

EYE of the EAGLE



What's Inside

- 2 Trachoma Program Review
- 4 Profile: Dr. Balgesa Mohamed Elkhair Babiker
- 5 Ethiopia's COVID-19 MDA Strategy
- 5 Dr. Angelia Sanders Elected Chair of Trachoma Coalition
- 6 River Blindness Program Review
- 8 Mapping River Blindness in Ethiopia
- 9 Onchocerciasis Committee's Recommendations for Nigerian States
- 10 Halting MDA for Lymphatic Filariasis in Ethiopian Zones
- 10 Guinea Worm Disease Update
- 11 In Memoriam
- 12 Family Foundations Fighting Trachoma

Above: Nana Massuuda's home in the Zinder region of Niger now has a latrine, which will help control the spread of trachoma

THE
CARTER CENTER



Trachoma Program Review Focuses on Partnership, Compassion

KEY TAKEAWAY: Despite the COVID-19 pandemic, the Carter Center-assisted programs were highly productive, conducting 8,274 trachomatous trichiasis (TT) surgeries, distributing more than 700,000 doses of antibiotics, and building 14,252 latrines.

After a year of challenges and hardships worldwide caused by the COVID-19 pandemic, the Carter Center's 2021 Trachoma Control Program Review focused on the importance of partnership and resilience in the fight against the world's leading infectious cause of blindness.

Every year, the program invites partners and staff from around the world to discuss the achievements and challenges of the past year and the plans toward achieving the elimination of trachoma as a public health problem. This year's review, held as a virtual conference March 22–23, carried the theme “The Power of Partnership: Achieving Success with Compassion.” Attending the review were representatives from the ministries of health and Carter Center offices in the five countries where the Center currently operates: Ethiopia, Mali, Niger, South Sudan, and Sudan, as well as many program partners and donors.

Since 1999, the Carter Center's Trachoma Control Program has assisted nine countries in the implementation of the SAFE strategy—surgery, antibiotics, facial cleanliness, environmental improvement—in the fight against blinding trachoma. Over that time, the Center has supported trachomatous trichiasis (TT) surgeries for 859,376 people and assisted in distributing more than 210 million doses of antibiotics. The Center has also contributed to health education programs and activities in more than 85,000 schools.

These outcomes reflect a tremendous cumulative success as the Carter Center-assisted countries edge closer to achieving elimination thresholds.

Despite COVID-19, the Carter Center-assisted programs were highly productive. In 2020, a total of 8,274 TT surgeries were conducted, 68.5% of which were provided to women; more than 700,000 doses of antibiotics were distributed; 14,252 latrines were constructed; and health education toward increasing facial cleanliness and environmental improvement continued in communities and schools when possible.

Since 1999, the Center has supported trachomatous trichiasis (TT) surgeries for 859,376 people and assisted in distributing more than 210 million doses of antibiotics.

The two-day review focused on success in the face of a year of adversity. The Carter Center board chair, Jason Carter; chief executive officer, Paige Alexander; and vice president of health programs, Dr. Kashef Ijaz, opened the program review by welcoming the participants and leading all in a moment of silence. The moment of silence conveyed goodwill and acknowledged the collective human trauma of the past year due to the pandemic, systemic racial injustice in the United States, and issues of inequity across the globe. This was followed by another goodwill recognition from

Dr. Tedros Adhanom Ghebreyesus, director-general of the World Health Organization (WHO). Dr. Mwelecele Ntuli Malecela, neglected tropical disease director in the WHO Department of Control of Neglected Tropical Diseases (NTDs), presented an overview on “Ending the Neglect to Attain the Sustainable Development Goals: A Road Map for Neglected Tropical Diseases 2021–2030.” This strategic document and advocacy tool focuses on strengthening the programmatic response to NTDs through shared goals and disease-specific targets. Malecela also gave a brief update on the current COVID-19 situation.

In her opening remarks, Kelly Callahan, the Carter Center's Trachoma Control Program director, referenced a quote by President Carter, “We must adjust to changing times and still hold to unchanging principles.” Although 2020 was a time of substantial change, the Center's principles of hope, compassion, and interconnectedness have not changed, she said. Callahan also noted the loss of two “trachoma giants” in 2020, Dr. Julius Schachter and Dr. Tebebe Yemane Berhan. Their accomplishments toward eliminating trachoma as a global public health problem were tremendous, and both men were true pioneers within their fields.

Throughout the program review, country-specific presentations were interspersed with multiple illustrations of how The Carter Center and partners remain resolute in mitigating



Two Ethiopian children demonstrate face washing, a key part of preventing trachoma. The Carter Center assisted five countries with trachoma prevention in 2020.

challenges. Dr. Jeremiah Ngondi of RTI International, Dr. Harry Pickering of the University of California—Los Angeles, and Dr. Scott Nash of The Carter Center presented a combined focus on “persistent” trachoma. These presentations focused on the need to use the existing SAFE strategy coupled with data-driven enhancements and adaptations to improve and accelerate trachoma elimination.

Dr. Angelia Sanders presented an innovative approach using social marketing in a qualitative face-washing study in South Sudan. Dr. Jeremy Keenan of the Francis I. Proctor Foundation presented results of the ongoing Amhara, Ethiopia, region study focused on the impact of water, sanitation, and hygiene on trachoma.

