

Memorandum



Date: April 30, 2018

From: WHO Collaborating Center for Dracunculiasis Eradication, CDC

Subject: GUINEA WORM WRAP-UP #254

To: Addressees

**Every uncontained Guinea worm from any source can spread infection!**

### **SOUTH SUDAN ANNOUNCES END OF GUINEA WORM TRANSMISSION**



In a press conference held at The Carter Center in Atlanta, USA on March 21, 2018, the Minister of Health of South Sudan, the Honorable Dr. Riek Gai Kok, announced that his country had successfully interrupted transmission of Guinea worm disease, “having reduced cases from 20,581 in 2006 to zero in 2017”. The minister said “This is a massive achievement for our young nation and for our common humanity....Future generations will just read in books about Guinea worm.” He pledged that his government would work with The Carter Center, World Health Organization (WHO) and UNICEF to “join the family of countries already certified free of Guinea worm disease”. Goodwill Ambassador for Guinea Worm Eradication Dr. Tebebe Yemane Berhan, Dr. Donald Hopkins of The Carter Center and Dr. Gautam Biswas of WHO also participated in the announcement, which was witnessed by the director of South Sudan’s Guinea Worm Eradication Program Mr. Samuel Makoy Yibi, Carter Center Guinea Worm Eradication Program Director Dr. Ernesto Ruiz-Tiben, and over 100 other participants at the 22<sup>nd</sup> International Review Meeting of Guinea Worm Eradication Program Managers (see below). As of the end of April 2018 South Sudan had detected no case of Guinea worm disease for 17 consecutive months, since November 2016. The 30-minute long press conference was livestreamed to a global audience. It may be viewed at this link: [https://www.cartercenter.org/news/upcoming\\_events/promo/press-conference-032118.html](https://www.cartercenter.org/news/upcoming_events/promo/press-conference-032118.html)

About a dozen media representatives attended the press conference in person or tuned in. The Honorable Minister and Mr. Makoy also participated in one-on-one interviews with several radio, print and television news outlets. The minister’s announcement was printed and broadcast widely in dozens of publications and newscasts, and was greeted overwhelmingly with congratulations to the Republic of South Sudan for their momentous achievement. Two articles in *The Lancet* and the *New York Times* are referenced under Recent Publications.

On April 25, 2018, Minister Dr. Riek issued Ministerial Orders to establish the South Sudan National Committee for Documentation of Dracunculiasis Elimination (SSNCDDE) and to establish its membership, with immediate effect. The committee leaders and members are Dr. Luka Tombekana Monoja (former minister of health), chairman; Dr. Margaret Itto Leonardo (former state minister of health/former Eastern Equatoria), deputy chairperson; Mr. Makoy Samuel

Yibi (director SSGWEP), secretary; Representative(s) of the Carter Center/South Sudan, co-secretary; Members: Dr. John Pasquale Rumunu, Dr. Angok Gordon Kuol, Head Department of Community Medicine/University of Juba, Mrs. Lilian Okwirry, Representative from the Bureau of Statistics, Representative from the Ministry of Animal Resources and Fisheries, Mr. Peter Mahal Akat, Dr. Samuel Mayek Deng, Dr. Raphael Mawein Agok, Dr. Michael Mabor Makuei, Representative of the SPLA Medical Corps, Dr. Majok Yak Majok, Dr. Emmanuel Ija Baya, Dr. Richard Lako Lino, Representative(s) of UNICEF/South Sudan, and Representative(s) of the World Health Organization/South Sudan.

## CHAD: OUTBREAK AMONG DOGS IN SOME TREATMENT VILLAGES



After declining by 19% in 2017 compared to 2016, Guinea worm infections of dogs in Chad increased to 201 in January-March 2018 compared to 140 infected dogs during the same period of 2017, which is an increase of +44%. The number of Guinea worms (GWs) emerging from infected dogs in January-March 2018 also increased, by +75% to 372 from the 212 worms that emerged during the same period of 2017. Seventy-eight (78) villages reported infected dogs during the first quarter of 2018, vs. 63 villages in the first quarter of 2017, an increase of +24%. More than three-quarters of the infected dogs were located in only five districts (Table 1).

