DEPARTMENT OF HEALTH & HUMAN SERVICES

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

Memorandum

Date January 12, 1998

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

Subject GUINEA WORM WRAP-UP #75

To Addressees

Detect Every Case, Contain Every Worm!

FIVE MORE ENDEMIC COUNTRIES AT OR NEAR ERADICATION IN 1997

Although surveillance figures are still incomplete and provisional, it now appears that 1997 will be India's first calendar year free of dracunculiasis, and that Cameroon, Senegal, Yemen, and Chad will report only 1, 4, 7, and 25 indigenous cases, respectively (Figure 1). Despite impressive reductions in cases in Côte d'Ivoire, Mali, and Benin, however, the total number of cases reported for 1997 among all of the remaining endemic countries outside of Sudan will be about the same as in 1996, due mainly to increased cases reported in Ghana, Ethiopia, Nigeria, and Niger (Table 1, Figure 2). Also, the considerable challenges remaining to the program in Burkina Faso are suggested by that country's ranking as the third most frequently cited source of internationally exported cases during the year, after Nigeria and Sudan (Table 2).

Figure 1 DISTRIBUTION BY COUNTRY OF 71,983* CASES OF DRACUNCULIASIS REPORTED DURING 1997**

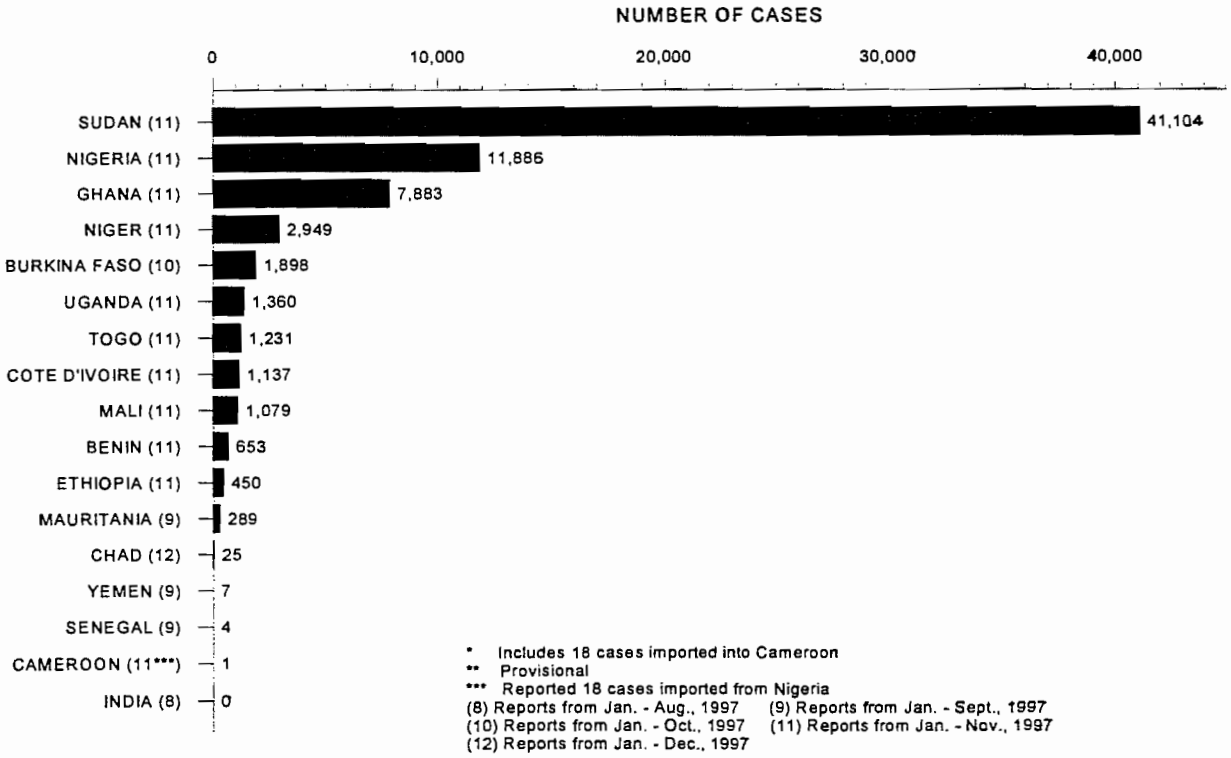


Table 1

NUMBER OF CASES CONTAINED AND NUMBER REPORTED BY MONTH DURING 1997*
(COUNTRIES ARRANGED IN DESCENDING ORDER OF CASES IN 1996)

