



Eye of the Eagle



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Dramatic Impact on Visual Impairment due to River Blindness in Southeast Nigeria

In 2001, the national Nigerian Onchocerciasis Control Program treated a total of 16.6 million persons with Mectizan®. Twenty-five percent or 4.8 million of these treatments were assisted in nine states by the Carter Center's Global 2000 River Blindness Program. Most

exciting was the recent impact assessment report from Imo and Abia states by Dr. C.E. Emukah, which showed impaired visual acuity from river blindness has fallen 94 percent (16.5 percent to 1 percent) since the program was launched in 1994 (Figure 1, page 2). Onchocercal nodule prevalence has declined 61 percent, and related skin rashes are down 88 percent. Data gathered in areas of Plateau and Nasarawa states suggest that the rate of onchocerciasis transmission there has been reduced by 75 percent. With the help of

Sudan Trachoma Control Program Impacts Malakal

In August 2002, a team of eye health workers from the Sudan Trachoma Control Program led by Dr. Awad Hassan, senior ophthalmologist and deputy director of Sudan's Prevention of Blindness Program, and Dr. Magdi Ali, deputy national coordinator of the Sudan Trachoma Control Program, completed the first follow-up trachoma-prevalence survey in Sudan. The follow-up study was done in four villages first surveyed in May 1999 by ophthalmologists from the Sudan federal

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Gen. Gowon and Dr. Hopkins at the program review in Nigeria.

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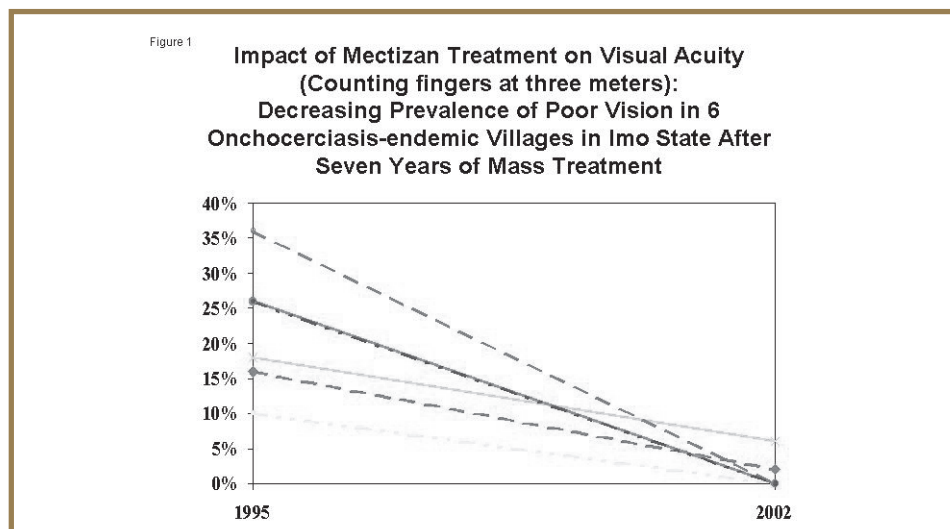
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several other partners, Nigeria treated 69 percent of its eligible at-risk population in 2001.

These dramatic data were a highlight of the fourth program review of Carter Center-assisted health programs in Nigeria, which took place Sept. 23-27, 2002, at the Hill Station Hotel in Jos, Nigeria. The meeting was chaired by the Carter Center country representative in Nigeria, Dr. Emmanuel Miri, and attended by over 100 participants, including the federal Ministry of Health national program coordinators for River Blindness, Lymphatic Filariasis, Schistosomiasis, Guinea Worm, and Trachoma programs; representatives of the Federal Ministry of Water Resources; UNICEF; WHO (Geneva, AFRO,



and Lagos); Lions; the Yakubu Gowon Center; several NGOs; and several Nigerian universities. Among those attending from Atlanta were Dr. Donald Hopkins, Mr. Craig Withers, and Drs. Frank Richards, Ernesto Ruiz, and Jim Zingeser. The group reviewed the country's dracunculiasis, onchocerciasis,

schistosomiasis, lymphatic filariasis, and trachoma programs. The opening ceremony was chaired by former head of state Gen. (Dr.) Yakubu Gowon.

River Blindness Program Assists in More Than 44 Million Mectizan Treatments Since its Inception

As of November 2002, a total of more than 8 million people have received Mectizan® for onchocerciasis in River Blindness Program-assisted projects, 88 percent of the 2002 annual treatment objective. Of these treatments, 60 percent have been in Nigeria, which has treated 4,836,962 persons, 101 percent of its 2002 annual treatment objective. Uganda, Cameroon, Ethiopia, OEPA, and Sudan also reported good progress in their treatments in 2002. Since its inception in 1996, the River Blindness Program has assisted ministries of health to administer 44.4 million treatments.

