

_____ reported 96% of all Guinea worms remaining in the world in 2018, with 1,040 infected dogs (328 villages), 17 human cases (11 villages) and 25 infected cats (20 villages), in a total of 340 villages with one or more Guinea worm infections in Chad in 2018. Two villages in Salamat Province had 4 and 3 human cases, respectively. The Guinea worm infected dogs occurred in 21 districts of 7 provinces.

The status of interventions against Guinea worm infections in Chad as of the end of 2018 is summarized in Figure 3. Chad's GWEP implemented monthly Abate treatments in 83 villages under active surveillance by the end of 2018, compared to 21 VAS in October-December 2017, and it applied Abate in response to specific contamination events in 71 villages, vs. 57 villages in 2017. In 2018 the program also expanded implementation of its mass communication campaign, "Guinea Worm Heroes", which was launched in July 2017 in partnership with KYNE Communications. Improved surveillance was

Following up with the recor `gh h rb t q t~l` c ~ bol

season in South Sudan. The SSGWEP now has 2,165 villages under active surveillance in the five counties of greatest concern, and it is engaging with military forces to help address areas of insecurity. This program recorded 36,239 rumors of Guinea worms in humans and 6 rumors of infected dogs in 2018 (25,182 rumors in 2017). It submitted 46 specimens from 40 persons to the laboratory at CDC in 2018, including 5 spargana and 2 *Onchocerca* infections. The status of interventions in South Sudan as of the end of 2018 is summarized in Figure 3. Mr. Samuel Makoy presented this report.

_____ reported one confirmed case of Guinea worm disease in April 2018, and another in January 2019, both in Cunene Province and both in persons without any history of travel outside of the country. The Ministry of Health of Angola has investigated both cases, with assistance of the World Health Organization (WHO), and both investigations are ongoing. A genetic profile of the worm specimen from the case in January 2019 is pending (the specimen from the first patient was of inadequate quality). Surveys of villages in areas around the cases revealed 34 rumors of human infections and 3 rumors of animal infections, but no other cases. Surveys of 981 villagers in Cunene, Cuando Cubango and Moxico Provinces in February 2019 found that 965 (98.4%) of those queried denied knowing Guinea worm disease (including 239 of 252 persons-95%-in Cunene Province), and only about 13% of villages in the three provinces have access to safe drinking water. With WHO's help Angola already has trained 1,366 health professionals and community health workers in Cunene Province to begin health education and social mobilization about Guinea worm disease. A team from The Carter Center is visiting Angola this month, and the Center expects to begin helping the Angolan ministry to establish community-based surveillance in the areas at highest risk within the next several weeks as soon as it is officially registered as a Non-Governmental Organization in Angola. This report was presented by Dr. Sebastio Mavitidi.

. In addition to the confirmed case reported in Angola in January, Chad hred S .# s=

