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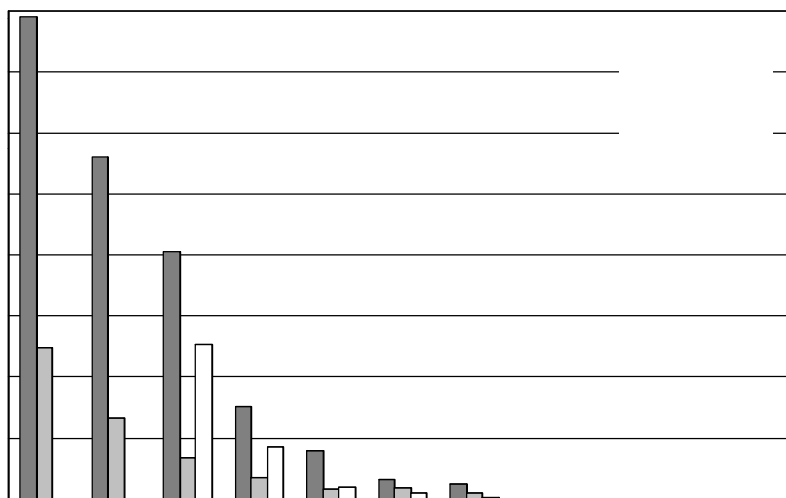
National Program Coordinators reported on the status of their Guinea Worm Eradication Programs, including several African countries in the pre-certification stage, and Yemen. The status of various indices as of the end of 2000 is given in Tables 1 and 5 and Figures 3 and 4. Some other highlights are given here. **Niger** and **Togo** have distributed filters house-to-house. **Mali** introduced a cash reward system for reporting of new cases (Niger will do so in 2001). **Ghana** suspended its reward system, and is beginning a “massive” water investment scheme intended to accelerate provision of safe water to endemic communities. **Benin** had only imported cases in two of its six formerly endemic departments last year. **Mauritania** is benefiting from borehole wells provided by the Japan International Cooperation Agency (JICA) in a project that began in 1999; the only case reported in Adrar last year was imported from another part of the country. **Ethiopia** reduced its indigenous cases by –78% in 2000 and increased its cash reward for reporting of a case. **Uganda**, which once reported the second-highest number of cases in the world, has now gone almost five successive months without a case. UNICEF helped get safe water to all endemic villages in Uganda’s Kitgum District and expects to complete coverage of endemic villages in Moroto and Kotido Districts in 2001. **Cote d’Ivoire** was constrained by late release of resources. **Burkina Faso** is routinely monitoring copepods to check the efficacy of teams treating water sources; Peace Corps Volunteers are active in 23 endemic villages. **Nigeria** is monitoring the status of key interventions each month. A WHO consultant to **Central African Republic**, Mr. Georges N’Diaye, led teams that surveyed 105 villages in southeastern border areas of that country. Although he saw no active cases of dracunculiasis himself, some of the national supervisors reportedly did. WHO and **Chad** believe that three suspect cases that were reported to have occurred in that country in August 1998 were authentic indigenous cases. **Sudan** is very close to breaking transmission in its northern states. The project assisted by Comitato Collaborazione Medica (CCM) in the Adior area of highly endemic Lakes (Buheirat) State in southern Sudan reduced the number of cases by 81% from the 4,322 reported in 1999 despite very high reporting rates in both years. Approximately 2,000 people are working on the project to prepare and distribute nine million pipe filters for personal use in Sudan this year. So far, one million pipe filters have been prepared. Several countries reported on their strong positive experiences in using female village volunteers.

