EYE of the EAGLE

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Trachoma Program Has Eye on 2020 Goal

The 17th Annual Trachoma Program Review was held March 7–9, 2016, at The Carter Center in Atlanta and provided an opportunity for staff to assess the status of each national program. The theme was "All Eyes on 2020," reminding all partners

to focus on the goal of eliminating blinding trachoma globally by 2020. Representatives from the ministries of health and Carter Center field offices in the six countries where the Center currently provides assistance—Ethiopia, Mali, Niger, Sudan, South Sudan, and Uganda—were in attendance to present achievements and challenges from the past year.

In 2015 The Carter Center assisted in 83,434 eyelid surgeries, more than 60 percent of which were provided to women, who are twice as likely as men to suffer from the blinding disease. The Center also assisted in the distribution of 16,696,716 doses of



A boy in Zege, Ethiopia, takes one of the more than 16 million doses of Pfizer-donated Zithromax distributed with assistance from The Carter Center in 2015.

Pfizer-donated Zithromax[®] (azithromycin). More than 8,000 people were trained to provide health education, and 319,855 latrines were constructed.

Special attention was given to operational research, especially in the Amhara *continues on page 2*

58 Million NTD Treatments Surpassed in 2015

The Carter Center River Blindness Elimination Program held its 20th annual program review March 2–4, 2016, at its Atlanta headquarters.

Since 1996, the Carter Center's river blindness program has worked with ministries of health to provide treatment, health education, and training in 10 countries. In 2015, The Carter Center assisted in a total of 27,966,346 ivermectin treatments (Mectizan[®], donated by Merck) for river blindness, a 30 percent increase from 2014 (see Figure 1) and 91 percent of the treatment target. The program's cumulative treatments since 1996 total 241 million.

A goal of 42 million treatments has been set for 2016, an increase of 51 percent over 2015 levels. The increase is necessary to meet the disease elimination goal of 2020, which requires a twice-per-year treatment strategy.

Likewise, high 2015 treatment coverage was also reported for Carter Center–assisted mass drug administration activities for several other neglected tropical diseases (NTDs), including lymphatic filariasis (LF) in Ethiopia *continues on page 5*

Electronic Edition

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Trachoma Week Reaches 9.4 Million in West Amhara

Ambassador (Ret.) Mary Ann

Peters, Carter Center CEO, helped kick off the 15th Trachoma Week in the West Amhara region of Ethiopia in late January.

Joining Ambassador Peters were partners from Lions Clubs International Foundation (LCIF); local Lions Clubs members; representatives from the International



In Ethiopia, Chairperson of LCIF Board of Trustees Joe Preston, Amhara Regional State President H. E. Mr. Gedu Andargachew, Lions Clubs International Foundation Board Member Hon. World Laureate Dr. Tebebe Berhan, and Carter Center CEO Ambassador (ret.) Mary Ann Peters cut traditional bread together during the launch of Trachoma Week. Trachoma Initiative, Abbott, the William H. Donner Foundation, and Pfizer; and dignitaries from the federal Ministry of Health and the Amhara National Regional State.

During the weeklong event, 9.4 million people in 1,828 villages in West Amhara received a sightsaving drug, about 92 percent of the targeted population. Over 30,000 people supported this immense effort, including 8,000 government health officials working at the zone, district, and community levels and 25,000 health volunteers. Trachoma Week occurs twice per year in the Amhara region, once in West Amhara and once in East Amhara, providing the entire at-risk population the opportunity to receive antibiotics.

In addition to receiving Pfizer-donated Zithromax[®] during Trachoma Week, community members learned about the SAFE strategy for trachoma control.

Ambassador Peters and the partners who attended the event's celebratory launch saw all components of the SAFE strategy in action.

"It was inspiring to meet people in village after village boasting about their latrines and to see schoolchildren demonstrating how they wash their faces, both elements of the SAFE strategy," said Ambassador Peters. "And the secret sauce that enables the Carter Center–assisted program to reach so many millions of people in just one week is our multiple partnerships with the Ethiopian government, the Lions of Ethiopia, and the tens of thousands of volunteers who work to make each mass drug administration more successful than the last."

Trachoma Review

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region of Ethiopia. Dr. Scott Nash, epidemiologist for the Center's Trachoma Control Program, presented preliminary data on *Chlamydia trachomatis* infection from ocular swabs in Amhara. The ocular swabs were collected during trachoma impact surveys from 2011 through 2015. The nearly 15,000 samples were processed using the Abbott-donated *m*2000 system. While only preliminary data were presented during the program review, these data will play a large role as the Amhara trachoma program works toward the 2020 elimination goal. A panel discussion on health education, moderated by Angelia Sanders of The Carter Center, highlighted the increased focus in Ethiopia, Sudan, and Uganda on the facial cleanliness and environmental improvement components of the SAFE strategy. Staff from The Carter Center in Atlanta and Ethiopia presented findings from a study on behavior change and communication in education currently underway in Amhara and discussed how these findings are guiding revisions to the primary school curriculum. For more details, see page 3.

