

Memorandum

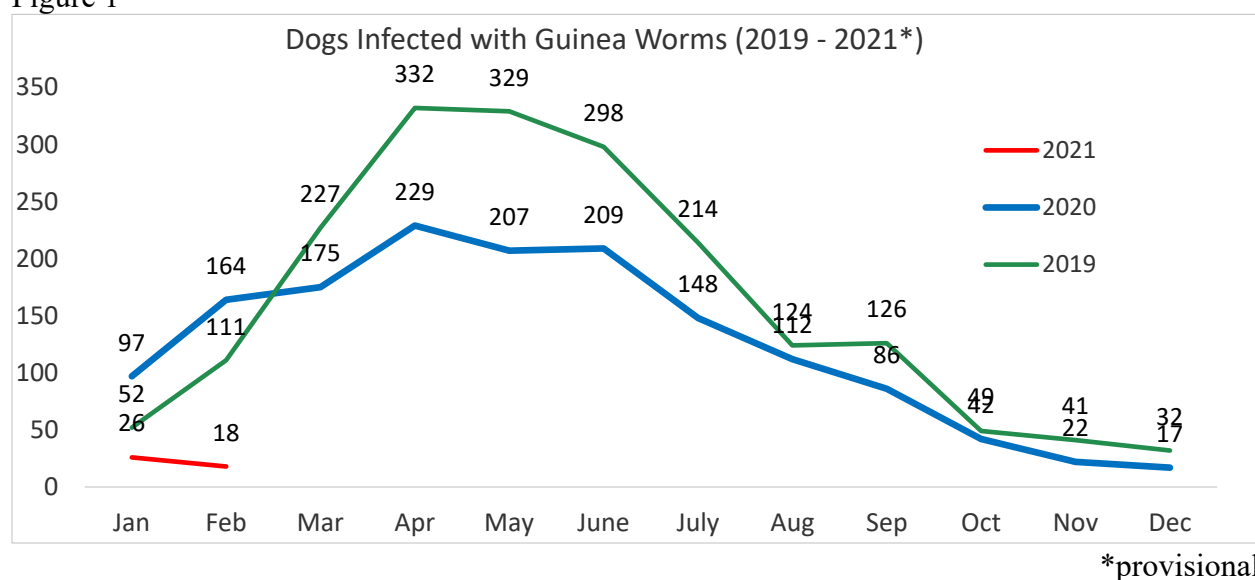


Date: March 10, 2021
From: WHO Collaborating Center for Dracunculiasis Eradication, CDC
Subject: GUINEA WORM WRAP-UP #275
To: Addressees

History has its eyes on you.
 Lin-Manuel Miranda

CHAD: 83% FEWER DOG INFECTIONS IN JANUARY-FEBRUARY 2021

Figure 1



The Chad Guinea Worm Eradication Program's (CGWEP) increasingly strict application of interventions known to be effective--educating people in areas at risk, tethering dogs with emerging worms, and targeted Abate applications in areas at highest risk at the most important times--appears to be paying off. The CGWEP improved dog **case containment** rates from 74% in 2018 to 84% in 2020 and raised **Abate coverage** of high-risk villages from 19% in 2018 to 59% in 2020. In early March 2020, then Chad's Minister of Health, the Honorable Prof. Mahamoud Khayal, launched a new strategy of **proactive tethering** of dogs in villages at high risk of Guinea worm infections, beginning with 118 villages that reported 5 or more infected dogs in 2019. The proactive tethering strategy reduced exposure of all dogs in those villages to risk of infection and ensured tethering of some dogs whose emerging worms might otherwise have been missed during the peak transmission season (see *Guinea Worm Wrap-Up* #267).

Chad has reported 44 dogs, no confirmed humans (there is one provisional human case; specimen sent to CDC), and no cats with Guinea worm infections in January-February 2021, compared to 261 dogs, 3 humans and 5 cats in the same period of 2020. Eighty-two percent (82%) of the dog infections in 2021 were contained (Figure1).



Ms. Zuzanna Kucharski joined the team of Chad's Guinea Worm Eradication Program as Deputy Country Representative for The Carter Center in early February. Her most recent previous position was as a Humanitarian Affairs Officer with Doctors Without Borders-International. She received her Master's in Anthropology with a specialization in International Development and an Honors Bachelor in International Development and Globalization from the University of Ottawa, Canada. Welcome Zuzanna!!

