



Date: Dec. 12, 2013

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

Subject: GUINEA WORM WRAP-UP #222

To: Addressees

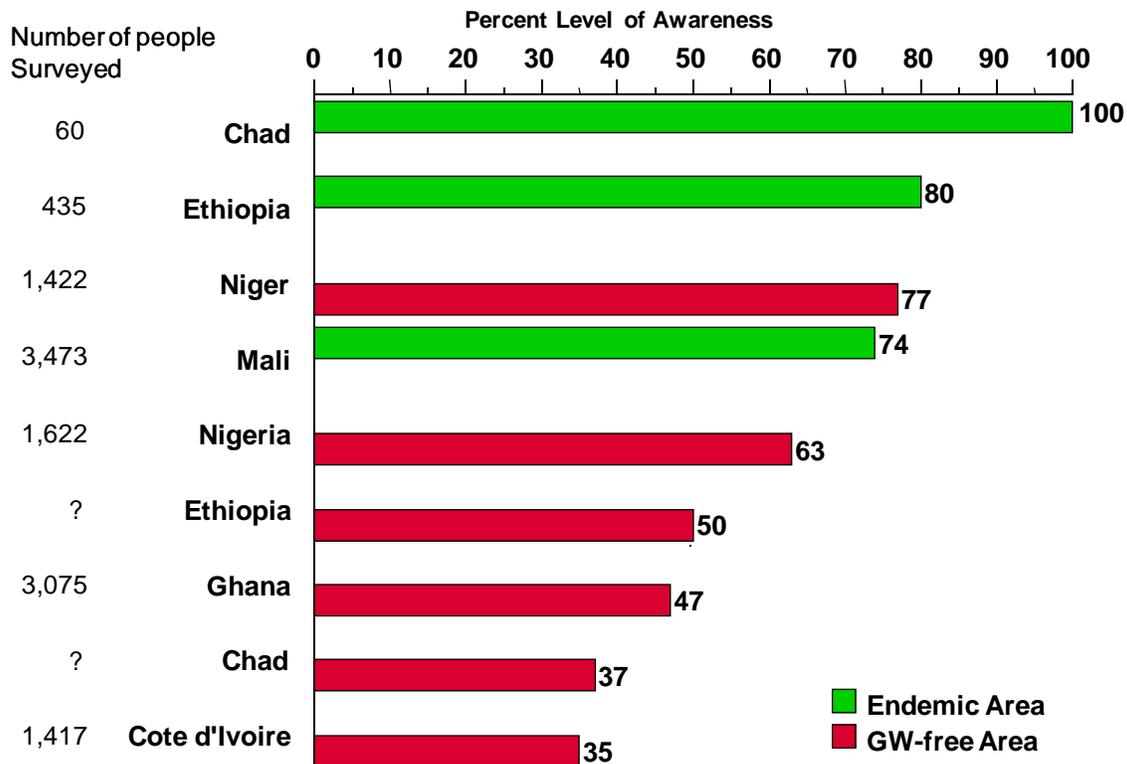
“It always seems impossible until it is done.” *Nelson Mandela*

HIGH REWARD AWARENESS IS URGENT

As summarized in Figure 1, awareness of cash rewards (defined as the proportion of residents of an area, village, locality knowing a monetary reward exists for reporting cases of GWD) is unacceptably low in most GW-free areas, including surveyed GW-free areas of endemic countries (Chad, Ethiopia and Mali), formerly endemic countries in the pre-certification phase (Ghana, Kenya and Sudan), and certified countries. Some have suggested that each cash reward should be valued at least at US\$ 100 or more, considering the urgency of detecting all cases quickly. The amounts of such rewards vary from the equivalent of US\$ 10 to US\$ 160, although Kenya reportedly increased its reward to the equivalent of \$1,500 recently. South Sudan does not yet offer a cash reward.

Figure 1.

Awareness of Cash Rewards for Reporting Cases of Guinea Worm Disease: 2012 - 2013



Offering a cash reward to increase the sensitivity of surveillance is only useful if enough people know about the reward. At this stage of the Guinea worm eradication campaign, with only about 150 cases expected in 2013 and perhaps fewer than 50 cases to occur in 2014, GWEPs need to intensify efforts to disseminate information about the rewards and what to do if a person is suspected of having the disease. Although mass media outlets should be used where practical, in the hinterland where GWD is endemic, communications person to person at market days, schools, churches, mosques and at villages/localities via “town criers” or village volunteers are by far most effective. From now on every case that is not detected in time to prevent transmission or that is missed altogether is likely to be extremely costly in time and money (remember Kidal in 2007!), and prolong the eradication campaign. We cannot afford either. Whatever the reward amount is, all countries at risk of indigenous or imported cases need to publicize the reward sufficiently so that most people know about it. That is already true in most of the endemic areas of Chad, Ethiopia and Mali. Among the GW-free areas, Chad is redoubling its efforts with WHO’s assistance to increase awareness, and Niger has shown already that it can be done. Other surveillance measures such as asking questions during polio campaigns, periodic searches, and monthly reporting as a part of facility-based Integrated Disease Surveillance and Reporting (IDSR) also are useful, but each of those methods is limited in time or place. A well-publicized cash reward can help provide prompt reporting of a case everywhere all the time, which is what we really need.

ETHIOPIA: WHERE TO EXPECT CASES IN 2014

After twenty years combating a problem that began with only 1,120 cases detected nationwide in 1993, Ethiopia is mobilizing in a new effort to immediately detect and contain any case(s) of Guinea worm disease (GWD) that may occur in 2014. Since May 2013, Minister of Health Dr. Kesetebirhan Admasu Birhane has visited the only remaining endemic area (Gambella) personally in June, designated Mr. Gole Ejeta the full-time national program coordinator, and hired additional staff to work on the eradication program at regional and district levels: a regional coordinator at Gambella, 10 district coordinators in Gambella Region, and 2 district coordinators in Southern Nations, Nationalities and Peoples’ Region (SNNPR). WHO has deployed 3 field officers for Guinea worm eradication to Itang, Abobo and Dimma Districts of Gambella Region (Figure 2). In response to a request by the minister, The Carter Center has extended its assistance to cover newly-endemic Abobo District in addition to endemic Gog District where it helped establish active surveillance in all 70 villages in 2010. Technical assistants Ms. Jessica Flannery and Mr. Frank Wong arrived in Abobo District in early October and training for village volunteers in 45 of the 61 villages in that district will be completed this month. Ms. Marian Botchway, who has provided technical assistance in Gog District since 2011 also helped inaugurate Carter Center assistance in Abobo District.

It was recently realized that since the patient with Guinea worm disease who was first detected in December 2012 had another worm emerge while he was still at the case containment center in January 2013, he should be reported as a case in both calendar years, and so became the first of a new total of 7 cases in 2013 (see Figure 3 and corrected line-listing in Table 1). Only 1 of the 7 cases occurred in Gog District; all others resided in Abobo District. Five patients (4 males), all of whom were adults whose worms began emerging in April-June 2013, resided in Batpoulo

Village of Abobo District which suggests they shared a common source of infection not available to young children in or near that village around May 2012. The origin of infection of all 7 cases in 2013 remains uncertain, but is under investigation.

Overall, 4 of the 7 cases (57%) in January-November were contained (Table 6), and 9 of the 12 worms (75%) from those 7 cases were contained. One uncontained case each was reported in December 2012 (Abobo District), and in April (Itang), May (Gog), June (Abobo) 2013; no cases have been reported since June (Figure 2, Table 1). The highest risk for cases in 2014 thus begins now, 10-14 months after those four uncontained cases occurred. However because of uncertainty about where the 7 cases of 2013 became infected in 2012, about whom and where they may have infected others in 2013, about whether they were the only cases that occurred in the country this year, and about where anyone infected in 2013 may have traveled by the time their worm emerges in 2014, Ethiopia needs to be on high alert for cases from now on, especially in Abobo, Gog and Itang districts. A major weakness is that awareness of the cash reward for reporting of cases is still unacceptably low in most of the country except for Gog District. A baseline survey of 335 persons interviewed in Abobo District in September 2013, for example, found that only 63 (19%) knew something about the reward (Figure 1). Abobo District will soon join Gog District in having village-based active surveillance in all villages of the district, but priority must be given to raising reward awareness urgently, with WHO's assistance, in Itang and in all other districts of Gambella Region as well as in formerly endemic SNNPR in the next few months. Otherwise Ethiopia will risk prolonging a struggle even more that has continued far too long already.

