



Date: March 2, 2009



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

Subject: GUINEA WORM WRAP-UP #187

To: Addressees

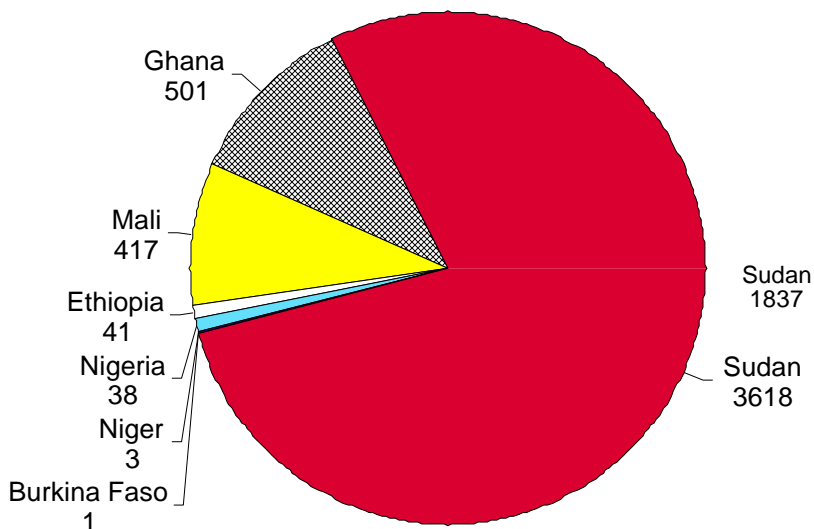
**Months since last indigenous case of dracunculiasis:**  
**Ethiopia:** 3 months, **Niger:** 3 months, **Nigeria:** 2 months, **Mali:** 1 month

**NIGERIA: NO UNCONTAINED CASE SINCE DECEMBER 2007**

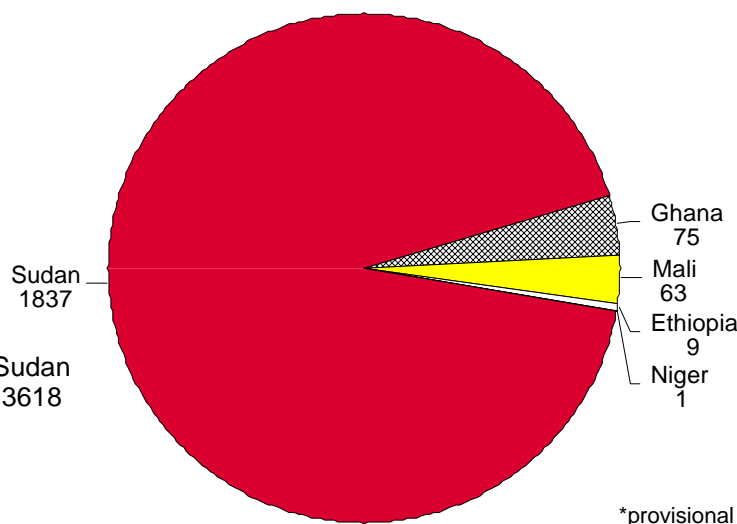
Nigeria has reported no uncontained case of dracunculiasis since December 2007, when the Nigerian Guinea Worm Eradication Program (NIGEP) reported 23 cases of the disease, of which 21 were uncontained (Figure 1). Earlier in 2007, NIGEP reported 7 uncontained cases (of 32 cases) in January, and 6 uncontained cases in November (of 7 cases), among a total of 73 indigenous cases reported that year. All of the 38 cases reported by NIGEP in 2008 originated in the village of Ezza Nkwubor (Enugu State), where a surprise outbreak was discovered early in 2007, thus delaying the expected interruption of transmission of dracunculiasis in the country. 28 of the 38 cases that Nigeria reported in 2008 were reported in January of that year, followed by 8 cases in February and 1 case each in March and November (Table 1). All 38 cases in 2008 were contained and explained, and no case was detected in January 2009 (Table 1 and Figure 2).

