

# EYE of the EAGLE

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## Colombia Verified by WHO as Free of Onchocerciasis

### The World Health

**Organization (WHO)** has verified that Colombia has eliminated the parasitic disease river blindness. Colombia is the first country in the Americas to eliminate the disease and the first country in the world to apply for and be granted verification of elimination of river blindness by WHO.

“Colombia has demonstrated the essential elements of a successful river blindness elimination program—hard work, community engagement, attention to detail and data, strong partnerships, and prolonged political commitment,” said Dr. Mauricio Sauerbrey, director of the Carter Center’s

Onchocerciasis Elimination Program for the Americas (OEPA).

In June 2012, the Program Coordinating Committee of OEPA agreed that evidence

showed onchocerciasis (river blindness) had been eliminated from Colombia. On Oct. 27, 2012, Colombia filed a formal application to

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The Carter Center

Former U.S. President Jimmy Carter (far left) and Colombian Minister of Health Dr. Alejandro Gaviria Uribe (right) watch Colombian President Juan Manuel Santos receive the river blindness elimination verification certificate.

## Trachoma Program Surpasses 100 Million Doses of Zithromax

**On Nov. 10, 2013**, the ceremonial 100 millionth dose of Zithromax<sup>®</sup>, donated by Pfizer Inc and distributed with Carter Center support, was given by Sister Zebideru Zewdie of the Amhara Regional Health Bureau to a high school student in Dangila town, Ethiopia.

The recipient of the ceremonial dose of the sight-saving drug, Estubdink Addisu, was selected because she is an outstanding high school student who represents future prospects for education and development in

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## Colombia

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WHO for independent verification of elimination. In response to Colombia's request, a WHO-led team of international experts visited the country from Nov. 5–9, 2012, to extensively review the program and the data supporting onchocerciasis elimination. On April 5, 2013, based on the internal review of the verification team's report at WHO Geneva, Director-General Margaret Chan issued an official WHO letter of verification of elimination of onchocerciasis to the government of Colombia.

Colombian President Juan Manuel Santos accepted the WHO certificate during a celebration of the achievement sponsored by the Pan American Health Organization on July 29, 2013, in Bogotá. President Santos and former U.S. President Jimmy Carter both made remarks during the ceremony. Also in attendance were community residents from the formerly endemic area in Cauca state, Colombian Minister of Health and Social Protection Dr. Alejandro Gaviria Uribe, former U.S. First Lady Rosalynn Carter, and representatives from Colombia's National Institute of Health, The Carter Center, Merck/MSD, Lions Clubs International Foundation, U.S. Agency for International Development, Bill & Melinda Gates Foundation, and other partners.

Colombia eliminated river blindness using a strategy of twice-per-year mass drug administration of Mectizan® (donated by Merck) to all people in the affected area over 17 years. Community volunteers, leaders, and promoters played a major role in sustaining the health education and strong drug coverage that resulted in the elimination of the infection.

Mectizan treatments were able to be stopped in 2008, and elimination was declared after three years of post-treatment surveillance needed to ensure that transmission of the parasite did not recur after mass drug administration was halted.

Further details about Colombia's

success can be seen in the Sept. 6, 2013, issue of the *Weekly Epidemiological Record*; overall progress toward elimination of onchocerciasis from the Americas was published in the Center for Disease Control and Prevention's *Morbidity and Mortality Weekly Report* in May 2013.

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## IACO 2013: Attendees Applaud Ecuador, See Challenges in Amazon

**At the 23rd annual** Inter-American Conference on Onchocerciasis (IACO), held Nov. 21–22, 2013, in Quito, Ecuador, more than 80 people gathered to discuss progress in the battle to eliminate the parasitic disease river blindness (also called onchocerciasis) in the Americas.

In his opening remarks, Dr. Francisco Vallejo, undersecretary in the Ecuador Ministry of Health, commended his fellow citizens for their success in halting the disease. Ecuador was able to stop mass drug administration after interrupting onchocerciasis transmission in 2009. The country then passed successfully through three years of post-treatment surveillance without disease recrudescence. In July 2013, Ecuador formally submitted a request to the World Health Organization (WHO) for verification of onchocerciasis elimination.

About 20 local program workers from Esmeraldas, a formerly endemic area of Ecuador, attended the meeting and were congratulated by conference attendees for their work to eliminate onchocerciasis. A number of key early pioneers who launched the Ecuadorian fight against onchocerciasis in the 1970s also attended the meeting, including Drs. Ronald Guderian, Mariella Anselmi, Angel Guevara, Philip Cooper, Martin Ruppenthal, and

Roberto Proaño.

