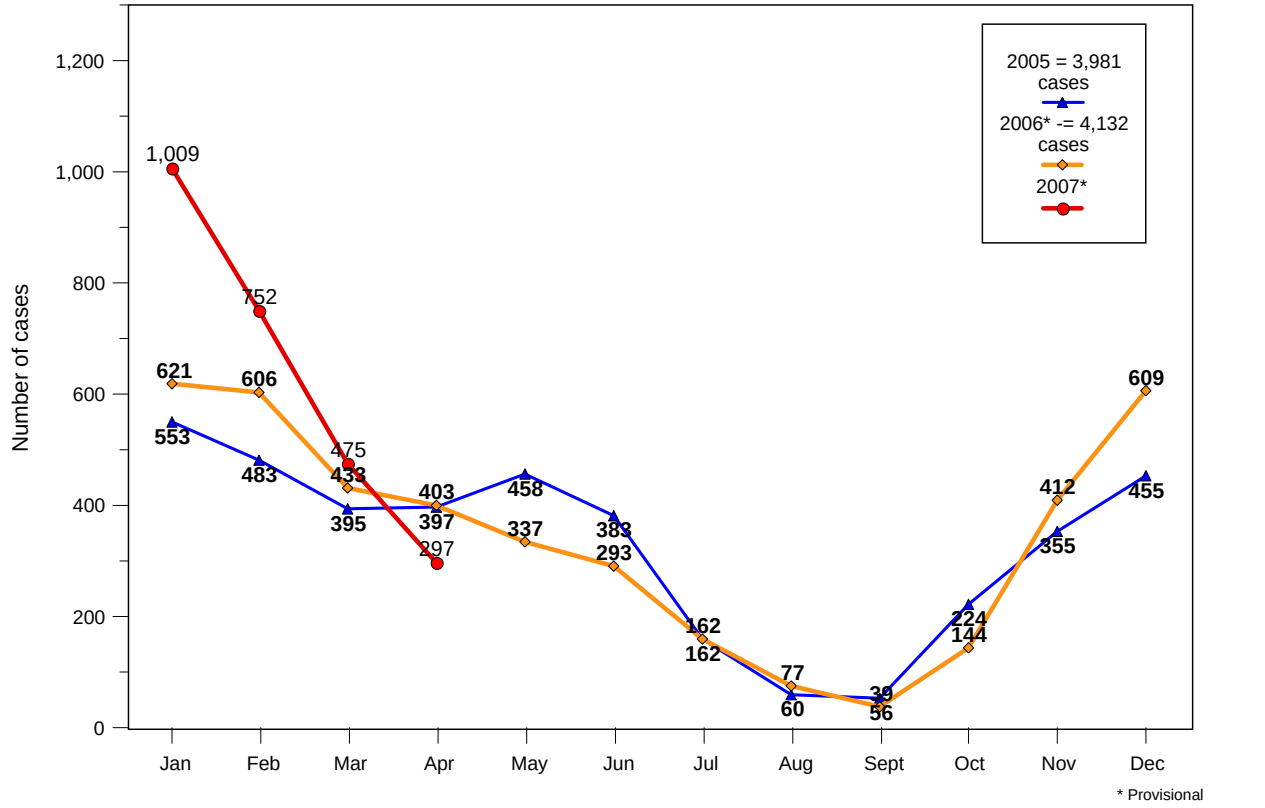
Table 1

Ghana Guinea Worm Eradication Program
Distribution of Cases of Dracunculiasis: Savelugu District vs All Other Districts in Ghana

Area	2005	2006	2006 (Jan. – Mar.)	2007 (Jan. – Mar.)
Savelugu Nanton District	427	1182 (+177%)	366	1538 (+320%)
All Other Districts in Ghana	3554	2954 (-17%)	1294	698 (-46%)

Figure 1

GHANA GUINEA WORM ERADICATION PROGRAM
NUMBER OF REPORTED CASES OF DRACUNCULIASIS: 2005, 2006 AND 2007*



SOUTH SUDAN BUILDING ON 2006 INTERVENTIONS

As illustrated in Figure 2, during 2006 the South Sudan Guinea Worm Eradication Program (SSGWEP) established 14 sub-offices and 43 storage facilities throughout the endemic counties of affected states. The SSGWEP also trained 10,745 volunteers for 3,137 endemic villages, distributed over 3 million cloth and pipe filters (47% and 22% coverage of endemic villages respectively), applied ABATE@ Larvicide in 6% of endemic villages, and received 29 vehicles. The impact of these interventions may begin to be seen during this year's peak transmission season, which is just beginning. The SSGWEP will hold the first meeting of the Interagency Task Force in Juba during late May.

