

EYE of the EAGLE

THE
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Sir Emeka Ofor Foundation, Carter Center Form River Blindness Partnership in Nigeria

Alongside former U.S. President Jimmy Carter, Nigerian businessman Sir Emeka Ofor announced a \$10 million grant to The Carter Center to eliminate river blindness in seven states in southern Nigeria by 2020. When completed, this pledge will be the largest gift ever made to The Carter Center by an individual African donor.

"Nigeria has more cases of river blindness than any other country in the world. Yet, we know that with adequate resources, hard work, and perseverance, we can defeat this terrible neglected disease," Sir Emeka said in an address to 300 people at the June meeting of the Carter Center's Board of Councilors.

This major new funding will allow The



Caroline Joe

Sir Emeka Ofor presents a \$10 million check to President Carter. The funds will be used to fight river blindness in seven Nigerian states.

Carter Center to assist the Nigerian Ministry of Health to eliminate river blindness from seven states—Abia, Anambra, Ebonyi, Edo, Enugu, Delta, and Imo—by 2020.

At the meeting, the Carter Center's

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Trachoma Program Reveals 2014 Statistics for Surgery, Other Treatments

The 16th annual Trachoma Program Review was held at The Carter Center in Atlanta, Ga., March 2–4, under the theme of "Looking Back, Moving Forward." The review provided an opportunity to assess the status of each national program and their progress toward meeting elimination goals. This year, participants focused on lessons learned over the past 15 years and how this knowledge can inform the global trachoma community as it moves toward elimination of blinding

trachoma by 2020.

Attendees included representatives from the ministries of health and field offices in the seven countries where the Center provides assistance: Ethiopia, Mali, Niger, Nigeria, Sudan, South Sudan, and Uganda. Data show that in 2014, The Carter Center assisted with 60,119 trichiasis surgeries—62.7 percent of which were performed on women. It also supported the distribution of 17,168,607 doses of Pfizer-donated Zithromax® (azithromycin) and 374,086 doses of tetracycline eye ointment through mass

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Electronic
Edition

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Trachoma Program Review

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drug administration, provided ongoing health education in 5,669 villages, and assisted with construction of 117,545 household latrines.

Tara Brant, consultant for the Trachoma Control Program in Amhara, Ethiopia, presented an overview of a new study that aims to understand behavioral factors that promote good hygiene practices, such as facial cleanliness and latrine usage, in order to develop new trachoma health education messages and tools. Understanding barriers to facial cleanliness and environmental improvement uptake is critical for Ethiopia to reach its ultimate intervention goals.

Nicole Stoller, program manager at the Francis I. Proctor Foundation at the University of California, San Francisco, presented an update on current studies in Ethiopia and Niger. Working with The Carter Center, the Proctor Foundation is

study. Stoller presented the preliminary results of the PCR analysis currently underway at the Bahir Dar Regional Laboratory in Ethiopia's Amhara Region. She also discussed initial work from Niger on the Mortality Reduction After Oral Azithromycin (MORDOR) study and from Amhara on the Sanitation, Water and Instruction in Face-Washing for Trachoma (SWIFT) study.

Angelia Sanders, from the Carter Center's Trachoma Control Program, proposed several new indicators in her presentation, "Facial Cleanliness and Environmental Improvement Indicators: Showing Impact Through Purpose." Sanders challenged the current indicators, explaining that while they tell the trachoma community that health education is occurring and latrines are being constructed, the indicators do not say if the messages are being understood and if latrines are being used. Two of the proposed indicators

are (1) 100 percent of children 1 to 9 years old with clean faces and (2) 100 percent latrine use.



The Carter Center assisted with more than 17 million treatments for trachoma in 2014.

Reem Jubain/Noor Dubai



Trichiasis patients wait outside a community health center after receiving surgery. The Carter Center supported more than 60,000 trichiasis surgeries in 2014.

in the final stages of the Tripartite International Research for the Elimination of Trachoma (TIRET)

Finally, Aisha Stewart and Scott Nash, also from the Carter Center's Trachoma Control Program, and Violeta Jimenez, a consultant for Emory University, challenged attendees to look at alternative strategies for utilizing and distributing Zithromax to reach elimination targets in a timely manner. The presentation approached the topic of the use of Zithromax by looking back at the past 15 years of data to apply lessons learned. The presenters brought up several questions for consideration: At what point do we have enough evidence to take action and who decides? What is feasible to implement at scale? How long can the approach be sustained?

Attendees of the program review were challenged to continue to focus on impact, both in looking at the past 15 years and in planning for the next five. **E**

Kelly Callahan

Trachoma Impact Surveys Show Reduction in Two Nigerian States

Trachoma baseline prevalence surveys conducted in 2007 and 2008 in Nasarawa and Plateau states in Nigeria evidenced the need for SAFE interventions in seven local government areas (LGAs) including the need for three rounds of mass drug administration (MDA) (Figure 1). Following these three MDA rounds, the Nigerian Ministry of Health supported by The Carter Center, through funding from the ENVISION project led by RTI International, conducted community-based impact assessments in April and May 2014. These impact assessments evaluated the impact of the SAFE strategy on the elimination of blinding trachoma as a public health problem and further assessed if these two states met the World Health Organization (WHO) elimination thresholds.