Figure 1

Distribution of 4,619 Cases of Dracunculiasis Reported From Six Endemic Countries During 2008\*



Distribution of 1,985 Uncontained Cases of Dracunculiasis Reported From Six Endemic Countries During 2008\*



\*provisional

## **GHANA: HICCUP IN JANUARY 2009**

Not unlike the surprise outbreak in January 2007 that delayed Nigeria's march to eradication, as recounted above, Ghana has reported 45 cases of dracunculiasis in January 2009, compared to 73 cases in January 2008 for a reduction of only -38% (Table 2, Figure 3), following a highly successful year when the program contained 85% of all known cases, and the lowest percentage reduction in any month was -68%, in August 2008. This outbreak in the Central Gonja District of Ghana's Northern Region is centered in the community called Fulfulso Junction, which reported 21 cases, and from which another 5 of the January cases were exported to 5 other villages in Northern Region. The 19 other cases reported in January 2009 were in East Gonja (8 cases), Tolon (5 cases), Savelugu (2 cases), Tamale (3 cases) and Karaga (1 cases) Districts. 41 of the cases in January were reportedly contained, including 32 that were confined in a Case Containment Center. The program does not believe that any of the cases contaminated any water source, and all appropriate water sources were treated with ABATE® Larvicide. As this outbreak demonstrates again, wherever program staff and supervisors are negligent, Guinea worms will find a way to survive another year.

## **WHO TEAM VISITS MAURITANIA; ICCDE MEETING IS POSTPONED**



An International Certification Team (ICT) from the World Health Organization (WHO) visited Mauritania from January 26 to February 8, 2009 to confirm whether the country has interrupted Guinea worm transmission and is eligible for certification. This mission was led by Prof. David Molyneux of the International Commission for the Certification of Dracunculiasis Eradication (ICCDE), and included three other consultants: Dr. Anne Perrocheau of France, Dr. Georges N'Diaye of Senegal, and Dr. Larba Theodore Kangoye of Burkina Faso. Drs. Alhousseini Maiga and Ahmed Tayeh of WHO, participated in the mission at the beginning and towards the end, respectively, to assist in preparation, briefing and de-briefing. The ICT members each led a team that visited two *wilayas* (regions). The teams interviewed a total of 687 villagers and 56 village volunteers in 81 villages, and were satisfied that no cases of dracunculiasis had been detected in Mauritania since the last 3 cases were reported in 2004. The ICT members recommended certifying Mauritania as free of Guinea worm disease, due to availability of a satisfactory surveillance system, rare movement of people from endemic areas of Mali to at risk areas of Mauritania, and satisfactory safe water supply in surveyed areas.

The 7<sup>th</sup> ICCDE Meeting, which was scheduled to convene in Bamako, Mali on March 3-5, has been postponed until later this year, because of logistical and other difficulties associated with preparations and documentation required for the meeting. This meeting, which is to consider applications for certification of Angola, Benin, Cambodia, Chad, [D.R. Congo?] Eritrea, Guinea, Mauritania, and South Africa, is now expected to take place in Geneva during October 2009.

N.B.: The 13<sup>th</sup> Meeting of National Program Managers of Dracunculiasis Eradication Programs will still meet in Bamako, Mali on March 4-6. The annual National Program Review meeting for Mali's Guinea Worm Eradication Program will be held in Bamako on March 9-11.

Table 1

**Number of Cases Contained and Number Reported by Month during 2008\***  
**(Countries arranged in descending order of cases in 2007)**