In a sign that the increases caused by this outbreak in the far south of Chad may end soon, late-breaking provisional reports of infected dogs as of April 30, 2018 show significantly smaller increases over April 2017 compared to the increases seen in the first quarter of this year (Table 2).

Table 2

### CHAD GUINEA WORM ERADICATION PROGRAM

NUMBER OF DOG INFECTIONS, DOG INFECTIONS CONTAINED, GUINEA WORMS EMERGING, GUINEA WORMS CONTAINED, AND PERCENT CHANGE IN DOG INFECTIONS AND

Month	2017						2018						2018-2017 % Change in dog infections	2018-2017 % Change in emerging Guinea worms
	# Dog Infections	# Dog infections contained	% of dog infections contained	# Guinea Worms emerging	# Guinea Worms contained	% of Guinea worms	# Dog Infections	# Dog infections contained	% of dog infections contained	# Guinea Worms emerging	# Guinea Worms contained	% of Guinea worms		
January	33	22	67%	40	25	63%	30	21	70%	56	38	68%	-9%	40%
February	36	27	75%	66	40	61%	44	35	80%	65	55	85%	22%	-2%
March	71	50	70%	106	83	78%	127	105	83%	250	215	86%	79%	136%
April*	131	96	73%	224	177	79%	119	97	82%	248	209	84%	-9%	11%
<b>Total</b>	<b>271</b>	<b>195</b>	<b>72%</b>	<b>436</b>	<b>325</b>	<b>75%</b>	<b>320</b>	<b>258</b>	<b>81%</b>	<b>619</b>	<b>517</b>	<b>84%</b>	<b>18%</b>	<b>42%</b>

\* Provisional: as of April 30, 2018

Four villages—Tarangara, Marabe 2, Marabadoukouya 1, Baingara—reported 28% of all infected dogs and 34% of emerged GWs in January-March 2018. The first three villages, located in Sarh district of Moyen Chari Region, were in the Advocate@ treatment trial since October 2016. They were included in the trial because they had had many infected dogs. Tarangara alone reported 33 infected dogs in 2017 and 24 infected dogs by mid-April 2018, and was home to a dog that had 79 worms in 2016. Baingara is in Bousso district of Chari Baguirmi Region. Initially Abate was withheld from these villages because of the Advocate trial, except for Abate application at specific water entry points in response to known contamination events. Systematic monthly applications of Abate began in Tarangara and Baingara in February 2018 and in Marabe 2 and Marabadoukouya 1 in April 2018.

Underway since late 2016, the separate trials of treatment of dogs at risk with Heartgard@ (Merial) and Advocate/Advantage@ (Bayer) anthelmintics have not demonstrated effectiveness either to prevent or cure Guinea worm infections in dogs. During the research mission in April (see below), larvae from an adult Guinea worm removed from a dog that had received at least 15 monthly Advocate treatments were vigorous and motile when examined under a microscope. The trials are being discontinued.

Chad reported 3 confirmed cases of GWD in humans in January-March 2018; all of which were contained (Tables 2 and 3). 1,874 villages are under active surveillance. The program also detected 5 infected domestic cats (3 contained). One cat in Bougemene village near Guelengdeng, since deceased, had 11 worms to emerge in February-March 2018 and was also infected with one worm in 2016. The program also received reports of 1,396 rumors of cases in humans, and 846 rumors of infections in dogs during the first quarter of this year.