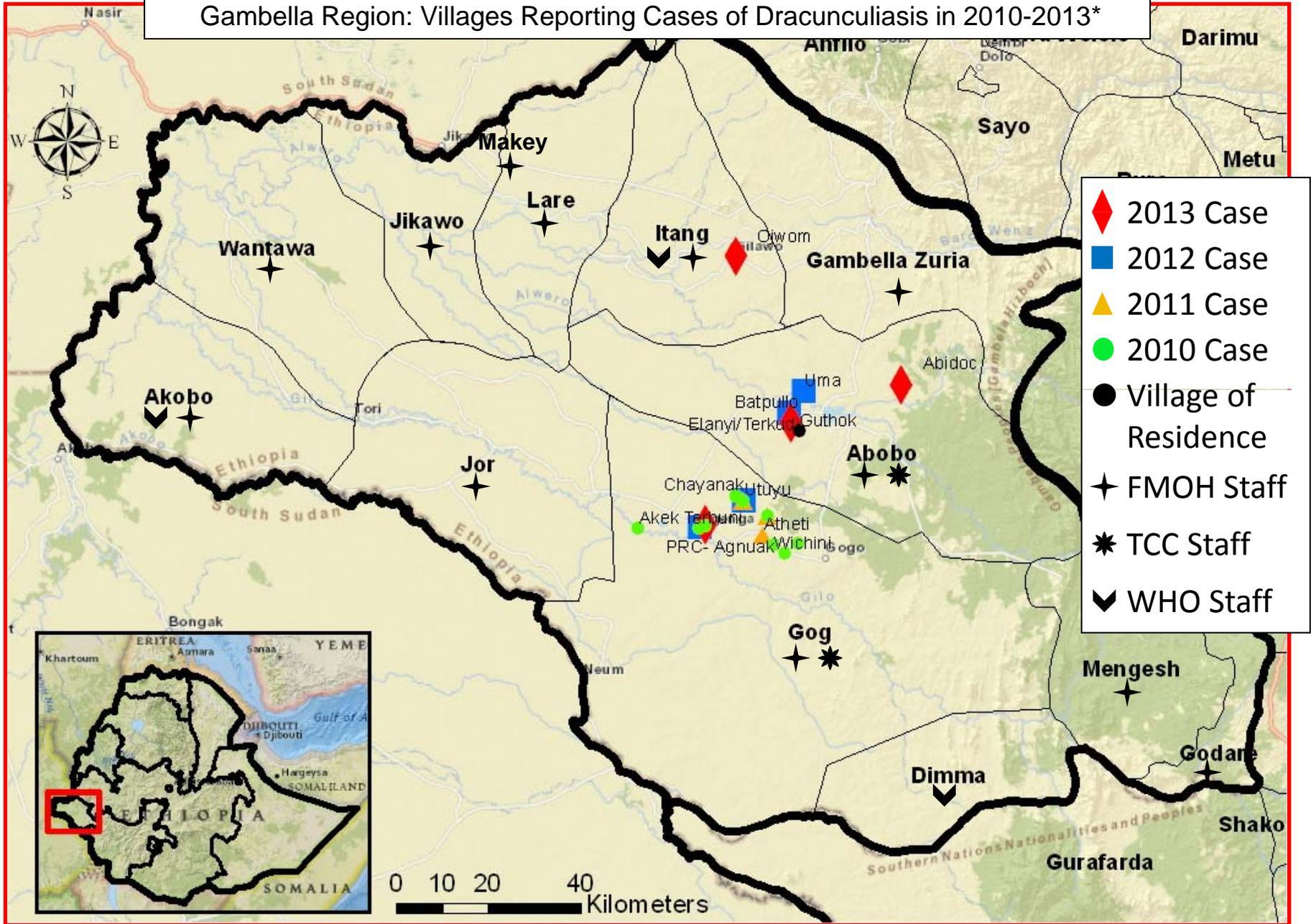
National program coordinator Mr. Gole Ejeta led Drs. Donald Hopkins, Ernesto Ruiz-Tiben and Zerihun Tadesse of The Carter Center on an oversight visit to Abobo and Gog Districts of Gambella Region on November 19-22. The delegation met with regional and district authorities, visited the village of Batpoulo in Abobo District, where they observed a session for training village based volunteers, and visited Atheti Village in Gog District, where they watched residents help develop a detailed map of their village. Drs. Hopkins, Ruiz and Zerihun met with Minister Kesetebirhan before visiting Gambella.

Dr Gautam Biswas from WHO Headquarters and Dr Seidu Korkor from IST/AFRO together with WHO country office GWEP team and the national GWEP coordinator Mr Gole Ejeta, conducted a joint field mission in South Omo zone, SNNP region, Ethiopia from 21-26 October 2013 to strengthen Guinea-worm disease surveillance activities in the region. A WHO GW field officer was appointed in August 2013 in South Omo Zone of SNNPR and has been providing full time technical support in the surveillance and awareness raising activities in all districts in the zone and in Nyangatom district particularly. Currently the same support is extended to Bench Maji Zone.

Following up with the high level advocacy visit to Gambella Region (*GW Wrap Up 220*), the FMOH organized a teleconference on 24 July 2013 to find ways and means to actively involve health work force in the region to support the eradication program, and to discuss the involvement of health extension workers and health development armies in the eradication programme as well as sharing monthly information to the FMOH on the status of the implementation of various recommendations made. The teleconference, chaired by the

Figure 2

Ethiopia Dracunculiasis Eradication Program
 Gambella Region: Villages Reporting Cases of Dracunculiasis in 2010-2013*



Source: Ethiopia MOH/EDEP

*Provisional data, November 2013

Figure 3

Ethiopia Dracunculiasis Eradication Program

Number of indigenous cases of dracunculiasis reported from Gambella Region: 2010 - 2013*