Dr. Kristin Saarlans, director of the Health Campaign Effectiveness Coalition of the Task Force for Global

Health, gave the participants an overview of the coalition’s work and opportunities to engage. The overview was followed by Dr. Fahd Naufal, Johns Hopkins University, and Cassidy Whitson, U.S. Centers for Disease Control and Prevention, providing a combined session on photography usage in the global trachoma program.

Julie Jenson, director of corporate social responsibility of Pfizer Inc, provided an update of Pfizer’s ongoing commitment to the trachoma elimination program worldwide. Jenson’s presentation was followed by Dr. Paul Emerson of the International Trachoma Initiative (ITI) of the Task Force for Global Health providing an update on the global status of the donation program and the commitment of ITI to improving processes and responding to immediate national program needs. Scott McPherson of

RTI International, the outgoing chair of the International Coalition for Trachoma Control, rounded out the updates with a presentation focused on current membership and strategic planning goals. Dr. David Addiss, director of the Focus Area for Compassion and Ethics of the Task Force for Global Health, presented on the importance of compassion and ethics within global public health.

Finally, Dr. Kashef Ijaz closed the meeting with a summary of the two-day discussions and the success exemplified through the power of our partnership. This year’s program review demonstrated that through collaboration, compassion, and resilience, there can be incredible success in the face of adversity. Ijaz emphasized that The Carter Center and its partners remain committed to the elimination of trachoma as a global public health problem.

Sudanese Doctor Calls Vision 'the Most Important Thing'

Dr. Balgesa Mohamed Elkhair Babiker Elshafie has dedicated her life to helping her fellow Sudanese.

Dr. Balgesa, as her colleagues call her, is the Republic of Sudan Ministry of Health's national coordinator for the Trachoma Control Program. An ophthalmologist, she has held this position for over seven years, though she has worked for the ministry for more than 20 years in a range of roles. She has overseen over 10 million antibiotic treatments distributed through mass drug administration campaigns; more than 10,000 people receiving sight-saving surgery; many program evaluation surveys across the country; program expansion into the Darfur region following a decade of insecurity; and enormous advocacy efforts to increase access to water and sanitation in trachoma-endemic communities. She also has trained ophthalmic medical professionals around the world on how to clinically grade for trachoma during community-based disease surveillance surveys.

Balgesa was born in Omdurman, Sudan's largest city, across the Nile River from Khartoum. Her love of science and wanting to help people pushed her to get a Bachelor of Science from the University of Khartoum and then a Bachelor of Medicine and Surgery from the University of Cluj-Napoca in Romania. After completing her medical degree, she returned to Sudan and worked for the Sudan National Service, a two-year public service posting. It was during this time she found her love of ophthalmology. She received advanced training and certification in ophthalmology from the Sudan Medical Specializations Board. Balgesa said the reason she does her work is "to free people from blindness and to save sight, which I believe is the most important thing that someone has."

Though the Sudan program has been affected by insecurity, change of government, inflation, and difficulty



Balgesa Mohamed Elkhair Babiker Elshafie is the Republic of Sudan Ministry of Health's national program coordinator for trachoma.



Balgesa examines the eyes of a child.

reaching some communities due to poor infrastructure, Balgesa remains optimistic about the future of the trachoma program. She is encouraged by the program's success and believes that with continued support, trachoma can be controlled, prevented, and eventually eliminated from Sudan. This vision for the future captures her desire "to help as many people as I can, especially those who are not able to access eye care facilities."

Ethiopia Health Workers Adjust Strategy for COVID-19

In early 2020, the world turned upside down when COVID-19 began its spread around the globe. In response, the World Health Organization on April 1, 2020, advised all neglected tropical disease programs to suspend mass outreach campaigns to reduce the spread of the virus. These activities included mass drug administration (MDA), which is how millions of doses of Zithromax®, donated by Pfizer Inc and tetracycline eye ointment are provided to communities at risk of trachoma.

In July 2020, programs were permitted to restart mass campaigns but had to consider ways to reduce the risk of COVID-19 transmission.

Since 2001, The Carter Center has been assisting the Amhara Regional Health Bureau in the fight against trachoma. Since then, an estimated 187 million doses of antibiotic have been distributed. Currently, an estimated 17 million people in Amhara receive annual MDA to treat and prevent the spread of trachoma. This requires the dedication of thousands of individuals each year, including kebele (village) leaders, woreda (district) supervisors, health extension workers, and community volunteers, known as the Health Development Army.

Under the standard approach, health extension workers and Health Development Army members distribute the yearly dose of Zithromax in central locations, calling residents to gather at local health centers. However, due to COVID-19 social distancing protocols, that approach had to be suspended. Instead, the health workers traveled house to house with their treatment supplies. They also carried personal protective equipment and hand sanitizer required to prevent COVID-19 transmission. The visits took place outdoors and workers first asked a series of screening questions.

Health extension workers enlisted the support of kebele leaders, town criers, and religious congregations to notify communities of upcoming MDA. The MDA, which previously took one week to complete, required additional days to reach all households, with some requiring as many as 12 days. Each team treated an average of 49 households per day. In some areas, 50 or more households could be visited each day, while in places with challenging terrain, only 35 households could be visited per day.

A total of 6,229,707 individuals were treated in this initial house-to-house campaign conducted by nearly 17,000 health workers and Health Development Army members.