- Eighty-one percent (**81%**: 162/201) of the infected dogs were **contained** in January-March 2018. Containment rates of infected dogs rose during 2017 from 72% in the first quarter to 74%, 79% and 81% in subsequent quarters of last year for an overall containment rate of 76% in 2017.
- The percentage of households surveyed in 1+ villages that practiced **safe disposal of fish guts** was 88% (552/626) in January 2018, 88% (634/717) in February, and 83% (119/143) in March, or **88%** for the quarter of 2018.
- **Abate** was used during March 2018 in 37 of 52 villages with five or more infected dogs and/or humans in 2017 and/or 2018 (24 of these villages in January 2018, 25 in February), including highly endemic Tarangara and Baingara villages mentioned above (Figure 1), as well as in response to contamination events in 9 other villages. These 46 treated villages reported 313 dog infections in 2017, or 38% of the total infected dogs in 2017. The Abate treatment program will incorporate 20 additional villages, formerly in the Advocate study, reporting 5 or more dog infections beginning in May. By the end of 2018 the program expects to be providing monthly applications of Abate to at least 72 villages where 483 (59%) of dogs infected in 2017 lived. If possible, the program plans to expand Abate treatments to eligible ponds in villages with 4+ dog infections later this year. The 47 villages with 5+ infected dogs included 52% of all infected dogs in 2017; the 70 4+ villages included 63% of all infected dogs, and the 100 3+ villages included 74% of infected dogs last year.
- Chad launched its **enhanced communication campaign** in N'Djamena in July 2017, to improve awareness of the cash rewards for reporting Guinea worm infections, promote early detection, and intensify health education about Guinea worm prevention, starting in Level 3 (non-endemic) surveillance areas located nearest endemic areas. The campaign began in Moulkou, Bongor, and Fianga districts of Mayo Kebbi Est Region in September-October and expanded to parts of Salamat Region in November-December 2017. In January-March 2018 national radio and television have been broadcasting GW messages in French and Arabic, while 7 of 15 selected community radio stations in Moyen Chari, Mayo Kebbi Est, Chari Baguirmi and Salamat Regions began broadcasting GW messages in local languages. Surveys of reward awareness for infections in humans found 41% (98/238) awareness in January, 92% (60/66) in February, and 50% (125/250) in March (51% overall). Awareness of the reward for reporting infected animals were 22% (53/236), 74% (37/50), and 32% (79/250), respectively (32% overall).

Table 1

**CHAD GUINEA WORM ERADICATION PROGRAM**  
**NUMBER OF DOG INFECTIONS REPORTED BY REGION, DISTRICT AND ZONE IN RANK ORDER: JANUARY - MARCH 2018\***