COUNTRY	# OF CASES IN 1996	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
		JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SUDAN	118578	1965 / 3595	862 / 1340	5603 / 8850	2621 / 7046	3264 / 7315	1967 / 2710	2050 / 2688	1680 / 2988	1211 / 2307	857 / 1446	360 / 819	/	22440 / 41104	55
NIGERIA	12282	1056 / 1211	1406 / 1425	976 / 1117	806 / 918	952 / 1113	1089 / 1478	1150 / 1649	933 / 1199	379 / 616	325 / 386	634 / 774	/	9706 / 11886	82
GHANA	4877	1498 / 1685	1182 / 1625	904 / 1226	680 / 909	583 / 652	272 / 376	194 / 274	73 / 97	53 / 69	123 / 162	422 / 808	/	5984 / 7883	76
BURKINA FASO	3241	17 / 19	8 / 35	3 / 45	15 / 48	54 / 336	139 / 346	192 / 438	54 / 464	125 / 162	5 / 5	/	/	612 / 1898	32
NIGER	2956	3 / 7	0 / 0	2 / 4	5 / 14	33 / 59	218 / 435	312 / 731	500 / 857	315 / 485	127 / 236	71 / 121	/	1586 / 2949	54
COTE D'IVOIRE	2794	147 / 160	178 / 197	114 / 129	157 / 200	134 / 149	88 / 89	96 / 97	56 / 56	14 / 14	14 / 28	18 / 18	/	1016 / 1137	89
MALI	2402	27 / 44	11 / 11	4 / 4	10 / 21	24 / 31	78 / 107	134 / 182	199 / 315	134 / 190	53 / 101	16 / 73	/	690 / 1079	64
TOGO	1626	31 / 121	22 / 33	45 / 57	42 / 68	54 / 113	48 / 63	83 / 140	76 / 76	129 / 140	99 / 193	100 / 227	/	729 / 1231	59
UGANDA	1455	6 / 7	1 / 6	27 / 36	110 / 197	295 / 596	160 / 241	84 / 124	35 / 44	57 / 61	17 / 22	19 / 26	/	811 / 1360	60
BENIN	1427	98 / 112	38 / 41	15 / 19	74 / 79	28 / 30	17 / 18	4 / 10	18 / 21	38 / 39	88 / 91	133 / 193	/	551 / 653	84
MAURITANIA	562	2 / 2	1 / 1	1 / 1	7 / 10	6 / 6	8 / 11	34 / 55	103 / 129	63 / 83	/	/	/	225 / 298	76
ETHIOPIA	371	4 / 5	3 / 5	8 / 8	40 / 43	78 / 108	110 / 128	62 / 65	56 / 57	20 / 20	8 / 8	1 / 1	1 / 2	391 / 450	87
CHAD	127	2 / 2	2 / 2	6 / 6	1 / 1	1 / 1	2 / 2	0 / 3	2 / 8	0 / 0	0 / 0	0 / 0	0 / 0	16 / 25	64
YEMEN	62	0 / 0	0 / 0	0 / 0	1 / 1	2 / 4	1 / 1	0 / 0	0 / 0	0 / 1	/	/	/	4 / 7	57
SENEGAL	19	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 3	1 / 1	0 / 0	0 / 0	0 / 0	/	/	4 / 4	100
CAMEROON**	17	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1	7 / 7	3 / 3	5 / 5	3 / 3	0 / 0	/	18 / 19	95
INDIA	9	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	0 / 0	-
TOTAL*	152805	4856 / 6970	3714 / 4721	7708 / 11502	4569 / 9555	5508 / 10513	4200 / 6009	4403 / 6464	3788 / 6314	2543 / 4192	1719 / 2681	1774 / 3060	1 / 2	44783 / 71983	62
% CONTAINED		70	79	67	48	52	70	68	60	61	64	-	-	62	

* Provisional
** Reported 18 cases imported from Nigeria.