The current WHO thresholds for the elimination of blinding trachoma as a public health problem require that each country reduce the number of people with trachomatous trichiasis (TT) known to the public health system to fewer than one per 1,000 people in a district, and the number of

cases of active trachomatous inflammation follicular (TF) in children ages 1-9 years must be less than 5 percent of the population of children in the districts.

A multistage cluster-random sampling was used to survey 29 LGAs in Nasarawa and Plateau states. One LGA, Wase, was not surveyed as the area was inaccessible by survey teams. Three types of enumeration units (EUs) were included in the survey: 1) subdistricts, 2) districts, or LGAs, and 3) superdistricts. LGAs with baseline TF prevalence greater than 10 percent were surveyed at the subdistrict level; LGAs with baseline TF prevalence between 5 and 10 percent were surveyed at the district level; and LGAs with baseline TF prevalence less than 5 percent were aggregated by state and surveyed as a superdistrict.

In total, 30 EUs were surveyed. In three of the 30 EUs, the prevalence of TF among children ages 1 to 9 was between 5 to 9 percent. The prevalence of TF among children ages 1 to 9 was less than 5 percent in the remaining EUs. However, it should

be noted that the sample size was not achieved in the three EUs where TF prevalence was greater than 5 percent. This occurred because not all selected clusters in the three EUs were surveyed; the population residing in those clusters had been internally displaced. Overall, the impact assessments documented a reduction in prevalence of TF among children ages 1 to 9 in all areas compared to baseline.

The prevalence of TT among adults ages 15 years and older decreased in all EUs compared to baseline. Results indicated that all but seven EUs surveyed had reached the elimination threshold of less than one case per 1,000 total population.

Results from the trachoma impact surveys evidenced that trachoma has decreased in Nasarawa and Plateau states since the baseline surveys in 2007 and 2008. These results show that after years of partnership between The Carter Center and Nigeria's Ministry of Health, Plateau and Nasarawa states have made significant progress in reducing the risk of blinding trachoma. **E**

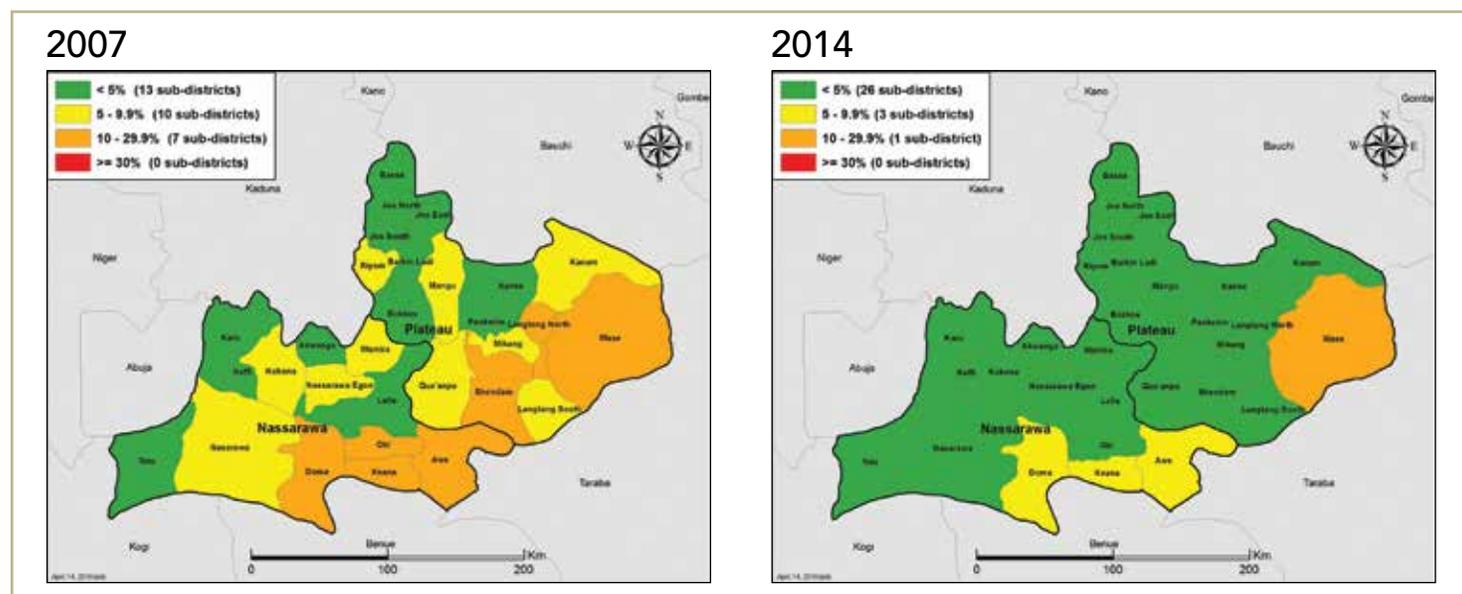


Figure 1. TF prevalence among children ages 1-9 years in two Nigerian states: Plateau and Nasarawa.

Community Participation Inspires Longtime Health Worker

We met Tibtalech Kifelie in the village of Wonchit in the South Gondar zone of the Amhara Region of Ethiopia during an annual trachoma campaign for mass distribution of antibiotics for trachoma control.