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River Blindness

More Lions Funding for Sudan

At its meeting on Aug. 21, 2002, the SightFirst Advisory Committee of the Lions Clubs International Foundation approved a new grant of \$3,790,000 to The Carter Center for control of onchocerciasis in Sudan. The grant, for the period 2002-2007, is a renewal of the previous five-year grant of \$1.6 million, 1997-2002.

As part of the Lions-Carter Center SightFirst Initiative, the grant will support expanded operations in areas that are being assisted by The Carter Center on both sides of the civil war in Sudan. In 2001, under the previous grant, 443,082 persons were treated for onchocerciasis, 60 percent of the ultimate treatment goal in these areas. Treatment, health education, and community mobilization will be extended to new communities as well as reach the entire ultimate treatment goal of 743,230 persons in existing assisted areas under the new grant.

Since the collaboration began, more than 1.9 million treatments have been administered in Sudan with Lions Club International Foundation support. Professor Mamoun Homeida is the national coordinator of Sudan's Onchocerciasis Control Program.



IACO 2002 Meets in Brazil

The theme of the 12th InterAmerican Conference on Onchocerciasis, held Nov. 19-21, 2002, in Manaus, was *New ways to accelerate the elimination of onchocerciasis from the Americas*. The opening ceremony, featuring a speech by Dr. Mauro Ricardo Costa, president of Brazil's Fundación Nacional de Salud, was followed by a round-table discussion chaired by Mr. Joao Sánchez, director of external affairs for Merck, Sharp & Dohme of Brazil, to celebrate the 15th anniversary of the Mectizan Donation Program.

Participants in the round table included Dr. John Ehrenberg of the Pan American Health Organization and Mr. Francisco Fabricio de Oliveira Neto of Lions Clubs International. Dr. Guillermo Zea Flores, expert adviser to the Center-

administered Onchocerciasis Elimination Program for the Americas, was honored during the meeting with an award from the Mectizan Expert Committee.

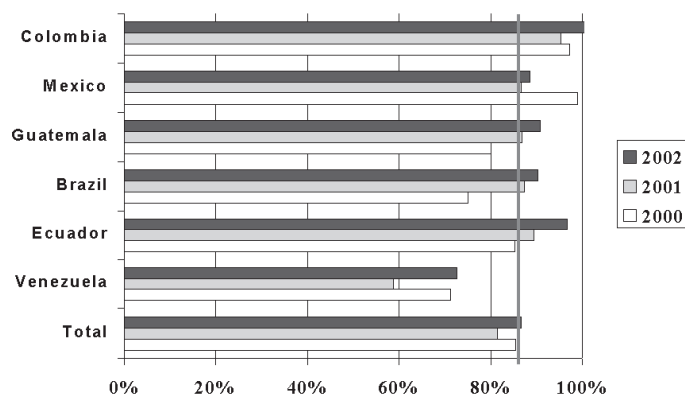
Provisional reports indicated that the regional goal of reaching 85 percent coverage of the eligible population twice per year was achieved in the first round of 2002, with 372,728 persons or 86.7 percent treated (see Figure 2). The number treated in the first round of 2002 surpassed by 6 percent that of the same period in 2001 (351,591).

First semester treatment figures reported in IACO '00, IACO '01, and IACO '02 are shown below. Only Venezuela failed to reach the 85 percent goal. A total of 609,208 treatments were reported at the meeting for 2002 through mid-October. The most encouraging figure was the improvement in total treatments in Venezuela. The 95,093 treatments so far reported for 2002 exceed 2001 total treatments of 90,088.



Figure 2

Onchocerciasis in the Americas: Coverage of eligibles achieved in first semesters of 2000-2, by country



*Ultimate Treatment Goal = all persons needing treatment (eligibles) in all endemic areas

River Blindness

Uganda Shares Onchocerciasis Control Experiences With Ethiopia



Mr. Teshome and Dr. Assefa visit with a community-directed distributor of Mectizan in Uganda.

In late July 2002, two staff members from The Carter Center office in Ethiopia, Mr. Teshome Gebre and Dr. Assefa Worku, visited the Center's Global 2000 River Blindness Program office in Uganda to learn lessons that might be applied to Ethiopia from one of the Center's oldest and most successful onchocerciasis projects. The Uganda River Blindness Program has been involved in Mectizan® distribution for onchocerciasis control activities since 1991 and has a wealth of experience to share with the Ethiopian program, where treatment activities began in 2001. While in Uganda, the team had the opportunity to visit Kanungu district, which is assisted by The Carter Center, and Masindi district, assisted by Sight Savers International. The leader of the Ugandan office, Dr. Moses Katarbarwa, highlighted the