Two working groups discussed ways to 1) improve surveillance and containment of cases, and 2) monitor and supervise intensified interventions more effectively. The work groups identified basic constraints and suggested specific solutions for each. It was agreed that surveillance must be active and should include as many methods as possible e.g., village volunteers, schools, markets, etc. Programs should try to get the

Endemic countries also reported on their results so far in 2001 (January-February). So far this year, Benin has reported the highest case containment rate (86%), while Cote d'Ivoire reported the lowest (33%). The low containment rate in Cote d'Ivoire elicited many comments and questions. The greatest reductions in cases so far were reported by Uganda (100%) and Benin (65%). Togo (50%) and Burkina Faso (18%) have reported significant increases in cases, while Ethiopia, Mauritania and Uganda have reported no cases thus far (Table 2). Mr. Amegbo, Dr. Alhousseini Maiga of WHO, and Dr. Ernesto Ruiz of The Carter Center participated in a press conference before the meeting began. The meeting and the dedication of new wells in endemic villages of Ogoou Prefecture (see story below) received extensive coverage on television and in other mass media.

Four new national program coordinators participated in this meeting for the first time in that capacity: Dr. Augustine Mada of Central African Republic, Mr. Tesfaye Gezahegn of Ethiopia, Dr. Andrew Seidu Korkor of Ghana, and Dr. Abderrhmane Ould Kharchi of Mauritania. General Gowon and other members of the Nigerian team drove from Lagos to Lome in a motorcade of 7 vehicles.

Figure 2



TOGO DEDICATES NEW WELLS IN OGOU DISTRICT

On Friday, March 23, Togo's minister of health (Professor K. Charles Agba) and the minister of education (Mr. Kofi Sama) visited the endemic village of Ilama in Ogoou Prefecture to officially inaugurate two of the ten new borehole wells that were recently provided by The Carter Center/Global 2000. The ten wells were provided in nine of the highest endemic villages lacking safe water supply in the prefecture, according to the 1999 line-listing for Ogoou (see *Guinea Worm Wrap-Up #108*).

Global

Ogoou is the highest endemic prefecture in Togo, reporting 384 (46%) of the country's 828 cases in 2000. **These nine villages reported 312, or 20% of Togo's 1,585 cases in 1999.** Representatives of all nine villages were present at the ceremony, as well as the acting Prefect of Ogoou, the national program coordinator (Mr. K. Ignace Amegbo), representatives of U.S. Peace Corps, and Dr. D. Hopkins, Dr. E. Ruiz, and Mr. C. Withers of The Carter Center/Global 2000. The wells have been operational since early November 2000.

Table 1

**Number of cases contained and number reported by month during 2000*
(Countries arranged in descending order of cases in 1999)**

COUNTRY	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED												TOTAL*	%	
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER			
SUDAN	511 / 1263	603 / 1033	511 / 900	563 / 1322	1951 / 6064	3305 / 8591									

