



Date: July 1, 2009



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

Subject: GUINEA WORM WRAP-UP #190

To: Addressees

**Months since last indigenous case of dracunculiasis:**

**Niger: 7 months, Nigeria: 6 months**

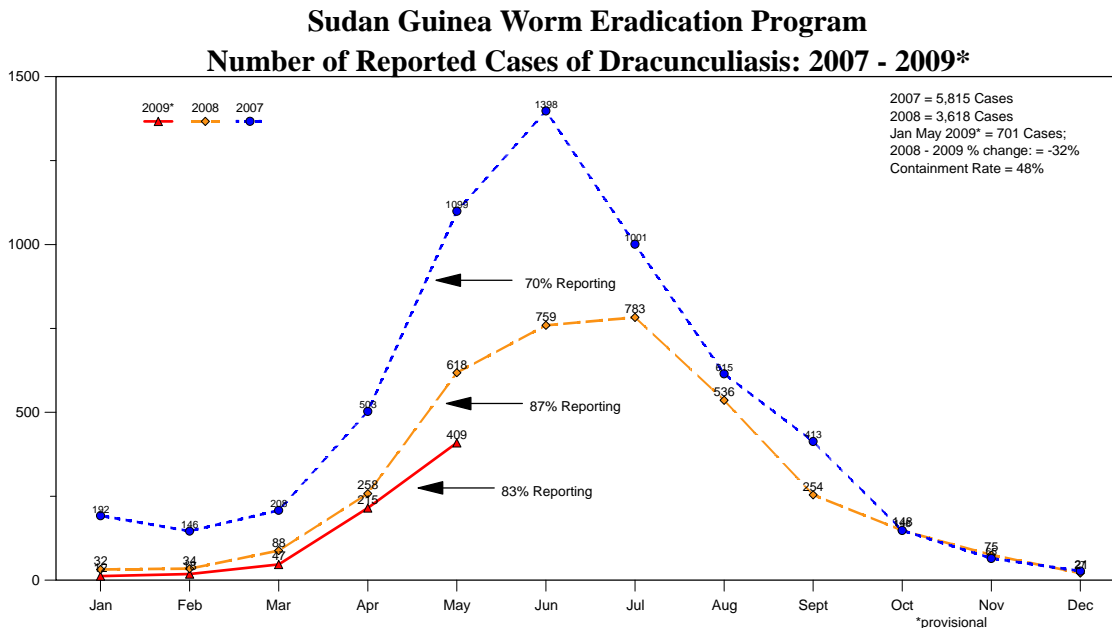
**Number of uncontained cases so far in 2009:**

**Sudan: 365, Ghana: 15, Niger: 1, Mali: 0, Ethiopia: 0, Nigeria: 0**

**SUDAN**

At the request of the Southern Sudan Guinea Worm Eradication Program (SSGWEP) a joint assessment of the status of the program was conducted during June 2-13. External evaluators were Dr. Gautam Biswas and Mr. Evan Lyosi, World Health Organization (WHO); and Dr. Ernesto Ruiz-Tiben, Mr. Philip Downs, and Mr. Steven Becknell, of The Carter Center. The objectives of the joint assessment were three-fold: 1) provide direct supportive supervision and technical guidance to supervisory staff working in highly endemic areas, 2) assess progress towards establishing surveillance for cases of Guinea worm disease (GWD) in areas free of transmission, and 3) formulate actionable technical recommendations for the secretariat, field supervisors, and for the volunteer structure system. Three assessment teams were formed. Team 1 visited endemic villages in Kapoeta County, Eastern Equatoria State, Team 2 visited endemic villages in Tonj North County in Warrap State, and Team 3 visited endemic localities in

Figure 1



Terekeka County of Central Equatoria State. Dr. Gautam Biswas also visited Northern Bahr Al Ghazal State to assess progress towards implementation of adequate surveillance in this Guinea worm-free state. The teams visited 6 counties, 10 payams (districts), and interviewed 19 Field Officers in 24 endemic villages. Additionally three case containment centers in operation were assessed.

The onset of the expected 2009 rainy season is delayed. As of almost mid June, most endemic areas East and West of the Nile were bone dry, causing residents to travel greater and greater distances in search for drinking water. There are reported shortages of food and one often heard about hunger in villages where “one meal per day” is the norm. The evaluators observed a number of borehole wells in the Kapoeta counties in disrepair or unable to yield water during this dry spell.

The overall case containment rate, 48% of 701 provisional cases detected during January-May 2009, continues to be low. Despite three operational case containment centers, one each in Kapoeta East, Kapoeta North, and Kapoeta South, containment rates there are 69% or less, perhaps due to the number of patients with multiple or difficult to extract Guinea worms that were still under containment at the end of the reporting month. As of the end of April some 229 cases of GWD were in the containment process. Beginning in June the SSGWEP will count all cases “in process” at the end of the month as contained, and reconcile any changes in the containment rate the following month. Residents from endemic villages admitted to CCC were satisfied with the care and attention received there, as were residents at large who were very much aware of these facilities and their purpose. Most cases of GWD in Kapoeta North and East Counties (226 cases) during January - May were referred or self reported to a CCC.