Table 1

Onchocerciasis: 2002 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	% ALL GRBP TX
NIGERIA	*ATO(earp)=	4,793,500														
	ATO(arv)=				7,971											
	TX(earp)	306	59,392	151,574	458,185	650,755	1,000,248	777,295	1,009,585	503,716	193,020	32,886		4,836,962	101%	60%
	TX(arv)		69	243	638	990	1,996	1,451	1,390	461	351	66		7,855	96%	45%
UGANDA	*UTG=	974,900														
	ATO(arv)=				2,345											
	TX(earp)		166,678	176,292	56,406	54,706	45,220	173,144	88,003		9,136			769,585	79%	10%
	TX(arv)		329	698		535	105	634	484		307			3,092	132%	18%
CAMEROON	ATO(earp)=	1,291,112														
	ATO(arv)=				2,708											
	TX(earp)	0	0	0	0	0	136,641	381,657	599,535					1,117,833	87%	14%
	TX(arv)	0	0	0	0	0	430		2,343					2,773	102%	16%
OEPA**	**UTG(2)=	879,774														
	ATO(arv)=				1,934											
	TX(earp)						372,537							372,537	42%	5%
	TX(arv)						1,714							1,714	89%	10%
ETHIOPIA	ATO(earp)=	548,437														
	ATO(arv)=				2,155											
	TX(earp)	0	0	28,136	57,970	121,866	236,676	63,460	4,900					513,008	94%	6%
	TX(arv)	0	0	0	0	0	1,876							1,876	87%	11%
SUDAN	ATO(earp)=	649,949														
	ATO(arv)=															
	TX(earp)	4,173	2,629	8,116	82,022	33,645	62,155	99,807	107,724					400,271	62%	5%
	TX(arv)													0		
Totals	ATO(earp)=	9,137,672														
	ATO(arv)=				17,113											
	TX(earp)	4,479	228,699	364,118	654,583	860,972	1,853,477	1,503,280	1,702,023	503,716	202,156	32,886	0	8,010,196	88%	100%
	TX(arv)	0	398	941	638	1,525	2,531	2,085	4,217	461	658	66	0	17,110	100%	100%

GRBP Cumulative totals= 8,010,196

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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effectiveness of the kinship strategy, the commitment of the government to support Community-Directed Treatment with Ivermectin activities, and the significant participation of women as critical success factors in obtaining high treatment coverage and sustainability of the Ugandan Ministry of Health program, which is assisted in 11 districts by the African Program for Onchocerciasis, The Carter Center, and Lions. Dr. Katabarwa and Mr. Teshome are both Lions.

On Sept. 24, 2002, Lions Club committee members of Uganda met with Global 2000 River Blindness Program staff in Kampala to review what the Lions had accomplished so far and to assess what needs to be done. They also discussed issues concerning the midterm evaluation of the River Blindness Program by the Lions Clubs International Foundation scheduled for December 2002.

Sudan

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Ministry of Health, with financial support from the Conrad N. Hilton Foundation and technical support from The Carter Center. The 2002 surveys show a drop in the prevalence of active trachoma in all four villages after two years of implementation of the SAFE strategy (see reference box). These results are the first evidence that the Sudan Trachoma Control Program is having a positive impact on blinding trachoma in Sudan.

The 2002 survey showed a reduction in inflammatory trachoma

SAFE

S – Surgery to correct scarring from advanced trachoma

A – Antibiotics to treat early trachoma infections

F – Facial cleanliness

E – Environmental changes to improve sanitation

in children aged one-nine years in all four villages. Intense inflammatory trachoma dropped from 4 percent in 1999 to 0 percent in 2002, whereas follicular trachoma dropped from 29 percent in 1999 to 21 percent in 2002. In trying to understand how inflammatory trachoma (follicular trachoma and intense inflammatory trachoma) was reduced in these four villages, the program analyzed risk factors for the disease. Having been treated with Zithromax® was not directly associated with lower follicular trachoma or intense inflammatory trachoma, because the 2002 survey was done one year after the last Zithromax treatment campaign in Malakal. However, children with clean faces had significantly less follicular trachoma than those with dirty faces. The Sudan team then looked at the factors which defined a “clean face” separately and found that having clean eyes or nose (no ocular or nasal discharge) or having fewer than three flies on one’s face were independently and strongly associated with lower follicular trachoma. Because the 1999 survey did not measure facial cleanliness and because the 2002 survey was a cross-sectional study of this population, these associations do not prove that lower disease was the result of better hygiene. Lower inflammatory trachoma may have reduced children’s oculo-nasal discharge or vice versa. Future evaluations and

special studies of trachoma in Sudan will address this question and document the effect of the ongoing work of the Sudan Trachoma Control Program. The Carter Center works in partnership with the Sudan Trachoma Control Program throughout the country. A grant from the Lions-Carter Center SightFirst Initiative provides financial support for the program.

