

# EYE of the EAGLE

THE  
CARTER CENTER



Volume 15, Number 2

Summer 2014

## What's Inside

3

Clean Faces Indicate Impact

4

Surveys Show Progress  
Toward Elimination

5

Callahan Named Trachoma  
Program Director

5

Abbot Donation Allows  
Specimen Processing

6

Program Sets Treatment Record

9

Ethiopia Treatments on  
Rise in Wake of Policy

10

Malaria Activities for  
2013 Reviewed

11

Nigeria Starts Combined  
Malaria, LF Plan

12

Lions Commit \$8.8 Million

## Trachoma Review Focuses on Progress Toward Elimination Targets

The 15th annual review of the Trachoma Control Program was conducted Feb. 25–27 at The Carter Center under the theme “Focus on Impact.” The goal was to motivate national programs and their partners to focus not only on the output of their programs, but also on their impact on trachoma as measured against the elimination targets set by the World Health Organization (WHO). National programs must accelerate their pace or risk missing the targets.

Data presented at the review showed that, in Carter Center–assisted areas of Ethiopia, Mali, Niger, Nigeria, South Sudan, and Sudan, 58,877 surgeries were performed on trichiasis patients in 2013. The program also assisted in the distribution of 17,479,319 doses of Zithromax® (azithromycin) and

tetracycline. Health education was provided throughout the year in 7,810 villages, and 294,638 latrines were constructed.

One highlight of the three-day meeting was a presentation by former Carter Center epidemiologist Dr. Jonathan King on trachoma surveillance and elimination guidelines. Many questions were discussed: Can surveillance, as outlined, maintain control of trachoma? Are there better ways to conduct surveillance, and how can they be integrated into the current health systems? How should trichiasis cases be found and classified during surveillance? And finally, will WHO recognize national programs as achieving “elimination of blinding trachoma as a public health problem”?

*continues on page 2*

## Brazil, Venezuela Sign Onchocerciasis Elimination Agreement

At the May 19–24, 2014, session of the World Health Assembly, the decision-making body for the World Health Organization (WHO), in Geneva, Switzerland, a critical binational agreement focused on completing onchocerciasis elimination in the Americas was signed by Dr. Arthur Chioro, Brazil’s minister of health, and Dr. Francisco Armada, Venezuela’s minister of popular power for health.

*continues on page 6*



Pan American Health Organization

Dr. Carissa F. Etienne (center), director of the Pan American Health Organization, talks with Dr. Arthur Chioro (right), Brazil’s minister of health, and Dr. Francisco Armada, Venezuela’s minister of popular power for health, during the signing ceremony for the binational agreement on onchocerciasis at the World Health Assembly in May.

Electronic  
Edition

To receive this newsletter via email only, please send a request to [guinea.worm@emory.edu](mailto:guinea.worm@emory.edu).

## Trachoma Review

*continued from page 1*

An important presentation focused on results from post-coverage treatment surveys following two MalTra (malaria, trachoma) weeks in Ethiopia. The results show that while actual coverage is not as high as administrative reports indicate, coverage with azithromycin was still over 80 percent in all but one surveyed area. This information highlighted the importance of conducting coverage surveys, rather than relying only on reports, particularly in identifying areas where additional training or supervision of teams needs to take place and where social mobilization and messaging need to improve.

Dr. Matthew Burton of the London School of Hygiene and Tropical Medicine presented results from a four-year follow-up of trichiasis patients who had received epilation (i.e., their eyelashes removed) as treatment instead of surgery on their eyelids. The study showed that after four years, there was no difference in

visual acuity or progression to corneal opacity in those who received epilation versus those who received surgery. Given the clinical results, and the fact that a certain proportion of the population does not wish to undergo surgery for various reasons, Dr. Burton concluded that epilation is better than doing nothing for those patients who refuse surgery, and it may be reasonable for national programs to consider offering epilation as an alternative to surgery in cases of minor trichiasis or where there is no entropion (i.e., in-rolling) of the eyelid.

Mali's national coordinator, professor Lamine Traoré, presented results from four surveys carried out at the subdistrict level in 2013. These surveys, conducted in Koulikoro, Tominian, Bafoulabé, and Segou districts, which were then divided into subdistricts, revealed that out of 19 subdistricts, 18 had met the elimination target of TF prevalence of <5 percent among children ages 1 to 9 years. An analysis of previous surveys showed that TF prevalence (*Trachomatous inflammation, follicular*) in Mali oscillates to lower prevalence when SAFE interventions (surgery, antibiotics, face washing, environmental improvement) are

implemented then to higher prevalence when stopped. Mali should pay particular attention to this trend, which notes the need for continued F and E interventions in the absence of mass drug administration and the need for a robust surveillance system to detect and react to potential disease rebound. Disease recrudescence was also discussed by Nicole Stoller of the F.I. Proctor Foundation at the University of California San Francisco. Results from a trial in Ethiopia indicate that once treatments with antibiotics stop, infection quickly returns.

Finally, Kim Jensen, assistant program coordinator at The Carter Center, presented results from a qualitative study examining the use of a trachoma curriculum by The Carter Center and Ethiopia's Amhara Regional Health Bureau and the desire of both teachers and students to improve the curriculum. Teachers said trachoma needs to be incorporated into the national primary school curriculum to ensure continuity and follow-up and also said lessons need to be in a ready-to-go format that does not require additional preparation. Focus groups with students showed that they do not fully understand trachoma transmission, confuse trachoma messages with those of other disease programs, and often misinterpret trachoma messaging.

Participants in the program review included representatives from the ministries of health and Carter Center field offices in the six countries where the Center currently provides assistance. Representatives also attended from Uganda, where The Carter Center began assisting the national trachoma program in 2014. Also in attendance were representatives from NGO partners, academic institutions, and donor agencies. **E**

More than 58,000 trichiasis surgeries were performed in 2013 with assistance from The Carter Center.



## Clean Faces Indicate Impact of Trachoma Interventions

In countries endemic for trachoma, the cleanliness of children's faces is one indicator of disease transmission. A new comparison shows that in most countries where The Carter Center works, the prevalence of children with clean faces has increased over time (see Figure 1).