COUNTRIES REPORTING CASES	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED												
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*
SUDAN	8 / 32	13 / 34	39 / 88	112 / 258	259 / 618	394 / 759	399 / 783	313 / 536	126 / 254	94 / 160	16 / 75	8 / 21	1781 / 3618
GHANA	66 / 73	63 / 80	37 / 48	60 / 68	69 / 74	57 / 73	27 / 30	12 / 13	4 / 5	8 / 8	12 / 14	11 / 15	426 / 501
MALI	1 / 1	0 / 0	0 / 0	1 / 1	16 / 16	59 / 60	111 / 120	50 / 60	48 / 72	44 / 56	20 / 27	4 / 4	354 / 417
NIGERIA	28 / 28	8 / 8	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	38 / 38
NIGER	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 1	0 / 0	0 / 0	2 / 3
ETHIOPIA**	0 / 0	0 / 0	5 / 8	22 / 25	1 / 1	3 / 3	0 / 1	0 / 1	0 / 1	1 / 1	0 / 0	0 / 0	32 / 41
BURKINA FASO	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1
TOTAL*	103 / 134	85 / 123	82 / 145	196 / 353	345 / 709	513 / 895	537 / 934	375 / 610	179 / 333	147 / 226	49 / 117	23 / 40	2634 / 4619
% CONTAINED	77	69	57	56	49	57	57	61	54	65	42	58	57
% CONT. OUTSIDE SUDAN	93	81	75	88	95	88	91	84	67	80	79	79	85

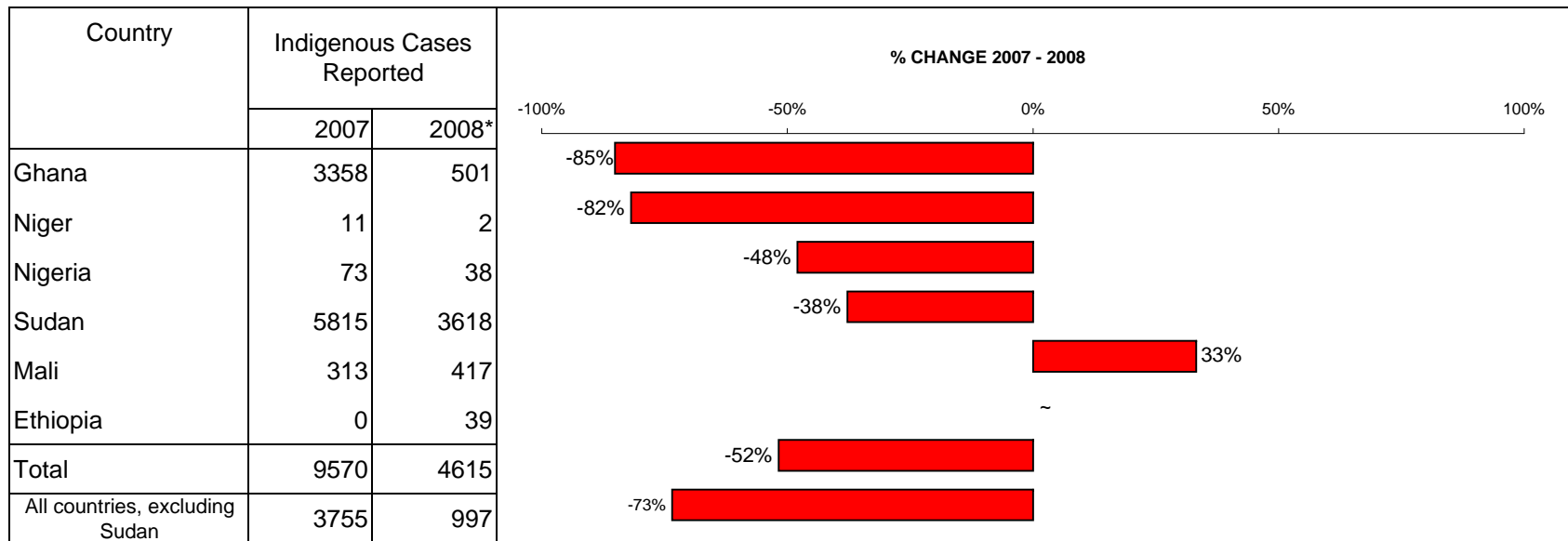
\* provisional

\*\* Although the source of the infection of 38/41 cases reported by Ethiopia has not been established beyond all doubt so far, available evidence suggests local transmission of GWD leading to these cases was likely during 2007. Moreover, one undisputed indigenous case was reported in October 2008 in the same area of Gambella Region. Two other cases were imported from Southern Sudan.

