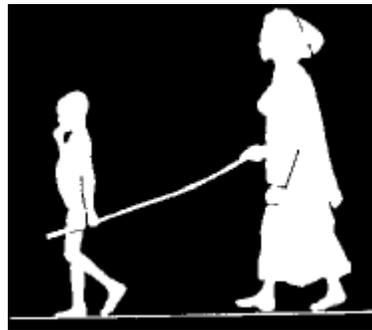


SUMMARY PROCEEDINGS

**FIFTH ANNUAL PROGRAM REVIEW OF CARTER CENTER-ASSISTED
TRACHOMA CONTROL PROGRAMS**

**Next Step for F & E:
Going to Scale**



**The Carter Center
March 4-5, 2004**

**Funded by:
Conrad N. Hilton Foundation
Lions Clubs International Foundation**



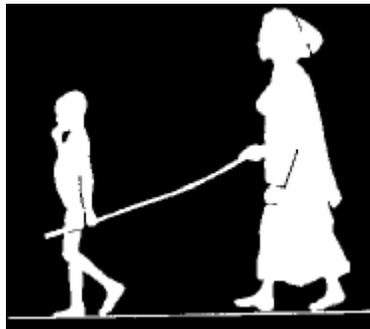
THE
CARTER CENTER



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ACKNOWLEDGEMENTS

The Carter Center's Trachoma Control Program is funded through generous grants from the Conrad N. Hilton Foundation and the Lions Clubs International Foundation (LCIF). The fifth annual Program Review for Carter Center-assisted trachoma control programs was made possible through the generosity of the Hilton Foundation, LCIF and Novartis Ophthalmics, North America.

The individuals below assisted with the preparation of these proceedings. Their contribution and support are gratefully acknowledged.

Dr. Mamadou Diallo	The Carter Center
Ms. Robin Vinson	The Carter Center
Ms. Misrak Makonnen	The Carter Center

Note:

Inclusion of information in the Trachoma Program Review Proceedings does not constitute "publication" of that information.

EXECUTIVE SUMMARY

The fifth annual Program Review of Carter Center-assisted trachoma control programs was held on March 4-5, 2004, at The Carter Center's headquarters in Atlanta. The theme of the meeting was *Next step for F&E: Going to scale*. As in previous years, the objectives of the Program Review were to assess the status of each national trachoma control program, identify challenges encountered in creating national trachoma control programs, assess impediments and problems in program implementation and discuss solutions, as well as to promote sharing and standardization of information. In this, our fifth year together, special attention was given to the use of community-based interventions to improve facial cleanliness and environmental hygiene. Participants discussed progress in the standardization of indicators for planning, monitoring and evaluation, above all by establishing and testing *ultimate intervention goals* (UIGs). Special presentations were given on Ghana's radio learning groups, the Ethiopian experience in setting UIGs, Nepal's school-based trachoma control program, and a *Flies and Eyes* study in the Amhara Region of Ethiopia. Other special presentations included updates on the TIME project and the ITI, assessments of hygiene projects in Niger and Mali, and taking F&E to scale.

National and regional trachoma control program (TCP) coordinators representing the ministries of health of Ethiopia, Ghana, Niger and Sudan attended. In addition, The Carter Center's resident technical advisors and country representatives from Ghana, Ethiopia, Mali, Niger, Nigeria and Sudan participated in the meeting. Representatives of the Conrad N. Hilton Foundation, Lions Clubs International Foundation (LCIF), University of Durham, Helen Keller Worldwide (HKW), the International Trachoma Initiative (ITI), World Vision International, the U.S. Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO) and the London School of Hygiene and Tropical Medicine were also key participants.

Each country team gave presentations on the current status of their regional or national trachoma control program and plans for 2004, followed by open discussions. This year, the country program presentations were again in two parts: Facial cleanliness and Environmental improvement (*F&E*) components were discussed on the first day, Surgery and Antibiotics (*S&A*) on the second. This format has been very effective in focusing participants' attention on each aspect of the SAFE strategy, and encouraging in-depth and balanced examination of each national program. The presentations included epidemiological data and sociological studies on trachoma in each country, and an update on the status of program interventions being undertaken. Plans for monitoring and evaluation of the programs and partnerships with other ministries and international development organizations were also presented. Discussions included successes, constraints, and challenges of the TCPs. Recommendations on how to improve trachoma control efforts were proposed and discussed by all participants.

Excellent presentations and discussions on the F&E of the SAFE strategy showed the progress that had been made by each program in 2003. The Carter Center-assisted TCP in the Amhara Region of Ethiopia expanded from serving one million persons in one

zone to covering three additional zones and a total of four million persons. The Amhara TCP also assisted in constructing 2,151 household latrines and provided corrective eyelid surgery on 6,840 trichiasis patients. An important entomological study in the Amhara Region found *Musca sorbens* to be the predominant eye-seeking fly there. The Niger TCP did the first assessment of household latrine use, maintenance and acceptability, which provided important information for future latrine projects. The Mali TCP did an assessment of access to trachoma health education. That program also helped homeowners to build 1,577 household SanPlat latrines, and distributed Pfizer donated Zithromax to approximately 1,150,000 persons. The Ghana TCP conducted an impact assessment in five districts to evaluate the overall progress of the program in the last two years, and launched radio learning groups in 20 villages in the Upper West Region. In 2004, the Ghana program will expand radio learning groups to also include 41 villages in the Northern Region. Throughout the two day meeting, participants discussed monitoring and evaluation with great interest, particularly regarding setting and using UIGs, and the challenges of taking F&E to scale. First estimates of UIGs were presented by the Amhara, Niger and Sudan TCPs, a very important first step in developing these new indicators.

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ACRONYMS

ADRA	Adventist Development and Relief Agency
ATO	Annual Treatment Objective
CBM	Christoffel Blindenmission
CDC	U.S. Centers for Disease Control and Prevention
CMA	Christian Mission Aid
FAR	Fellowship for African Relief
FGD	Focus group discussions
FMOH	Federal Ministry of Health
GOS	Government of Sudan
GRBP	Global 2000 River Blindness Program
HKI	Helen Keller International
ITI	International Trachoma Initiative
KAP	Knowledge, Attitudes, and Practices
LGA	Local Government Area
MOH	Ministry of Health
NGO	Non-Governmental Organization
NPPB	National Program for the Prevention of Blindness
NR	Northern Region (Ghana)
OLS	Operation Lifeline Sudan
PHC	Public Health Centers
SAFE	Surgery, Antibiotics, Face Cleansing & Environmental Improvement
SF	SightFirst
TCP	Trachoma Control Program
TRA	Trachoma Rapid Assessment
TF/TI	Trachomatous inflammation-Follicular/Intense
TT	Trachomatous Trichiasis
UIG/UTG	Ultimate Treatment/Intervention Goal
UWR	Upper West Region (Ghana)
WHO	World Health Organization
WVI	World Vision International

INTRODUCTION

Next step for F&E: Going to scale

These proceedings reflect the thoughts, discussions and proposals made during the fifth annual Program Review of Carter Center-Assisted Trachoma Control Programs. These program review meetings offer a unique forum for trachoma control program (TCP) managers and Carter Center resident technical advisors to work face-to-face with their peers to review the previous year and plan for the future. This group, representing six country and regional programs, is the first and only assembly of national and regional TCP coordinators and experts to meet regularly to discuss practical application of the SAFE strategy with an emphasis on F&E. The discussions during the program review meetings are country-specific, but the impact is global. The achievements, challenges, solutions and lessons learned here have helped to guide the evolution of the GET 2020 Alliance, particularly with respect to F&E. ***The first discussions of taking F&E to scale happened at this year's Program Review*** – a milestone in trachoma control.

Why can we discuss going to scale now? Because we now have the support, tools and expertise to do it. With five years of practical experience in implementing the full SAFE strategy, we have built up substantial political, technical and donor support; developed tools for planning and implementation; and nurtured local trachoma control program teams. The support networks for implementing F&E now include Vision 2020 and the West Africa Water Initiative (WAWI), which was conceived by the Conrad N. Hilton Foundation to include trachoma control and dracunculiasis eradication as measured outcomes. WAWI, whose partnership includes World Vision International, Lions International, USAID and UNICEF, brings resources to the TCPs of Mali, Niger and Ghana. Representatives of the Hilton Foundation, Lions Clubs International Foundation (LCIF) and World Vision have been active participants in the Program Review meetings since its inception.

Why should we discuss going to scale now? Because blinding trachoma will not go away on its own in the foreseeable future. The underlying causes, especially environmental and economic poverty, will plague most trachoma-endemic countries for many years to come. But we can break the cycle of poverty and disease in at least one instance by controlling blinding trachoma. We have good evidence that the SAFE strategy works, and every delay in implementing it as broadly as possible brings more blindness and suffering. In November 2003, a decisive step was taken to expand the A of SAFE when Pfizer Inc announced that it would increase donations of Zithromax to 135 million treatment doses over the next five years. Since the A of SAFE cannot stand alone, our challenge now is to assess what will be needed to take F&E to scale.

By even the most conservative estimates, taking F&E to scale in all trachoma-endemic countries will require substantial personal and financial commitments at all levels. Politically, financially and administratively, the SAFE strategy crosses well-guarded borders within and between ministries – and even between partnering agencies. Improving facial cleanliness requires changing personal hygiene behavior, which is difficult. Making and maintaining significant improvements in environmental hygiene in trachoma-endemic communities is labor intensive and expensive. The challenges are real, the costs will be great, but if we are serious about

trachoma control, we cannot lose the considerable momentum we now have. ***The costs of not acting will be even greater if we don't meet the challenge now.***

The specific challenges we face are to:

- *Clearly define our needs*
- *Cultivate a sense of urgency*
- *Build and use resources efficiently*
- *Plan and act effectively*
- *Sustain courage*
- *Lead by example* – The entire GET 2020 Alliance benefits from the experience of the six countries participating in the Program Review.

Many participants in the annual Program Review meetings are already leaders in operational research and implementation of school health programs, radio learning groups, latrine promotion, fly control and hygiene education in Africa. We now have the opportunity to help develop the tools for taking F&E to scale, beginning with *ultimate intervention goals* (UIGs) and ending with clean faces. The development and use of UIGs will be an important step in planning and tracking the implementation of F&E. And in the end, the success of taking F&E to scale will be seen in the clean faces of children and, eventually, in sustainable disease control in some of the most needy populations of our world.

Nigeria Trachoma Control Program

Presented by Dr. Nimzing Jip, Desk Officer for Trachoma, The Carter Center, Nigeria. Carter Center assistance to Nigeria is supported by the Conrad N. Hilton Foundation.

Background

A national population-based trachoma prevalence survey has not yet been done in Nigeria. A review of existing hospital data, university dissertations and anecdotal reports suggested that trachoma is a significant cause of blindness in the Northeastern and Northwestern Zones. Since October 2000, prevention of blindness partners have done trachoma prevalence surveys in four states and trachoma rapid assessments in five other states. In this way, trachoma in Nigeria is steadily being mapped. Nigeria does not yet have a national trachoma control program. Trachoma control is done under the auspices of the National Blindness Prevention Committee (NBPC). The national coordinator of the NBPC is the coordinator for trachoma control activities. In 2000, The Carter Center/Nigeria began working with state and local health authorities to help build trachoma control programs in Plateau and Nasarawa States, where TCC is already supporting dracunculiasis eradication, and onchocerciasis, lymphatic filariasis and schistosomiasis control efforts.

The Ministries of Health for Plateau and Nasarawa States, with assistance from The Carter Center/Nigeria did the first population-based trachoma prevalence surveys of Plateau and Nasarawa beginning in April 2002. Survey results suggest that there are moderate levels of trachoma in both states with pockets of intense trachoma in some local government areas (LGAs). The survey also showed that access to household latrines varied from 21% in Plateau to 69% in Nasarawa. The first trachoma knowledge, attitudes and practices (KAP) survey was also done in 2002.

Program Achievements in 2003

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

The results of the 2002 KAP survey were used in developing health education and social mobilization strategies in a workshop held in 2003. F&E interventions were then launched in Plateau and Nasarawa States. Health education materials, including flipcharts, posters and information brochures, were printed and distributed to the 108 trained village volunteers and 45 public health workers in both states. ***Routine health education for trachoma prevention was done in 108 villages.***

A latrine promotion project was launched in Plateau and Nasarawa in 2003. The TCP trained 108 village masons to build inexpensive SanPlat latrines for rural households. 420 latrines were built in November-December (210% of annual target). The average cost of a household latrine is about \$57. The project contributes up to \$29 per latrine. The homeowner contributes about \$28 in labor, masons' fees and latrine enclosure.

In 2003, program officers were trained in monitoring and supervision activities. Regular supervision was done at all levels of the program throughout the year. Monthly

surveillance data were collected using standardized indicators for program monitoring and evaluation.

Surgery (S)

Only 75 trichiasis patients received corrective eyelid surgery in Plateau and Nasarawa in 2003. The state TCPs expect to extend the partnership for trachoma control to include Helen Keller International (HKI) in the year 2004. HKI has expertise in promoting ophthalmic surgery for both cataract and trichiasis in Nigeria, as well as in eye health education. With technical assistance from The Carter Center, the Plateau TCP estimated the UIG for trichiasis surgery to be 16,088 patients with uncorrected trichiasis. The Nasarawa TCP estimates the UIG for surgery there to be 9,711.

Antibiotics (A)

Antibiotic treatment in Plateau and Nasarawa is done using tetracycline ophthalmic ointment, and is usually distributed in health centers to patients with conjunctivitis. Tetracycline ointment was also used to treat persons diagnosed with inflammatory trachoma during community screening visits. In 2003, a total of 5,971 patients received tetracycline ophthalmic treatment in health center visits, or during trachoma screening.

Targets for 2004

F & E

- Continue health education in 108 endemic villages
- Build 2,160 additional household SanPlat latrines, plus 50 school and 50 public latrines
- Train 216 more village volunteers and masons to build household latrines and promote proper latrine use
- Use local radio stations to promote trachoma prevention and improve health seeking behavior for patients with active trachoma and trichiasis

Antibiotics

- Continue to provide tetracycline ophthalmic ointment to health centers
- Train health workers in trachoma diagnosis and prevention

Surgery

- Do 1,102 trichiasis surgeries in Plateau and Nasarawa States

Monitoring and evaluation

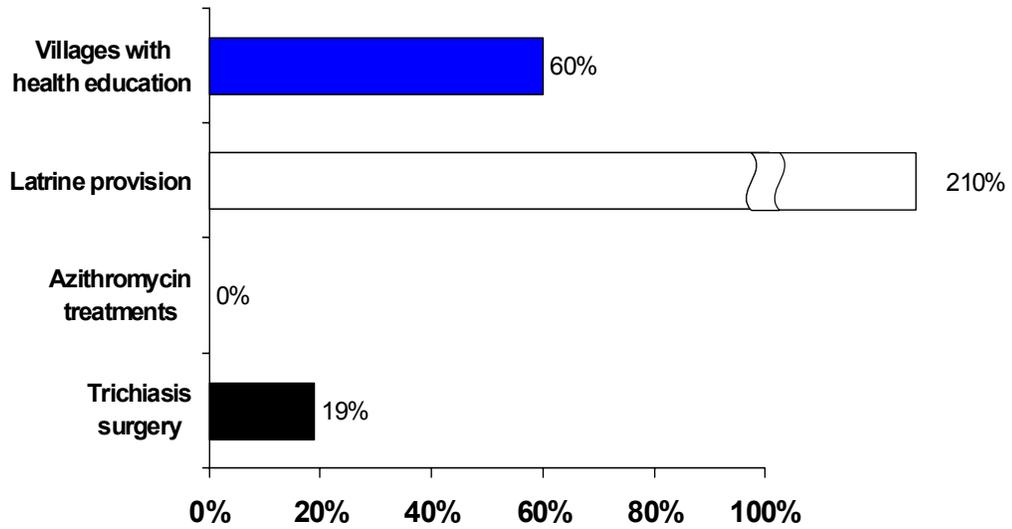
- Continue ongoing monitoring of TCP activities in intervention areas

Recommendations

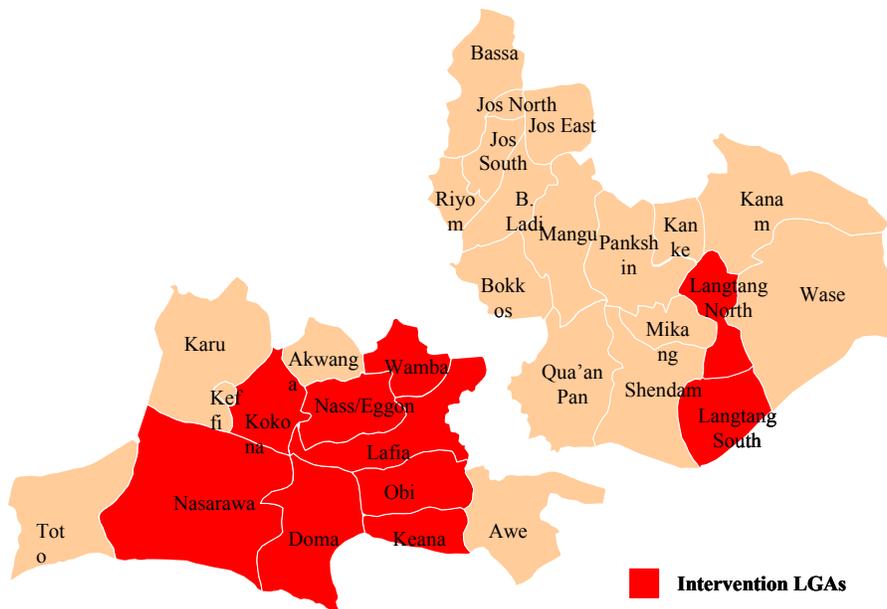
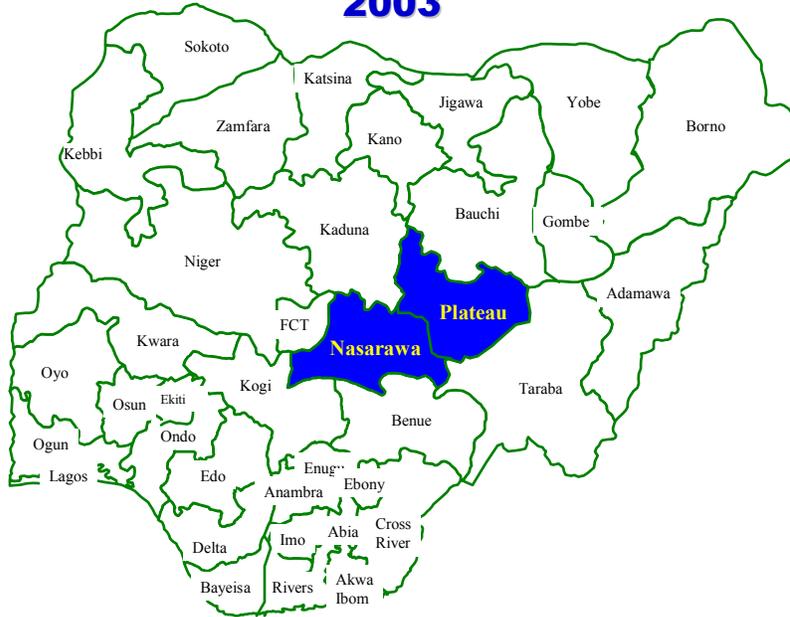
The Nigeria TCP should:

- Define the ultimate intervention goals for all components of the SAFE strategy
- Expand the program to more trachoma-endemic villages by the end of 2004
- In collaboration with other partners, implement the full SAFE strategy in both Plateau and Nasarawa States, including S and A.

Percent Achievement of Annual Targets
SAFE interventions, 2003
Nigeria



Nigeria Trachoma Intervention States* 2003



Nasarawa and Plateau States, with intervention LGAs

*assisted by The Carter Center

Ethiopia Trachoma Control Program

Presented by Mr. Mulat Zerihun, Focal Person for Blindness Prevention and Mr. Zelalem Abera, Regional Trachoma Coordinator of Amhara Region. Carter Center assistance to Ethiopia is supported by the Lions-Carter Center SightFirst Initiative.

