DEPARTMENT OF HEALTH & HUMAN SERVICES

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

Memorandum

Date: January 27, 2021

From: WHO Collaborating Center for Dracunculiasis Eradication, CDC

Subject: GUINEA WORM WRAP-UP #274

To: Addressees

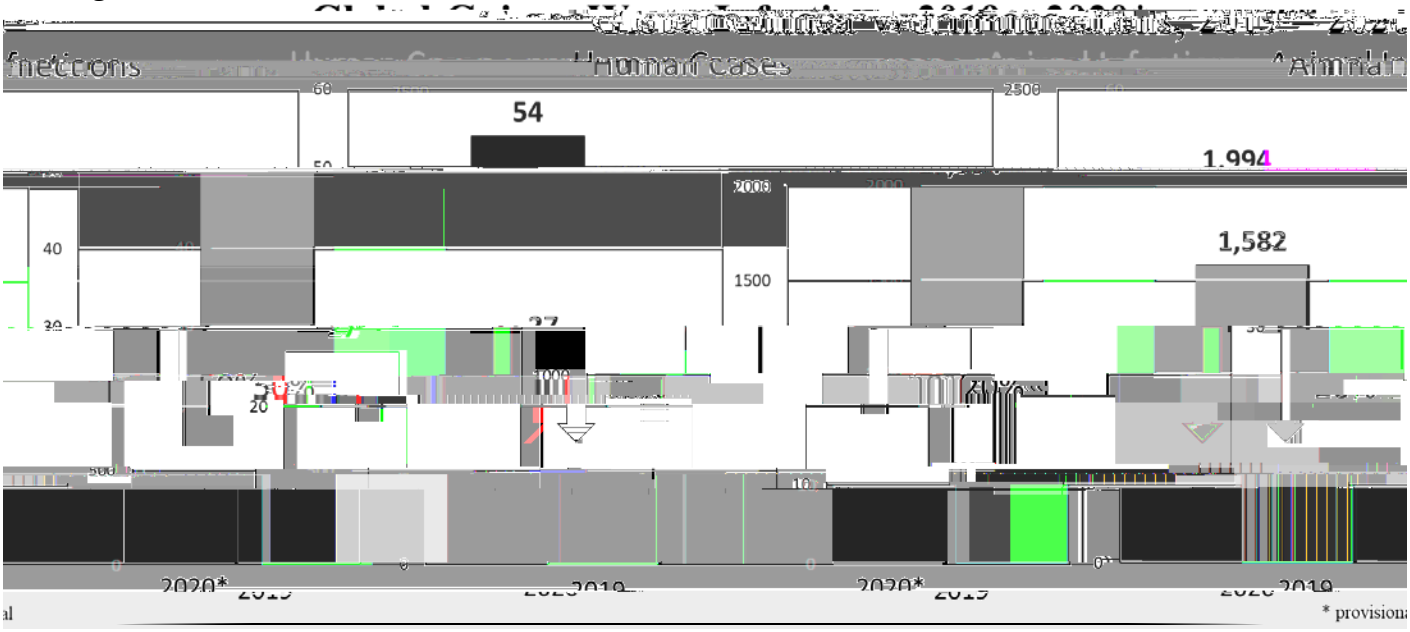
The worm will be the judge of the quality of our work last year.
MAKOY Samuel Yibi

Hope is not an intervention.
Don Hopkins

FEWER GUINEA WORM INFECTIONS IN 2020

As shown in Figure 1, the Guinea Worm Eradication Program (GWEP) reduced Guinea worm cases in humans by 50% and animal infections by 20% overall last year, for a provisional total of 27 human cases and 1,598 infected animals in 2020 (Figure 1). Only 2 non-endemic countries (Democratic Republic of Congo, Sudan) and 5 endemic countries (Angola, Chad, Ethiopia, Mali, South Sudan) remain to be certified as free of *Dracunculus medinensis* by the World Health Organization (WHO). WHO is helping both non-endemic countries complete preparations to be considered for certification, hopefully this year. The biggest challenges remaining to eradication are dog infections in Chad, baboon infections in Ethiopia, and insecurity in Mali, as well as the constant risk of common-source water-borne outbreaks in humans everywhere the parasite still exists.

Figure 1



- **South Sudan**

infection, and found 85% of persons surveyed knew of its US$100 equivalent reward for reporting a case.