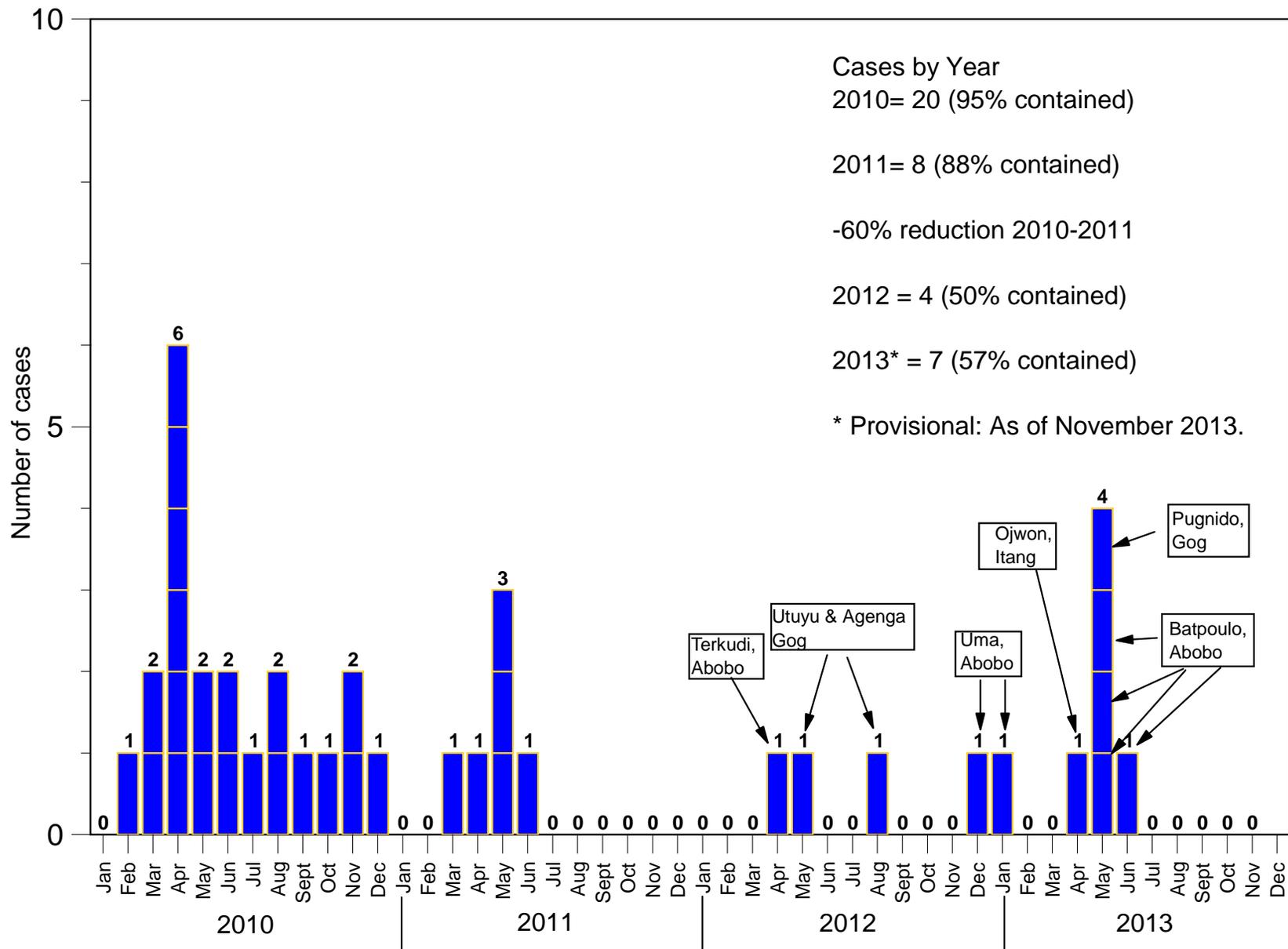


Table 1

ETHIOPIA DRACUNCULIASIS ERADICATION PROGRAM
Linelist of Cases Detected During 2013*

CASE.GW#	VILLAGE OR LOCALITY OF DETECTION			KEBELE	WOREDA	AGE	SEX	DATE OF GW EMERGENCE	CASE CONTAINED		1= INDIGENOUS 2= IMPORTED	HOME VILLAGE OR LOCALITY			PRESUMED SOURCE OF INFECTION IDENTIFIED?		PRESUMED SOURCE OF INFECTION IS A KNOWN EVA?		
	NAME	1 EVAS	2 NEVAS						3 PSV	Y/N/PENDING		DATE OF ABATE RX	NAME	1 EVAS	2 NEVAS	3 PSV	Y/N	NAME	Y/N
1.1	Uma			3	Perpengo	Abobo	55	M	30-Jan-13	Yes		1	Uma			3	No		?
2.1	Ojwom			3	Elia	Itang	60	M	29-Apr-13	No	May 3 Abongomera Pond; May 10 Abongomera 2 pond, Agulkidi pond.	2	Batpoulo			3	No		?
2.2		60	M	15-May-13															
2.3		60	M	16-May-13															
3.1	Batpoulo			3	Perpengo	Abobo	28	M	4-May-13	Yes		1	Batpoulo			3	No		?
4.1	Abidoc			3	Perpengo	Abobo	24	M	17-May-13	Yes		1	Batpoulo			3	No		?
5.1	Batpoulo			3	Perpengo	Abobo	40	M	20-May-13	Yes		1	Batpoulo			3	No		?
6.1	Pugnido Town/PRC Agnuak		2		3	Gog	37	M	22-May-13	No		1	Pugnido		2		No		?
6.2		37	M	22-May-13															
6.3		37	M	17-Jul-13															
7.1	Batpoulo			3	Perpengo	Abobo	33	F	10-Jun-13	No		1	Batpoulo			3	No		?

1.1 = Case # 1, First GW

EVAS = Endemic villages under active surveillance

NEVAS= non endemic villages under active surveillance

* Provisional, January - November

PSV= passive surveillance village

PRC = Pugnido Refugee Camp

Honorable Minister Dr Kestebirhan Admasu in the presence of the WHO representative of Ethiopia, was attended by staff from the Gambella Regional Council, the Gambella Regional Health Bureau and by WHO's staff. Dr Pierre Mpele-Kilebou, WHO Country Representative in Ethiopia visited Gambella Region from 25 to 27 August 2013 to assess the implementation status of the recommendations and the commitments made during the Ministerial high level visit, logistic support to the programme was provided by WHO; this support consisted of 1 vehicle, 12 motorcycles, as well as communication and field equipment to strengthen the Guinea Worm Eradication programme surveillance activities including awareness creation activities in the Gambella region.

MALI: NOT ALL MISSED OPPORTUNITIES WERE DUE TO INSECURITY

While visiting Ansongo District of Gao Region in early November 2013, National Coordinator Dr. Gabriel Guindo and Carter Center Country Representative Mr. Sadi Moussa finally confirmed that the three young male Koranic students who were detected and contained with Guinea worm disease in Niger in September 2012 had been infected in the village of Tanzikratene. Further investigation revealed that local residents had hidden cases from health authorities and from visiting supervisory teams in 2009, 2011, and 2012, reportedly because of fear of being taken forcibly to the case containment center and associated concerns about their security and inability to continue farming while in the case containment center. This was in spite of 54 visits by district teams and others in 2011, plus linkage of a borehole well to 6 standpipes in order to ease access to safe drinking water that year. In response to news of the cases detected in Mali last year, after security conditions improved, Technical Advisor Dr. Mahamaoud Coulibaly visited the area in November 2012, and reported that residents denied being aware of patent cases of the disease at that time. GWEP staff met with families of the case in Tanzikratene in July 2013, when they denied knowledge of any cases there in 2012. Tanzikratene is the residence or apparent source of infection for 6 of Mali's 11 cases so far this year (2 in October and 4 in November). All four cases in November were hospitalized at Bentia Health Center. Contaminated stagnant sources of drinking water were treated with ABATE in both October and November. The GWEP is taking steps to alleviate the inhabitants' concerns and to improve communication. Most of these remaining cases in Mali are among "Black Tuaregs". *Editorial comment: Fear of mandatory removal to a case containment center (clinic) during peak harvest for wild crops, or other traditional priorities in this area of Mali indicates that Mali's GWEP staff needs to improve on marketing the advantages of voluntary hospitalization of patients with GWD and also engendering understanding and trust with the inhabitants not only of villages/settlements in this area, but also of other endemic localities—elements which are fundamental for success.*

So far this year, Mali has reported uncontained cases in Mopti (1) and Kidal (2) Regions in May, and in Gao (1) Region in October (Tables 2 and 6). Based on what we know now, Mali should expect to have cases in 2014 in Kidal (still insecure), Gossi Town (Timbuktu Region), and Ansongo District of Gao Region.

Table 2

MALI GUINEA WORM ERADICATION PROGRAM
Linelist of Cases of Guinea Worm Disease During 2013*

Case #	Age	Sex	Ethnicity	Profession	Village	District	Region	Date			Detected <24hrs? (yes/no)	Contaminated water (yes /no)	Abate applied? (yes/no)	Date of admission to a case containment center		Case contained?	Imported? (yes/no)	Probable source of infection
								Worm emergence	Case containment began	Case confirmed by supervisor				Admission	Release			
1.1	17	F	Tamachek (Black Toureg)	Housewife	Kouakourou	Djenne	Mopti	2-May-13	?	20-May-13	No	No	Non	20-May-13	-	No	Unknown	
1.2								11-May-13	?	20-May-13	No	No			-			
1.3									24-Jun-13	24-Jun-13	24-Jun-13	Yes	No					-
1.4									24-Jun-13	24-Jun-13	24-Jun-13	Yes	No					-
1.5									25-Jun-13	24-Jun-13	25-Jun-13	Yes	No					-
1.6									28-Jun-13	24-Jun-13	28-Jun-13	Yes	No					-
2.1	30	M	Tamachek (White Toureg)	Animal breeder	Iclahane	Kidal	Kidal	10-May-13	10-May-13	30-May-13	No	No	Yes	31-May-13		No	Agabo	
2.2								29-May-13	30-May-13	30-May-13	Yes	No						
2.3									30-May-13	30-May-13	30-May-13	No	No					
3.1	28	M	Arabe	Animal breeder	Etambar	Kidal	Kidal	11-May-13	31-May-13	31-May-13	No	No	Yes	31-May-13		No	Agabo	
3.2									31-May-13	31-May-13	31-May-13	Yes	No					
3.3									31-May-13	31-May-13	31-May-13	Yes	No					
3.4									31-May-13	31-May-13	31-May-13	Yes	No					
3.5									31-May-13	31-May-13	31-May-13	Yes	No					
4.1	20	F	Arabe	Housewife	Etambar	Kidal	Kidal	1-Jun-13	1-Jun-13	1-Jun-13	Yes	No	No	31-May-13		Yes	Agabo	
5.1	25	F	Tamachek (Black Toureg)	Housewife	Nanguaye	Gourma Rharous	Timbuktu	11-Sep-13	11-Sep-13	21-Sep-13	Yes	No	Yes	11-Sep-13	21-Sep-13	Yes	Nanguaye (likely from a missed case in 2012)	
6.1	8	F	Tamachek (Black Toureg)	School age child	Tanzikratene	Ansongo	Gao	17-Oct-13	2-Nov-13	2-Nov-13	No	Yes	Yes	2-Nov-13		No	Tanzikratene	
7.1	27	F	Tamachek (Black Toureg)	Housewife	Kamgala	Ansongo	Gao	28-Oct-13	29-Oct-13	29-Oct-13	Yes	No	Yes	29-Oct-13		Yes	Tanzikratene	
8.1	15	M	Tamachek (Black Toureg)	Shepherd	Tanzikratene	Ansongo	Gao	11-Nov-13	7-Nov-13	11-Nov-13	Yes	No	Yes	7-Nov-13		Yes	Tanzikratene	
9.1	30	M	Tamachek (Black Toureg)	Farmer	Tanzikratene	Ansongo	Gao	21-Nov-13	20-Nov-13	21-Nov-13	Yes	No	Yes	21-Nov-13	6-Dec-13	Yes	Tanzikratene	
10.1	16	M	Tamachek (Black Toureg)	Shepherd	Agaitafa	Ansongo	Gao	21-Nov-13	21-Nov-13	21-Nov-13	Yes	No	Yes	21-Nov-13		Yes	Tanzikratene	
11.1	50	M	Tamachek (Black Toureg)	Farmer	Banguir	Ansongo	Gao	26-Nov-13	24-Nov-13	26-Nov-13	Yes	No	Yes	26-Nov-13	6-Dec-13	Yes	Tanzikratene	