Table 2

SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM

PARAMETERS	2005	2006
Endemic Villages	1,085	3,137
Villages under surveillance	9,834	19,152
Cases of GWD	5,569	20,582
Village Volunteers	1,000	10,745
Area Supervisors	150	896
Field Officers	6	87
State GW Coordinators	0	6
Technical Advisors	7	16
Stores	0	43
Sub-offices	0	14
SSGWEP/TCC Secretariat Compound	0	1
Vehicles	2	29

IN BRIEF

Ethiopia has reported zero indigenous cases during the last 10 consecutive months, but the southern Sudan Guinea Worm Eradication Program reported 2 cases of dracunculiasis imported from Ethiopia in December 2006 and two additional cases in January 2007. All four persons were of Sudanese origin, but had been residents in the Gambella Region of Ethiopia during the preceding year. The presumption is that these persons became infected in the Gambella Region of Ethiopia, but it is uncertain where these were actually infected. The Ethiopian Dracunculiaiss Eradication Program has had difficulty for quite some time in accessing all of the endemic areas of Gambella because of insecurity. These imported cases raise doubts about the status of dracunculiasis in Ethiopia and a comprehensive assessment of the extent of dracunculiasis in all areas of Gambella Region is now warranted.

DONATIONS

The Howard G. Buffett Foundation has contributed $1 million to The Carter Center in support of the Sudan Guinea Worm Eradication Program. These funds will be used in southern Sudan, and also complete the challenge grant awarded to The Carter Center for Guinea worm eradication from the Bill & Melinda Gates Foundation.

Ghana's Guinea Worm Eradication Program has received approval from Rotary International for a grant of $355,648 through the Tamale Rotary Club for four water projects in Guinea worm endemic communities in the Northern Region to be completed over next 2 years. These four projects for rehabilitation of dams are in four communities of Tolon-Kumbungu District (Wantugu and surrounding areas, Nabligu,

Figure 2

Southern Sudan Guinea Worm Eradication Program
Major Logistics Hub/Offices and Stores