Niveau de Surveillance (1,2,3)	Region	District	Zone	January		February		March		Total		
				Infected	Contained	Infected	Contained	Infected	Contained	Infected	Contained	% Contained
1	Moyen Chari	Kyabe	Marabe	4	3	12	11	33	32	49	46	94%
1	Moyen Chari	Danamadji	Maimana	16	10	7	5	13	11	36	26	72%
1	Chari Baguirmi	Bouso	Mbaranga	2	2	6	6	6	5	14	13	93%
1	Chari Baguirmi	Bailli	Daradja	3	3	1	1	8	8	12	12	100%
1	Moyen Chari	Sarh	Kemata	1	1	5	4	5	5	11	10	91%
1	Moyen Chari	Sarh	Balimba	0	0	3	2	3	3	6	5	83%
1	Chari Baguirmi	Massenya	Onoko	0	0	0	0	6	6	6	6	100%
1	Chari Baguirmi	Bailli	Bailli	0	0	0	0	5	1	5	1	20%
1	Chari Baguirmi	Bailli	Bogomoro	0	0	1	1	4	4	5	5	100%
1	Moyen Chari	Korbol	Niellim	0	0	2	2	3	2	5	4	80%
1	Mayo Kebbi Est	Guelendeng	Bere	0	0	0	0	4	3	4	3	75%
1	Moyen Chari	Danamadji	Moussafoyo	2	2	1	1	1	1	4	4	100%
1	Moyen Chari	Korbol	Korbol	0	0	1	1	3	2	4	3	75%
2	Chari Baguirmi	Bouso	Kiao					3	3	3	3	100%
1	Mayo Kebbi Est	Guelendeng	Guelendeng 1	0	0	0	0	3	3	3	3	100%
1	Mayo Kebbi Est	Guelendeng	Nanguigoto	0	0	1	0	2	2	3	2	67%
1	Moyen Chari	Sarh	Banda Quartier	0	0	0	0	3	1	3	1	33%
2	Chari Baguirmi	Bailli	Bailli 2	0	0	0	0	2	2	2	2	100%
2	Chari Baguirmi	Dourbali	Gonori	0	0	0	0	2	2	2	2	100%
1	Chari Baguirmi	Kouno	Miltou	0	0	0	0	2	1	2	1	50%
3	Moyen Chari	Biobe	Mayo (HZ)	0	0	0	0	2	0	2	0	0%
1	Chari Baguirmi	Bailli	Kelengue	0	0	0	0	1	1	1	1	100%
1	Chari Baguirmi	Bouso	Mogo	0	0	0	0	1	0	1	0	0%
2	Chari Baguirmi	Dourbali	Larba	0	0	1	0	0	0	1	0	0%
1	Chari Baguirmi	Kouno	Kouno	0	0	0	0	1	1	1	1	100%
1	Chari Baguirmi	Mandelia	Bougoumene	0	0	0	0	1	0	1	0	0%
1	Chari Baguirmi	Mandelia	Loumia	1	0	0	0	0	0	1	0	0%
2	Chari Baguirmi	Mandelia	Mailao	0	0	0	0	1	1	1	1	100%
2	Chari Baguirmi	Mandelia	Raf	0	0	0	0	1	1	1	1	100%
1	Mondoul	Moissala	Gon	1	0	0	0	0	0	1	0	0%
1	Mayo Kebbi Est	Guelendeng	Abba Limane	0	0	0	0	1	1	1	1	100%
1	Mayo Kebbi Est	Guelendeng	Guelendeng 3	0	0	0	0	1	1	1	1	100%
2	Moyen Chari	Kyabe	Djobada	0	0	1	0	0	0	1	0	0%
1	Moyen Chari	Sarh	Banda	0	0	0	0	1	0	1	0	0%
1	Moyen Chari	Sarh	Bemouli	0	0	1	1	0	0	1	1	100%
1	Moyen Chari	Sarh	Kokaga	0	0	0	0	1	1	1	1	100%
1	Moyen Chari	Sarh	Manda	0	0	0	0	1	0	1	0	0%
3	Moyen Chari	Biobe	Biobe (HZ)					1	1	1	1	100%
3	Moyen Chari	Sarh	Kassai (HZ)	0	0	0	0	1	0	1	0	0%
3	Moyen Chari	Sarh	Banda Quartier (HZ)	0	0	1	0	0	0	1	0	0%
<b>TOTAL</b>				<b>30</b>	<b>21</b>	<b>44</b>	<b>35</b>	<b>126</b>	<b>105</b>	<b>200</b>	<b>161</b>	<b>81%</b>
<b>TOTAL</b>				<b>70%</b>		<b>80%</b>		<b>83%</b>		<b>81%</b>		

\*Provisional, as of March 30, 2018

(HZ) - Hors de zone (outside of zone)

Table 3

**CHAD GUINEA WORM ERADICATION PROGRAM  
LINE LISTING OF CASES OF GWD DURING 2018**

Case #	Village or Locality of detection			District	Region	Patient				Case Contained?		1 = imported 2 = indigeno us	Home Village or Locality			Presumed Source of infection identified?		Presumed Source of infection is a known VAS?	
	Name	1 or 2 = VAS	3 = VNAS			Age	Sex	Ethnicity	Date GW emerged (D/M/Y)	(Yes, No, or Pending)	If no, date of Abate Rx		Name	1 or 2 = VAS	3 = VNAS	(Yes or No)	Name	(Yes or No)	Actions/ Comments?
1	Madjyam	1		Marabe	Moyen Chari	22	F	Sara Kaba	27/1/2018	Yes		2	Dangalakayan	1		No		Yes	Sister-in-law of case 2, and 4 dog infections in this village in 2017
2	Dangalakayan	1		Marabe	Moyen Chari	25	F	Sara Kaba	19/2/2018	Yes		2	Dangalakayan	1		No		Yes	Sister-in-law of case1, and 4 dog infections in this village in 2017
3	Guelbodane	1		Korbol	Moyen Chari	50	M	Ndam	19/3/2018	Yes		2	Guelbodane	1		No		Yes	2 dog infections in this village in 2017