* Provisional, January - November

SOUTH SUDAN: MAJOR REDUCTIONS, FEW SPORADIC CASES

South Sudan's GWEP has reported a total of 115 cases (68% contained) in January-November 2013 vs. 520 cases (64% contained) in the same period of 2012, which is a reduction in cases of 78% (Table 6 and Figure 7). In October, the Greater Kapoeta Focus in Eastern Equatoria State and Pibor County of Jonglei State recorded no cases for the second time ever, the first having been in January 2013 (Table 3). So far this year, 14 cases have been detected west of the Nile (1 in North Bahr Al-Ghazal State, 4 in Warrap, 9 in Lakes), but none in Western Bahr Al-Ghazal. The program is investigating the sources of 4 uncontained cases reported recently, one each in Aweil (NBAG), Tonj East (Warrap), Nyirol (Jonglei) and Uror (Jonglei) Counties (Table 4, Figure 4). Table 4 is the line listing of reported cases of GWD during September – November 2013.

CHAD: ELEVEN CASES IN 10 VILLAGES THIS YEAR

As announced in *GW Wrap Up #221*, the Ministry of Public Health held a workshop, in Bakara, Chad during 11-12 October, to review the status of GWD in Chad. Participants from different ministries, including the ministries of public health, the environment, commerce, communication, urban and rural water supply, and of the interior for public security. Partner organizations and representatives of women fish vendors and of Bousso District also participated. Participants deliberated about the status of GWD and drafted a report and recommendations for consideration by the minister of public health. To date, actions based on the workshop recommendations are pending, in part because shortly after the workshop Chad appointed a new minister of health: Dr. Ngariera Rimadjita, who formerly was the minister of agriculture.

After two months (September-October) with zero cases, Chad reported three cases in Sarh District in November. These patients included a 6 year old girl, a 37 year old woman, and a 20 year old man. All are residents in the village of Maimou; none were contained. This is a village of 648 people and five unprotected draw wells that is surrounded by 28 ponds. The ministry staff at Sarh did not mobilize urgently to deal with these cases, and the national coordinator was attending a conference out of the country. A Carter Center technical advisor traveled two days to reach Sarh and lead the investigation. This is a total of 12 cases in January-November of which 8 (67%) were contained so far this year (Figure 5, Tables 5 and 6). One additional case was detected in Maimou on 2 December (containment of the case is pending).

The unusual sporadic pattern of cases in humans in Chad since this outbreak was discovered in 2010 has been recognized recently as being associated with a larger number of dogs with emerging Guinea worms that on genetic analysis are indistinguishable from the Dracunculus medinensis worms from people. A full electronic version of the report on this phenomenon was published in November in the *American Journal of Tropical Medicine and Hygiene*, and will also appear in the January issue of the Journal.

Dr Dieudonné Sankara, WHO/Headquarters visited Chad from August 8-20, 2013, to review the implementation of surveillance activities for cases of GWD in areas free of transmission in Chad

Figure 4

**South Sudan Guinea Worm Eradication Program
Villages/Cattle Camps Reporting 1+ Cases of Drancunculiasis,
2012-2013, n=305**

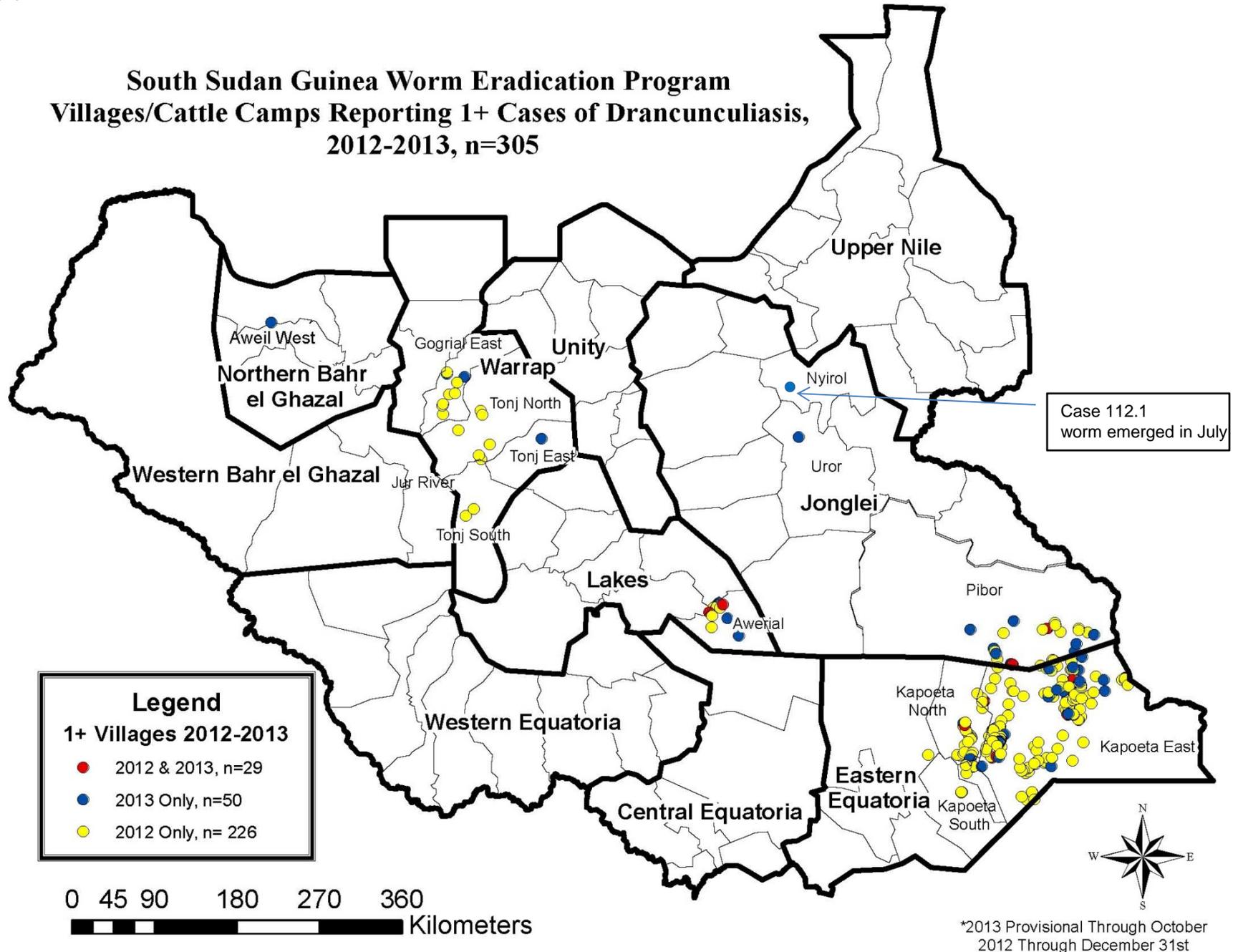


Table 3

SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM
CASES REPORTED AND CONTAINED DURING 2013* BY STATE, COUNTY AND MONTH