The bacteria that cause trachoma are spread from person to person via fingers, flies, and fomites (fomites are objects like towels, which can carry bacteria). To decrease transmission and eliminate blinding trachoma, the World Health Organization recommends the SAFE strategy, which stands for surgery, antibiotics, facial cleanliness, and environmental improvements. The F component aims to reduce disease transmission by removing infectious eye and nose discharge from the faces and hands of children, who are the main reservoir of the disease. Without the discharge, children are less attractive to flies, which also transmit the disease. Hence, by increasing the number of children with clean faces in a community, it is hypothesized that transmission potential decreases.

One study has shown that presence of eye discharge is associated with a clinical presentation of active trachoma (King et al., *Transactions of the Royal Society of Tropical Medicine and Hygiene*. 2011; 105: 7–16).

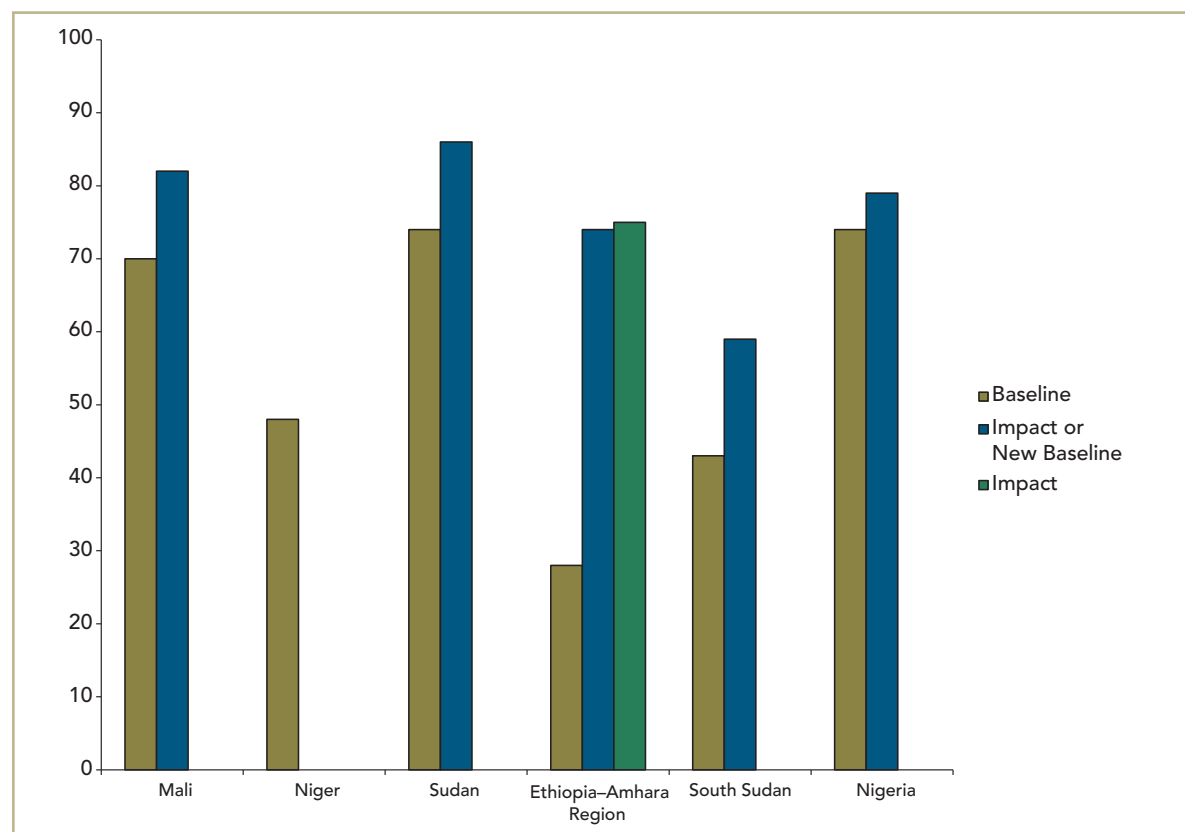
To this end, many national trachoma

programs monitor the prevalence of clean face in children age 1 to 9 years over time as a way of measuring the impact of the F component of the SAFE strategy.

As Figure 1 shows, the majority of countries had fairly high prevalence of clean face at baseline, which increased slightly over time, though the increased prevalence was not tested for significance. The Amhara region of Ethiopia appears to have achieved a significant increase in percentage of children with clean faces. Note that Niger has yet to undergo impact assessments, during which children's faces are examined for cleanliness. While national programs aim for a clean-face prevalence of at least 80 percent, there is no evidence to suggest that this target is scientifically based. In addition, it should be noted that the increases

shown in Figure 1 may be due to differing definitions of clean face during different survey periods as well as variability among the surveyed children. In addition, no attempt was made to determine differences among countries, so definitions and applications of the definition are likely to vary.

Because clean face is one visible indicator that health education messages on hygiene are being put into practice, standardization of its use would increase its value. A standard indicator could be implemented across countries and over time to determine whether hygiene messaging is being understood and followed. In addition, additional research could be conducted on the relationship between active trachoma and clean faces to determine the relative importance of hygiene in eliminating blinding trachoma. [E](#)



**Figure 1:** Prevalence of Clean Face Among Children Ages 1–9 Years at Baseline and Impact Surveys in Countries Assisted by The Carter Center

## Surveys Show Countries' Progress Toward Elimination Varies

Trachoma impact surveys conducted in 2013 and early 2014 in three countries show different stages

of progress toward elimination: Mali is nearly at the finish line, Niger has made substantial progress, and Ethiopia

still struggles to reduce its much higher burden of disease.

Impact surveys are warranted in districts and subdistricts that have received three to five years of intervention with the SAFE strategy (trachoma control method endorsed by the World Health Organization consisting of surgery, antibiotics, facial cleanliness, and environmental improvement). Such surveys show the impact of the SAFE strategy and whether mass drug administration can be stopped.