Background

The prevalence of blindness in Ethiopia, estimated at 1.25%, is thought to be the highest in the world. In addition, six million Ethiopians are believed to suffer from low vision. The two major causes of blindness are believed to be cataract (40%) and trachoma (30%). Although a nationwide population-based survey of trachoma has not yet been done, the National Committee for the Prevention of Blindness (NCPB) of the Federal Ministry of Health estimates about one million Ethiopians live with trichomatous trichiasis and ten million more suffer from active trachoma (TF/TI).

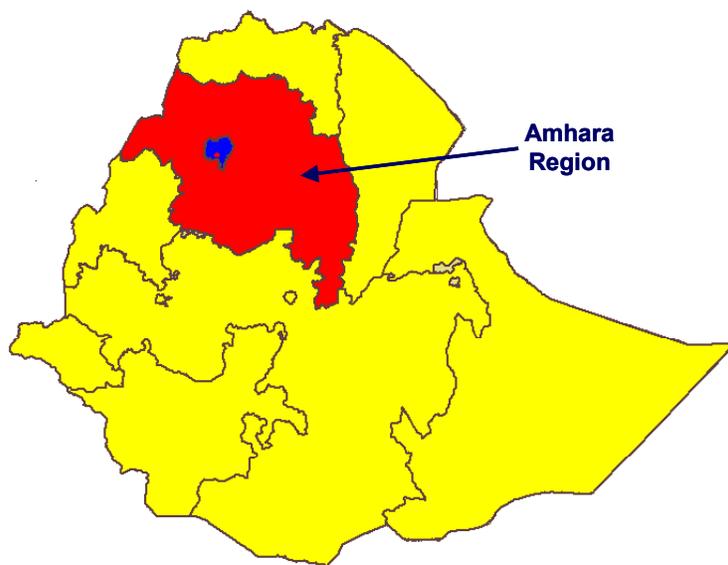
In October 2000, The Carter Center, with funding from the Lions-Carter Center SightFirst Initiative, began assisting the Amhara Regional Health Bureau (RHB) in trachoma control. Four districts in the South Gondar Zone (Dera, Ebinat, Estie and Simada) were selected to launch activities (see map). The initial program area comprised 155 villages with a total population of over one million persons.

In December 2000, the Amhara RHB, the Prevention of Blindness Team of the Federal Ministry of Health and The Carter Center conducted a community-based trachoma prevalence survey in the four pilot districts. A knowledge, attitudes and practices (KAP) survey was done in the same four districts one month later. These surveys provided baseline data used to develop a program plan of action for implementing the SAFE strategy in the South Gondar Zone.

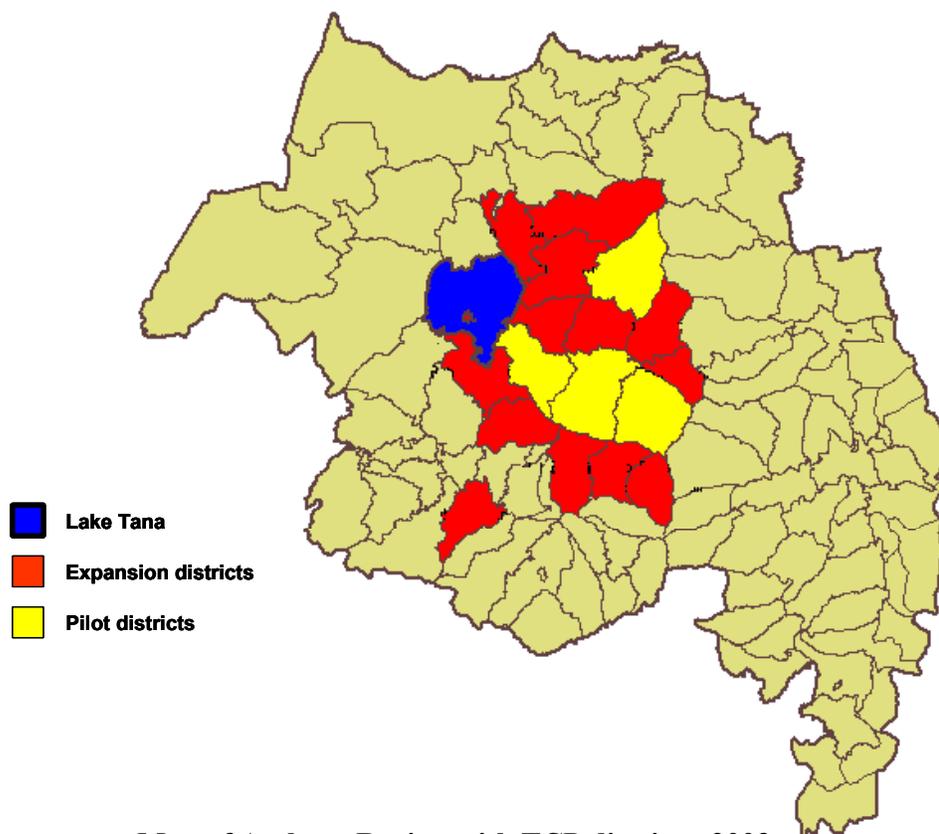
The survey data were consistent with reports that Ethiopia has extremely high prevalence of blinding trachoma. Extrapolating from the study results, the Amhara RHB estimated that there were 36,000 trichiasis patients in need of surgery and almost 300,000 children with inflammatory trachoma in need of antibiotic treatment in the four districts. The KAP survey was both qualitative and quantitative, including focus group discussions, informal interviews and a household survey. The findings were used to develop a school health curriculum and health education materials such as posters, flip charts, pamphlets, and a training manual for community workers. A five-year (2001-2005) plan of action for the South Gondar Zonal TCP was drafted in a program-planning workshop that brought together staff from the regional, zonal and district health bureaus, as well as non-governmental partners including Ethiopian Lions Clubs, The Carter Center, ORBIS International, World Vision International and Christoffel Blindenmission.

Based on the successful first three years of the South Gondar TCP, the Amhara RHB requested that The Carter Center assist in the expansion of the TCP to include an additional 15 trachoma-endemic districts (see map). These new districts are comprised of 497 villages, with a total population of 3 million persons. With the support from the Lions-Carter Center SightFirst Initiative, the Center agreed to expand its support. ***Baseline trachoma prevalence and KAP studies were done in 2003-2004 and a plan of action developed for 2004-2005.*** With the

expansion, *Lions-Carter Center assisted trachoma control activities of the Amhara RHB will comprise 19 districts in four zones and a total population of about 4 million persons.*



Map of Ethiopia



Map of Amhara Region with TCP districts, 2003

Program Achievements in 2003

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

All 155 TCP target villages in the South Gondar Zone received health education. Monitoring and surveillance of the program worked very well, with 71% of villages reporting data monthly and **100% of villages reporting quarterly**. Routine reports are written and transmitted by a network of village-based volunteers and health workers. Data reporting forms were revised and printed for use in 2004.

In 2003, 82 schoolteachers and 56 community leaders were trained in Estie District. A training manual for community workers and a school health curriculum were developed. Health education flip charts, posters, brochures and booklets for the school health program and videocassettes produced by The Carter Center and the BBC were also used and distributed during the training. Additional health education materials have been reviewed and printed for activities in 2004.

The **pilot school health program**, launched in three schools in 2002 to focus health education on the F&E of SAFE, has continued to progress. In grades 1-4, trachoma prevention is taught as part of the regular curriculum. In grades 5-8 it is taught through *trachoma clubs* and *sanitation clubs*. To promote awareness of trachoma control, all three schools celebrated their first annual **Trachoma Prevention Days** 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, Health Offices and Education Offices. Teachers and hygiene educators read poems, and the trachoma clubs performed dramas and sang songs about trachoma, hygiene and health. Students competed in trachoma question & answer contests. More than 200 persons attended each of the events. Trachoma Prevention Days are an important part of community mobilization efforts in these highly trachoma-endemic communities. In 2004, the pilot school health program will be evaluated and revised. The program will then be expanded to include half of the schools in the four pilot districts. Through 2003, the program used draft materials printed in English. The final steps in preparing for an expanded school health program will be to finalize the TCP curriculum and translate it into Amharic. After visiting pilot schools in Dera, Past Lions District Governor Tebebe Y. Berhan, speaking on behalf of Lions of Ethiopia, promised to have the curriculum translated into Amharic in 2004.

Fly control and environmental improvement are very important aspects of the Amhara TCP. In 2003, a total of **2,151 latrines were built** (85% of annual target) with support from The Carter Center and other partner organizations. Community latrines were built in three schools and three health centers. In a unique collaboration, the Amhara RHB, Centers for Disease Control and Prevention, and The Carter Center joined together to increase technical capacity in the region. A health technician from the Amhara RHB who was studying entomology at Addis Ababa University was encouraged to research eye-seeking flies in trachoma-endemic villages. He identified and characterized the feeding and breeding behaviors of these flies. His studies confirmed that the predominant species of eye-seeking fly in Ethiopia is *Musca sorbens*. The preferred breeding sites for these flies were canine and human feces. The *Musca sorbens* were found to have a diurnal pattern in activity with the peak hours of feeding at 9-11 in the morning

and 3-6 in the afternoon (see report, page 63). The next step in the entomological research will be to explore strategies for fly control.

Surgery (S)

In 2003, eight trichiasis surgeons were trained in the expansion areas and eleven trichiasis surgeons were trained in the pilot districts (100% of the annual target). Local Lions Clubs supported these activities through a Lions SightFirst grant awarded in January 2002 to train and provide equipment for trichiasis surgeons. **Nine surgical outreach campaigns** were done in 2003, reaching 5,589 trichiasis patients (50% of annual target). An additional 1,251 patients received corrective surgery in Libokemkem, an expansion district, bringing the total to **6,840 trichiasis surgeries done in 2003**. Operational research on the post-operative trichiasis recurrence rate in Libokemkem showed a recurrence rate of 3.5%, six months after corrective surgery.

Since the program began offering surgical services in the four pilot districts, 10,267 trichiasis surgeries have been done there. This represents an estimated 29% reduction of the backlog of uncorrected trichiasis cases, based on the estimated ultimate intervention goal for surgery. With the program expansion, the UIG for surgery has been recalculated to be approximately 125,000 trichiasis patients.

Number of trichiasis surgeries by district and year, South Gondar Zone

	Dera	Ebinat	Estie	Simada	DTH*	Libokemkem	TOTAL
2001	193	415	0	0	51	0	659
2002	709	713	1,305	1,112	180	0	4,019
2003	1,344	1,523	1,642	870	210	1,251	6,840
TOTAL	2,246	2,651	2,947	1,982	441	1,251	11,518

* Debre Tabor Zonal Hospital

Antibiotics (A)

Tetracycline ophthalmic ointment

The South Gondar TCP treated 35,106 persons for active trachoma in 2003 with tetracycline ophthalmic ointment purchased by The Carter Center. Patients were treated during health center visits, outreach surgical campaigns, and outreach vaccination campaigns.

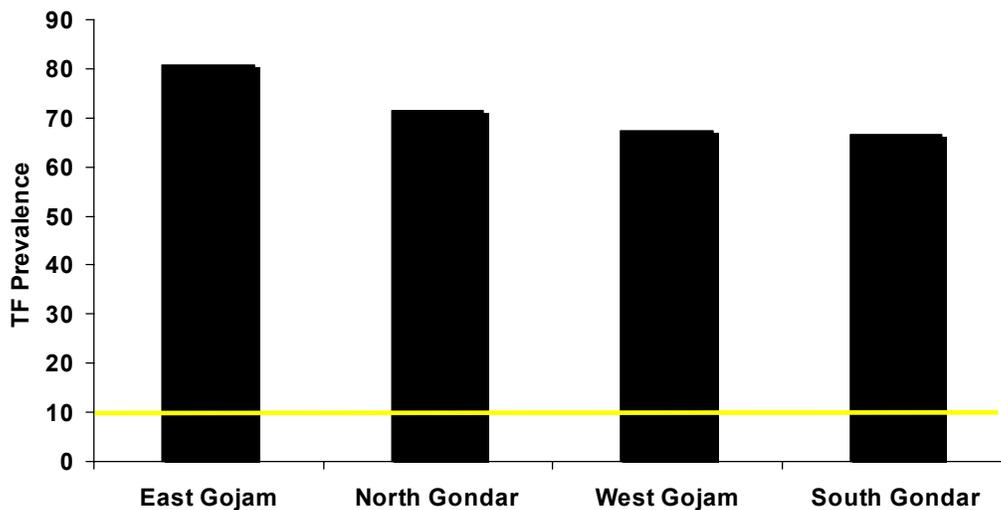
Azithromycin

In November, **100,256 persons were treated with Zithromax** in Ebinat District (100% of the annual target). This was the **first year in which Pfizer-donated Zithromax was made available to the South Gondar TCP through the International Trachoma Initiative (ITI)**. The distribution went smoothly and bodes well for expanding mass treatments with Zithromax throughout the program area. Data from all districts surveyed in the Lions-Carter Center supported program area suggest that the prevalence of TF among persons aged 1-9 is greater than 60% in all the 19 intervention districts. Eighty percent coverage of that population would mean annual treatment of approximately four million persons with azithromycin.

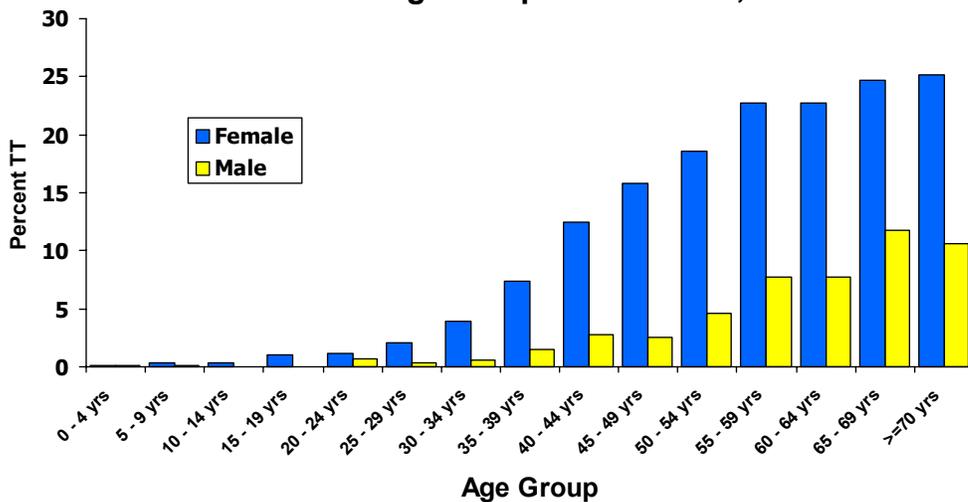
Trachoma prevalence survey

In November 2003, a trachoma prevalence survey was done in the 15 expansion districts of the Amhara Region to obtain baseline data. The survey teams examined the eyes of 19,179 persons of all ages in 4,500 households. Over 6,500 children aged 1-9 years old had their eyes and faces examined, and in-depth household questionnaires were completed for 1,497 households in the four zones. As expected, a high prevalence of trachoma was found in all of the zones surveyed (see graphs). Rates of TF in children 1- 9 years old ranged from 66.6% in South Gondar to 80.8% in East Gojam Zone. Trichiasis in persons 15 years of age and above ranged from 4.3% in South Gondar Zone to 7.5% in North Gondar Zone. Trichiasis was significantly higher in women than men. Trichiasis was found to be present in children, with boys and girls less than 4 years old affected.

Prevalence of follicular trachoma (TF) among children aged 1- 9 years by district, Amhara Region expansion areas, 2003



Trichiasis prevalence by age group and gender Amhara Region expansion areas, 2003



The prevalence study also examined risk factors for trachoma. Interesting findings were:

- Only 28% of children 1-9 years old had clean faces (no ocular or nasal discharge)
- Only 5% of households surveyed had latrines
- Only 1% of the households had refuse disposal pits
- In 45% of households, cattle shared living space with human occupants
- 74% of the households had access to a water supply within 30 minutes walking time

Targets for 2004

The 2003 annual review meeting for the South Gondar Zonal TCP was also the planning workshop for the expanded Amhara Regional TCP. Each district set its own annual targets.

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

- Train health workers, schoolteachers, and volunteers in all trachoma-endemic villages in trachoma control and prevention, an estimated total of 6,500 persons. The program will focus on training a higher percentage of women in 2004.
- Implement health education strategies in 652 target villages
- Build 10,000 latrines
- Expand the use of the TCP school health curriculum to 50% of schools in the four initial program districts

Surgery

- Train 67 new trichiasis surgeons
- Do 48,881 trichiasis surgeries in health facilities and surgical outreach campaigns

Antibiotics

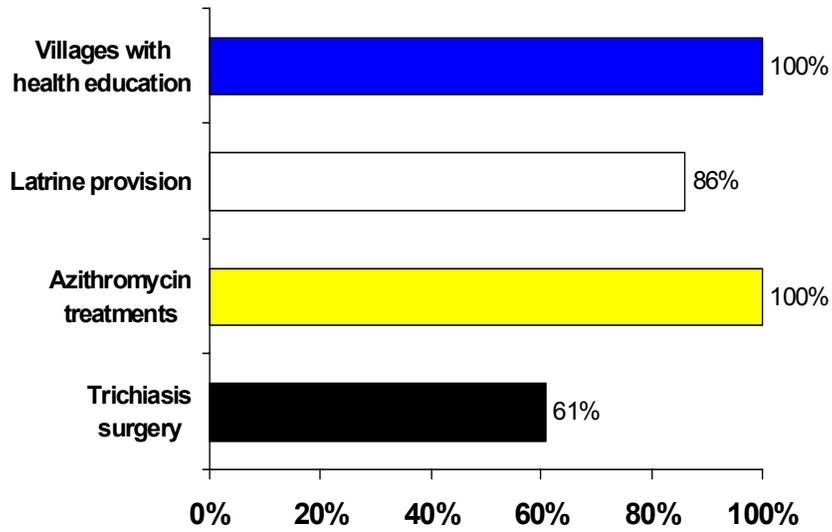
- Treat 266,000 trachoma patients with tetracycline ointment
- Treat 550,000 persons with azithromycin

Recommendations

The Amhara TCP should:

- Work with local Lions Clubs to integrate prevention of blindness services, particularly combining cataract and trichiasis outreach campaigns, and document the results.
- Present TCP activities done throughout the Amhara Region in future program review meetings, including work done with the assistance of World Vision/Ethiopia.