State	County	Cases Contained / Cases Reported													% Contained
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
Eastern Equatoria	Kapoeta East	0 / 0	1 / 2	0 / 2	17 / 20	17 / 21	12 / 15	5 / 5	5 / 7	3 / 5	0 / 0	1 / 1	/	61 / 78	78%
	Kapoeta North	0 / 0	0 / 0	0 / 0	1 / 2	2 / 2	0 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	3 / 5	60%
	Kapoeta South	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 3	0 / 0	0 / 0	0 / 0	0 / 0	/	1 / 3	33%
	STATE TOTAL	0 / 0	1 / 2	0 / 2	18 / 22	19 / 23	12 / 16	6 / 8	5 / 7	3 / 5	0 / 0	1 / 1	0 / 0	65 / 86	76%
Jonglei	Pibor	0 / 0	0 / 0	0 / 0	0 / 3	0 / 1	1 / 3	2 / 3	2 / 2	0 / 0	0 / 0	0 / 0	/	5 / 12	42%
	Nyiro [^]	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	0 / 0	0 / 0	/	0 / 1	0%
	Uror [^]	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	/	0 / 1	0%
	TOTAL	0 / 0	0 / 0	0 / 0	0 / 3	0 / 1	1 / 3	2 / 4	2 / 2	0 / 1	0 / 0	0 / 0	0 / 0	5 / 14	36%
Warrap	Tonj North	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	0 / 0	0%
	Tonj East	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	/	0 / 1	0%
	Tonj South	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	0 / 0	0%
	Gogrial East	0 / 0	0 / 0	1 / 2	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	0 / 0	0 / 0	/	1 / 3	33%
STATE TOTAL	0 / 0	0 / 0	1 / 2	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	1 / 4	25%	
Northern Bahr Al Ghazal [^]	Aweil West [^]	/	/	/	/	/	/	0 / 1	0 / 0	0 / 0	0 / 0	0 / 0	/	0 / 1	0%
		/	/	/	/	/	/	0 / 1	0 / 0	0 / 0	0 / 0	0 / 0	/	0 / 1	0%
Western Bahr Al Ghazal	Jur River	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	0 / 0	0%
	TOTAL	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0%
Lakes	Awerial	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 2	4 / 5	2 / 2	1 / 1	/	7 / 10	70%
	STATE TOTAL	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 2	4 / 5	2 / 2	1 / 1	0 / 0	7 / 10	70%
SOUTH SUDAN TOTAL		0 / 0	1 / 2	1 / 4	18 / 25	19 / 24	13 / 19	8 / 14	7 / 11	7 / 11	2 / 3	2 / 2	0 / 0	78 / 115	68%
% CONTAINED		0%	50%	25%	72%	79%	68%	57%	64%	64%	67%	100%		68%	

* Provisional: as of November 2013

[^] Under passive surveillance. New indigenous case

Insecurity in area this month, in Boma, Kassinger, Kassinger CC and Maruo.

Table 4

SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM
Linelist of Cases of Guinea Worm Disease During 2013*

Case #	Village or Locality of Detection			Payam	County	Age	Sex	Date GW Emerged	Case Contained?		1 = Imported 2 = Indigenous	Home Village or Locality			Presumed Source of Infection Identified?		Presumed Source of Infection is a Known EVA?	
	Name	1 = EVAS	2 = NEVAS						(Yes, No, or Pending)	If No, Date of Abate Rx		Name	1 = EVAS	2 = NEVAS	(Yes / No)	Description	(Yes / No)	Actions?
97.1	NANYANGAMOR CC		2	MARUO	PIBOR	6	F	26-Aug-13	YES		1	NAPUSIRIYET	1		YES	NAPUSIRIYET, NAKWARE, NALIAMOJONG CC, KANARUJASIA CC, NAMAMSURU GARDENING AREAS	YES	FULL INTERVENTIONS IN PLACE
98.1	NANYANGAMOR CC		2	MARUO	PIBOR	25	M	18-Aug-13	YES		1	NAPUSIRIYET	1	YES	NOT YET DETERMINED WITHIN THE AREA BUT AREA NARROWED DOWN	YES	FULL INTERVENTIONS IN PLACE	
99.1	NAWOYAGULE	1		JIE	KAPOETA EAST	58	M	2-Sep-13	YES		2	NAWOYAGULE	1	YES	NASANIT GARDEN SOURCE NEAR 2012 CASE	YES	FULL INTERVENTIONS IN PLACE	
100.1	BURUTAN	1		KATODORI	KAPOETA EAST	31	F	2-Sep-13	YES		2	BURUTAN	1	YES	NEAR MINING AREAS GARDENS NOT CLOSE-HAND DUG WELLS ALONG RIVER BEDS	YES	FULL INTERVENTIONS IN PLACE	
101.1	WUMKUM	1		ABUYONG	AWERIAL	3	M	4-Sep-13	YES		2	WUMKUM	1	YES	WARCHUEI OR WAR PAN MAKAL PONDS AROUND VILLAGE- 2012 CASE RETROSPECTIVELY ADMITTED ENTERING PRIOR TO DETECTION AND WAS LIKELY FALSELY RECORDED AS CONTAINED IN 2012	YES	FULL INTERVENTIONS IN PLACE	
102.1	RAKAWENG CC		2	ABUYONG	AWERIAL	32	M	5-Sep-13	YES		1	WUMKUM	1	YES	WARCHUEI OR WAR PAN MAKAL PONDS AROUND VILLAGE- 2012 CASE RETROSPECTIVELY ADMITTED ENTERING PRIOR TO DETECTION AND WAS LIKELY FALSELY RECORDED AS CONTAINED IN 2012	YES	NOW, YES, IT IS RESPONSIBLE FOR FOUR CASES AND FULL INTERVENTIONS ARE IN PLACE	
103.1	LOMOLEM	1		KAUTO WEST (K)	KAPOETA EAST	60	F	5-Sep-13	YES		2	LOMOLEM	1	NO	STILL UNDER INVESTIGATION	YES	AREA OF DETECTION IS NOW RECEIVING FULL INTERVENTIONS	
104.1	JARWENG		2	ABUYONG	AWERIAL	30	F	13-Sep-13	NO	20.9.13	1	WUMKUM	1	YES	WARCHUEI OR WAR PAN MAKAL PONDS AROUND VILLAGE- 2012 CASE RETROSPECTIVELY ADMITTED ENTERING PRIOR TO DETECTION AND WAS LIKELY FALSELY RECORDED AS CONTAINED IN 2012	YES	FULL INTERVENTIONS IN PLACE	
105.1	WUMKUM	1		ABUYONG	AWERIAL	42	F	17-Sep-13	YES		2	WUMKUM	1	YES	WARCHUEI OR WAR PAN MAKAL PONDS AROUND VILLAGE- 2012 CASE RETROSPECTIVELY ADMITTED ENTERING PRIOR TO DETECTION AND WAS LIKELY FALSELY RECORDED AS CONTAINED IN 2012	YES	FULL INTERVENTIONS IN PLACE	
106.1	NAKWARE	1		JIE	KAPOETA EAST	28	M	29-Sep-13	NO	1.10.13	2	NAKWARE	1	YES	THE SOURCE OF INFECTION IS PRESUMED TO BE WITHIN NAKWARE, THE ENDEMIC VILLAGE. ALL WATER SOURCES IN LOPEAT ARE SYSTEMATICALLY TREATED EVERY MONTH SO ALL POTENTIAL SOURCES HAVE BEEN TREATED WITH ABATE WITHIN THE PAST 28 DAYS. WE ARE STILL TRYING TO NARROW DOWN THE SPECIFIC SOURCE, BUT ALL POTENTIAL SOURCES ARE TREATED ANYWAY.	YES	LOPEAT EAST IS SCHEDULED FOR ABATE ON 1/9/2013	
107.1	WUMKUM	1		ABUYONG	AWERIAL	21	F	27-Sep-13	YES		2	WUMKUM	1			YES		
108.1	NATAPAR		2	MOGOS (SOUTH)	KAPOETA EAST	27	F	27-Sep-13	NO	1.10.13	1	NAKALIOIT	1	YES	NANGOROMIT STREAM CUTS			