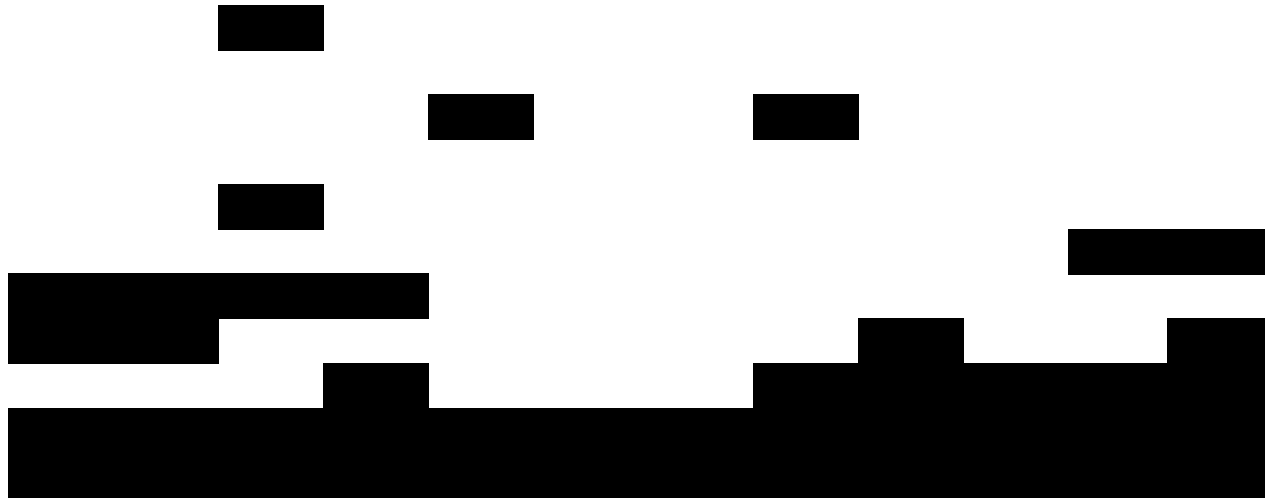


Table 2

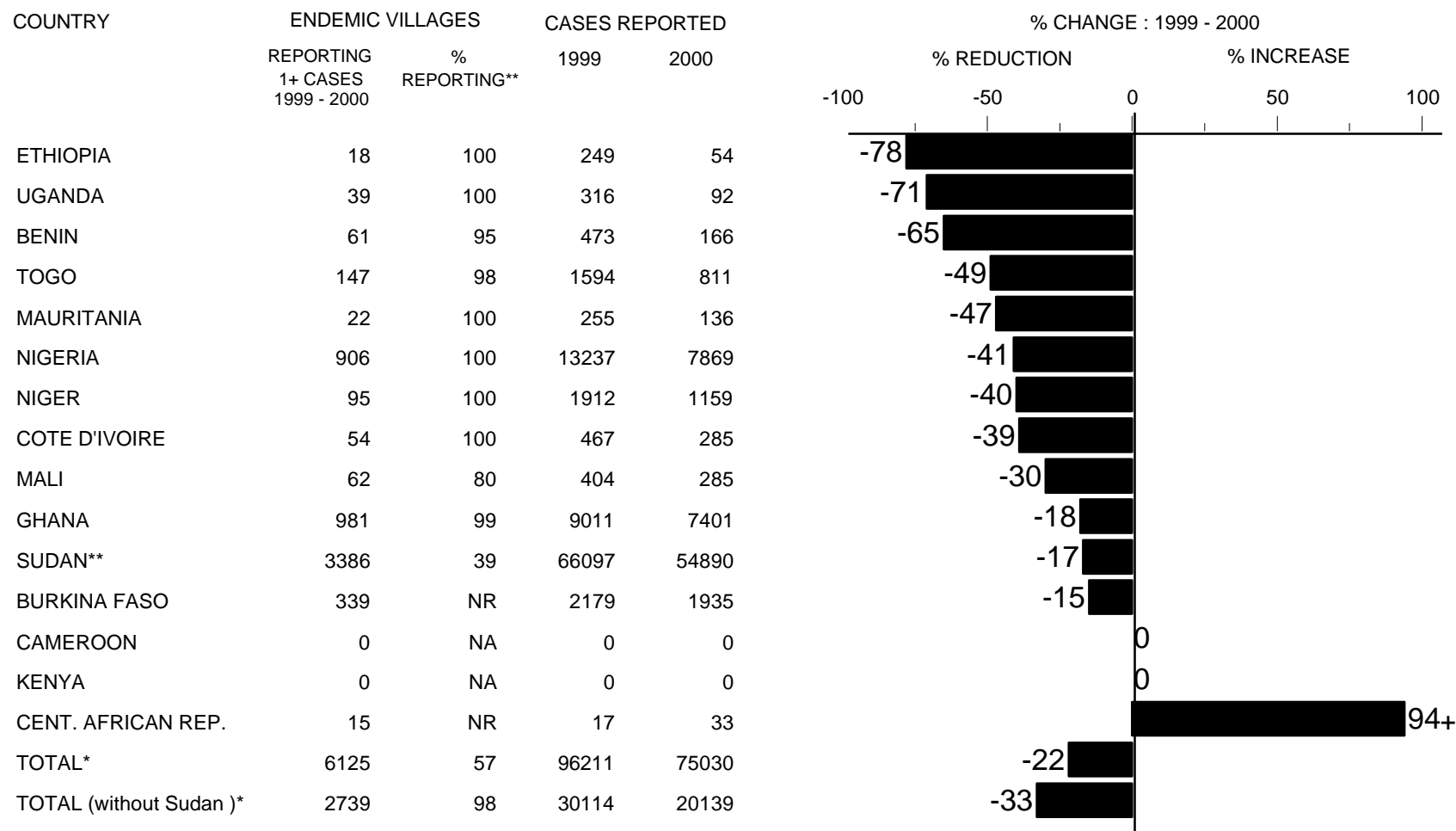
**Number of cases contained and number reported by month during 2001*
(Countries arranged in descending order of cases in 2000)**