Carter Center partners gave several presentations at the meeting. Dionna Fry of the Francis I. Proctor Foundation at the University of California, San Francisco, discussed conclusions from a study comparing annual and biannual treatment with azithromycin over 36 months. Dr. Anthony Solomon of the World Health Organization (WHO) presented the proposed process for validating the elimination of blinding trachoma as a public health problem. Yael Velleman of WaterAid, on behalf of WHO, discussed water, sanitation and hygiene as they relate to trachoma elimination.

Attendees agreed on general and country-specific recommendations that will guide the trachoma program over the next year with consideration for the elimination goals of each country.

National Programs Show Practical Ways to Enhance F&E Activities

If blinding trachoma is to be

eliminated, all four components of the SAFE strategy—surgery, antibiotics, facial cleanliness, and environmental improvement—must be in place. Often, the F&E components receive less attention and financial support. Further, many national programs are eager to implement F&E activities but do not know where or how to start. A special panel was conducted on this topic during the 2016 Trachoma Program Review, showing participants an array of concrete F&E activity ideas and lessons learned from Ethiopia, Sudan, and Uganda.

In Ethiopia, a recently completed study on behavior change and communication helped a regional trachoma control program identify new opportunities. For example, to help prevent trachoma by increasing the number of clean faces among primary school children and improving students' hygiene behaviors, stakeholders from the health and education sectors met during multiple workshops to develop a government-endorsed school trachoma

Ultimately, over 15,000 teachers working in more than 7,000 schools across the region will be trained to use the new trachoma materials.

program. Materials have been drafted and will be piloted before finalization. Ultimately, over 15,000 teachers working in more than 7,000 schools across the region will be trained to use the new trachoma materials.

In Sudan, the national Trachoma Control Program has worked to coordinate the efforts of the federal Ministry



Primary school students across Ethiopia's Amhara region will soon be learning from a revised curriculum, informed by a recent study, that teaches them about the importance of basic hygiene in preventing trachoma.

of Health and federal Ministry of Education to improve health education in schools. The Carter Center and the national program developed school health education materials, while the National Centre for Curriculum and Education Research and the federal Ministry of Education revised and approved the trachoma curricula. This coordinated effort produced teachers' guidelines for basic and secondary schools on how to deliver information related to trachoma control. In 2015, 72 state coordinators, local education inspectors, and school hygiene coordinators were trained on the trachoma curricula, and they served as trainers for 2,000 teachers. Some 105,000 trachoma curricula and 1,900 manuals were distributed.

In Uganda, the Ministry of Health, in partnership with the Ministry of Water and Environment, Ministry of Education and Sports, various water, sanitation, and hygiene organizations, and various trachoma organizations, undertook four main activities: (1) integration of face washing and trachoma messages into existing activities in Busoga and Karamoja regions, (2) revision and dissemination of school sanitation guidelines, (3) revision and dissemination of national sanitation guidelines, and (4) development of a social and behavior change communication strategy to be used as part of mass media campaigns (radio, television, videos, etc.). In addition, cross-sector collaboration through the sharing of data and participation in relevant stakeholder technical meetings has increased.

Ethiopia, Sudan, and Uganda show what can be achieved when different organizations and ministries collaborate to fight trachoma. The goal of the school-based programming, in particular, is for students to become agents for change in their communities.

U.S. Peace Corps in Ethiopia to Combat NTDs, Trachoma

In Ethiopia, U.S. Peace Corps volunteers have joined The Carter Center and RTI International in the fight against neglected tropical diseases (NTDs).

A new agreement among the Center, the U.S. Peace Corps Ethiopia, and RTI International through the USAID/ENVISION project will support Peace Corps volunteers doing NTD work. Ultimately, this initiative will help strengthen the federal Ministry of Health's community-led interventions for all NTDs.

Staff from The Carter Center and RTI International welcomed a new group of 32 Peace Corps Ethiopia health trainees in February 2016 for a three-day training program. The trainees learned about NTDs, including control and elimination strategies, and, critically, ways in which they can support NTD interventions in communities in partnership with government health workers. After swearing into service in April, 10 Peace Corps health volunteers were placed in the Amhara region and will learn more about trachoma control activities and the SAFE strategy during additional training and mass drug administration.