In accordance with World Health Organization guidelines, district-level impact surveys are conducted where active trachoma is suspected to be prevalent in more than 10 percent of the population, while subdistrict-level impact surveys are conducted where the prevalence is believed to be less than 10 percent.

In Ethiopia, surveys were carried out at the *woreda* (district) level, while in Mali and Niger, the surveys were conducted at the subdistrict level, the administrative level at which the elimination target of TF (*Trachomatous inflammation, follicular*) in less than 5 percent of children ages 1 to 9 years has been established. In Mali, surveys were supported through a collaboration of all implementing nongovernmental organization partners, including The Carter Center, Helen Keller International, and Sightsavers.

Impact surveys were conducted in 33 *woredas* in eastern Amhara, Ethiopia, in January 2014. For TF, prevalence has remained nearly unchanged since the baseline surveys in 2007, with some zones seeing an increase. TT (*trachomatous trichiasis*) has either remained constant or decreased. This may be partially explained through variability within the enumeration units, but it also indicates a need

**Table 1:** Trachoma Impact Survey Results in Ethiopia, Niger, and Mali, 2013–2014

Dates of Survey	Country	Region/ Zone	District	Subdistrict	TF % (children ages 1–9 years)	TT % (adults ages ≥ 15 years)				
January 2014	Ethiopia			North Shoa	38.7	4.8				
				North Wollo	12.0	2.7				
				Oromia	26.4	2.7				
				South Wollo	26.5	3.5				
				Waghimra	55.2	6.0				
June–July 2013	Niger	Diffa	Diffa	Komadougou 1	36.1	0.8				
				Komadougou 2	18.0	1.5				
				Lac	14.9	2.7				
				Nord Diffa	14.6	0.6				
				Ouest Diffa	42.0	0.6				
				N'Guigmi	Arikoukouri	1.4	1.0			
					Kabléwa	4.7	0.0			
					N'galewa	4.6	0.0			
					N'guigmi	8.5	1.2			
				May–October 2013	Mali			1	1.1	1.5
2	0.9	1.9								
Kayes	Bafoulabe	3	2.1					1.6		
		4	3.5					1.5		
		5	5.6					1.5		
Koulikoro	Koulikoro	1	0.5					0.4		
		2	0.2					1.2		
		3	0.6					0.2		
		4	0.6					0.5		
Tominian		1	1.2					0.7		
		2	0.4					0.3		
		3	1.0					0.9		
		Segou	Segou					1	1.0	1.0
								2	0.7	0.8
				3	0.3	0.6				
				4	1.4	0.9				
5	2.5	1.0								
6	0.7	1.1								
7	1.2	0.6								

Notes: Baseline data for Ethiopia were collected at the zonal level in 2007–08; however, due to the large number of districts that underwent trachoma impact surveys, these data were aggregated to the zonal level for this table, though the data were collected at the district level. In Mali and Niger, baseline data were collected between 1996–2005 at the regional level, but the program wanted to show that most subdistricts have reached elimination during the most recent impact surveys.



for intensified effort to implement all elements of the SAFE strategy. It should be noted that the data presented are at the zonal level because of the large number of districts surveyed.

In Niger, subdistrict-level surveys in the region of Diffa show that three of nine subdistricts, all within the district of N'Guigmi, have reached the elimination target for active trachoma. However, subdistrict results in Diffa show that the entire district requires three additional years of mass drug administration coupled with enhanced efforts in hygiene and sanitation. Niger's national program plans to conduct seven subdistrict-level surveys this year.

Finally, in Mali, of the 19 subdistricts surveyed, 18 have met the elimination target for active trachoma (grade TF). Additionally, these results indicate that few children are likely to develop trichiasis, the most advanced stage of trachoma, in the future. A large backlog of people with trichiasis requiring surgery still exists, and these people must receive surgery for the national program to meet its elimination target date of 2015. The national program also plans to conduct an additional 106 subdistrict-level surveys in 2014 with the expectation that all areas will have met the elimination target for active trachoma. **E**

## Carter Center's Kelly Callahan Named Director of Trachoma Control Program

**Following an exciting 12 months** in which its Trachoma Control Program celebrated its 15th anniversary and assisted in delivering its 100 millionth antibiotic treatment, The Carter Center has named Kelly Callahan, M.P.H., as its new director.

"Kelly Callahan brings deep public health experience in Africa, intimate knowledge of all the Carter Center's health programs, and great passion to improve lives," said Dr. Donald Hopkins, vice president for health programs. "There's greater opportunity than ever before for the Center's trachoma program, in collaboration with ministries of health and other partners, to achieve maximal impact on eliminating the blinding form of this disease, while securing ancillary benefits against other diseases and improving local capacities."

Callahan previously served for more than a decade as assistant director for program support of all of the Center's health programs, working in close partnership with many nongovernmental organizations, donors, and suppliers. She also has more than eight years of front-line health experience

working for The Carter Center in the southern states of Sudan and as a U.S. Peace Corps volunteer in Cote d'Ivoire.

"There is no reason anyone should suffer from this preventable disease when simple interventions like latrines and face and hand washing can make such a big impact," said Callahan. "I look forward to intensifying these interventions and supporting community-owned action against trachoma."

The Carter Center's Trachoma Control Program began in 1998 with initial support provided by the Conrad N. Hilton Foundation and subsequent support from the Lions Clubs International Foundation. The important in-kind contribution of the antibiotic Zithromax® has been provided by Pfizer Inc.

The Carter Center is a leader in the global effort to eliminate blinding trachoma worldwide by 2020. Currently, the Center helps implement the SAFE strategy in seven countries. **E**



Kelly Callahan

The Carter Center

## Abbott Donation Allows Processing of Ocular Specimens

**For years,** The Carter Center has been collecting ocular specimens to better understand the link between clinical signs of trachoma and infection.

The only problem? No laboratory in Ethiopia had a molecular diagnostic machine that The Carter Center could access to process the specimens.

Abbott, a global health care products corporation, now has made a key donation to break this impasse.

Following a request from former U.S. President Jimmy Carter to Miles White, chairman and CEO of Abbott, the company generously donated an m2000 RealTime System, along with an automated DNA specimen processor and a sufficient number of tests kits to examine all the ocular specimens that have been collected to date.