Of the original 13 endemic foci in the Americas present at the formation of the Carter Center's Onchocerciasis Program for the Americas in the early 1990s, only two still face transmission of the disease: Brazil's Amazonas focus and Venezuela's South focus. Meeting attendees discussed treatment and surveillance activities in these two foci, which join at the border between the two countries to comprise a single endemic area in the Amazon jungle.

Provisional reports through October 2013 showed 29,434 treatments were provided in 277 communities that treated four times per year, and 6,306 treatments were provided in 138 communities that treated twice per year, for a total of 35,740 treatments. Factors such as rough terrain, dangerous illegal mining operations, and a sparse, nomadic indigenous population—the Yanomami—continue to serve as obstacles to breaking transmission in this area. The IACO attendees strongly recommended that the two countries formally agree, as soon as possible, to coordinate cross-border efforts to eliminate onchocerciasis from this last endemic area in the Americas.

IACO was convened by the Ecuador Ministry of Health, the Carter Center's Onchocerciasis Elimination

Program for the Americas, and the Pan American Health Organization, with support from the Centers for Disease Control and Prevention and U.S. Agency for International Development. Country directors attended from the six originally endemic countries: Brazil, Colombia, Ecuador, Guatemala, Mexico, and Venezuela. Lions Clubs, a steadfast partner, were represented at IACO by two members of their Quito Central division: Ramiro Peña, president, and Margarita Garrido de Peña, director of the Women’s Committee.

Ecuador program staff member Sandra Barrera (fifth from left, in hat), joins other health workers and community members in the formerly onchocerciasis-endemic focus of Esmeraldas.



Luis Ibarra

## In Memoriam: Kal Alphonsus Miapyil 1965–2013



Kal Alphonsus Miapyil reviews slides under a microscope.

Emily Staub

**In his 13 years** with the Carter Center’s Nigeria office, Kal Alphonsus Miapyil waged a relentless war against the parasitic diseases of onchocerciasis, lymphatic filariasis, and schistosomiasis—in the field and in the laboratory.

Kal, as he was popularly called, was a dogged fighter against the ravages of parasitic diseases in Nigeria and the director of the most advanced neglected tropical disease laboratory in Nigeria. Whether conducting pyrethrum knockdown mosquito collections and nocturnal blood tests for lymphatic filariasis (LF) in remote villages or testing black fly vectors of river blindness using sophisticated statistics based on polymerase chain reaction testing, Kal’s enthusiasm and determination never waned.

In his eulogy, Dr. Emmanuel Miri of The Carter Center described him as “an excellent scientist, quintessential team player, committed and dedicated.” Kal’s tenacity of purpose

and ferocious dedication never slacked. The full story of LF and onchocerciasis transmission interruption in Plateau and Nasarawa states cannot be told without including the part he played.

Kal was a Carter Center co-author on six scientific papers: the last, published in *PLOS Neglected Tropical Diseases* and released on Oct. 31, 2013, after his death, was dedicated to his memory.

He has left a vacuum that will be difficult to fill, and everyone who knew him will miss him. We at The Carter Center were proud to have him in our fold.

*Note: Kehinde Oyeneke, director of support services in the Carter Center’s Nigeria office, provided the content for this article.*



## Carter Center: Possible River Blindness Interruption in Nigerian States of Plateau, Nasarawa

**At recent** American Society of Tropical Medicine and Hygiene meetings, Dr. Darin Evans of The Carter Center reported data from a 2009 survey showing that treatments to fight river blindness could be stopped in parts of Nigeria co-endemic for both onchocerciasis (another name for river blindness) and lymphatic filariasis (LF), where mass drug administration has been given since the early 1990s.

Distribution of the medicine Mectizan<sup>®</sup> for onchocerciasis (donated by Merck) was launched in the Nigerian states of Plateau and Nasarawa in 1992. By 1996, mass drug administration had reached full coverage in the 12 targeted local government areas of the two states, which have a total population of 4 million.