Table 4

**Number of Laboratory-Confirmed Cases of Guinea Worm Disease, and Number Reported Contained by Month during 2018\***

(Countries arranged in descending order of cases in 2017)

COUNTRIES WITH ENDEMIC TRANSMISSION	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													TOTAL*	% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER			
CHAD	1 / 1	1 / 1	1 / 1	/	/	/	/	/	/	/	/	/	/	3 / 3	100%
ETHIOPIA	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	/	0 / 0	0%
SOUTH SUDAN	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	/	0 / 0	0%
MALI §	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	/	0 / 0	0%
TOTAL*	1 / 1	1 / 1	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 3	100%
% CONTAINED	100%	100%	100%											100%	

\*Provisional

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

Shaded cells denote months when one or more cases of GWD did not meet all case containment standards.

§Reports include Kayes, Koulikoro, Segou, Sikasso, and Mopti, Timbuktu and Gao Regions; contingent on security conditions during 2018, the GWEP continued to deploy one technical advisor to Kidal Region to oversee the program.

**Number of Laboratory-Confirmed Cases of Guinea Worm Disease, and Number Reported Contained by Month during 2017\***

(Countries arranged in descending order of cases in 2016)

COUNTRIES WITH ENDEMIC TRANSMISSION	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													TOTAL*	% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER			
CHAD	0 / 0	1 / 1	1 / 1	1 / 2	2 / 2	1 / 2	2 / 2	0 / 1	0 / 2	1 / 1	0 / 0	1 / 1	10 / 15	67%	
SOUTH SUDAN	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%	
ETHIOPIA ^	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	2 / 8	0 / 4	1 / 2	0 / 1	3 / 15	20%	
MALI §	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*	0 / 0	1 / 1	1 / 1	1 / 2	2 / 2	1 / 2	2 / 2	0 / 1	2 / 10	1 / 5	0 / 0	1 / 2	13 / 30	43%	
% CONTAINED	0%	100%	100%	50%	100%	50%	100%	0%	20%	20%	0%	50%	43%		

\*Provisional

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

Shaded cells denote months when one or more cases of GWD did not meet all case containment standards.

^ 10 of 12 cases laboratory confirmed; 2 of 12 declared cases based on where and when these became infected in 2016, and having had signs and symptoms of GWD at the same time as others.

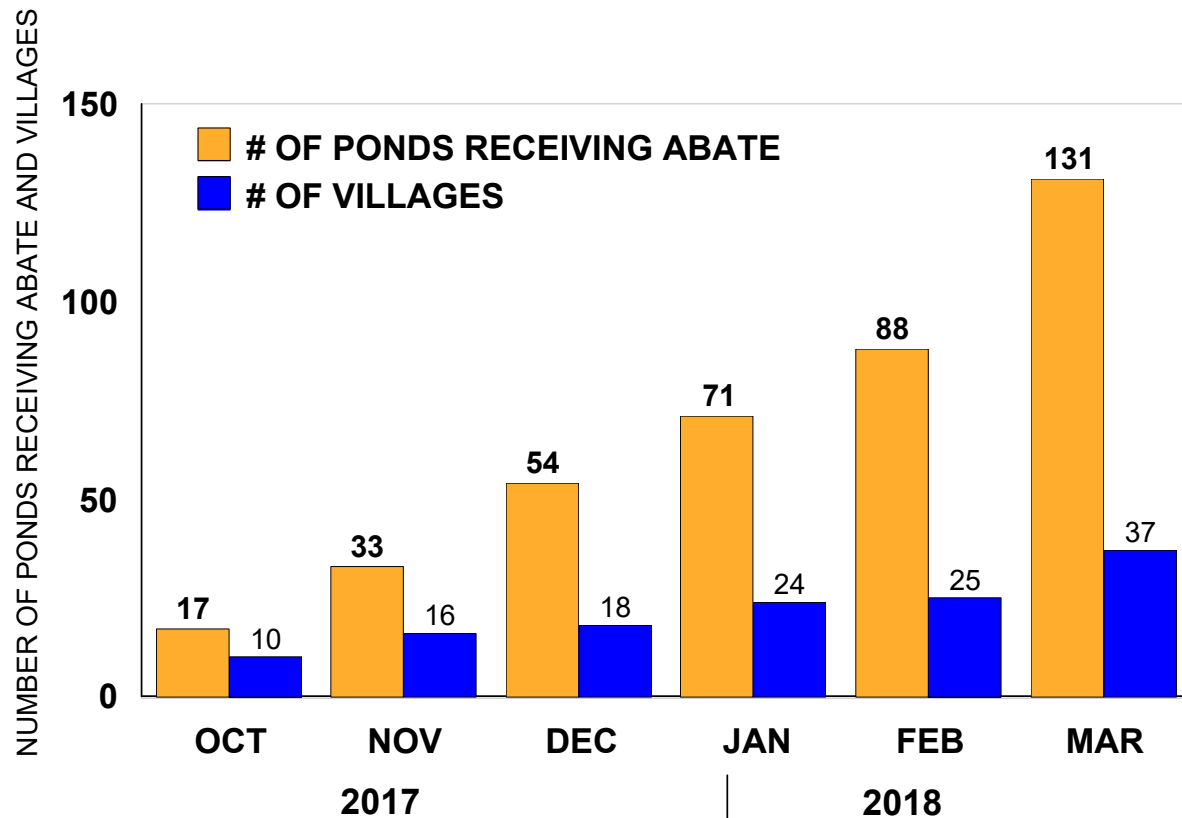
§Reports include Kayes, Koulikoro, Segou, Sikasso, and Mopti, Timbuktu and Gao Regions; contingent on security conditions during 2017, the GWEP continued to deploy one technical advisor to Kidal Region to oversee the program.