The Carter Center recognizes the generosity of Abbott in supporting the trachoma program in Ethiopia. Having

a fully equipped lab near the

Carter Center's regional office in the Amhara region of Ethiopia will enable The Carter Center to process samples already collected, collect new specimens, and provide valuable information to help the scientific community develop new guidelines for stopping treatment. **E**



## River Blindness Elimination Program Sets Treatment Record in 2013

The Carter Center held its 18th annual River Blindness Elimination Program Review March 3–5, 2014, at its Atlanta headquarters. Since 1996, the program has worked with ministries of health to provide treatment, health education, and training in 12 countries.

In 2013, The Carter Center assisted in a record-breaking 18,993,181 treatments with Mectizan,<sup>®</sup> donated by Merck, for river blindness (onchocerciasis), a 32 percent increase from 2012 and 95 percent of its treatment

target (see Figure 2). The program’s cumulative treatments since 1996 now stand at a total of 191 million and are expected to reach 200 million late this year.

At the meeting, a 2014 goal of more than 23 million treatments—an increase of 21 percent over 2013 achievements—was set.

In addition to reviewing river blindness activities, meeting participants also discussed Carter Center–assisted mass drug administration in 2013 for several other

neglected tropical diseases, including lymphatic filariasis with 775,537 treatments, schistosomiasis with 2,173,411 treatments, and soil-transmitted helminthes with 721,989 treatments (see Figure 3).

The program’s work would not be possible without a grassroots network of community-directed drug distributors. Over 186,000 distributors were trained in 2013, managed by almost 37,000 community supervisors and ministry of health district personnel. The Carter Center’s increasingly strong collaboration in Nigeria as part of the ENVISION project led by RTI International with funding from the U.S. Agency for International Development (USAID) has resulted in a major increase in proposed 2014 Carter Center–assisted treatments for lymphatic filariasis at 12.5 million, soil-transmitted helminthes at 8.8 million, and schistosomiasis at 3.9 million.

In 2013, the program was renamed River Blindness *Elimination* Program as it shifted in all assisted areas from a control strategy to a transmission-interruption strategy for onchocerciasis. The change has resulted in (a) a transition from once- to twice-per-year Mectizan treatments in many areas, (b) geographic expansion of treatments, (c) enhanced

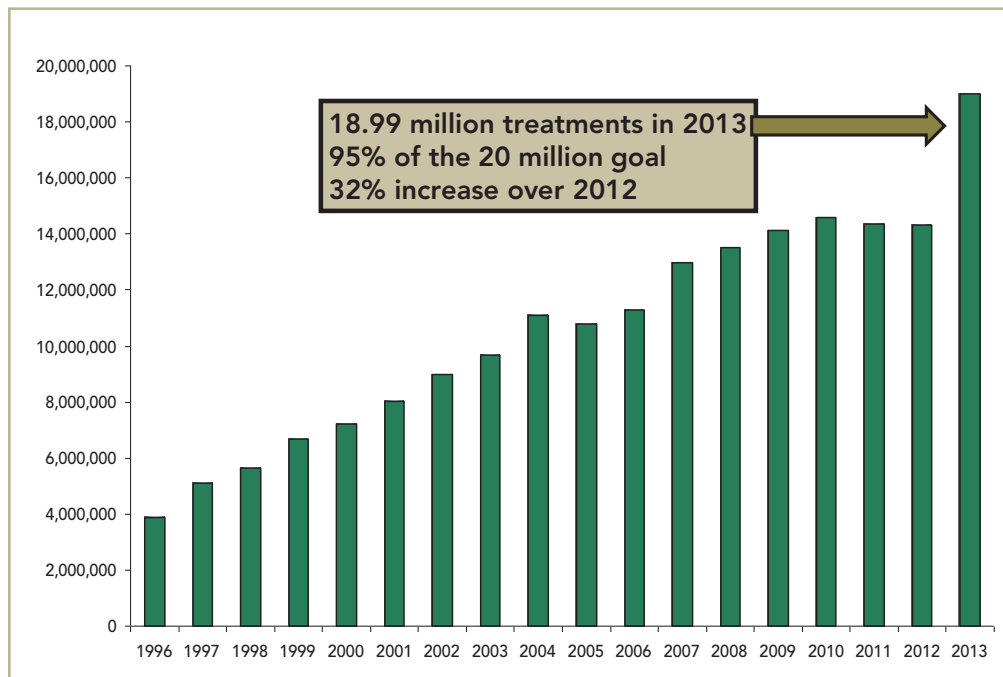


Figure 2: Mectizan Treatments with Assistance of the Carter Center River Blindness Elimination Program, 1996–2013