Health extension worker Tibtalech Kifelie provides a dose of azithromycin to a child in the South Gonder zone of the Amhara Region, Ethiopia.

Tibtalech has worked as a health extension worker in the district for the past nine years, including supporting nine rounds of mass distribution of antibiotics. She said she was a recent arrival in Wonchit, working in the community for only two months prior to the January 2015 mass drug administration, but the community's

eagerness to participate in the distribution impressed her.

In preparation for this annual mass distribution, a one-day training session attended by Tibtalech was held a week before the event for an estimated 12,000 health workers who would be assisting with the distribution. Her efforts as a health worker are supported by the Health Development Army, a network of community volunteers and model family households that support health activities throughout Ethiopia. With the support of these volunteers, Tibtalech announced the January drug distribution date at community forums and churches to people living in her catchment area, known as a *kebele*. Together, they were able to successfully convey the importance of this event to the roughly 5,000 people in the *kebele*.

When we visited Wonchit in the middle of the weeklong distribution campaign, Tibtalech and a team of Health Development Army volunteers had distributed drugs in three of the five villages within the *kebele*. Tibtalech credited strong social mobilization as the reason that community members were very willing

to take the drugs, and, for that reason, she anticipated that her team would well exceed their goal of 80 percent coverage.

Tibtalech said she was passionate about providing “health education on the 16 health extension packages [that workers are tasked with supporting] and encouraging behavior change.” She noted that behavior change remains the most challenging component of her job, describing how community members are very willing to accept education, but actual behavior modification takes longer. However, Tibtalech noted, behavior change does, in fact, occur.

Behavior change remains the most challenging component of her job.

Finally, Tibtalech said that over the last several years the willingness of community members to participate in annual mass drug administration campaigns has increased, and community members have noticed that the “medicine brings relief.” Because of the efforts of Tibtalech, other health extension workers, and the Health Development Army volunteers throughout Amhara, over 16 million people have benefited from annual treatment with azithromycin since 2008.

This article is part of an ongoing series about how the Carter Center's Trachoma Control Program affects individuals in the countries where it works. Comments are not reproduced word for word, but typify the spirit of the conversations. The author has tried to be faithful to the context, content, and tone of the person depicted. **E**

Uganda's New Trachoma Initiative to Reach 17 Districts

In November 2014 the Uganda Ministry of Health launched a new trachoma program in two regions as part of the Queen Elizabeth Diamond Jubilee Trust's Trachoma Initiative in Africa.

In Uganda, trachoma is endemic in 36 of 112 districts, where an estimated 10 million people, or one-third of the population, reside. Uganda launched its trachoma program in 2006 and has set 2020 as its target date for elimination. To assist the government in meeting its 2020 goal, The Trust Initiative in Uganda, coordinated by The Carter Center and implemented by Sightsavers and CBM, will treat those suffering from trachoma in Busoga and Karamoja regions.

By 2019, the new initiative will have undertaken trachoma interventions in seven districts in Karamoja and 10 districts in Busoga targeting surgery, facial cleanliness, and environmental improvement. Surgery to correct the in-turned lashes of patients with advanced trachoma will be provided to more than 38,000 people, and quality of surgical services will be improved through retraining surgeons and building local capacity.

Water, sanitation, and hygiene partners will be engaged to improve health messaging at the community, district, and national levels and to improve access to safe water and sanitation in the two regions. Though The Trust Initiative is not implementing the antibiotics component of the World Health Organization-endorsed

SAFE strategy for trachoma control (which includes surgery, antibiotics, facial cleanliness, and environmental improvement), the Ministry of Health, with the support of United States Agency for International Development (USAID) and the ENVISION project led by RTI International, is conducting mass drug administration in endemic districts. Drug distribution also serves as an opportunity to inform the community about the availability of surgery and to provide health education.

The new initiative was officially launched on Nov. 18 during a community-based ceremony in the district of Jinja in the Busoga region. The guests of honor included the minister of health, Hon. Dr. Tumwesigye Elioda, who said the ministry would do everything necessary to ensure the target date of 2020 would be reached. During this event, Dr. Elioda also launched the country's Trachoma Action Plan as a roadmap for reaching the 2020

elimination goal.

At the launch, The Trust Initiative was represented by Dr. Astrid Bonfield, chief executive, and Annike Spiller, communications officer. Also attending were representatives from The Carter Center, CBM, Sightsavers, RTI International, Johns Hopkins University, Water Mission, World Health Organization, and Water Aid. The local Lions Club also attended to show support not only as donors to The Trust Initiative but as technical advisers and advocates for the program in Uganda. Local government representatives were present, as were over 500 members of the community and various local schools.

The Trust Initiative is working in several African countries on trachoma; it aims to eliminate blinding trachoma in Kenya and Malawi and make significant progress toward elimination in Mozambique, Nigeria, and Tanzania, in addition to Uganda. **E**



Dr. Tumwesigye Elioda, minister of health, and Dr. Astrid Bonfield, chief executive of the Queen Elizabeth Diamond Jubilee Trust, present Uganda's 2014 Trachoma Action Plan, surrounded by representatives from various ministries, the Lions Clubs of Uganda, and The Carter Center.

