

Date: May 7, 2012



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

Subject: GUINEA WORM WRAP-UP #211

To: Addressees

Detect and Explain Every Case! Contain Every Worm!

NO CONFIRMED CASES OUTSIDE OF SOUTH SUDAN IN JANUARY-APRIL

South Sudan has reported a total of 143 cases of Guinea worm disease in January-April 2012, which is a reduction of 62% compared to the 377 cases South Sudan reported in the same period of 2011 (Figure 1) when Chad and Ethiopia had reported a total of 5 cases. The monthly percentage reduction of cases in South Sudan so far this year compared to the same period of 2011 is: 67%, 93%, 59%, and 53%. South Sudan has contained 71% of its cases so far in 2012, having had a provisional total of 42 uncontained cases so far this year, compared to a case containment rate of 76% in January-April 2011. Efforts continue to intensify interventions in the remaining endemic villages, with up to 40 international Technical Assistants assisting in 2012, compared to 31 at the end of 2011. Progress towards providing safe drinking water to the remaining 125 disease-endemic villages in South Sudan is summarized in Table 1.

Figure 1

South Sudan Guinea Worm Eradication Program
Cases of Dracunculiasis Reported by Month, January - April 2011 - 2012*

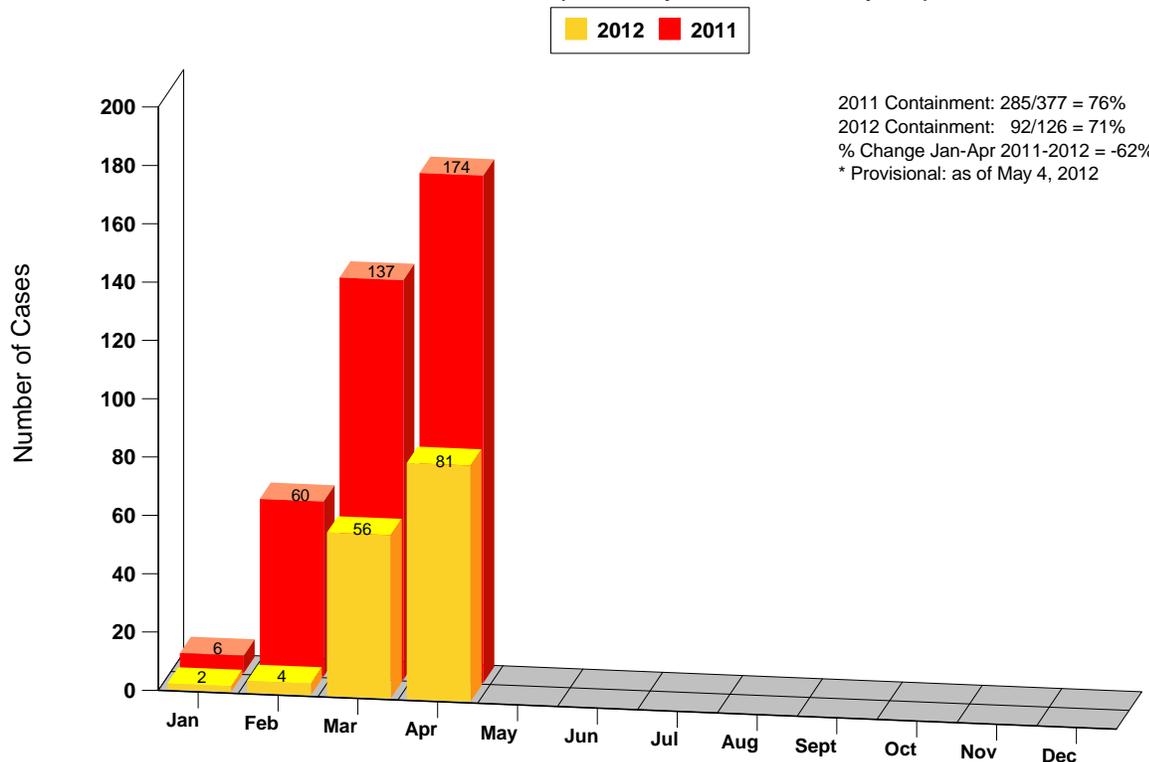


Table 1

**SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM
PROVISION OF SAFE SOURCES OF DRINKING WATER TO DISEASE-ENDEMIC VILLAGES: 2012***