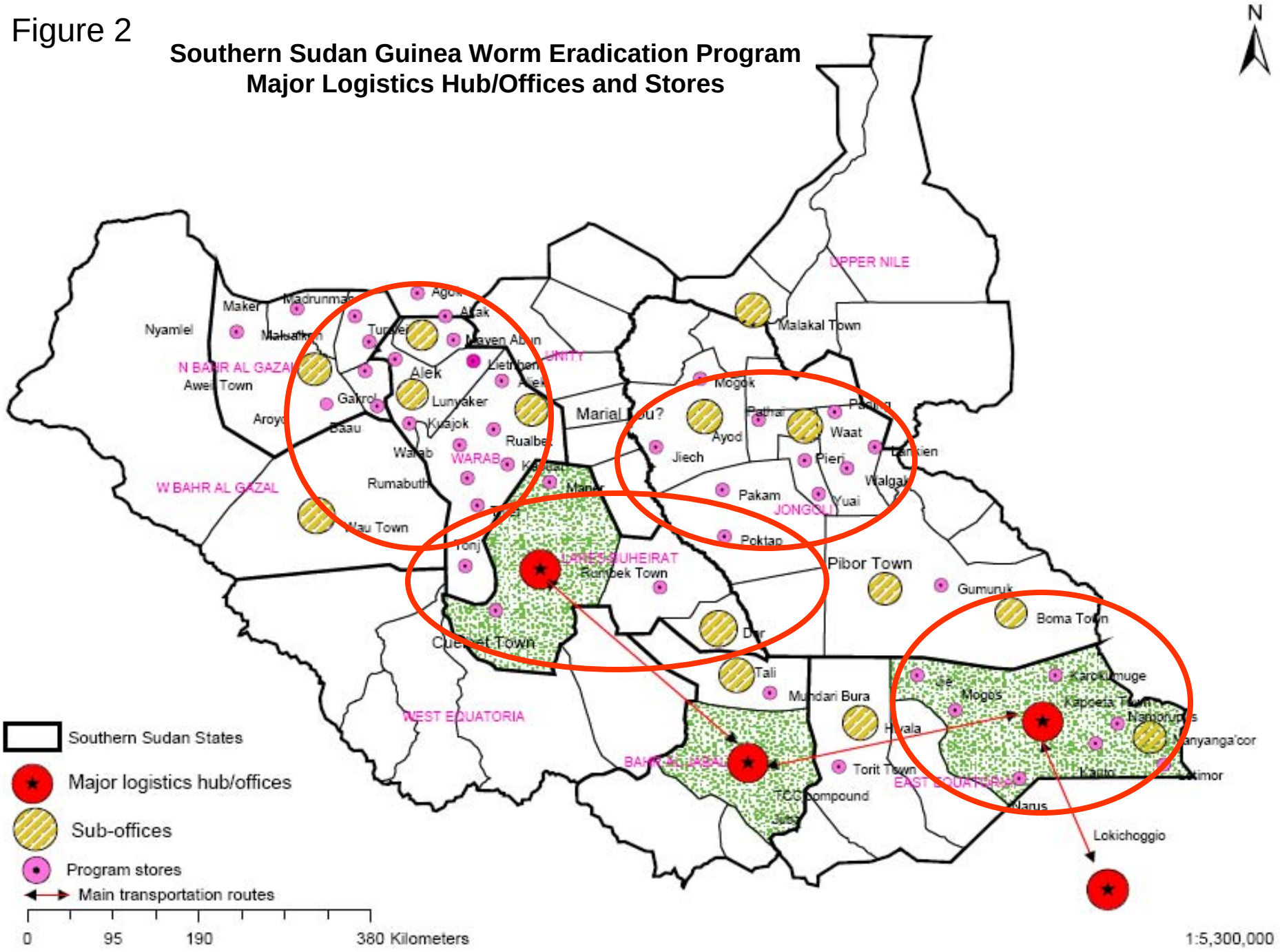


Table 3

Number of Cases Contained and Number Reported by Month during 2007*
(Countries arranged in descending order of cases in 2006)

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	21 / 189	22 / 170	46 / 114	116 / 320	/	/	/	/	/	/	/	/	205 / 793	26
GHANA	897 / 1009	691 / 752	455 / 475	264 / 297	/	/	/	/	/	/	/	/	2307 / 2533	91
MALI	0 / 0	0 / 0	1 / 1	0 / 0	/	/	/	/	/	/	/	/	1 / 1	100
NIGER	3 / 3	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	3 / 3	100
TOGO	0 / 0	0 / 1	0 / 0	0 / 1	/	/	/	/	/	/	/	/	0 / 2	0
NIGERIA	7 / 32	9 / 9	1 / 1	0 / 0	/	/	/	/	/	/	/	/	17 / 42	40
BURKINA FASO	2 / 2	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	2 / 2	100
COTE D'IVOIRE	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	0 / 0	0
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	0 / 0	0
UGANDA	0 / 0	0 / 0	1 / 1	/	/	/	/	/	/	/	/	/	1 / 1	100
TOTAL*	930 / 1235	722 / 932	504 / 592	380 / 618	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	2536 / 3377	75
% CONTAINED	75	77	85	61									75	
% CONT. OUTSIDE SUDAN	87	92	96	89									90	