The Sudan Trachoma Control Program began implementing WHO’s SAFE strategy to control blinding trachoma in Malakal in August 2000, less than a week after the arrival of the first donation of Zithromax from Pfizer Inc. through the International Trachoma Initiative. Since then, the program and its partners have been developing and refining innovative ways to promote better personal and environmental hygiene for persons at high risk for trachoma through improved sanitation, including latrine use and facial cleanliness. The August 2002 survey teams examined 809 persons in villages adjacent to the town of Malakal – Hai-Bam, Hai-Dinka, Hai-Sahah, and Jalabah – using the standard WHO cluster survey methodology. At the same time, a baseline trachoma-prevalence survey of 208 primary school students was done in Hai-Bam in preparation for the launching of the Sudan Trachoma Control Program’s school health program.

Trachoma

Thousands Benefit From Niger Latrine Project

Flies are trouble, especially in Africa, where flies infect people with, among other diseases, the world's leading cause of preventable blindness: trachoma. Transmission of blinding trachoma by eye-seeking flies, particularly *Musca sorbens*, has been well established through research by the British Medical Research Council and others.

Where flies are a problem, the most efficient means of control is to reduce fly breeding sites. One of the best ways to accomplish this is for people to use latrines instead of defecating on the ground. In 2000, Mr. Mohamed Salissou Kane, an environmental engineer and the

Carter Center's resident technical adviser in Niger, proposed to create a hygiene and sanitation project, including latrine promotion, in the highly trachoma-endemic Zinder region. Beginning in February 2002, the Carter Center's collaboration with villages, district, and regional health officials, and the National Blindness Prevention Program, has already provided over 5,500 villagers with access to latrines and much more.

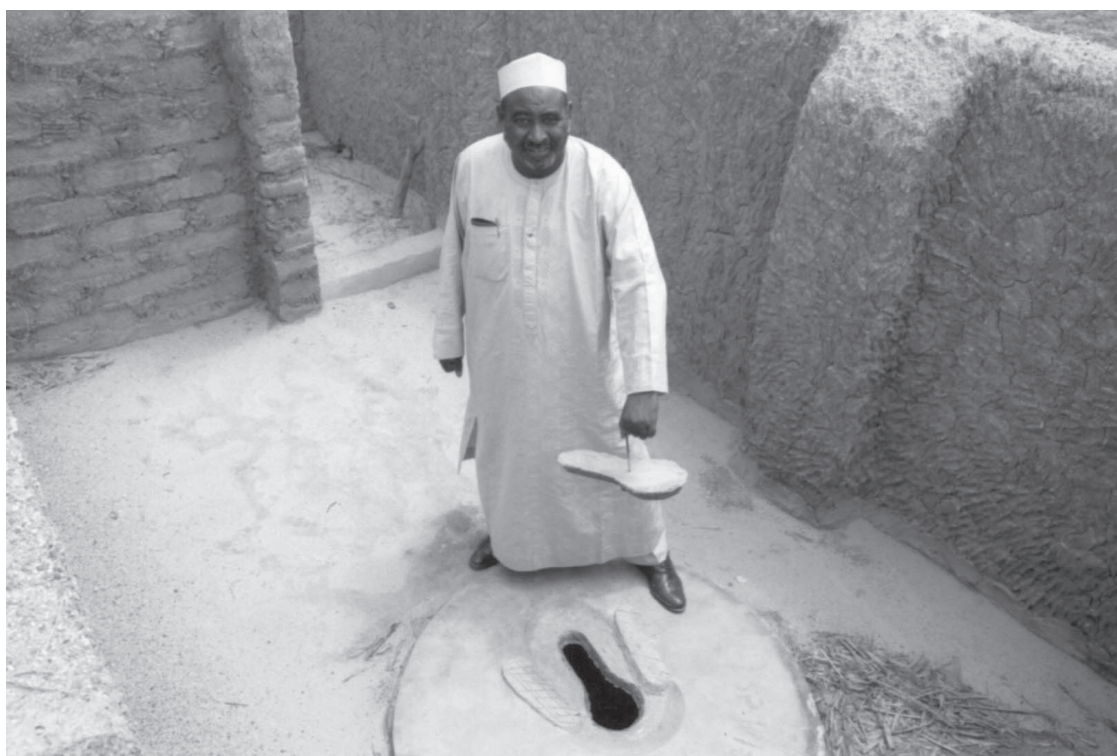
The Zinder latrine promotion project builds on the notable successes of the Integrated Village Water, Hygiene, and Sanitation Program, which Niger's Ministry of Water and Ministry of Health

implemented in the Dosso region with support from the Netherlands. Mr. Ali Amadou, who directed the hygiene and sanitation components of the Dosso program, has taken on a new challenge, leading the Carter Center's part in the Zinder project.