State	EVS Targeted		Borehole Wells		% of EVS targeted provided with safe water in 2012*	Total Borehole wells promised for 2012 by water sector organizations for South Sudan	# of EVS with one or more sources of safe water**	% of EVS with one or more sources of safe water**
	2012	Cases of GWD reported in 2011	# Requested by SSGWEP	# Drilled and functional in 2012*				
Eastern Equatoria	77	304	57	9	12%	87	13	17%
Jonglei	3	38	3				2	67%
Warrap	27	64	30	11	41%	15	9	33%
Lakes	14	31	10				4	29%
Central Equatoria	3	4	3				0	0%
W. Bahr Al Ghazal	1	1	0				1	100%
Total	125	442	103	20	16%	102	29	23%

* As of April 30, 2012

** As of March 31, 2012

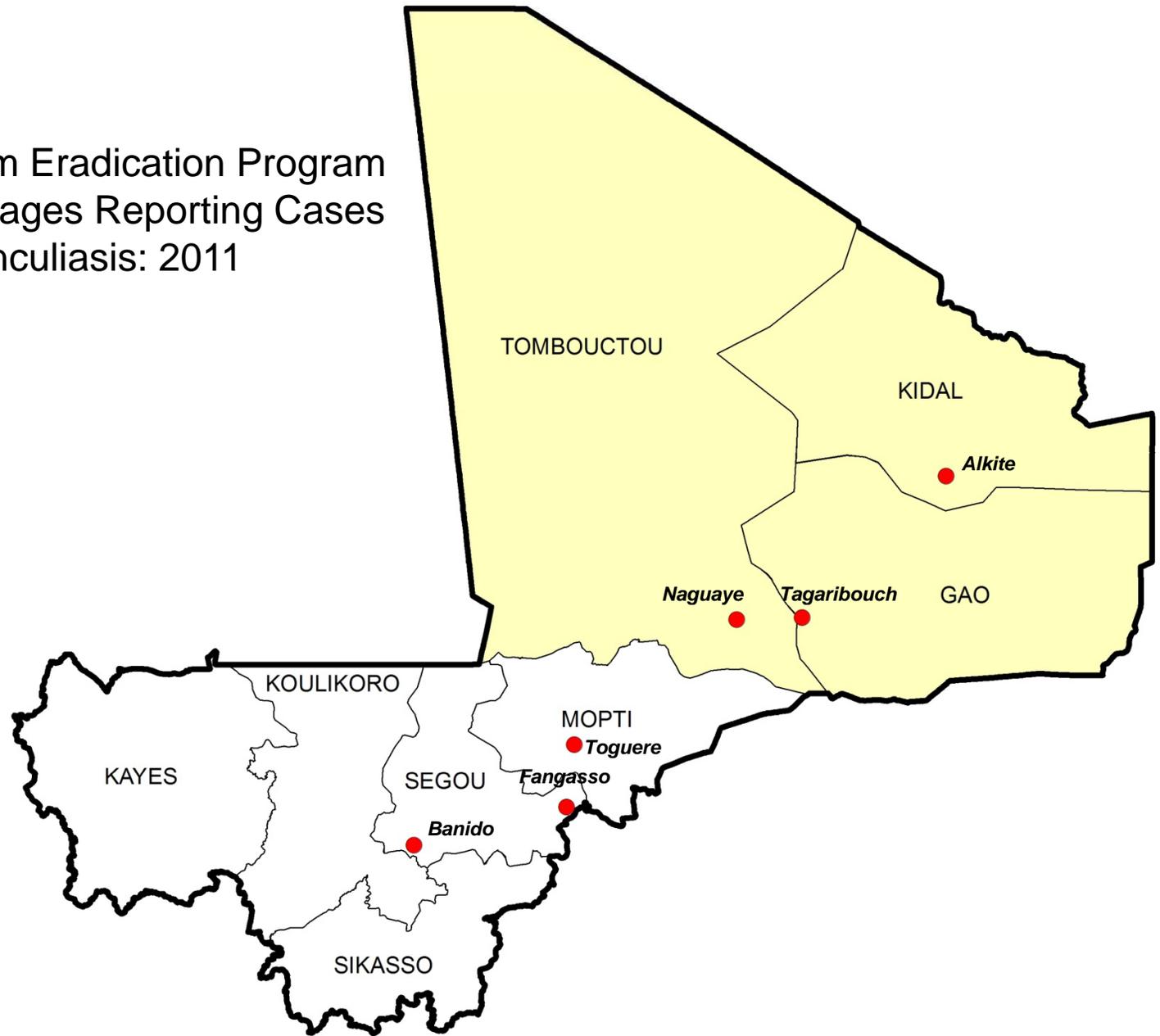
The South Sudan Guinea Worm Eradication Program Task Force met in Juba on April 17, and the Eastern Equatoria State GW Task force will have its first meeting in Torit on May 14, 2012, with ranking members of the Republic of South Sudan Ministry of Health in Juba.

