



Eye of the Eagle



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THE CARTER CENTER

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Gates Foundation Awards Carter Center \$10 Million to Fight River Blindness in the Americas

The Carter Center will escalate the fight to eliminate river blindness disease from the Americas in this decade with a \$10 million challenge grant provided by the Bill & Melinda Gates Foundation. The grant challenges the Center to raise \$5 million in matching funds to secure a total of \$15 million for the project.

“We have the science to end forever the suffering caused by river

blindness, which afflicts the poorest of the poor in this hemisphere,” said former U.S. President Jimmy Carter. “This generous grant not only will improve life for our neighbors in Latin America, but it will give hope to many more people in Africa that their society someday may no longer be burdened by this disease.”

The Center, working through the Onchocerciasis Elimination Program for the Americas, will use the grant to

help six countries halt transmission of onchocerciasis throughout the region. The grant will provide supplemental financial and technical assistance to the national programs in the six endemic countries to increase the coverage and regularity of their semi-annual treatments. The Pan American Health Organization, which is the regional office for the Americas of the World Health Organization, will be responsible for officially certifying when transmission has been stopped and the disease has been eliminated. In 2001, the Carter Center’s International Task Force for Disease Eradication identified river blindness as a target

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Waging Peace. Fighting Disease. Building Hope.

Niger Assesses Household Latrine Use, Maintenance, and Acceptance

In early 2002, the Niger national Program for the Prevention of Blindness, with the support of The Carter Center and the International Trachoma Initiative, launched a latrine promotion project to control trachoma in Niger. In the Zinder region, 1,282 household latrines were built in the first year. (Another 1,295 latrines were constructed in January through November 2003.) After a year of rural latrine promotion, the national Trachoma Control Program and The Carter Center assessed the use, maintenance, and acceptance of household latrines in the project area. The long-

range goal of this assessment is to explore ways to make household latrines affordable, acceptable, and sustainable.

In June 2003, an assessment team visited 50 villages and 200 households in the Zinder latrine project area. They held focus group discussions with village leaders and masons and interviewed heads of households to collect data on latrine use, maintenance, and acceptability. The majority (73 percent) of persons interviewed were farmers, and there were an average of 10 residents in each household. For 78

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River Blindness

Gates

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for eradication in the Americas, a decision endorsed by a conference of 60 global experts in January 2002.

“We hope that this challenge grant will inspire other donors to support the Carter Center’s efforts to eliminate this debilitating, blinding disease in the Americas,” said Dr. Regina Rabinovich, director of the Gates Foundation’s Infectious Diseases Program. “The elimination of river blindness would mark a critical milestone in public health in the region and pave the way for future progress in health and development.”

In Africa, where more than 18 million people are infected with river blindness, the disease is not currently eradicable due to its heavy concentration and challenges to distributing the drug. “In the Americas, we can identify the entire population with the disease and treat a sufficient percentage to eliminate transmission,” said Dr. Donald Hopkins, associate executive director for health programs at The Carter Center. “In Africa, the current goal is to control river blindness as a public health problem with annual doses of ivermectin. Nevertheless, it is expected that lessons learned in the Americas will contribute to better control in Africa.”

Since 1996, The Carter Center has partnered with national ministries of health, the Centers for Disease Control and Prevention, and Lions Clubs International Foundation to deliver more than 50 million treatments of Mectizan® in Africa and Latin America.

Colombia Hosts IACO 2003 Focusing Efforts to Achieve Elimination of Onchocerciasis in the Americas

The 13th InterAmerican Conference on Onchocerciasis met Nov. 18-20 in Cartagena, Colombia, reporting that the first round of treatments in 2003 reached 92 percent of the eligible population in the Americas, with all countries exceeding their 85 percent coverage goal for the first part of the two-times-per-year treatment strategy. This is the third treatment round in a row that the Americas have exceeded the coverage goal of 85 percent. Provisional reports through October indicated that 218,634 persons have thus far been treated in the second round, which is 67 percent coverage. A total of 625,452 treatments were reported for the entire year through October. Percentages of ultimate treatment goal (2) achieved by each country through October 2003, as reported in IACO



2003, are shown in Figure 1. For the first time, Venezuela has surpassed its treatment coverage goal. Out of the eligible population of 96,306, a total of 85,912 persons were treated in the first round of 2003. (See Figure 2.) This is 89 percent coverage, as opposed to 70 percent for the same period in 2002.