Offor Foundation

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country representative in Nigeria, Dr. Emmanuel Miri, presented an overview of the program and its challenges, including the need to implement twice-per-year treatments.

President Carter said, “The new

resources from the Sir Emeka Offor Foundation will extend the reach of the Carter Center’s work in South East and South South Nigeria and help accelerate river blindness elimination throughout Nigeria at a pivotal time.”

The Carter Center has designated Sir Emeka a special emissary for river

blindness elimination in Nigeria. He hails from Anambra state in south Nigeria and formed his foundation in the early 1990s. It focuses on education, health, and empowerment, and its motto is “helping those in need become independent and self-sufficient.” 

Program’s River Blindness Treatments Surpass 21 Million in 2014

In 2014, the Carter Center’s River Blindness Elimination Program assisted in a record 21,504,001 ivermectin treatments (Mectizan®, donated by Merck). Figures for last year were presented at the 19th annual review of the Carter Center River Blindness Elimination Program, held Feb. 24–26 in Atlanta, Ga.

The 21.5 million treatments, 97 percent of the treatment target, mark a 13 percent increase over 2013 (see

Figure 2). The program’s cumulative treatments since 1996 are now 212 million, and a goal of 25.9 million treatments was set for 2015. Since 1996, the program has worked with ministries of health in 10 countries to provide treatment, health education, and training.

In addition, the Center assisted in 10,925,183 treatments for lymphatic filariasis in Ethiopia and Nigeria, 2,756,257 for schistosomiasis in

Nigeria, and 7,700,653 for soil-transmitted helminths (STH) in Nigeria. Health education was also provided in the areas where The Carter Center works.

The program would not be possible without a grassroots network of community-directed drug distributors. Nearly 208,000 distributors were trained in 2014, managed by almost 45,700 community supervisors and ministry of health district personnel.

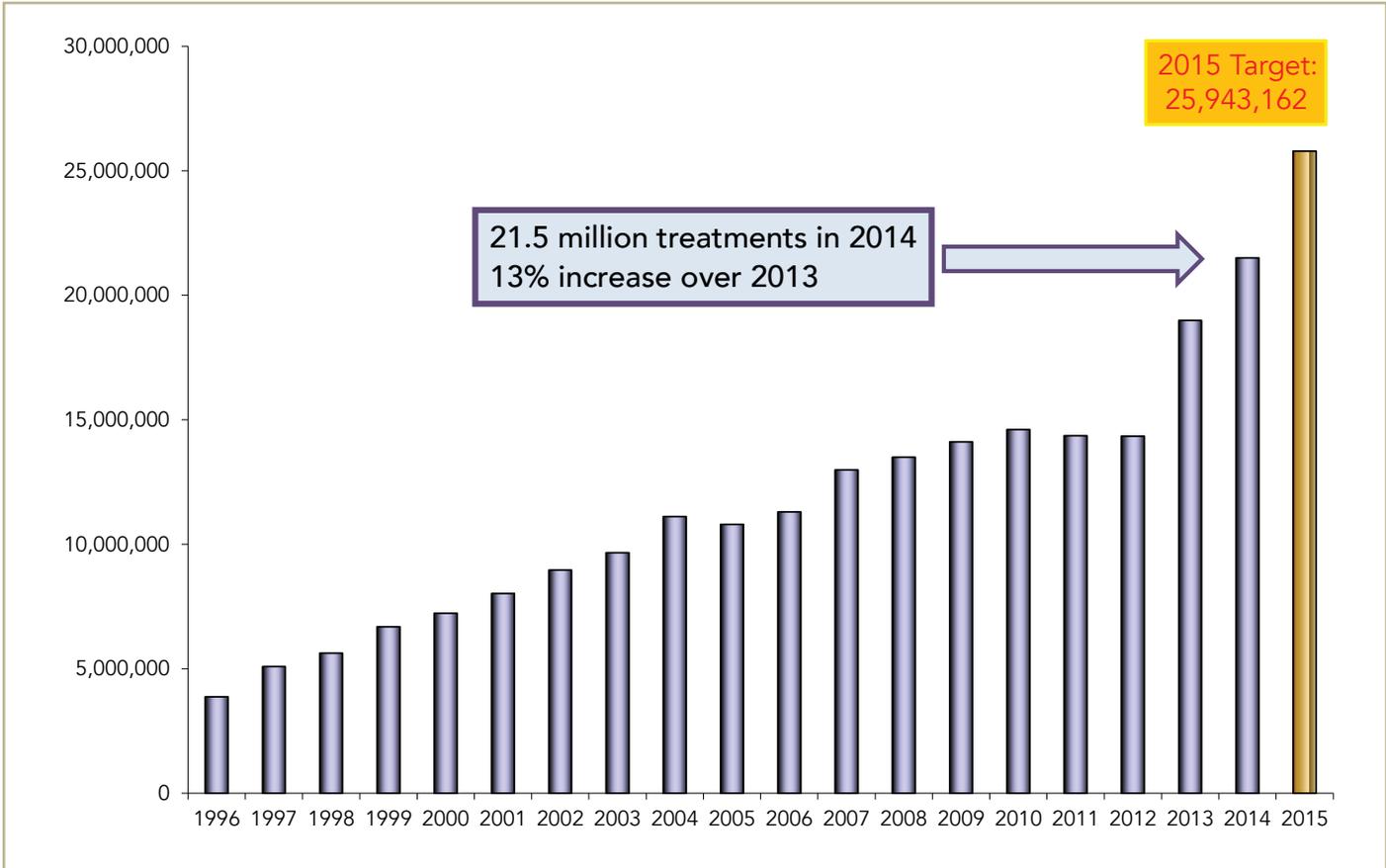


Figure 2. Carter Center-assisted river blindness elimination programs: ivermectin treatments, 1996–2014.