MALI: CHALLENGES IN 2012

The military coup d'état that removed President Amadou Toumani Toure, a great friend of the global Guinea Worm Eradication Program, from the presidency of Mali on March 22, 2012, introduces more challenges to Mali's Guinea Worm Eradication Program in 2012. As an unintentional consequence, rebel Toureg forces seized control of most of northern Mali, including 3 of the 5 disease-endemic Regions in the country (Figure 2). Mali reported only 12 cases of Guinea worm disease from 6 villages in 2011. Five of the 7 cases that reportedly were not contained because of late notification are believed by the program to not have transmitted the infection because of late onset of rains, or because the associated water sources were treated with ABATE® Larvicide within 10-14 days after possible contamination of sources of water. The two other uncontained patients who may have contaminated water last year occurred in the villages of Fangasso and Banido, both in Segou Region, on July 4 and on September 12, respectively. Both of these villages are located in areas of southern Mali that are still controlled by the new national authorities in Bamako. Three villages that reported contained cases in 2011 are located in northern areas now controlled by rebel groups. Special efforts will be required to ensure surveillance and response to any suspected cases throughout Mali in 2012. The season for Guinea worm transmission in Mali is June-November.

Figure 2

Mali Guinea Worm Eradication Program Distribution of Villages Reporting Cases of Dracunculiasis: 2011



Shaded area indicates areas held by rebel groups

Table 2

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

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*	
SOUTH SUDAN	2 / 2	3 / 4	42 / 56	54 / 81	/	/	/	/	/	/	/	/	101 / 143	71
MALI	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	0
CHAD	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	0 / 0	0
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	0 / 0	0
TOTAL*	2 / 2	3 / 4	42 / 56	54 / 81	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	101 / 143	71
% CONTAINED	100	75	75	67									71	
% CONT. OUTSIDE SUDAN	0	0	0	0									0	

*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.
Shaded cells denote months when transmission of GWD from one or more cases was not contained.

Number of Cases Contained and Number Reported by Month during 2011
(Countries arranged in descending order of cases in 2010)

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*	
SOUTH SUDAN	5 / 6	46 / 60	99 / 137	135 / 174	180 / 244	129 / 173	70 / 102	37 / 48	28 / 36	19 / 28	14 / 19	1 / 1	763 / 1028	74
MALI	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 3	1 / 3	2 / 3	0 / 1	1 / 1	0 / 1	0 / 0	5 / 12	42
ETHIOPIA^	0 / 0	0 / 0	1 / 2	1 / 1	4 / 4	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	7 / 8	88
CHAD	0 / 0	1 / 1	0 / 0	0 / 1	0 / 0	0 / 0	1 / 2	1 / 4	0 / 0	0 / 0	0 / 0	1 / 2	4 / 10	40
GHANA	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
TOTAL*	5 / 6	47 / 61	100 / 139	136 / 176	184 / 248	131 / 177	72 / 107	40 / 55	28 / 37	20 / 29	14 / 20	2 / 3	779 / 1058	74
% CONTAINED	83	77	72	77	74	74	67	73	76	69	70	67	74	
% CONT. OUTSIDE SUDAN	0	100	50	50	100	50	40	43	0	100	0	50	53	