Table 1	
Southern Sudan Guinea Worm Eradication Program Status of Interventions in 986 Endemic Villages (Jan-May) 2009	
•	97% receiving health education.
•	49% with 80% of population covered with pipe filters.
•	84% with 100% of households with cloth filters.
•	26% protected with vector control (ABATE).
•	90% reporting monthly (83% villages under active surveillance reporting monthly).
•	14% with 1+ sources of safe drinking water.

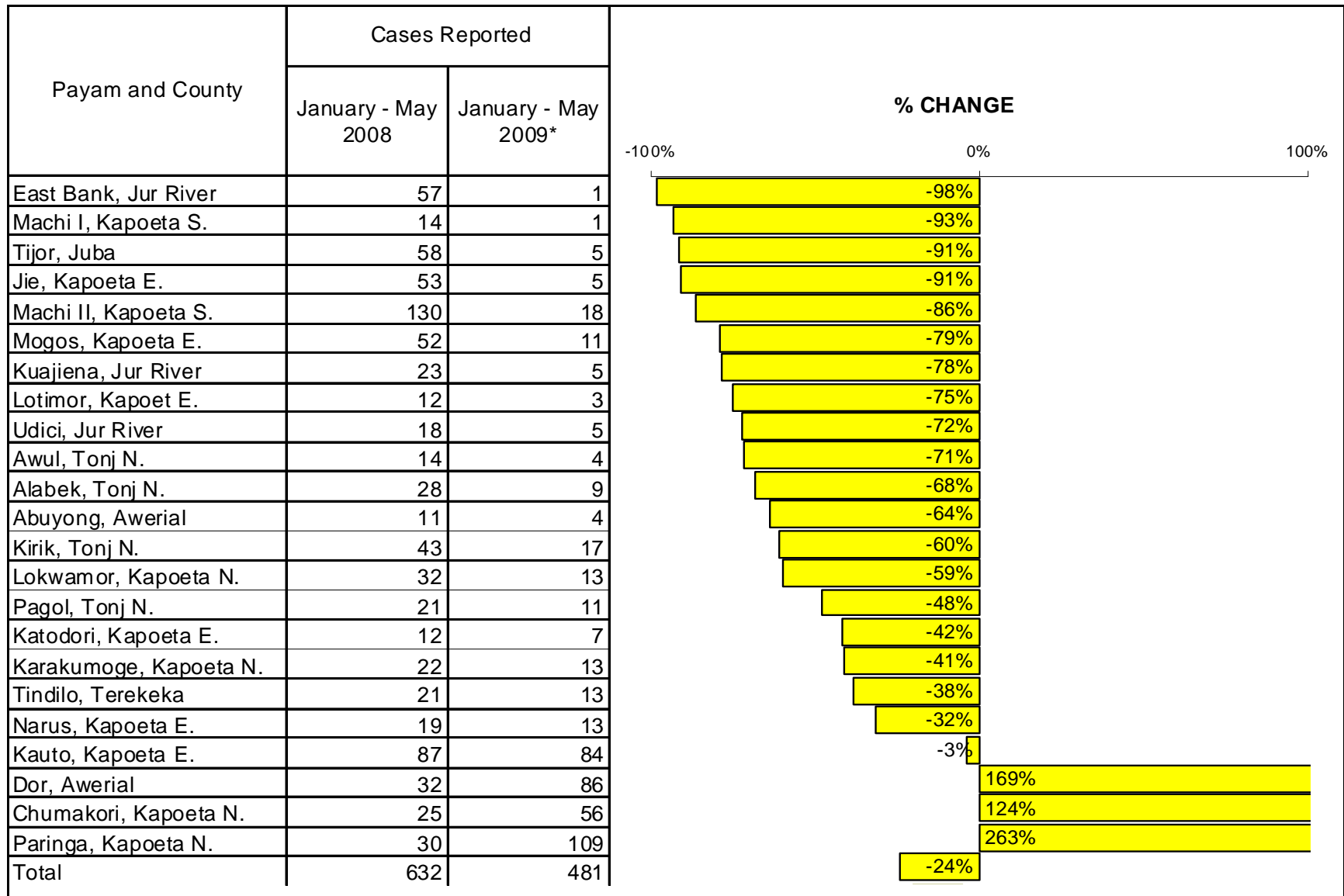
The team visiting Warrap and Central Equatoria States noted that in some endemic villages the surveillance was not sensitive, as evidenced by unreported cases of GWD, and not active enough, as evidence by late detection of cases. The quality of supervision needed improvement as it was observed the supervisors had failed to note and rectify incorrect dates for worm emergence, or households with filters, or lists of potential unsafe water sources and their timely treatment with ABATE® Larvicide. Correct data entries for these interventions is important, otherwise these lapses lead to incorrect determination of operational and impact indicators used at higher management levels.