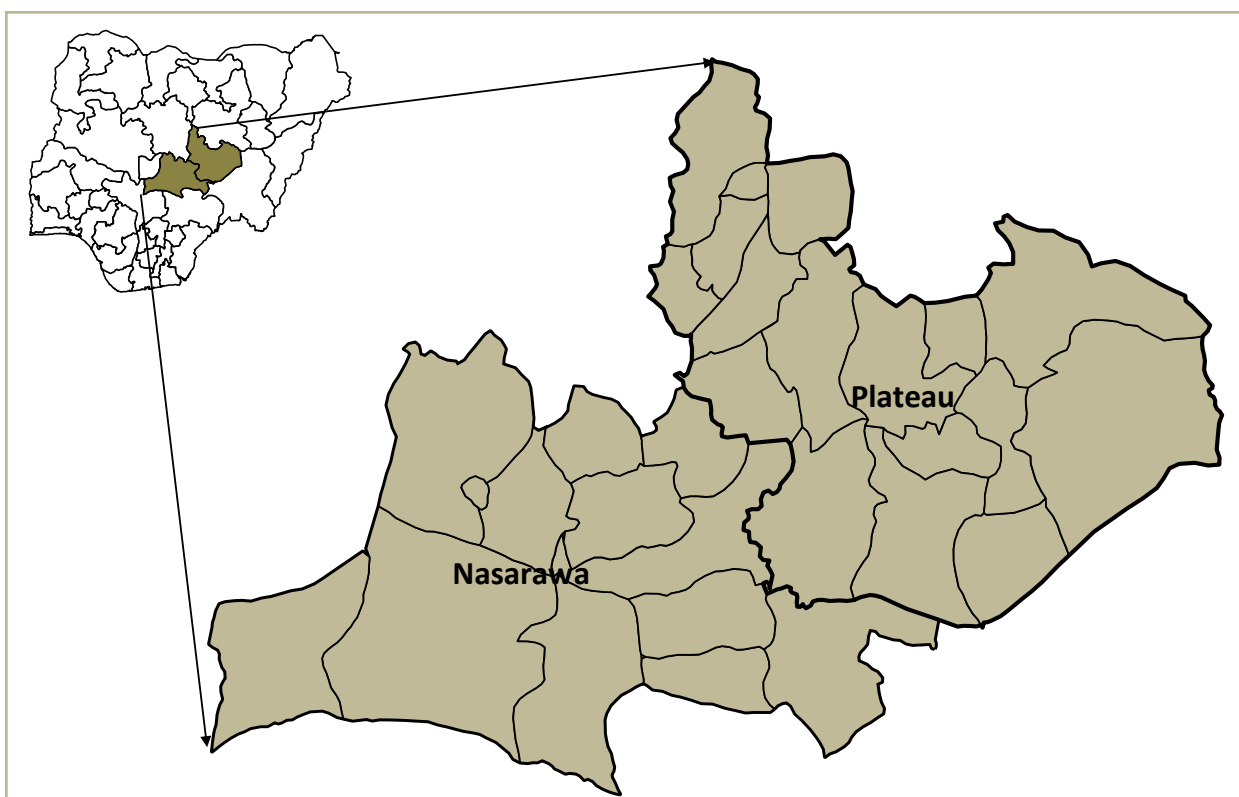
Beginning in 2000, the drug albendazole (donated by GlaxoSmithKline) was added to these treatments to

combat LF, which was co-endemic with onchocerciasis in these 12 local government areas and also endemic in the remaining 18 areas of the two states. By 2003, this drug combination reached all 30 areas, and in 2008, a survey was conducted to determine the status of LF transmission. This survey found that LF transmission had been interrupted in 10 of the 30 local government areas. In five of these, mass treatment was stopped. The remaining five, however, could not halt mass treatment because the status of onchocerciasis transmission was not known.

The 2009 survey was conducted in five local government areas to determine the status of river blindness transmission where LF transmission had been interrupted. The results showed a 97–99 percent reduction in onchocerciasis infection, based on

nodule rates and microfilaria rates in adults, respectively, compared to a 1992–1994 baseline. In 2009, infection rates in children under age 10 years was <0.1 percent with 95 percent confidence, thus meeting a key criterion in the 2001 World Health Organization (WHO) onchocerciasis elimination guidelines.

All *Simulium* black fly vectors were tested for *Onchocerca volvulus* DNA in polymerase chain reaction testing, but the number of flies tested was too small to exclude the <0.05 percent threshold demanded by the WHO guidelines. Despite this, Dr. Evans concluded that the evidence suggests that transmission in these local government areas has likely been interrupted and that now, given that four additional years of treatments have been given since the study, mass drug administration for river blindness should be able to stop.