Percent Achievement of Annual Targets
SAFE interventions, 2003
Ethiopia

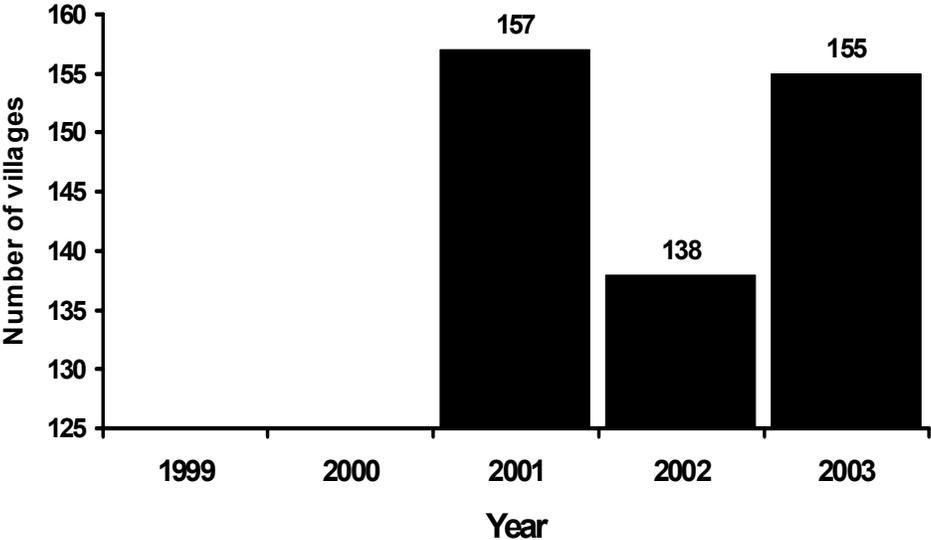


**Summary of Trachoma Control Interventions in 2003 (January - December)
Carter Center-assisted Trachoma Control Program - South Gondar Zone**

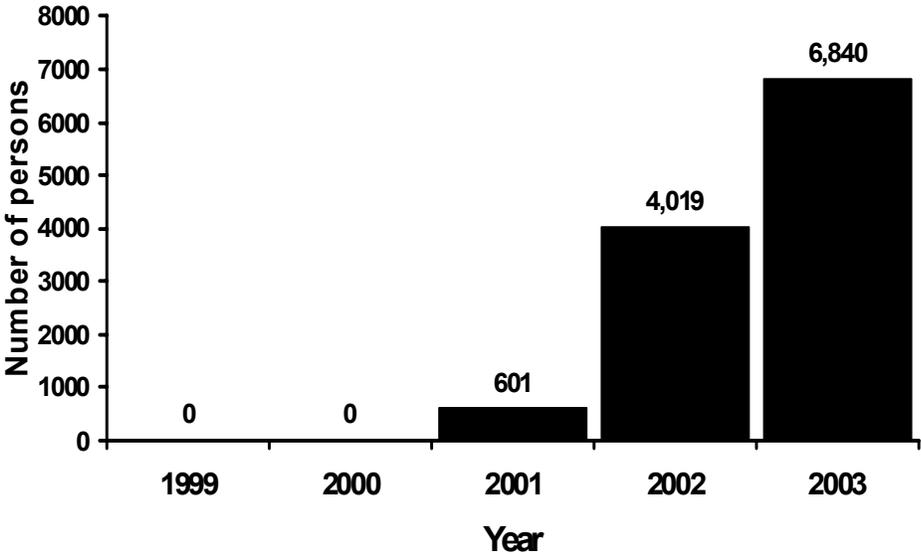
Districts	Dera	Ebinat	Estie	Simada	Summary
Population	248,652	234,650	335,450	241,163	1,059,915
Number of villages	29	34	55	37	155
Baseline prevalence (2000)					
% TF (children 1 to 9 yrs)	49.6	78.8	67.4	52.8	62.4
% TFTI (children 1 to 10 yrs)	81.2	94.7	90.2	84.7	87.9
% TT (women 40 and above)	23.2	20	18.3	18.6	19.9
% of children with clean faces (children 1 to 9yrs)	0	4.1	10.8	0.3	4.5
Baseline KAP¹	2001	2001	2001	2001	2001
F & E intervention targeted villages:	29	34	55	37	155
Number of villages with Health education	29	34	55	37	155
% Coverage (villages with Health education)	100%	100%	100%	100%	100%
Number of trained volunteers	0	0	0	0	0
Number of trained health workers	0	0	0	0	0
Number of trained community leaders	0	0	56	0	56
Number of trained school teachers	0	0	82	0	82
Health education materials available	Yes	Yes	Yes	Yes	Yes
Latrine constructed in 2003	304	285	1,261	201	2,151
Targeted for latrine construction in 2003	600	500	830	600	2,530
% Coverage (# of constructed latrines)	51%	57%	152%	34%	85%
Antibiotics					
Azithromycin² intervention villages:	N/A	18	N/A	N/A	18
Treatments (2003)		100,256			100,256
Target Population		100,000			100,000
% Coverage of persons receiving Zithromax		1			100%
Tetracycline Oint. intervention villages:	29	34	55	37	155
Treatments (2003) ³	6,423	6,963	15,641	5,735	35,106
Target Population	16,416	20,000	23,100	18,000	77,516
Coverage (%)	39%	35%	68%	32%	45%
Surgery intervention villages:	29	34	55	37	155
Surgeries (2003) ⁴	1,344	1,523	1,642	870	5,589
Target Population	3,200	2,000	3,200	2,880	11,280
Coverage (%)	42.0%	76.2%	51.3%	30.2%	49.5%
Number of trichiasis surgeons trained ⁵	2	3	4	2	11
Targeted number of trichiasis surgeons	2	3	4	2	11
Coverage (%)	100%	100%	100%	100%	100%

1. Knowledge, attitudes, and practices study - qualitative & quantitative
2. Zithromax available only for Ebinat
3. Additional people treated with TTC ointment at Debretabor Hospital: 344
4. Additional surgery conducted at Debretabor Hospital: 210
4. Additional surgery conducted in expansion districts: 1,251
5. Additional TT surgeons trained in expansion dsitricts: 8

**Number of villages receiving ongoing health education,
by year, South Gondar, Ethiopia, 1999-2003**



**Number of persons receiving trichiasis surgery, by year,
South Gondar, Ethiopia, 1999-2003***



* Trichiasis backlog = 36,000 patients (2001 estimate)
Total persons operated 1999-2003 = 11,460 (32% of backlog)

Niger Trachoma Control Program

Presented by Dr. Boubacar Kadri, Deputy Director, National Prevention of Blindness Program, Ministry of Health of Niger. Carter Center assistance to Niger is funded by the Conrad N. Hilton Foundation.

Background

Niger's National Prevention of Blindness Program (NPBP) was established in 1987. The Ministries of Health, Education and Water & Social Development formed a National Trachoma Task Force in 1999. Representatives of partner health organizations including The Carter Center, local Lions Clubs, Helen Keller International, Christoffel Blindenmission, the Niger Association for the Blind, the African Muslim Agency and the World Health Organization are also Task Force members.

Trachoma prevalence surveys done in 1997-1999, with financial assistance from the European Union and The Carter Center, found that an average of 44% of children under ten years old had active trachoma (TF/TI) and 1.7% of women over 15 years old had trichiasis. Nationwide, an estimated 68,300 men and women needed trichiasis surgery. The highest prevalence of trachoma was identified in the regions of Zinder, Diffa and Maradi. The baseline assessment showed that about 50% of households had access to clean water within 1 km, and about 14% of households had access to a latrine. The national baseline prevalence of clean faces in children aged 1-10 years was 52%.

Program achievements in 2003

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

A total of **1,122 villages in three target regions** (Zinder, Maradi and Diffa) **received regular health education** sessions for trachoma prevention in 2003. To achieve this high level of community health education, some 1,274 volunteers, including community health workers and teachers from both public and Koranic schools were trained in trachoma prevention. The program produced and distributed educational flip charts, posters, T-shirts and calendars.

To further broaden the reach of the TCP educational campaign throughout Niger, health education messages were produced and broadcast on public and private radio stations. As in Ghana, the Niger TCP supervisors suspected that people who had heard the jingles and radio spots did not always understand or retain the intended health messages. Therefore, the Niger TCP **launched 24 radio listening clubs** (radio learning groups) in rural communities as a strategy to clarify and reinforce health and hygiene messages for persons in trachoma-endemic villages. Along with giving technical assistance, The Carter Center donated Freeplay windup radios to the radio listening clubs. To reach persons who might not have access to radio, artists and health educators worked together to create performances such as theatrical dramas, which were done in large villages and weekly markets.

The hallmark of the Niger F&E campaign was the Zinder latrine promotion project, begun in 2002 to reduce populations of *Musca sorbens* in trachoma-endemic villages, and improve general hygiene. The Carter Center and the International Trachoma Initiative (ITI) provided technical and financial assistance to the program to promote latrine construction and proper use in target villages. **The project assisted villagers to build 1,645 household latrines** (53% of annual target) in 2003. The previous year, the project assisted 1,282 households to construct latrines. In addition, a total of 90 rural women were trained in traditional soap preparation to promote better family hygiene. In 2003, after one year of latrine promotion, the program assessed latrine use, maintenance and acceptability (see report, page 50). The overall impact of the Niger F&E program is very encouraging, with a strong appreciation and demand for household latrines.

Surgery (S)

In 2003, the program trained 44 new trichiasis surgeons based in integrated health clinics. All of the new trichiasis surgeons, and 75 previously trained surgeons, received new trichiasis surgical kits. New surgical scissors and forceps were in particular demand. Twelve medical doctors were trained to supervise trichiasis surgery and monitor TCP activities. Overall, **4,858 trichiasis patients received corrective surgery** in 2003 (65% of annual target). From 1999 through 2003, there was a steady increase in the number of patients reached by the program for trichiasis surgery (see graph, page 17). Challenges to the delivery of surgical activities in 2003 included the great need to train more trichiasis surgeons, the demands of cost-recovery for activities done in health centers, as well as competing, non-trachoma related factors such as national immunization days for polio eradication and a meningitis epidemic in February-June.

Antibiotics (A)

With support from the ITI, the Niger TCP conducted its second annual mass distribution of Pfizer-donated Zithromax in 2003. **A total of 710,230 persons in highly trachoma-endemic villages received azithromycin** during mass treatment campaigns (91% of annual target). The 2003 azithromycin distribution was more than a seven-fold increase over the 2002 campaign. The impact of the campaign was to decrease active trachoma from 63% to 23% six months after mass treatment. In addition, 68,606 patients were treated with ophthalmic tetracycline ointment in 2003 (429% of annual target).

Targets for 2004

F & E

- Reach 4,000 trachoma endemic villages [with regular hygiene education and community mobilization]
- Build 3,000 SanPlat household latrines
- Continue training village women in traditional soap preparation
- Provide 25 water sources to trachoma-endemic villages

Antibiotics

- Treat 2,363,252 persons with azithromycin in mass treatment campaigns

Surgery

- Train 80 additional trichiasis surgeons and 15 physicians as supervisors
- Do corrective eyelid surgery on 10,400 trichiasis patients

Monitoring and evaluation

- Improve monitoring of TCP activities in intervention regions

Recommendations

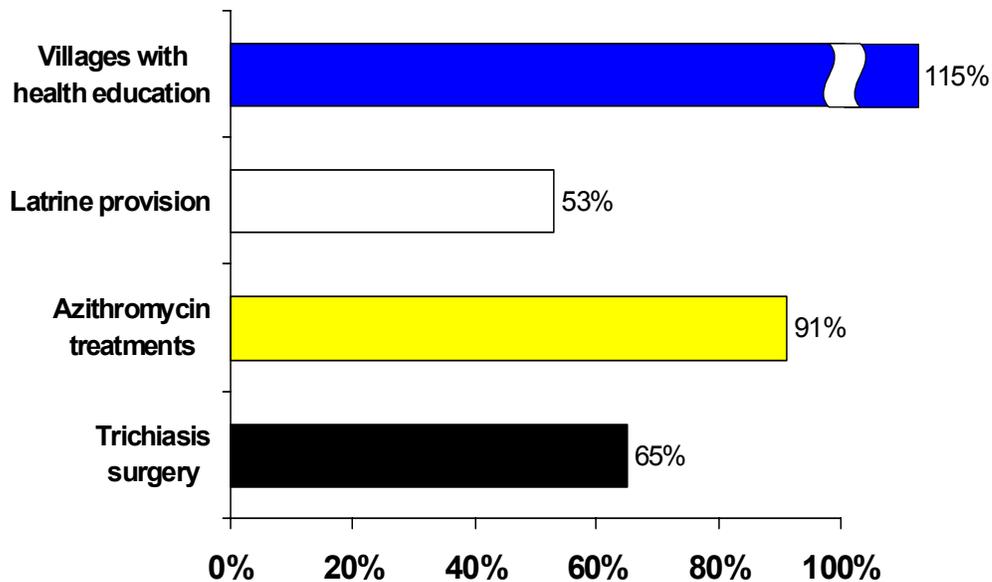
The Niger TCP should:

- Hold a workshop to develop a five-year strategic plan in April 2004
- Determine ultimate intervention goals for all components of the SAFE strategy
- Mobilize additional resources for implementation of SAFE strategy in order to cover six endemic regions
- Standardize indicators for reporting program interventions
- Establish an ongoing surveillance system for the program in Zinder, Maradi and Diffa
- Target women for health education training
- Continue to promote radio listening clubs in rural communities
- Reinforce collaboration with all NGOs
- Advocate to increase access to water in trachoma-endemic communities

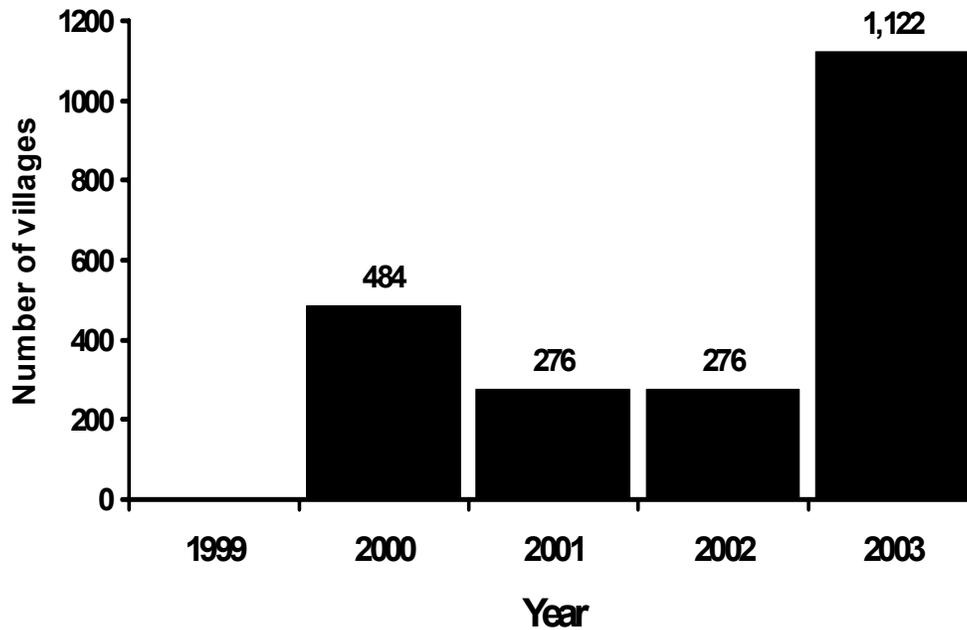
Percent Achievement of Annual Targets

SAFE interventions, 2003

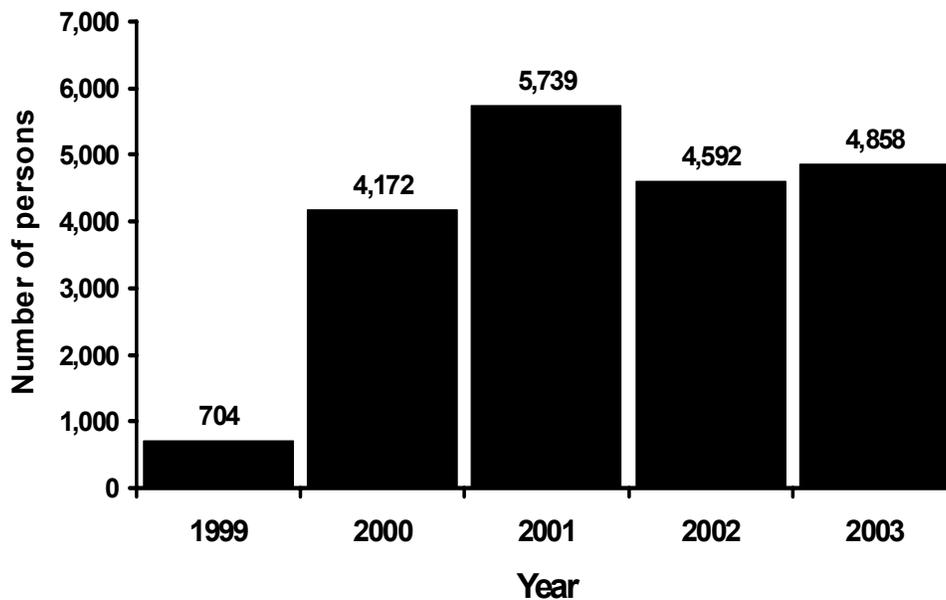
Niger



**Number of villages receiving ongoing health education,
by year, Niger, 1999-2003**

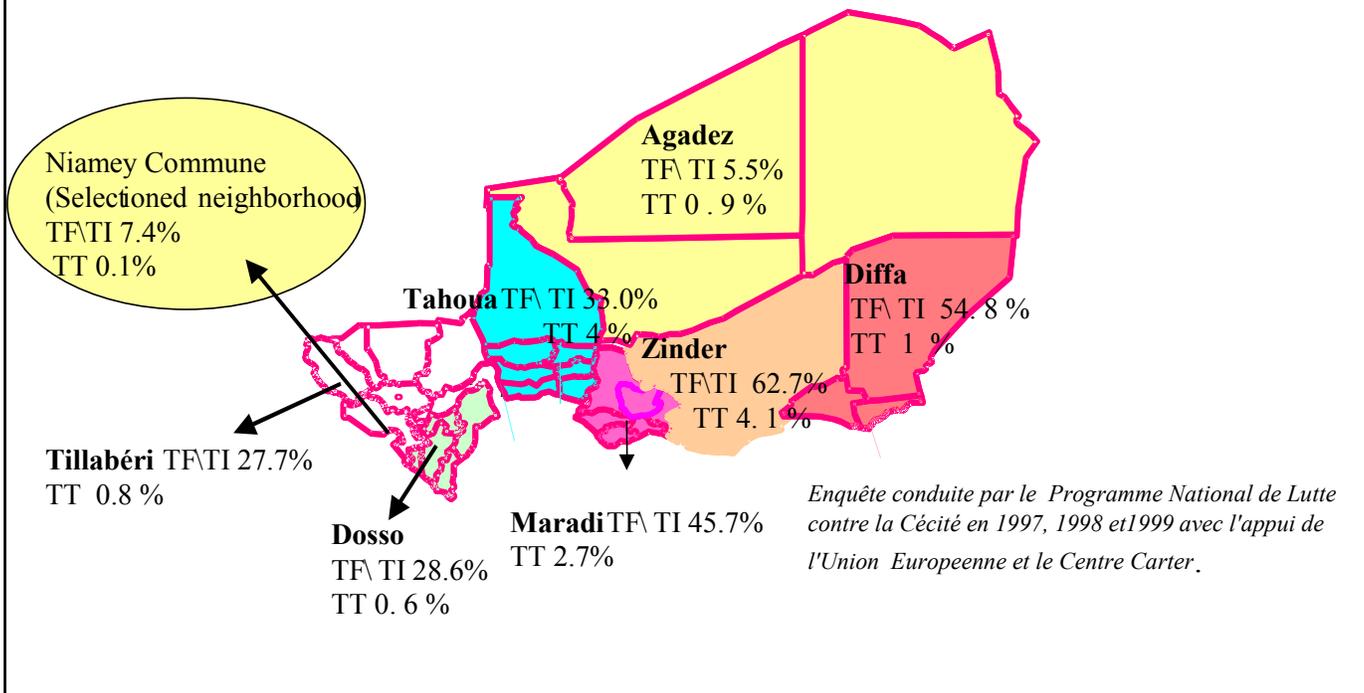


**Number of persons receiving trichiasis surgery,
by year, Niger, 1999-2003***

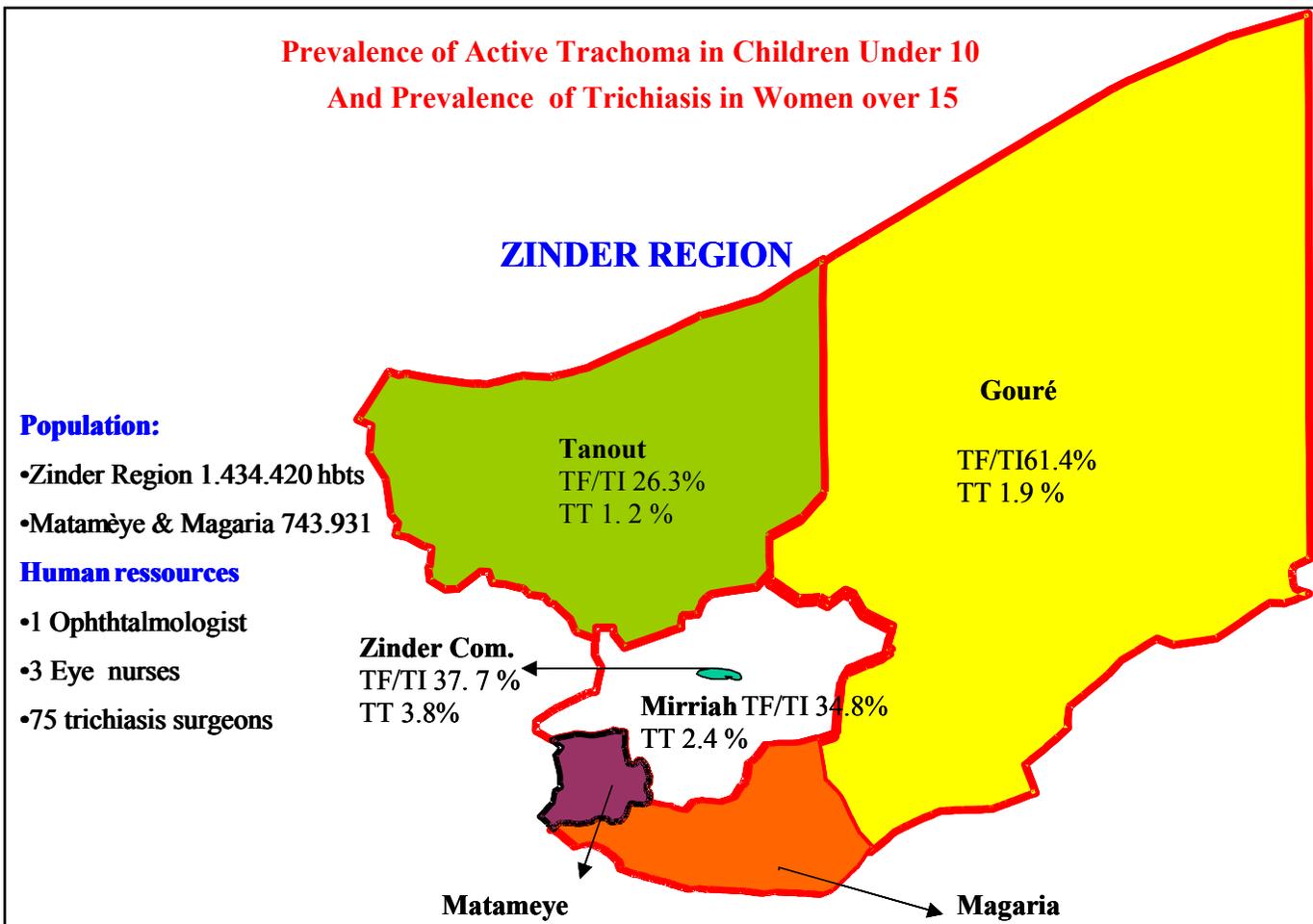


* Trichiasis backlog = 68,300 patients (1999 estimate)
Total persons operated 1999-2003 = 20,065 (29% of backlog)