Figure 1 shows the trends in cases reported by month during January – May 2007 – 2009. The status of interventions in the 1,050 endemic villages, as of May 2009, is shown in Table 1 and the % change in cases reported during January-May 2009 in payams reporting 10+ cases of GWD during January-May 2008 is shown in Figure 2. Figure 3 highlights the ranking of payams reporting cases of GWD during 2009.

Figure 2

### South Sudan Guinea Worm Eradication Program

#### Reported Cases of GWD in Top Payams in Jan. - May 2008 Versus Cases Reported During Jan. - May 2009



\* Provisional

Figure 3

### South Sudan Guinea Worm Eradication Program Payams Reporting 10+ Cases of Dracunculiasis During Jan. - May 2009\*

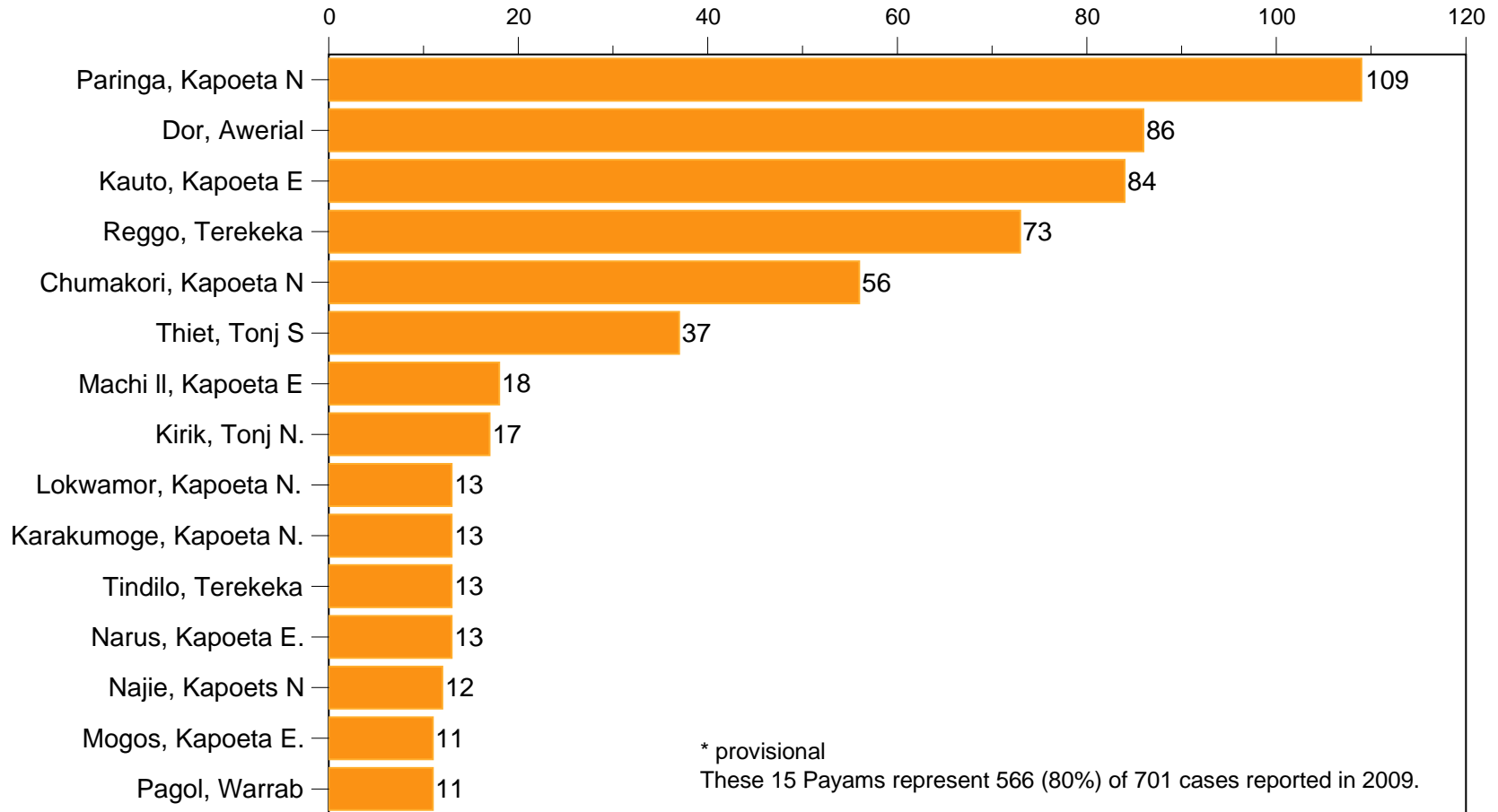


Table 2

Cases of GWD Reported by the Southern Sudan GWEP During January-May 2009 from:				
Month	Endemic Villages (N=1,050)	Non-Endemic Villages (N=9,645)	Total Villages (N=10,695)	% of cases reported from Non-Endemic Villages
January	5	7	12	58%
February	13	5	18	28%
March	41	6	47	13%
April	164	51	215	24%
May	267	142	409	35%
<i>Total</i>	490	211	701	30%

