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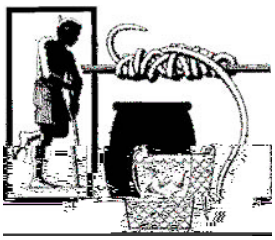
Public Health Service
Centers for Disease Control
And Prevention (CDC)

Memorandum



Date: April 12, 2017

From: WHO Collaborating Center for Dracunculiasis Eradication, CDC

Subject: GUINEA WORM WRAP-UP #247

To: Addressees

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Chad also reported zero infected dogs for an entire week (Novem

	Name	1 or 2 = VAS	3 = VNAS					(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?
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The second day of the 21st International Review Meeting of Guinea Worm Eradication Program Managers on March 21, 2017 was devoted entirely to reports of laboratory studies and field research to help understand and stop the unusual transmission of GWD among humans and dogs in Chad since 2010. At the urging of a donor-initiated review of the global GWEP at The Carter Center in July 2014, by the end of that year The Carter Center, the World Health Organization (WHO) Collaborating Center at CDC and Chad's GWEP had embarked on an expanded seven point agenda for research into the parasite and its epidemiology in Chad: 1) continue molecular studies of the worm; 2) review the literature; 3) assess copepod species and seasonality; 4) explore possible wild animal host; 5) test ivermectin treatment of dogs; 6) test for GW DNA in copepods and fish; and 7) investigate *D. medinensis* larvae infectivity, viability and longevity in potential aquatic hosts. Earlier investigations by the same team in cooperation with WHO already had suggested that Guinea worms from dogs and humans in Chad were indistinguishable from each other and from Guinea worms found elsewhere, and that the GW transmission cycle in Chad might involve eating a paratenic host rather than drinking contaminated water—findings that were published late in 2013. This research agenda was endorsed by scientific meetings convened by WHO in 2015 and 2016, and the latter meeting also recommended engaging a researcher to help study dog behavior and dietary habits.

Retired CDC scientist Dr. Mark Eberhard chaired the research session at the Atlanta meeting last month where reports from research teams led by Prof. Michael Yabsley at the University of Georgia (USA); by Dr. Elizabeth Thiele at Vassar College (USA); by Dr. James Cotton at Wellcome Trust Sanger Institute (UK), by Prof. Robbie McDonald at the University of Exeter (UK); by Dr. Sharon Roy and Dr. Jeffrey Priesta Ī " D l

- GW infections in Chadian dogs peak during the rainy season in May-August, while GW cases in humans in Chad are much fewer in number and scattered year-round.

2 Q J R L Q J . V The study of twice-monthly treatment of dogs with ivermectin (Heartgard® that

Representatives (Ms. Melinda Denson, Dr. Zerihun Tadesse, Mr. Sadi Moussa, Ms. Sarah Yerian) and respective WHO Country Office Focal Points for Guinea Worm Eradication (Dr. Honore Djimrassengar, Dr. Zeyede Zeleke, Dr. Sidibe Boubakar, Mr. Evans Liyosi). Delegations of the four countries preparing for certification from the Ministries of Health and WHO Country Offices, led by their respective Senior staff from MoH and National Program Mangers; Kenya (Dr. Tatu Kamau, Prof. Benson Estambale and Dr. John Ogange,); Angola (Dr. Miguel Dos Santos De Oliveria, Dr. Maria Cecilia Cesar d'Almeida; Dr. Nzuzi Katondi); Democratic Republic of Congo (Dr. Justin Bokabo; Dr. Augustin Kadima Ebeja), Sudan (Dr. Elmuez Eltayeb Elnaiem; Ms. Hind Mohamed Ibrahim), participated in the meeting. Three members of WHO's International Commission for the Certification of Dracunculiasis Eradication, Dr. Mark Eberhard, Prof. Robert Gueguemde, and Prof. Abolhassan Nadim, also attended. Senior representatives from the World Health Organization included Dr. Gautam Biswas, Dr. Dieudonne Sankara, Mr. Ashok Moloo and Ms. Junerlyn Agua from headquarters; Dr. Andrew Seidu Korkor and Dr. Albis Francesco Gabriella from the AFRO and EMRO regional offices respectively. Participants from The Carter Center headquarters included CEO Amb. (rtd) Mary Ann Peters, Vice-President Dr. Dean Sienko, Guinea Worm Eradication Program Director Dr. Ernesto Ruiz-Tiben, and Special Consultant Dr. Donald Hopkins as well as Dr. James Zingeser, Mr. Adam Weiss, and Dr. Hubert Zirimwabagabo. Other participants included Dr. Sharon Roy of CDC, Goodwill Ambassador Hon. Dr. Tebebe Yemane Berhan of Ethiopia, Dr. Katy Owen and Dr. Julie Jacobson of the Bill & Melinda Gates Foundation, Mr. Robert Miyashiro of the Conrad N. Hilton Foundation, Mr. Aryc Mosher of USAID, and Dr. Anders Seim of Health and Development International.