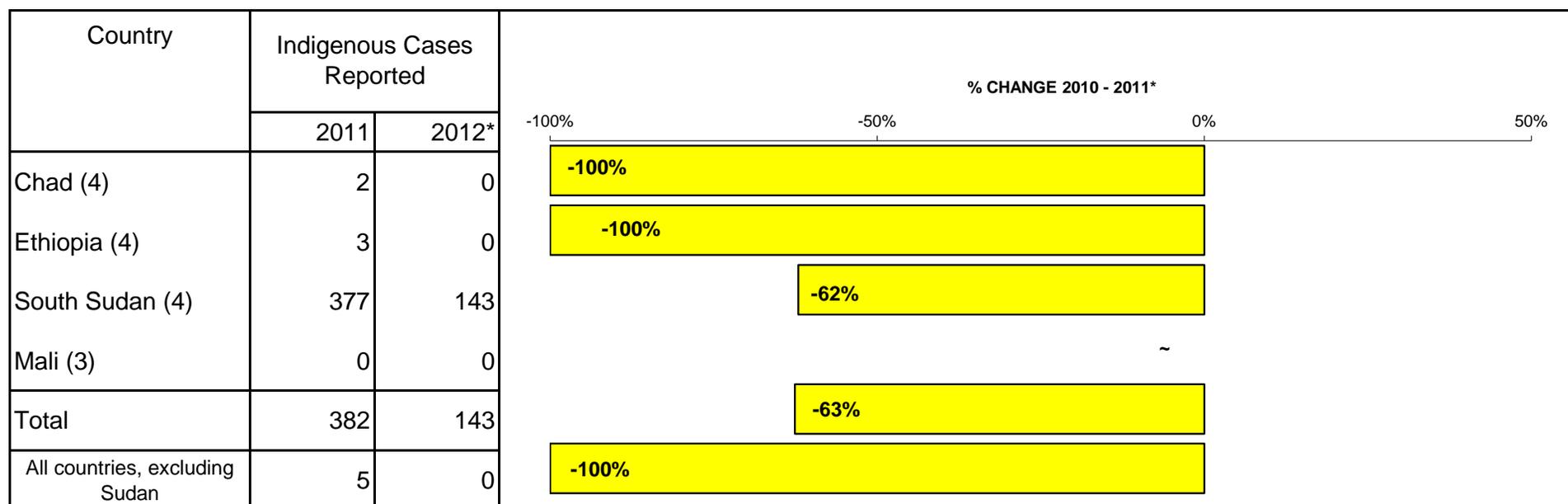
* provisional

Shaded cells denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were reported and contained that month.
Shaded cells denote months when transmission of GWD from one or more cases was not contained.

^ one case of GWD (not contained) was imported into Ethiopia from South Sudan during March and a second (contained) during May.

Figure 3

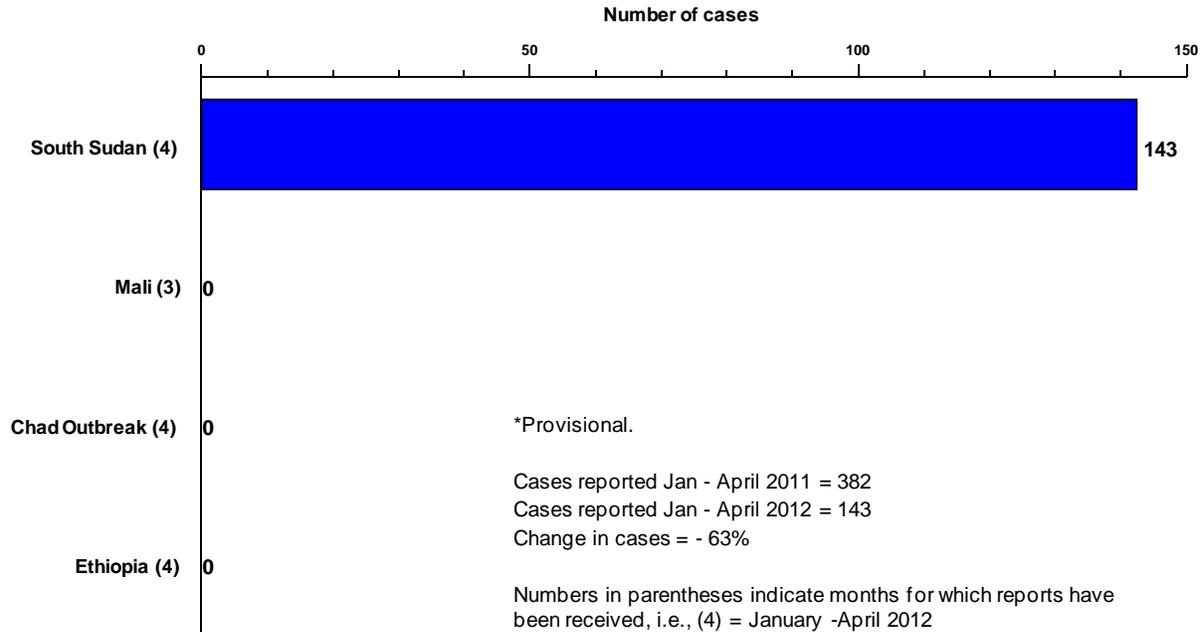
Number of Indigenous Cases Reported During the Specified Period in 2011 and 2012*, and Percent Change in Cases Reported



* Provisional. Numbers in parentheses indicate months for which reports have been received, i.e., (3) = January - March. Excludes cases exported from one country to another.