This map of Nigeria shows the states of Plateau and Nasarawa, where five local government areas have likely stopped transmission of river blindness.

## Two More Ugandan Areas May Halt Onchocerciasis Treatments

**On Aug. 8, 2013**, the sixth session of Uganda Onchocerciasis Elimination Expert Advisory Committee (UOEEAC) concluded that transmission of the disease has been interrupted in two more foci in the country. Chaired by professor Tom Unnasch of the University of South Florida, the committee recommended that mass drug administration with Mectizan® (donated by Merck) for onchocerciasis be halted in the two foci, Wambabya-Rwamarongo and Kashoya Kitomi.

If the recommendation is accepted by the National Certification Committee of the Ministry of Health, then mass drug administration for 224,913 treatments would be discontinued in the approved areas in 2014, and transmission will have been interrupted in eight of the 17 foci found to be endemic in 2007 when Uganda's President Yoweri Museveni launched a nationwide onchocerciasis elimination strategy.

More than 1.5 million Ugandans live in areas where onchocerciasis transmission has been interrupted and so now no longer receive treatment for the disease. Local health workers are providing health education in the previously affected communities to explain why treatment is no longer needed and why continued post-treatment surveillance is necessary before elimination of the disease can be declared.

Also at the August 2013 UOEEAC meeting, four other foci—Bwindi, Nyamugasani, Obongi, West Nile—were categorized as “transmission interruption suspected.” This classification indicates that mass drug administration may be able to be stopped in 2015 if additional evaluations conducted in 2014 show that indeed transmission of the disease has been interrupted. Over 493,800 people reside in these areas, which will continue to receive treatment in 2013 and 2014.

This achievement is further demonstration that onchocerciasis (also called river blindness) transmission can be broken in Africa.

The Carter Center has assisted the Uganda River Blindness Program since 1996, providing training, technical, and financial support and helping to establish a molecular laboratory, where tests can verify interruption of river blindness



Dr. Ruhakana Rugunda, Uganda's minister of health, and Dr. Jane Ruth Aceng, director-general of health services in the Ministry of Health, listen to presentations during the sixth session of the Uganda Onchocerciasis Elimination Expert Advisory Committee.



In Kampala, Uganda, Christine Nahabwe prepares blood samples for testing. The lab, established by The Carter Center and staffed by the Uganda Ministry of Health, tests more than 17,000 samples each year.

transmission. Community-selected medicine distributors and supervisors, as well as district health and administrative personnel, have played key roles in turning the tide of this old scourge.

The success of the elimination effort can be attributed to the Ministry of Health's River Blindness Program with the support of many other implementing partners, including the African Program for Onchocerciasis Control, GTZ, Sightsavers, local Lions Clubs, the Lions Clubs International Foundation, Merck, USAID, and RTI/ENVISION.

## Zithromax

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the country, free from the scourge of blinding trachoma. For her participation in the ceremony, Estubdink has been offered a scholarship to attend a university in Amhara, paid for by donations from the guests attending the event. She would like to attend the Bahir Dar Medical School so that she can one day serve her country as a physician.

The ceremony was attended by Sally Susman, executive vice president for corporate affairs of Pfizer Inc; Honorable Lion Dr. Tebebe Berhan, Lions Clubs International Foundation and the Ethiopia Lions; Dr. Paul Emerson, The Carter Center; and Dr. Mark Rosenberg, president of the Task Force for Global Health, in addition to many other guests from Pfizer and the International Trachoma Initiative (ITI) and dignitaries from the Ethiopia Federal Ministry of Health and Amhara region.

The ceremonial dose in Ethiopia was preceded by a visit by former U.S. President Jimmy Carter to meet with Pfizer CEO Ian Read at the company's New York headquarters. The New York event coincided with the 15th anniversary of the International Trachoma Initiative, in addition to the 100 millionth dose, and was broadcast live to Pfizer employees around the world. President Carter reminisced about a similar event in 2001 with the former CEO of Pfizer, Hank McKinnell, during which the company agreed to provide Zithromax® to The Carter Center to support work in Sudan.

Since the inception of the drug donation in 1998, The Carter Center has had a vibrant relationship with Pfizer and the International Trachoma Initiative. The program was able to expand in 2008, after principal



Ethiopian high school student Estubdink Addisu receives the ceremonial 100 millionth dose of Zithromax from Sister Zebideru Zewdie as (left to right) Dr. Paul Emerson, Sally Susman, and Dr. Tebebe Berhan observe.