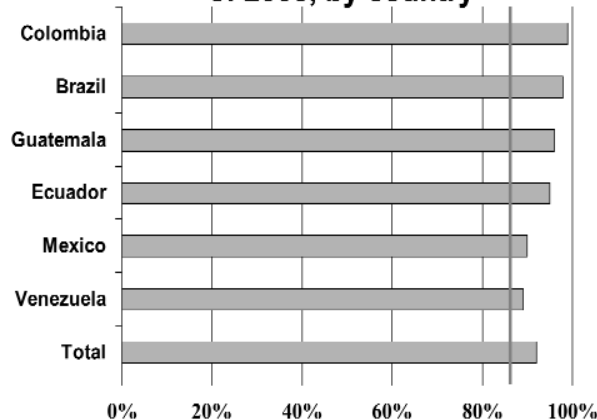
A highlight of this year’s meeting was a special meeting of ophthalmologists to discuss ongoing research on the aspects of river blindness that impair eyesight. A report from this group is expected in the coming months. Also of interest is the four-times-per-year treatment strategy slated to begin in

Colombia and parts of Mexico. Brazil is considering a three-times-per-year strategy.

Mrs. Celsa Sampson, representing Dr. Eduardo Alvarez of PAHO-Colombia, opened the meeting, and comments were made by health representatives of the Ministry

Figure 1

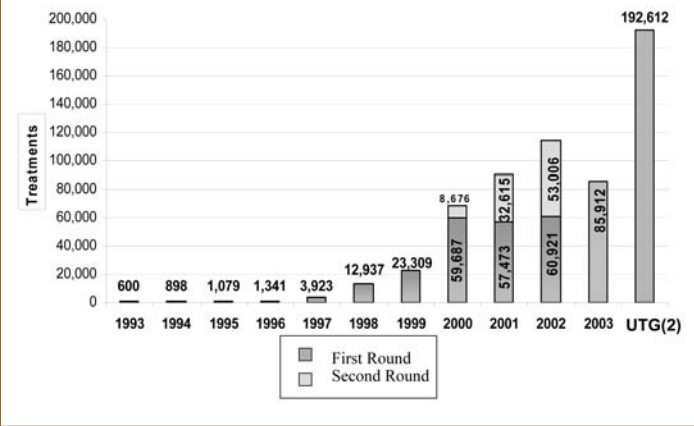
Onchocerciasis in the Americas: Coverage of eligibles achieved in first semester of 2003, by country



River Blindness

Figure 2

History of Mectizan Treatments in Venezuela
1993-2003



The Carter Center Assists in More Than 50 Million Mectizan Treatments

As of October, a total of more than 8,214,287 people have received Mectizan for onchocerciasis in Carter Center-assisted programs in 2003, 82 percent of the 2003 annual treatment objective. Of these treatments, 49 percent have been in Nigeria. (See Table 1.) Uganda, Cameroon, Ethiopia, OEPA, and Sudan also have reported treatments in 2003. The program gave its 50 millionth treatment in July! Since its inception in 1996, the Global 2000 River Blindness Program has assisted ministries of health to administer 53,649,868 treatments in 11 countries in Africa and the Americas. Almost all of these treatments have been assisted under the Lions-Carter Center SightFirst Initiative.

In response to this milestone, President Carter said, "Fighting blinding diseases has profound significance, not just for me as an interested observer, but for the child who will never go blind and for his parents and grandparents, who now have hope their lives can improve. When people receive Mectizan, it is often the only time they experience such hope. The distribution of more than 50 million treatments is an incredible achievement."

Continuing expansion of the Ethiopia River Blindness

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of Health of Colombia, Merck, and OEPA. In addition to the country presentations on treatment coverage, treatment frequency, the impact of the programs thus far, and sustainability of the programs, Dr. Brian Duke of the River Blindness Foundation, Dr. Robert Klein of the CDC Medical Entomology Research and Training Unit, Dr. Frank Richards of the Centers for Disease Control and Prevention, and Dr. Carlos Gonzalez-Peralta of the Mectizan® Expert Committee made presentations on specialized topics. The program was also pleased to have in attendance Dr. Libardo Bastidas Passos, who is a former president of Lions Clubs International Foundation and a physician.