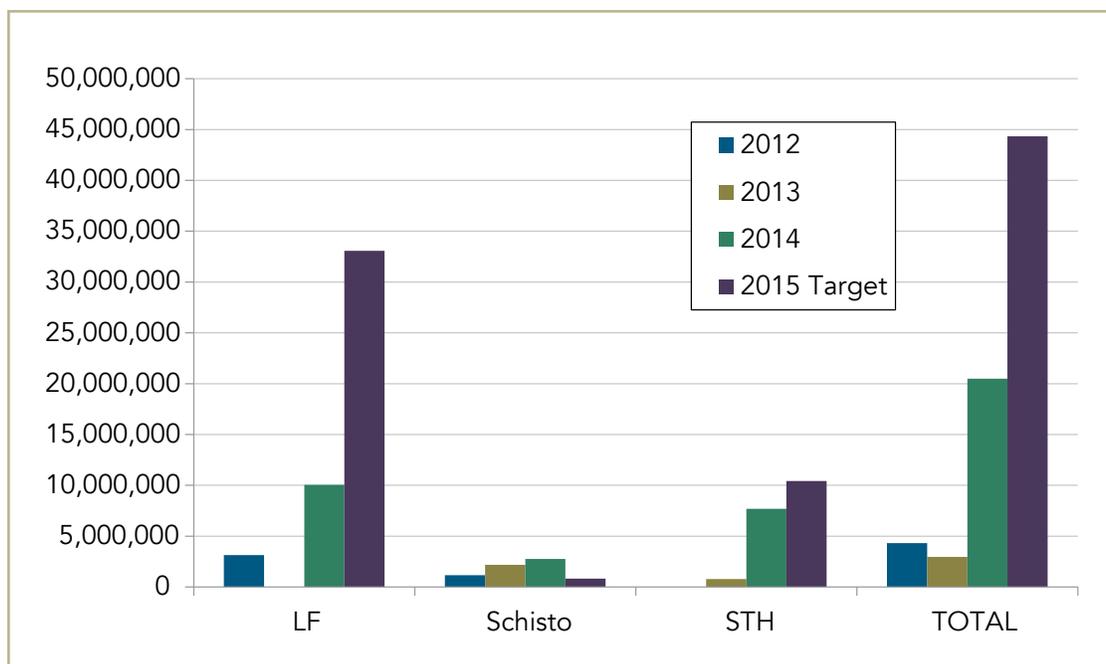


Figure 3. Scale-up of lymphatic filariasis, schistosomiasis, and soil-transmitted helminth treatments in Nigeria, 2012–2014 treatments, and 2015 target.

In addition to Carter Center field and headquarters staff, program review attendees included representatives from the ministries of health of Ethiopia, Nigeria, Sudan, and Uganda; the Bill & Melinda Gates Foundation; U.S. Centers for Disease Control and Prevention; Department for International Development U.K.; Izumi Foundation; Lions Clubs International Foundation; Mectizan Donation Program; PATH; Rabin Martin; RTI International; Sightsavers; Sir Emeka Ofor Foundation; Task Force for Global Health; University of Notre Dame; University of South Florida; U.S. Agency for International Development; and the World Health Organization. Key findings and country reports follow.

Ethiopia

Ethiopia continued its strong performance in its second year of conducting primarily twice-per-year treatments for river blindness, aggressively pursuing the national policy of onchocerciasis elimination by 2020. In 2014, Ethiopia

assisted with the most Mectizan® treatments of the programs assisted by the Center; a total of 11,068,287 treatments were provided with 9 million of these in the twice-per-year strategy. Over 167,000 community drug distributors were trained, approximately 77,000 more than in 2013. The

The program’s cumulative treatments since 1996 are now 212 million, and a goal of 25.9 million treatments was set for 2015.

Carter Center’s work in Ethiopia is based on a longstanding partnership with the Ministry of Health, the Lions Clubs International Foundation, and other donors.

Nigeria

The program assisted in 6,769,079 Mectizan® treatments for river blindness in Nigeria in 2014. The Nigerian

Ministry of Health has not yet agreed to a twice-per-year distribution strategy, although the country is aiming to eliminate onchocerciasis by 2020. The Carter Center is continuing to advocate twice-per-year treatments for onchocerciasis in many parts of its assisted areas in Nigeria to improve the country’s chances of meeting this ambitious target.

The strong collaboration with U.S. Aid for International Development (USAID) and the ENVISION project led by RTI International enabled The Carter Center to increase *sevenfold* its assisted treatments for other neglected tropical diseases in Nigeria in 2014 (see Figure 3). This remarkable expansion was primarily attributable to great leaps in lymphatic filariasis and soil-transmitted helminth treatments.