Case #	Village or Locality of Detection			Payam	County	Age	Sex	Date GW Emerged	Case Contained?		1 = Imported 2 = Indigenous	Home Village or Locality			Presumed Source of Infection Identified?		Presumed Source of Infection is a Known EVA?	
	Name	1 = EVAS	2 = NEVAS						(Yes, No, or Pending)	If No, Date of Abate Rx		Name	1 = EVAS	2 = NEVAS	(Yes / No)	Description	(Yes / No)	Actions?
109.1	ANUREK		2	PALIANG	TONJ EAST	25	M	13-Oct-13	NO	14.10.13	2	ANUREK			NO	HAS BEEN IN TONJ LAST 3 MONTHS, STAYS IN HOME VILLAGE - CATTLE KEEPER; FREQUENTS CATTLE CAMP - HOUSEHOLD SOURCE USED MAINLY- LARGE POND USED	NA	UNDER INVESTIGATION
110.1	WUMKUM	1		ABUYONG	AWERIAL	10	F	20-Oct-13	YES		2	WUMKUM	1			WARCHUEI OR WAR PAN MAKAL PONDS AROUND VILLAGE- 2012 CASE RETROSPECTIVELY ADMITTED ENTERING PRIOR TO DETECTION AND WAS LIKELY FALSELY RECORDED AS CONTAINED IN 2012	NA	FULL INTERVENTIONS IN PLACE
111.1	MALOU		2	DOR	AWERIAL	29	M	27-Oct-13	YES		1	WUMKUM	1	YES		WARCHUEI OR WAR PAN MAKAL PONDS AROUND VILLAGE- 2012 CASE RETROSPECTIVELY ADMITTED ENTERING PRIOR TO DETECTION AND WAS LIKELY FALSELY RECORDED AS CONTAINED IN 2012	YES	FULL INTERVENTIONS IN PLACE
112.1	THORKUEL	1		PADING	NYIROL	25	F	29-Jul-13	NO		2	THORKUEL	1	NO		POSSIBLY A MISSED CASE IN 2012	NO	UNKNOWN- NOT UNDER ACTIVE SURVEILLANCE IN 2012
113.1	THARKUER	1		PATHEI	UROR	38	F	13-Sep-13	NO		2	THARKUER	1	NO		POSSIBLY A MISSED CASE IN 2012	NO	UNKNOWN- NOT UNDER ACTIVE SURVEILLANCE IN 2012
114.1	TARADUNA		2	KAUTO CENTRA	KAPOETA EAST	14	M	23-Nov-13	YES		1	ADAPAKOL		2	NO	UNDER INVESTIGATION	NA	NA
115.1	MABORADHIAC	1		ABUYONG	AWERIAL	26	M	12-Nov-13	YES		2	MABORADHIAC	1	YES		POTENTIALLY FROM VILLAGE- LOOKING FOR LINKS TO WUMKUM SINCE NO ONE HAS REPORTED FROM THAT VILLAGE	YES	FULL INTERVENTIONS IN PLACE

EVS= Endemic Villages

CC = Cattle Camp

NEVS = Non Endemic Villages

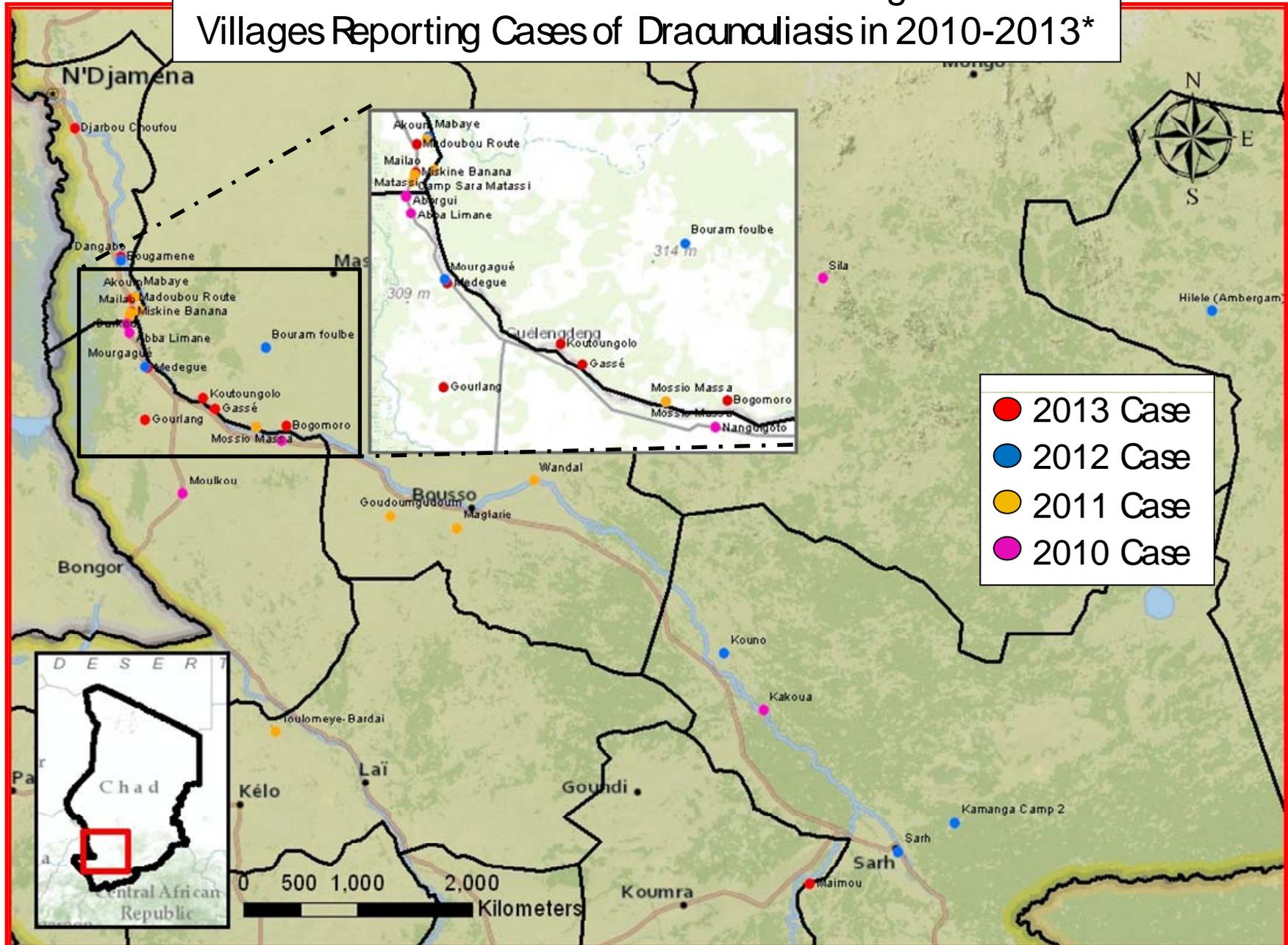
CCC = Case Containment Center

Gardens = Farming areas of villages

* Provisional, January - November

Figure 5

Chad Guinea Worm Eradication Program Villages Reporting Cases of Dracunculiasis in 2010-2013*



Source: Chad MOH/CGWEP

*Provisional data, November 2013

Table 5

CHAD GUINEA WORM ERADICATION PROGRAM
Linelist of Cases of Guinea Worm Disease During 2013*