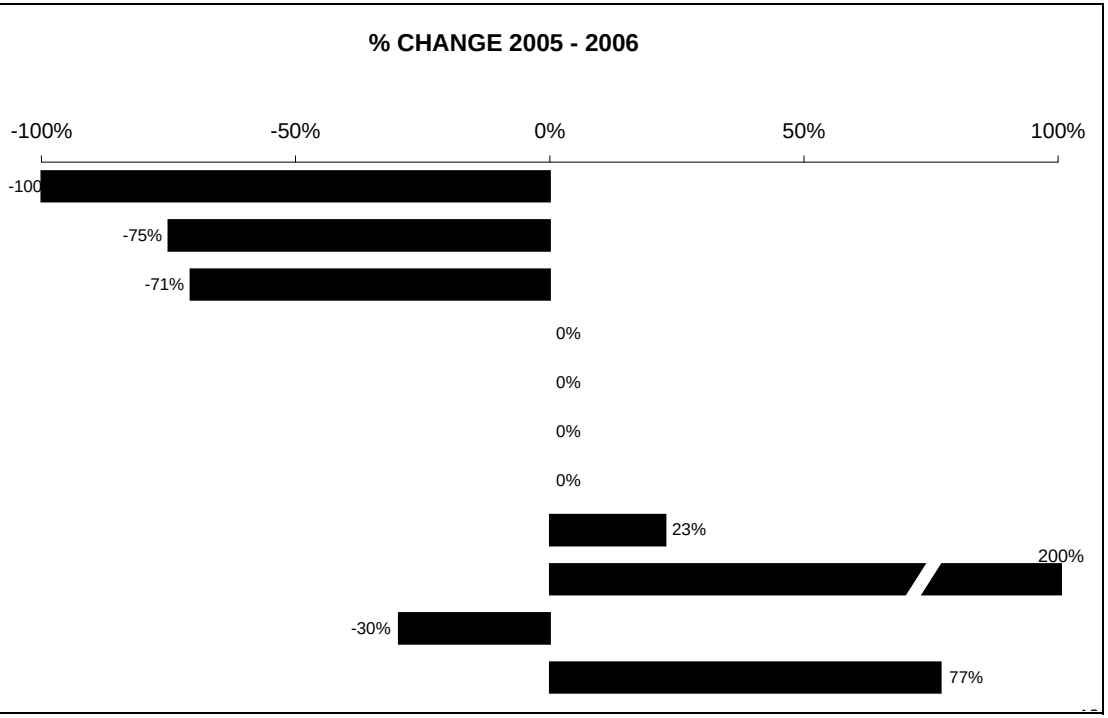
* provisional

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

Figure 4

Number of Indigenous Cases Reported During the Specified Period in 2006 and 2007*, and Percent Change in Cases Reported

Country	Indigenous Cases Reported	
	2006	2007
Togo (4)	5	0
Mali (4)	4	1
Sudan (4)	2703	793
Ethiopia (4)	0	0
Burkina Faso (4)	0	0
Cote d'Ivoire (4)	0	0
Niger (4)	3	3
Ghana (4)	2063	2532
Nigeria (4)	14	42
Total	4792	3371
All countries, excluding Sudan and Ghana	26	46



Overall % change outside of Sudan = 23%

(4) Indicates months for which reports were received, i.e., Jan. - Apr.

* Provisional

Table 4

List of Guinea Worm Cases and Interventions Against Transmission: 2007 (except Sudan & Ghana) (continued on next page)

Case #	Age	Sex	Ethnic Group	Profession	Village	District	Region	Date				Dectected <24 hrs? (Yes / No)	Water Contaminated? (Yes / No)	ABATE Applied? (Yes / No)	Case Contained? (Yes / No)	Admitted to a Case Containment Center? (Yes / No)	Patient had Guinea worm last year? (Yes / No)	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	Case Confirmed by a Supervisor								
ETHIOPIA																			
0																			
COTE D'IVOIRE																			
0																			
MALI																			
1.1	6	M			Tarajaba	Ansongo	Gao		Mar-07	Mar-07	Mar-07				No	No	No	No	Tarajaba, Ansongo
TOGO																			
1.1	14	F	Kokomba	Housewife	Koufou	Dankpen	Kara		21-Feb-07	21-Feb-07	23-Feb-07	Yes	Yes	Yes	No	Yes	No	Yes	Ghali (Ghana)
2.1	9	F	Peulh	enfant	Yaka	Doufelgou	Kara		10-Apr-07	12-Apr-07	13-Apr-07	No	Yes	No	No	No	No	Yes	Goumani (Ghana)
BURKINA FASO																			
1.1	23	M		Farmer	Toupar	Batie	South West	28-Dec-06	14-Jan-07	14-Jan-07	14-Jan-07	Yes	No	Yes	Yes	Yes	No	Yes	???, Ghana
2.1	50	F		Housewife	Tinteka	Po	South Central	14-Jan-07	18-Jan-07	18-Jan-07	18-Jan-07	Yes	No	No	Yes	No	No	Yes	Zoggu, Ghana
NIGER																			
1.1	20	F	Sonrai	Farmer	Yogare	Tera	Tillaberi		13-Jan-07			Yes	No	Yes	Yes	Yes	Yes	No	Yogare, Tera
2.1	43	F	Bellah	Herder	Timana	Tillaberi	Tillaberi		17-Jan-07			Yes	No	Yes	Yes	Yes	Yes	No	Timana, Tillaberi
3.1	25	F	Sonrai	Farmer	Yogare	Tera	Tillaberi		20-Jan-07			Yes	No	Yes	Yes	Yes	Yes	No	Yogare, Tera