In February 2002, 11 sanitary technicians were trained in trachoma control and latrine construction. Thirty villages in Magaria, Matameye, and Mirriah districts were then chosen to participate in the provision of household latrines. Sixty local masons were trained in the construction of SanPlat, or sanitary platform, latrines and began working in March. The Carter Center supplies health directorates with tools, cement, and iron rebar for masons as well as hygiene education materials for Ministry of Health

sanitarians and village volunteers. Each village and beneficiary household supplies labor and materials for digging the latrine, funding the masons' work, and building the latrine enclosure.

The hygiene education aspect of the project promotes trachoma prevention through facial cleanliness and environmental cleanup campaigns. In addition, hygiene education integrates key lessons in general hygiene and health, such as composting solid wastes for



Mr. Kane showing one of the finished latrines.

fertilizer, constructing seepage pits to collect waste water, and improving storage of food preparation materials. Because the cost of commercially manufactured soap is prohibitive, as is the cost of commercial soap ingredients, The Carter Center also assists by training villagers in the production of traditional soaps, using only local materials such as millet stalks, ashes, and animal fat.

The Zinder latrine promotion project constructed 788 household SanPlat latrines from March through July 2002. Construction was suspended during the rainy season and resumed in December. The program's goal was to provide 1,050 households with latrines by the end of 2002 and then add 30 new villages to the latrine promotion program each year henceforth.

In many villages the latrine promotion project has assisted villagers to renovate and improve traditional latrines, and some villagers have constructed SanPlat latrines on their own. When the International Trachoma Initiative proposed funding latrines in Matameye and Magaria, Zinder project sanitary technicians trained initiative-supported masons in latrine construction. The International Trachoma Initiative-funded teams have constructed 250 household latrines as well as 10 school latrines, making a total of 1,038 household latrines in 2002. The Carter Center's assistance to the Trachoma Control Program in Niger is funded by the Conrad N. Hilton Foundation.

Lions and Carter Center Deliver 100 Surgical Kits to South Gondar Zone

On Dec. 12, 2002, Lions International and The Carter Center together delivered 100 surgical kits and other medical equipment and supplies with an estimated value of US\$89,000 to trichiasis surgeons in the South Gondar zone of Ethiopia, one of the most



trachoma-endemic areas of the world. The surgical instruments were presented to Dr. Alemayehu Seifu, director of disease prevention and control, Amhara Health Bureau, by Ms. Rebecca Teel Daou, grants program coordinator, Lions Clubs International Fund, along with Lion Getachew Desta, Lions District 411 SightFirst chairman, and Lion Teshome Gebre, country representative, The Carter Center/Ethiopia. The presentation was made in a ceremony at the Amhara Regional Health Bureau in Bahir Dar. The surgical kits will allow 19 surgeons in four woredas (health districts) to correct trichiasis, the painful, sight-threatening result of trachoma. Based on a trachoma prevalence survey done by the Ethiopian federal Ministry of Health and The Carter Center in 2001, there are an estimated 36,000 persons suffering from trichiasis in the four woredas of the South

Gondar zone now covered by the Trachoma Control Program. Each of those patients needs eyelid surgery to relieve the pain of in-turned eyelashes rubbing on their eyes and to prevent corneal scarring and subsequent blindness.

The surgeons were trained and the surgical kits were purchased through the South Gondar Zone Trachoma Control Program, a joint effort of the Amhara Regional Health Bureau, Lions Clubs, and The Carter Center. The Lions-Carter Center SightFirst Initiative has given technical and financial support for trachoma control in the South Gondar zone since 1999. In January 2002, local Lions Clubs in Addis Ababa were awarded a Lions' SightFirst grant worth more than \$178,000 to further support trichiasis surgery in the South Gondar zone. Over the next three years, the South Gondar Zone Trachoma Control Program plans to train 40 trichiasis surgeons and facilitate campaigns to do surgeries to correct trichiasis.

Trachoma

Trachoma Prevalence Surveys Highlighted in Nigeria Program Review

On Sept. 27, 2002, Carter Center-assisted trachoma control programs in Nigeria held their second review meeting in Jos, Nigeria, attended by representatives of the National Programme for the Prevention of Blindness, the Nasarawa and Plateau state Ministries of Health, and NGO partners in trachoma control.

Dr. D.I. Apiafi, national coordinator and secretary, NPPB, gave a presentation on the current status of trachoma in Nigeria. Dr. Nimzing Jip, trachoma desk officer for The Carter Center/Nigeria, presented the preliminary analysis of the first population-based trachoma prevalence surveys in Nasarawa and Plateau states. These trachoma prevalence surveys and ongoing knowledge, attitudes, and practices surveys in the same states were conducted by the state Ministries of Health with financial and technical support from the Conrad N. Hilton Foundation and The Carter Center.

The prevalence surveys suggest that there are moderate levels of active trachoma and trichiasis in each state. The surveys helped the Nigerian team target two local government areas in each state for launching pilot program activities: Langtang North and South in Plateau state, and Doma and Kokona in Nasarawa state. The combined target population is 412,970 persons in 96 villages. With

assistance from The Carter Center/Nigeria's data manager, Mr. Stanley Amadiogwu, the survey data were used to construct Nigeria's first line listing for trachoma control.