At a press conference, former U.S. President Jimmy Carter discusses the impact of Zithromax and other trachoma interventions, along with Ian Read, Pfizer's CEO. The press conference was part of a celebration at Pfizer's New York headquarters for the 15th anniversary of the International Trachoma Initiative.

financial supporters the Conrad N. Hilton Foundation and Lions Clubs International Foundation agreed to provide support for the full spectrum of trachoma interventions, known as the SAFE strategy. Some 90 percent of the Zithromax distributed has been

in partnership with the Lions-Carter Center SightFirst Initiative and the Amhara Regional Health Bureau in Ethiopia, and the rest has been used in Ghana, Mali, Niger, Nigeria, South Sudan, and Sudan.



## Ethiopian Surveys Show Trachoma Reduction

**Surveys in the Amhara region** of Ethiopia show that progress has been made in the fight against trachoma, but some behaviors still need better adoption. Epidemiological surveys were conducted in July 2013 in 42 *woredas* (districts) in western Amhara to show the impact of five years of trachoma interventions, including mass drug administration with azithromycin.

Further, epidemiological surveys have been carried out to measure the extent of trachoma in 127 of all 168 districts in the Amhara region, including integrated surveys in districts to measure the prevalence of both trachoma and intestinal parasites. A total of 1,598 communities have been surveyed for trachoma, collecting information from 54,717 households and examining 173,789 people.

The overall prevalence of

trachomatous inflammation follicular (TF) among children ages 1–9 years was 25.9 percent (95 percent confidence interval [CI]: 24–28 percent; range by zone 16–51 percent), marking a 34 percent decline since the 2006 National Survey on Blindness, Low Vision and Trachoma (see Figure 1). TF in eight districts was less than 5 percent, meeting the current criteria set by the World Health Organization (WHO) as no longer warranting mass drug administration with azithromycin. TF in an additional 12 districts was below 10 percent and, according to WHO guidelines, warrant additional surveys to identify subdistricts that also could halt mass azithromycin distribution.

Intense inflammation due to trachoma, known as trachomatous inflammation intense (TI), is more

closely associated with *Chlamydia trachomatous* infection and trachomatous scarring (TS) than TF. Among children 1–9 years of age, TI was 6.2 percent (range by zone 3–13 percent), which marks an 85 percent decrease since 2006.

The prevalence of trachomatous trichiasis (TT) among the total population was 1.6 percent (95 percent CI 1.5–1.8 percent; range by zone 1.3–3.2 percent) and 3.1 percent (95 percent CI: 3.0–3.6 percent) among adults over the age of 15 years. Compared to regional estimates from the national survey in 2006, the prevalence of TT among adults over the age of 15 years decreased 40 percent since the implementation of the SAFE strategy, which is the four-pronged trachoma-fighting interventions of eyelid surgery,