COUNTRY	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED												TOTAL*	CONT.	%
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER			
	741	756											1497		
SUDAN	/	2006	/	/	/	/	/	/	/	/	/	/	/	3412	44
	673	813	423										1909		
NIGERIA	/	1017	/	/	/	/	/	/	/	/	/	/	/	2776	69
	622	672	730										1294		
GHANA	/	844	/	/	/	/	/	/	/	/	/	/	/	1761	73
	17	20											37		
BURKINA FASO	/	19	/	/	/	/	/	/	/	/	/	/	/	39	95
	1	2	0										3		
NIGER	/	2	/	/	/	/	/	/	/	/	/	/	/	4	75
	109	57	0										166		
TOGO	/	120	/	/	/	/	/	/	/	/	/	/	/	211	79
	2	91											2		
MALI	/	0	/	/	/	/	/	/	/	/	/	/	/	4	50
	4	0													
	17	18													
COTE D'IVOIRE	/	38	/	/	/	/	/	/	/	/	/	/	/		
		58													



Figure 3

Percentage of Endemic Villages Reporting and Percentage Change in Number of Indigenous Cases of Dracunculiasis During 1999 and 2000*, by Country



* provisional

** 2,600 (33%) of 7,898 endemic villages are not accessible to the program

Table 4

Dracunculiasis Eradication Campaign
Reported Importations and Exportations of Cases of Dracunculiasis: 2000

From	»»»	To	Month and number of cases imported												Total	Number of caes exported	
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.			
Ghana	»»»	Benin	3	2	4	0	0	1	0	0	0	0	0	0	1	11	Ghana = 27
Ghana	»»»	Cote d'Ivoire	0	0	0	0	3	3	0	0	0	0	0	0	6		
Ghana	»»»	Togo	0	3	1	0	0	3	1	1	1	0	0	0	10		
Burkina Faso	»»»	Cote d'Ivoire	1	0	0	0	1	1	0	0	1	0	1	1	6	Burkina Faso = 16	
Burkina Faso	»»»	Mali	0	0	0	0	0	0	2	4	1	0	0	0	7		
Burkina Faso	»»»	Niger	0	0	0	0	1	0	0	0	2	0	0	0	3		
Sudan	»»»	CAR	1	0	0	0	0	0	0	0	0	0	0	1	2	Sudan = 16	
Sudan	»»»	Ethiopia	0	0	0	0	0	1	3	0	1	0	0	1	6		
Sudan	»»»	Kenya	0	0	0	0	0	0	1	0	1	0	1	4			
Sudan	»»»	Uganda	0	0	0	0	0	2	1	0	0	0	0	1	4		
Nigeria	»»»	Ghana	0	0	0	0	0	0	0	0	0	0	0	1	1	Nigeria = 11	
Nigeria	»»»	Cameroon	0	0	0	0	0	0	0	1	0	2	0	0	3		
Nigeria	»»»	Niger	0	0	0	0	3	0	0	0	0	0	0	3			
Nigeria	»»»	Togo	0	0	0	0	1	0	0	0	0	3	0	0	4		
Togo	»»»	Benin	3	1	0	0	0	1	2	0	0	0	0	2	9	Togo = 9	
Benin	»»»	Togo	0	0	0	0	0	1	0	1	0	1	0	0	3	Benin = 3	
Niger	»»»	Mali	0	0	0	0	0	0	1	0	0	0	0	0	1	Niger = 1	
Mali	»»»	Niger	0	0	0	0	2	0	0	0	2	0	0	0	4	Mali = 6	
Mali	»»»	Burkina Faso	0	0	0	0	2	0	0	0	0	0	0	2			
Cote d'Ivoire	»»»	Burkina Faso	0	0	0	0	0	1	0	0	0	0	0	0	1	Cote d'Ivoire = 1	
		Total	8	6	5	0	13	14	11	7	9	6	2	9	90		