ETHIOPIA REPORTS A HUMAN CASE IN WADMARO



The Ethiopia Dracunculiasis Eradication Program (EDEP) has reported a provisional case of Guinea worm disease in a 13-year-old boy who lives in Wadmaro village of Gog Dipach sub-district in Gog district. He is the brother of the first human case of 2020 (worm emerged 2 April) from Duli Farm and lives with the aunt of the second (3 April) and the sister of the third (5 April) human cases of 2020 (see *Guinea Worm Wrap-Up #268*). The patient attends school in Wadmaro village but travels to Duli Farm frequently because his parents and grandparents live and farm there. His mother, who was the village-based Guinea worm volunteer for Duli Farm, suspected the infection on his leg when she visited him in Wadmaro on February 22nd and advised him to see the GW volunteer for Wadmaro who bandaged him immediately. The village-based GW volunteer reported immediately to the Guinea Worm Officer and Field Coordinator. They investigated in the morning of February 23rd, did controlled immersion and bandaging, and admitted him to the Case Containment Center (CCC). The worm emerged when the assistant at the CCC conducted controlled immersion of the wound in the afternoon on February 23 and the infection was contained.

The patient was living with his parents in Duli Farm during his probable period of infection (December 2019-April 2020) when school was closed, and he used the same water sources of Lel Bonge and Lel Aber that were implicated in the Duli outbreak of seven human cases in 2020. The EDEP applied Abate last year to 41 ponds associated with last year's outbreak beginning within two days of the report of the first suspect case on March 29, 2020, including Lel Bonge and Lel Aber. However, this year's patient apparently drank contaminated, unfiltered water last year from one of those sources during intermittent rain before the EDEP applied Abate. The patient was also known to fish and drink from Nyokum stream and its tributaries. His friends and fishing partners have been identified and are under close follow-up. The EDEP's investigation of this case is ongoing, along with vector control (most water sources are still dry), community notification, and active searching for any additional cases.

HONORABLE WORLD LAUREATE DR. TEBEBE YEMANE BERHAN (1948-2021)
GOODWILL AMBASSADOR FOR GUINEA WORM ERADICATION
INDOMITABLE GUINEA WORM WARRIOR



We are deeply saddened to report the passing of The Honorable World Laureate Dr. Tebebe Yemane Berhan in Addis Ababa on February 20, 2021. Dr. Tebebe earned his Doctorate of Medicine from Lvov State Medical Institute in the Soviet Union in 1974, a diploma in Dermatology and Venereology with Honors in 1976, and a Doctorate of Philosophy in Medicine in 1978. In November 2014, the President of the Russian Federation Vladimir Putin personally awarded Dr. Tebebe the Pushkin Medal in a ceremony at the Kremlin in Moscow.

Long active in the Lions Clubs of Ethiopia, Dr. Tebebe was a Past District Governor of Multiple District 411, a Past Member of the Lions Clubs International Executive Committee as a representative for Africa, and served as a member of the Lions Clubs International Foundation Board of Trustees from 2015 to 2018. He was a tireless advocate for the fight against Neglected Tropical Diseases in Ethiopia with national and regional political and medical leaders, as well as with Lions leadership since 2007 in support of activities assisted by The Carter Center to eliminate blinding trachoma and river blindness (onchocerciasis) in Ethiopia. Dr. Tebebe participated in annual Program Reviews for Trachoma and River Blindness in Atlanta at The Carter Center from 2007 to 2019. After accepting a request from The Carter Center to become a Goodwill Ambassador for Guinea Worm Eradication in 2015, he also attended annual Program Reviews for the Guinea Worm Eradication Program in Ethiopia and Atlanta. He visited with the Gambella Regional President and members of his cabinet to advocate for improved drinking water supply in endemic communities in 2018 and 2019 and helped expedite a stranded shipment of anti-helminthic drug for a trial by Chad's Guinea Worm Eradication Program in 2017.

Dr. Tebebe was an exceptionally gracious and solicitous host for many visits to Ethiopia by Carter Center leadership, including President and Mrs. Carter, CEO's Dr. John Hardman and Ambassador Mary Ann Peters, Board Chairs John Moores and Jason Carter and other Board members, Vice Presidents Dr. Donald Hopkins and Dr. Dean Sienko, and Guinea Worm Program Directors Dr. Ernesto Ruiz-Tiben and Adam Weiss. Despite his very busy schedule and medical practice of dermatology, Dr. Tebebe provided unstinting support and counsel and unlimited access to Carter Center Country Representative Dr. Zerihun Tadesse, who served as master of ceremony at the Honorable Dr. Tebebe's funeral at Holy Trinity Church in Addis Ababa on February 23. The funeral ceremony was attended by dignitaries from the House of People's Representatives, the House of Federation, the Ministry of Foreign Affairs, Ministry of Peace, Lions Clubs of Ethiopia, and others. Ethiopia's dearest son left his bereft family, country, and colleagues much too soon.