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Ethiopia has officially reported 3 cases of Guinea worm disease in humans (2 contained), 14 infected dogs (11 contained) and 2 infected baboons (0 contained) in 2016, as well as

HIV counseling programs. The level of reward awareness in Level III areas in 2016 was 15% among 514

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The six cases reported by South Sudan in 2016 were found in four localities of two counties. Three (50%) of the six cases and 17 of the 20 worms (85%) were contained, and the program treated water sources associated with each of the three uncontained cases within six days or less after their worms began to emerge. A line-listing of the six cases is included in the previous issue (#246, February 17) of the Guinea Worm Wrap-Up

For the first time since its GWEP began in 2006, South Sudan has detected no known cases of GWD east of the Nile River (the last indigenous case of GWD there was reported in Kassingor in July 2015), an area that includes the formerly highly endemic focus of Greater Kapoeta. The South Sudan Guinea Worm Eradication Program (SSGWEP) had 2,736 villages or cattle camps under active surveillance as of the end of 2016, and it responded to 15,471 rumors of cases (vs. 469 rumors in 2015). The Ministry of Health doubled its cash reward for reporting a case of GWD to 10,000 South Sudanese Pounds (~US$139) in March 2017 (to adjust for inflation), and also introduced a cash reward [amount?] for reporting and tethering an infected animal. The SSGWEP found one dog infected with GW in 2015 in a household that also had an infected human; it has found no infected dogs before or since then and continues to manifest traditional water-borne transmission of GW infections. The overall level of reward awareness among 495 persons queried in level I & level II active surveillance areas in 2016 was 76%.

Residual concerns of the SSGWEP at this stage are mainly the result of insecurity, which has limited access to much of former Jongli and Upper Nile States, and caus

Table 2

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													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
CHAD	0 / 0	1 / 1	2 / 2	/	/	/	/	/	/	/	/	/	3 / 3	
SOUTH SUDAN	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	
ETHIOPIA	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	
MALI §	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	0 / 0	
TOTAL*	0 / 0	1 / 1	2 / 2	/	/	/	/	/	/	/	/	/	3 / 3	
% CONTAINED	0%	100%	100%										100%	

*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 a case of GWD did not meet all case containment standards.

§Reports include Kayes, Koulikoro, Segou, Sikasso, and Mopti, Tinbuktu, Gao, and Kidal Regions; reports from Kidal Region are contingent on security conditions during 2017 and times when the GWEP is able to deploy a technical advisor to Kidal Region to oversee the program there.

Number of Laboratory-Confirmed Cases of Guinea Worm Disease, and Number Reported Contained by Month during 2016*

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*	
CHAD	0 / 0	1 / 1	0 / 0	1 / 1	1 / 1	0 / 1	1 / 2	1 / 3	1 / 2	3 / 4	0 / 0	0 / 1	9 / 16	56%
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%
SOUTH SUDAN	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 4	0 / 0	0 / 0	0 / 1	0 / 0	0 / 1	0 / 0	3 / 6	50%
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	1 / 1	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	0 / 0	2 / 3	67%
TOTAL*	0 / 0	1 / 1	0 / 0	1 / 1	2 / 2	4 / 6	1 / 2	1 / 3	1 / 4	3 / 4	0 / 1	0 / 1	14 / 25	56%
% CONTAINED	0%	100%	0%	100%	100%	67%	50%	33%	25%	75%	0%	0%	56%	

*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 a case of GWD did not meet all case containment standards.

§Reports include Kayes, Koulikoro, Segou, Sikasso, and Mopti, Tinbuktu, Gao, and Kidal Regions; reports from Kidal Region are contingent on security conditions during 2016 and times when the GWEP is able to deploy a technical advisor to Kidal Region to oversee the program there.

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Annual Ministerial Meeting on Guinea Worm Eradication: Wednesday, May 24, 2017, from 6pm to 8pm during the World Health Assembly in Geneva

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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) 20 to Dr. Eo D Ꮸ ‘ c