In 2017, 72% of villages with an infected human and/or dog (1+ village) had at least one functional borehole well. Cloth and pipe filters are distributed only in villages with infected people or animals that did not have a source of safe drinking water (26% of 1+ villages in 2017).

Two epidemiologists from CDC (Drs. Anita Sircar and Eugene Liu) joined two staff from Chad's ministry of health (Ada Mbang Mahamat and Neloumta Ngarhor) and one from the World Health Organization (Kolio Matchanga) from February 12 to March 11, 2018 to conduct a case-control study comparing infected dogs with uninfected dogs looking for risk factors for infection. From February 28 to March 28 a team from University of Exeter/UK (Drs. Monique Lechenne, Sidouin Metinou, George Swan, Jared Wilson) began an ecological study in villages partially overlapping where the CDC team was conducting the case-control study. Dr. Ernesto Ruiz-Tiben of The Carter Center, Dr. Mark Eberhard (CDC, retired) and Mr. Christopher Cleveland of the University of Georgia/USA visited Chad April 2-15 to continue studies of infected dogs, collect frog species, assess high incidence villages, and assist Carter Center Public Information staff.

Figure 1

CHAD GUINEA WORM ERADICATION PROGRAM  
CUMULATIVE NUMBER OF PONDS AND VILLAGES RECEIVING MONTHLY  
APPLICATIONS OF ABATE: OCTOBER 2017- MARCH 2018



## TWENTY-SECOND INTERNATIONAL GWEP PROGRAM MANAGERS MEETING

THE  
CARTER CENTER



World Health  
Organization

Co-hosted by The Carter Center and the World Health Organization, the 22<sup>nd</sup> International Review Meeting of Guinea Worm Eradication Program Managers was convened at The Carter Center in Atlanta, USA on March 21-22, 2018. Over 118 participants attended the meeting, which included a one-half hour long Press Conference during which the Minister of Health of South Sudan announced the interruption of Guinea worm transmission in his country (see above). The meeting heard presentations by the national program coordinators of the Guinea Worm Eradication Programs of South Sudan (Mr. MAKOY Samuel Yibi), Ethiopia (Mr. GETANEH Abrha Estayew), Chad (Dr. TCHINDEBET Ouakou) and Mali (Dr. Mohamed BERTHE), as well as by the formerly endemic and/or pre-certification countries of Angola, Cameroon, Central African Republic, Democratic Republic of Congo, and Sudan. Researchers from Vassar College/USA, Wellcome Sanger Institute/UK, University of Georgia/USA, University of Exeter/UK, Georgia Tech/USA and the Centers for Disease Control and Prevention also described the latest results of their work. The researchers also participated in a private meeting with Carter Center and WHO staff on March 23<sup>rd</sup>.