This marks the second occasion for The Carter Center to partner with Peace Corps volunteers to fight a disease. In 1995, The Carter Center, through the World Health Organization and the U.S. Centers for Disease Control and Prevention, worked with the Peace Corps to link currently serving volunteers in specific countries with the Guinea Worm Eradication Program. This precedent-setting endeavor successfully introduced volunteers to the experience of extending health services to remote underserved communities.

The U.S. Peace Corps, established in 1961, has placed over 220,000 volunteers in 141 countries with the aim of addressing pressing needs at the grassroots level, including health care and education. Peace Corps Ethiopia hosts one of the largest programs worldwide with 235 currently serving volunteers who are placed in the regions of Amhara, Oromia, SNNPR, and Tigray and work in the fields of agriculture, education, and health.

For more information, visit www. peacecorps.gov/Ethiopia.

New Trachoma Documentary Screened at Pfizer Headquarters

The Carter Center's Trachoma Control Program and its key partners and supporters are featured in a documentary that has aired nationally on American Public Television, covering 75 percent of its U.S. market since October 2015.

"Trachoma: Defeating a Blinding Curse" follows Carter Center staff, global health partners, and former U.S. President Jimmy Carter as they engage in a comprehensive strategy to eliminate blinding trachoma in Ethiopia. It has aired in 39 states and also has been shown at special viewings at The Carter Center and in New York City. This third film in the Global Health Frontiers series takes viewers to the front lines of a battle against the world's leading cause of preventable blindness. In March, the film was screened at Pfizer headquarters in New York.

For seven years, a film crew followed Carter Center staff and teams of health care professionals in Ethiopia as they worked together to eliminate blinding trachoma in Amhara, the most highly endemic region known in the world. The film shows Carter Center staff working with local leaders to implement the SAFE strategy, the multipronged approach that comprises surgery, antibiotics, facial cleanliness, and environmental improvement.

In New York, the Center joined Pfizer Inc, the Lions Clubs International Foundation, and the International Trachoma Initiative to host a special documentary screening, reception, and panel discussion. In a discussion moderated by Caroline Roan, vice president of corporate responsibility for Pfizer, several people shared personal reflections about the film and trachoma in Ethiopia and answered audience questions: Kelly Callahan, director of the Carter Center's Trachoma Control Program; Gary Strieker, film director; Joe Preston, chair of the Lions Clubs International Foundation; and Dr. Paul Emerson, director of the International Trachoma Initiative.

"This documentary demonstrates how partners and a community can work together with proven and cost-effective strategies to prevent and control blinding trachoma," said Callahan. "Watching this film with our partners, without whom the work would not be possible, was a personally powerful and rewarding experience."

Treatments

continued from page 1

and Nigeria (19,573,246 treatments, 97 percent of the target), and schistosomiasis and soil-transmitted helminths in Nigeria (3,292,601 and 7,683,255 treatments, for 74 percent and 91 percent of the targets, respectively). In all, the River Blindness Elimination Program assisted in 58,515,448 treatments for RB, lymphatic filariasis, schistosomiasis, and soil-transmitted helminths, in addition to providing health education, in 2015.

This accomplishment would not be possible without a grassroots network of community-directed drug distributors. A combined 354,836 community volunteers were trained in 2015 in the assisted programs, all of whom were managed by district-level ministry of health personnel with the assistance of The Carter Center.

Country reports and key findings follow.

Ethiopia

Ethiopia continued its strong performance in its third year of conducting primarily twice-per-year treatments for river blindness, aggressively pursuing the national policy of onchocerciasis elimination by 2020. In 2015, Ethiopia delivered the most Mectizan treatments of Center-assisted programs; a total of 15,134,758 treatments were provided with 14 million of these in the twice-per-year strategy. Over 194,000 community drug distributors were trained, approximately 56,000 more than in 2014. The Carter Center's work in Ethiopia is based on a longstanding partnership with the federal Ministry of Health and the Lions Clubs Carter Center SightFirst Initiative.

Nigeria

Thanks to generous NTD funding from USAID's ENVISION project, led by

RTI International, and from the Sir Emeka Offor Foundation, the Center's program assisted in 31 million treatments for river blindness, lymphatic filariasis, schistosomiasis, and soiltransmitted helminthiasis in Nigeria in 2015.