MALI REPORTS A CONFIRMED DOG INFECTION



Mali's Guinea Worm Eradication Program (MGWEP) has reported an infection in a three-year-old locally born guard dog that was discovered with an open wound on its left front leg on January 13, 2021 in Nemabougou district of Macina town (Segou Region) in Mali's Inland Delta of the Niger River. The dog was tethered on January 14 when controlled immersion caused the worm to emerge. The neighborhood of this dog has a functioning borehole well. The dog's owner, is the Imam of the neighborhood. According to the owner's wife, the dog's diet consists of food shared by the family, including cooked fish, but not raw fish. Further investigation and control measures are on-going. Abate was applied to local bodies of water on January 15. Macina district reported one dog and one cat with Guinea worm infections in August-September 2019 and four infected dogs in August-September 2020, one of which had its worm emerge in Nemabougou district on September 2, 2020.

When Mali began its Guinea Worm Eradication Program in 1991, it found 16,060 cases in humans in 34 districts of 5 regions. In 2020, Mali reported 9 Guinea worm infections (8 dogs and 1 human) in 4 districts of 2 regions in the Inland Delta of the Niger River (Figure 2).

During the week of February 8 this year, the MGWEP held workshops with health authorities and veterinarians from endemic areas in Segou and Mopti Regions, where they discussed ways to stop GW transmission in dogs, including proactive tethering among other strategies. During the week of February 22, the MGWEP held its annual review meeting with health authorities and veterinarians from endemic areas in Segou and Mopti Regions. Among other issues, they discussed proactive tethering of dogs like the Guinea worm programs in Ethiopia and Chad are doing. The review meeting recommended discussions be held soon with community members and local authorities, including dog traders, in the areas at-risk. The peak transmission season begins in June.