Carter Center's Sanders Elected Chair of Trachoma Coalition

Dr. Angelia Sanders, associate director of the Carter Center's Trachoma Control Program, was elected in March 2021 as chair of the International Coalition for Trachoma Control (ICTC), a coalition of over 50 nongovernmental, donor, private sector, and academic organizations working to support the World Health Organization Alliance for the Global Elimination of Trachoma by 2020 (GET2020 Alliance).



Angelia Sanders

Along with Sanders, the ICTC membership elected PJ Hooper, deputy director, International Trachoma Initiative, as vice chair; and Scott McPherson, senior program manager, RTI International, as immediate past chair.

In the coming months, the executive group will lead ICTC through two new areas of work: first, an updated global cost analysis of the delivery of the SAFE strategy, which will, second, inform a new strategic plan that aligns with the new global NTD Road Map from the World Health Organization (WHO). The SAFE strategy refers to the four-pronged approach to controlling trachoma through surgery, antibiotics,

facial cleanliness, and environmental improvement.

WHO launched in March a new strategy on WASH (water, sanitation, and hygiene) and neglected tropical diseases (NTDs) in support of achieving the road map targets. It sets out the role of WASH for the prevention, care, and management of NTDs and the actions needed to ensure that WASH efforts result in improved and sustained health and well-being. The strategy builds on collaborations over the past decade and calls for strengthened partnerships to improve access to WASH among populations at the highest risk of diseases of poverty.

While the original 2020 goal of global elimination of trachoma as a public health problem was not realized, the new road map assesses current challenges and barriers and sets out an updated course of action. The road map recognizes what can be achieved when cross-sectoral partnerships are formed toward defined goals. The trachoma community has evidenced this with a 91% reduction in the number of people at risk of trachoma since 2002 and 11 countries validated for eliminating trachoma as a public health problem across all endemic regions.

River Blindness Program Review: Progress Despite Pandemic

KEY TAKEAWAYS: River blindness program delivered 25 million treatments in 2020; an additional 15 million treatments provided for lymphatic filariasis, schistosomiasis, and soil-transmitted helminths.

Due to the COVID-19 pandemic, the Carter Center’s 25th River Blindness Elimination Program Review was held virtually March 10–12, 2021, for Center-assisted programs to assess 2020 achievements, challenges, and operational research and make recommendations for 2021 activities. The review was attended by ministry of health officials, key partners, and donors.

Since 1996, the Center has worked with ministries of health to provide preventive treatment for river blindness (onchocerciasis), together with health education, training, and impact evaluation. The program currently assists six countries: Brazil, Ethiopia, Nigeria, Sudan, Uganda, and Venezuela. It previously assisted Colombia, Ecuador, Mexico, and Guatemala, which all have received verification of elimination from the World Health Organization (WHO).

Program activities in the Carter Center-assisted countries were significantly impacted in 2020 by the pause in community-based activities recommended by WHO to prevent transmission of COVID-19. Nevertheless, The Carter Center assisted with the distribution of 25,292,599 Mectizan® (donated by Merck & Co., Inc.) treatments through river blindness mass drug administration (MDA) programs, reaching 41% of the 2020 target. The program’s cumulative treatments since 1996 have now reached 447 million. The 2021 target is 67 million treatments under the expectation that programs will safely resume full-scale MDA.

The meetings also reviewed Center-assisted MDA activities for three other neglected tropical diseases that are selectively integrated with river blindness elimination efforts. The lymphatic filariasis elimination (LF) programs in Ethiopia and Nigeria reported 9,022,012 treatments, 41% of the target. Albendazole (donated by GSK) is administered concurrently with Mectizan for LF elimination. Nigeria’s schistosomiasis and soil-transmitted helminths