**Prevalence of Active Trachoma in Children under 10 and
Prevalence of Trichiasis in Women over 15**



**Prevalence of Active Trachoma in Children Under 10
And Prevalence of Trichiasis in Women over 15**



Sudan Trachoma Control Program

Presented by Professor Mamoun Homeida, National Coordinator, Sudan Trachoma Control Program; Dr. Magdi Ali, Deputy National Coordinator, Sudan TCP; and Ms Alice Onsarigo, Trachoma Program Officer, The Carter Center/Nairobi, which serves areas of Sudan supported by the Operation Lifeline Sudan consortium. Carter Center assistance to Sudan is funded by the Lions-Carter Center SightFirst Initiative.

Background

Trachoma has long been known to be an important disease in Sudan, but little specific data other than hospital and clinical records were available until May 1999, when a team from the Sudanese Federal Ministry of Health (FMOH) completed the first population-based trachoma prevalence surveys in two areas of the country, with financial assistance from the Conrad N. Hilton Foundation and technical support from The Carter Center. One survey was done in Wadi Halfa, in the north, and the other in Malakal, in the south (see Map 1). Trachoma was previously believed to be a significant problem only in the north of the country, but the two surveys confirmed that trachoma is a cause of severe illness and significant blindness in southern as well as northern Sudan.

The survey results, in part, led to the signing later that year of an agreement for the Lions-Carter Center SightFirst Initiative, which includes funding of ongoing assistance to Sudan for control of onchocerciasis and trachoma. The three initial partners (FMOH, Lions International, and The Carter Center) then began also working with two nongovernmental organizations (Christian Mission Aid and MEDAIR) in the Operation Lifeline Sudan/South (OLS) consortium to plan a broad trachoma control effort in the country, based on the WHO SAFE strategy. Since tetracycline ointment was found to have a low level of acceptance by the population, a request was made to Pfizer Inc for a donation of Zithromax (azithromycin). In an extraordinary gesture, Pfizer donated Zithromax to Sudan as a part of the International Trachoma Initiative in August 2000. The addition of Zithromax to the Sudan TCP increased community goodwill and program acceptance in many target communities.

Sudan is the largest country in Africa and one of the poorest in per capita income. Its vast territory, poor infrastructure, and insecurity, especially in the southern part of the country, are major challenges to all public health work. Sudan has a population of about 30 million persons, of which at least 22 million live in the northern states. Sudan has been wracked by civil war for 37 of the 48 years since it gained independence in 1956. The latest phase of the on-going civil war, the longest lasting war in Africa, has been underway since 1983. Since 1989, humanitarian aid to southern Sudan has been carried out under the aegis of Operation Lifeline Sudan, a consortium of United Nations agencies and over 40 non-governmental organizations. The Government of Sudan controls almost all of the northern part of the country as well as some pockets of territory in the south, which is where most of the fighting is ongoing.

The Carter Center has been involved in Sudan since 1986, when the Center began an agricultural assistance project that lasted until 1992. Former President Jimmy Carter

convened a meeting among civil war opponents in 1989, and negotiated a “Guinea Worm Cease-Fire” that halted the civil war for nearly six months in 1995. President Carter also negotiated an agreement between the governments of Sudan and Uganda in 1999, which led to the restoration of diplomatic relations between the two countries in 2001. The Carter Center has served since 1995 as the lead agency for assisting Guinea worm eradication on both sides in Sudan, and also facilitates coordination of onchocerciasis control efforts between the two sides from its offices in Khartoum and Nairobi. Sudan’s Trachoma Control Program is modeled on its Guinea Worm Eradication and Onchocerciasis Control Programs, including the Carter Center’s role in helping to coordinate efforts on both sides, in spite of the war. The Carter Center’s involvement as a major partner in these three public health programs in Sudan in turn facilitates its role in attempting to help bring peace to the country.

Leadership of the Sudan Trachoma Control Program (Sudan TCP) rests with the national Trachoma Technical Consultative Committee, which was formed in June 1999 as an organ of the Federal Ministry of Health. Activities in Government of Sudan (GOS)-controlled areas are coordinated and monitored from Khartoum by the FMOH with assistance from The Carter Center. Activities in OLS-assisted areas are coordinated and monitored from Nairobi by The Carter Center with assistance from partner NGOs and humanitarian units of the opposition forces. Local committees oversee activities in each of the operational areas. Meetings of the leadership of the GOS and OLS programs are held quarterly to maximize coordination of the national program. Program information from both sides is collected, analyzed, and reported by the national coordinator, who represents the national program at international meetings. The Sudan TCP launched its field activities in 2000 with the implementation of the SAFE strategy in the Malakal area.

In areas of Sudan where health care is provided through OLS, The Carter Center began collaboration with three NGOs, Medair, CMA and ADRA, in 2000, to help implement the A, F & E components of SAFE. Trachoma prevalence surveys were done in four locations in 2001 and another three in 2002. By 2003, The Carter Center was coordinating the activities of six NGOs based in 12 different locations in south Sudan. The total population of all the OLS-supported areas served by the Sudan TCP is over 600,000 persons.

Program Achievements in 2003 in Areas served by the Government of Sudan (GOS)

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

In 2003, in Government of Sudan areas, regular health education sessions were done in 664 villages (51% of annual target) with the objective of increasing facial cleanliness of children aged 1-9 years. School-based trachoma education continued in 2003, with **trachoma teachers** assigned to schools in each program target area. In Wadi Halfa, **Trachoma Clubs** were formed at Dongola University. In Malakal, similar trachoma clubs were launched at Upper Nile University and in high schools to promote hygiene education. Other groups involved in trachoma education were midwifery schools, sport clubs and youth activist groups. Trachoma control messages were broadcast on radio and television weekly in the program areas.

Latrine construction was done by partner organizations, including UNICEF's W.E.S. program and FAR (Fellowship for African Relief). A total of 1,933 latrines were built in trachoma-endemic areas (162% of annual target). The greatest challenges in implementing F&E in 2003 were that latrines are not yet well accepted in some areas, and the disruption of health services in areas of insecurity in Darfur and Upper Nile States.

Surgery (S)

In 2003, only 338 trichiasis surgeries were done in GOS-supported program target areas of Sudan (11% of annual target). However, including surgeries done in state hospitals and the Elmaghrabi Eye Hospital, some 2,658 trichiasis patients were operated on. In September, Christoffel Blindenmission (CBM) helped to establish the new eye clinic in the Academy Charity Hospital, in Khartoum. All surgeries done in the Charity Hospital are subsidized, and corrective lid surgeries were done free of charge for patients in the Mayo displaced persons camp, near Khartoum. CBM also donated equipment for a new Eye Clinic Center in Juba, in southern Sudan. Nor Al Eion Hospital, of Egypt, agreed to provide the staff to operate the eye care unit. With the advent of peace in Sudan, this may become the center for trachoma control in the south.

Antibiotics (A)

In 2003, **the GOS-supported TCP treated 186,246 persons with Pfizer-donated Zithromax** (87% of annual target). Treatments covered eligible populations in five major areas (see Map 1). In each area, community volunteers were trained in Zithromax distribution. A total of 290 new community-based drug distributors were trained.

Tetracycline ophthalmic ointment was also distributed for treatment of active trachoma, however, compliance with the treatment regimen was low. Frequently, patients were found to apply the ointment only once or twice before discontinuing use. Many patients believe that ophthalmic ointment is meant for use in children only.

Monitoring and evaluation, and operations research

The Sudan TCP maintains a monthly reporting system for routine surveillance of target villages. Supervisors make spot check visits of program areas to monitor TCP activities.

In 2003, the Sudan TCP began a national population-based trachoma prevalence survey in rural areas, using the standard WHO cross-sectional cluster sample methodology. The objectives of the survey are to:

- determine the prevalence of TF and TI in children 1-9 years of age
- determine the prevalence of TS, TT and CO in persons over the age of 15 years
- assess facial cleanliness in children 1-9 years of age
- assess environmental hygiene (e.g., presence and use of latrines, disposal of waste)

More than 80% of the survey data were collected by March 2004. Preliminary data analyses suggest that most of the populations surveyed have a high prevalence of trachoma. The results of the survey will be very useful in planning the national expansion of the Sudan TCP.

Targets for 2004

- Provide regular trachoma health education to >1,000,000 persons
- Expand program to include 220 new villages and towns, based on survey data
- Provide corrective surgery for 2,000 trichiasis patients
- Distribute azithromycin to 500,000 persons in mass treatment campaign
- Distribute 50,000 tubes of ophthalmic tetracycline ointment
- Train 26 new community leaders in TCP promotion
- Train 220 community health workers.
- Advocate for building 2,000 household latrines and 200 demonstration latrines in markets, churches, etc.
- Distribute soap to 500,000 persons in Upper Nile state

Program Achievements in 2003 in Areas served by OLS

The OLS-supported Sudan Trachoma Control Program operates in areas with high prevalence of blinding trachoma, where trichiasis is found in children as young as 5 years old. There are strong cultural beliefs and practices that put the people at risk of trachoma. In addition, it is difficult for the program to gain access to many of those most at risk because of the insecurity and inaccessibility of many areas. This situation is complicated by a poor health infrastructure and minimal physical infrastructure. There are many mobile nomadic populations and a large number of internally displaced persons.

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

In 2003, the program trained 396 volunteers who delivered TCP health education to 424 villages. Training was done at three levels: village volunteers, community leaders and school teachers. ***Reporting of health education activities was done on a regular basis and reported in linelistsings for each program village.*** Review of linelistsings is currently underway to assess the accuracy and usefulness of the data collected. This process includes verifying and improving baseline demographic data.

Health and hygiene education strategies vary with the area targeted and NGO partners involved. Youth groups in Padak delivered trachoma control messages in churches, schools and markets. Drama groups delivered messages at community gatherings, such as traditional wrestling matches. In Padak schools, inspection parades were used every morning to encourage facial cleanliness. Interschool competitions were held with questions based on key health education messages. The events also included TCP-inspired theater, and drawing and musical competitions, in which pens were given to winning schools and students.

Latrine coverage and usage remain very low in southern Sudan where strong traditional beliefs and practices frequently make use of latrines unacceptable. Another challenge is that latrines may collapse during the rainy season in many areas where the black cotton soil is not solid enough to support unlined pit latrines. Lining pit latrines with cement is very costly in this area, where construction materials must be imported under difficult conditions. In 2003, only 303 household latrines were built in OLS-supported program

areas (33% of annual target). Nonetheless, partner NGOs are slowly changing local attitudes and practices regarding latrines.

Water provision in OLS-supported areas is even more problematic than latrines, due to the great difficulties encountered in moving heavy equipment in south Sudan. Only 27% of program villages have access to safe water, and many communities avoid using rivers as water sources due to insecurity. In addition, the depth to which a well must be dug frequently exceeds the capability of drilling equipment which can be used in south Sudan. For example, Medair has the capacity to drill to a depth of 60 meters, but estimates that most of the villages in its area require wells of 90 meters or more.

Lessons learned in implementing F&E in OLS-supported areas in 2003 are that the program should target schools wherever possible, and use a child-to-child approach to encourage facial cleanliness in schools and at home. To do this, the program will develop new, easy to read materials for school children. At the local level, the program will work to involve community leaders in decision-making in matters related to trachoma control, and train more volunteers in each village. The Sudan program will also provide bicycles for TCP supervisors to facilitate better supervision and data collection. To promote latrines, the program will explore appropriate technologies for construction of better latrines. Model latrines may be built in markets, PHC facilities, churches, schools, and court centers.

Surgery (S)

In 2003, The Carter Center's Nairobi office calculated the ultimate intervention goal for trichiasis (UIG_S), and estimated that there are 35,952 patients suffering from uncorrected trichiasis in the OLS TCP areas. In 2003, the program facilitated 1,072 corrective surgeries (17% of annual target). Christoffel Blindenmission, which is the coordinating NGO partner for trichiasis surgery, trained 14 trichiasis surgeons in 2003.

The most important challenges in S remain the enormous backlog of uncorrected trichiasis cases and lack of trained surgeons and surgical kits. NGO surgical staff were frequently evacuated from program locations in 2003. The long distances people must travel over difficult and insecure terrain to have surgery also remains a serious barrier to surgery uptake.

Antibiotics (A)

In 2003, **the OLS TCP treated 117,317 persons with Pfizer-donated Zithromax** (117% of the annual target). An additional **40,197 persons received tetracycline ophthalmic ointment** (201% of the annual target). The accomplishments of the mass antibiotic treatment campaigns were particularly impressive, under the difficult conditions. TCP target communities in the south can be very difficult to access. Many communities migrate to water points during the dry season, and are unwilling to travel long distances to distribution centers. In some areas a rumor spread that the azithromycin offered was a contraceptive. Finally, due to the ever present civil conflict, partner NGOs were frequently evacuated from program areas for months at a time. In 2004, the program will plan distribution campaigns for the dry season and will do more intensive social

mobilization to make communities aware of distribution dates and centers, and to counter rumors about ill intent of the drug campaign. Finally, the program will try to decentralize distribution and increase the number of treatment centers.

Targets for 2004

- Prioritize health education to mothers
- Provide regular health education in 1,117 villages
- Increase school health programs
- Increase eye surgery outreach to remote villages
- Recruit and train volunteers who live with nomadic peoples
- Increase number of female peer educators
- Advocate for support from traditional leaders for latrines
- Provide 500 new household latrines
- Build 426 demonstration latrines in markets, churches, PHC facilities, etc.
- Encourage burying feces when latrines are not used
- Increase awareness about trichiasis surgery
- Train more eyelid surgeons and provide each with surgical kits

Recommendations

The Sudan TCP should:

- Advocate for partner organizations (UNICEF, ADRA, MEDAIR) to increase water coverage.
- Develop a supervision checklist for HE activities
- Include more women in program activities
- Encourage implementing partners to scale up surgical activities to clear the trichiasis backlog and strengthen collaboration with CBM
- Continue to hold annual review meetings to monitor program impact and assist in setting targets
- Increase the school-based health education in collaboration with the federal and state Ministries of Education
- Do the triennial survey to measure the impact of the program in some selected areas
- Build the capacity of FMOH staff to diagnose, treat and prevent trachoma

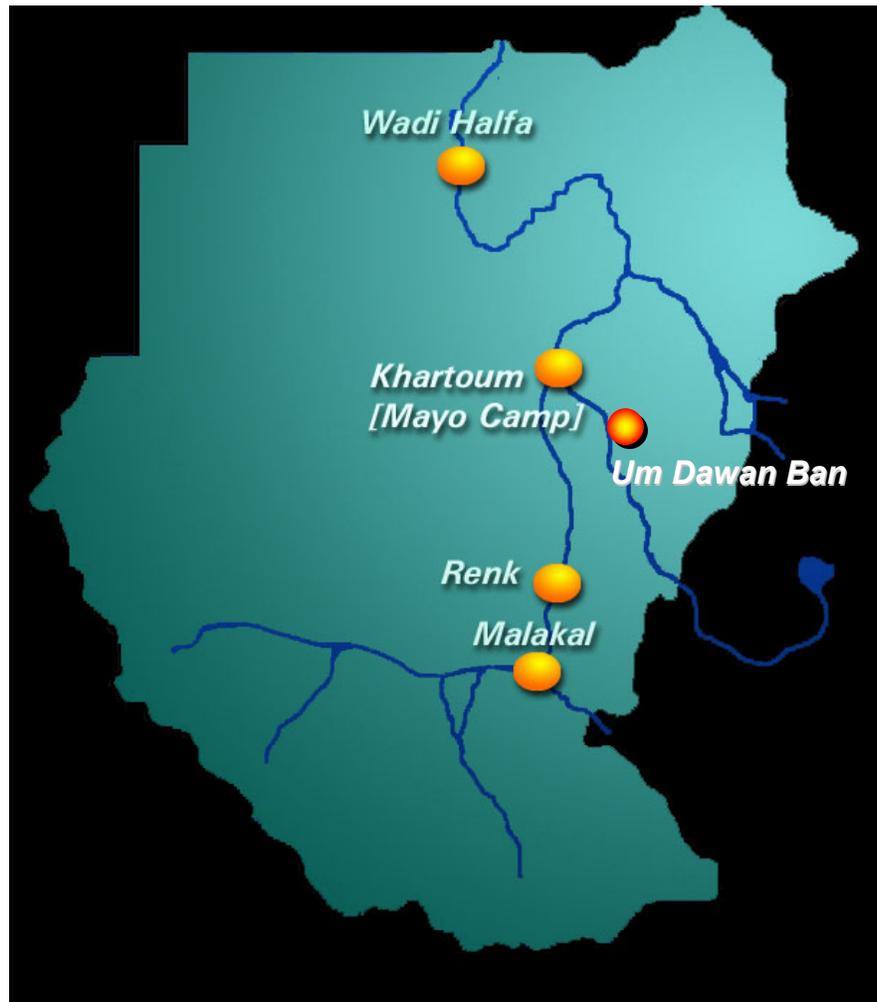
Ultimate intervention goals (UIG_{FE}) and annual targets for F&E interventions, OLS-supported areas of south Sudan, 2004

Area	Population	TFTI (1-9)	Number of villages	UIG (Number villages)	Annual target for 2004
KATIGIRI	60,000	50%	101	101	101
KEEW	129,000	54%	270	270	145
KIECH KUON	63,500	80%	17	17	17
LANKIEN	100,000	54%	300	300	300
ORINY	35,000	59%	188	188	50
PADAK	48,500	76%	146	146	146
PALUER	70,000	77%	104	104	104
TALI	55,000	73%	120	120	120
BOMA	20,000	60%	100	100	50
TOTAL	581,000		1,346	1,346	1,033