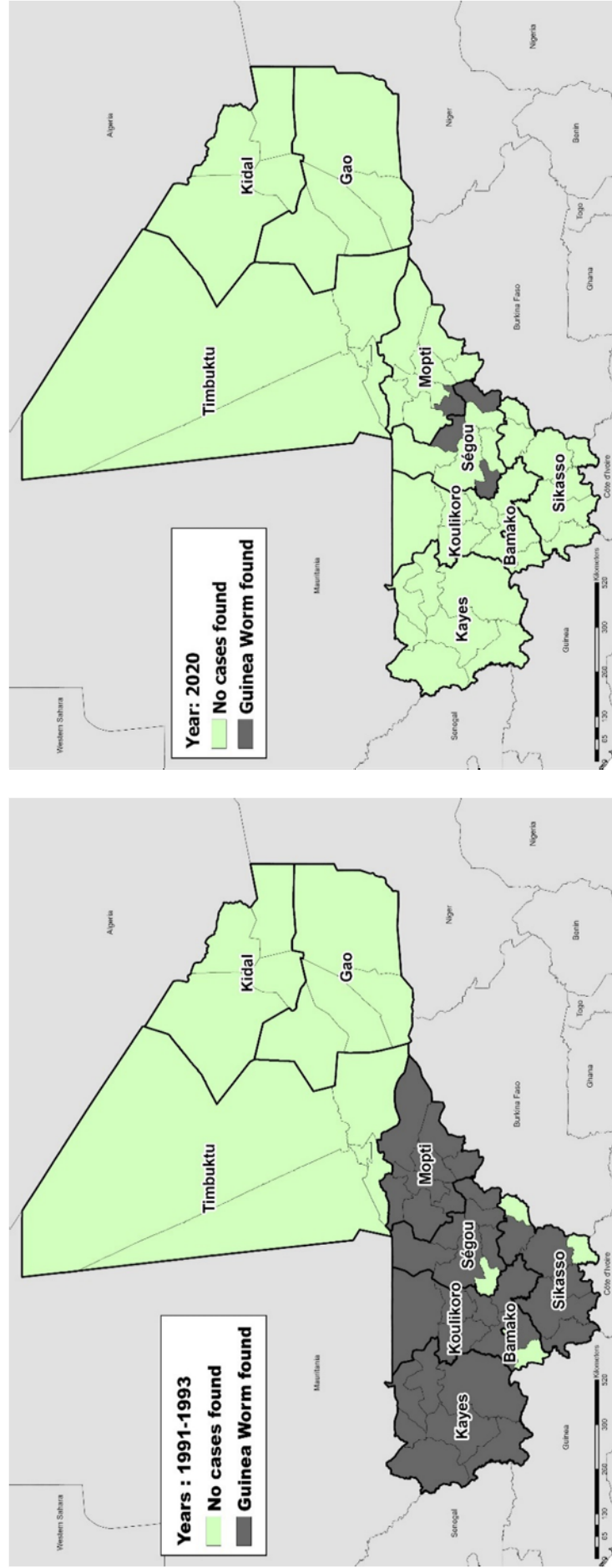


Angola: To reinforce Guinea worm surveillance, data collection and analysis, WHO appointed a data manager, Mr David Mbagui Da Costa, to support the National GWEP. Mr David Mbagui Da Costa is based in Cunene province, and will work closely with the national programme as well as the WHO-NPO-GWE, Dr Mavitidi Sebastiao, to strengthen the operationalization of Community Based Surveillance and including the implementation of all required interventions. Mr. David joins the program with long experience in NTD data management in Angola. In addition, he has an international experience in data management for preventive-chemotherapy for the control of NTDs, including ESPEN mission in two Lusophone countries in Africa (Guinea Bissau and Cabo Verde). He is fluent in Portuguese with very good working knowledge of French.

No human cases or infected animal reported in Angola during January- February 2021.

Figure

Guinea Worm in Mali: Then and



SOUTH SUDAN HOLDS ANNUAL PROGRAM REVIEW



The South Sudan Guinea Worm Eradication Program (SSGWEP) held its 15th Annual Review Meeting at the Palm Africa Hotel in Juba on January 28, 2021. Key in-person participants and representatives at the meeting, which was led by SSGWEP Director Mr. MAKOY Samuel Yibi, included the chair of the South Sudan National Committee for the Certification of Dracunculiasis Eradication Dr. Margaret Itto, as well as Associate Director, Guinea Worm Eradication Program of The Carter Center Ms. Giovanna Steel and Carter Center Country Representative Mr. Jake Wheeler. Carter Center Vice Presidents Dr. Kashef Ijaz and Mr. Craig Withers, Guinea Worm Eradication Program Director Mr. Adam Weiss, and Special Advisor Dr. Donald Hopkins participated virtually. Mr. Makoy and his colleagues presented results showing the SSGWEP's progression from 10 confirmed cases of GWD in 2018, to 4 cases in 2019, and only 1 case, which was contained, in 2020. They also described measures taken to strengthen Guinea worm surveillance, increase awareness of the cash reward for reporting a case of GWD, and to begin preparing documentation for the process of eventual certification of elimination of Guinea worm transmission from South Sudan.

In January 2021, the SSGWEP reported 3,357 rumors of GWD. All rumors were investigated, and 99.9% were investigated within 24 hours. One-third of rumors (n=1134, 34%) were determined to be suspected GWD, of which none have been confirmed. In February 2021, the SSGWEP also began working with the Accelerating the Sustainable Control and Elimination of Neglected Tropical Diseases (ASCEND) program through the Christian Blind Mission (CBM) on its upcoming mass drug administration (MDA) for onchocerciasis and lymphatic filariasis, which will target 47 counties, to conduct more screenings. So far, the MDA teams have screened 84,900 people in Jur River, Wau, and Torit Counties, which has resulted in 57 human rumors (8 of which were suspected GWD), and 2 animal rumors. None of the rumors were confirmed to be GWD.

NEW DONATION

ديوان ولي العهد
CROWN PRINCE COURT



At a virtual event held on January 27, 2021 to celebrate the 30th Anniversary of the partnership between The Carter Center and the United Arab Emirates, Carter Center Board of Trustees Chairman Jason Carter announced renewed financial support of US\$10 million to The Carter Center for Guinea worm eradication on behalf of His Highness Sheikh Mohamed bin Zayed Al Nahyan, the Crown Prince of Abu Dhabi. The announcement was made in the lead up to the Second Annual World Neglected Tropical Diseases Day, which aims to raise global awareness for the urgent need to end NTDs, and the public launch of the World Health Organization NTD Roadmap that same week. The partnership between the UAE and The Carter Center began in an historic first meeting between the late Sheikh Zayed bin Sultan Al Nahyan and former U.S. President Jimmy Carter in the UAE in 1990. President Carter spoke then of his efforts to help eradicate a parasitic disease causing suffering in large parts of Africa, and the late Sheikh Zayed responded with a substantial personal donation to The Carter Center, which began a decades-long commitment by Abu Dhabi's ruling family to disease eradication. In making the announcement on January 27, the Crown Prince said of his father and