Table 1

Onchocerciasis: 2003 Mectizan treatment figures for Global 2000 River Blindness Program (GRBP)-assisted areas in Nigeria, Uganda, Cameroon, Ethiopia, and collaborative programs in Latin America (OEPA) and Sudan

Country/Tx Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	% ATO
NIGERIA	*ATO(earp)= 5,105,724		ATO(arv)= 7,921											
TX(earp)	0	5,744	115,626	415,660	1,234,162	559,215	640,015	478,725	567,308				4,016,455	79%
TX(arv)	0	22	121	545	1,604	1,156	1,089	900	952				6,389	81%
UGANDA	*UTG= 999,275		ATO(arv)= 2,351											
TX(earp)	13387	234,690	189,465	67,251	9,609	11,413	200,148	178,060	82,582				986,605	99%
TX(arv)	30	675	728	454	295	227	649	486	824				2,324	99%
CAMEROON	ATO(earp)= 1,265,391		ATO(arv)= 2,708											
TX(earp)	0	0	0	0	123,018	702,402	530,382	0	0				1,355,802	107%
TX(arv)	0	0	0	0	0	0	0	0	0				0	0%
OEPA**	**UTG(2)= 879,774		ATO(arv)= 1,934											
TX(earp)	0	0	0	0	0	406,818	0	0	0	218,634			625,452	71%
TX(arv)	0	0	0	0	0	1,821	0	0	0	0			1,821	94%
ETHIOPIA	ATO(earp)= 1,119,063		ATO(arv)=											
TX(earp)	0	0	27,422	139,622	527,149	306,794	6,996	0	0				1,007,983	90%
TX(arv)	0	0	0	0	0	0	4,117	0	0				4,117	
SUDAN	ATO(earp)= 670,232		ATO(arv)=											
TX(earp)	10,597	14,288	8,606	4,640	45,664	66,722	40,009	31,464					221,990	33%
TX(arv)													0	
Totals	ATO(earp)= 10,039,459		ATO(arv)= 14,914											
TX(earp)	23,984	254,722	341,119	627,173	1,939,602	2,026,651	1,377,541	656,785	649,890	218,634	0	0	8,214,287	82%
TX(arv)	30	697	849	999	1,899	1,383	1,738	1,386	1,776	0	0	0	14,651	98%

GRBP Cumulative total 53,649,868

ATO: Annual Treatment Objective, TX: Number Treated, earp: Eligible At Risk Population, arv: At Risk Villages (mass Mectizan treatment is provided)

UTG: Ultimate Treatment Goal

**OEPA figures reported quarterly, UTG(2) is the Ultimate Treatment Goal times 2, since OEPA txs are semiannual

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Center Assists

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Program has contributed substantially to this year's treatment figures. Ethiopia surpassed one million treatments for the first time to reach 1,007,983 in January-September 2003: almost twice as many treatments as in 2002. In 2003, the program began to treat in Bench Maji zone (adjoining Kaffa and Sheka zones) in the Southern Nations, Nationalities and Peoples region, and in North Gondar zone in the Amhara region. The African Program for Onchocerciasis Control has approved further expansion that will begin in 2004 in Illubabor and Jimma zones, which also adjoin Kaffa and Sheka zones but are administratively part of Oromiya region. Treatments are expected to double again in 2004.

“Lions have been ‘Knights of the Blind’ for nearly 80 years. We are overjoyed that in cooperation with The Carter Center we’ve been able to save the sight of millions of people,” said Kay K. Fukushima, chairperson of Lions Clubs International Foundation.

Health education and the distribution of Mectizan treatments have not only prevented millions from contracting river blindness but also have saved multitudes of communities from near extinction. Villagers who once abandoned fertile land near rivers

to avoid being bitten have returned to their land and revived their local economy. Carter Center staff continue to hear stories from infected individuals such as a Nigerian tailor whose eyesight was beginning to be affected by the parasite, but who reported that

after taking Mectizan he could see well enough to thread a needle again without help.

We thank and congratulate our partners, especially Lions Clubs, other donors, and the ministries of health, for making this achievement possible.

Dr. Moses Katarwa Joins the Global 2000 Atlanta Office

The Carter Center's River Blindness Program welcomes Dr. Moses Katarwa to the Global 2000 team. Dr. Katarwa is the new program epidemiologist, but his history with Global 2000 dates back to 1996 when he became the country representative for the Carter Center's Uganda office. He previously worked with onchocerciasis (for the River

Blindness Foundation), beginning in 1992.

Dr. Katarwa has been a member of the Lions Club since 1996. He has recently joined the chapter in downtown Atlanta. Because fighting blindness is one of the primary agendas of the Lions Club, the Atlanta Lions look forward to hearing about his firsthand experiences with combating river blindness.



Dr. Katarwa, far right, visits with fellow Lions and President Carter in Uganda.

River Blindness

With Dr. Katarbarwa's assistance, Uganda reached many important milestones.