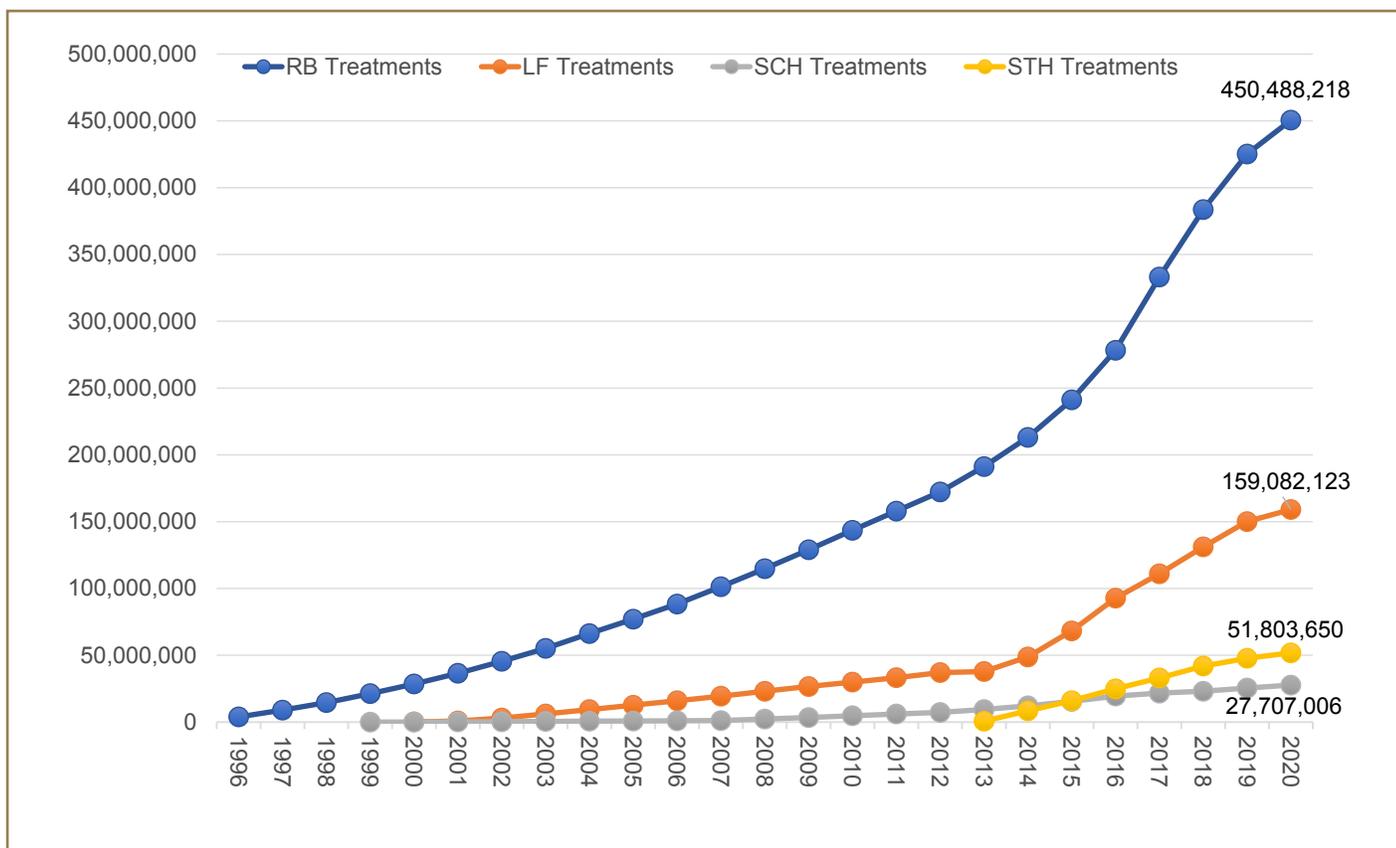


Figure 1. Cumulative Treatments Delivered With Carter Center Assistance by Disease, 1996–2020. Note: RB = river blindness; LF = lymphatic filariasis; STH = soil-transmitted helminths; SCH = schistosomiasis.

control programs reported 2,222,211 treatments for schistosomiasis (48%) and 4,062,982 treatments for helminths (34%). Praziquantel for schistosomiasis is donated by Merck KGaA of Germany. The medicines used for soil-transmitted helminths treatment are donated by GSK (albendazole) and Johnson & Johnson (mebendazole).

The Carter Center assisted with a total of 41 million treatments for NTDs in 2020, with 68 million targeted in 2021. Cumulative treatments for all four diseases reached over 686 million in 2020 (see Figure 1).

These accomplishments would not have been possible without the Center's ministry of health partners and a grassroots network of community-directed drug distributors and community supervisors who volunteered their time to treat their communities. A combined 449,630 of these community-level workers participated in 2020, all of whom were managed by district-level ministry of health personnel and trained with the assistance of The Carter Center.

Ethiopia

Ethiopia's Ministry of Health adopted a policy in 2012 of twice-per-year MDA for river blindness transmission elimination. In 2020, The Carter Center assisted with the distribution of 12,393,270 Mectizan treatments, 50% of the target because only one of two planned rounds of MDA took place due to COVID-19. Over 285,000 community drug distributors were trained in 2020. Mapping efforts continued, identifying several new areas of potential transmission. The current treatment goals for 2021 are approximately 29 million for river blindness and about 2.8 million for lymphatic filariasis. The Carter Center's work in Ethiopia is based on partnerships with the Ministry of Health, the Lions Clubs of Ethiopia and the Lions-Carter Center SightFirst Initiative, as well as the Reaching the Last Mile Fund, a multidonor fund initiated and led by His Highness Sheikh Mohamed bin Zayed Al Nahyan, the Crown Prince of Abu Dhabi.

Nigeria

The Carter Center in Nigeria operates an integrated NTD program working toward river blindness and lymphatic filariasis (LF) elimination, and schistosomiasis and soil-transmitted helminths control. The Carter Center currently assists river blindness and lymphatic filariasis treatments in seven southern states in Nigeria; Plateau and Nasarawa states stopped MDA for LF in 2013 and river blindness in 2018. All nine states have active schistosomiasis and soil-transmitted helminth treatment programs.

The program assisted with 24.5 million treatments for

the four diseases in 2020, 34% of a combined target of 71.9 million. The combined treatment target for 2021 for the four diseases is 70,181,652.

In addition to MDA for LF in southern Nigeria, The Carter Center supports LF morbidity management and disability prevention in Plateau and Nasarawa. These two states reported on their work to provide adequate care for those suffering from chronic lymphedema and hydrocele, which persist even after LF transmission has been eliminated. In 2020, eight new hope groups—support groups for people with LF—were established, 48 health personnel were trained to lead the hope groups, and 86 new members began participating. The program also supported 235 hydrocele surgeries in 2020.