The review meeting presentations led to a lively and in-depth discussion of the next steps for trachoma control in Nigeria. Participants made several recommendations to reinforce and expand trachoma control, including:

- NGOs assisting trachoma control programs in Nigeria should work together in trachoma-endemic states to support the implementation of the complete SAFE strategy, with each organization focusing on the aspects of SAFE in which they are most proficient. Specifically, Christoffel Blindenmission or Helen Keller International should assist state Ministries of Health to implement surgical and antibiotic treatments for trachoma (S and A) in the same states in which The Carter Center supports improving personal and environmental hygiene (F and E).

- The Carter Center and other partners should facilitate the mapping of trachoma in Nigeria.

- The Carter Center should assist the federal Ministry of Health and Katsina state Ministry of Health to conduct a trachoma prevalence survey there.

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Vision 2020: The Right to Sight Launched in Ethiopia

A workshop on the prevention of blindness was held in Addis Ababa on Sept. 18-19, 2002, to launch *Vision 2020: The Right to Sight* in Ethiopia. *Vision 2020: The Right to Sight*, a global collaboration coordinated by the World Health Organization and the International Agency for the Prevention of Blindness, targets the major causes of preventable or treatable blindness: cataract, trachoma, onchocerciasis, refractive error and low vision, and preventable childhood blindness.

This landmark workshop was organized by the Ethiopia federal Ministry of Health and National Committee for the Prevention of Blindness in close collaboration with Lions Clubs International, Christoffel Blindenmission, the Ophthalmological Society of Ethiopia, ORBIS International, and WHO. The meeting brought together representatives of the federal Ministry of Health, regional health bureaus, nongovernmental organizations working in eye health, and eye care professionals. Among those present at this workshop were Dr. Demissie Tadesse, vice minister, federal Ministry of Health; Mr. Kassahun Yibeltal, chairman of the National Association of the Blind; Dr. Negasso Gidada, former presi-

dent of the Federal Democratic Republic of Ethiopia; Lion Dr. Tebebe Yemane Berhane, immediate past governor, Lions District 411; Dr. J. Karimurio, chairman, East African Region, IAPB, and Mr. Teshome Gebre, country representative, The Carter Center/Ethiopia.

The workshop defined the Ethiopian *Vision 2020* initiative, which will use three major strategies to achieve its objectives: (1) human resource development, (2) infrastructure and equipment development, and (3) disease control activities targeting the major causes of preventable or treatable blindness. The vice minister of health expressed the support and commitment of the government of Ethiopia for the Ethiopian plan.

Table 2

Carter Center-assisted Trachoma Control Programs
Summary of Trachoma Control Interventions (January- September 2002)

	Ghana	Mali	Niger	Sudan	Ethiopia S. Gondar ²	Nigeria ³ 2 States ⁴	Yemen ³
F & E							
Number of villages with hygiene education	235	383	276	889	86	0	-
Number of villages targeted for hygiene education	280	2,800	276	1,719	116	96	-
Percent coverage - hygiene education	84%	14%	100%	52%	74%	0%	-
Number of latrines constructed	12	0	788	128	0	0	-
Targeted number of latrines	300	N/A	1,050	N/A	2,400	20 villages	-
Percent coverage - latrine constructed	4%	N/A	75%	N/A	0%	0%	-
Number of water source provided	4	N/A	N/A	N/A	N/A	0	-
Targeted number of water source	30	N/A	N/A	N/A	N/A	20 villages	-
Percent coverage - water source	13%	N/A	N/A	N/A	N/A	0%	-
Antibiotics							
Azithromycin intervention villages:	280	433	74	N/A¹	18	N/A	-
Treatments (2002)	101,174	370,000	91,723	78,436	0	0	-
Target Population	100,000	600,000	100,000	327,000	100,000	0	-
Coverage (%)	101%	62%	92%	24%	0%	N/A	-
Tetracycline Oint. intervention villages:	280	17 HC⁵	286	N/A¹	157	300	-
Treatments (2002)	10,000	30,000	Y	6,526	2,005	0	-
Target Population	10,000	700,000	-	-	-	150,000	-
Coverage (%)	100%	4%	-	-	-	0%	-
Surgery intervention villages:	280	17 HC⁵	286	N/A¹	157	300	-
Surgeries (2002)	315	973	2,708	876	3,092	0	-
Target Population	500	5,000	5,000	7,700	6,000	1,000	-
Coverage (%)	63%	19%	54%	11%	51.5%	0.0%	-

1 - Area of intervention not defined by village

2 - S. Gondar Zone is one of three areas beginning interventions in Ethiopia

3 - Interventions have not yet begun

4 - Plateau and Nasarawa States

5 - Health center-based activities; offering services to villages within 50 km

Trachoma

Surveys Show Impact of Health Education in Ghana

In July 2002, the Trachoma Control Program of the Ghana Health Services completed its second set of knowledge, attitudes, and practices surveys in trachoma-endemic villages of the Northern and Upper West regions. The surveys assessed what villagers think and do about causes, treatment, and prevention of trachoma.