- He completed and produced an epidemiological map of the country, which shows the distribution of onchocerciasis.
- During his tenure, the program there reached its ultimate treatment goal for mass treatment with ivermectin.
- He has a passionate belief in the power of community involvement, which led to the establishment of an effective, integrated, result-oriented research, monitoring, and evaluation mechanism for accessing and improving the performance of the community-directed strategy for delivering ivermectin. As a result, more than 90 percent of Uganda's River Blindness Program-assisted communities have been achieving coverage of at least 90 percent annually. This strategy has now become a national policy for all health programs requiring the involvement of communities, including malaria, HIV/AIDS, TB, lymphatic filariasis, and schistosomiasis.

Dr. Katarbarwa has also been a champion for the involvement of women in community-directed treatment with ivermectin (CDTI) activities and has published several articles on this topic. In September 2002, he was appointed by the director-general of the World Health Organization to serve on the Technical Consultative Committee for the African Program for Onchocerciasis.

The Carter Center looks forward to Dr. Katarbarwa's contribution to the efforts at headquarters.

Lions Clubs International Officials Visit Uganda

On Oct. 28, 2003, Lions Clubs International Foundation past President Jim Ervin and Lion Dr. Tebebe Berhan, district governor for District 411A (Ethiopia

and Kenya), paid a one-day visit to Uganda to see what the local Lions have done in improving the lives of Ugandans infected with onchocerciasis.

With local Lions and River Blindness Program staff, they traveled to Mbale district, where they visited communities and viewed people with onchocerciasis signs and symptoms. The people of Mbale expressed gratitude to the Lions, the program,

Merck & Co., and all other partners for making a difference in their lives.



Past International President Ervin joins Bufumo community members and local leaders.



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Trachoma

Niger Latrines

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percent of the latrine recipients interviewed, the Zinder project provided them with their first household latrine.

Latrine use and maintenance

Over 90 percent of the adults in the study reported that they “always use latrines.” Reported latrine use by children was lower, with 55 percent reporting that they “always use latrines” and 18 percent reporting that they “use latrines often.” The study suggests that latrines are used more often in the evening than in the afternoon or morning. Thirty-six percent of households reported that their neighbors used their latrine, though we do not know how often. Sixty-four percent of the adults interviewed reported having used a latrine during the last 24 hours, and 90 percent during the last 48 hours.

In 75 percent of the households visited, women were in charge of cleaning the latrine, and latrines were reported to be cleaned an average of three times per week. Seventy-nine (39 percent) of the 200 latrines inspected had been cleaned within 48 hours. Latrines were reportedly cleaned with water and soap (24 percent), water only (57 percent), and without water (13 percent).

On inspection, the assessment teams found that latrine walls were made mostly of dry grass (56 percent) or mud brick (36 percent). Only 15 percent of the latrines had a door, which may have reduced privacy and limited daytime use of the latrine. During the unscheduled household visits, the investigators found evidence that 86 percent of the latrines had been used recently, and 70 percent

were kept clean. Keeping latrine pits closed with cement covers provided by the project is important to reducing both flies and odors around latrines. Seventy-four percent of the latrines inspected were closed at the time of the visit. Very few (6 percent) of the latrines had exposed feces, and flies were present in only 11 percent of the latrines.

Acceptability

Household members reported that they appreciated latrines for proximity and easy access (59 percent), privacy (22 percent), environmental hygiene (7 percent), and disease prevention (5 percent). Few disadvantages to having a household latrine were reported, the most common being the odor (17 percent of respondents).

Sustainability

The assessment found that the pilot

latrine project has expanded beyond its original boundaries. Masons reported having built 331 additional latrines in the intervention villages without project contribution and 87 latrines outside of the project villages. Thirty-one villages had formed hygiene committees to promote better hygiene and disease prevention. Forty-nine of the 50 village leaders interviewed said that they would continue to build latrines when the project ends.

This first assessment of the Zinder Latrine Promotion Project provides highly encouraging evidence that after one year, household SanPlat latrines are widely accepted, used, and maintained in the intervention villages. This assessment provided additional valuable information for the national program to use in improving the “E” of the SAFE strategy.

Ethiopia’s Dera District Schools Celebrate First Trachoma Prevention Days

To promote awareness of trachoma control, three primary schools in Dera district—Anbessamie, Arb Gebeya, and Hamusit—celebrated their first annual Trachoma Prevention Day in June and July 2003. Participants included students, teachers, parents, and representatives of The Carter Center-Ethiopia, as well as local staff of the district administration and health and education offices. Teachers and hygiene experts read poems, and students in the schools’ trachoma clubs performed dramas and sang songs about trachoma

control, hygiene, and health. Students competed in trachoma question-and-answer contests. More than 200 participants attended each of the events. Dera district is one of the four districts in which the Amhara Health Bureau is working on trachoma control and prevention in collaboration with The Carter Center.