### Onchocerciasis Elimination

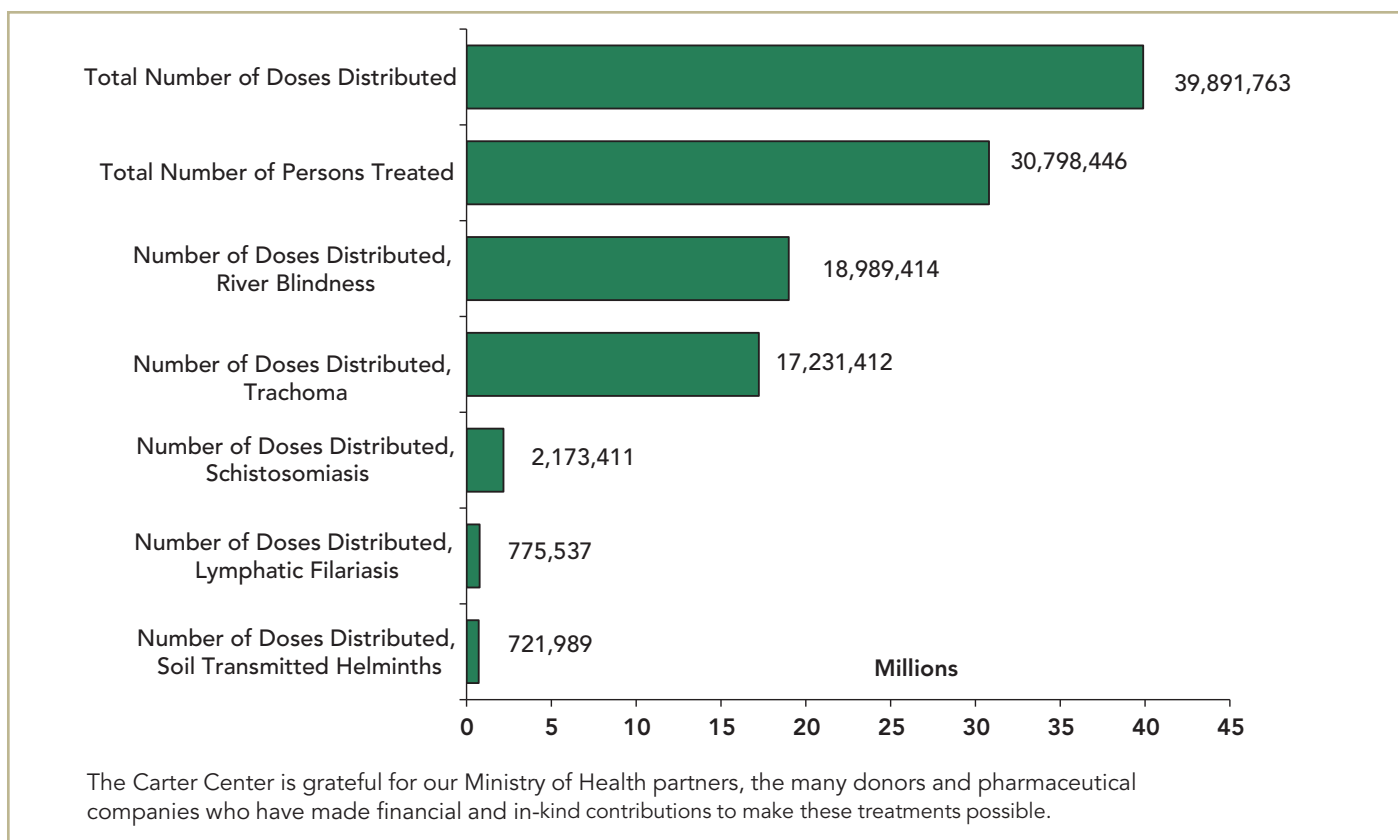
*continued from page 1*

Under this formal agreement the two countries will work together with partners, including the Onchocerciasis Elimination Program for the Americas (OEPA)/The Carter Center, Merck/Mectizan<sup>®</sup> Donation Program, and the Pan American Health Organization/WHO, to eliminate river blindness (another term for onchocerciasis) from

the only area where transmission continues in the Americas: a cross-border region in the remote Amazon jungle known as the Yanomami area.

The Yanomami area, named after the indigenous migratory population that lives there, is difficult to access, and some of the approximately 26,000 people in this region frequently cross the border between Brazil and Venezuela. To effectively reach the

people of this area and break transmission of the disease, program staff must use helicopters, boats, and planes to identify all endemic villages and treat two or four times per year with Mectizan.<sup>®</sup> It is hoped that the newly signed agreement will give program staff much more agility, allowing aircraft and program personnel to safely cross the border from both sides to reach those in need of treatment. **E**



**Figure 3: Doses of Treatment for Neglected Tropical Diseases Assisted by The Carter Center, 2013**

monitoring of impact using more sensitive laboratory-based assessment procedures, and (d) strengthened national decision-making processes related to the safe cessation of mass drug administration. The magnitude of the move away from annual treatments to twice-annual (or even quarterly in parts of the Americas) treatments is shown in Figure 4. In 2014, the majority of treatments will fall under the twice-per-year strategy. Four countries in the Americas are no longer providing treatment because they have interrupted or eliminated transmission.

Attendees included representatives from the ministries of health of Ethiopia, Nigeria, Sudan, and Uganda; the African Program for Onchocerciasis Control; CBM; U.S. Centers for Disease Control and Prevention; Children Without Worms; Clarke Mosquito Control; Eck Institute for Global Health; Emory University; GlaxoSmithKline;

International Task Force for Disease Eradication; Izumi Foundation; Johns Hopkins School of Public Health; Lions Clubs International Foundation; Liverpool School of Tropical Medicine; Mectizan Donation Program; Merck; Pan American Health Organization/World Health Organization; RTI International; Sightsavers; Task Force for Global Health; Atlanta Journal-Constitution; University of Notre Dame; and University of South Florida. Reports from individual countries are provided below.

### Ethiopia

Ethiopia underwent a major change from annual to twice-per-year treatments for river blindness in six of the seven zones under a new national policy of onchocerciasis elimination. With this increased treatment schedule, Ethiopia surpassed Nigeria as the country where the River Blindness

Elimination Program assists with the most Mectizan treatments; a total of 8,527,632 treatments were provided in 2013, with 6.6 million of these on the twice-per-year schedule. Over 90,000 community drug distributors were trained, about 20,000 more than in 2012, to accommodate the increasing demands of twice-per-year treatments and a larger target population. The Carter Center's work in Ethiopia is based on a longstanding partnership with the Ministry of Health, Lions Clubs of Ethiopia, and the Lions Clubs International Foundation.