Figure 4

Distribution By Country of 143 Cases of Dracunculiasis During 2012*



ETHIOPIA: POSSIBLE CASE AFTER NINE CONSECUTIVE MONTHS OF NO CASES

All six of the 2011 cases of GWD indigenous to Ethiopia were detected and contained in Gog Woreda of Gambella Region. The last known indigenous case of dracunculiasis was reported in June 2011, and Ethiopia's latest known uncontained case was imported from South Sudan into the Southern Nations and Nationalities Peoples Region (SNNPR) in March 2011. In April 2012 a 20 year old male resident of Terkudi Village, Terkudi Kebele (sub-district) in Abobo Woreda (District) of Gambella Region was suspected of having GWD. The patient's history is below:

In 2009, the patient traveled to Utuyu Village in Gog Woreda, on approximately 8 occasions, to visit friends but could not recall the frequency or exactly when in the year, but since then, he has not visited there again. The patient has never been to Sudan or South Sudan. Between November 2010 and April 2011, the patient was a daily laborer at a farm in Abobo Woreda and commuted to that farm from Terkudi village, having moved there from Gotok to facilitate daily commutes to the farm. Starting in mid-April 2011, he was again resident in Gotok village, of Terkudi Kebele, and recalled traveling weekly from Gotok Village to go hunting and search for honey with a friend. Both walked approximately 5 hours from Gotok towards Utuyu Village but never actually entered Utuyu. Along the way, they would drink from 4 ponds: Guule, Depuyi, Weyi, Awode, and Lel Nyidomachan. The latter pond is only a few hours walk from the Utuyu community. These ponds are in Abobo Woreda, according to the patient and other residents of Terkudi Village. Their hunting and honey gathering treks stopped when heavy rains began in 2011 (likely around May/June). From November 2011 until April 2012, he was again fully employed as a daily laborer at the same farm, and resident again in Terkudi Village, Abobo Woreda.

The patient recalled having had GWD several years ago, and it is estimated it was in 2001. At that time, he lived in Terkudi village and recalled there were about 10 others with the disease. That was the last time he recalls seeing anybody with GWD in Terkudi village or Abobo Woreda.

According to the patient on April 21st he noticed a swelling in his genital area. It became a blister on April 23rd. On April 24-25th, he squeezed the blister, and some clear liquid came out on the 25th. On the 26th, he bathed in Alero River and while in the river noticed that a “worm” had started to emerge. He said that the river was fast flowing at the time. That same day, he started to roll the worm on a small stick and also informed a former village-based volunteer about it. She called a health worker in Abobo on the 27th and on the 28th the health worker went to Terkudi and brought the patient to the Abobo health post where the patient was managed. A small piece of the emergent worm broke on the 27th but the patient says he threw it away. On April 30th, the patient was moved to the Pugnido Town case containment center in Gog Woreda for care. While in Pugnido the remaining emerged part of the worm broke on May 1st. The broken piece of the worm was preserved in alcohol and is being sent to CDC for confirmation of the species of worm. That same day (May 1st), a small swelling was evident on the left ankle of the patient. When asked if he was aware about the reward for self-reporting, the patient said no, that he reported to the volunteer because he wanted to receive medical care. The patient continues to be monitored at the case containment center.

***Editorial:** Only one case of GWD was reported from Utuyu Village during 2011. That patient was a 35 year old female who had three Guinea worms. The first worm emerged on April 18, the second on June 5, and the third worm on June 20, 2011. According to the Ethiopia Dracunculiasis Eradication Program (EDEP), transmission from each of this patient’s three Guinea worms was prevented, as she was admitted to the case containment center in Pugnido Town on each occasion and is reported to have met all of the standards for case containment. If the Terkudi Village suspect patient is confirmed to have GWD, it is likely, based on the information at hand, that there is a relationship between the emergence of Guinea worms from the patient in Utuyu during April and/or June 2011, and the hunting/honey gathering treks made by the suspect patient near Utuyu. One probable implication would be that transmission from at least one of the Guinea worms that emerged from the Utuyu patient in 2011 was not prevented. In Gog District, where all known indigenous cases in 2011 were located, all 67 inhabited villages and localities have been under intense active surveillance for cases of GWD since 2010. The detection of this suspect in Abobo Woreda, which has been free of known transmission of GWD for three or more years, combined with the recent influx of displaced persons from South Sudan into Gambella Region, are serious reminders to Ethiopian health authorities, particularly in Gambella and SNNPR, to improve surveillance and response capacity in currently and formerly disease endemic areas, as Ethiopia comes closer to full interruption of transmission and to beginning its process of certification of eradication.*

Dr. Joel Breman, a member of the International Commission for the Certification of Dracunculiasis Eradication (ICCDE), will visit the Ethiopian program in a previously-scheduled visit on 9-20 May. The Carter Center’s Country Representative, Dr. Zerihun Tadesse, has continued his monthly supervisory visits to Gog District, but health authorities in Gambella Region do not accompany him or actively participate in the program. Ms. Marian Botchway, a technical assistant supported by The Carter Center, is based in Gog District to help support Guinea worm eradication activities there.