Similar sociological studies done in 1999-2000 in the same health districts provided baseline data upon which health education and community mobilization strategies were built. Two years later, these follow-up surveys were done to assess the effectiveness of Ghana's trachoma health education program by measuring changes in knowledge about blinding trachoma and preventive behaviors.

In both regions, there has been a positive impact on trachoma prevention, particularly on facial cleanliness and environmental improvement, the *F* and *E* of the SAFE strategy. The KAP surveys in 2002 were conducted by Ghana Health Services with financial and technical support from The Carter Center, as were the 1999-2000 baseline surveys.

In January 2001, the Ghana Trachoma Program and The Carter Center held the first trachoma health education workshop, in which strategies and tools were developed. Health education to prevent and control blinding trachoma has been implemented in the Northern and Upper West regions since that time, with support from the regional health

services, Ministry of Local Government and Rural Development, BBC World Service Trust, The Carter Center, and numerous health workers, teachers, and village volunteers. The follow-up household KAP surveys were conducted in five trachoma-endemic districts that have received health education.

A total of 1,049 persons were interviewed, and environmental assessments were done by direct observation. The Ghana Trachoma Control Program coordinator, Dr. Daniel Yayemain, and the Upper West and Northern regional directors, Drs. Francis Banka and Sylvester Anemana, supervised the studies. The research units and education units of both regions and staff from The Carter Center provided technical assistance to the Ghana program staff. The Carter Center's assistance to the Ghana Trachoma Control Program is made possible through a grant from the Conrad N. Hilton Foundation.

Preliminary analyses comparing the KAP data from 1999/2000 with 2002 suggest that:

■ *More villagers identify flies as important carriers of trachoma.* Percentages of persons reporting that flies spread trachoma increased from 10 percent to 18 percent, and from 2 percent to 27 percent in the Upper West and Northern regions, respectively.

■ *More persons know that shared facial washcloths can transmit trachoma,* with increases from 6 percent to 15

percent, and 15 percent to 20 percent in the Upper West and Northern regions, respectively.

■ *Key control and prevention messages are understood and remembered.* In the Upper West region, 48 percent of respondents recalled at least one of the key trachoma control messages from health education sessions in their community. In the Northern region, 65 percent recalled at least one key message.

■ *Knowledge of how to prevent trachoma through face washing and environmental hygiene has increased* from 15 percent to 22 percent and 9 percent to 20 percent, respectively, in the Upper West region. Similarly, knowledge increased from 2 percent to 29 percent and 11 to 36 percent, respectively, in the Northern region.

■ *Environmental hygiene practices have also improved,* including the use of pits for burying or burning non-fecal refuse. Two years ago, 75 percent of villagers in the Upper West reported that they disposed of refuse indiscriminately. In 2002 that number decreased to 47 percent. In the Northern region, indiscriminate refuse disposal decreased from 100 percent to 81 percent.

In addition, the 2002 studies provided the Ghana Trachoma Control Program with important information on the access to and use of latrines. In the Upper West, 18 percent reported having access to latrines, and the majority (64 percent) of those with access to latrines use them. Fewer respondents (6 percent) reported having access to latrines in the Northern region. However, 71 percent of those with access to latrines use them.

Nigeria Pioneers Integrated Assault on Onchocerciasis, Lymphatic Filariasis, and Schistosomiasis

Continued progress in the battle against lymphatic filariasis was reported in October 2002 at the annual Nigeria Program Review for two states, Plateau and Nasarawa, where Mectizan® distribution for onchocerciasis is linked to health education and treatment of lymphatic filariasis and schistosomiasis. The program expanded from 12 local government areas in 2001 to 24 local government areas in 2002. The program assisted the two states to treat 1,732,195 persons (70 percent of the 2.4 million 2002 annual treatment objective) with combined albendazole and Mectizan for onchocerciasis and lymphatic filariasis.