Angola and Democratic Republic of Congo (DRC) aim to submit their Country Reports to WHO by mid-2018. Sudan has submitted its Country Report already and hopes to receive an International Certification Team visit by early 2019. Apart from Angola/DRC/Sudan, Chad, Ethiopia, Mali and South Sudan are the only other nations that remain to be certified as Guinea worm-free.

### IN BRIEF

**Ethiopia** has detected one infected dog in Gog district of Gambella Region on April 15, 2018. The dog was identified as a suspect a month before and the infection was contained. The same dog had a Guinea worm in June 2017. Ethiopia has reported no infected humans and no other infections in animals so far in 2018. *As of March 2018, only 2 of the 25 commercial farms in the rural area of Abobo district of Gambella Region that was the source of the surprise outbreak in September-December 2017 have safe drinking water for their workers.* Veterinarian Dr. James Zingeser of The Carter Center arrived in Ethiopia on March 12, 2018 for a two month long visit to continue working with Ethiopian veterinarians and public health officials on a baboon-dog ecology and epidemiology study with wildlife veterinarian Dr. Fekadu Shiferaw and other colleagues in the Ethiopian Public Health Institute (EPHI), Ethiopia Wildlife Conservation Authority (EWCA), and the Gambella Regional Health Bureau. They were joined on April 25 by Prof. Robbie McDonald and his team from the University of Exeter/UK.

The EDEP conducted its first quarterly review meeting in Gambella during April 16-17, 2018 to assess the programs performance during the 1st quarter and to recommend future action steps. Ethiopian Public Health Institute Director General Dr Ebba Abate led the second day of the review meeting and outlined key action points which the Gambella Region government needs to undertake

to prevent a repeat of the 2017 outbreak of GWD in investment farms without safe sources of drinking water for their staff and/or their labor force. Accordingly, the new Minister of Health of Ethiopia, His Excellency Dr Amir Aman discussed these needed initiatives with Mr. Gatluak Tut, President of Gambella Region and requested the President to hold meetings with farm owners and to improve or provide safe and adequate drinking water in the investment farms of Gambella region.

**Mali** has reported no case of Guinea worm disease since November 2015 (29 consecutive months as of the end of April 2018). In March, the National Committee for Certification of Guinea Worm Eradication visited six districts in Segou Region. The secretariat of the national program made supervisory visits to Tominian district in Segou Region and Mopti and Djenne districts of Mopti Region.

## MEETINGS

The annual Informal Meeting of Ministers of Health of Guinea Worm-affected Countries will be held on Wednesday, 23 May 2018 from 18:00pm to 20:00pm during the World Health Assembly in Geneva, Switzerland. The meeting will be followed by a reception.

## RECENT PUBLICATIONS

Anonymous, 2018. Good news from the world's newest nation. The Lancet 391:1238

McNeil DG Jr, 2018. South Sudan halts the spread of crippling Guinea worms. The New York Times March 23, p.A5.

Weiss AJ, Vestergaard-Frandsen T, Ruiz-Tiben E, Hopkins DR, Asiedu-Bekoe, Agymang D, 2018. What it means to be Guinea worm free: an insider's account from Ghana's Northern Region. Am J Trop Med Hyg doi:10.4269/ajtmh.17-0558