* 1.1 = Case number one and first worm to emerge from patient during this calendar year
1.2 = Case number one and second worm to emerge from patient during this calendar year
2.1 = Case number two and first worm to emerge from patient during this calendar year

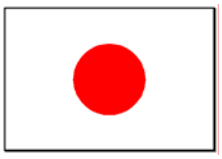
List of Guinea Worm Cases and Interventions Against Transmission: 2007 (except Sudan & Ghana) Cont.

Case #	Age	Sex	Ethnic Group	Profession	Village	District	Region	Date				Dectected <24 hrs? (Yes / No)	Water Contaminated? (Yes / No)	ABATE Applied? (Yes / No)	Case Contained? (Yes / No)	Admitted to a Case Containment Center? (Yes / No)	Patient had Guinea worm last year? (Yes / No)	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	Case Confirmed by a Supervisor								
NIGERIA																			
1.1	28	M	Mbembem	Housewife	Ofura	Obubra	Cross Rivers	15-Jan-07	16-Jan-07	16-Jan-07	16-Jan-07	Yes	No	Yes	Yes	Yes	No	No	Ofura
2.1	35	F	Mbembem	Farmer	Ofura	Obubra	Cross Rivers	17-Jan-07	17-Jan-07	17-Jan-07	17-Jan-07	Yes	No	Yes	Yes	Yes	No	No	Ofura
3.1	18	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	24-Jan-07	14-Jan-07	24-Jan-07	24-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
4.1	11	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	24-Jan-07	10-Nov-06	24-Jan-07	24-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
5.1	48	M	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	24-Jan-07	6-Jan-07	24-Jan-07	24-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
6.1	30	F	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	24-Jan-07	12-Oct-06	24-Jan-07	24-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
7.1	52	M	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	25-Jan-07	15-Jan-07	24-Jan-07	24-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
8.1	18	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	18-Jan-07	24-Jan-07	24-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
9.1	16	M	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	25-Jan-07	15-Jan-07	25-Jan-07	25-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
10.1	42	M	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	25-Jan-07	16-Jan-07	25-Jan-07	25-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
11.1	15	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	25-Jan-07	21-Jan-07	25-Jan-07	25-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
12.1	55	M	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	25-Jan-07	15-Dec-06	25-Jan-07	25-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
13.1	32	F	Ezza	Housewife	Ezza Ogwuomu	Enugu East	Enugu	25-Jan-07	18-Jan-07	25-Jan-07	25-Jan-07	No	No	Yes	No	No	No	Yes	Ezza Nkwubor
14.1	3	F	Ezza	Child	Ezza Ogwuomu	Enugu East	Enugu	25-Jan-07	16-Jan-06	25-Jan-07	25-Jan-07	No	No	Yes	No	No	No	Yes	Ezza Nkwubor
15.1	28	M	Ezza	Famer	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	30-Nov-06	26-Jan-07	26-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
16.1	24	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	19-Nov-06	26-Jan-07	26-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
17.1	2	M	Ezza	Child	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	10-Jan-06	26-Jan-07	26-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
18.1	20	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	30-Dec-06	26-Jan-07	26-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
19.1	23	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	19-Jan-07	26-Jan-07	26-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
20.1	3	F	Ezza	Child	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	8-Jan-06	26-Jan-07	26-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
21.1	43	F	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	10-Jan-07	26-Jan-07	26-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
22.1	26	F	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	28-Dec-06	26-Jan-07	26-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
23.1	44	M	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	26-Jan-07	26-Jan-07	26-Jan-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
24.1	34	F	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	25-Jan-07	23-Jan-07	25-Jan-07	27-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
25.1	45	F	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	27-Jan-07	27-Jan-07	27-Jan-07	27-Jan-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
26.1	18	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	25-Jan-07	20-Jan-07	25-Jan-07	27-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
27.1	33	F	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	25-Jan-07	18-Jan-07	25-Jan-07	27-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
28.1	21	M	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	25-Jan-07	18-Jan-07	25-Jan-07	27-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
29.1	40	M	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	27-Jan-07	27-Jan-07	27-Jan-07	27-Jan-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
30.1	23	F	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	26-Jan-07	27-Jan-07	28-Jan-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
31.1	18	M	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	26-Jan-07	27-Jan-07	28-Jan-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
32.1	5	F	Ezza	Pupil	Ezza Nkwubor	Enugu East	Enugu	26-Jan-07	26-Jan-07	30-Jan-07	30-Jan-07	No	Yes	Yes	No	No	No	No	Ezza Nkwubor
33.1	17	M	Ezza	Artisan	Ezza Nkwubor	Enugu East	Enugu	22-Feb-07	22-Feb-07	22-Feb-07	23-Feb-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
34.1	60	M	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	23-Feb-07	24-Feb-07	24-Feb-07	26-Feb-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
35.1	16	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	13-Feb-07	14-Feb-07	14-Feb-07	15-Feb-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
36.1	7	M	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	14-Feb-07	15-Feb-07	15-Feb-07	16-Feb-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
37.1	13	M	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	21-Feb-07	22-Feb-07	22-Feb-07	23-Feb-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
38.1	40	F	Ezza	Farmer	Ezza Nkwubor	Enugu East	Enugu	11-Feb-07	12-Feb-07	12-Feb-07	13-Feb-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
39.1	35	M	Ezza	Artisan	Ezza Nkwubor	Enugu East	Enugu	24-Feb-07	25-Feb-07	25-Feb-07	25-Feb-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
40.1	16	F	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	26-Feb-07	26-Feb-07	26-Feb-07	27-Feb-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor
41.1	13	M	Mbenbem	Student	Ofura	Obubra	Cross Rivers	27-Feb-07	27-Feb-07	27-Feb-07	27-Feb-07	Yes	No	Yes	Yes	No	No	No	Ofura
42.1	20	M	Ezza	Student	Ezza Nkwubor	Enugu East	Enugu	14-Mar-07	14-Mar-07	15-Mar-07	16-Mar-07	Yes	No	Yes	Yes	No	No	No	Ezza Nkwubor