Case #	Village or Locality of detection			Payam or District or Woreda	County or Region	Patient		Case Contained?		1 = imported 2= indigenous	Home Village or Locality			Presumed Source of infection identified?		Presumed Source of infection is a known EVA?			
	Name	1= EVAS	2= NEVAS			3= PSV	Age	Sex	Date GW emerged (D/M/Y)		(Yes, No, or Pending)	If no, date of Abate Rx	Name	1= EVAS	2= NEVAS	3= PSV	(Yes or No)	Name	(Yes or No)
1	Miskine Banane		2		Mandelia	Chari Baguirmi	3	F	2-Apr-13	yes		2	Miskine Banana		2		No		
2.1	Koutoungolo Centre		2		Massenya	Chari Baguirmi	35	F	8-Apr-13				Koutoungolo Centre						
2.2									28-Apr-13										
2.3									21-May-13										
2.4									21-May-13										yes
3.1	Gassé		2		Massenya	Chari Baguirmi	50	F	9-Apr-13	yes		2	Gassé		2		No		
4.1	Gourlong			3	Guelendeng	Mayo Kebi Est	12	M	5-May-13	yes		2	Gourlong			3	No		
5.1	Djarbou Choufou			3	Mandelia	Chari Baguirmi	6	M	16-Jun-13	no	N/A	2	Djarbou Choufou			3	No		
6.1	Bogomoro		2		Bouso	Chari Baguirmi	25	M	19-Jul-13	yes		2	Bogomoro		2		No		
7.1	Bougemene			3	Mandelia	Chari Baguirmi	13	F	25-Jul-13	yes		2	Bougamene			3	No		
8.1	Madoubou Route^	1**			Mandelia	Chari Baguirmi	8	M	26-Jul-13	yes		2	Madoubou Route	1**			?	?	
9.1	Médégué		2		Guelendeng	Mayo Kebi Est	10	F	24-Aug-13	yes		2	Ndjemena		2		No		
10.1	Maimou			3	Sarh	Moyen Chari	37	F	11-Sep-13	no	too large	2	Maimou			3	Pending		
11.1	Maimou			3	Sarh	Moyen Chari	6	F	11-Oct-13	no	too large	2	Maimou			3	Pending		
12.1	Maimou			3	Sarh	Moyen Chari	20	M	30-Nov-13	?	too large	2	Maimou			3	Pending		
13.1	Maimou			3	Sarh	Moyen Chari	29	M	2-Dec-13	pending	too large	2	Maimou			3	Pending		

* provisional, January - November

^ Patient was case in 2011

1** Village part of Endemic Cluster.

Use the 1.1, 1.2...etc. system to designate number of GWs emerging from same case-patient.

EVAS = endemic villages under active surveillance

NEVAS = non endemic villages under active surveillance

during which he was joined by Dr. Mahamat Tahir Ali the GWEP National Coordinator and Dr Milamem Marthe Beral Kodekao (WHO-country office Chad), during a visit to Mayo-Kebbi East Region. Areas for interventions aimed at strengthening surveillance in GWD-free areas were identified and implemented. These included the use of town criers in villages and market places and more frequent announcements on radio and television to intensify awareness about the rewards (for reporting cases of GWD) among the population.

Having confirmed that awareness of the reward for reporting a case of Guinea worm disease is unacceptably low (19%) in an area under passive surveillance, despite use of radio announcements and posters, WHO is now helping the ministry intensify publicity by using town criers in villages and market places and more frequent announcements on radio and television.

ICCDE RECOMMENDS COTE D'IVOIRE, NIGER, NIGERIA FOR CERTIFICATION



World Health Organization

At its Ninth Meeting, which was held at WHO headquarters in Geneva on December 3-5, the International Commission for the Certification of Dracunculiasis Eradication (ICCDE) recommended that the World Health Organization certify Cote d'Ivoire, Niger and Nigeria as having interrupted transmission of Guinea worm disease. The three countries reported their last indigenous cases in 2006, 2008 and 2008, respectively. International Certification Teams led by Dr. Joel Breman (Cote d'Ivoire, Niger) and Prof. David Molyneux (Nigeria) conducted visits on behalf of the ICCDE to Cote d'Ivoire on 2-19 July 2013, Nigeria on 24 June-12 July 2013 and Niger on 21 October-8 November 2013. Somalia and South Africa, neither of which was known to have had transmission of the disease in recent decades, also were recommended for certification. As of now, a total of 197 countries and territories have been certified as Guinea worm-free, with 8 countries remaining to be certified: Angola, Ghana, Kenya, Sudan and the four endemic countries. The ICCDE meeting included overviews of progress towards interrupting transmission in the four remaining endemic countries by Drs. Donald Hopkins, Ernesto Ruiz-Tiben, Mark Eberhard, Dieudonne Sankara, Alhousseini Maiga, and Mr. Evans Liyosi; and an overview of progress toward certification of the remaining countries was given by Dr. Gautam Biswas.

WHO assistant director general Dr. Hiroki Nakatani informed the ICCDE that WHO director general Dr. Margaret Chan fully supports the need for advocacy for Guinea worm eradication, including during the next World Health Assembly in May 2014. This meeting of the ICCDE also welcomed three new members of the Commission: Dr. Abdulhakim Al-Kuhlani, Director General of Diseases Control and Surveillance of Yemen (former director of Yemen's GWEP); Dr. Mark L. Eberhard of CDC's Division of Parasitic Diseases (USA); and Prof. Robert Tinga Guiguemde, Chairman of the Burkina [Faso] National Academy of Sciences.

IN BRIEF:

Sudan. Three cases of Guinea worm disease have been identified in Kafia Kinji, El Radom Locality of South Darfur State, which is an area heretofore free of the disease. The first case is a 45 year old woman whose infection was detected on June 8 during a polio vaccination campaign.

The first patient's niece, an 18 year old, was detected on June 14, and the 4 year old granddaughter of the first case was detected on the same day her worm emerged: September 14. A specimen of the worm from the 4 year old girl is being sent to CDC for confirmation. All three patients are indigenous to Kafia Kinji, but the source of their infections in 2012 remains uncertain. The Sudan GWEP is establishing active surveillance in villages in this remote area to detect any other cases that may occur in 2013-2014.

Democratic Republic of Congo. A survey conducted by WHO/AFRO in 2013 of 17,000 persons in 157 villages in Oriental Province, near the border with South Sudan revealed no cases of Guinea worm disease and 20% of villages with one or more safe sources of drinking water.

WHO/AFRO CONVENES CROSS-BORDER MEETING

The African Regional Office of WHO convened a cross-border meeting of representatives from the Guinea Worm Eradication Programs of Ethiopia, Kenya, South Sudan, and Uganda at Nairobi on October 28-31, as well as a review meeting for the remaining endemic countries and countries in the precertification stage at Bamako, Mali on November 26-29.

Kenya has increased the cash reward for reporting a case of Guinea worm disease to the equivalent of US\$ 1,500.

Figure 6 shows the numbers of cases of dracunculiasis reported monthly worldwide since 2009.