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

Figure 2

Number of Indigenous Cases Reported During the Specified Period in 2007 and 2008\*, and Percent Change in Cases Reported



\* Provisional: excludes 4 cases exported from one country to another

\*\* Although the source of the infection of 38/41 cases reported by Ethiopia has not been established beyond all doubt so far, available evidence suggests local transmission of GWD leading to these cases was likely during 2007. Moreover, one undisputed indigenous case was reported in October 2008 in the same area of Gambella Region. Two other cases were imported from Southern Sudan.

Table 2

Number of Cases Contained and Number Reported by Month during 2009\*  
(Countries arranged in descending order of cases in 2008)

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*	
SUDAN	/	/	/	/	/	/	/	/	/	/	/	/	0 / 0	
GHANA	31 / 45	/	/	/	/	/	/	/	/	/	/	/	31 / 45	69
MALI	0 / 0	/	/	/	/	/	/	/	/	/	/	/	0 / 0	
ETHIOPIA**	0 / 0	/	/	/	/	/	/	/	/	/	/	/	0 / 0	
NIGERIA	0 / 0	/	/	/	/	/	/	/	/	/	/	/	0 / 0	
NIGER	0 / 0	/	/	/	/	/	/	/	/	/	/	/	0 / 0	
TOTAL*	31 / 45	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	31 / 45	69
% CONTAINED	69												69	
% CONT. OUTSIDE SUDAN	69												69	

\* provisional

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

Figure 3

Number of Indigenous Cases Reported During the Specified Period in 2008 and 2009\*, and Percent Change in Cases Reported



\* Provisional: excludes cases exported from one country to another  
 (1) Indicates months for which reports were received, i.e., Jan 2009

\*\* Although the source of the infection of 38/41 cases reported by Ethiopia has not been established beyond all doubt so far, available evidence suggests local transmission of GWD leading to these cases was likely during 2007. Moreover, one undisputed ind

## **IMPORTED CASES:**

Previous issues of the Guinea Worm Wrap-up have encouraged National Guinea Worm Eradication Programs (GWEPs) to contain and explain the probable origin of infection for each case of Guinea worm disease (GWD). Determination of the place where the patient was infected includes a detailed history of travel/movement of the patient during the preceding 10-14 months, as well as the village/locality of residence (home village) of the patient. Establishment of the place of residence is an important component that helps determine whether a case is imported from elsewhere, and necessary to avoid confusion, misinterpretation, or misuse of data gathered during a case investigation. If a person with GWD resident in one country is detected and declared a case of GWD in another country, and the investigation establishes that the person was resident in the country of origin 10-14 months before, that person is declared to be an imported case of GWD by the country where the case was detected, and the country of residence of the person is immediately notified about the outcome of the case investigation.

However, the vast majority of imported cases of GWD are importations from villages, districts, regions within the same country. Sorting out where the person became infected, although often problematic, must always begin by first establishing the home village/locality of the person, and determining the travel history of the person during the last 10-14 months. We have noted that in frequent instances patients with GWD are quickly labelled “imported” on the mere basis of a history of having visited another endemic village, but without consideration of whether the patient’s home village and/or the village of detection are also endemic (possibility of unreported indigenous cases the year before). A mere visit to an endemic village should not necessarily make one immediately conclude that was the place where infection occurred, without first careful consideration of the following aspects:

1. Whether the visit to the endemic village is coincident with the approximately one year-long incubation period, i.e., 10-14 months before the emergence of the Guinea worm.
2. Whether the village of usual residence or where the case was detected are also endemic. The investigation must clearly establish that the patient was not present either in his or her usual village of residence, or in the village where they were detected 10-14 months before the Guinea worm emerged.
3. When the village of usual residence or where the case was detected are known to have endemic transmission and it is established that the person was resident in one or the other 10-14 months ago, the case should be considered indigenous to one or the other village, even if the patient’s history of travel indicates visits to other endemic villages. All interventions against transmission of GWD should be ongoing in both endemic villages.
4. Once the case investigation is concluded, the outcome of the investigation must be immediately communicated to the region, district, village where the infection is believed to have originated.