The Carter Center currently assists river blindness and lymphatic filariasis treatments in seven southern states in Nigeria.

The Carter Center's work in Nigeria is based on partnership with the federal and state ministries of health, USAID's Act to End NTDs East program, led by RTI International, and the IZUMI Foundation.

Sudan

In 2020, Sudan suffered from political instability, hyperinflation, and fuel shortages. These factors, combined with the COVID-19 pandemic, prevented MDA in Blue Nile state, one of two remaining active river blindness transmission foci, and prevented post-treatment surveillance activities in Gedarif state. The Carter Center's Conflict Resolution Program has established a peace-health council in Radom, South Darfur, to assist with MDA. The 2021 river blindness treatment target is 404,750. There are potential cross-border transmission areas on the eastern border of Sudan with Ethiopia, and it is important for the Sudan program to collaborate with Ethiopian counterparts to conduct coordinated cross-border activities.

Uganda

Uganda, where COVID-19 transmission rates remained relatively low throughout 2020, was one of the first countries globally to resume MDA for NTDs. Uganda administered approximately 2.8 million Mectizan treatments in 2020, reaching 95% of its target. All MDA is

continues on page 8

River Blindness Review

Continued from page 7

under a twice-per-year strategy. For 2021, the target is 2.9 million treatments, which will take place in the large Madi-Mid North focus bordering South Sudan, and the Lhubiriha focus bordering the Democratic Republic of the Congo. Progress is being made in coordinated cross-border assessment activities with all three countries. The Uganda program receives support from USAID's Act to End NTDs East program, led by RTI International, and ELMA Philanthropies.

Onchocerciasis Elimination Program for the Americas (OEPA)

OEPA is a coalition led by The Carter Center that includes the ministries of health of the affected countries in the Americas, the Pan American Health Organization, and other partners. The OEPA initiative has stopped treatments in 94% of the population previously endemic for river blindness, and four countries have received verification of elimination from WHO.

The last active transmission zone is in the Amazon Rainforest bordering Brazil and Venezuela, called the Yanomami focus area after the indigenous people residing there. In 2020, OEPA assisted Brazil and Venezuela in delivering 32,361 Mectizan treatments, representing 55% of the 2020 treatment target. While Brazil was able to offer ivermectin treatment alongside vital health services that were not precluded by the COVID-19 pandemic and thus meet 79% of its treatment goal, Venezuela conducted standalone treatments that were put on hold based on WHO guidelines and resumed late in the year. With added challenges pertaining to the availability of fuel and flights to visit many of its endemic communities, Venezuela was only able to reach 32% of its treatment goal in 2020. Seventy-five percent of these were provided by residents of the endemic communities who serve as indigenous health agents and are proving vital in this challenging area.

The OEPA program received financial support from USAID, Merck & Co., Inc., Lions Clubs International Foundation, and the Global Institute for Disease Elimination in 2020.

Ethiopia River Blindness Mapping Nears Completion

As part of its campaign to eliminate transmission of river blindness, Ethiopia embarked on a multiyear effort to “map” the disease throughout the country starting in 2015. Of its more than 900 districts, only 17 await classification.

Earlier mapping studies relied on rates of superficial skin nodules as an indicator of infection in communities. Nodules form when adult *Onchocerca volvulus* worms pair together under the skin. While an easy and inexpensive indicator, nodules are not commonly found when the level of transmission is low. Persistent low-level transmission can increase over time or spread to neighboring areas. When elimination is the goal, all transmission must be stopped. Serological testing of small blood samples to measure antibodies to *O. volvulus* worms is far more sensitive and specific than nodule assessments.

Contemporary mapping studies, led by the Ethiopian Public Health Institute and supported by The Carter Center, follow a multiphase approach as recommended by the Ethiopia

Of Ethiopia's more than 900 districts, only 17 await classification.

Onchocerciasis Elimination Advisory Committee. In the first phase, maps and satellite imagery are used to exclude districts deemed ecologically unsuitable for *Simulium* black flies that breed in rapidly flowing rivers. Next, entomologists identify “first line” or high-risk villages. More than 3,000 such sites have been visited to date. Once a village is identified, blood

samples are collected from around 100 village residents to test for Ov16 antibodies. Advisory committee guidelines indicate a district should start mass drug administration if 2% or more of individuals are antibody-positive across three villages in a district.

The mapping effort focused on 667 districts of unknown endemicity, starting with those adjacent to districts under treatment. Investigators found 158 to be ecologically unsuitable for transmission. Blood samples have been collected from 492 districts. With nearly all samples analyzed, 52 of those districts have met transmission thresholds and mass drug administration has begun for 5.5 million people across the country. However, an additional 2.5 million await initiation of treatment due to funding limitations. The remaining 17 districts in need of mapping are all in eastern Ethiopia.

Committee Recommends Status Changes for 12 Nigerian States

KEY TAKEAWAY: Plateau and Nasarawa states are first in Nigeria to achieve elimination of onchocerciasis transmission.

The 12th meeting of the National Onchocerciasis Elimination Committee of Nigeria was held May 18–19, 2021, in a virtual format due to the COVID-19 pandemic. Organized by the Federal Ministry of Health with support from The Carter Center, the meeting included representation from the Mectizan Donation Program, RTI International, United States Agency for International Development, The Bill and Melinda Gates Foundation, Sir Emeka Ofor Foundation, and numerous other implementing partners. The committee made three key recommendations relating to states assisted by The Carter Center, which began onchocerciasis elimination activities in 1992. All recommendations were accepted by the Federal Ministry of Health.