The endemic areas in Southern Sudan include 8 states, 28 counties, 131 payams (districts), and 10,695 villages under active surveillance VAS, of which 1,050 are considered to have endemic transmission as of May 2009. Of the 701 cases of GWD reported during January – May

2009, 30% were reported from non-endemic villages (Table 2), an indication of the importance of surveillance in at-risk communities, given the dynamics of seasonal population movements within Southern Sudan.

Supervisors and volunteers have a better understanding of interventions and the structure for reporting and supervision compared to 2008. However, many still struggle with doing the right things, at the right time, in the right places. Technical Advisors and Program Officers need to encourage Field Officers to use forecasting line listings of cases in endemic villages (EVS) more effectively and to also create a record of actions undertaken when visiting villages each time for their own guidance in providing oversight and monitoring sources of transmission. The routine use of a supervisory check list with entries for actions implemented was recommended.

## CAMPAIGN STATUS

During January – May 2009 the six remaining endemic countries have reported a total of 924 cases of GWD, of which 540 (58%) were reportedly contained (Table 3). Sudan has reported 701 (76%), Ghana 208 (23%), and Ethiopia 13 (1%). The 924 cases represent a 37% decrease in cases reported during the same period in 2008 (Figure 4). The distribution by country of 1,467 cases of GWD during January – May 2008 and the 924 cases of GWD reported during the same period in 2009 with percentage of cases contained in 2008 and 2009 is shown in Figure 5. Only one case of GWD has been exported from one country (Ghana) to another (Niger) so far during 2009. Reported cases of GWD in 2008 and 2009 so far are shown in Table 4. Table 5 compares program indicators in Ghana as of May 2008 with those as of May 2009.

## WHO REPORTS



### Visit to Uganda

In preparation for certification of Uganda as Guinea worm disease-free, WHO organized a review of its Guinea Worm Eradication Program from 27 April to 6 May 2009. It was conducted by Dr. Ahmed Tayeh, WHO Geneva, and Dr. Faustin Maiso, WHO Temporary Adviser on behalf of the WHO Regional Office for Africa (AFRO). Dr. Peter Langi, the National Coordinator and Dr. John Rwakimari, ex-National Coordinator UGWEPE, in addition to two members of the National Certification Committee participated in the