The Carter Center’s Lymphatic Filariasis Elimination Program successfully interrupted transmission of the disease in Plateau and Nasarawa states in 2012. Thus, there were no treatments in 2013, but in 2014 the program launched mass drug administration in seven other Nigerian states by assisting the state ministries of health in providing 10,042,479 treatments. The program plans to triple lymphatic filariasis treatments to 33 million in 2015 by expanding into previously untreated areas in the seven states. In contrast to onchocerciasis, many of these treatments will be provided twice per year. The albendazole used in lymphatic filariasis treatments

is donated by GlaxoSmithKline.

Treatments for soil-transmitted helminths also experienced a great increase in 2014, with 7,700,653 treatments given in areas assisted by The Carter Center in Nigeria, nearly 10 times the amount given in 2013. The 2015 target is 10.4 million. The medicines used for soil-transmitted helminth treatment are donated by GlaxoSmithKline (albendazole) and Johnson & Johnson (mebendazole).

The Carter Center assisted in 2,756,257 praziquantel treatments for schistosomiasis in Delta, Ebonyi, Enugu, Edo, Nasarawa, and Plateau states in 2014. The majority of the praziquantel used was donated to The Carter Center through the World Health Organization by Merck KGaA (E-Merck) of Germany. Complementing USAID funding, the Izumi Foundation supports this program in four of the six states. The treatment target in 2015 is 831,430;

this is lower than 2014 due to World Health Organization guidelines, which call for treatment every other year in some areas.

Uganda

The Uganda program administered 3.3 million Mectizan® treatments in 2014. In 2015, all Uganda districts with mass drug administration programs for onchocerciasis will be treating twice per year, with a target of 3.8 million treatments. Progress toward elimination by 2020 continues to be made in Uganda, and in 2014 the Ugandan Onchocerciasis Elimination Expert Advisory Committee (UOEEAC) recommended treatments be halted in the Obongi transmission zone (focus). Imaramagambo and Mount Elgon foci will complete post-treatment surveillance activities in 2015. The major challenge is to halt transmission in the extensive Madi/Mid-North focus

that borders with South Sudan. Other foci — Bwindi, Lhubiriha, Nyagak-Bondo, West Nile — representing nine districts may be cross-border transmission zones with the Democratic Republic of the Congo. In 2014, the UOEEAC recommended that the Ministry of Health work with the DRC to conduct joint cross-border assessments, and to provide a report of their findings at the 2015 UOEEAC meeting.

Sudan

In 2014, Sudan's Ministry of Health delivered 254,974 treatments, the majority of which were twice per year in the Gadarif focus, which borders Ethiopia (see article on p. 10). In 2015, The Carter Center will continue to assist in post-treatment surveillance activities in the Abu Hamad focus, where treatments were stopped in 2012. **E**

In Memoriam Aseged Taye (1963–2015)

River Blindness Officer

It is with great sadness and regret that The Carter Center announces the sudden passing of Aseged Taye Zeleke on May 23, 2015, in Addis Ababa, Ethiopia.

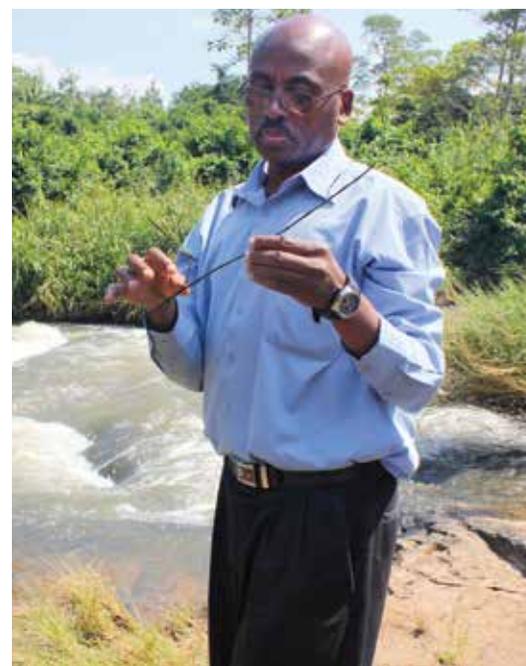
Aseged was the only son of father Taye Zekele and mother Seblework Mekuria. He attended Haile Degaga Elementary and Comprehensive High School in Arba Minch and attended Addis Ababa University (AAU) in 1980, graduating with a Bachelor of Science degree in biology in 1984. After graduation Aseged worked as a teacher in the rural areas of Ethiopia from 1984–2000. While teaching, he

continued his studies at AAU, obtaining a master's degree in 1995.

Aseged worked from 2000–2009 at the Ethiopian Health and Nutrition Research Institute as researcher and team leader in the parasitology and vector biology team. He then moved to RTI International, where he worked from June 2009–July 2010.

In October 2010, he joined The Carter Center, where he was employed until the time of his death. During his tenure as a river blindness program officer, he was known for his organization, competence, and determination. He contributed much to the office, transferring the skills he acquired through training, voracious reading, and robust fieldwork. Aseged was a quiet, unsung hero who will be dearly missed by The Carter Center and his beloved family and friends. We extend

our condolences to his son and his extended family and friends. **E**



Aseged Taye

Ethiopia, Sudan Collaborate on Cross-Border Disease Transmission

River blindness (onchocerciasis) transmission is a cross-border problem between neighbors Ethiopia and Sudan, specifically in the frontier between Metema *woreda* in Ethiopia and Gallabat in Sudan (see Figure 4). Recently, binational teams composed of members from the ministries of health of both countries have set an impressive example of collaboration by working together to collect over 6,000 blood samples.