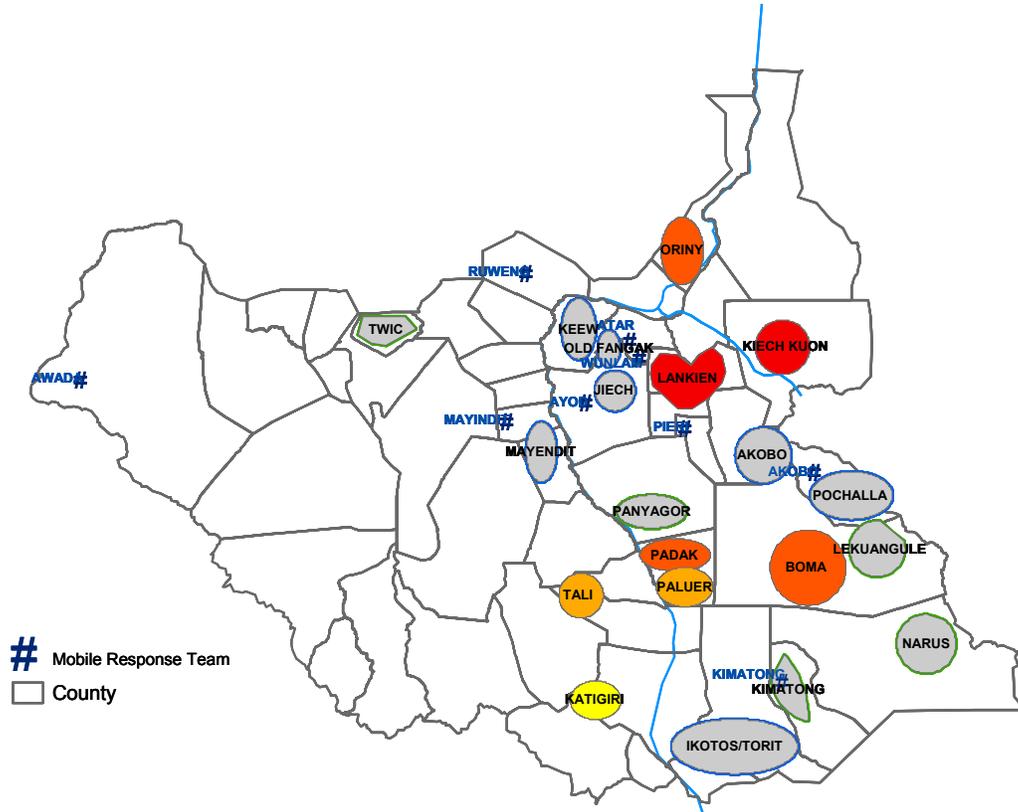
Ultimate intervention goals (UIG_s) and annual targets for trichiasis surgery, OLS-supported areas of south Sudan, 2004

Area	Population	Population aged 15+ years	TT prevalence (15+)	UIG _s	"Ideal" Annual Target	Program Annual Target
KATIGIRI	60,000	33,000	1.3%	429	86	60
KEEW	129,000	70,950	15.1%	10,740	2,148	2,400
KIECH KUON	63,500	34,925	14.7%	5,144	1,029	100
LANKIEN	100,000	55,000	15.1%	8,326	1,665	2,100
ORINY	35,000	19,250	11.6%	2,225	445	300
PADAK	48,500	26,675	10.1%	2,705	541	250
PALUER	70,000	38,500	10.0%	3,835	767	200
TALI	55,000	30,250	4.1%	1,228	246	100
BOMA	20,000	11,000	12.0%	1,320	264	100
TOTAL	581,000	319,550	11.3%	35,952	7,190	5,610

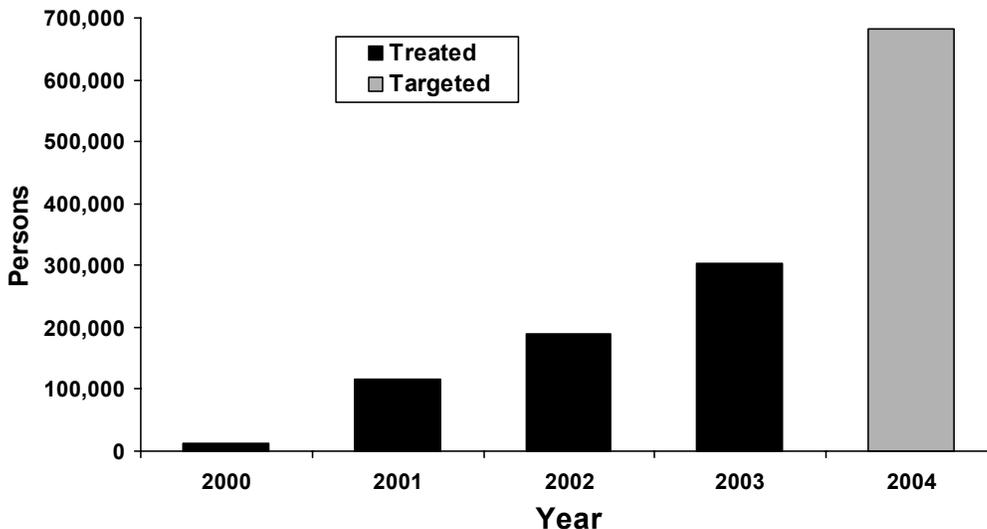
Map 1. Sudan Trachoma Control Program, Government of Sudan-assisted areas of intervention, 2003



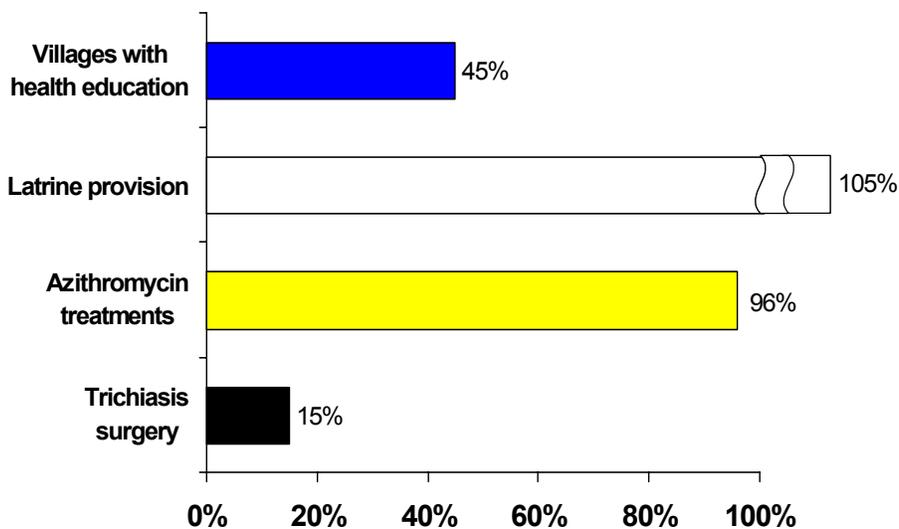
Map 2. Sudan Trachoma Control Program, Operation Lifeline Sudan South-assisted areas of intervention, 2003



**Sudan Trachoma Control Program
Persons treated with Zithromax, by year, 2000-2003
targeted treatments, 2004
Sudan***



**Percent Achievement of Annual Targets
SAFE interventions, 2003
Sudan***



*GOS and OLS areas combined

Mali Trachoma Control Program

Presented by Dr. Mamadou Bathily, Resident Technical Advisor, Global 2000/Mali, on behalf of Dr. Doulaye Sacko, National Coordinator, National Prevention of Blindness Program, Mali Ministry of Health. Carter Center assistance to Mali is funded by the Conrad N. Hilton Foundation.

Background

Blindness is an important public health problem in Mali. Surveys of blindness between 1980 and 1990 showed the major causes of blindness to be cataract (45%), trachoma (25%), and glaucoma (9%). The National Prevention of Blindness Program was established in 1994 and a trachoma component was added two years later. The first national trachoma prevalence survey, done in 1996-1997, found that trachoma is endemic in every region of Mali. The overall prevalence of active trachoma (TF/TI) in children under 10 years of age was 35% and trichiasis among women over 15 years of age was 2.5%.

In October 1999, the Mali Trachoma Control Program was launched in Koulikoro in an official ceremony with the former U.S. President Jimmy Carter, former head of state General Amadou Toumani Touré (now president of Mali) and then Lions International President, Jim Ervin. Trachoma knowledge, attitudes, and practices (KAP) surveys were done in the Koulikoro Region in 1996 and 2000. They provided the national program with baseline sociological data for the development of health education strategies and materials. TCP field assessments done in 2002 helped strengthen F&E activities in Ségou. The Program is currently operating in four regions of the country: Kayes, Koulikoro, Ségou and Mopti (see map).

Program achievements in 2003

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

In 2003, new TCP health education strategies and materials were developed with support from Johns Hopkins University, including a logo and slogan for the educational campaign and a training manual. A documentary film, video and radio tapes and a comic book were produced. In order to reach large numbers of persons at risk for trachoma, the Mali TCP also developed radio and television campaigns to broadcast information about trachoma and its prevention.

In 2003, the Mali National Division of Hygiene and Mali TCP, with assistance from ITI and The Carter Center, trained 254 village masons and **built 1,577 household SanPlat latrines in Kayes and Ségou** (350% of annual target). Other partners, including World Vision International and UNICEF, have joined the Mali TCP in promoting latrine use in rural communities. **In collaboration with the National Water Directorate, 50 traditional wells were repaired** (33% of annual target). With support from The Carter Center, the program also assessed the status of TCP activities in 520 villages in Ségou Region (see report, page 52).

Surgery (S)

Approximately 4,500 trichiasis patients received eyelid surgery (90% of the annual target) during outreach surgery campaigns (*eye camps*) or in health centers. There was an improvement in surgery uptake with less than 20% of trichiasis patients declining corrective surgery in 2003.

Antibiotics (A)

Since 2000, the Malian program has distributed Pfizer-donated Zithromax in annual mass treatment campaigns targeting children from six months to 15 years of age and women 15 years old and above living in rural villages. In 2003, **about 1,150,000 persons received Zithromax** in Koulikoro and Kayes Regions, distributed by 7,000 trained community workers. In addition, tetracycline ophthalmic ointment was available to trachoma patients all year through primary health care clinics. In 2004, the Mali TCP plans to expand azithromycin treatments to include all of Koulikoro and Kayes Regions, as well as one district of Mopti Region.

Advocacy

World Sight Day was celebrated on October 9, 2003. As in past years, Mali used this date to launch **Prevention of Blindness Week** (October 9-15), which targets the general public and key decision makers with specific messages about and other prevention of blindness issues including trachoma control. In 2003, the slogan was “Your Vision is in Your Hands!”

Targets for 2004

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

- Build 3,500 household latrines in Ségou and Kayes Regions
- Rehabilitate 100 water sources in Kayes and Koulikoro Regions

Antibiotics

- Treat 2,500,000 persons in 3,700 trachoma-endemic villages
- Expand Zithromax distribution to include all endemic districts of Koulikoro and Kayes Regions and reach one district in Mopti Region.

Surgery

- Do 5,000 trichiasis surgeries
- Increase public awareness of trichiasis and its treatment
- Increase trichiasis surgery done in health centers
- Continue to increase surgery uptake rate.

Monitoring and evaluation

- Monitor TCP activities in intervention regions.

Recommendations

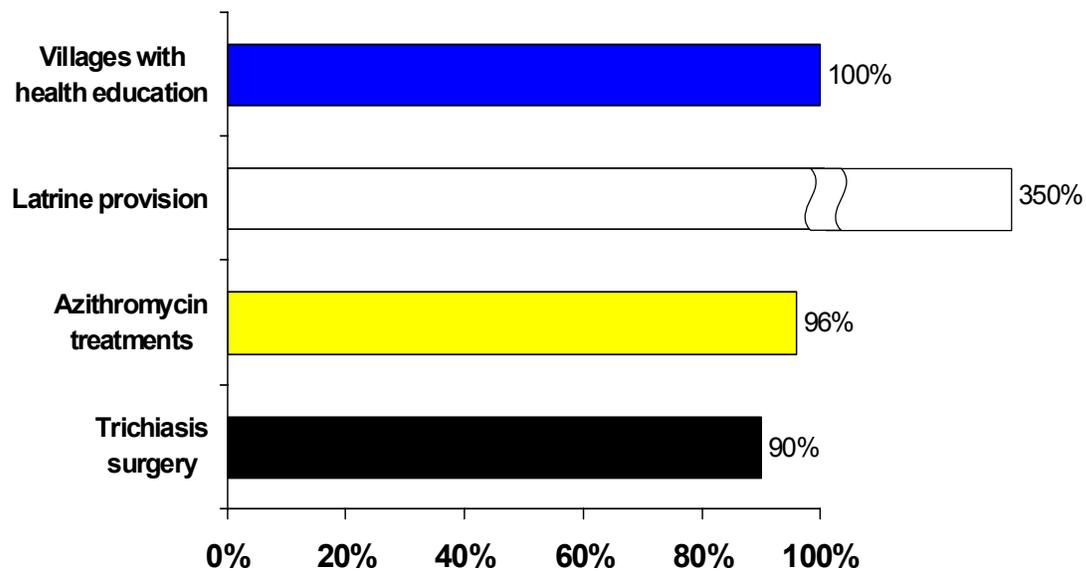
The Mali TCP program should:

- Calculate ultimate intervention goals for all components of the SAFE strategy and set annual targets
- Develop clear, simple indicators to improve monitoring and evaluation
- Expand household latrine construction in Ségou and Kayes Regions
- Improve sharing information with WAWI
- Develop collaboration with other partner agencies in intervention areas