* 1.1 = Case number one and first worm to emerge from patient during this calendar year
* 1.2 = Case number one and second worm to emerge from patient during this calendar year
2.1 = Case number two and first worm to emerge from patient during this calendar year

Insert additional rows (using EXCEL) to record any additional Guinea worms that could emerge from acknowledged persons "a case of GWD" as shown above.

Voggu and Singa) which collectively reported a total of 353 cases in 2006 and have reported 89 cases through March 2007. Wantugu was the third highest endemic community in Ghana in 2006, reporting 236 cases that year.



Ghana's program also signed an agreement with the Japan International Cooperation Agency (JICA) for $25,410 to pay for meetings of village volunteers during 2007.

RECENT PUBLICATIONS

WHO, 2007. Dracunculiasis eradication-global surveillance summary, 2006. Wkly Epidemiol Rec 82:133-140

WHO, 2007. Dracunculiasis eradication: certification of interruption of transmission. Wkly Epidemiol Rec 82: 161-163

Mastony C, 2007. Doctor Without Borders. Chicago Tribune Magazine. May 13; pp2, 10-16, 26-27. May 12, 2007 www.chicagotribune.com/guineaworm

OBITUARY

With great regret we announce the passing of Richard Paul Delaney on April 10, 2007 at his home in Lebanon, New Hampshire after a long illness. Richard joined The Carter Center in 1991 and was The Carter Center's first Resident Technical Advisor to Uganda's ministry of health. Richard helped the Ugandan Guinea Worm Eradication Program (GWEP) to organize and implement the first nation wide search, which revealed 126, 369 cases of Guinea worm disease and made Uganda the third most endemic country in the world at that time. We are very pleased that Richard lived to see Uganda's GWEP stop transmission of Guinea worm disease in July 2003. Despite his illness he attended the special ceremony held at The Carter Center in November 2006 to recognize Uganda's achievement.

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

For information about the GW Wrap-Up, contact the WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, NCZVED, Centers for Disease Control and Prevention, F-22, 4770 Buford Highway, NE, Atlanta, GA 30341-3724, U.S.A. FAX: 770-488-7761. *The GW Wrap-Up web location is http://www.cdc.gov/ncidod/dpd/parasites/guineaworm/default.htm.*

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