MEETING OF GW ERADICATION PROGRAM MANAGERS IN ADDIS ABABA

WHO held the 16TH Meeting of National Guinea Worm Eradication Program Coordinators in Addis Ababa, Ethiopia during March 26-29 2012 which was attended by 46-50 participants representing endemic and formerly endemic countries, and never endemic countries, including Dr. Julie Jacobson of the Bill and Melinda Gates Foundation; Dr. Sharon Roy of CDC; Drs. Dirk Engels, Gautam Biswas, and Dieudonne Sankara of WHO headquarters, and Dr. Adiele Onyeze, of WHO African Regional Office; Dr. Zerihun Tadesse, Ms. Marian Botchway, and Dr. Ernesto Ruiz-Tiben of The Carter Center also participated.

The recommendations of this meeting are included below along with the recommendations made during the first installment of the 16th Annual GWEP Managers Meeting, held in Atlanta, GA on March 1-2, 2012 for the four countries still reporting cases.

1. Programs should formalize cross-border collaborations on the following issues:

- Mapping of villages and mobile communities (e.g., cattle camps) with cases and potential contaminated water sources
- Immediate notification and containment of imported cases
- Notification of cross-border movement of populations with known cases
- Surveillance in camps of displaced persons coming from endemic areas
- Joint community mobilization plans for these areas

Cross-border collaboration should include program staff in the regions and districts along the border in addition to national programme staff. The following countries require a close collaboration:

- South Sudan with Ethiopia, Kenya, Uganda, and Sudan
 - Chad with Nigeria, Cameroon, CAR, Niger, and Sudan
 - Mali with Algeria, Burkina Faso, Niger, and Mauritania
2. Programs should ensure all health staff know how to respond to rumors of Guinea worm disease and ensure all health staff know about the reward and about the current amount. All health staff should communicate this information to communities on their field visits.
 3. Awareness among the general population about the reward should be raised through a mixed-media approach, prioritizing the population at risk.
 4. WHO should develop a standardized sampling methodology for evaluation of reward awareness among health staff and the general population. Programs should then evaluate reward awareness on an annual basis following WHO guidelines to fine tuning their communication strategies.
 5. Rewards should be increased to the highest practical level to maximize rumor reporting. Programmes in neighboring countries should consider having high rewards at similar levels.
 6. Each program should critically review the following surveillance indicators and take appropriate corrective action:
 - Proportion of districts reporting on GWD, including zero reporting

- Proportion of health facilities reporting on GWD
- Number of rumors and the status of their investigations
- Number of cases, even if zero, and the number of cases contained
- Number and location (GPS) of villages reporting cases

The success of these activities will depend on similar reviews being conducted at each administrative level and reporting on a fixed date to a higher level. National Programmes should submit this report to WHO by the 30th day of the following month.

7. All specimens from suspected GWD cases occurring in countries in the pre-certification or post-certification phase should be sent to the WHO Collaborating Center at CDC for laboratory confirmation following the preservation, labeling, and shipping guidelines. In addition, specimens from suspected GWD cases occurring in areas of interrupted or soon-to-be interrupted transmission within endemic countries should be sent to the WHOCC at the discretion of the Program.
8. The Guinea Worm Eradication Programs (GWEPs), where appropriate, should utilize the potential of the national Polio Program to assist with rumor detection and reporting while retaining the responsibility for rumor investigation. The GWEPs should engage their national Polio Program to identify and negotiate specific collaborative actions that could strengthen GWD surveillance (for example, case searches during NIDs). Additionally, the GWEP should provide support to the national Polio Program by having GW village volunteers report acute flaccid paralysis to the national Polio Program. Similar collaborations should be considered with other public health programs.
9. Programs should conduct risk assessments and prioritize resources to ensure quality surveillance in at-risk areas.
10. WHO should advocate with Ministries of Health to consider strengthening GWD surveillance by bridging the Integrated Disease Surveillance and Response (IDSR) system formal structures with community-based surveillance (CBS) networks, such as those established by the GWEPs and the Polio Program, particularly in non-endemic and recently-freed areas of the country that are at greatest risk for importation and re-establishment of GWD transmission. If the Ministries of Health choose to adopt such an approach, they must ensure that the necessary resources are dedicated to sustain the CBS infrastructure within these areas.
11. Special effort needs to be made to ensure access to safe drinking water supplies in villages with GWD cases in 2011 as soon as possible.
12. Programs should report annually on the safe water supply situation for formerly endemic villages.
13. AFRO and EMRO should consider a resolution on accelerating GWD transmission interruption and enhancing surveillance to reach the goal of GWD eradication in their respective regions during a future Regional Committee Meeting.
14. All GWEPs, irrespective of the endemicity status of the country, must ensure an adequate* level of documentation of surveillance data and program activities at all levels for eventual certification. (* as per the International Commission for Certification of Dracunculiasis Eradication (ICCDE) certification criteria)