Figure 2

PERCENTAGE OF ENDEMIC VILLAGES REPORTING AND PERCENTAGE CHANGE IN NUMBER OF CASES OF DRACUNCULIASIS DURING 1996 AND 1997*, BY COUNTRY

COUNTRY	ENDEMIC VILLAGES: 1997 NUMBER	ENDEMIC VILLAGES: 1997 % REPORTING	CASES REPORTED 1996	CASES REPORTED 1997	% CHANGE : 1996 - 1997
INDIA (8)	3	100	9	0	-100
CAMEROON (11)**	16	100	16	1	-94
YEMEN (9)	9	100	62	7	-89
CHAD (12)	16	100	127	25	-80
SUDAN (11)	5672	34	112704	41104	-64
SENEGAL (10)	7	100	10	4	-60
COTE D'IVOIRE (10)	226	92	2609	1119	-57
MALI (11)	423	85	2307	1079	-53
BENIN (11)	390	92	1222	653	-47
BURKINA FASO (10)	349	24	3182	1898	-40
MAURITANIA (9)	143	NR	470	298	-37
TOGO (11)	310	91	1444	1231	-15
UGANDA (11)	412	99	1447	1360	-6
NIGER (11)	416	99	2912	2949	1+
NIGERIA (11)	1689	96	11564	11886	3+
ETHIOPIA (12)	57	98	371	450	21+
GHANA (11)	1097	100	4378	7883	80+
TOTAL***	11232	61	144943	71983	-50
TOTAL WITHOUT SUDAN ***	5560	93	32239	30879	-4

(8) Reports for Jan. - Aug. 1997
(9) Reports for Jan. - Sept. 1997
10) Reports for Jan. - Oct. 1997
(11) Reports for Jan. - Nov. 1997
(12) Reports for Jan. - Dec. 1997

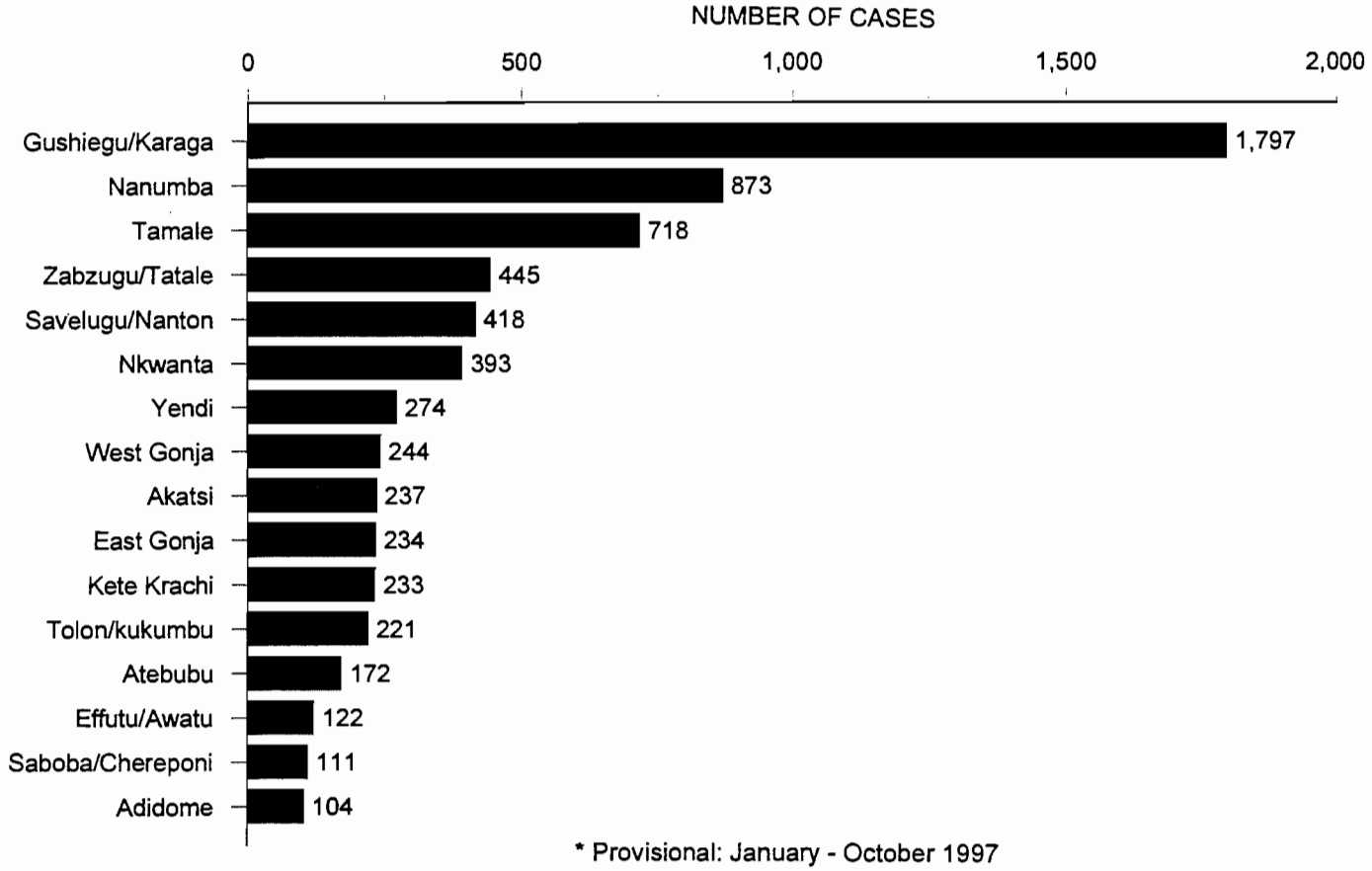
NR Not Reported
* Provisional
** Reported 18 cases imported from Nigeria in 1997.
*** Includes 18 cases imported into Cameroon

