



# Eye of the Eagle



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## IACO 2006: Santa Rosa Focus First to Stop Treatment

The 16th annual Inter-American Conference on Onchocerciasis (IACO) opened with the declaration that the Santa Rosa focus in Guatemala has halted transmission of onchocerciasis (also known as river blindness) and Mectizan® treatments will cease in 2007. This is the first of the 13 foci in the Americas to stop the disease. The announcement was made by Dr. Victor Manuel Gutiérrez, the minister of health of Guatemala, where

the conference was held in early November 2006. A post-treatment surveillance period will begin in the Santa Rosa focus in 2007.

Data reported at the conference also revealed another milestone for 2006—for the first time, the southern Venezuela focus surpassed its 85 percent coverage goal. As a result, the first treatment round in 2006 was the first in which all 13 foci reached the target of 85 percent coverage (see Figure 1, page 2).

These milestones are part of the overall strategy of the Onchocerciasis Elimination Program of the Americas (OEPA) to eliminate river blindness in the Western Hemisphere through a strategy of intensive semiannual



*Dr. Victor Manuel Gutiérrez, minister of health of Guatemala, announces that the Santa Rosa focus has interrupted transmission and can stop receiving Mectizan treatments.*

Mectizan treatment reaching at least 85 percent of the target population in each of the 13 geographic areas in the six countries where the disease is found. Provisional treatment reports shared at the meeting showed a total of 655,045 Mectizan treatments were provided in the 13 foci through

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## Survey Reveals Need for Lid Surgery in Katsina State, Nigeria

A cross-sectional survey by the Katsina state Ministry of Health in Nigeria and The Carter Center shows that the surgery component of the SAFE strategy for trachoma control is needed in 10 surveyed areas in the state. The survey was conducted in December 2005 in 10 local government areas (LGAs). Katsina state in northern Nigeria is situated in the “trachoma belt,” below the highly endemic Maradi

region in Niger. Results of the survey are listed in Table 1 (see page 5).

The signs of active disease (TF) in children ranged from 5 percent to 24 percent. TF in five of the 10 LGAs exceeded the threshold of 10 percent set by the World Health Organization, thus demonstrating the need for the A (antibiotics), F (facial cleanliness), and E (environmental improvements)

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# River Blindness

## IACO 2006

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October 2006, which is 71 percent of the 2006 treatment goal [the UTG(2)] of 916,968.

According to reports made at IACO, eight of the 13 foci have eliminated new eye disease attributable to onchocerciasis. The areas that have not met the elimination goal are the central endemic zone of Guatemala, south Chiapas (Mexico), northwest Venezuela, and the two foci of the cross-border Yanomami focus of the Amazon (southern Venezuela and Brazil).

The theme of IACO 2006 was “Elimination of Ocular Morbidity by 2007: Are We Prepared?” which refers to the 2007 report to be made to the Pan American Health Organization on progress toward reaching onchocerciasis elimination.

Ninety-two people attended the three-day IACO meeting, which was convened by the Guatemala Ministry of Health and OEPA. The Guatemalan



*Carter Center staff, Onchocerciasis Elimination Program of the Americas (OEPA) staff, and Lions attendees (from left to right): Mr. Craig Withers (Carter Center – Atlanta), Dr. Mauricio Sauerbrey (OEPA – Guatemala), Dr. Frank Richards (Carter Center – Atlanta), Dr. Florencio Cabrera Coello (Lion – Mexico), Holly Becker (Lion – United States), Dr. Ricardo Gurgel (Lion – Brazil), Dr. Moses Katarwa (Lion, Carter Center – Atlanta), Dr. Libardo Bastidas Passos (Lion – Colombia), Dra. Lidia Morilla de Valencia (Lion – Venezuela), Ing. Ramiro Peña Constante (Lion – Ecuador) and his wife, Margarita Peña.*

organizing delegation included 35 representatives and field workers from the endemic areas in Guatemala. Representatives from the other five endemic countries of Brazil, Colombia, Ecuador, Mexico, and Venezuela also attended, as did representatives of the Lions Clubs, the Pan American Health