The committee recommended that Plateau and Nasarawa states be classified as “onchocerciasis transmission eliminated.” This recommendation was based on post-treatment surveillance activities conducted since the halt of Mectizan® (donated by Merck & Co., Inc.) mass drug

administration (MDA) in 2018. These are the first states in Nigeria to achieve this status.

Three states, including Delta state, also assisted by The Carter Center, presented data from human serological surveys and black fly entomological assessments indicating that they have achieved “onchocerciasis transmission interrupted” status. Due to this success, around 6 million people no longer require MDA.

Six states, including four assisted by The Carter Center—Abia, Anambra, Enugu, Imo—presented data indicating that they have achieved “onchocerciasis transmission suspected interrupted” status. These states will commence entomology and serology assessments to inform a future stop-MDA decision.

In total, the meeting resulted in status changes for 12 of the 36 states in Nigeria (see Figure 2). Despite the virtual meeting format, these results invigorated the participants and generated high accolades from all partners present, including Nigeria’s new national coordinator for neglected tropical diseases, Dr. Nse Michael Akpan.

The National Onchocerciasis Elimination Committee of Nigeria is supported in part by USAID’s Act to End NTDs East program, led by RTI International.

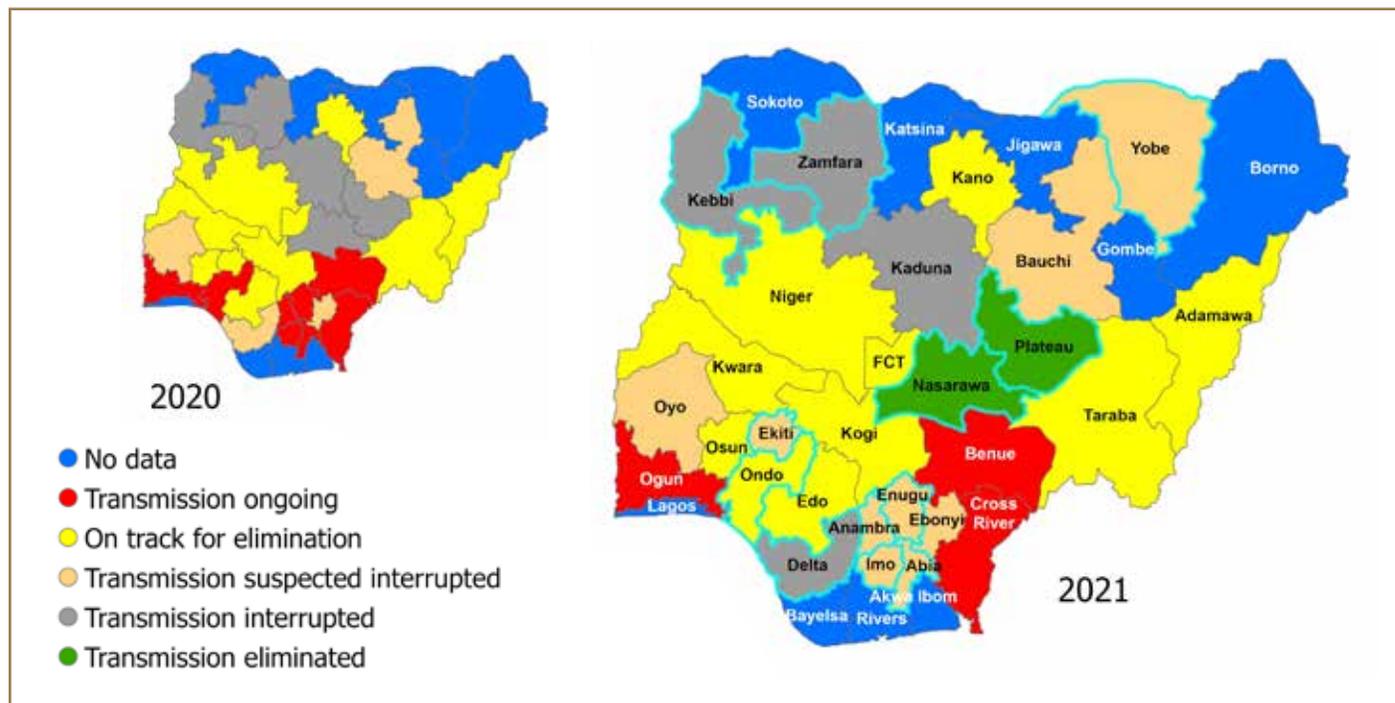


Figure 2. The onchocerciasis (river blindness) status of 12 Nigerian states was changed this year, based on committee recommendations. Two states have now eliminated transmission and four other states are suspected of having eliminated transmission.

Ethiopian Zones Able to Halt MDA for Lymphatic Filariasis

About 1.1 million people in Ethiopia now live in areas free of lymphatic filariasis transmission.

The Carter Center began supporting the Ministry of Health’s lymphatic filariasis elimination program in Ethiopia with a small pilot in the Gambella region in the west in 2009. The strategy was based on the addition of albendazole (donated by GSK) treatment to mass drug administration (MDA) of Mectizan®, donated by Merck & Co., Inc., which was already being provided for river blindness elimination.