Trachoma Prevention Day, part of the new trachoma prevention curriculum designed by the Amhara Regional Health Bureau and The Carter Center to reach children in rural communities, is an important part of community

Trachoma

mobilization efforts in these highly trachoma-endemic communities. In 2001, the newly launched Amhara Trachoma Control Program conducted a needs assessment that included interviews with schoolteachers. Those studies revealed that most schoolteachers had minimal knowledge of the disease or its prevention. Teachers were very interested and requested health education materials and a structured guide to teaching trachoma prevention. Those requests led to discussions between The Carter Center and the Amhara Regional Health and Education bureaus. A working group developed a trachoma prevention curriculum and corresponding health education materials to cover all components of the SAFE strategy with an emphasis on F&E. In addition, the lessons encourage students to identify other problems related to hygiene in their own communities and come up with their own solutions.

The new curriculum was pilot tested in the three schools in Dera beginning in December 2002, where 71 teachers were trained in trachoma control and prevention. Trachoma is taught as part of the regular curriculum in grades 1-4 and through trachoma

Lions Past International President and Hilton Foundation Vice President Visit Ethiopia

Lions past International President Jim Ervin and Conrad N. Hilton Foundation Vice President for Programs Dyanne Hayes traveled to Ethiopia Oct. 18-28, 2003, to visit trachoma control programs in the Amhara region. The team also included Lions Multiple District 411 Chairman Dr. Tebebe Berhan, Lion Ramendra Shah, Dr. Joe Riverson of World Vision International, and Mr. Teshome Gebre and Dr. Jim Zingesser of The Carter Center.



Jim Ervin, Dyanne Hayes, Lions, and Carter Center representatives examine women after trichiasis surgery, Anbessamie Health Clinic, Ethiopia.

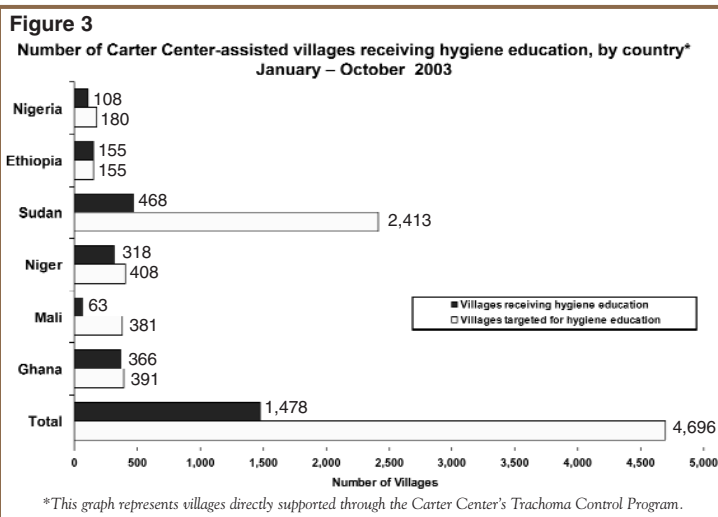
and sanitation clubs for grades 5-8. Over 7,000 students are involved in the program at the three schools. Based on the final evaluation of the pilot

school programs, the curriculum will be finalized, and the program will expand to include other schools throughout Dera and other highly trachoma-endemic districts of the Amhara region.

The team first visited World Vision's trachoma control program in the Borkena Valley. In Kemissie and Antsokia, the team was welcomed in local schools where trachoma health education activities are going strong. A health center where trichiasis surgery was being done also was visited. Over 78,000 persons in the Borkena Valley at risk for blinding trachoma have now been treated with Zithromax[®] donated by Pfizer Inc. The World Vision program is funded by the Hilton Foundation and has received a grant from the International Trachoma Initiative.

The team visited the South Gondar Zone Trachoma Control Program, supported through the Lions-Carter Center SightFirst Initiative, where they were treated to demonstrations and presentations in several public schools. At the Anbessamie Primary School, Trachoma and Sanitation Club

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Trachoma

Lions

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members sang songs and performed dramas for the assembled students with important messages about preventing blindness. The headmaster of the Anbessamie School took his guests on a tour, including improved latrines and face-washing facilities. He presented his guests with copies of the school's trachoma and sanitation curriculum and workbooks, which are being finalized with support from Lions and the Center. Lion Tebebe announced that Ethiopian Lions Clubs would fund the translation of the curriculum into Amharic.

Ato Zelalem Abera, coordinator of the South Gondar Zone Trachoma Control Program, took the team to rural villages where household latrines have been built with support from the program. Health and hygiene promotion activities are ongoing in all 155 villages in the program area, and more than 3,000 household latrines have been built. Mr. Zelalem also led the team on a tour of the Anbessamie health center, where corrective eyelid surgery is done for trichiasis patients. More than 10,000 corrective eyelid surgeries have been performed as part of the program during the past three years, and 100,256 people were treated with Zithromax in December 2003.