Table 5

**Reported cases of dracunculiasis and villages reporting one or more cases during 2000,
and status of key interventions as of December 31, 2000**

Country	Dracunculiasis Cases in 2000			Endemic Villages in 2000				
	Total #	# Contained (%)	# Internationally Imported***	Total #	# only 1 case	% all h/h Filters	%Abate	% Safe Water
Nigeria	7,869	4,589 (58%)	0	906	201	88%	54%	50%
Ghana	7,402	5,905 (80%)	1	981	299	83%	80%	47%
Burkina Faso	1,858	1,319 (69%)	3	339	111	90%	17%	86%
Niger	1,166	729 (63%)	10	95	27	95%	64%	54%
Togo	828	595 (71%)	17	147	40	78%	77%	50%
Mali	290	166 (57%)	8	62	23	100%	39%	30%
Cote d'Ivoire	297	184 (62%)	12	54	34	100%	100%	81%
Benin	186	150 (80%)	20	63	35	100%	48%	67%
Mauritania	136	78 (57%)	0	22	9	100%	36%	73%
Uganda	96	76 (79%)	4	39	33	100%	96%	65%
Ethiopia	60	57 (95%)	6	18	11	100%	26%	44%
C.A.R. *	32		2	15				
Sudan **	75,120	23,143 (42%)	0	3,386	?	28%		

GHANA HOLDS MID-YEAR REVIEW; CASES CONTINUE TO DECLINE

The Ghana Guinea Worm Eradication Program convened a mid-year review of the program at Ho, in Volta Region on March 19-20. The meeting was opened by the regional minister for Volta Region, Mr. Owusu-Yeboah. The Keynote Address was delivered by Dr. George Amofah, deputy director, public health in the national ministry of health. Dr. Amofah remarked on the urgency of eradicating Guinea worm disease in Ghana, as stated by the new head of state in his parliamentary address, and by the new minister of health. Dr. Amofah also made clear his own determination to ensure that the program is not conducted as “business as usual” in this final eradication phase. Carter Center associate executive director Dr. Donald Hopkins reviewed the status of the global campaign. The national program coordinator, Dr. Andrew Seidu Korkor summarized the status of the Ghana program, followed by presentations by the Guinea worm coordinators for each of the ten regions.

Recent achievements since the previous national review was held in Tamale, Northern Region in September 2000 (see *Guinea Worm Wrap-Up #106*) include formation of an Interagency Coordinating Committee (ICC) at the national level. The ICC has met five times since November 2000 and it has already improved collaboration between the ministry of health and other government agencies, especially the water sector. Since September 2000, the percentage of Ghana’s endemic villages with filters in all households has increased from 70% to 83%, and the percentage of eligible ponds treated with Abate has increased from 63% to 83%. The reported rate of case containment increased from 61% in 1999 to 80% in 2000. The number of reported cases declined by –18% between 1999 and 2000, while the number of known endemic villages rose 5% from 934 to 981 (301 of the latter reported only one case each). Cases in January-February 2001 are down –48% from the same period of 2000. In Volta Region, which increased its case containment rate from 42% to 70% since the September 2000 review, the highest endemic district of Kete-Krachi is achieving substantial reductions in cases. Monthly monitoring of interventions has improved, especially in the Northern Region. Greater Accra, Upper East, and Western Regions reported zero indigenous cases throughout 2000.

Important remaining weaknesses that were discussed at the meeting include inadequate filter coverage in Northern Region’s Nanumba District (77% of endemic villages there have filters in all households), surveillance that is frequently passive, and weak supervision and motivation of zonal and village level workers in the program. The program is aiming to increase filter coverage to 100% and case containment

state General (Dr.) Yakubu Gowon; federal minister of state for health Dr. (Mrs.) Amina Ndalolo; chairmen of several Local Government Areas (LGA), traditional rulers of the ten most endemic villages in the state, representatives of donor agencies, and many others in a gala celebration of Nigeria's National

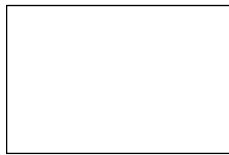
to establish a national reward of Birr 500 (300 for the case and 200 for the reporter) in non-endemic areas, and to include reporting of Guinea worm disease in the questionnaire for [polio] National Immunization Days and for polio Acute Flaccid Paralysis (AFP) surveillance. Ethiopia has reported only 5 indigenous cases of dracunculiasis in the last eight months (August 2000-March 2001).