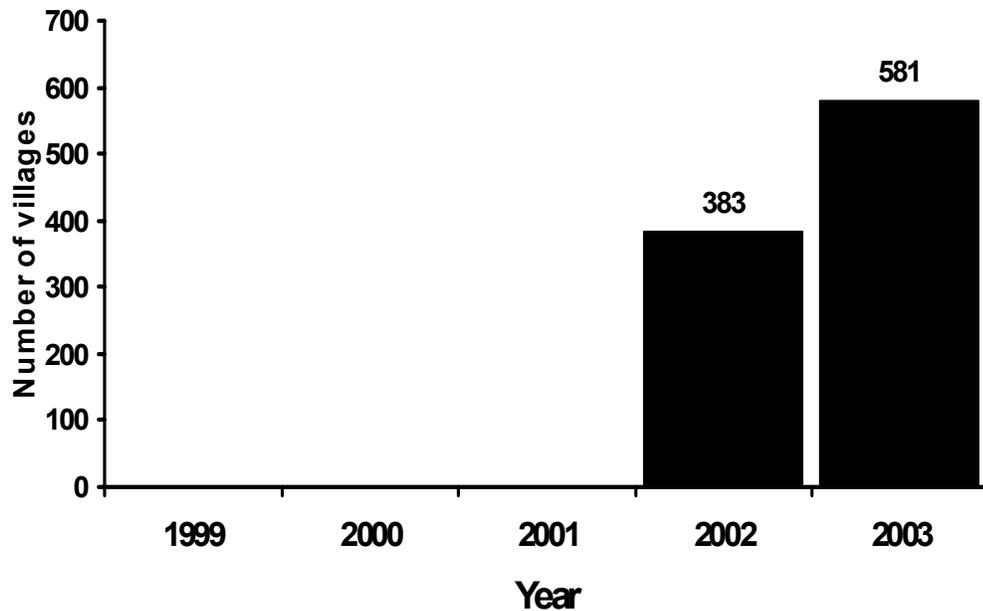
Percent Achievement of Annual Targets

SAFE interventions, 2003

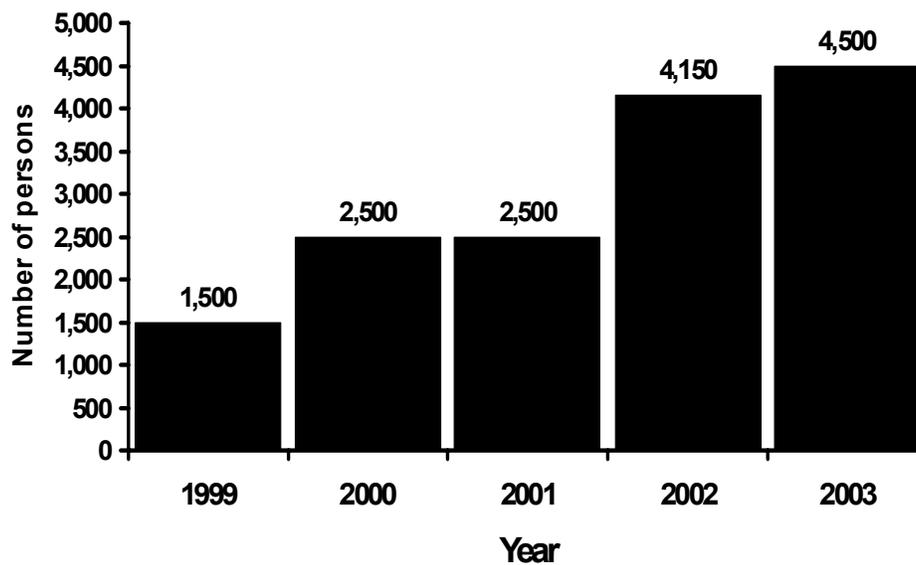
Mali



Number of villages receiving ongoing health education, by year, Mali, 1999-2003

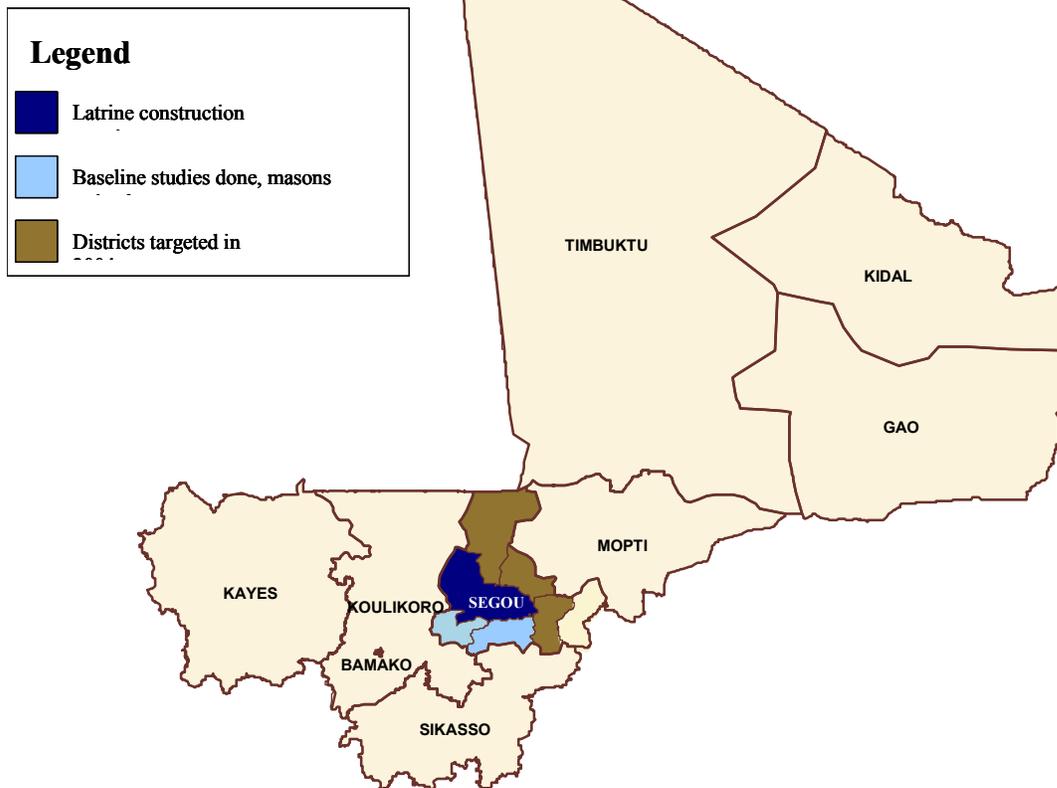


Number of persons receiving trichiasis surgery, by year, Mali, 1999-2003*

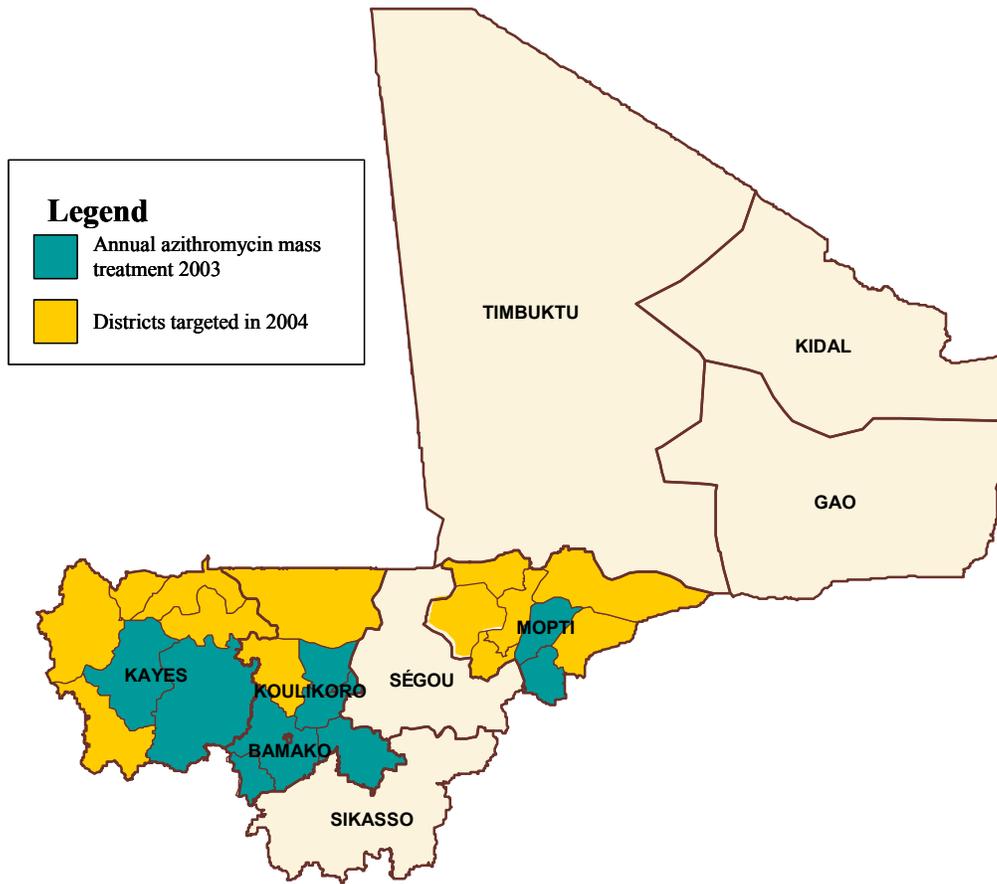


* Trichiasis backlog = 85,700 patients (1997 estimate)
Total persons operated 1999-2003 = 15,150 (18% of backlog)

Latrine promotion, Mali, 2003-2004



Azithromycin mass treatment campaigns, Mali, 2003-2004



Ghana Trachoma Control Program

Presented by Dr. Maria Hagan, National Eye Care Coordinator & Dr. Daniel Yayemain, Trachoma Program Manager, Ghana. Carter Center assistance to Ghana is funded by the Conrad N. Hilton Foundation.

Background

Trachoma is the third leading cause of blindness in Ghana, following cataract and glaucoma. Blinding trachoma is most prevalent in the hot and dry areas of the northern part of the country, especially in the Northern and Upper West Regions (NR and UWR) (see maps). A trachoma rapid assessment (TRA3) was done in July 1999 with support from the National Trachoma Task Force, CBM and The Carter Center, using a modified WHO methodology. The TRA3 established that blinding trachoma exists in the NR and UWR and helped to prioritize trachoma-endemic villages for treatment and prevention activities. In March 2000, The Carter Center helped the National Trachoma Control Program to do the first population-based trachoma prevalence survey in the Upper West and Northern Regions. Subsequently, other prevalence surveys and rapid assessments have been done by the Ghana TCP to map trachoma in the NR and UWR.

The Carter Center also provided technical and financial support for Ghana's first knowledge, attitudes and practices (KAP) studies in the UWR (December 1999) and NR (July 2000) utilizing household surveys, focus group discussions and direct community observations. The results of these studies were used during MOH program planning workshops in October 2000 and January 2001 in which district and regional plans for trachoma control were established.

In 2003, the Ghana TCP was a regional program operating in four districts of the NR and two districts in the UWR. The target districts have a combined population of 1,079,095 persons in 1,453 communities. The National Trachoma Control Task Force oversees TCP activities at the national level. This task force includes both governmental and non-governmental organizations working in trachoma control. In each trachoma-endemic region, a regional task force plans and monitors trachoma control activities. It reports to the National Trachoma Control Task Force and provides feedback to the districts and other partners. A similar structure exists at the district level, which works closely with frontline workers to implement the SAFE strategy in 267 target communities.

In 2001 and 2002, the Ghana TCP launched hygiene improvement campaigns in trachoma-endemic communities, training 2,245 frontline workers including teachers, environmental health officers, community health workers and village volunteers. Social mobilization activities included one-on-one and group health education presentations and discussions, radio spots and discussion programs, mobile video shows, community theater and durbars. Annual Trachoma Awareness Weeks are held to educate and advocate for trachoma control.

In 2002, The Carter Center launched radio learning groups in 20 pilot communities in Wa District, UWR. In addition, 730 trichiasis surgeries were done and 175,808 persons were treated with azithromycin in 2001-2002.

Program Achievements in 2003

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

In 2003, the Ghana TCP implemented the F&E components of the SAFE strategy in 338 villages (86% of annual target). A total of 412 frontline workers were trained to do F&E activities in trachoma-endemic communities. Health education materials, such as flipcharts, picture books for radio learning groups and posters, were developed with the assistance of The Carter Center. Trachoma Awareness Week was held in December in the UWR as part of the expansion activities in Jirapa Sub-District. The **radio learning groups** were well accepted by the target communities in Wa District of the Upper West Region. The groups were given Freeplay windup radios and organized to discuss hygiene and health issues after listening to health broadcasts. Plans to expand these activities in the Northern Region are underway for 2004 (see report on page 54). Latrine construction and installation of water points were also done in some trachoma-endemic villages during the year with support from the ITI, The Carter Center and other partner NGOs. In all, **735 latrines were constructed** (105% of annual target) and **141 water points were installed** (470% of annual target) in 2003.

Lessons learned in Hygiene and Sanitation:

- Routine community visits by environmental health officers have significantly improved community sanitation in some villages.
- Community members are eager to have personal latrines.
- Latrines should be lined to prevent them from collapsing during the rainy season.

Surgery (S)

In order to increase the uptake of trichiasis surgery, frontline workers were taught to identify and refer trichiasis patients for surgery. Health education was done in endemic communities and radio messages broadcast to increase awareness of trichiasis surgery. Surgery was offered free of charge in health centers. In 2003, six ophthalmic nurses were trained to do trichiasis surgery. The program provided corrective eyelid surgery for 383 trichiasis patients in 2003 (35% of the annual target).

Lessons learned in Surgery:

- Ophthalmic nurses should remain in health centers to do surgeries and treat patients instead of participating in prevalence surveys. Their absence from health centers during community members' visits affected the outcome of trichiasis surgeries.
- Until a sufficient number of trichiasis surgeons are trained so as to have an effective coverage of trachoma-endemic communities, eye camps are the preferred strategy for implementing the 'S' of SAFE.

Antibiotics (A)

In 2003, **the Ghana TCP treated 163,931 persons with Pfizer-donated Zithromax** (117% of annual target). Another 9,785 persons were treated with tetracycline ophthalmic ointment (70% of annual target). No adverse reactions were reported.

Lessons learned in Antibiotic distribution:

- The appropriate time for azithromycin distribution is the first quarter of the year, during the dry season, as all the communities are accessible and farmers are inactive during that season.
- It is important to coordinate the delivery of donated azithromycin to be in place for timely distribution in the dry season.

Program monitoring and evaluation

The Ghana TCP conducted an **impact assessment in five districts** to evaluate the overall progress of the program in the last two years. The impact assessment was done in districts already receiving Pfizer-donated Zithromax. Over 95% of children aged 1-10 years in the sample reported having received at least one dose of azithromycin. There was a decrease of active trachoma by district ranging from 41% to 72%. However, in the same communities there was no significant change in the availability of latrines.

Districts	Percent TF/TI		Percent reduction
	2000/2001	2003	
Savelugu	9.7	2.0	72.0
Tamale	4.7	1.8	62.0
Tolon	12.4	7.3	41.0
Sissala	11.5	4.4	62.0
Wa	16.1	6.6	59.0

Program expansion

To facilitate expansion of the TCP to include all trachoma-endemic sub-districts in 2004, the Ghana TCP did a trachoma prevalence survey of 551 communities in the Northern and Upper West Regions. Of those communities, 57% had some signs of trachoma. The prevalence of TF among children 1-5 years of age ranged from 0% in Nawdoli Sub-District to 8.2% in Bole Sub-District. However, some communities had a prevalence of TF as high as 53.3%. The highest trichiasis prevalence in women 40 years of age and older was 1.3% in Nawdoli Sub-District. Based on these findings, the program will plan its expansion in 2003 to 681 communities, covering all trachoma-endemic districts in the country.

Other activities

- The third national program review meeting was held in November 2003.
- A planning meeting for expanding the Ghana TCP was held in December 2003.

Targets for 2004

Hygiene Education, Face Washing and Environmental Sanitation (F&E)

- Expand program to include 680 communities (all 18 endemic districts)
- Build 1,500 more latrines
- Construct 250 new water sources
- Establish 41 additional radio learning groups
- Strengthen the School Health Program and construct community latrines in 10 schools
- Celebrate Trachoma Week in all 18 trachoma-endemic districts
- Train 1,800 frontline workers in trachoma control and prevention
- Train 90 general nurses in primary eye care

Surgery

- Retrain 15 trichiasis surgeons and train 36 new trichiasis surgeons
- Do corrective surgeries of 2,100 trichiasis patients
- Continue assessment of trichiasis surgery outcomes (visual outcome, recurrence, complications)

Antibiotics

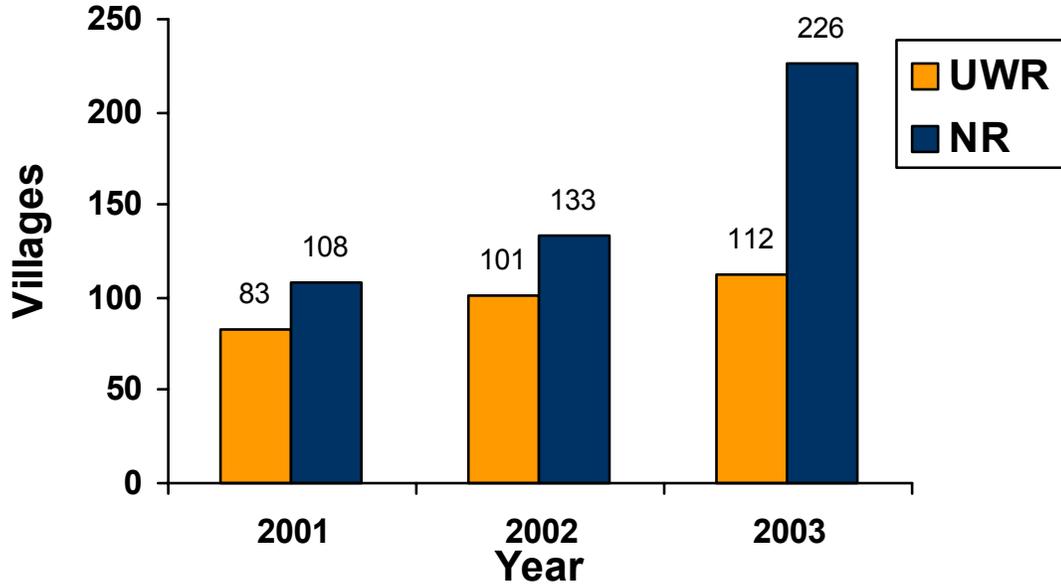
- Treat 315,000 persons with azithromycin

Recommendations

The Ghana TCP should:

- Implement S, F&E interventions in communities targeted for azithromycin distribution.
- Standardize indicators for reporting program interventions.
- Estimate and test ultimate intervention goals for all components of the SAFE strategy.
- Establish ongoing monitoring and evaluation of post-operative trichiasis patients and do a large scale study of trichiasis surgical outcomes.

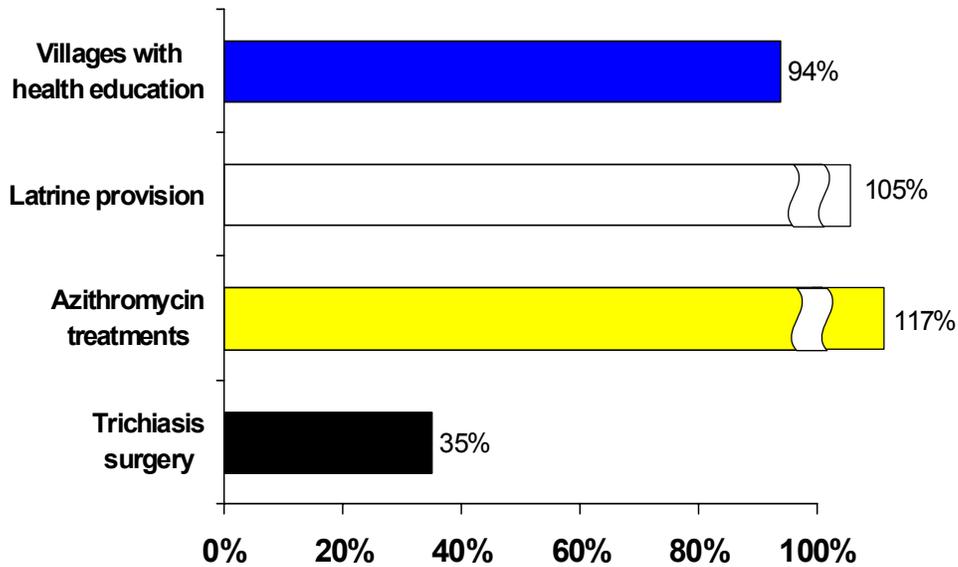
Villages receiving regular TCP health education, by region and year, Ghana



Percent Achievement of Annual Targets

SAFE interventions, 2003

Ghana



**Summary Tables and Graphs
Trachoma Control Programs Status**

Summary of Trachoma Control Interventions (January - December 2003)

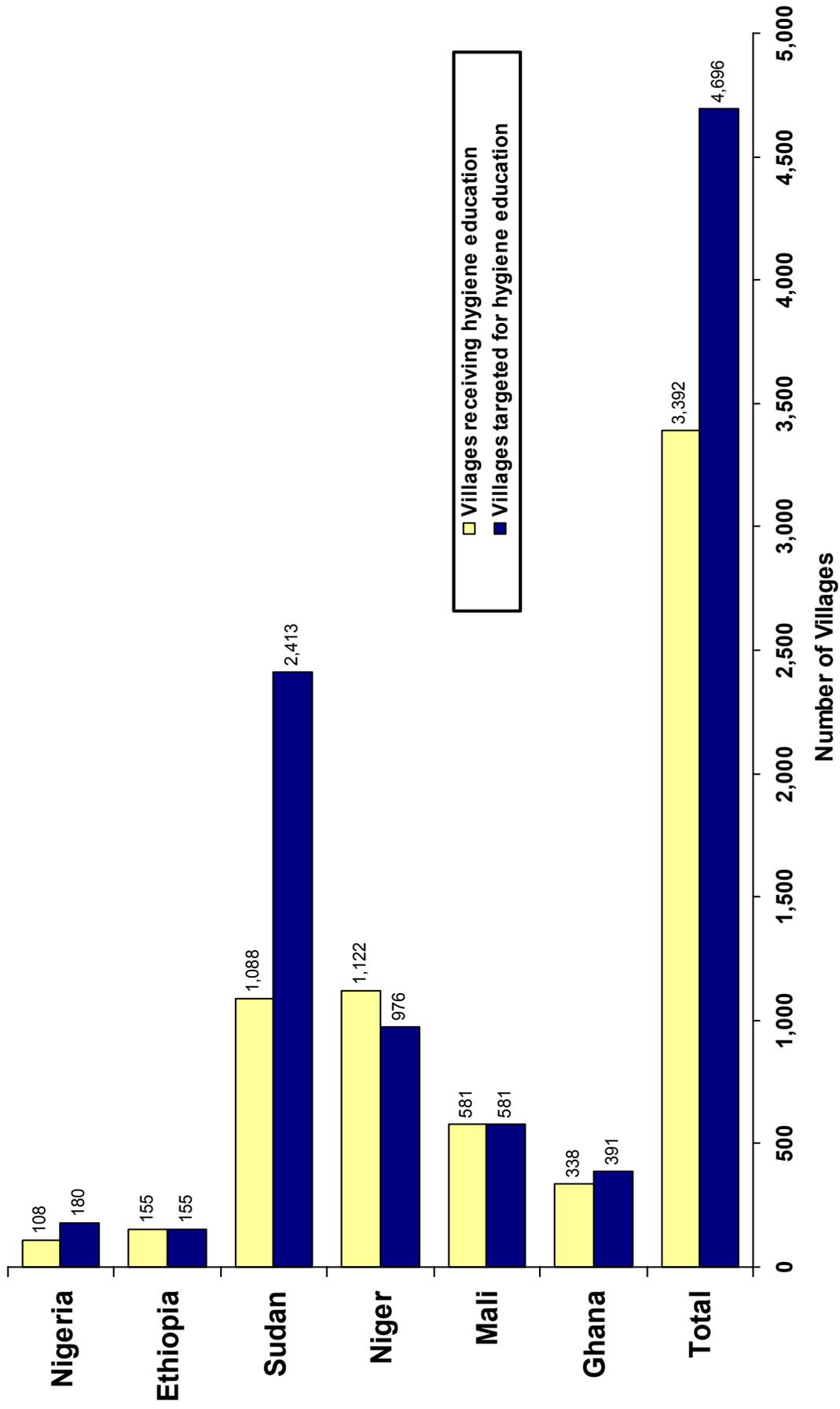
	Ghana	Mali	Niger	Sudan		Ethiopia S. Gondar	Nigeria 2 States
				GOS	OLS/S		
F & E							
Number of villages with hygiene education	338	581	1,122	664	424	155	108
Villages targeted	391	581	976	1,296	1,117	155	180
Percent coverage	86%	100%	115%	51%	38%	100%	60%
Number of latrines constructed	735	1,577	1,645	1,933	303	2,151	420
Target for latrines	700	450	3,100	1,200	926	2,500	200
Percent coverage	105%	350%	53%	161%	33%	86%	210%
Number of water sources provided	141	50	0	91	22	-	-
Targeted number of water sources	30	150	25	30	-	-	-
Percent coverage	470%	33%	0%	303%	-	-	-
Antibiotics							
Azithromycin intervention villages:							
Treatments (2003)	-	670	800	108	1,142	18	N/A
Target Population	163,931	1,150,000	710,230	186,246	117,317	100,256	-
Percent coverage	140,000	1,200,000	784,000	215,000	100,000	100,000	-
	117%	96%	91%	87%	117%	100%	-
Tetracycline Oint. intervention villages:							
Treatments (2003)	9,785	-	68,606	37,155	40,197	35,106	5,971
Target Population	14,000	-	16,000	5,000	20,000	77,000	240,000
Percent coverage	70%	-	429%	743%	201%	46%	2%
Surgery intervention villages:							
Surgeries (2003)	383	4,500	4,858	108	1,142	155	40
Target Population	1,100	5,000	7,500	338	1,072	6,840	75
Percent coverage	35%	90%	65%	11%	17%	61%	19%