### Nigeria

The River Blindness Elimination Program assisted with 6,596,039 Mectizan treatments for river blindness in Nigeria in 2013. The federal Ministry of Health in Nigeria has not yet accepted a twice-per-year strategy for onchocerciasis elimination, even

*continues on page 8*

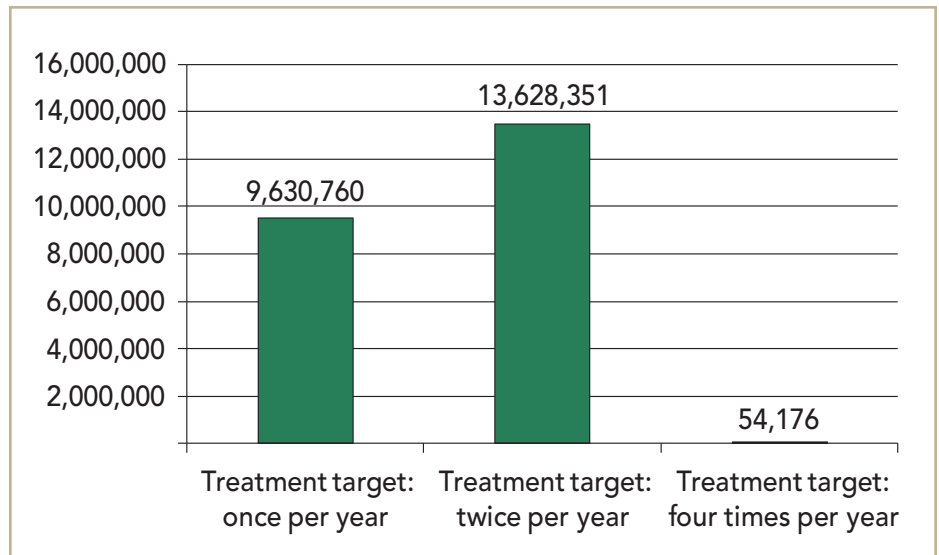
continued from page 7

though earlier this year the honorable minister of health announced a goal of onchocerciasis elimination by 2020. The program is advocating for twice-per-year treatments in many parts of the areas in Nigeria where the Center is working to more rapidly advance toward elimination.

The Lymphatic Filariasis Program demonstrated in 2012 in Plateau and Nasarawa states that transmission of the disease had been interrupted, and mass drug administration with Mectizan and albendazole (donated by GlaxoSmithKline) was halted in 2013. Distribution of long-lasting insecticidal bed nets contributed to this success. In 2014, working with RTI and the ENVISION project, lymphatic filariasis treatments will be given in the other seven Nigerian states where The Carter Center works.

The Carter Center assisted in 2,173,411 praziquantel treatments for schistosomiasis in Delta, Edo, Nasarawa, and Plateau states in 2013. The majority of the praziquantel used in Nigeria is donated to The Carter Center through the World Health Organization by Merck KGaA (E-Merck) of Germany. The Izumi Foundation supports this program in Delta and Edo states.

In 2013, the Carter Center’s River Blindness Elimination Program mounted a major mapping exercise, working with RTI and the ENVISION project, for trachoma, soil-transmitted helminths, and schistosomiasis. Based on the results, plans were made for 2014 mass drug administration with praziquantel, albendazole, or mebendazole treatments. Trachoma mapping results showed minimal disease activity, thus no new trachoma activities are planned in Carter Center–assisted states.



**Figure 4:** River Blindness Elimination Program 2014 Targets for Once-per-Year, Twice-per-Year, and Four-Times-per-Year Treatments

### Uganda

The Uganda program administered over 3.5 million Mectizan treatments in 2013. Progress toward elimination by 2020 continues to be made in Uganda, and in 2013 the Ugandan Onchocerciasis Elimination Executive Advisory Committee (UOEEAC) recommended treatments be halted in two more foci, Wambabya-Rwamarongo and Kashoya–Kitomi. Assuming acceptance of this recommendation by the Ministry of Health, transmission will have been interrupted in eight of the 17 originally endemic river blindness foci in Uganda. Data from four more foci where transmission interruption is suspected will be considered by UOEEAC in 2014. The major challenge in Uganda is in the extensive northern transmission zones bordering the South Sudan and the Democratic Republic of the Congo.

This program benefits from key funding from USAID through the ENVISION project, as well as from the Lions Clubs International Foundation.

### Sudan

Sudan’s Lions-Carter Center effort to eliminate river blindness assisted

the Ministry of Health in delivering 285,050 treatments, many of these twice per year in the Gadarif focus, which borders Ethiopia. The Carter Center will assist in the third-year post-treatment surveillance in the Abu Hamad focus in 2014.

### The Americas

The Carter Center’s Onchocerciasis Elimination Program for the Americas (OEPA) represents a coalition that includes the ministries of health of the six originally endemic countries in the Americas (Brazil, Colombia, Ecuador, Guatemala, Mexico, Venezuela), local Lions Clubs, Lions Clubs International Foundation, the Bill & Melinda Gates Foundation, the Pan American Health Organization and World Health Organization, Mectizan® Donation Program, U.S. Centers for Disease Control and Prevention, and the U.S. Agency for International Development. The goal of OEPA is to eliminate river blindness from the region of the Americas by 2015.

In 2013 Colombia became the first country to be verified by the World Health Organization (WHO) as onchocerciasis free. In 2014, Ecuador



was visited by a WHO verification team and a report is pending. Guatemala and Mexico have stopped mass drug administration and will complete their third year of post-treatment surveillance in 2014.

Once a threat to some half a

million people in six countries, only 5 percent of the originally at-risk population, deep in the Amazon rainforest, currently experience transmission of onchocerciasis in the Americas. OEPA continues to focus on this last area, which spans the border of Brazil and

Venezuela. For years OEPA used a twice-per-year treatment strategy but is increasingly adopting a four-times-per-year approach to accelerate the breaking of disease transmission among the indigenous Yanomami population in this region. **E**

## Ethiopia Treatments on Rise in Wake of Elimination Policy

**The Carter Center’s** River Blindness Elimination Program in Ethiopia has recently assisted the federal Ministry of Health in an impressive scale-up of mass treatments with Mectizan,<sup>®</sup> donated by Merck.

After the program’s initial launching in 2001–2003, the Center’s assisted treatments plateaued for eight years at approximately 3 million treatments per year (see Figure 5). In 2012, treatments jumped by 60 percent to 4.8 million due to expansion of the program into newly discovered meso- and hyperendemic areas bordering the districts where the Center works. In 2013 Ethiopia launched a new policy of onchocerciasis elimination with a strategy of twice-per-year Mectizan treatments. The program assisted Ethiopia in launching that policy by helping to provide twice-per-year treatment in many areas in 2013, sending total treatments to 8.5 million, an increase of 77 percent. Treatments will increase further in 2014 to an estimated 11.2 million due to further expansion of twice-per-year treatments into five new zones. This expansion, made at the invitation of the Ministry of Health, will reach areas that have never been treated for onchocerciasis. The program will coordinate its activities with the Ministry of Health’s Lymphatic Filariasis Elimination Program that works in some of the same areas.