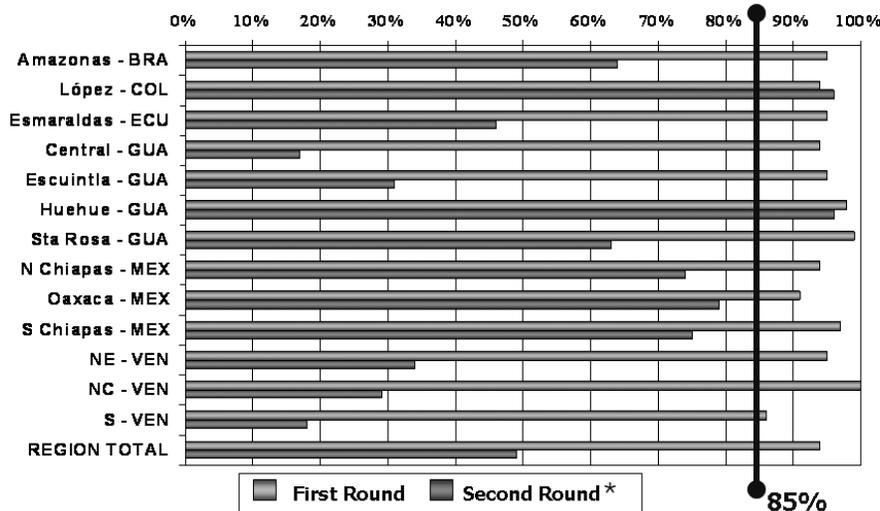
Organization, the CDC, Merck & Co., and the Mectizan Donation Program. Among numerous special invitees were Dr. Dennis K. W. Lwamafa and Dr. Ambrose Onapa of the Uganda Ministry of Health and Dr. Kim Janda of Scripps Research Institute.

IACO 2006 provided an occasion to bid farewell to several onchocerciasis warriors.

Two longtime contributors to the work of OEPA, Dr. BOL Duke (United Kingdom) and Dr. Jose Rumbela (Ecuador), passed away in 2006. Dr. Robert Klein, director of the Centers for Disease Control and Prevention’s Central American Program and chair of the OEPA steering committee, announced his retirement from the CDC effective at the end of 2006.

OEPA is funded by the Lions–Carter Center SightFirst Initiative, the Bill & Melinda Gates Foundation, Merck & Co., the ministries of health of the six countries, and other donors.

**Figure 1 Onchocerciasis in the Americas: UTG Coverage Achieved Through September 2006, by Focus**



\*Important note: Coverage for the second treatment round corresponds to the third quarter of 2006 (September) and includes treatment figures reported during IACO 2006 and eligible population numbers reported to OEPA at the beginning of 2006. These figures are provisional, pending final annual reports.

## Gates Foundation Makes \$10 Million Pledge to Center's Nigeria Programs

The Bill & Melinda Gates Foundation has pledged \$5 million to fund the expansion of the Carter Center-assisted integrated disease prevention activities in Nigeria that currently target four neglected tropical diseases: river blindness, lymphatic filariasis, schistosomiasis, and trachoma.

The Center, working with the Nigeria Ministry of Health, will help expand the scope of activities to add vitamin A supplementation for young children and distribution of long-lasting insecticide-treated bed nets (LLINs) to prevent both lymphatic filariasis and malaria.

The foundation also pledged an additional \$5 million to the Center to study the use of LLINs alone to eliminate lymphatic filariasis without mass treatment drugs in southeastern Nigeria, a geographic area where infection with the parasite *Loa loa* limits treatment options. These pledges will help the Center continue its pioneering work to show that many diseases can be attacked simultaneously using one community-based approach.

In 1988, the Center first helped establish a village-based prevention and surveillance system when the campaign to eradicate Guinea worm disease began in Nigeria. Building on this infrastructure, the Center helped expand programming in 1996 to include annual mass drug administration with Mectizan to prevent river blindness, adding control of schistosomiasis with praziquantel in 1999 and elimination of lymphatic filariasis with Mectizan and albendazole in 2000.

Mectizan is donated by Merck & Co., and albendazole is donated by GlaxoSmithKline.