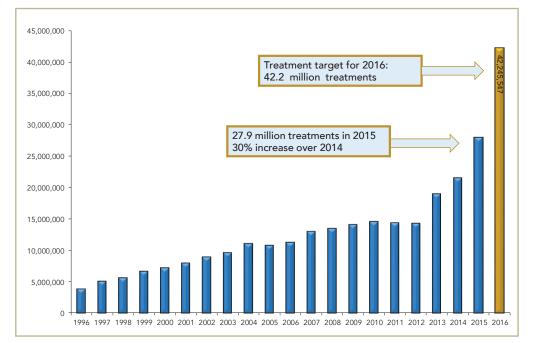
Specifically, the program assisted in 9,249,730 Mectizan treatments for river blindness in Nigeria in 2015, a notable year because the new Nigeria Onchocerciasis Elimination Committee was launched. The committee met twice in 2015 and intends to meet at least twice in 2016. For the first time in Nigeria, twice-per-year Mectizan treatments for river blindness were provided in Edo state in an area where ongoing onchocerciasis transmission has been documented after many years of annual treatment.

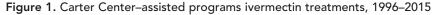
The Lymphatic Filariasis Elimination Program focused on documenting the interruption of transmission in Plateau and Nasarawa states where treatments were stopped in 2013. The Carter Center provides technical assistance for transmission assessment surveys and will be conducting operational research studies on LF post-treatment surveillance surveys in former hot spots of transmission in 2016 with support from the Task Force for Global Health. In the seven southern states, the LF program assisted the state ministries of health to provide 18,458,493 treatments.

Twice-per-year treatments with albendazole were planned in 2015 in *Loa loa* areas where Mectizan is not recommended due to the risk of severe adverse events, but did not occur due to late arrival of drugs. In 2016 the program will again attempt twice-peryear treatments, increasing the total for LF treatments by 61 percent to 29 million. The albendazole is donated by GSK.

The Carter Center's integrated malaria and LF program provided 2,065,753 long-lasting insecticidal nets in 2015; the program has assisted with the distribution of 11,506,455 nets since 2004. Thanks to support from the Clarke Cares Foundation, innovative approaches continue for net distribution and use promotion, in support of the federal Ministry of Health's guidelines for

continues on page 6





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co-implementation of malaria and LF interventions in Nigeria.

The Carter Center assisted in the distribution of 3,292,601 praziguantel treatments for schistosomiasis in Delta, Ebonyi, Enugu, Edo, Nasarawa, and Plateau states in 2015. Praziguantel is donated to The Carter Center through the World Health Organization by Merck KGaA (E-Merck) of Germany. The Izumi Foundation supports this program in four of the six states. The Center's treatment target in 2016 is 4,922,191, a 26 percent increase. Treatments in 2015 for soil-transmitted helminthiasis were 7,683,255 with a 2016 target of 11 million, a 44 percent increase. The medicines used for soil-transmitted helminthiasis treatment are donated by GSK (albendazole) and Johnson & Johnson (mebendazole).

Uganda

The Uganda program, with funding from USAID's ENVISION project, administered 3.4 million Mectizan treatments in 2015. In 2016 all Uganda districts with onchocerciasis will be treating twice per year, with a target of 3.9 million treatments. In



The Carter Center's River Blindness Elimination Program celebrates its 20th anniversary this year.

2015 the Ugandan Onchocerciasis Elimination Expert Advisory Committee recommended treatments be halted in Nyamugasani focus. The committee also noted that four foci-Mt. Elgon, Imaramagambo, Itwara and Mpamba-Nkusi-needed to complete the evaluations required for the end of the three-year posttreatment surveillance monitoring period in 2016. These evaluations include entomological and serological assessments among children under 10 years of age. It is hoped that successful completion of these evaluations will move the four foci (with their combined populations of 3.8 million) to the category of disease eliminated.

Sudan

In 2015, Sudan's federal Ministry of Health declared that the Abu Hamad focus (population of 100,000) eliminated onchocerciasis transmission after the focus passed its three-year posttreatment surveillance entomological and serological evaluations. It was the first focus in Africa to be so declared under World Health Organization (WHO) guidelines.

The Americas

The Onchocerciasis Elimination Program for the Americas is a coalition that includes the ministries of health of six countries in the Americas—Brazil, Colombia, Ecuador, Guatemala, Mexico and Venezuela—The Carter Center, the Pan American Health Organization/ WHO, and other partners. Over 500,000 were at risk of onchocerciasis in 13 transmission zones (foci) when OEPA began in 1993. Treatment continues today in only two foci.