Table 3

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

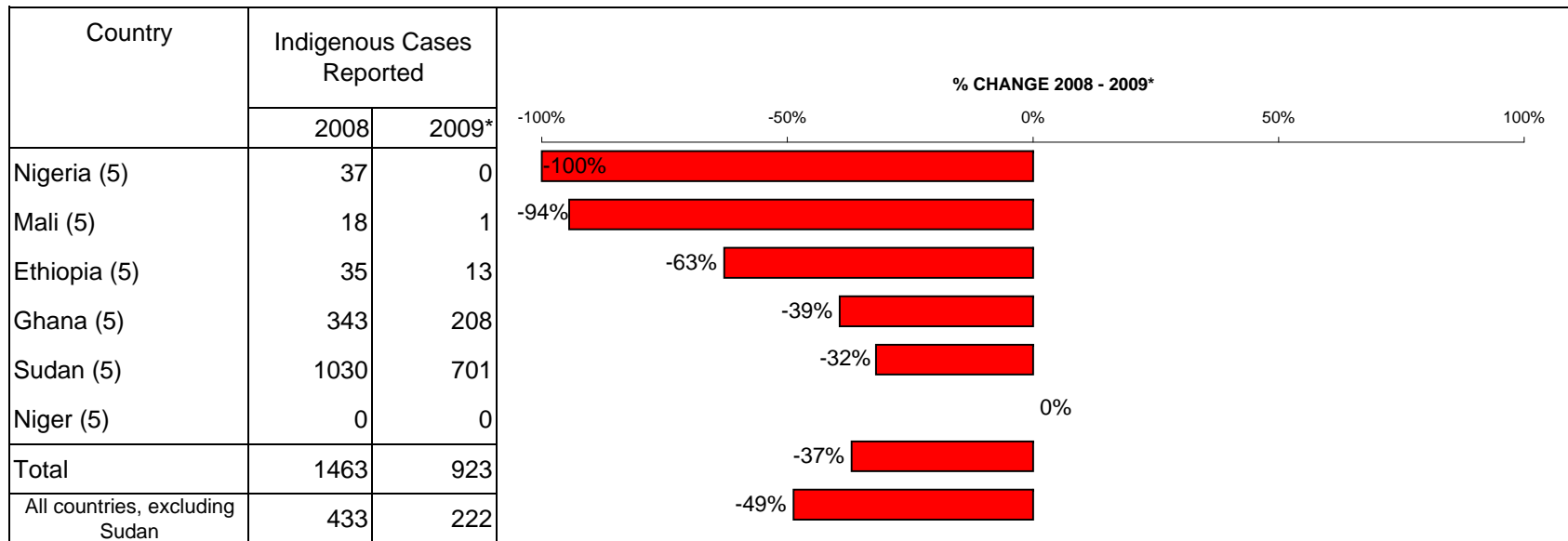
COUNTRIES REPORTING CASES	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SUDAN	4 / 12	10 / 18	18 / 47	142 / 215	162 / 409	/	/	/	/	/	/	/	336 / 701	48
GHANA	40 / 45	49 / 50	50 / 52	27 / 28	24 / 33	/	/	/	/	/	/	/	190 / 208	91
MALI	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	/	/	/	/	/	/	/	1 / 1	100
ETHIOPIA**	0 / 0	0 / 0	1 / 1	7 / 7	5 / 5	/	/	/	/	/	/	/	13 / 13	100
NIGERIA	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	0 / 0	100
NIGER	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	/	/	/	/	/	/	/	0 / 1	0
TOTAL*	44 / 57	59 / 68	69 / 101	176 / 250	192 / 448	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	540 / 924	58
% CONTAINED	77	87	68	70	43								58	
% CONT. OUTSIDE SUDAN	89	98	94	97	77								91	

\* 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 2008 and 2009\*, and Percent Change in Cases Reported