Uganda has increased its reward for reporting of a case of dracunculiasis to 50,000 Ugandan shillings (~US\$29).

Benin: We regret to report the death of Mr. Celestin ASSINOU, who was a driver for the Guinea Worm Eradication Program of Benin since the beginning of the program in 1990. He was 43 years old.

Sudan: A recent grant for \$255,000 from the UN Foundation for Guinea worm eradication activities in OLS-South assisted areas, i.e., Rumbek County, Lakes State, Yambio County, Western Equatoria State, and Atar District of south Sudan. This support will provide 150,000 cloth filters, 50,000 "pipe filters", 173 bicycles, 173 pairs off gum boots for village volunteers, medical kits and replacement components, health education materials, stipends for district coordinators, and for transporting these supplies to these focus areas.

JAPAN CONTINUES SUPPORT FOR SUDAN



JAPAN

The Embassy of Japan in Khartoum has informed The Carter Center of a donation of \$150,000 for the Guinea Worm Eradication Program of Sudan. This award is made under the embassy's Grant Assistance for Grassroots Projects program, and will be used to purchase filter material for endemic areas served by the Government of Sudan and by Operation Lifeline Sudan / Southern Sector. The embassy made a similar grant of \$150,000 to the program in June 1999. Since 1991, Japan has been the largest donor of international development assistance. Japan has been a key supporter of the global campaign to eradicate dracunculiasis, including the provision of safe water in endemic villages. In addition to support provided through the Carter Center, Japan has provided wells and vehicles for the national programs in many countries as well as hands on support through the Japan Overseas Cooperation Volunteers.

Figure 4

I was very discouraged to see [that] the women we approached [did] not know how to filter properly. This was especially true when it came to removal of the filters from the pots, and in one case the woman turned the filter over immediately after filtering and rinsed all of the Cyclops straight back into her water pot which she was about to drink out of! She was the wife of the Village Volunteer and when we asked him about it, he replied that he has his own filter! We explained the importance of taking time to teach the women the correct method of filtering water. From a consultant's report.

RECENT PUBLICATIONS

CDC, 2001. Progress Toward Poliomyelitis and Dracunculiasis Eradication – Sudan, 1999 – 2000, April 2001. MMWR, 50: 269-273.

Klicks, M.M., 1995. Guinea-worm disease: human dracunculiasis. Oxford Textbook of Medicine, 3rd Edition, Vol. I. D.J. Mealhn, eds. Oxford Medical Publications, pp. 924-928.

Klicks, M.M., 2000. Guinea-worm disease: human dracunculiasis. Concise Oxford Textbook of Medicine, J. G. Ledingham, D. A. Warrell, eds. New York: Oxford University Press, pp. 924-928.

DEFINITION OF CASE CONTAINMENT

A case of Guinea worm disease is contained if all of the following conditions are met:

1. The patient is detected before or within 24 hours of worm emergence; and
2. The patient has not entered any water source since the worm emerged; and
3. The village volunteer has properly managed the case, by cleaning and bandaging until the worm is fully removed, and by giving health education to discourage the patient from contaminating any water source (if two or more emerging worms are present, the case is not contained until the last worm is pulled out); and
4. The case is verified by a supervisor within 7 days of worm emergence (to confirm that the case is Guinea worm, and that it has been properly contained).

Inclusion of information in the Guinea Worm Wrap-Up does not

For information about the GW wrap up, contact Dr. Daniel Colley, Acting 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. The GW Wrap-Up web location has changed to <http://www.cdc.gov/ncidod/dpd/parasites/guineaworm/default.htm>

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