In 2015, Mexico received verification of onchocerciasis transmission elimination from WHO. It is the third country to reach this status,

Program Review Participants

In addition to Carter Center field and headquarters staff, attendees included representatives from the following: ministries of health of Ethiopia, Nigeria, Sudan, and Uganda; Department for International Development, U.K.; Emory University; The END Fund; Izumi Foundation; Lions Clubs International Foundation; Lions Clubs of Ethiopia and of Uganda; Liverpool John Moores University; Mectizan Donation Program; Ohio University; PATH; Rabin Martin; RTI International; Sightsavers; Task Force for Global Health; University of Notre Dame; University of South Florida; U.S. Agency for International Development (USAID); U.S. Centers for Disease Control and Prevention (CDC); and World Health Organization (WHO).

after Colombia (2013) and Ecuador (2014). Guatemala, which submitted its elimination dossier in March 2015, was visited by a WHO international verification team in May 2016.

The two foci where mass drug administration continues are the Amazonas focus of Brazil and the South focus of Venezuela. These foci are actually a single transmission zone on the international border between the two countries, populated by the indigenous Yanomami people, who number about 27,000. The strategy for the final elimination push in the Americas is to provide the Yanomami with quarterly treatments. The Venezuela Ministry of Health has begun an effort to rehabilitate old airplane landing strips to improve access to these remote populations for both quarterly drug treatments and improved overall health care. E

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In Nigeria, Drug Distributor Bolsters Well-Being of Community

Joel Kasuwa was born and raised

in Tavan Kudum village in Plateau state, Nigeria, where many people struggle to avoid neglected tropical diseases. Today he is recognized as a leader for his work as a community drug distributor.

For over 10 years, Kasuwa has worked alongside tens of thousands of community drug distributors, who are trained to go house to house offering health education and medicines to neighbors, friends, and family. They work with The Carter Center and Nigeria's federal Ministry of Health and are on the frontline in the battle against neglected tropical diseases in their communities. Kasuwa has worked

Guinea Worm Disease Update



Figure 2. Reported cases of dracunculiasis by country, January–June 2015 and 2016*

to fight diseases like river blindness, malaria, lymphatic filariasis, schistosomiasis and intestinal worms. "Our people now experience a freedom from these diseases," he said.

Kasuwa's community is in one of two states in Nigeria where transmission of lymphatic filariasis, a mosquito-borne disease, has been stopped entirely through mass drug administration of donated medicines and distribution of long-lasting insecticidal nets. Nigeria has the highest prevalence of river blindness on the continent, although it has been reduced significantly.

Kasuwa said he works as a volunteer because he has a sense of responsibility to his neighbors. "I am picked from among my brothers not because I know better than them or I can do better than them, but because the people of this community know me very well," he said. "They know my commitment."

Kasuwa sees his role as a community drug distributor as empowering his neighbors. "I love the people of my community," he said. "I love to see the progress of my community. It boosts my morale to keep on going. It's my contribution to their success."



Joel Kasuwa measures a boy in Amper, Nigeria, to ensure he receives the correct dose of medication.

The Carter Center's work is made possible through the generous support of donors like GSK, Izumi Foundation, Merck KGaA, Merck, Sir Emeka Offor Foundation, and USAID's ENVISION project, led by RTI International.

2015: Over 75 Million Treatments

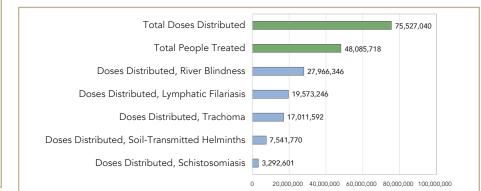


Figure 3. Doses of treatments for neglected tropical diseases supported by The Carter Center, 2015

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For more information about The Carter Center and its health and peace programs, visit our website at www.cartercenter.org.

MalOncho Project Among Top Performers in Ethiopia

A Carter Center integrated malaria and river blindness initiative in Ethiopia was named a top project during the ninth forum of the Southern Nations, Nationalities, and People's Region (SNNPR) and Government-Charities and Societies Organizations.

The Center's MalOncho project (short for malaria and onchocerciasis, another name for river blindness) was awarded third place out of 647 for excellence in delivering integrated, grassroots interventions. SNNPR, which borders Kenya and South Sudan, is home to more than 15 million people and was one of the first beneficiaries of mass drug administration for river blindness in Ethiopia. To date, SNNPR has distributed a total of 21,490,745 Mectizan[®] treatments and 2,065,753 bed nets to individual communities.

Eshetu Sata, who manages the trachoma program in Ethiopia, accepted the award on behalf of the Carter Center's Ethiopia office. Special acknowledgements go to Dr. Zerihun Tadesse, Carter Center Ethiopia country representative, and the Mettu regional office team—Ambaye Areru, Abate Tilahun, and Mitiku Adugna—for their superb management of and technical support to SNNPR and their dedication to the project. Strong partnerships with local and community woreda health bureaus, and, of course, the active participation of community members, were instrumental in the success of this program.