Laboratories in each country will test these samples (3,000 on each side of the border) for Ov16 antibody, following the same protocol and under the auspices of the laboratory at the University of South Florida. If the specimens are negative, it could lead to a cross-border determination that onchocerciasis transmission has likely been halted, and a binational, coordinated decision to stop mass drug administration.

Success in disease control or elimination across international borders in Africa has so far been rare and difficult to replicate from one region to another. Yet the need to tackle diseases with cross-border transmission is critical if the goal of onchocerciasis elimination is to be realized. The Ethiopia-Sudan example shows how onchocerciasis programs can strengthen relationships between



The Carter Center-Ethiopia

A team works for onchocerciasis elimination in the border region of Ethiopia and Sudan (left to right): Worku Mulat, North Gondar Health Department-Ethiopia, River Blindness focal; Tewodros Seid, Carter Center-Ethiopia, statistician; the late Aseged Taye, Carter Center-Ethiopia, program officer; Oumer Shafi, Ethiopia Ministry of Health; Isam Zaroug, Sudan Ministry of Health; Ethiopian community guide; policeman, offered by Metema border district in Ethiopia; Geremew Haileyesus, Carter Center-Ethiopia.

neighboring countries, resulting in a common stand against disease threats.

Both governments, through their ministries of health, pursued a homegrown, simple, transparent, and effective approach to tackling cross-border onchocerciasis transmission. Local initiative and collegial relationships were able to drive the process, minimizing the need for drawn-out consultation with international agencies. The programs of both countries mobilized their technical teams, shared resources, secured invitation letters and visas for each other's team members, set specific and realistic objectives, and minimized bureaucratic red tape.

When a country team had more experience, effort was made to share that experience with the other team in a sustainable fashion. Plans were made to conduct epidemiological and entomological surveys as well as mass drug administration at the same time on both sides of the border. Periodic coordination meetings were held on each other's territory while "in the bush." Communication was regular and via email or mobile devices when the teams were not working together in the field.

This incredible partnership should serve as an example for other countries where disease transmission does not recognize political borders. **E**



Figure 4. Cross-border activity area.

Carter Center Assists in Over 60 Million Treatments in 2014

The Carter Center assisted multiple countries in the distribution of over 60 million treatments through mass drug administration in 2014. These 60 million doses were distributed in the fight against five neglected tropical diseases, benefiting nearly 39 million people.

Figure 5 shows the specific number of treatments that were assisted by each of the Carter Center’s health programs that use mass drug administration for disease treatment and prevention (river blindness, trachoma, lymphatic filariasis, soil-transmitted helminths, and schistosomiasis). **E**

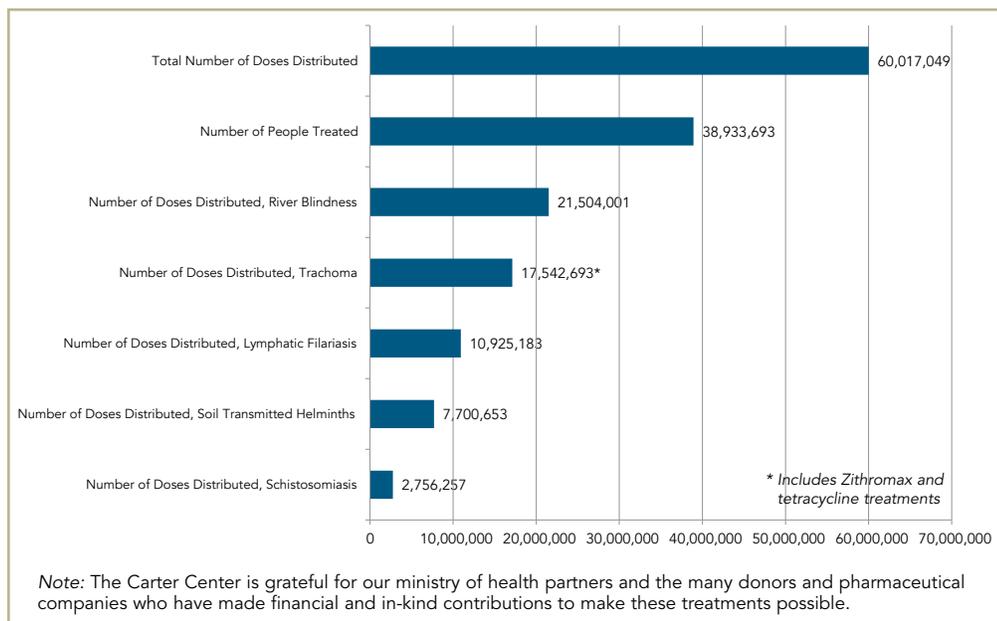


Figure 5. Mass drug administration assisted by The Carter Center, 2014.