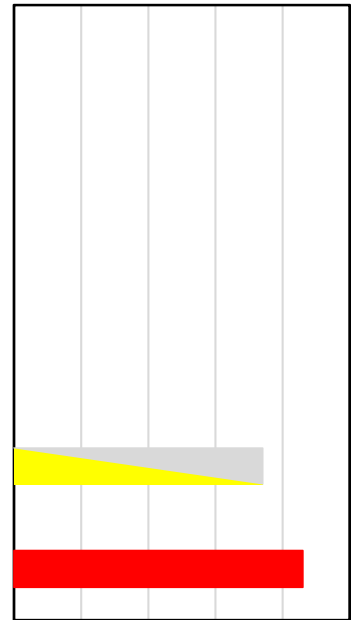
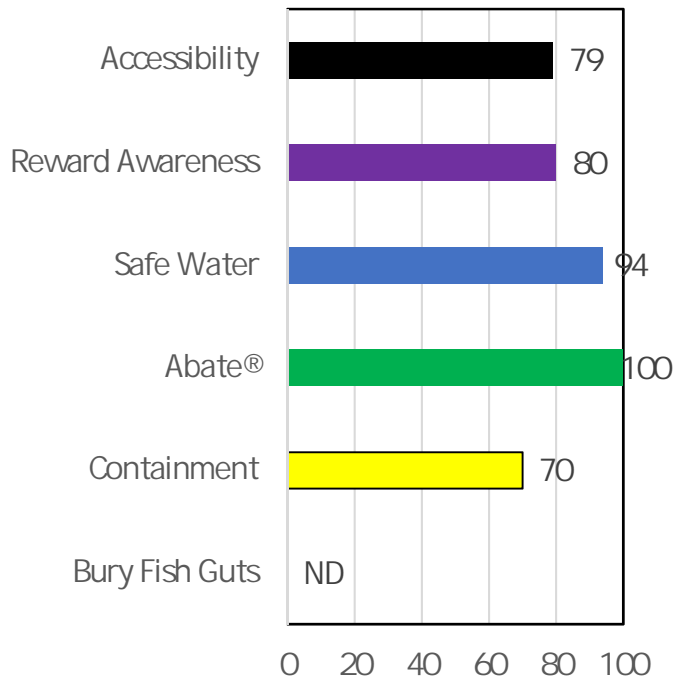
Researchers from Vassar College/USA, Wellcome Sanger Institute/UK, University of Georgia/USA, University of Exeter/UK, Georgia Tech/USA, and the Centers for Disease Control and Prevention described the latest results of their work and also participated in private follow-up discussions with representatives of The Carter Center, WHO, the Bill & Melinda Gates Foundation, the Children's Investment Fund Foundation, Vestergaard, and Health and Development International on March 23rd.

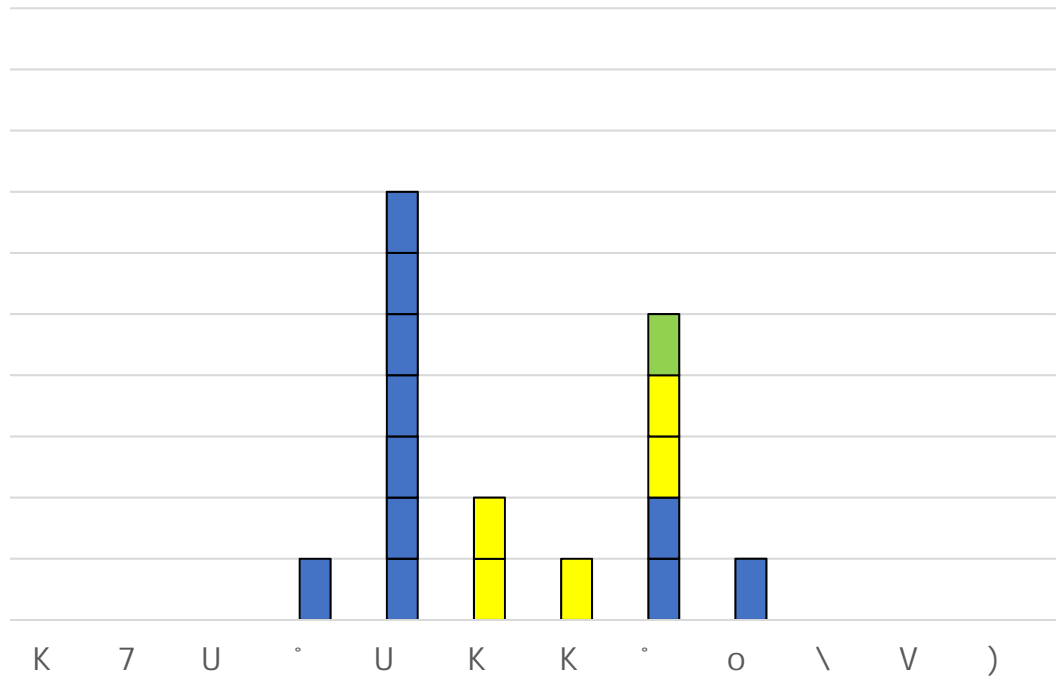
Table 2:

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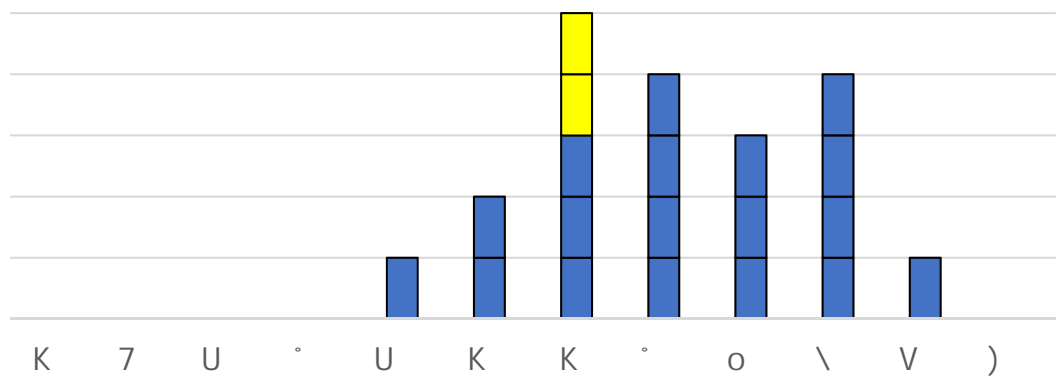


Table 3

(Countries arranged in descending order of cases in 2018)

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														
SOUTH SUDAN														
ANGOLA														
ETHIOPIA														
MALI														



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.

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ETHIOPIA														
SOUTH SUDAN														
MALI														
ANGOLA [^]														
TOTAL*									/	/	/	/		
% 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.

§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.

[^] Investigation of the origin of this case is ongoing. Preliminary outcomes indicate there is no current or historical evidence of human or animal infections in the district of residence.

With *D. medinensis* infections occurring in animals in three of the final four endemic countries (South Sudan. is the exception) and evidence mounting to suggest that the infection is being transmitted to humans and animals not just by drinking water, as before, but likely also by people and animals eating raw or undercooked transport hosts such as small fish (up to 2-3.inches/5-7.5 cm long) and/or raw fish guts, as well as perhaps by eating undercooked aquatic paratenic hosts such as frogs and larger fish, Guinea Worm Eradication Programs have adopted new interventions to counter the new challenges. Given this new situation we suggest that national GWEPs monitor a modified set of operational indicators. Among the former indicators, trained village volunteers, regular health education, and reporting by villages under active surveillance, including endemic villages, can be assumed as at or near 100%. Coverage with cloth filters protects against contaminated drinking water, such as in Ethiopia in 2017, but not against eating an infected transport or paratenic host which may now be the most common mode of infection for humans and animals in Chad, Ethiopia and Mali. The suggested indicators now are:

- o . Combined results for VAS levels I & II (endemic and high-risk villages), for human and dog Infections: % aware of persons surveyed. *Detect infections quickly.*
- x . % of infected humans and animals contained or tethered. *Prevent contamination.*
- o . % cumulative villages where Abate applied this year in villages with infections in current or previous year. Water bodies may be ineligible for Abate treatment from time to time when they become too large (>1000mx3) or dry up. *Prevent infection and contamination.*
- x . % of people surveyed In VAS level I with demonstrated fish gut burial practice. *Prevent Infection.*
- o . % of VAS level I villages with at least one functioning source of safe drinking water. *Prevent large point source outbreaks.*
- o . % of VAS level I (endemic villages+) that are safely accessible by the program.

The latter new indicator is intended to estimate GW programs' safe access to areas of greatest concern now for supervision and interventions. After transmissi

OBITUARY: DR. MAHAMAT TAHIR ALI



The former National Program Coordinator of Chad's Guinea Worm Eradication Program during the crucial years of its revival from 2013 to 2016 passed away on February 19, 2019 after a brief illness. He succeeded Mr. Ngarodjel Djimadoumadji on October 24, 2012, and was followed by Dr. Tchindebet Ouakou on May 20, 2016.

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 and Adam Weiss of The Carter Center, Dr. Sharon Roy of CDC, and Dr. Dieudonne Sankara of WHO.

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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_francais.html



CDC is the WHO Collaborating Center for Dracunculiasis Eradication