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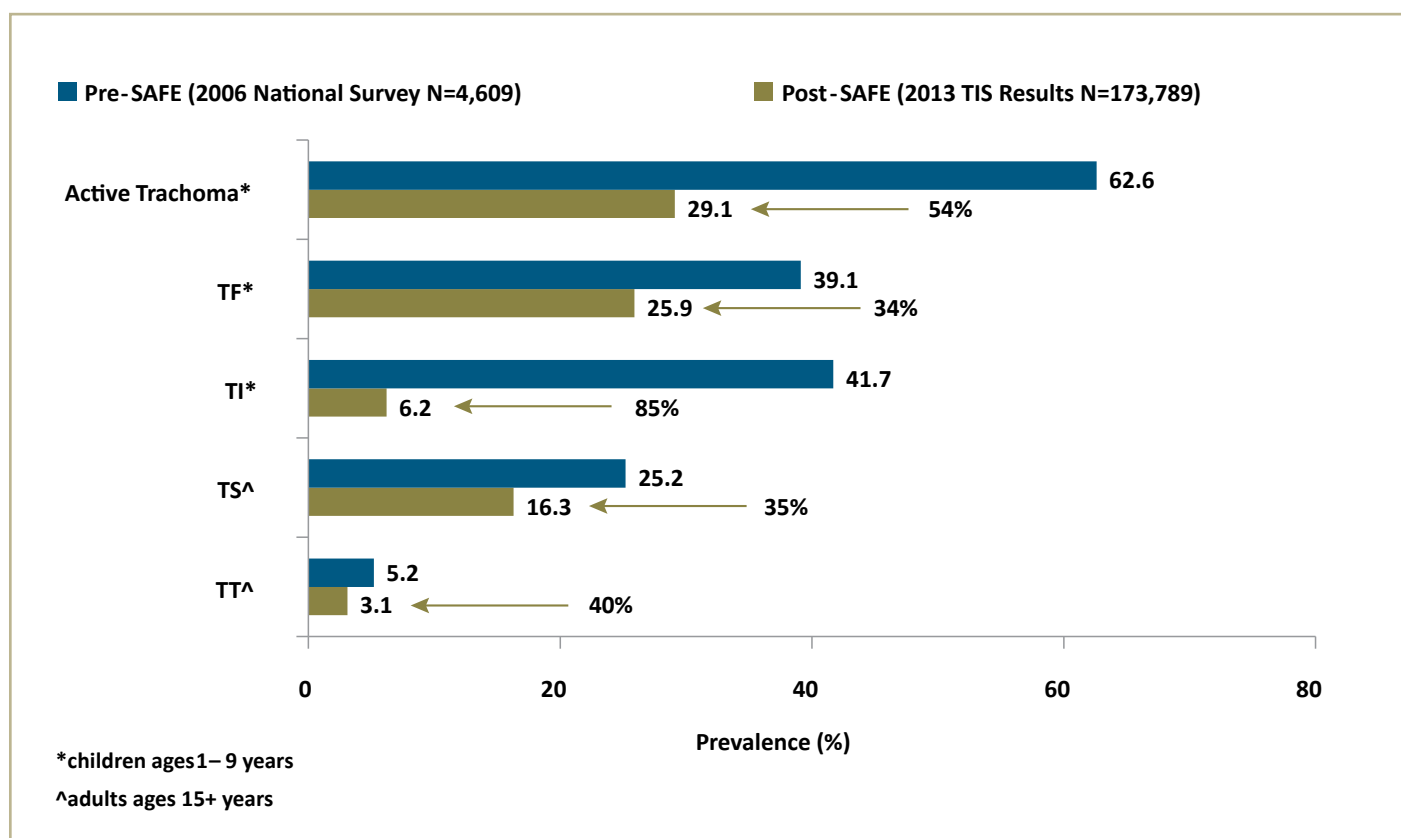


Figure 1: Trachoma in Amhara region.

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antibiotics, facial cleanliness, and environmental improvements. The current backlog of individuals with TT who need surgery is 307,658 (range by zone: 4,829–70,434).

The proportion of all children ages 6–15 years who reported attending school was 63.5 percent (range by zone: 47.6–82.6 percent). One child was selected at random from each of the 11,015 households in the intestinal parasite group. A microscopic evaluation of a stool sample revealed that the prevalences of *Ascaris lumbricoides*, *Trichuris trichiura*, and hookworm were 11.6 percent (range by zone 9–37 percent), 3.0 percent (range by zone 0–3.7 percent), and 11.7 percent (range by zone 4–47 percent), respectively. Infection with at least one of these soil-transmitted helminths was 22.5 percent (range by zone 11.1–54.8 percent). Overall, the prevalence of *Schistosoma mansoni* was 4.3

percent (range by zone 0–21 percent). Infection prevalence of any intestinal protozoan was 77.2 percent (range by zone 65–84 percent), including *Giardia intestinalis* and *Entamoeba histolytica/E. dispar*, 19 percent (range by zone 14–22 percent) and 12.5 percent (9–15 percent), respectively. Results from stool specimens collected during recent surveys conducted in western Amhara are not yet available for presentation.

Regarding uptake of the promoted activities of the SAFE strategy, 94.2 percent (range by zone: 90.3–96.9 percent) of households reported being registered for MalTra campaigns. The proportion of individuals reporting taking azithromycin during at least one MalTra campaign was 90.8 percent (range by zone: 85.0–95.7 percent), and 57.1 percent (range by zone: 55.3–67.0 percent) of individuals reported taking azithromycin during three or more campaigns. Some 95 percent of households reported washing the faces of children under 5 years of age at least once per day. The proportion

of children with a clean face was 75.5 percent (range by zone: 64.3–78.1 percent). Use of an improved drinking water source was reported by 48.5 percent (range by zone: 26.5–61.8 percent) of households, and 79.0 percent (range by zone: 30.2–80.7 percent) of households reported access to water within 30 minutes round-trip collection time. The proportion of households with an observed used latrine was 47.4 percent (range by zone: 23.8–71.2 percent).