The case is only considered imported if the investigation clearly establishes that the probable source, or origin, of infection is associated with a community distinctly apart from the community where the case was detected. The GWEP would then immediately cross-notify supervisors covering the suspected area of infection to ensure that the imported case was not

already reported and to determine if there is sufficient surveillance and supervision in the area associated with the source of infection.

A non-endemic community can only be declared endemic 10-14 months after an imported case is detected when resulting indigenous cases of GWD are detected (a result of contamination of sources of drinking water) (WER, No.37 13 September 2003). Figure 4 shows three types of travel patterns that may lead to declaring cases to be imported. In each scenario the detected case is imported and the source of infection is Village B. Misclassifying an imported case or confusing the residency of a case with the source of infection can hamper efforts to determine the location where transmission occurred and where interventions need to be urgently applied. Figure 5 shows a scenario where a case might be incorrectly labelled as imported because of travel through another endemic village.

Figure 4

### Case Importations

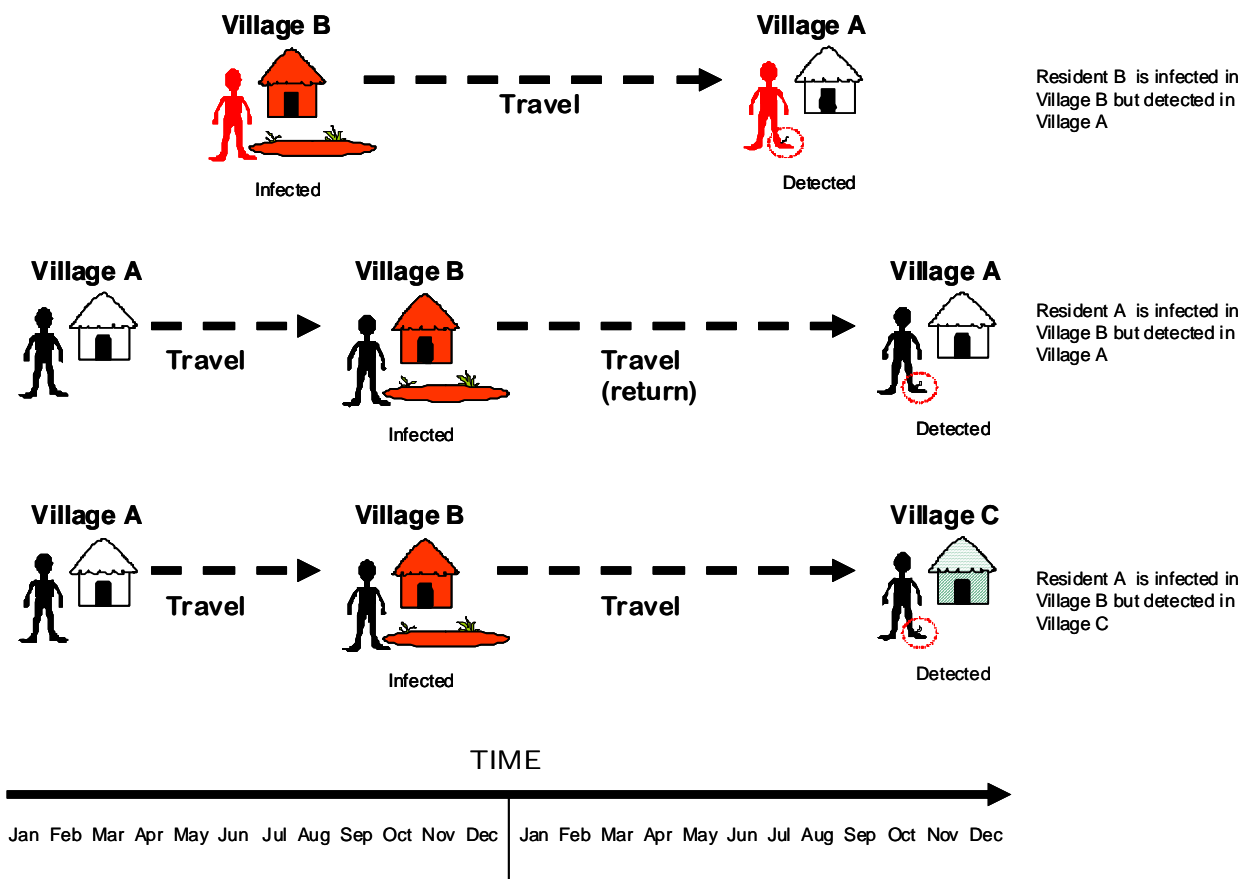
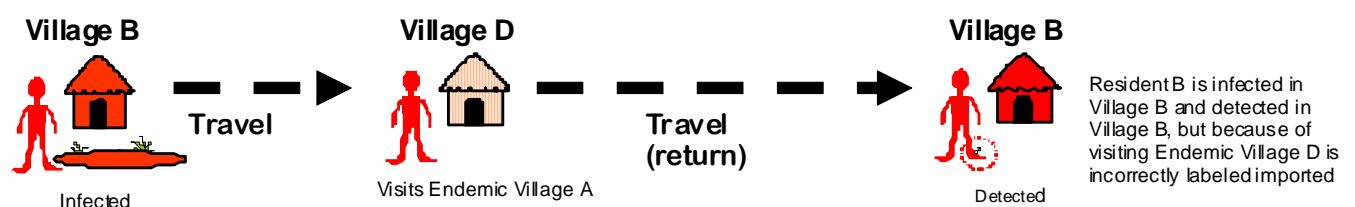