Past International President Ervin, Dyanne Hayes, and their colleagues were honored at numerous events, including a banquet by the Lions Clubs of Addis Ababa. They also were privileged to meet with high officials during their visit, including H.E. Yosef Retta, president of the Amhara region, who thanked the Lions, Carter Center, Hilton Foundation, and World Vision for the work they are doing for the

people of the Amhara region. He specifically pointed out that the Lions-Carter Center program is working effectively to empower regional and zonal health programs and build local capacity.

On Oct. 27, H.E. Girma Wolde Giorgis, president of the Federal Republic of Ethiopia, warmly received past International President Ervin and the Lions-Carter Center team at the

presidential palace in Addis Ababa. President Girma, a founding member of Ethiopia's first Lions Club, expressed his sincere appreciation for the good work being done with the support of Lions and The Carter Center to prevent blindness in Ethiopia. The Conrad N. Hilton Foundation and Lions International are main supporters of the Trachoma Control Program in six African countries.

Mali Launches Latrine Promotion Project in Ségou Region

The success of latrine promotion projects in Niger and Ethiopia has clearly demonstrated that thousands of household SanPlat (sanitary platform) latrines can be constructed in rural villages at low cost. Trachoma control programs have taken a great interest in this technology for its potential to reduce the number of trachoma-transmitting flies and bring other health benefits to participating communities.

In April 2003, the Mali Trachoma Control Program began a pilot project in two districts of the Ségou region to promote latrines and village-based health education in trachoma-endemic villages. The project is a collaborative effort of the National Program for the Prevention of Blindness, the regional health bureau, the Baroueli and Bla district health bureaus, and The Carter Center. Dr. Modibo Traore and Dr. Alassane Dicko, district medical directors of Baroueli and Bla districts, respectively, launched the project and enlisted villages interested in trachoma control and improved hygiene. In the two districts, 63 rural villages with a total population of 63,566 persons

were selected. Each village was asked to nominate two men to be trained as masons. Each village also selected one man and one woman for health education training.

A total of 104 villagers attended the two-day training for masons. Upon completion of their training, masons were presented with enough cement and iron rebar to construct five demonstration latrines in their home villages. Next, 102 health education volunteers were trained in trachoma control at their respective district health bureaus. Volunteers were encouraged to create village hygiene committees to promote general hygiene and sanitation.

The long-term goal for the Malian project is to promote a sustainable hygiene program in which latrine ownership and daily use is an integral part of rural life. In August 2003, Mali's Ministry of Health (including regional sanitarians), UNICEF, and The Carter Center held a meeting to discuss strategies for latrine sustainability in Mali. The Carter Center's trachoma assistance to Mali is supported by the Conrad N. Hilton Foundation.

First Program Review Meeting for Trachoma Control Held in Southern Sudan

The first program review meeting for the Trachoma Control Program in the Operation Lifeline Sudan/South operational area was held July 29-30, 2003, at the OLS/S compound in Lokichokio, Kenya. The 30 people who attended the review meeting represented all eight nongovernmental partners working to control blinding trachoma in the areas of south Sudan supported by the OLS/S consortium: Tearfund, MEDAIR, ZOA, Christian Mission Aid, Adventist Development and Relief Agency, Sudan Medical Care, Christoffel Blindenmission, and The Carter Center. In addition, representatives of the Sudan People's Liberation Movement health secretariat and the World Health Organization were active participants in the meeting.

The main objectives of the meeting were to review progress of the Trachoma Control Program in southern Sudan, learn from the lessons of the past year, and coordinate trachoma control activities for 2004. The partner organizations focused on how to implement a balanced SAFE strategy in southern Sudan in spite of the civil war. Challenges to the program included finding alternatives to traditional latrines, which collapse readily in the rainy season, and overcoming cultural resistance to using latrines.

The lively discussion among participants throughout the meeting produced recommendations for the program:

- Advocate for increased safe water provision in south Sudan
- Improve planning to achieve targets in a timely manner
- Develop a supervision checklist for health education activities
- Develop line listings of target villages for monthly reporting of SAFE activities

- Include more women in program activities
- Identify culturally appropriate ways to empower target communities
- Scale up surgical activities with a focus on clearing the trichiasis backlog
- Do operational research for all components of SAFE, whenever possible.

Participants reported that the program review was successful in meeting its objectives and that it helped create a positive team spirit and group identity for the program in southern Sudan.