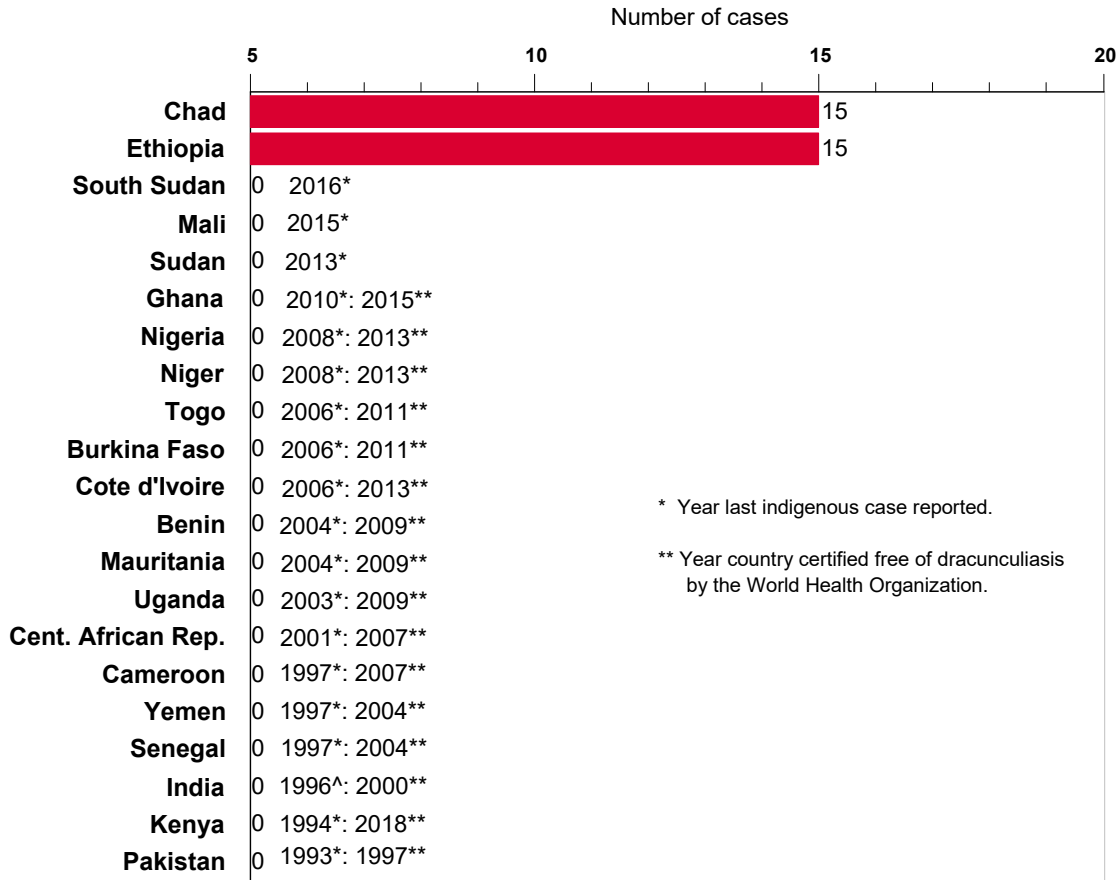
World Health Organization, 2018. Monthly report on dracunculiasis cases, January-December 2017. Wkly Epidemiol Rec 93:59-60.

World Health Organization, 2018. Monthly report on dracunculiasis cases, January-February 2018. Wkly Epidemiol Rec 93:199-200.



Figure 2

**Distribution of 30 Indigenous Cases of Dracunculiasis Reported during 2017**



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

Note to contributors: Submit your contributions via email to Dr. Sharon Roy ([gwwrapup@cdc.gov](mailto:gwwrapup@cdc.gov)) or to Dr. Ernesto Ruiz-Tiben ([eruizti@emory.edu](mailto:eruizti@emory.edu)), by the end of the month for publication in the following month’s issue. Contributors to this issue were: the national Guinea Worm Eradication Programs, Drs. Donald R. Hopkins and Ernesto Ruiz-Tiben of The Carter Center, Dr. Sharon Roy of CDC, Dr. Dieudonné Sankara of WHO, and Dr. Mark Eberhard.

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<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_english.html).

[http://www.cartercenter.org/news/publications/health/guinea\\_worm\\_wrapup\\_francais.html](http://www.cartercenter.org/news/publications/health/guinea_worm_wrapup_francais.html)



**World Health Organization**

CDC is the WHO Collaborating Center for Dracunculiasis Eradication