The significantly fewer cases reported by the most highly-endemic country, Sudan, so far for 1997 are almost certainly due more to reduced reporting because of increased fighting in the civil war than to the real reductions in transmission which Sudan also achieved in some states in 1997. The net result will likely be that for the first time, less than 100,000 annual cases of dracunculiasis will be reported globally in 1997. Overall, the reported rates of cases contained outside of Sudan averaged about 72% in 1997, compared to 66% in 1996.

GHANA: MORE CASES IN VOLTA, BRONG-AHAFO REGIONS

Through November 1997, Brong-Ahafo Region has reported 487 cases of dracunculiasis, which is 5.2 times as many cases as reported in the same period of 1996 (93 cases), while Volta Region has reported 1,282 cases, which is 3.8 times as many as in the same period of 1996 (341 cases). Almost all of the cases in Brong-Ahafo are in one district, Atebubu. Most of the cases in Volta Region are in Nkwanta, Akatsi, and Kete Krachi Districts. All four of these districts border, or are close to, the Northern Region. The program is taking aggressive action to help local authorities to contain the outbreaks, which have resulted from inadequate active surveillance in areas known to be at high risk. Northern Region, which reported 1.6 times as many cases in January-November 1997 (5,607 cases) as in 1996 (3,528), for the first time has reportedly contained 100% of all cases reported in that region in October and November 1997 (total of 254 cases). (See Figure 3.)

Figure 3 GHANA GUINEA WORM ERADICATION PROGRAM
DISTRICTS REPORTING 6596 (93%) OF 7075 CASES REPORTED IN 1997*



* Provisional: January - October 1997

Table 2

Dracunculiasis Eradication Campaign
Reported Importations of Cases of Dracunculiasis: Jan.- Nov.1997