Figure 6

Global Number of Reported Cases of Dracunculiasis During 2009 -2013*

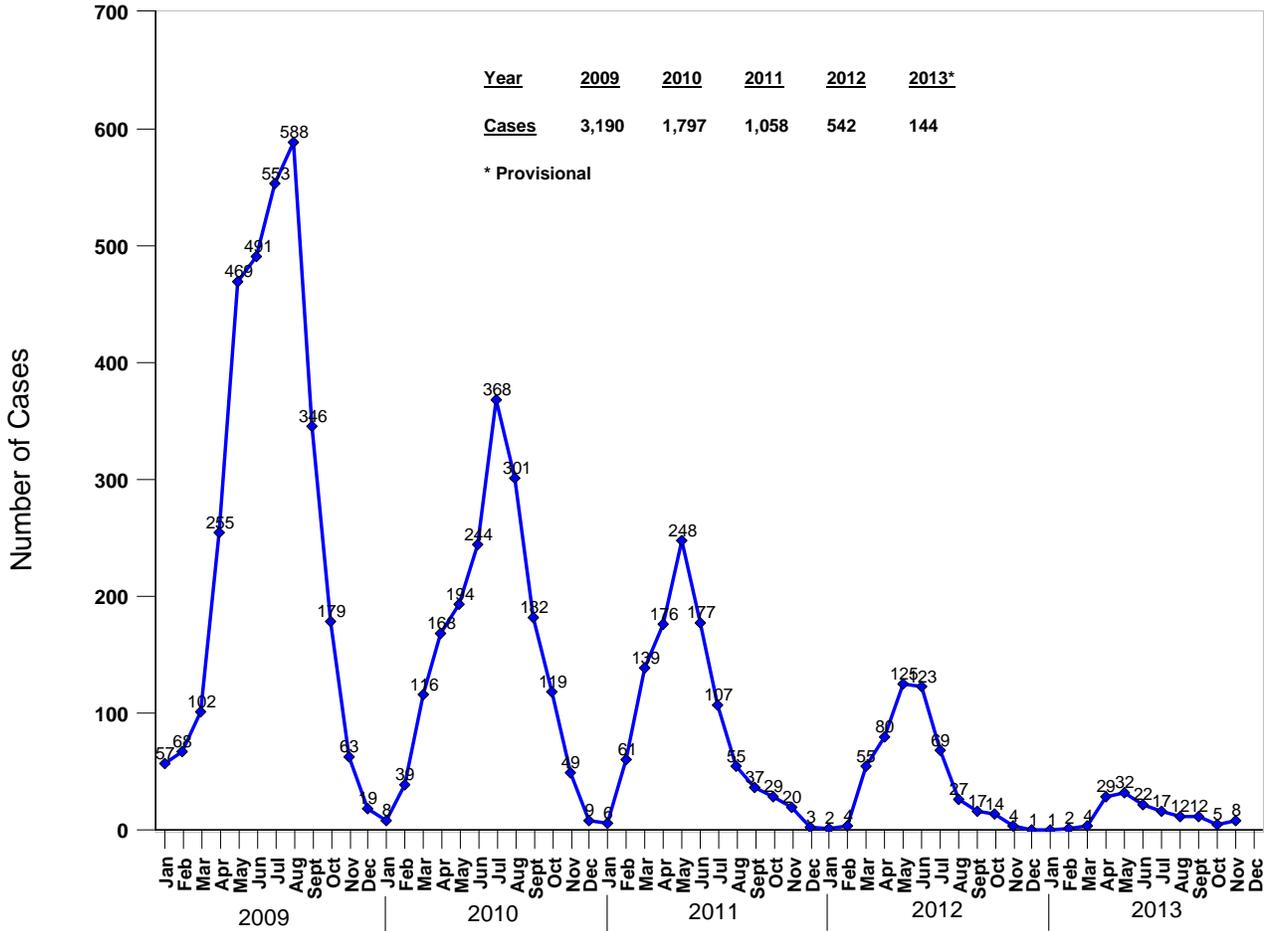
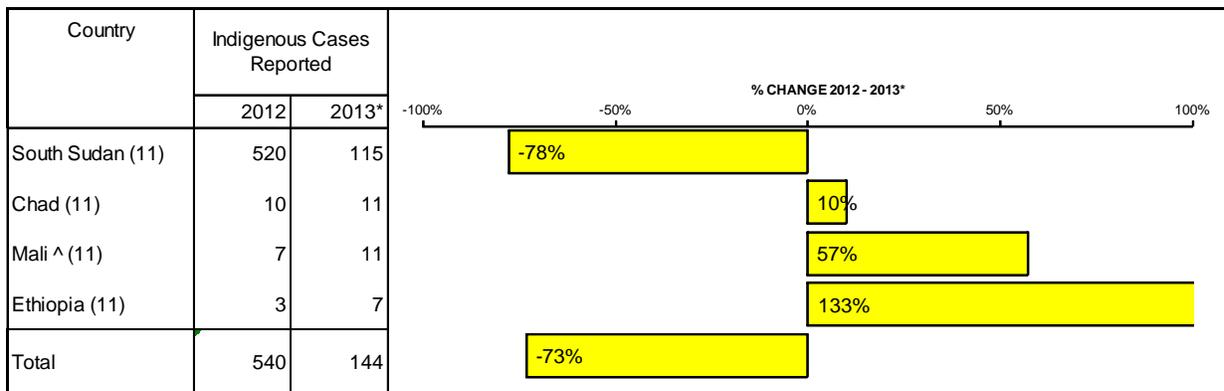


Figure 7

Number of Indigenous Cases Reported During the Specified Period in 2012 and 2013*, and Percent Change in Cases Reported



* Provisional. Numbers in parentheses indicate months for which reports have been received, i.e., (11) = January -Nov. 2013.

^ Beginning in April 2012 reports include only Kayes, Koulikoro, Segou, Sikasso, Mopti Regions; the GWEP is not currently fully operational in Timbuktu and Gao Regions, and not at all in Kidal Region.

Table 6

Number of Cases Contained and Number Reported by Month during 2013*
(Countries arranged in descending order of cases in 2012)

COUNTRIES WITH ENDEMIC TRANSMISSION	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SOUTH SUDAN	0 / 0	1 / 2	1 / 4	18 / 25	19 / 24	13 / 19	8 / 14	7 / 11	7 / 11	2 / 3	2 / 2	/	78 / 115	68
CHAD	0 / 0	0 / 0	0 / 0	3 / 3	1 / 1	0 / 1	3 / 3	1 / 1	0 / 0	0 / 0	0 / 2	/	8 / 11	73
MALI [^]	0 / 0	0 / 0	0 / 0	0 / 0	0 / 3	1 / 1	0 / 0	0 / 0	1 / 1	1 / 2	4 / 4	/	7 / 11	64
ETHIOPIA	1 / 1	0 / 0	0 / 0	0 / 1	3 / 4	0 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	4 / 7	57
TOTAL*	1 / 1	1 / 2	1 / 4	21 / 29	23 / 32	14 / 22	11 / 17	8 / 12	8 / 12	3 / 5	6 / 8	0 / 0	97 / 144	67
% CONTAINED	100	50	25	72	72	64	65	67	67	60	75		67	

*Provisional

Cells shaded in black denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were contained and reported that month.

Cells shaded in yellow denote months when transmission of GWD from one or more cases was not contained.

Since April 2012 reports include only Kayes, Koulikoro, Segou, Sikasso, Mopti Regions; the GWEP is not currently operational in Timbuktu, Kidal, and Gao Regions.

Number of Cases Contained and Number Reported by Month during 2012*
(Countries arranged in descending order of cases in 2011)

COUNTRIES WITH ENDEMIC TRANSMISSION	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SOUTH SUDAN	2 / 2	3 / 4	37 / 55	50 / 80	79 / 125	84 / 123	45 / 69	14 / 27	10 / 17	9 / 14	2 / 4	1 / 1	336 / 521	64
MALI [^]	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 3	0 / 0	3 / 3	0 / 0	0 / 0	0 / 0	4 / 7	57
CHAD	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 2	0 / 1	2 / 4	1 / 2	1 / 1	0 / 0	0 / 0	4 / 10	40
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 1	1 / 1	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 1	2 / 4	50
TOTAL*	2 / 2	3 / 4	37 / 55	50 / 81	80 / 126	85 / 126	45 / 73	17 / 32	14 / 22	10 / 15	2 / 4	1 / 2	346 / 542	64
% CONTAINED	100	75	67	62	63	67	62	53	64	67	50	50	64	

*Provisional

Cells shaded in black denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were reported and contained that month.

Cells shaded in yellow denote months when transmission of GWD from one or more cases was not contained.

[^] Since April 2012 reports include only Kayes, Koulikoro, Segou, Sikasso, Mopti Regions; the GWEP is not currently operational in Timbuktu, Kidal, and Gao Regions. Three Malian residents, confirmed as cases of GWD in Niger during September 2012 (shown in italics) are included in Mali's total for the year. Mali has ascertained the apparent source of these cases.

RECENT PUBLICATIONS

Hopkins DR, Ruiz-Tiben E, Eberhard ML, Roy SL, 2013. Progress toward global eradication of dracunculiasis-January 2012-June 2013. MMWR 62:829-833.

World Health Organization, 2013. Monthly report on dracunculiasis cases, January-September 2013. Wkly Epidemiol Rec 88:499-500.

Eberhard ML, Ruiz-Tiben E, Hopkins, et al. 2013. The Peculiar Epidemiology of Dracunculiasis in Chad. Am J Trop Med Hyg, Published on line November 25, 2013. The latest version is at <http://ajtmh.org/doi/10.4269/ajtmh.13-0554>.

MEETINGS

The South Sudan Guinea Worm Eradication Program will hold its annual review meeting in Juba, South Sudan during January 24-25, 2014.

Proposed draft definition of a case source:

The source of a case is considered “probably known” if the patient resided in or visited a community under surveillance where a case of Guinea worm disease occurred within 10-14 months before the patient’s worm emerged. Attribution to a village or community is sufficient (exact location of contaminated water source not necessary).

Detect every case! Contain every worm! Trace every source!

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

Contributors to this issue were: the national Guinea Worm Eradication Programs, Drs. Donald R. Hopkins and Ernesto Ruiz-Tiben, of The Carter Center, Dr. Gautam Biswas of WHO, and Drs. Sharon Roy and Mark Eberhard of CDC.

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Back issues are also available on the Carter Center web site English and French are located at http://www.cartercenter.org/news/publications/health/guinea_worm_wrapup_english.html.
http://www.cartercenter.org/news/publications/health/guinea_worm_wrapup_francais.html



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