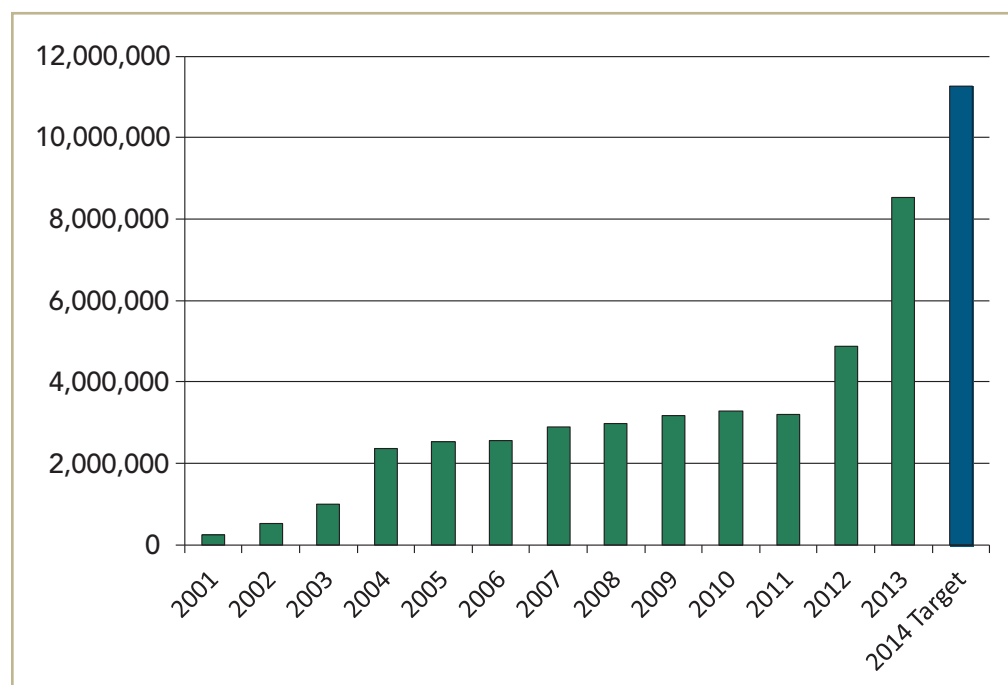
Ethiopia, with Carter Center and

University of South Florida support, has also established a new molecular laboratory that will use more sophisticated and sensitive techniques to support national elimination activities. The Ministry of Health plans to establish a national elimination advisory committee, which will provide sound recommendations based on close review and discussion of the latest data and mapping.

What is truly impressive is the Ethiopian program’s ability to not only increase its treatment output capacity by 280 percent between 2011 and 2013, but to markedly increase

the number of community-based distributors and achieve high treatment coverage every time it substantially increases its treatment targets. In both 2013 semiannual treatment rounds the program exceeded 95 percent of its coverage target.

We are proud of the hard work by our Carter Center Ethiopia team, led by Dr. Zerihun Tadesse, and our Ethiopian partners in the federal, state, and local ministries of health, the Lions Club District 411-A and longtime Carter Center advocate Lion Hon. Dr. Tebebe Y. Berhan, and Ethiopia’s national health development army. **E**



**Figure 5:** Carter Center–Assisted Treatments with Mectizan in Ethiopia, 2001–2013, and 2014 Target

## Malaria Activities in 2013 Reviewed for Four Countries

**The fifth annual review** of the Carter Center’s Malaria Control Program was convened on Feb. 28 in Atlanta. Ministry of health officials and the Center’s field office staff in Ethiopia and Nigeria provided reports on their malaria control and elimination work. This year’s review also included discussion and presentations on efforts to eliminate malaria and lymphatic filariasis from the island of Hispaniola in the Caribbean.

Attendees at this year’s meeting included representatives from the Bill & Melinda Gates Foundation; Pan American Health Organization; the Centers for Disease Control and Prevention; the President’s Malaria Initiative/U.S. Agency for International Development; the Fogarty International Center/National Institutes of Health; Harvard School of Public Health; Emory University; the ministries of health of Haiti, the Dominican Republic, Ethiopia, and Nigeria; and other partners, agencies, and institutions.

Summaries of Carter Center–supported activities are described below.

### Ethiopia

Dr. Neway Hiruy, malaria program officer for The Carter Center in Ethiopia, summarized malaria control activities for Ethiopia in 2013. The Center provided assistance to the federal Ministry of Health and the regional health bureaus in Amhara, Oromia, and Southern Nations, Nationalities, and People’s regions for activities including the monitoring of bed net ownership and use, training and supportive supervision on malaria diagnostics and treatment, and mass screening and treatment for malaria in the context of mass drug administration campaigns for trachoma in

Amhara, known as MalTra weeks.

A total of 29,253 cases of malaria were treated during two MalTra weeks in 2013, bringing the total number of people treated for malaria during MalTra since 2008 to 275,669. The Carter Center also continued its support for routine malaria surveillance in Amhara region, where 91.1 percent of health facilities reported monthly malaria data during 2013.

---

**The Center supported the distribution of 1.7 million insecticidal bed nets in Nigeria’s Delta and Plateau states in 2013.**

---

Rebecca Stewart Schicker, an Emory graduate student working with The Carter Center, presented results of a migrant farm worker survey conducted in North Gondar zone, Amhara region. The presentation generated a great deal of interest and discussion during the meeting because migrant populations represent a unique challenge for global malaria elimination efforts.