International Trachoma Initiative Increases Zithromax to Sudan

On Nov. 11, 2003, the International Trachoma Initiative board of directors approved Sudan's request for 680,000 additional treatment doses of Zithromax. This increased donation will allow the Sudan Trachoma Control Program to expand treatment in the areas already included in the program, as well as to begin treatment in highly trachoma-endemic communities in West Darfur state.

The board's approval coincided with the initiative's fifth anniversary celebration. In a press statement issued that day, Dr. Jacob Kumaresan, president of the initiative, said, "We are winning the fight against blindness from trachoma because we have an extraordinary strategy and effective partnerships in our program countries. Building on the momentum of our achievements to date, we are broadening the scope of the trachoma programs already in place and will launch at least 10 new country programs."

By broadening their commitment to the Sudan Trachoma Control Program, Pfizer, and ITI have shown that they are dedicated to helping to fight trachoma in the most difficult areas of the world. With peace a real possibility after decades of civil conflict, health programs in Sudan are poised to provide services to additional isolated and underserved communities in both the north and south. In 2002, Sudan's program treated a total of 189,233 persons with Zithromax. In Operation Lifeline Sudan/South-supported areas of southern Sudan, The Carter Center has coordinated trachoma control activities in collaboration with the SPLM health secretariat and six nongovernmental partners: Christoffel Blindenmission, the Adventist Development and Relief Agency, Christian Mission Aid, MEDAIR, ACROSS, and ZOA.

The Carter Center's trachoma activities in Sudan are supported under the Lions-Carter Center SightFirst Initiative.

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Addis Ababa University, CDC, and The Carter Center Collaborate in Research

Mr. Gashu Fentie is a biologist in the Amhara Regional Health Bureau with a strong interest in vector-borne diseases. Illnesses transmitted by insects are highly prevalent in the Amhara region, especially trachoma and malaria. To increase capacity in the region, Mr. Gashu entered the department of biology at Addis Ababa University to study entomology and chose to study flies and trachoma transmission for his master of science degree.

In April 2002, Dr. Ellen Dotson, an entomologist at the U.S. Centers for Disease Control and Prevention, met Mr. Gashu while visiting the South Gondar Trachoma Control Program. Dr. Dotson had been asked to assist the regional health bureau and The Carter Center to develop operational research for fly control. After meeting with Mr. Gashu and his thesis adviser, Dr. Teshome Gebre Michael, Dr. Dotson agreed to be an external adviser on Mr. Gashu's thesis.

Mr. Gashu's entomological studies began with direct observation of eye-seeking flies in the South Gondar village of Melefen, where 75 percent of the children observed had signs of trachoma. The initial field observations were done in December 2002 through March 2003. About 95 percent of flies captured on the faces of children were found to be *Musca sorbens*. *Musca domestica* accounted for 2 percent of the eye-seeking flies captured. The main breeding media for *M. sorbens* were human and dog feces; herbivore

feces produced significantly less *M. sorbens*. The peak density of flies on the faces of children was observed in the morning between 9 a.m. and 11 a.m., and Mr. Gashu's observations suggest that temperature and relative humidity may play an important role in governing the diurnal activity of flies. The initial data analysis suggests

that improving sanitation by removing human and canine feces from the environment is an important step in trachoma vector control.

To continue his research and build laboratory skills in both fly and mosquito entomology, Mr. Gashu worked at the U.S. Centers for Disease Control and Prevention entomology laboratory in Atlanta, Ga., in November and December 2003. His study in the United States is sponsored by The Carter Center through the Lions-Carter Center SightFirst Initiative.

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Lymphatic Filariasis in Nigerian Urban Areas Pinpointed by Emory Student

Mr. Andrew Terranella, M.P.H., M.D. candidate at Emory University, traveled to the Global 2000 office in Jos, Nigeria, June 29–Aug. 16, 2003, to assess potential transmission of lymphatic filariasis in two selected urban areas: Jos, Plateau state; and Lafia, Nasarawa state. With Dr. Abel Eigege, head of the Plateau and Nasarawa lymphatic filariasis effort at Global 2000/Nigeria, and other Nigerian staff, Mr. Terranella visited clinics and primary care centers in the two cities.

The team set up a surveillance system for clinical manifestations of lymphatic filariasis across six districts in the city of Jos. A similar surveillance system was established in the city of Lafia. This surveillance system detected 27 exclusively urban cases of hydrocele,

lymphedema, or elephantiasis and eight exclusively urban *W. bancrofti* infections among 12,083 patients in the two cities. They detected only one case of adenolymphangitis (ADL). (See Figure 4.) At least two urban foci of infection exist in the Nasarawa Gwong and Tudun Wada districts of Jos.

