

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

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

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

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

River Blindness

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

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

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

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

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

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

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

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

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

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

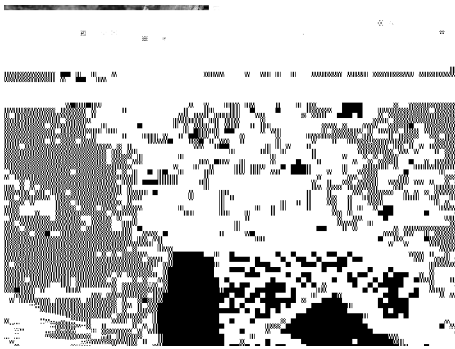
Traditionally, vitamin A had been provided to children in these areas during national immunization days sponsored by the polio elimination program. However, as polio draws close to eradication, authorities have needed



Trachoma

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



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

LGA	% Households with Access to Water	Estimated Population	% Households with Latrines	% of Children with Active Disease	% of Children with Clean Faces	% of Adults with Trichiasis	Surgery
Baure	31.1	8.0	35.4	100	0	153,728	
Mai'Adu'a	3.1	40.3	40.3	100	0	203,000	
Kaita	2.7	12.5	7.5	100	0	140,963	
Other LGAs	58.9	84.3	144,291	2,128	11.3	4,299	

percent TT is to be achieved by 2020.

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

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

Evaluation in demonstration sites of the SAFE strategy

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

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

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

The findings were extremely heartening and were published in *Emerging Infectious Diseases* in August 2006.

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

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

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

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