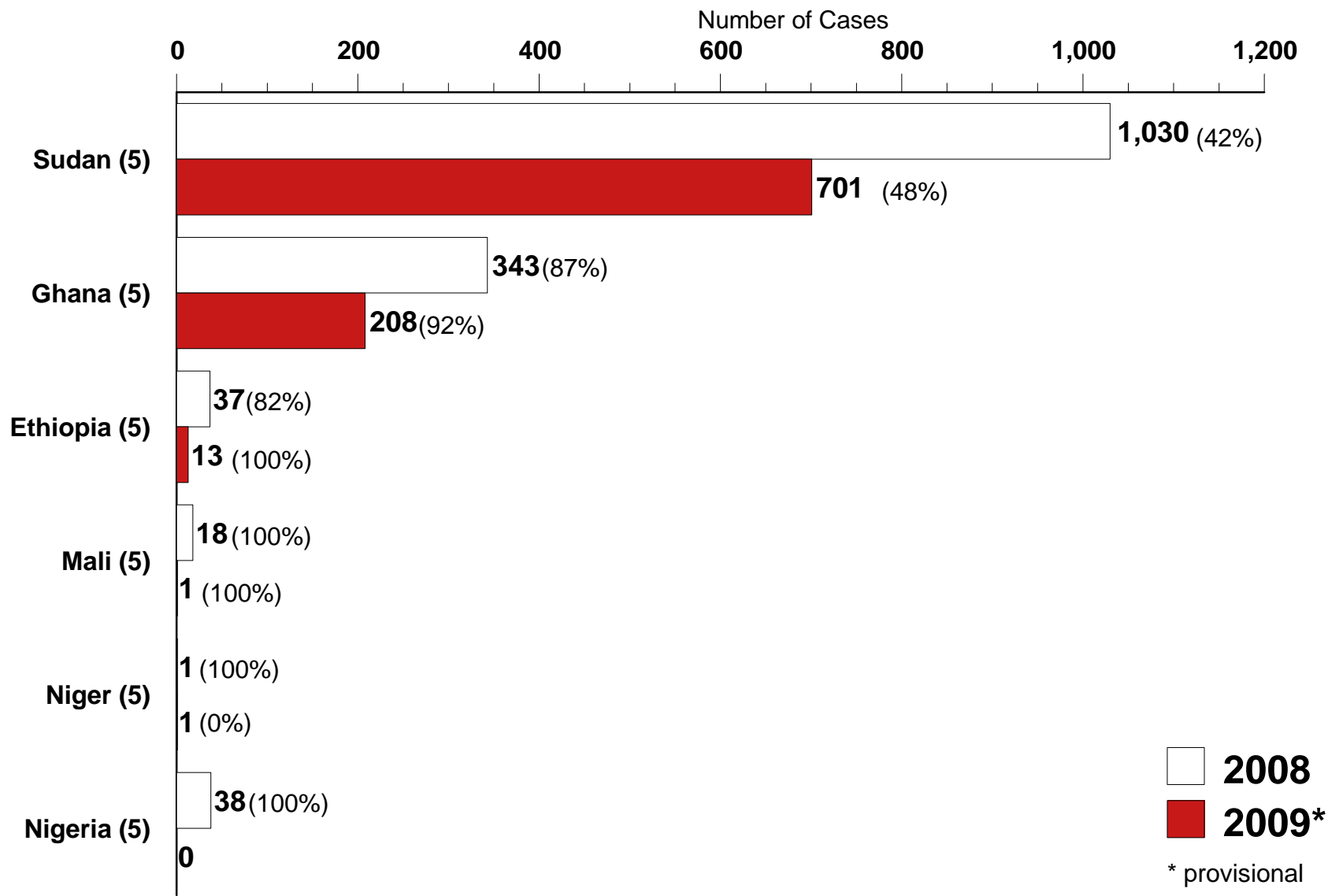


\* Provisional: excludes cases exported from one country to another

(5) Indicates months for which reports were received, i.e., Jan. - May 2009

Figure 5

### Distribution By Country of 1,467 Reported Cases of Dracunculiasis in 2008 and 924 Cases in 2009\* with Percentage of Cases Contained in 2008 and 2009\*





field visit covering the three formerly heavily endemic districts of Kitgum, Kotido and Moroto. Different levels of the program were reviewed including national, district, sub-county, village and household levels. In total, 9 sub-counties and 21 villages were visited and in each village 10 household heads were interviewed. Although, Guinea worm activities were declining in strength after six years of zero cases reported (last indigenous cases were reported in 2003), village volunteers are still active in the majority of the villages. Formerly endemic village populations are aware of the cause of the disease and its prevention. Security in those three districts has been restored. The government has requested WHO certification of absence of transmission. WHO will organize an International Certification Team mission in August 2009 to recommend certification if eligible.

### **Visit to Algeria**

There were rumors of Guinea worm cases reported by Mali of individuals who travelled to Algeria and had their worm emerge while they were in Ghardaia and Tindouf Wilayat, Algeria in 2008. The Ministry of Health and Population of Algeria confirmed that no Guinea worm patients had visited their health facilities in these two Wilayat during that year. But four cases of Malian Touaregs were hospitalized in Illizi hospital (south-east part of the country) in August 2007. The Ministry of Health immediately took measures to prevent local transmission of the disease by increasing awareness among paramedical staff and stressing the importance of detecting new cases among nomadic populations (see reference below).

WHO organized a mission to Algeria in response to these rumors. Dr. Ahmed Tayeh from WHO Geneva and Dr. Marc Karam, Vice-Chairman of the International Commission for the Certification of Dracunculiasis Eradication, visited the country from 12 to 18 May 2009. They were joined by officials from the Ministry of Health and Population and visited Ghardaia and Tamanrasset Wilayat in central and extreme southern Algeria respectively (Figure). Algeria has an effective surveillance system which records all notifiable diseases and reports on other diseases that are imported. Safe rural water supply coverage is estimated as 90% and water from other sources is regularly chlorinated. During the visit, a total of 30 health workers were trained in both Wilayat. Although local transmission of dracunculiasis is unlikely, imported cases from Mali are expected because of the outbreak in Kidal in the northern part of Mali and the movement of people from Mali to Algeria. The Algerian Ministry of Health will submit quarterly reports to WHO on dracunculiasis.

*Readers will recall that in 2006 a teenage male student walked about 400 km from Tinadjarof village in Ansongo District of Mali's Gao Region to Tadjimart village in Tessalit District of Mali's Kidal Region and contaminated a water source there. This contamination was not discovered until after an outbreak of 85 cases of dracunculiasis erupted in Tadjimart in June 2007 and was reported to Mali's national Guinea Worm Eradication Program (GWEP) in August 2007. Control measures began immediately, but were constrained by insecurity in the area, which previously had not had any case of dracunculiasis since the national GWEP began. The outbreak grew to 266 cases reported in Tessalit District in 2008, when authorities in Kidal also informed Mali's GWEP that several Malian Touareg residents had traveled to Algeria, and that some of them reportedly had come down with Guinea worm disease in Algeria (See Guinea Worm Wrap-Up #185). We now learn from Algerian authorities, via a manuscript sent to a medical journal last November and published earlier this year, that four cases imported from Mali were seen at a clinic in Illizi, in another part of southern Algeria, in August 2007. These four cases were not reported to WHO before the team visited Algeria in May 2009. Algerian*