In 2000, with the support of the Conrad N. Hilton Foundation, The Carter Center began working with state and local health authorities to help build trachoma control programs in Plateau and Nasarawa states. From 2004 to October 2006, using the same established infrastructure, health care workers dis-

tributed more than 90,000 insecticide-treated bed nets to prevent lymphatic filariasis and malaria in the region.

During the next four years, the Center plans to measure the sustainability, cost-effectiveness, and impact of the treatment integration. By proving that integration is practical and sustainable, this project aims to promote expansion of integrated treatment efforts in Nigeria and the region. The Center will collaborate with the Nigeria Ministry of Health, Emory University, and the Centers for Disease Control and Prevention.

## Cameroon Integrates Vitamin A and Ivermectin Distribution

Health authorities in the North and West provinces of Cameroon, with assistance from Lions Clubs and The Carter Center, have been distributing vitamin A to children under 5 years old as part of the community-directed Mectizan treatment system established for river blindness control. Many children in developing countries are deficient in vitamin A, which helps fight disease and plays an important role in vision, bone growth, and cell functions.

In the West province from August through October 2006, 94.4 percent of targeted children were treated (193,232 of 204,761) with vitamin A. In the North province, 79.6 percent of targeted children were treated (34,183 of 42,952) in the same time period. Volunteers selected by the community, known as community-directed distributors, administered the vitamin A capsules at the same time Mectizan was provided to the older population for onchocerciasis control.

Traditionally, vitamin A had been provided to children in these areas during national immunization days sponsored by the polio elimination program. However, as polio draws close to eradication, authorities have needed another convenient and effective channel for delivering vitamin A.

All 19 river blindness-endemic areas of West province were covered with vitamin A distribution in this period, and only two districts approved this integration policy in the North province. Because of the high level of success demonstrated in 2006, health authorities in the North province will expand the integrated vitamin A and Mectizan delivery to all six endemic districts starting in January 2007. The challenge will be to provide vitamin A supplementation twice a year, as recommended by the World Health Organization.



# River Blindness

## Sudan Launches Elimination Campaign in Two Desert Foci

The government of Sudan (northern sector) has adopted an onchocerciasis elimination policy for the isolated desert foci of Abu Hamed, with 85,000 people, and Sundus, with 65,000 people, in Nile and Gadaref states, respectively. Residents of these foci will receive Mectizan tablets every six months rather than annually. The goal of this broad and frequent treatment strategy is to stop transmission of the disease and halt blindness and skin disease. The first cycle of Mectizan distribution under the new policy was completed in late 2006. Elsewhere in Sudan, treatment will continue on an annual schedule.

The official launch of the elimination policy was announced by the vice president of Sudan in December 2006. The ceremony was attended by the federal minister of health and the governors of states that are affected by onchocerciasis. This policy is supported by The Carter Center, Lions Clubs, Lions SightFirst, World Health Organization, and Merck & Co.

Abu Hamed and Sundus Foci in Sudan



### *In Memoriam*

## Dr. Enyinnaya Uchechukwu 'Uche' Enyinnaya

The Carter Center lost a colleague and friend last October.

Dr. Enyinnaya Uchechukwu "Uche" Enyinnaya, project administrator in Imo and Abia states for the Carter Center River Blindness Program in Nigeria, was aboard a plane that crashed less than a mile after leaving the runway of the Abuja airport. He was part of a team headed to Kebbi to perform a project evaluation for the African Programme for Onchocerciasis Control (APOC). Dr. Enyinnaya, the other members of the APOC team — Dr. Nakijwa Kanyiko and Dr. Moshi Ruhiso — and most others aboard were

killed. Dr. Enyinnaya was 36 years old.

Dr. Enyinnaya was born in Nigeria but raised in Ames, Iowa. He returned to Nigeria for schooling.

He was a medical officer in the Department of Public Health at the Abia state Ministry of Health in 1998 and was appointed the Abia state project officer in charge of the River Blindness Programme, working with The Carter Center and APOC. Between 1998 and 2002, the Abia program he directed provided 1,896,420 Mectizan treatments. In 2003 he was appointed project administrator for the Carter Center

Imo/Abia states project. Between that time and his passing, Dr. Enyinnaya helped to deliver another 3,274,503 Mectizan treatments in the two states. Millions of people suffer less because of his work.