on behalf of the UAE, “We are privileged to continue the legacy of the founder of our nation His Highness Sheikh Zayed bin Sultan Al Nahyan in our work with The Carter Center to eradicate Guinea worm disease. I thank former President Carter for our decades-long partnership and his unwavering commitment to ending a disease that affects the world’s poorest and most vulnerable people.”

RECENT PUBLICATIONS

Guagliardo SAJ, Wiegand R, Roy SL, et al. Correlates of Variation in Guinea Worm Burden among Infected Domestic Dogs. The American journal of tropical medicine and hygiene. February 2021. doi:10.4269/ajtmh.19-0924

Liu EW, Sircar AD, Matchanga K, et.al., 2021. Investigation of Dracunculiasis transmission among humans, Chad, 2013-2017. Am J Trop Med Hyg 104:724-730. doi:10.4269/ajtmh.20-0584

Paiva F, de Souza Piazzalunga P, Pereira FB, Borghesan TC, Soares P, Tavares LER. Dracunculiasis in a domestic dog in Brazil. Parasitology research. February 2021. doi:10.1007/s00436-021-07098-8

Senyonjo, L., Downs, P., Schmidt, E., Bailey, R., & Blanchet, K. (2021). Lessons learned for surveillance strategies for trachoma elimination as a public health problem, from the evaluation of approaches utilised by Guinea worm and onchocerciasis programmes: A literature review. PLoS Neglected Tropical Diseases, 15(1), e0009082. <https://doi-org.proxy.library.emory.edu/10.1371/journal.pntd.0009082>

Tyrakowski M, Kwiatkowska M, Czubak-Wrzosek M, Czubak J. Parasitosis of the vertebral canal mimicking lumbar intervertebral disc herniation: a case report. BMC musculoskeletal disorders. 2021;22(1):15. doi:10.1186/s12891-020-03870-6

Number of Laboratory-Confirmed Cases of Guinea Worm Disease, and Number Reported Contained by Month during 2021*
(Countries arranged in descending order of cases in 2020)

COUNTRIES WITH TRANSMISSION OF GUINEA WORMS	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	0 / 0	/	/	/	/	/	/	/	/	/	/	0 / 0
ETHIOPIA	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	/	0 / 0
SOUTH SUDAN	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	/	0 / 0
ANGOLA	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	/	0 / 0
MALI	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
% CONTAINED													

*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.

Number of Laboratory-Confirmed Cases of Guinea Worm Disease, and Number Reported Contained by Month during 2020*
(Countries arranged in descending order of cases in 2019)

COUNTRIES WITH TRANSMISSION OF GUINEA WORMS	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED												% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*
CHAD [^]	1 / 1	0 / 2	0 / 3	1 / 2	2 / 2	0 / 0	0 / 1	0 / 1	0 / 0	1 / 1	0 / 0	0 / 0	5 / 13
SOUTH SUDAN	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1
ANGOLA	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1
ETHIOPIA	0 / 0	0 / 0	0 / 0	7 / 7	0 / 0	0 / 0	0 / 0	2 / 2	1 / 1	1 / 1	0 / 0	0 / 0	11 / 11
MALI §	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1
TOTAL*	1 / 1	0 / 2	0 / 5	8 / 9	2 / 2	0 / 0	1 / 2	2 / 3	1 / 1	2 / 2	0 / 0	0 / 0	17 / 27
% CONTAINED	100%	0%	0%	89%	100%	100%	50%	67%	100%	100%	100%	100%	63%

*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.
^ Cameroon reported one case in February that was most likely infected in Chad.

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) or to Adam Weiss (adam.weiss@cartercenter.org), 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, Dr. Donald Hopkins, Andrew Nute and Adam Weiss of The Carter Center, Dr. Sharon Roy of CDC, and Dr. Dieudonne Sankara of WHO.

WHO Collaborating Center for Dracunculiasis Eradication, Center for Global Health, Centers for Disease Control and Prevention, Mailstop H24-3 1600 Clifton Road NE, Atlanta, GA 30329, 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
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CDC is the WHO Collaborating Center for Dracunculiasis Eradication