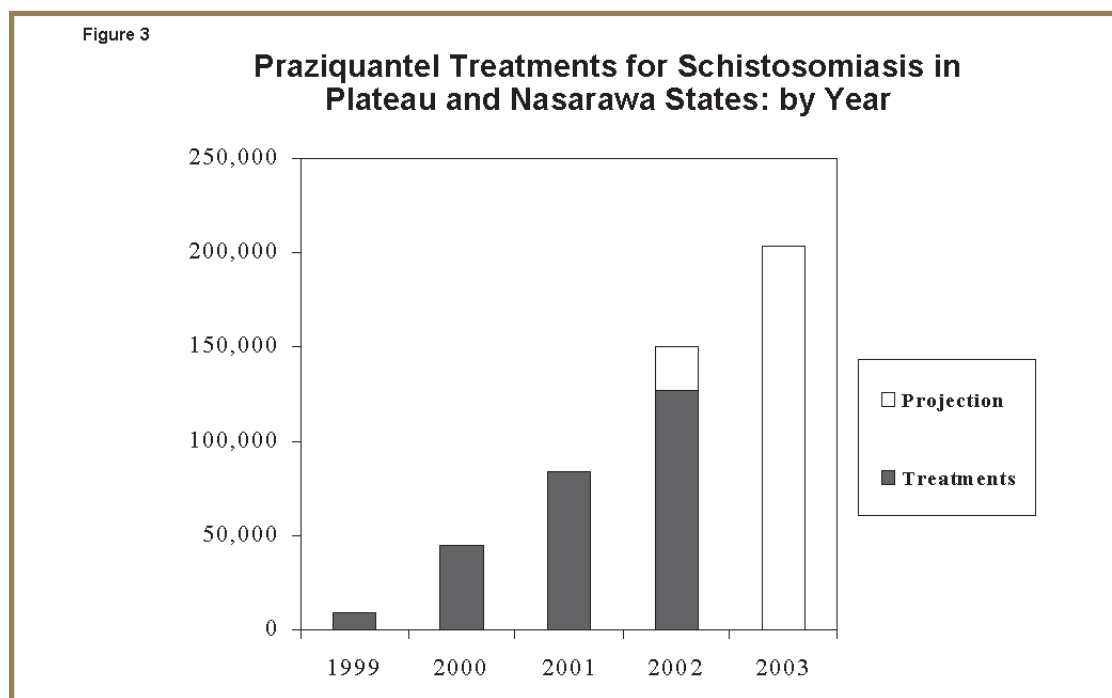
The Carter Center-assisted program in Plateau and Nasarawa states is the only lymphatic filariasis treatment program currently underway in Nigeria, the third most endemic country in the world for this disease after India and Indonesia. The 2003 target is to reach full treatment coverage in the two states by treating 3.6 million persons.

Treatments for urinary schistosomiasis with praziquantel in those same two states have reached over 127,000 persons, 85 percent of the 2002 annual treatment objective of 150,000 persons. The program aims to treat 203,000 persons with praziquantel in 2003 (see Figure 3). New assessment activities using questionnaire surveys for hematuria

have begun to map areas of high prevalence of urinary schistosomiasis in seven other states in southeast Nigeria. In a survey of 3,210 villages in seven states, River Blindness Program scientists found 1,086 villages or 34 percent reporting hematuria. It was reported at the review by Dr. (Mrs.) M.Y. Jinadu, national coordinator, Lymphatic Filariasis and Schistosomiasis programs, that the Ondo state Ministry of Health in 2000-2002 has increased its activities in support of schistosomiasis control, providing more than 100,000 praziquantel treatments and spending over 15 million naira (US\$118,055) since 2000 to support program activities and purchase praziquantel.

An article on the integrated onchocerciasis, lymphatic filariasis, and schistosomiasis program in Plateau and Nasarawa states

was published in the September 2002 issue of the *American Journal of Tropical Medicine and Hygiene* (see River Blindness References, Hopkins et. al., page 2).



Global Health News

250 Millionth Treatment Given in Tanzania

Fifteen years ago in 1987, Merck & Co. announced that it would donate Mectizan® tablets for as long as needed to control onchocerciasis. The safe and highly effective drug, when given in a single dose once or twice per year, helps reduce the discomfort of severe dermatitis and prevents blindness.

Currently there are 33 treatment programs through the Mectizan Donation Program in Africa, Latin America, and Yemen. In September 2002, the Mectizan Donation Program celebrated the administration of the 250 millionth dose of Mectizan in the small village of Bombani in Muheza district in

Tanzania. The celebrations were witnessed by Merck Chief Executive Officer Raymond Gilmartin, senior government officials, and other partners, including Mr. Craig Withers of The Carter Center/Global 2000.

Personnel Change

Ms. Wanjira Mathai left the Global 2000 River Blindness Program in December 2002 after four years as senior program officer to work as a consultant with a project of the Resource Renewal Institute. We wish her the best in her new position.

West Province, Cameroon, Mourns the Loss of River Blindness Coordinator

We would like to join the National Onchocerciasis Control Program of Cameroon in mourning the loss of Mr. Michel Kanko, an Onchocerciasis Control Program coordinator in the West province. Mr. Kanko died in an accident near his home. He was known for his commitment and dedication to the growth of a successful program that provided more than 900,000 Mectizan treatments in 2002 in the West province. Our sincere condolences to his family and friends.

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