- **Ethiopia** provisionally reported 11 humans and 15 animals (8 cats, 4 baboons, 3 dogs) with Guinea worm infections in 2020, after finding a total of 18 human cases and 56 infected animals in 2016-2019. In 2020 Ethiopia's Dracunculiasis Eradication Program (EDEP) contained all except the baboon infections. Preliminary analysis suggests that the genetic diversity of Ethiopia's Guinea worms is slightly more than in South Sudan and Mali but much less than Chad. The human cases in 2020 occurred in two common-source water-borne outbreaks in which people without convenient safe drinking water drank unfiltered water from non-Abated ponds shared by baboons living in nearby forests. The 8 cats reported from Pugnido Refugee Camp in July-August 2020 also were likely exposed to a common source of infection in nearby Abawiri village, where there was an infected dog in 2018, an infected baboon in 2017, and an uncontained human case in 2016. Proactive tethering of dogs that began in 2018 (avg. 12.5 infected dogs annually in 2015-2018) reduced dog infections by 80% to 2 and 3 infected dogs in 2019-2020 respectively. The endemic area over the past decade is a 50x25 mile (80x40 kilometer) forested area in Gog district of Gambella Region; Abate treatments in this area doubled in 2018 – 2020 (Table 4). The COVID-19 pandemic impeded field research on baboons in 2020, but research will resume in 2021. Due to security concerns, there is a high level of population movement between South Sudan and Ethiopia at their common border across the Gambella region in Ethiopia. In response to this, the EDEP is conducting increased cross border surveillance including among refugees and at crossing points. To strengthen surveillance and response for Guinea worm disease among people crossing the border from South Sudan, WHO and the FMoH carried out assessment of Raad entry point in Dima district of Ethiopia and Pibor County in South Sudan 19 to 26 December 2020; a plan to increase cross-border surveillance in Dima dist-d tplE-4(lE-4(lE-4(he)4(t(s)1(u)0 ki)-2(l)-2(om)-2gD)4(gTJ [T* [(t)-0 Tc -0

Table 1

Confirmed Guinea Worm Infections**, 2020*

	In Animals	In Humans
Chad [1]	1,570	12
Ethiopia[2]	15	11
Mali[3]	8	1
South Sudan	0	1
Angola	0	1

[1] 1,507 dogs, 61 cats, 2 wild cats
[2] 3 dogs, 8 cats, 4 baboons
[3] 8 dogs
* Provisional
** Cameroon also reported 1 human case, 4 dog infections, and 1 cat infection in border villages that were likely infected in Chad.

Table 2

Mali Guinea Worm Eradication Program
Interventions, Impact, & Surveillance, 2018 – 2020*

	2018	2019	2020*
Interventions			
% Abate Coverage	100%	100%	100%
% Infection Contained	80%	67%	50%
% Safe Drinking Water	94%	100%	100%
Impact			
# Infected Locations	17	8	7
# Infected Humans & Animals	20	9	10
# Guinea Worms	31	32	15
Surveillance			
# Villages under Active Surveillance / % Reporting Monthly	903 / 100%	2,802 / 100%	2699 / 99%
# Persons Searched in Integrated Surveys	624	188,033	165,215

Table 3

Table 4

Ethiopia Dracunculiasis Eradication Program
Interventions, Impact, & Surveillance, 2018 – 2020*

	2018	2019	2020*
Interventions			
# Abate Treatments	4,660	7,337	9,399

application for copepods' control, (ii) communication and community awareness by broadcasting 2,304 spots on 12 community radio stations and raising community awareness by distributing 5,050 leaflets and putting up 4,100 posters about the reward.

Table 5 shows the impact of the interventions in 2020, with the notification of 60 rumors and GW infections investigated, including 7 instances where sample specimens were sent to the CDC laboratory- one confirmed case in a 4 year old girl in the village of Dabana with a history of staying in neighboring Chad in the previous 10 months and 6 infections confirmed in animals (5 dogs and 1 cat). These samples came from the same Dabana and Nouldaina villages where a relentless vector control effort through the treatment of ponds with Abate, purchase and proper disposal of fish intestines and tethering of dogs are being pursued in addition to conducting active community based surveillance of GW through house to house visits and community outreach in markets, mosques, churches, and places of celebration and mourning.

During 2021, Cameroon GWEP will focus on further strengthening the surveillance and response in the 15 health districts bordering Chad, scaling up community-based surveillance through house to house visits in all villages at the border areas with Chad particularly in Nouldaïna health zone: Vector control interventions are being pursued and strengthened so as to cover 100% of eligible water bodies in all 1+ villages; Active collection and proper disposal (frying) of fish guts will be intensified, as well as preventive tethering of all dogs in 1+ and at risk villages.

Figure 2

Table 5

Cameroon Guinea Worm Eradication Program
Interventions, Impact, & Surveillance, 2019 – 2020*

	2019	2020*
Interventions		
% Abate Coverage	100%	100%
% Infection Contained	67%	50%
% Safe Drinking Water	100%	100%
Impact		
# Infected Locations	1	1
# Infected Humans & Animals	1	1
# Guinea Worms	0	6
Surveillance		
# of villages under active surveillance / % reporting per month	NA	8 / (100%)
# of people seen during home visits	NA	9 693
% of Heath districts reporting	89%	93%
# of reward awarded	1	1

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER		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	38%
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	100%
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	0%
ETHIOPIA	0 / 0	0 / 0	/	/ 00	0 / 0	/0 / 0								

RECENT PUBLICATIONS

Priest, JW et.al., 2021. Development of a multiplex bead assay for the detection of canine IgG4 antibody responses to Guinea worm. Am J Trop Med Hyg 104:303-312. doi: https://doi.org/10.4269/ajtmh.20-0914

World Health Organization, 2021. Summary of the 31st meeting of the International Task Force for Disease Eradication, 20-21 October 2020. Wkly Epidemiol Rec 96:1-10. (This meeting discussed the impact of the COVID-19 pandemic on 7 eradication and elimination campaigns: Guinea worm disease, polio, measles & rubella, malaria, river blindness, lymphatic filariasis, and trachoma.)

World Health Organization, 2021. Monthly report on dracunculiasis cases, January-October 2020. Wkly Epidemiol Rec 96:10-11.

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 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 A-06, 1600 Clifton Road