The Center’s assistance has grown since to reach five regions across Ethiopia, from northwestern Amhara to the southernmost regions served by The Carter Center in Ethiopia—South Omo zone in Southern Nations, Nationalities, and Peoples Region (SNNPR).

The last few years have seen remarkable progress. Nearly all—90% of districts—of West Omo and Bench Sheko zones (formerly together as Bench Maji zone) in SNNPR, which started MDA for lymphatic filariasis between 2012 and 2015, have now met World Health Organization criteria to stop MDA. This adds to similar

successes in neighboring zones of Gambella region and in parts of Amhara region.

After stopping mass drug administration, areas progress to a post-treatment surveillance phase to monitor whether transmission of lymphatic filariasis resumes or is imported from neighboring areas—a particular concern given the high mobility within Ethiopia and with neighboring countries Sudan and South Sudan.

This accomplishment was made possible with the support of the Lions Clubs International Foundation and the Reaching the Last Mile Fund.

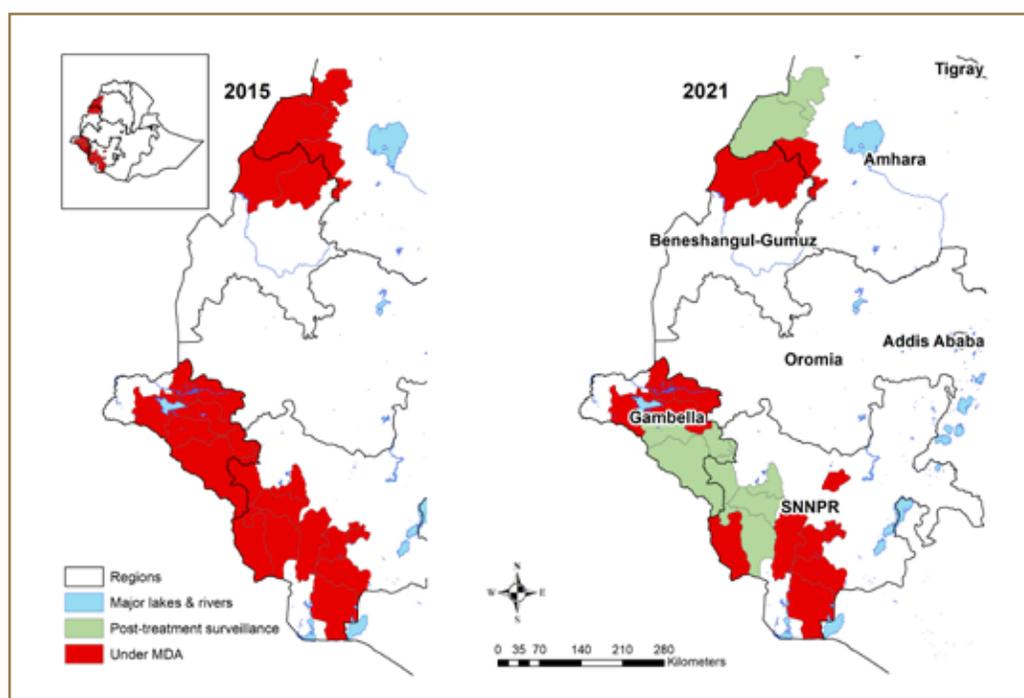
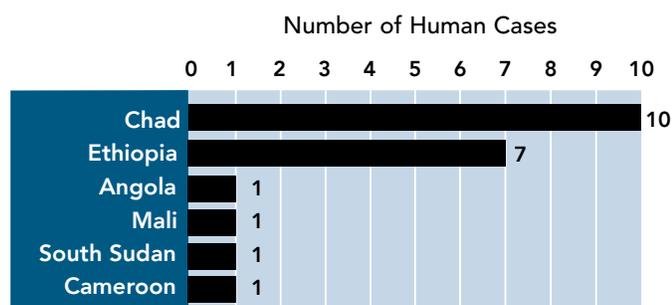


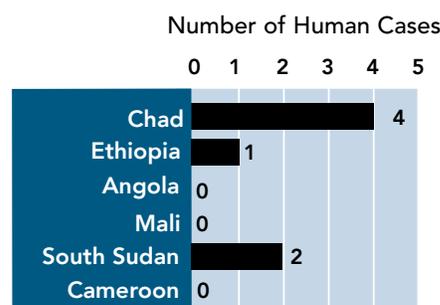
Figure 3. Status of mass drug administration (MDA) for lymphatic filariasis in areas of western Ethiopia, 2015 and 2021.

Guinea Worm Disease Update

January–May 2020



January–May 2021*



*Provisional

In Memoriam: Center Pays Tribute to Three Health Warriors

Dr. Nabil Aziz Awad Alla

Dr. Nabil Aziz Awad Alla, the Carter Center's longtime country representative in Sudan, died May 20, 2021. Dr. Nabil in 2017 was an inaugural recipient of the Reaching the Last Mile Award, given in recognition of his decades of selfless work for public health in Sudan. He once made a field visit to a town while it was under armed siege; during a Guinea worm disease surveillance trip, he nearly died of cerebral malaria.