Dr. Enyinnaya served as secretary of the Abia state Blindness Prevention Committee and enjoyed track and field competition and lawn tennis.

Dr. Enyinnaya is survived by his wife of almost four years, Barrister Chinwe Enyinnaya (nee Onu); his parents, Dr. and Mrs. Anosike Enyinnaya; and four sisters: Chinenye Onyeagba, Uzoma Okoronkwo, Oluchi Anagbo, and Nkechi Enyinnaya. He will be missed by all who knew him.

*Thanks to Dr. Emmanuel Emukah, director of Southeast programs, Nigeria, who provided most of the content for this article.*

# Trachoma

## Katsina State Survey

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components of the SAFE strategy. The prevalence of trichiasis (TT) in adults older than 14 years of age ranged from 2.2 percent to 8 percent. Therefore, the S intervention (surgery) is also needed in all 10 LGAs if blindness is to be prevented and the goal of less than 0.1



*This man and an estimated 43,000 other adults in surveyed areas of Katsina have trichiasis and need corrective lid surgery immediately to prevent blindness.*

**Table 1** Estimated Prevalence of Clinical Signs of Trachoma, Backlog of Surgeries, and Household Characteristics by LGA in Katsina State, Nigeria

\* product of estimated population >14 years of each LGA and upper 95% confidence limit of TT prevalence estimate  
\*\* time to fetch water was less than 30 minutes round trip

LGA	% TF Children <10 yr	% TT Adults >14 yr	Surgery Backlog* Adults >14 yr	% Households with Latrine	% Households with Access to Water Within 30 Min**	Estimated Total Population	Population Surveyed
Baure	24.1	8.0	7,984	35.4	100	153,728	2,215
Mai'Adu'a	18.7	3.1	4,862	49.3	92.5	203,099	2,160
Kaita	15.4	3.5	3,909	67.5	87.2	149,963	2,006
Zango	12.5	5.2	5,374	99.2	60.0	153,728	1,901
Mashi	11.3	4.1	4,299	58.9	84.3	144,291	2,128
Batagarawa	9.4	2.3	2,525	97.4	90.1	124,919	2,237
Sandamu	7.9	4.0	3,808	86.4	90.6	115,457	1,766
Jibiya	7.7	2.2	2,997	93.2	72.2	183,602	2,098
Daura	5.4	4.2	3,747	100	92.3	115,427	1,631
Mani	5.0	2.3	3,211	83.0	94.2	179,418	2,170

percent TT is to be achieved by 2020.

More than 80 percent of households surveyed in eight of the 10 LGAs reported the ability to fetch water within 30 minutes. The proportion of households with latrines was above 80 percent for six of the 10 LGAs.

Baure, Mai'Adu'a, and Kaita had the highest rates of active disease in children and, therefore, warrant implementation of the full SAFE strategy and priority in the initiation of Nigeria's national trachoma control program.

## Evaluation in Sudan Shows Positive Impact of SAFE Strategy

When The Carter Center conducted surveys in southern Sudan in 1999 and 2000, it found surprisingly high levels of active trachoma in children and severe blinding trachoma in adults that exceeded the World Health Organization threshold for intervention many times over. Severe blinding trachoma was even seen in about 1 percent of children. The Carter Center helped initiate a trachoma control program in 2001 in cooperation with Sudanese health authorities and with support from Lions Clubs.

In June 2005, the program conducted an evaluation to quantify the

level of success attained in reaching the people in four of the intervention areas and to see whether use of the SAFE strategy had resulted in behavior change and a decline in disease.

The findings were extremely heartening and were published in *The Lancet* in August 2006.

The evaluation found that where there was poor program penetration, there was only a modest impact on disease, but in the two locations where coverage with health education exceeded 90 percent, coverage with azithromycin exceeded 75 percent, and there was reasonable access to water,

there was a dramatic impact. Active trachoma rates in children had fallen by up to 92 percent, and the prevalence of clean faces had increased by up to 87 percent.