Trachoma has been reduced significantly since the start of the program but remains a public health concern. The prevalence of TT remains high and warrants continued enhanced efforts to provide corrective surgery to patients in order to reduce the backlog. The SAFE strategy should continue in districts with TF prevalence above 5 percent, focusing on sustaining high coverage of azithromycin uptake, increasing household latrine coverage and access to water, and using water for hygiene. Districts with TF below 5 percent should initiate surveillance activities and continue promoting the S, F, and E components of the strategy.

According to WHO guidelines, targeted mass drug administration with mebendazole or albendazole to school-age children for the treatment and control of intestinal worms is warranted in 43 of 64 districts for which results are available. Community-based deworming strategies should be considered. Likewise, targeted mass drug administration with praziquantel to school-age children is warranted in 11 of 64 surveyed districts for the control of schistosomiasis. Once stool specimen results from the most recent integrated trachoma impact survey are available, the number of districts warranting mass drug distribution will likely increase.

The high prevalence of intestinal



Students at Abreja Primary School in North Gondar, Ethiopia, learn how face washing helps prevent trachoma. Surveys in Ethiopia show that after five years of interventions, active trachoma infection has been reduced by 54 percent.



protozoans indicates that water or food sources are being contaminated with human feces. The low frequency of hand washing containers outside latrines (5.7 percent of households) indicates that hand hygiene behavior has not been adequately adopted. Efforts are needed to improve hygiene behavior and use of improved water sources for drinking. Additionally, promotion of construction and use of household latrines must continue with behavior change efforts to prevent open defecation that, combined with mass drug administration, will reduce transmission of intestinal helminth infections.

Paige Rohe



A simple eyelid surgery allows trichiasis patients to resume their daily activities and become productive household members. Trachoma surveys in Amhara, Ethiopia, show that hundreds of thousands of people still need the transformative surgery.

## Eyelid Surgery Brings Hope to Nigerien Mother of 12

*Editor's Note: This story is based on an interview with a Nigerien woman, Fatima, who received surgery for her trichiasis. Trichiasis is the most advanced stage of trachoma, in which a person's eyelashes scrape the cornea, causing severe pain with every blink. Fatima shared details about her life before, during, and after her surgery.*

**Fatima's face** was creased from a lifetime of hard work, joy, and sorrow. Jokingly, she told us she was an old woman: "I am 130 years old," she said, her eyes gleaming with laughter. We asked her to tell us about her life, up to the point when she was diagnosed with trichiasis. "I had an ideal life. We lacked nothing," she began. She told of a happy and pious life with her family: "When we had animals and millet, if someone needed something to eat, I said just to go into my granary and take what was needed. In my lifetime, I never killed a sheep for Tabaski [the feast that ends the Ramadan fast during which families traditionally prepare

a ram for their family], but I killed six animals, or gave them live, for family and neighbors in need."

Fatima described her life after she developed trichiasis. One day, she was in the field with her co-wife and felt something in her eye. She asked her co-wife to look, and she saw a single lash. She said that lashes had turned into her eyes for about five years, but up to that point, they had not bothered her. As the disease progressed and she became more uncomfortable, Fatima began pulling out the lashes, but it no longer provided her with relief, and she could not continue her daily activities.

At about the same time that Fatima was no longer able to work, her daughter, who was about to be married, developed a goiter. Before the marriage occurred, the family thought the girl should be taken to a hospital to have a doctor examine the goiter. Fatima decided to accompany her daughter and have her own eyes examined as

well. After selling a couple of animals to have money to pay for any treatment, the two women left for the hospital. Fatima received surgery for her trichiasis, and her daughter's goiter was removed.

Several days after the daughter's surgery, there was a complication, and the girl told Fatima that she wanted to go home. "Oh, she wanted to return to the village?" we asked Fatima. "No," said Fatima, "my daughter was telling me that she wanted to die." That same day, Fatima's daughter passed away.

Fatima returned to her village alone, but despite losing her daughter in the hospital, Fatima said her trichiasis surgery had improved her life: "Since God created me, I had children, I had 12 children. Six have died and six are still living, but even then, I lacked nothing in my life, thank God, until I developed the trichiasis that stopped me from going about my activities. Since my surgery, I haven't felt anything in my eyes."