Trachoma Control Program Annual Targets 2004
Carter Center-assisted Trachoma Control Programs

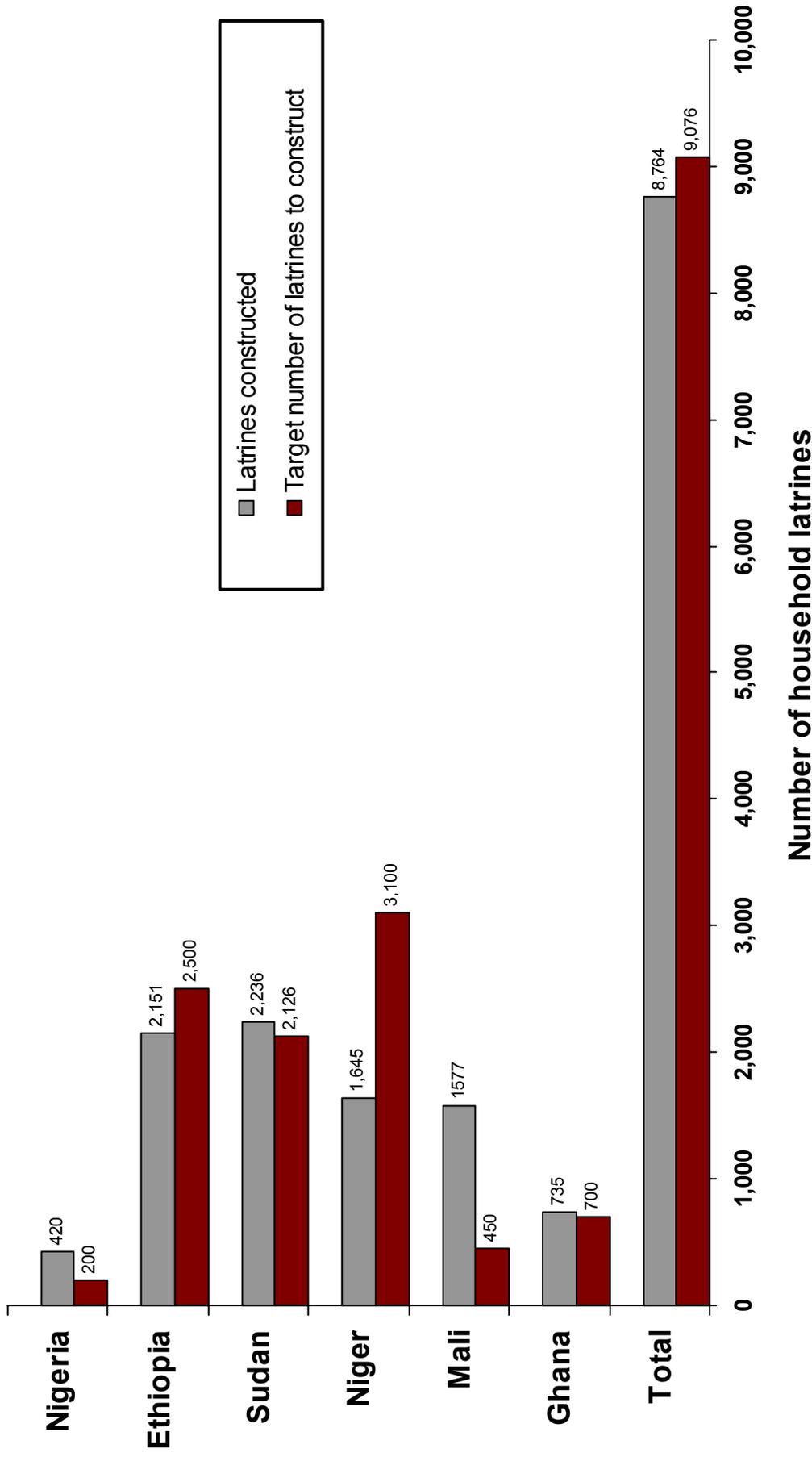
	Ghana	Mali	Niger	Sudan		Ethiopia Amhara Region	Nigeria 2 states
				GOS	OLS/S		
F & E target villages:			4,000	220	1,255	652	108
Health education (villages)	680	4,500	4,000	1,500	1,255	10,130	2,260
Latrine provision (latrines)	1,500	3,500	3,000	2,000	750	10,000	15
Water provision (water sources)	250	100	25	650			
Antibiotics							
Azithromycin target villages:		3,700	4,000		932		NA
Mass treatment (persons)	315,000	2,500,000	2,363,252	500,000	182,000	550,000	NA
Tetracycline Oint. target villages:			4,000		1,255		
Treatments (persons)	30,000	100,000	44,054	50,000	31,000	266,000	
Surgery target villages:					1,255	652	72
Health center-based (persons)		1,500	3,500	1,500	6,000		0
Outreach campaigns (persons)		3,500	7,000	500	900		500
Total	2,100	5,000	10,500	2,000	6,900	48,881	
Monitoring, Eval. & Surveillance				11 States			
Prevalence survey (regions)	2 regions	3 regions	Zinder	N/A			
KAP survey (regions)			N/A	3			
Establish surveillance (regions)	Yes	Yes	3	3			2

"-" indicates that the program has not set goals; N/A indicates data do not apply

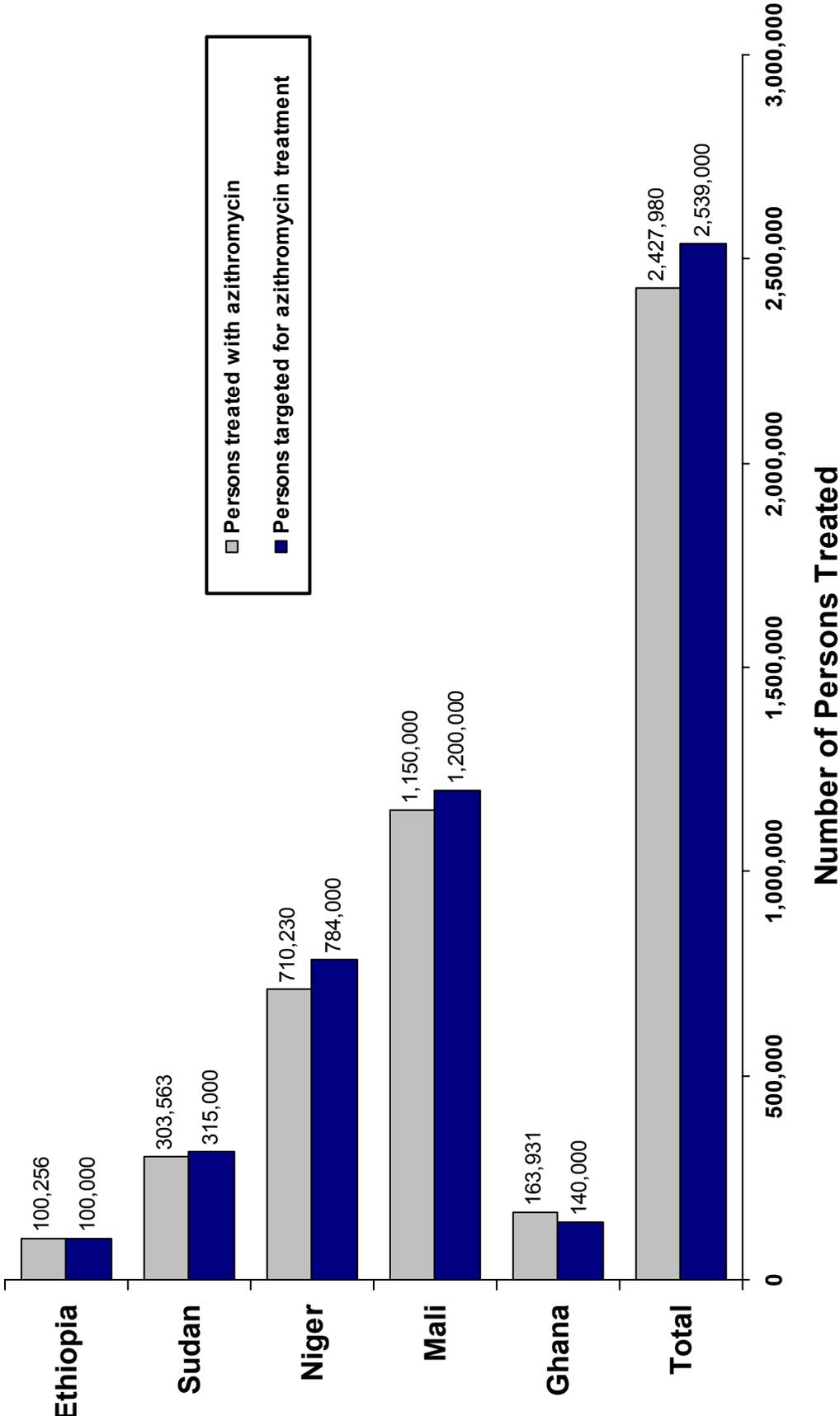
**Figure 1. Number of villages receiving hygiene education, by country
 Carter Center-assisted trachoma control programs
 January – December 2003**



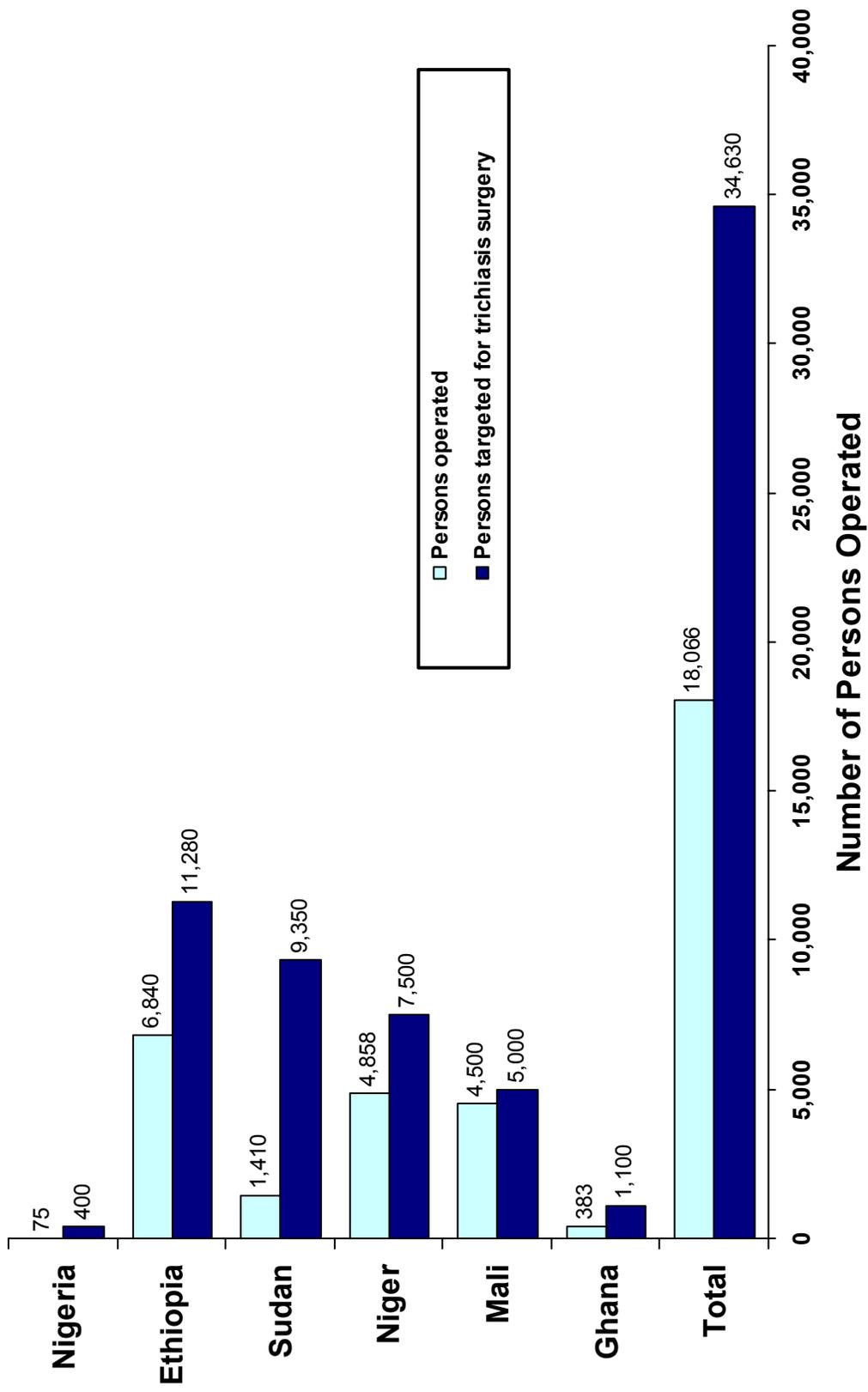
**Figure 2. Number of household latrines built by country
Carter Center-assisted trachoma control programs
January – December 2003**



**Figure 3. Number of persons treated with azithromycin, by country
 Carter Center-assisted trachoma control programs
 January – December 2003**



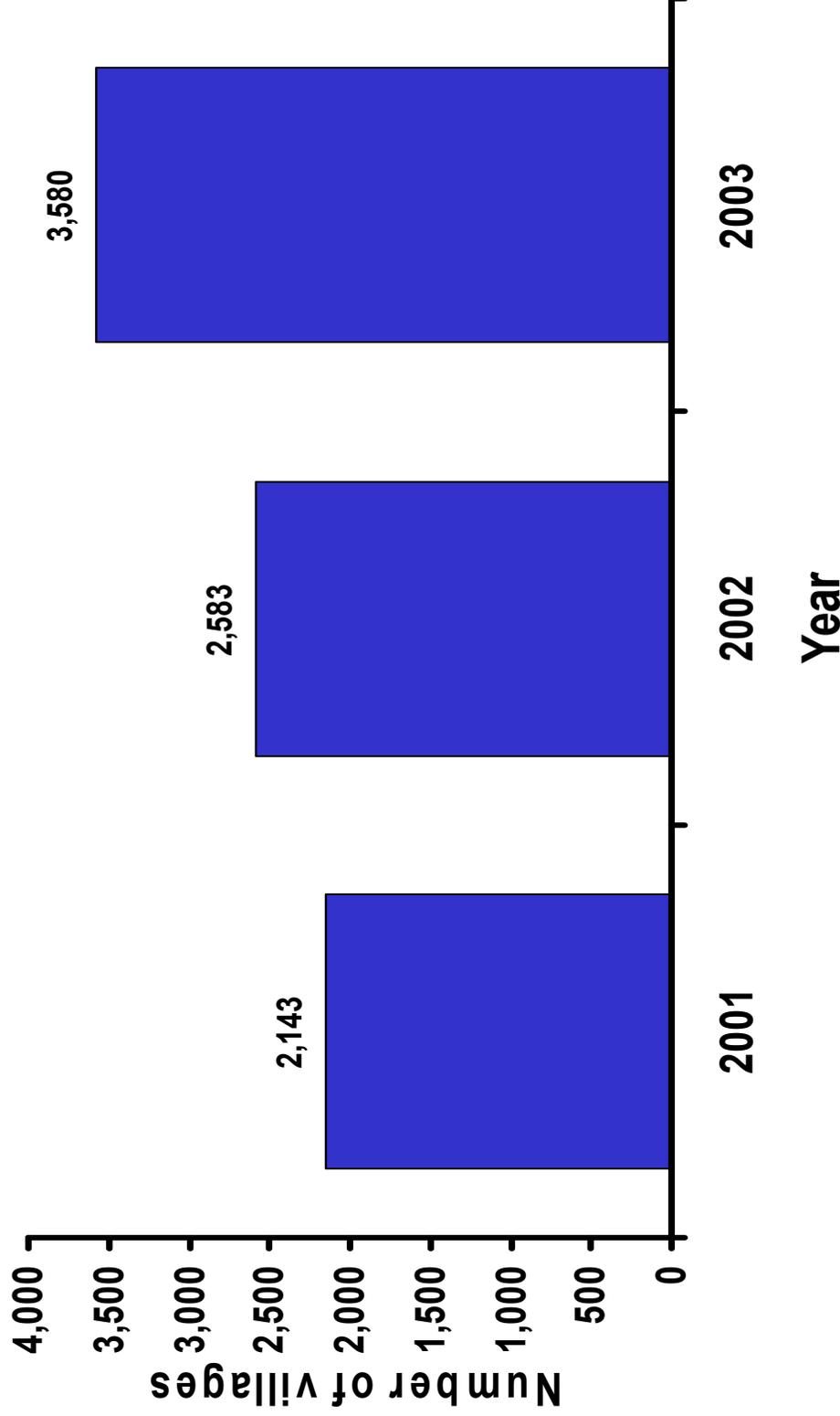
**Figure 4. Number of persons having received trichiasis surgery, by country
 Carter Center-assisted trachoma control programs
 January – December 2003**



Carter Center-Assisted Trachoma Control Programs

Number of villages receiving hygiene education, 2001-2003

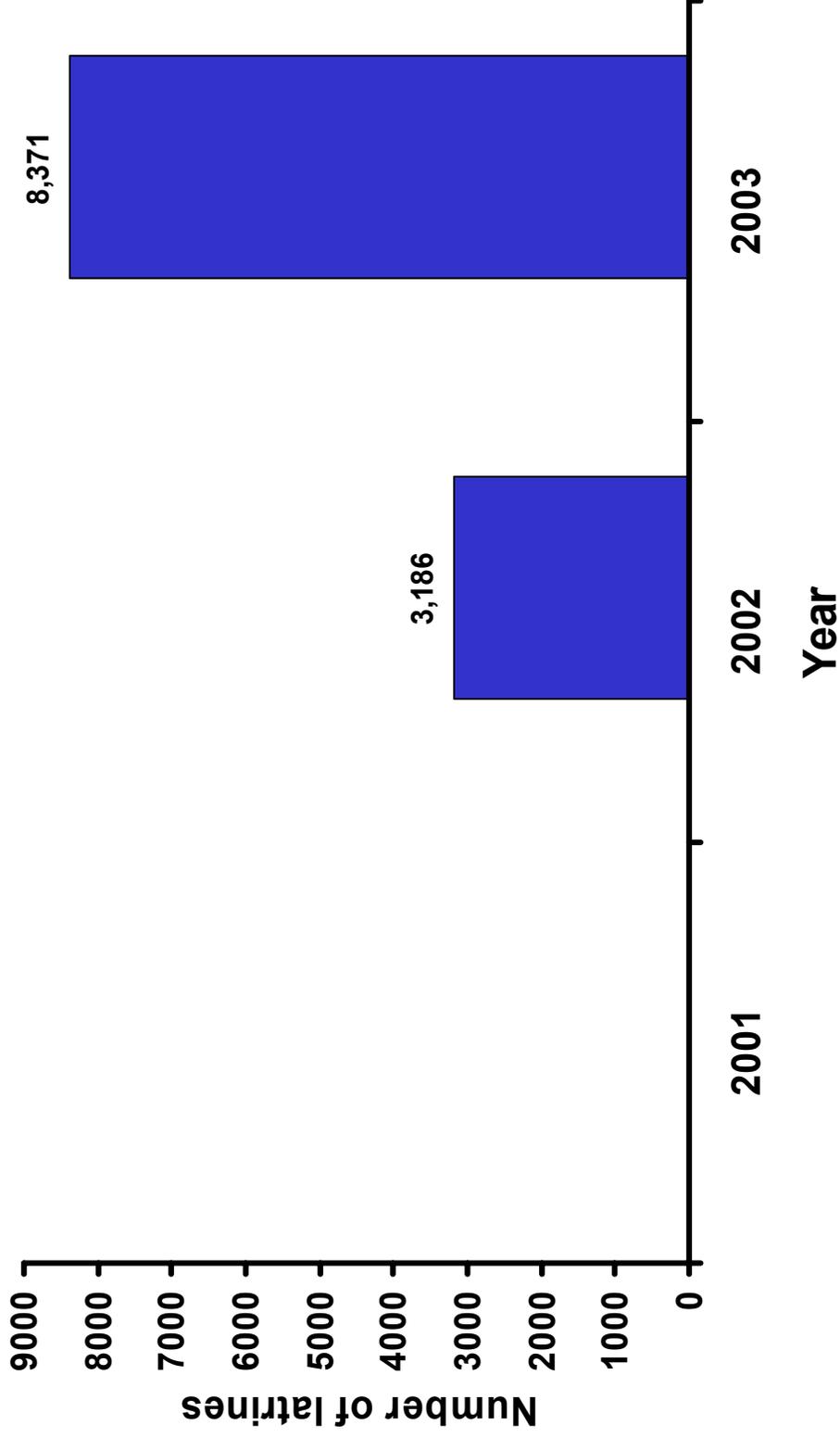
Ghana, Mali, Niger, Sudan, Ethiopia (Amhara Region), Nigeria (Plateau & Nasarawa)