From	To	Month	Cases		
			Number	Contained	Cross notified
Burkina Faso	Mali	January	2	2	0
		June	1	1	1
		July	3	0	3
		September	2	0	2
		October	1	0	1
	Cote d'Ivoire	May	1	1	1
		August	6	6	6
	Niger	May	1	0	1
		July	1	0	0
	Ghana	September	1	1	1
Cote d'Ivoire	Mali	June	1	1	0
Ghana	Togo	January	3	1	3
Mauritania	Mali	October	2	2	2
		November	2	0	2
Niger	Nigeria	July	1	1	1
	Mali	July	2	0	0
		October	1	0	1
Nigeria	Niger	March	1	1	1
		April	2	2	2
		May	1	0	0
		June	1	1	0
		July	8	1	8
		August	1	1	1
		September	1	1	1
	Cameroon	June	1	0	1
		July	7	7	7
		August	3	3	3
		September	5	5	5
		October	2	2	?
	Togo	??	4	?	?
Togo	Ghana	January	3	3	3
		March	1	1	1
		October	1	1	1
		November	1	1	1
Sudan	Uganda	March	3	3	3
		July	2	0	0
		August	3	2	2
		November	1	?	?
	Ethiopia	February	2	2	0
		March	2	2	2
		April	1	1	0
		May	2	0	2
		August	2	2	0
		September	2	2	0
		October	2	1	1
	Kenya	August	1	1	1
Uganda	Kenya	January	1	1	0
		June	2	2	0
		July	1	1	0
Total			101	66	71

NIGERIA: INTENSIFIED ACTION IN NORTHEAST

Acting Northeast Zonal Coordinator Mr. Joshua Ologi reports that the latest monthly border meeting between Guinea Worm Eradication Program staff of northeast Nigeria and Cameroon was held at Banki, Nigeria, on December 3. The Nigerian program has secured the agreement of zonal UNICEF officials and WHO to help provide boreholes with extra deep pumps for Borwashe (2) and Cha-chile (1) villages beginning before the end of December 1997. Those two border villages were the source of all cases imported into Cameroon in 1997. Abate treatment of local ponds has been stepped up, in addition to intensified health education, mobilization of state, LGA, and local authorities, and distribution of cloth filters. A special Zonal Task Force Meeting was convened on November 25, at which 9 of the 10 states in the zone were represented, in addition to representatives of UNDP and Global 2000/The Carter Center.

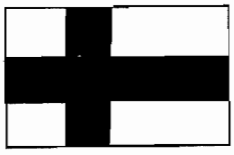
Of the 774 cases reported in Nigeria in November, 80.6% were from Enugu/Ebonyi (293 cases), Oyo (184), and Benue (147) States. These represent significant increases from the 158, 104, and 53 cases reported from those states in November 1996, respectively.

DANIDA GRANT FOR NIGER

In December, officials of the Danish International Development Agency (DANIDA) informed the Government of Niger and Global 2000/The Carter Center that DANIDA would provide a grant of 4,014,272 Danish kroner (approximately US $600,000) for the Guinea Worm Eradication Program of Niger in 1998-1999. Eighty percent of the total amount will be used to fund interventions by the program in the field, including purchase of filter material. The remainder will help support the program's secretariat.

COORDINATION MEETING FOR SUDAN HELD IN NAIROBI; FINLAND PROVIDES SUPPORT THROUGH THE CARTER CENTER

Representatives from the Sudan Guinea Worm Eradication Program's secretariat in the Federal Ministry of Health, Khartoum; The Carter Center/Global 2000's offices in Khartoum and Nairobi; and UNICEF-OLS Southern Sector Health Office met in Nairobi, December 12-16, to review program activities and results from 1997, and to coordinate 1998 plans of action.



In December, the Department for International Development Cooperation of the Ministry of Foreign Affairs of Finland informed The Carter Center that the government would contribute 800,000 Finnish marks (approximately $145,000) for the Center's work in Sudan. These funds will be used in support of dracunculiasis eradication activities in Sudan in 1998.

Sudan has reported a provisional total of 41,104 cases of dracunculiasis in January-November 1997 (Table 1). This is less than half of the 112,706 cases reported in the same period of 1996. An average of 44% of known endemic villages reported in 1996, vs. only 34% in 1997 so far. Jonglei State reports 44% of cases in 1997, but increased fighting in the civil war has reduced reporting overall, especially from areas of Bahr Al-Ghazal, which are known to be highly endemic and which reported a large share of Sudan's cases in 1996. Overall incidence in the ten northern states has declined despite equal or better reporting

rates in 1997, but West Kordofan is responsible for more than half (371 of 613) of the known cases there in 1997, while three states (Sennar, North Darfur, White Nile) have reported little change in incidence between 1996 and 1997. Reporting from South Kordofan, parts of which are known to have been highly endemic a decade ago, has been scanty in recent years, due to security concerns. The program plans to extend the use of Abate in both operational areas during the current dry season.