Guinea Worm Cases Continue to Fall, 2014 and Early 2015

According to Carter Center figures, only 126 cases of Guinea worm disease were reported worldwide in 2014 (Figure 6), and only five cases of the disease have been reported and confirmed for January through June 2015, a reduction of 81 percent, compared with 27 cases reported during the same period in 2014 (Figure 7).

When the Center began leading the international campaign to eradicate the debilitating parasitic disease in 1986, there were an estimated 3.5 million Guinea worm cases occurring annually in Africa and Asia.

“Guinea worm eradication is closer to the finish line,” said former U.S. President Jimmy Carter. “We believe it

is very possible in the next few years.”

In 1991, there were 23,735 villages with endemic transmission of the waterborne Guinea worm disease in 21 countries in Africa and Asia. As of the end of 2014, there were only 30 endemic villages in four countries—all in Africa. South Sudan reported

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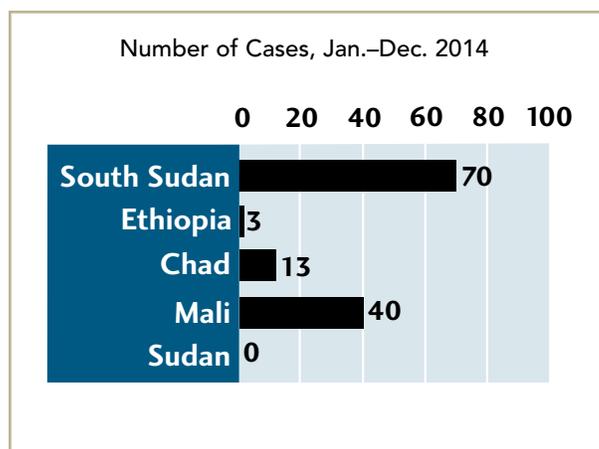


Figure 6. Reported cases of Guinea worm disease by country, 2014.

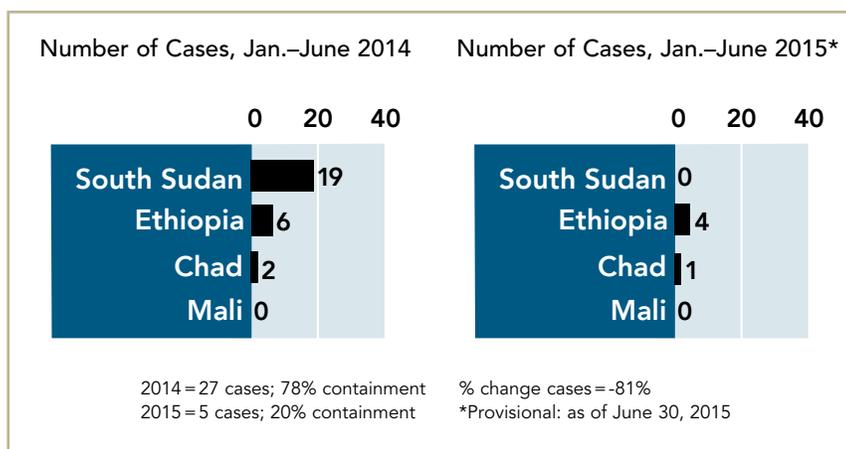


Figure 7. Reported cases of Guinea worm disease by country, January–June, 2014 and 2015.

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Louise Gubb

In Eastern Equatoria, a state in South Sudan, a child checks a water filter for holes to ensure protection from Guinea worm disease, which is contracted through unfiltered drinking water. Eastern Equatoria is ground zero in the Carter Center's fight to eradicate the ancient disease.

Guinea Worm Cases

continued from page 11

70 cases in 2014. Most of those cases were in Eastern Equatoria state. The remaining indigenous cases in 2014 were reported in isolated areas of Chad (13), Mali (40), and Ethiopia (3).

Considered a neglected tropical disease, Guinea worm disease (dracunculiasis) is contracted when people consume water contaminated with Guinea worm larvae. After a year, a three-foot-long worm slowly emerges from the body through a painful blister in the skin. In the absence of a vaccine or medical treatment, the ancient disease is being halted mainly through community-based interventions to educate and change behavior, such as teaching people to filter all drinking water and preventing contamination by keeping anyone with an emerging worm from entering water sources.

South Sudan—The 70 cases reported by South Sudan Guinea Worm Eradication Program (down from 113 in 2013) are considered a success in light of political and ethnic hostilities that broke out in December 2013 and spilled over into early 2014. Even given

circumstances of unrest and an isolated outbreak, the program continued to function at a high level by reducing and containing cases.

Ethiopia—The Gambella region of Ethiopia remains the nation's only Guinea worm-endemic area. In 2014, the federal ministry revamped the national Guinea Worm Eradication Program and expanded the network of villages under active surveillance (62 to 173). With only three reported cases in 2014, Ethiopia is positioned to stop transmission by the end of 2015.

Chad—Chad's program expanded health education and continued to investigate the unusual epidemiology of its Guinea worm cases in 2014, and the government is preparing additional control measures to address remaining transmission. Chad was the only country in the world to report Guinea worm cases from January through April 2015.

Mali—The conflict that began in Mali in April 2012 continues to delay interruption of Guinea worm disease transmission. In 2014, the program was partially operational in three regions and only slightly operational in one region. However, the program expanded the number of villages under active surveillance from 85 to 391. **E**