*authorities assured the team from WHO that no subsequent cases were reported from Illizi in 2008, although reports from Mali allege that 13 cases were imported into three other Algerian villages last year (Map), in addition to the 266 cases in Achou, Alkite, An-Mallane, Inamzil and Tadjimart villages of Kidal Region. In all at least 352 cases in Mali, and as many as 6 cases of 18 alleged cases in Algeria in 2006-2008, resulted from one patient who was undetected and uncontained.*

*Mali has reported one case of dracunculiasis in May, that occurred in Gao District and was contained in a Case Containment Center.*

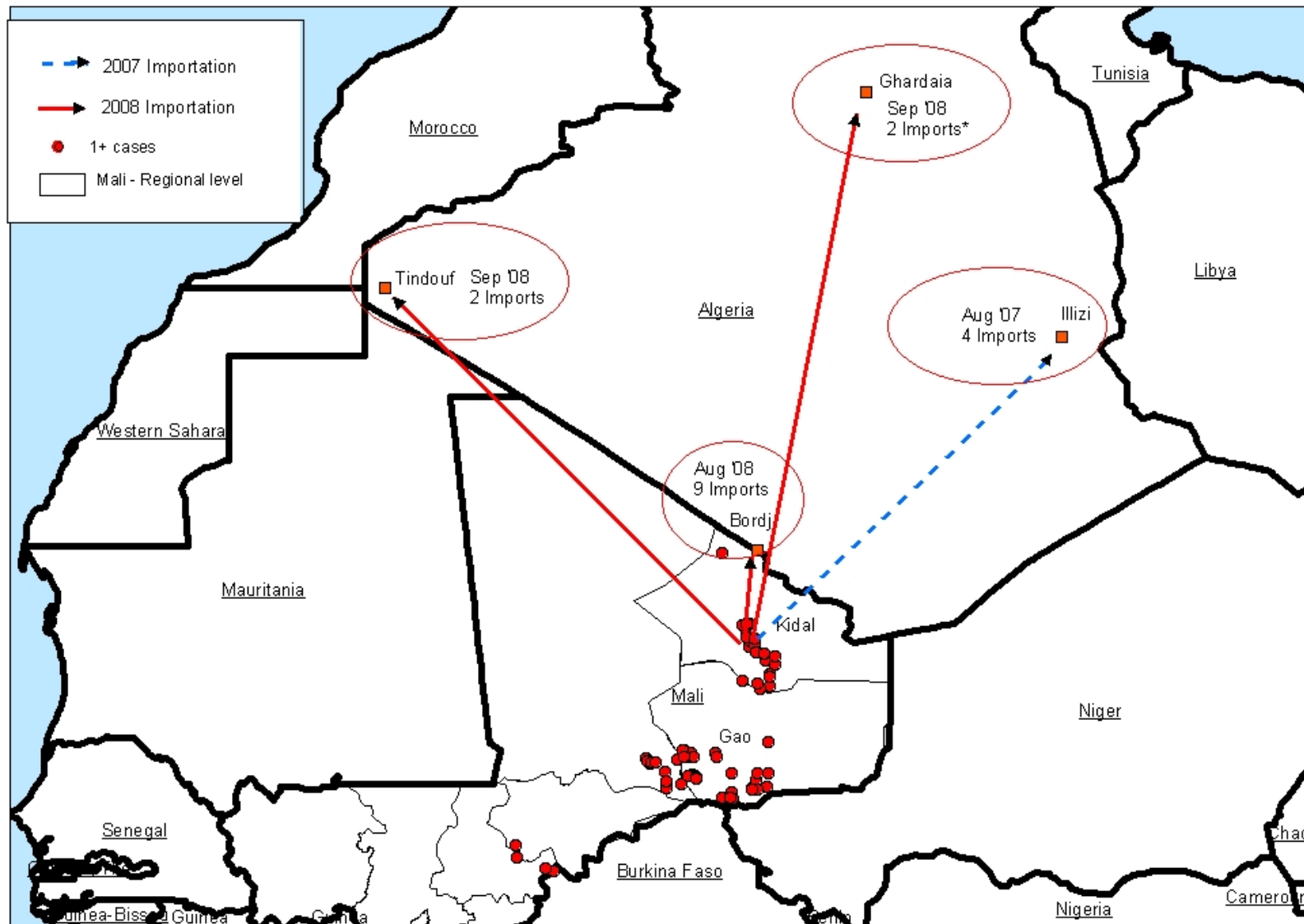
## **INFORMAL MEETING IN GENEVA DURING WORLD HEALTH ASSEMBLY**

Despite competing meetings due to the abbreviated schedule at this year's World Health Assembly (because of the influenza epidemic), representatives of all six endemic countries remaining, except Ethiopia, and five countries in the pre-certification stage (Burkina Faso, Cote d'Ivoire, Niger, Togo, Uganda), participated in an Informal Meeting from 6-8pm on May 20 to discuss the status of dracunculiasis eradication, five years after the Geneva Declaration and World Health Assembly resolution of 2004 set December 2009 as the target date for interrupting transmission of dracunculiasis. The meeting was chaired by the Regional Director of WHO's Eastern Mediterranean Region, Dr. Al-Gezairy, and included WHO assistant director general Dr. Hiroshi Nakatani, Prof. Pierre Ambroise-Thomas of the International Commission for the Certification of Dracunculiasis Eradication, as well as Ms. Khadidiatou Mbaye, representative of WHO's African Regional Office, and representatives of UNICEF, and The Carter Center. This was the fourth such Informal Meeting on Dracunculiasis held during a World Health Assembly since the 2004 declaration and resolution, and for the first time, the Government of South Sudan was represented by its Minister of Health, Dr. Joseph Wejong, who said his government understands that the success of the global GWEP depends on success of the program in South Sudan. Uganda was represented by Dr. Sam Zaramba, who currently chairs the Executive Board of WHO. Dr. Donald Hopkins of The Carter Center and Dr. Gautam Biswas of WHO headquarters made presentations about the current status of the eradication campaign and about strengthening Guinea worm disease surveillance (in GW-free areas) and, respectively. *It is hoped that a written report on the status of dracunculiasis eradication will be made to the World Health Assembly in May 2010, to acknowledge accomplishment against the 2009 target date.*

The next meeting of the International Commission for the Certification of Dracunculiasis Eradication will be held at World Health Organization headquarters in Geneva on October 21-23, 2009.