### Nigeria

Adamu Sallau, malaria coordinator for the Carter Center’s Nigeria office, reported that the Center supported the distribution of 1.7 million insecticidal bed nets in Delta and Plateau states in 2013, bringing the total number of nets distributed with assistance from The Carter Center between 2004 and 2013 to 15.4 million. In 2013, Nigeria completed its mass net distribution campaign, achieving the distribution of 57.7 million nets (90.2 percent of the target) since 2009—the largest effort in any country to date. Preliminary results of an impact study conducted in Plateau state (one of nine states

supported by The Carter Center) reveal that prevalence of the malaria parasite decreased by 52.4 percent (from 47.7 percent in 2010 to 22.7 percent in 2012) following the mass distribution of bed nets. Sallau also described the government of Nigeria’s release in February 2014 of guidelines for the coimplementation of malaria and lymphatic filariasis (LF) elimination strategies in Nigeria.

### Hispaniola

The island of Hispaniola (comprising the countries of Haiti and the Dominican Republic) is the last remaining focus of malaria and lymphatic filariasis in the Caribbean. In 2006, the International Task Force for Disease Eradication declared elimination of the two diseases from the island technically feasible, medically desirable, and economically beneficial. In 2009, following a visit by President Carter, the two countries committed to work together to eliminate both diseases by 2020.

Dr. Gregory Noland presented an overview of the Carter Center’s work to support the binational elimination effort, specifically highlighting President Carter’s longstanding interest in Hispaniola. Starting in 2008, the Carter Center’s activities have included an 18-month malaria-focused demonstration project in the shared border towns of Ouanaminthe in Haiti and Dajabon in the Dominican Republic and financial support in 2012 to resume quarterly binational malaria and lymphatic filariasis elimination planning meetings. The Carter Center also announced that its board of trustees approved expanded support for the effort to eliminate malaria and lymphatic filariasis from Hispaniola beginning in 2014. **E**



### Miri Receives Award from Scientists

The Carter Center congratulates Dr. Emmanuel S. Miri, country representative for Nigeria, who in May was awarded a Certificate of Golden Merit by the Association of Medical Laboratory Scientists in recognition of humility and high professionalism.

## Nigeria Starts Combined Malaria, Lymphatic Filariasis Plan

**On Feb. 18, 2014**, Nigeria's federal Ministry of Health held a ceremony to launch national guidelines for coimplementation of interventions to eliminate malaria and lymphatic filariasis. This combined nationwide strategy is the first of its kind in Africa and will allow the federal and state ministries of health to efficiently protect all Nigerians from these two mosquito-transmitted parasitic diseases.

**The strategy will allow the ministries of health to efficiently protect all Nigerians from these two mosquito-transmitted parasitic diseases.**

The newly released guidelines will harness available resources in a cost-effective manner by taking advantage of the shared *Anopheles* mosquito vector that transmits both malaria and lymphatic filariasis. Integrated distribution of long-lasting insecticidal

bed nets and mass drug administration for lymphatic filariasis are predicted to reduce the incidence of both diseases more quickly and more economically than providing each intervention individually. The two elimination programs also will be able to combine health communication and social mobilization messages to increase reach and impact, especially with respect to the use and replacement of bed nets. Additionally, integrating supervision, monitoring, and evaluation of shared activities will strengthen these programs, both of which have an ultimate goal of national elimination.

The ceremony to release the coimplementation guidelines was attended by the Carter Center's directors for malaria and lymphatic filariasis control in Nigeria, Adamu Sallau and Dr. Abel Eigege, respectively. The event represents a major milestone in the Carter Center's work against these two diseases in Nigeria. The Center first began helping to integrate insecticidal bed net distribution with mass drug administration for lymphatic filariasis

and onchocerciasis programs in Nigeria in 2004. The benefits of programmatic coimplementation gained widespread traction following a meeting held in March 2012 to explore the shared opportunities between the malaria and lymphatic filariasis programs in Nigeria. The meeting, cosponsored by The Carter Center and the federal Ministry of Health, and chaired by former head of state Gen. Dr. Yakubu Gowon, resulted in the establishment of a technical working group that drafted the coimplementation guidelines launched in 2014.

In releasing the guidelines, Onyebuchi Chukwu, minister of health, said, "I recommend the guidelines to all those currently engaged in the elimination of both malaria and lymphatic filariasis and welcome comments based on lessons learned in the field." The Carter Center looks forward to supporting Nigeria's effort to implement and refine these guidelines and to continue developing innovative ways to eliminate malaria and lymphatic filariasis from Nigeria. **E**

The Carter Center  
One Copenhill  
453 Freedom Parkway  
Atlanta, GA 30307

THE  
CARTER CENTER



This issue is made possible in part thanks to the Michael G. DeGroot Health Program Publications Fund.

For more information about The Carter Center and its health and peace programs, visit our website at [www.cartercenter.org](http://www.cartercenter.org).

## Lions Commit \$8.8 Million for Work in Four African Countries

During a ceremony held on May 15 at The Carter Center, former U.S. President Jimmy Carter and Lions Clubs International Foundation Chairman Wayne Madden signed a memorandum of understanding, committing more than \$8.8 million from the Lions for the next three years of

the Lions-Carter Center SightFirst Initiative, a partnership established in 1999. The new funding will help end the suffering from trachoma and river blindness in four African countries: Ethiopia, Mali, Niger, and Uganda.

President Carter thanked the Lions for their longstanding com-

national partners to defeat preventable blindness in some of the worst affected communities in the world.”

Renewed support from the Lions comes at a critical juncture for The Carter Center. National campaigns to eliminate blinding trachoma from Mali and Niger are nearing success. Sustained efforts to eliminate trachoma from the Amhara region of Ethiopia are paying off. In addition, the Center announced last summer it will work with ministries of health to eliminate river blindness, not just control it, in targeted areas of the 10 countries in Africa and Latin America where the Center fights the neglected disease, including Lions partnership countries Ethiopia and Uganda.

“Lions have a long history of preserving sight, so it’s an honor to work with The Carter Center and our fellow Lion, President Carter, to help eliminate river blindness and blinding trachoma in nations where we’re needed most,” said Madden. **E**



Credit: Deborah Hakes

At the Carter Center’s headquarters in Atlanta in May, former U.S. President Jimmy Carter (seated, right) and Lions Clubs International Foundation Chairman Wayne Madden (center) announced an \$8.8 million expansion of the Lions-Carter Center SightFirst Initiative to end suffering from major causes of preventable blindness in four African countries.