15. WHO should evaluate the use of mobile phone technology for reporting on rumours and cases from the field to the concerned Program authorities and the Ministry of Health should negotiate with the cellular phone companies for a) transmission of such data from the field and b) to disseminate text and/or visual messages as public service announcements via the cellular phones regarding the reward for reports leading to confirmation of cases of GWD.

Recommendations from the 16th Annual GWEP Managers Meeting, held in Atlanta, GA during 1–2 March, 2012 for the four countries still reporting cases.

Chad

- 1) The Minister of Health should make a request to the US Centers for Disease Control and Prevention for epidemiological-aid assistance to conduct a case investigation follow-up of all cases detected during 2010-2012 aiming at identifying risk factors for the infection and assessing their relevance to possible modalities and locations of transmission of GWD in Chad. It is urgent to conduct this study before the onset of the next rainy season.
- 2) To better promote self-reporting among patients with GWD, the Chad GWEP should consider modifying its current reward modality (50,000 CFA) to any one providing information that leads to confirmation of a case of GWD to the following:
 - a) the full reward is given to the patient with GWD if he/she self reports;
 - b) and the reward is split 50:50 with the informant, if it is the latter's report that leads to confirmation of the case of GWD.

The universal message about rewards should continue to be the offer of the 50,000 CFA for information leading to confirmation of a case of GWD.

- 3) The Ministry of Health should negotiate with the cellular phone companies (AirTel, and/or TIGO) to disseminate text and/or visual messages as public service announcements via cellular phones regarding the availability of the 50,000 CFA reward for reports leading to confirmation of cases of GWD.
- 4) The Ministry of Health should install a central dedicated phone response line, ideally at the GWEP secretariat, through which residents communicate information about rumors of possible cases. The Ministry of Health could then direct such reports to the appropriate GWEP or other health staff for prompt (within 24 hours) investigation.
- 5) Chad should continue monitoring public knowledge about rewards periodically throughout 2012-2013 in areas with GWD and areas free of GWD.
- 6) The Chad Program needs to distribute filters and conduct health education immediately in all areas where cases have been detected and all surrounding suspected areas.
- 7) The Ministry of Health should offer immediate assistance to the GWEP in releasing budgeted funds for vehicle purchases, case searches and implementing other program interventions.

South Sudan

- 1) The Ministry of Health should arrange for President Salva Kiir to receive a full briefing about the status of Guinea worm disease in South Sudan and the SSGWEP. The government of South Sudan, including its President should take ownership and pride over the Guinea worm eradication effort and make this national effort a success.

- 2) The water sector needs to act rapidly to realize safe water in the targeted EVs, including using alternative technologies (point of use water treatment, rain catchment, etc.) before the end of April, 2012.
- 3) Water sector agencies should accelerate the distribution of tools and spare parts to GW endemic locations prior to the peak transmission season.

Mali

- 1) Mali should intensify dissemination of messages about the rewards for reports leading to confirmation of cases of GWD through all available media (radio, posters, person-to-person, etc.) during 2012.
- 2) Mali should continue monitoring public knowledge about rewards periodically throughout 2012-2013 in areas with GWD and areas free of GWD.
- 3) The African Regional Office of WHO should ensure the MOH and the WHO Country Representative in Mali work together so that funding from WHO for surveillance of GWD is made available promptly and used by the GWEP as intended by the GWEP.

Ethiopia

- 1) The Ethiopia Dracunculiasis Eradication Program (EDEP) Field Officers/Health Extension Workers in Gog Woreda should visit the endemic villages daily and Regional Health Bureau supervisors should visit endemic villages twice per month.
- 2) The EDEP should pursue all avenues to investigate suspect places in Gambella and South Omo that are difficult to access.
- 3) The EDEP should identify all obstacles to the Program and immediately address them in advance of the transmission season. This includes any new obstacle, such as broken radio transmitters and other activities that might seem outside of what is normal for a health program.
- 4) The Program should ensure all health education materials are prepared and delivered in local languages. This may entail having materials in several local languages even for one small geographic area.
- 5) Ethiopia should continue monitoring public knowledge about rewards periodically throughout 2012-2013 in areas with GWD and areas free of GWD.
- 6) Ethiopia should expand cross-border collaboration including surveillance with South Sudan to intensify complementing efforts in South Omo in response to the shared endemic area.