ZINGESER HONORED

At the end of December, Dr. James Zingeser, Global 2000/The Carter Center's Resident Technical Advisor to the Niger Guinea Worm Eradication Program for the past three years, returned to the United States. In a moving ceremony held on the eve of his departure, Madame Director Khadi O. Traore of the Directorate of Prevention, Sanitation, and Hygiene presented Dr. Zingeser an Official Testimony of Satisfaction (Temoignage Officiel de Satisfaction) on behalf of the minister of health.

IN BRIEF:

Chad. Health and Development International (HDI) has provided a grant of $10,000 to the GWEP of Chad in December to help cover costs of office operations and surveillance in 1998.

Ethiopia. Global 2000 provided a supplementary grant of $10,000 to this program in December to help cover the costs of health education materials and some other expenses in 1998. Sufficient filter material and Abate are in place for the 1998 transmission season.

Mali. In January-November 1997, Kayes Region has reduced its incidence of dracunculiasis by 61% compared to the same period of 1996 (from 298 to 115 cases), with 85% of the 1997 cases contained. Mopti Region has recorded a reduction of 45% (from 814 to 449 cases), with 78% of cases contained in the same period. Gao and Timbuktu are now the second and third highest endemic regions in the country, with Mopti and Kayes ranking first and fourth.

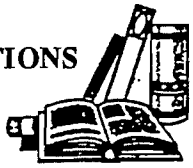
TRANSITIONS

Dr. Nevio Zagaria has joined the Dracunculiasis Eradication Unit of the Control of Tropical Diseases Division at WHO headquarters. Dr. Zagaria is an Italian national with field experience in several African countries. He will help WHO provide assistance to national dracunculiasis eradication programs. ***Welcome!***

Dr. James Zingeser, formerly Global 2000's Resident Advisor to the GWEP of Niger, has returned to headquarters in Atlanta. Dr. Zingeser's new position is senior epidemiologist in the Disease Eradication and Control Unit of the Carter Center.

Dr. Ernesto Ruiz-Tiben of the Global 2000 Program has been designated Technical Director of the Guinea Worm Eradication Program in the Disease Eradication and Control Unit of the Carter Center, which includes Global 2000.

RECENT PUBLICATIONS



Dowdle WR, Hopkins DR (eds), 1998. The Eradication of Infectious Diseases. New York: John Wiley & Sons, 220pp.

Edungbola LD, 1996. Dracunculiasis in Nigeria - the final hurdles. Nigerian J Parasitol, 17:1-2.

Hopkins DR, 1997. Disease eradication: progress report. In: Britannica Medical & Health Annual 1998, E. Bernstein, ed. Chicago: Encyclopedia Britannica, Inc., pp. 334-335.

Ibe KK, Nwobi BC, 1996. Dracunculiasis transmission and variations in geological formations - a preliminary study in Afiko-Amasiri-Okposi Region of southeastern Nigeria. Nigerian J Parasitol, 17:75-81.

Nwobi BC, Ibe AUC, Oguoma CEO, Sallau AK, 1996. Field experiences on the use of "Abate" in the northeast zone of Nigeria. Nigerian J Parasitol, 17:63-68.

Nwobi BC, Okolo CJ, Njoku OM, Oguoma CEO, 1996. Dracunculiasis infection in Awe LGA, Plateau State, Nigeria. Nigerian J Parasitol, 17:69-74.

Nwobi BC, Onwuliri COE, Okolo CJ, Njoku OM, Oguoma CEO, 1996. Infection rates of cyclops vector population in guineaworm endemic villages of Awe, Plateau State, Nigeria. Nigerial J Parasitol, 17:83-88.

Spring M, Spearman P, 1997. Dracunculiasis: report of an imported case in the United States. Clinical Infectious Diseases, 25:749-750.

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 Trenton K. Ruebush, MD, Director, WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, NCID, Centers for Disease Control and Prevention, F-22, 4770 Buford Highway, NE, Atlanta, GA 30341-3724, U.S.A. FAX: (770) 488-4532.

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