Under Nabil's leadership, Sudan stopped transmission of Guinea worm in 2002 and has not had a case since. Transmission of river blindness was interrupted in Sudan's vast Abu Hamad focus in 2012, an achievement once



Nabil Aziz Awad Alla was the longtime country representative for The Carter Center in Sudan.

thought impossible. "Dr. Nabil is fearless. I never heard him say, 'I don't want to go there, it's a little too dicey,'" said Mark Pelletier, associate director of the U.S. Centers for Disease Control and Prevention's Overseas Operations unit. Pelletier formerly was a Guinea Worm Eradication Program technical advisor in Sudan. "His courage gave me courage." The Carter Center and the greater public health community will miss Dr. Nabil's courage, tenacity, and commitment.

Dr. Victor Py-Daniel

Dr. Victor Py-Daniel, a renowned researcher in the fields of epidemiology, ethnoepidemiology, entomology, zoology, and vector-borne and parasitic tropical diseases, knew from an early age he would become a biologist. After earning his first degree in biological sciences from the University of Brasilia in 1976, he had a two-year internship in a prestigious parasitology laboratory, which set the stage for what would come. Py-Daniel had a lifelong devotion to the population and diseases of the Amazon. From his position as researcher with the National Institute for Amazon Research, he conducted important studies on tropical disease vectors and their effect on indigenous populations. He was one of the pioneers of the Onchocerciasis Elimination Program of Brazil, contributing many scientific publications and serving on Brazil's National Onchocerciasis Committee. A longtime friend of the Carter Center's



Victor Py-Daniel (bottom right) attended the 29th Inter-American Conference on Onchocerciasis in Brasilia, Brazil, November 2019. Also pictured: (standing, left to right) Marilza Herzog, Claudete Schuertz, Giovanini Coelho, (seated, left to right) Joao Batista Furtado Vieira and Luis Erchila.

Onchocerciasis Elimination Program for the Americas, he will be sadly missed.

The Honorable World Laureate Lion Dr. Tebebe Yemane Berhan

In February 2021, the Honorable World Laureate Lion Dr. Tebebe Yemane Berhan passed away. Tebebe was a champion of trachoma and river blindness intervention, an ambassador for Guinea worm eradication, and a true public health leader in his home country of Ethiopia and across Africa. His tireless commitment to fighting these diseases leaves an everlasting impact and legacy in the global health community. Tebebe gave all he had to improve lives and to end unnecessary suffering. His soul will rest in peace, knowing he made a difference.



Tebebe Yemane Berhan (right) shared a laugh with former U.S. President Jimmy Carter (left) and former Carter Center board member John Moores during a trip to Ethiopia.

Family Foundations Play Key Role in Trachoma Program

Since its establishment in 1998, the Carter Center's Trachoma Control Program has assisted in antibiotic distribution, corrective eyelid surgeries, latrine construction, and health education efforts to control and prevent blinding trachoma. The Carter Center maintains this critical work thanks to the flexible, committed support of dedicated family foundation partners. While smaller in size, these donors provide invaluable contributions.

John and Kathleen Schreiber Foundation

The John and Kathleen Schreiber Foundation, a philanthropy for health, educational, and social service causes, has supported the Carter Center's peace and health efforts since its establishment in 2005. The Schreiber Foundation makes critical contributions to the Center's trachoma intervention work in South Sudan. With the foundation's assistance, the Trachoma Control Program has pledged to assist South Sudan with its goal to eliminate the blinding disease as a public health problem by 2030.

"Kathy and I have been inspired by the Carter Center's long-term commitment to fighting health inequities and partnering with communities around the world to mitigate preventable disease," John Schreiber said. "The progress being made on the Center's Trachoma Control Program, even in the midst of a global pandemic, is astounding, and we're grateful to be involved in this important initiative."

Manaaki Foundation

Another Carter Center partner, the Manaaki Foundation, founded by Sue Crothers-Gee and Bill Gee, has supported the Center's trachoma intervention work in Mali and Niger since 2016. The Chicago-based foundation supports environmental, higher education, and international humanitarian causes. With the foundation's support, the Trachoma Control Program in Mali and Niger focuses on corrective eyelid surgeries and health and hygiene education initiatives.

"The Manaaki Foundation is a proud supporter of the Carter Center's trachoma work," Sue Crothers-Gee



An Ethiopian boy pauses during a lesson about trachoma prevention in school. The John and Kathleen Schreiber Foundation, the Manaaki Foundation, and William H. Donner Foundation have provided key support to the Carter Center's Trachoma Control Program.

and Bill Gee said. "Great strides have been made, but we must stay vigilant and continue to support this incredibly important work."

William H. Donner Foundation

The William H. Donner Foundation began supporting The Carter Center in 2012, providing unwavering support to the Center's work in Amhara, Ethiopia, the region and country with the world's highest known burden of trachoma. The foundation's focused dedication to this region has helped the program achieve significant progress in improving sanitation and delivering health interventions, leading to a noted decrease in disease prevalence. The foundation supports diverse causes, including arts and culture, public policy, women's issues, and more.

The Carter Center celebrates its partnerships with the John and Kathleen Schreiber Foundation, the Manaaki Foundation, and William H. Donner Foundation, along with other family foundation partners, for their shared dedication to improving health conditions worldwide and providing people the agency to create a brighter future free from blinding trachoma.

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