These data should be interpreted cautiously because this was an evaluation and not a clinical trial. But the simplest explanation of the findings is that the SAFE strategy works. This conclusion is vital for three reasons: First, it is the first time that such results from a rigorous program have been published; second, this program was conducted in a very difficult place to work; and, third, this evaluation looked at the overall effect of the integrated program on disease and behavior and was not restricted to just one of the components of the SAFE strategy.

# Trachoma

## Series on the Human Face of Trachoma Control Ghanaian Gets Hands Dirty to Help Village Build Latrines

James Dumpert is a Peace Corps volunteer working with the Carter Center Trachoma Control Program in the Upper West region of Ghana. Posted in the village of Kulkpong in Wa East district, he supports mass latrine promotion in numerous communities. Here he tells us the story of Abdulai Yakubu, one of his colleagues in Kulkpong who has been a leader in mass latrine construction.

**I**n nearly every village in which I've worked, there's always one member of the community who seems to understand more than anyone else what it means to own a latrine. These people are by nature the risk takers, the opportunists, and consequently the agents of change of their villages. They see the opportunity before them and take it not only for themselves but for the entire community. They are the first to begin constructing their own latrines and have volunteered most of their time to assist other members of the community with theirs. In Kulkpong, Abdulai Yakubu is one of these people.

"Abulai Yakubu, or Abudi for short, has lived in Kulkpong his entire life. He has seen many changes in the village during his 35 years. He was there when the steel-truss bridge was built over the Kulkpong River that



*Abudi and his friend Oldman begin demarcation of a household latrine in Kulkpong.*

previously made the village inaccessible during the rainy season. Abudi never attended school, but he helped build the primary school that would eventually benefit

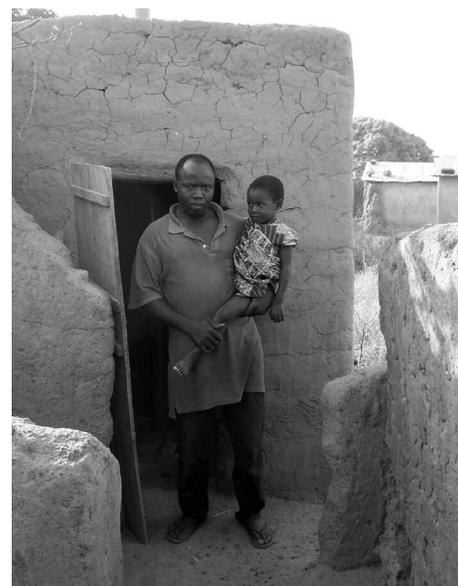
each of his 12 children. He saw the dramatic changes that occurred after the borehole wells were installed in Kulkpong: People were sick less often; it became uncommon to see someone with Guinea worm disease; and rather than spending most of the day fetching water, each of his three wives had more time to spend helping on the farm and making products to sell in the market.

"When the trachoma latrine promotion program came to Kulkpong, Abudi was quick to step forward and volunteer to organize the youth into teams to conduct the excavation of the pits. While most people were questioning whether the project was legitimate, Abudi had already gathered enough materials to build three latrines in his home. 'One for myself and my sons,' he told me, 'one for my father, and one for my wives and daughters.' After seeing his efforts, Abudi's neighbors followed his example, just in time for the arrival of the latrine masons. Every day the masons worked, Abudi was beside them carrying and mixing cement. Before the masons finished one home's latrine, Abudi was already

at the next, making sure that all of the materials were there and waiting. There are now 125 latrines in Kulkpong (a village of about 1,500 people), and Abudi had a part in constructing almost every one of them.

"A few days after latrine construction was completed in Kulkpong, I was strolling by Abudi's house and noticed him putting the finishing touches on the roof of one of his latrines. I said, 'Nice latrine, Abudi. Did you start using it yet?' 'Yes, of course,' he replied. 'Do you like it?' 'Yes, of course.' 'Why?' I asked. 'I don't have to go out into the bush at night now. This is much more convenient.' 'What do your wives think of their latrine?' 'Some were afraid to use it at first. They thought they would fall in, but they are also afraid of snakes in the bush, so they are starting to use it.' 'Well, I'm happy that you finished and started using your latrine. I wish everyone in Kulkpong worked as hard as you.' 'Not everyone understands what they are working for,' said Abudi. 'And what's that?' I asked.