Figure 6

### Mali Guinea Worm Eradication Program Importations to Algeria from Kidal Region, Mali, 2007-2008



\* 12 people migrated from Mali to Ghardaia, of which at least two had Guinea worm Disease

TCC/PWD/0709

Table 4

**Cases of Dracunculiasis in 2008 and 2009\***

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Sudan	2008	32	34	88	258	618	759	783	536	254	160	75	21
	2009*	12	18	47	215	409							
Ghana	2008	73	80	48	68	74	73	30	13	5	8	14	15
	2009*	45	50	52	28	33							
Mali	2008	1	0	0	1	16	60	120	60	72	56	27	4
	2009*	0	0	0	0	1							
Ethiopia	2008	0	0	8	25	1	3	1	1	1	1	0	0
	2009*	0	0	1	7	5							
Nigeria	2008	28	8	1	0	0	0	0	0	0	0	1	0
	2009*	0	0	0	0	0							
Niger	2008	0	1**	0	0	0	0	0	0	1	1	0	0
	2009*	0	0	1**	0	0							

\* provisional

\*\* Imported

Table 5

**Ghana Guinea Worm Eradication Program Indices**

	May 2008	May 2009*
Cum. # Cases	343	209
# Endemic Villages	37	12
% Cases Contained	79%	91%
% contained in CCC	32%	80%
% Health Education (IEC)	100%	100%
% Cloth Filters	75%	79%
% Pipe filters	49%	85%
% Abate	56%	43%
% 1+ safe water	45%	68%
% Reporting	100%	100%

\* provisional

**GHANA REGGAE ARTIST FIGHTS GWD WITH MUSIC**

The Ghanaian reggae artist Sheriff Ghale continues his crusade to help educate people in Ghana's Northern Region about Guinea worm disease and its prevention. His latest special performance may be viewed at:

[http://cartercenter.org/news/features/h/guinea\\_worm/musician.html](http://cartercenter.org/news/features/h/guinea_worm/musician.html)

## RECENT PUBLICATIONS

Harrat Z, Halimi R, 2009. La dracunculose d'importation: quatre cas confirmés dans le sud algérien. Bull Soc Pathol Exot 102(2):119-122

Njepuome NA, Hopkins DR, Richards FO Jr, Anagbogu IN, Pearce PO, Jibril MM, Okoronkwo C, Sofola OT, Withers PC Jr, Ruiz-Tiben E, Miri ES, Eigege A, Emukah EC, Nwobi BC, Jiya JY. Nigeria's war on terror: fighting dracunculiasis, onchocerciasis, lymphatic filariasis and schistosomiasis at the grassroots. Am J Trop Med Hyg 80(5):691-698

World Health Organization, 2009. Dracunculiasis eradication-global surveillance summary, 2008. Wkly Epidemiol Rec 84:162-171

World Health Organization, 2009. Monthly report on dracunculiasis cases, January-April 2009. Wkly Epidemiol Rec 84:212.

### OBITUARY

With sadness and regret, we report the passing of Mr. Daniel Lopeyok, Programme Officer in Namoropus, Kapoeta East County, Eastern Equatoria State, Southern Sudan, after a long illness. We extend our condolences to his family. He was an exceptional Program Officer and even more importantly he was an exceptional person: kind, intelligent, honest, and hard working. We all can learn from the example he set and he will be missed.

*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.