IN BRIEF

Chad. A total of 803 villages (as of March 31, 2012) have been found to exist in areas of Chad associated with cases of GWD in 2010 or 2011, and 646 (80%) of those now have trained village volunteers and supervisory staff under assistance provided by The Carter Center to detect, contain and report cases of GWD. Ninety- eight percent of the 646 villages submitted surveillance reports for March 2012.

MEETINGS

During this year's Fifty-Sixth World Health Assembly in Geneva, the Informal Meeting with Ministers of Health of Guinea-worm affected countries will be held on Wednesday 23 May 2012, from 18:00 to 20:00 in Room XXII at the Palais des Nations.

RECENT PUBLICATIONS

Allen T, and Parker M. 2012. Will increased funding for neglected tropical really make poverty history? Lancet, (Correspondence) 379, 1097-1100

Frieden, T, DeCock, KM. 2012. The CDC's Center for Global Health. Lancet, 379 (9820), 986 - 988.

Hamptom, T. 2012. Collaborative Efforts Targets 17 Tropical Diseases for Control, Elimination. JAMA, February 22/29, 307(8), 772.

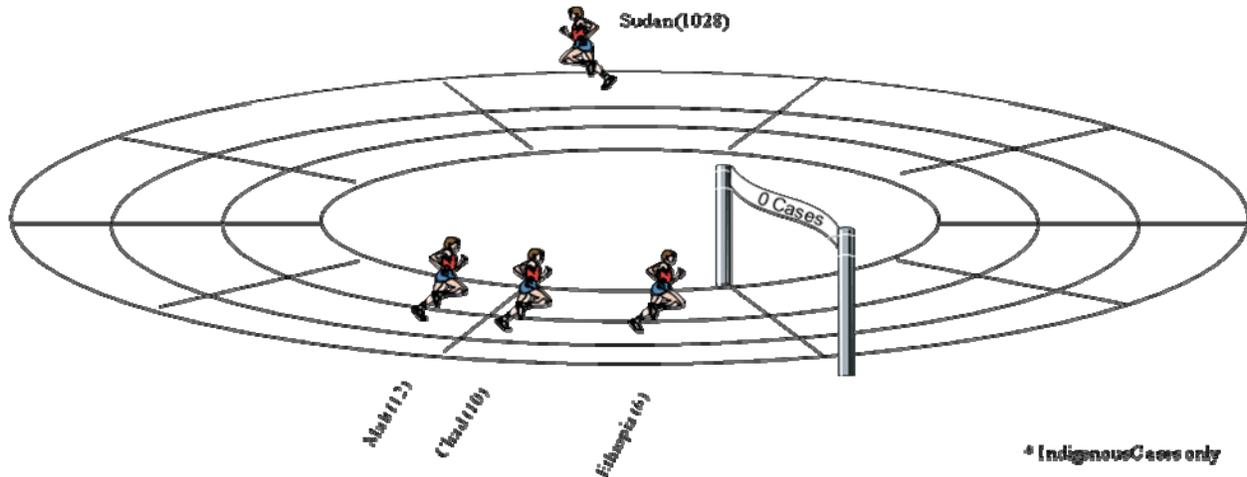
Hesse, AJH, Nouri A, Hassan HS, and Hashish AA. 2012. Parasitic infestations requiring surgical interventions. Seminars in Pediatric Surgery 21, 142-150.

Richards FO, Ruiz-Tiben E, Hopkins DR. 2011. Dracunculiasis eradication and the legacy of the smallpox campaign: What's new and innovative? What's old and principled? Vaccine 295:D86-D90. www.elsevier.com/locate/vaccine

World Health Organization. 2012. Monthly report on dracunculiasis cases, January-December 2011. Wkly Epidemiol Rec 87:71-72.

Figure 5

GUINEA WORM RACE: 2011*



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

WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, Center for Global Health, Centers for Disease Control and Prevention, Mailstop C-09, 1600 Clifton Road NE, Atlanta, GA 30333, USA, email: gwwrapup@cdc.gov, fax: 404-728-8040. The GW Wrap-Up web location is <http://www.cdc.gov/parasites/guineaworm/publications.html#gwwp>

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



World Health
Organization

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