" 'Their health, of course.' "



*Abudi holds his daughter in front of one of the latrines at his home.*

# Trachoma

## Latrine Coverage in Amhara, Ethiopia, Shown to Be True

In 2004, the trachoma control program headed by the Regional Health Bureau in Amhara, Ethiopia, reported the construction of over 89,000 household latrines. This was an unprecedented success, nearly nine times the original target of 10,000. One district alone, Hulet Ejju Enesie, reported construction of 22,385 of these latrines, which raised latrine ownership from 6.6 percent to 58 percent of households within a year.

The Carter Center, working with consultants from the Centers for Disease Control and Prevention and the Regional Health Bureau, designed a survey for households in Hulet Ejju Enesie to verify the latrine construction figures and learn more about the characteristics of people who had participated in the program. The results were published in the September 2006 issue of *Tropical Medicine and International Health*.

In conducting the survey, the interview team visually inspected households for the presence of latrines and asked the owners about latrine cost and their attitudes about their latrines. The

team also interviewed neighbors who did not own latrines to identify differences between latrine builders and nonbuilders to improve future delivery of the program.

Of those households reported as having latrines in 2004, the team found completed and used latrines in 78 percent of them, an actual coverage of 45 percent of the district, rather than the reported 58 percent. Most of the households that were incorrectly

listed as having latrines were in the process of building them and either had not yet finished them or had halted construction at the time of the survey. Almost 70 percent of the new latrine owners had built their household latrines without spending any money on labor or materials; those who had spent money spent the equivalent of just \$4 USD.

Heads of households that had built latrines were twice as likely to have gone to school as their neighbors without latrines and one and a half times more likely to have a larger family, which is a measure of wealth in subsistence-farming communities.

Families were happy with their new latrines and said they appreciated the convenience, cleanliness, and health benefits associated with them. The survey results demonstrate that the program has dramatically increased latrine access at very low cost and that the reports from the field were mostly valid.

There is cause for concern that the program has not reached all targeted people and that there is inequity among people receiving the benefits of the program. The trachoma control programs should reach all members of a community, not just the richest of the poor. The methods of community mobilization used in Amhara region, however, are suitable for replication in similar environments where there is good access to free building materials and could be an effective way of reaching sanitation targets for the U.N. Millennium Development Goals.



*This is an example of one of the latrines built in Ethiopia.*

# Trachoma

## First Annual Trachoma Workshop Held for Staff of Four Countries

Members of the Carter Center Trachoma Control Program conducted a training workshop for field staff at the Kilimanjaro Centre for Community Ophthalmology (KCCO) in Moshi, Tanzania, on Oct. 3–6, 2006. Program staff from Ethiopia, Ghana, Sudan, and Nigeria participated along with representatives from KCCO. This meeting was the first training workshop organized by the Carter Center program. The objectives of the training were to

discuss the implementation of the SAFE strategy for trachoma control, share experiences among field staff, and assess program needs.

The workshop began with a field visit to a KCCO program village where participants learned about promotion of latrine construction in a Masai community. The group also visited a local school to observe hygiene and sanitation practices among primary students.

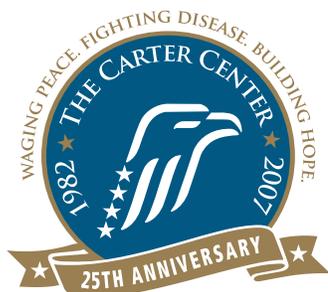
Over the three days of training, the participants reviewed the mission of

The Carter Center, shared individual field experiences for program interventions, and discussed future opportunities for collaboration. The training sessions reinforced the concept that The Carter Center aims to design and implement programs based on the demonstrated needs of a population.

In addition to presentations, the workshop encouraged participants to discuss program challenges and successes in an open forum, generating positive and constructive feedback. These sessions also served as team-building exercises, where participants were able to become better acquainted with one another.

Francophone countries Mali and Niger will participate in a similar training in early 2007.

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One Copenhill  
453 Freedom Parkway  
Atlanta, GA 30307

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