Figure 5

### Case Not Imported





## **IN BRIEF**

Niger: Three teams from the National Guinea Worm Eradication Pre-Certification Committee visited the field on January 12-19. One team visited Diffa, Zinder and Maradi Regions, another went to Tahoua and Niamey, and the third team visited Tillaberi and Dosso Regions. Niger's 16<sup>th</sup> Annual National Program Review was held on February 3-5, 2009.

## **MEETINGS**

The next meeting of the International Commission for Certification of Dracunculiasis Eradication is tentatively scheduled to be held in Geneva, Switzerland during October 21-23, 2009

## **RECENT PUBLICATIONS AND BROADCASTS**

Senior K. 2009. The end is nigh for Guinea worm disease. *The Lancet* 9(3): 149

WHO, 2009. Dracunculiasis: The "Fiery Serpent" Action Against Worms Issue 13 (February).

Dr. Donald Hopkins of The Carter Center was interviewed on CNN, CNNi, & CNN.com as part of CNN's Impact Your World program in February 2009. This interview may be seen at:

Impact Your World: <http://www.cnn.com/SPECIALS/2007/impact/>

3-minute Overview: <http://www.cnn.com/video/#/video/world/2009/02/18/iyw.guinea.worm.eradication.cnn>

7-minute In-depth: <http://www.cnn.com/video/#/video/world/2009/02/18/iyw.hopkins.interview.cnn>

Carter Center expert Kelly Callahan was featured on CNNI's "Inside Africa" to discuss Guinea worm and Sudan. "Inside Africa" is a half-hour current affairs weekly program that provides global viewers with an inside look at political, economic, social and cultural affairs and trends in Africa. This program may be viewed at:

<http://edition.cnn.com/video/#/video/world/2009/02/03/sesay.iaf.guinea.worm.fighter.cnn?iref=videosearch>

We regret to report the death of Dr. Jude Anosike, which occurred in Germany on December 22, 2008. Dr. Anosike was the project administrator for The Carter Center's River Blindness Program in Imo and Abia States of Nigeria in 1995-1998, and later served as a valued consultant to the Guinea Worm Eradication Program in Ebonyi State. Because of the effectiveness of his work, he was awarded a Jimmy and Rosalynn Carter Award for Guinea Worm Eradication in 2002. We extend our deepest condolences to his family.

*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>.*



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