Based on these findings, the program began treatment for lymphatic filariasis in Jos for the first time in October 2003. The Lymphatic Filariasis Elimination Program in Nigeria is also conducting treatment in 29 villages in Plateau and Nasarawa states and has treated 2,298,859 people through September 2003. Cumulatively, The Carter Center has assisted in more than 5.2 million lymphatic filariasis treatments in Nigeria since the program commenced in 2000.

Consultant Evaluates Hydrocele Surgery Project

At the 2001 Nigeria program review, a decision was made to offer surgery to the approximately 450 men with hydrocele who were identified in the 1999-2000 hydrocele survey. Dr. Gail Thomas, a surgeon and consultant to the Carter Center's Lymphatic Filariasis Elimination Program, visited Jos to evaluate the pilot hydrocele surgery project in central Nigeria, July 28 – Aug. 6, 2003.

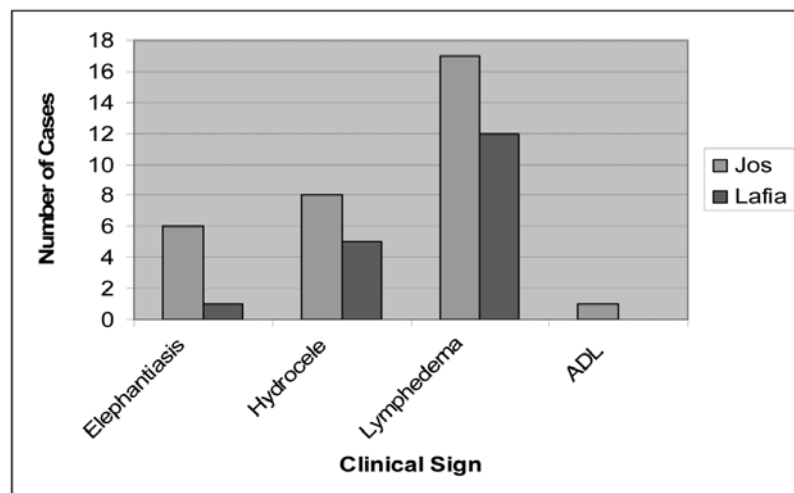
Dr. Thomas examined 80 patients following their hydrocele surgery.

Approximately 170 surgeries have been performed since September 2002. Dr. Thomas personally was able to examine 80 patients post-operatively following their hydrocele surgery. Follow-up of patients 10 months after surgery showed good outcome, with no recurrence of hydrocele, although the rate of postoperation wound infections among the 36 patients who were examined four weeks after surgery was unacceptably high.

The patients were extremely grateful and happy to share how this surgery has changed their lives. Many are now able to farm and participate in their family and community life, which was not possible a year ago.

Figure 4

Distribution of Clinical Cases of Lymphatic filariasis in Jos and Lafia, two urban areas in Nigeria



Global Health News

Milestones

In November, **Ms. Kelly Callahan**, Carter Center resident technical adviser in Nairobi, Kenya, returned to the United States and **Mr. Mark Pelletier**, former Carter Center/ Khartoum, Sudan resident technical adviser, has replaced her. **Mr. Raymond Stewart**, who was the Center's resident technical adviser in Ouagadougou, Burkina Faso, is now resident technical adviser in Khartoum.

Dr. Jeremiah Ngondi, trachoma program control officer for The Carter Center based in Nairobi, began an 11-month study of epidemiology in September at Cambridge University

in England as a scholarship recipient. **Ms. Alice Onsarigo** joined The Carter Center as the new program officer in Nairobi.

Similarly, **Mr. Eric Dumakor**, trachoma program control officer in Ghana, has left to study at the London School of Hygiene and Tropical Medicine. **Ms. Lydia Ajono** has joined The Carter Center office in Accra as the new program officer.

Mr. Ayman Elsheikh, data manager for the Khartoum office, received one of the first Foege Fellowships, funded by the Bill and Melinda Gates Foundation, allowing him to study public health at Emory University in Atlanta, Ga., for two years.

Ms. Peace Habomugisha has been appointed acting country representative of The Carter Center in Uganda.

The International Trachoma Initiative celebrated its fifth anniversary in New York on Nov. 11, 2003. The day's events included speeches from U.N. Secretary-General Kofi Annan and a congratulatory video message from former U.S. President Jimmy Carter.

The ITI was created in 1998 by the Edna McConnell Clark Foundation and Pfizer Inc to assist trachoma-endemic countries in implementing the SAFE strategy and managing Pfizer's donation of Zithromax for treating active trachoma and preventing transmission of the disease.

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