## Survey: Migrant Farm Workers in Ethiopia Face High Malaria Threat

A July 2013 survey has shown that migrant farm workers in northwestern Ethiopia have a high burden of malaria and anemia.

In Ethiopia, peak farming periods from June through October overlap with the main malaria transmission season, and the farming districts of northwestern Ethiopia experience some of the most intense malaria transmission in the country. An estimated 300,000 migrant farm workers come to help with the harvest annually, which almost triples the typical resident population. Yet little is known about these migrant workers, including their migration patterns, living situation on

the farms, access to and use of malaria prevention measures, and health-care-seeking behaviors.

The survey was conducted by The Carter Center and the Amhara Regional Health Bureau in two agricultural districts of North Gondar zone. Coordinated by Dr. Neway Hiruy from The Carter Center and Emory student Rebekah Stewart Schicker, 615 workers were surveyed in a venue-based sampling methodology using handheld tablet computers with Swift Insights software developed by The Carter Center and the Georgia Institute of Technology.

Surveyed workers were mostly

young (mean age 22.8 years; range 18–65) and male (99 percent). Contrary to prior anecdotal reports suggesting that migrants came from widely dispersed areas, including from neighboring Sudan, this survey documented that 96 percent of migrants were from other parts of Amhara and, in particular, other districts within North Gondar zone.

The malaria prevalence among migrant workers as determined by rapid diagnostic test was 11.9 percent. This is significantly higher than the overall Amhara estimates of 2.6 percent, determined by the same test, in the 2011 Malaria Indicator Survey. Some 28.5 percent of workers were anemic.

Only 12 percent of participants had access to a bed net, but of those who did, 74 percent reported using the net on the previous night. In addition, 30 percent of participants reported suffering from a fever in the past two weeks, of whom 31 percent sought treatment. Some 53 percent of respondents indicated that their usual sleeping space on the farms was a temporary shelter, while 20 percent reported regularly sleeping outside at night—the time when malaria-carrying *Anopheles* mosquitoes bite.

These results indicate a high burden of malaria among migrant farm workers in the area and low access to malaria prevention and treatment measures. The Carter Center is working with local officials to design and implement appropriate response measures to address the needs of migrant farm workers and the threat of malaria.



A survey team member tests a migrant farm worker for malaria and anemia.



## Interdisciplinary Conference Focuses on Disease Elimination, Eradication

A recent conference brought together 28 scholars from diverse disciplines such as the social sciences, humanities, and public health to discuss disease eradication and elimination strategies and programs.

Held April 26–27, 2013, in Atlanta, Ga., and hosted by the Emory University Institute for Developing Nations; the Emory College Program in Global Health, Culture and Society; and the Carter Center Malaria Control Program, the “Disease Elimination and Eradication in Theory and Practice: Multidisciplinary Perspectives” conference allowed participants to share information and exchange ideas, identifying points of consensus, barriers to action, and opportunities for collaboration.

The first day of the conference included two roundtable discussions. The morning session, moderated by Dr. Peter Brown, professor of anthropology and global health at Emory University, focused on policies and evaluation and included commentaries by Dr. René Gerrets (anthropology, Amsterdam School of Social Science Research),

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**The ultimate goal of the conference is for these conversations to lead to collaboration and continued dialogue between practitioners and social scientists.**

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Dr. Randall Packard (Institute of the History of Medicine, Johns Hopkins University), and Dr. Jesse Bump (international health, Georgetown University).



Professors and others in academia discussed disease eradication from a multidisciplinary perspective at an April conference at The Carter Center in Atlanta, Ga.

Dr. Amy Patterson, The Carter Center, moderated the second roundtable discussion on strategies and systems. Opening remarks for this second discussion were provided by Dr. William Muraskin (urban studies, City University of New York), Dr. Judith Justice (Institute for Health Policy Studies, University of California San Francisco), Dr. Svea Closser (anthropology and public health, Middlebury College), and Dr. James Webb (history, Colby College).

The second day of the conference was devoted to breakout sessions during which public health practitioners

and academics worked together in small groups to develop future research agendas. The ultimate goal of the conference is for these conversations to lead to collaboration and continued dialogue between practitioners and social scientists that will facilitate the development of more effective programs and informed research agendas.

Video commentary on elimination and eradication as public health strategies by some of the participants can be found on Emory’s website: <http://www.idn.emory.edu/whatwedo/solvingproblems/diseaseconference.html>.



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