Carter Center-Assisted Trachoma Control Programs

Number of latrines built, 2001-2003

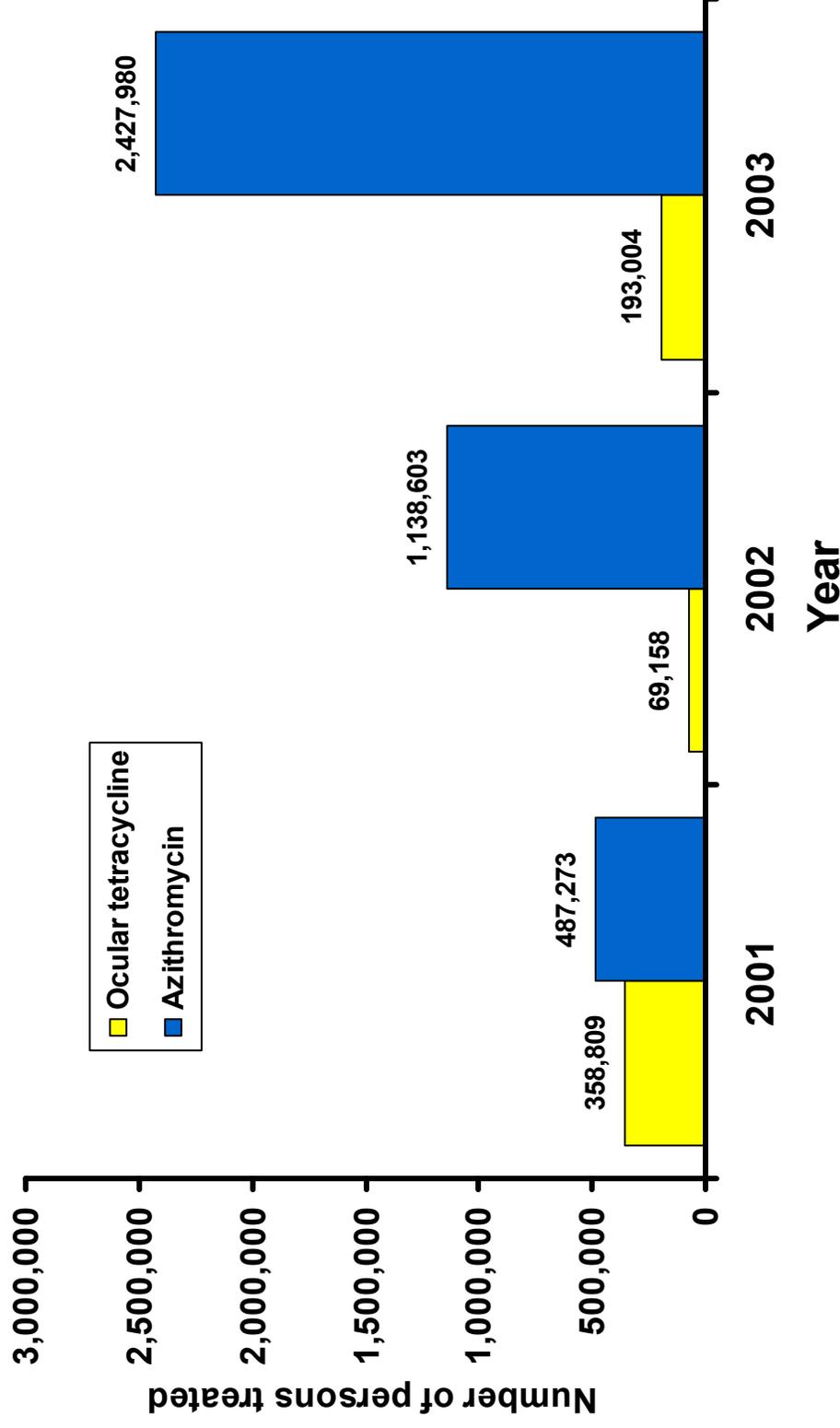
Ghana, Mali, Niger, Sudan, Ethiopia (Amhara Region), Nigeria (Plateau & Nasarawa)



Carter Center-Assisted Trachoma Control Programs

Number of persons treated with antibiotics, 2001-2003

Ghana, Mali, Niger, Sudan, Ethiopia (Amhara Region), Nigeria (Plateau & Nasarawa)



Assessment of Household Latrine Use, Maintenance and Acceptability in Zinder Region, Niger 2003

Presented by Mr. Mohamed Salissou Kane, Resident Technical Advisor, The Carter Center/Niger.

The SAFE strategy for trachoma control has created much interest in the promotion of latrines for rural populations. Widespread latrine use in trachoma-endemic communities is believed to inhibit breeding of *M. sorbens*, and thus reduce transmission of trachoma by flies, and would bring other important health benefits. To have a positive impact on health, latrines have to be used regularly and kept clean by a large percentage of the community. How well latrine promotion projects work is still largely unknown because few assessments of latrine acceptability, maintenance or sustainability have been done. Appreciation and maintenance of household latrines are influenced by many socio-economic and cultural factors. Understanding those factors will aid trachoma control programs to respond to the needs of trachoma-endemic communities and to improve on latrine promotion strategies.

In early 2002, the Niger National Program for the Prevention of Blindness (NPPB) with the support of The Carter Center and the International Trachoma Initiative, launched a latrine promotion project in the Zinder Region in which 1,282 household latrines were built in the first year. Initially, program workers reported that latrines were greatly appreciated by project beneficiaries. However, there were no objective data to support the anecdotal reports and no indication of how long this reported enthusiasm would last. After a year of rural latrine promotion, the NPPB and The Carter Center assessed the acceptability, use, and maintenance of household latrines in the project area. The long-range goal of this assessment would be to explore ways to make household latrines affordable 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 overall acceptability.

The majority (73%) of persons interviewed were farmers and there were an average of 10 residents in each household. In 199 households (99.5%), the decision to build a latrine was made by the household head. For 78% of the latrine recipients interviewed, the Zinder project provided them with their first household latrine. Forty-three households (22%) had previously owned a household latrine. Among these forty-three, 56% built a new latrine after their first one filled up.

The study suggested that latrines are used at any time by 63% of household members, while 23% preferred to use latrine in the evening and 15% in the daytime. Reported latrine use by children was lower, with only 55% of them reported to “always use latrines” and 19% to “use latrines often.”

The Niger latrine project also promotes improving general hygiene, including hand washing. In the assessment, 197 latrine users (99%) reported that they wash their hands after defecation. Keeping latrines clean and pits closed (with cement covers provided by the project) is important to reducing both flies and odors around latrines. During unscheduled household visits, done as part of the assessment, 172 latrines (86%) were found to have signs of recent use, and most latrines (70%) were found to be clean. Seventy-four percent of the latrines were closed at the time of the visit. Very few (6%) of the latrines had exposed feces and flies were present in only 11% of the latrines. The latrines were reported to be cleaned an average of three times per week. Latrines were reportedly cleaned using water and soap (24.5%), only water (57.0%) or just swept (13.5%). In 75% of households, women were in charge of cleaning the latrines.

Most household members reported that they appreciated latrines for proximity and easy access (59%) and privacy (22%). A smaller number appreciated latrines for improving environmental hygiene (12%) or disease prevention (5%). Few disadvantages to having a household latrine were reported, the most common being the odor (17%). Household latrine user views are summarized in Table 1.

In conclusion, this first assessment of the Zinder Latrine Promotion Project provided highly encouraging evidence that after a year, household latrines are widely accepted, used and well-maintained. This information should help the Niger TCP to improve the “E” of the SAFE strategy.

Table 1. Reported advantages and disadvantages of latrine ownership, Zinder, Niger 2003

Latrine owner Report	Male N=135	Female n=65	All n/N (%)
Advantages			
Proximity and easy access	74 (55%)	45 (69%)	119/200 (60%)
Privacy	31 (30%)	14 (22%)	45/200 (23%)
Environmental hygiene	22 (16%)	3 (5%)	25/200 (13%)
Disease prevention	8 (6.0%)	3 (5%)	11/200 (6%)
Disadvantages			
None	106 (79%)	57 (88%)	163/200 (82%)
Odor	26 (19%)	7 (11%)	33/200 (17%)
Flies	0 ---	1 (2%)	1/200 (0.5%)

Assessment of Access to Trachoma Health Education in 520 Villages in Ségou Region, Mali, 2003

*Presented by Dr. Mamadou Bathily, Resident Technical Advisor, The Carter Center/Mali and
Mr. Yaya Kamissoko, Trachoma Program Officer, The Carter Center/Mali.*

In 2001-2002, the Mali National Program for Blindness Control (NPBC), with support from The Carter Center, began actively implementing the “F&E” of the SAFE strategy to improve personal and environmental hygiene in the Ségou Region. In 2003, the program assessed trachoma control activities in Ségou. The objectives of this evaluation were (1) to assess F&E activities being done in rural communities, and (2) to assess the availability of water, sanitation, communications, and human resources at the district and village levels. The results of the assessment facilitated planning for the second phase of the program, with a focus on intensifying F&E activities.

Two districts were selected for the assessment, Ségou and Tominian. Twenty-four health workers from the Ministry of Health were trained to do the field assessment with supervision from NPBC and Carter Center staff. A total of 515 villages were visited for the evaluation. In each village the teams met with village leaders to discuss trachoma prevention and assess resources available to promote trachoma control (see Table 1).

Radio was found to be a powerful medium for disseminating health messages in Ségou. In all villages visited, radio listening was a popular activity, and all villages have access to at least one radio station, either public or private. Ninety-eight percent of the villages had access to at least two radio stations, and 79% had access to three radio stations or more. General health education messages broadcast by radio were heard in 480 villages during the preceding 12 months. Health education messages focused on trachoma were heard in 150 villages during the same period. Another important strategy for promoting trachoma prevention is school-based hygiene education. Of the villages visited, 254 have at least one primary school.

Access to water is a key determinant of health, including risk for blinding trachoma. In Mali, there are a variety of wells which are used by communities. A *traditional well* is typically an open hole dug by hand and sometimes protected by a wooden barrier. A *modern well* is a well which has cement walls and a raised barrier around the opening. A *borehole* is a pipe well with a pump for drawing water, usually on a cement slab. For 64% of the villages assessed in Ségou the primary water source was a traditional well. Thirty-five percent of the villages primarily used modern water sources (either boreholes or modern wells). A total of 91 villages (18%) did not have access to a permanent water source for the entire year. Latrines were found and inspected in 378 villages, 92% of which were traditional latrines. *Traditional latrines* are simple, hand dug pits, perhaps lined with mud bricks. An *improved latrine* is a traditional latrine with a protected area on the surface, usually a cement apron. A *modern latrine* has a pit which is lined, often with cement, and a protected slab covering the hole. A total of 441 out of the 515 villages (86%) have masons, which represents a valuable resource for latrine promotion.

In summary, in 2003 the Mali TCP assessed activities and resources available in 515 villages in the Ségou Region. Most of the villages had access to water and latrines, but many did not have

access to modern water sources or latrines. Radio was found to be a widespread source of information, already used to broadcast trachoma control messages. This assessment showed that a variety of useful resources are available to the Mali TCP which can be utilized to promote improved personal and environmental hygiene.

Table 1. Characteristics of trachoma control program villages, Ségou and Tominian Districts, Ségou Region, Mali, 2003

Resource	Number	Total	%
Trained personnel			
School	254	509	50%
Health worker or community volunteer	193	514	38%
Mason	441	515	86%
Communications			
access to ≥ 1 radio station	515	515	100%
access to ≥ 2 radio stations	504	515	98%
access to ≥ 3 radio stations	409	515	79%
Access to water			
≥ 1 permanent water source	422	513	82%
≥ 1 functional borehole	173	512	34%
≥ 1 modern well	187	515	36%
Main water source			
traditional well	327	512	64%
modern water source	178	512	35%
surface water	7	512	1%
Access to latrines			
traditional	349	378	92%
improved	20	378	5%
modern	9	378	2%

Radio Learning Groups: An Initiative by the Ghana Trachoma Control Program

Presented by Dr. Daniel Yayemain, Trachoma Program Manager, Ghana.

Hygiene improvement activities are ongoing in 338 villages in the Northern and Upper West Regions of Ghana, including regular community discussions, durbars, dramas and video shows. These activities are done by local communities with support of regional and national health bureaus, local government, and non-governmental organizations (NGOs), such as The Carter Center and the ITI. The BBC-World Service Trust has assisted the Ghana Broadcasting Company and local radio stations to produce and broadcast health educational jingles and messages. In 2002, a BBC-WST evaluation of this mass media campaign found that almost 80% of respondents had heard jingles on trachoma control and almost 70% of respondents had heard TCP radio spots. However, program supervisors reported that frequently people who had heard the jingles and radio spots did not understand or retain the intended health messages. These observations led to the creation of trachoma radio learning groups as a strategy to clarify and reinforce health and hygiene messages for persons in trachoma-endemic villages.

In January 2003, the first trachoma radio learning groups were formed in 20 highly trachoma-endemic communities of the Upper West Region with technical and financial assistance from The Carter Center. Training of radio producers, frontline health workers and community health volunteers was done, then each community formed a radio learning group with an average of 25 persons per group. The community volunteers were trained to facilitate the group activities. The Carter Center gave one Freeplay windup radio (cost: US \$42 each) to each community. Two regional radio stations began to air 15-minute TCP programs twice a week in Dagaare and Sissali, the most widely spoken languages of the Upper West Region. Group members gather to hear each transmission along with their facilitator. After the broadcast, they discuss the key messages from the broadcast, aided by printed TCP materials. The facilitator's role is to lead the group from singing jingles to discussing what community members can actually do to control trachoma in their own environment. This activity is very important as it enabled community members to translate their knowledge of trachoma into concrete community changes.

Overall, 144 radio programs were produced and broadcast within a period of six months. Initial reports from the Ghana TCP suggest that the radio learning groups have been successful in all 20 pilot villages. As a result of the radio messages on the importance of potable water, the community of Dariyiri was motivated to contribute money for a new borehole well. With assistance from the district assembly, they succeeded. Other communities have set regular community clean up days. In general, anecdotal information suggests an increase in environmental cleanliness and demand for household latrines in communities with radio learning groups. And the idea is spreading: some villages neighboring pilot program communities are now demanding to have their own radio learning groups and sending community members for training.

The Ghana TCP believes that the strategy of using radio listening groups as part of the health education campaign has been successful in disseminating key health messages on trachoma control and prevention. Based on the success of this pilot project in Wa District, The Carter

Center has agreed to provide additional Freeplay radios and technical support in 2004 to expand the radio learning groups to include 41 villages in the Northern Region, in addition to the 20 ongoing radio learning groups in Upper West.



Radio Listening Group session, Wa District, Ghana

Taking F&E to Scale at the National Level

Presented by Dr. Mamadou Otto Diallo, Program Epidemiologist, Trachoma Control Program, The Carter Center, Atlanta.

Background

The SAFE strategy was introduced in late 1996 and the first meeting of the GET 2020 Alliance was held in June 1997. In the following years, many national trachoma control programs were launched, as was The Carter Center's TCP. The catalyst for the growth of many of the trachoma control programs was Pfizer's generous donation of Zithromax and creation of the International Trachoma Initiative in 1998. By 2003, mass azithromycin treatment programs had grown considerably; the Niger TCP treated over 700,000 persons with Zithromax, and Mali's program treated 1,150,000. Interest and expertise in the F&E of the SAFE strategy have also grown steadily, albeit slower than the 'A' component. The Niger, Mali and Ethiopia TCPs have developed successful pilot F&E projects. Now, with our collective experience, we can speak authoritatively of taking F&E to scale at the national level.

To take F&E to scale at the regional and national levels programs should:

- create a national trachoma task force to help plan and monitor trachoma control activities,
- conduct a national trachoma prevalence survey to map trachoma prevalence in the country and identify priority intervention areas,
- set national ultimate intervention goals (UIGs) and annual targets, and
- cultivate the political goodwill necessary for a national hygiene improvement program. Without a strong political commitment to promoting better sanitation and community health education, it will not be possible, even with enough resources, to take F&E to scale.

Where are we now?

Currently, F&E activities are being carried out in relatively limited geographic areas in most countries. These projects are usually implemented by ministries of health and/or education. Many of the F&E interventions are funded by international NGOs, with very small capacity for expanding to cover regional or national levels except in mass media campaigns.

How to make F&E acceptable and promote implementation on a large scale in country?

To make the interventions acceptable, there is a great need for social mobilization involving decision makers at all levels (community, district, region and nation). These interventions should be based on sound and feasible approaches. All local and acceptable means should be used to reinforce F&E implementation. It is also important to demonstrate the effectiveness and sustainability of proposed approaches by showing examples of successful pilot projects in the country.

Estimate the cost

The program will need to do an initial assessment of the human, material and financial resources needed to implement F&E regionally and nationally. The assessment should also identify available or potential sources of those resources. Sources should include, but not be limited to: the government, international agencies, private sector donors, international or local NGOs and beneficiary communities.

Who will be in charge of the interventions?

To take F&E to scale at the national level, the current project should go beyond ministry of health boundaries and involve all relevant government agencies, as well as Local Lions Clubs, for example. There will also be a need to strengthen collaborations with multiple local and international partners. To make these interventions sustainable, in-country nationals should be deeply involved at all levels of the process.

Five year plan for implementing F&E

The following three phases are designed to help define clear short and long term objectives for making F&E activities a normal part of rural communities' sanitation habits. The indicated duration of each phase is used as an example and will vary from country to country.

I. Years 1-2: Demonstration projects

The goal of the initial phase should be to introduce new standards for personal and environmental hygiene to rural communities. During this period, the program should:

- initiate small scale projects which are feasible and practical
- train local staff who will be in charge of daily F&E activities
- provide technical assistance and financial support to rural communities
- monitor progress regularly.

At the end of this phase, assess the overall accomplishment and make recommendations for the next phase.

II. Year 3: Develop local expertise

During this phase, the program should:

- focus and emphasize training by peers in trachoma-endemic communities
- start local expansion of F&E activities
- provide technical and limited financial support
- continue ongoing advocacy at local, district, national and international levels.

The district health bureau will continue to provide technical assistance and monitor program activities.

III. Years 4-5: F&E expansion

At this stage the community should be fully in charge of all F&E activities. Ideally, ongoing direct external financial assistance for F&E activities should no longer be necessary. F&E activities should now be a normal part of local sanitation practices.

At the end of this phase, the program should assess the overall accomplishments and impact of these pilot phases and should be ready to set a realistic national UIG and AIO in order to take F&E to scale.

TIME Update: Results from Participatory Evaluations of Trachoma Control Programs in Eight Countries

Presented by Dr Anthony Solomon, London School of Hygiene & Tropical Medicine.

TIME stands for 'Trachoma Initiative in Monitoring and Evaluation,' a project of the London School of Hygiene & Tropical Medicine (LSHTM) funded by the International Trachoma Initiative (ITI). *TIME* began on May 1, 2002, and will end on April 30, 2004. The goals and objectives of the project, the LSHTM team and the procedure followed to develop the evaluation methodology were detailed in Dr. Solomon's presentation to the Fourth Annual Program Review of Carter Center-Assisted Trachoma Control Programs in 2003.

The final phase of the *TIME* project was the implementation of the evaluations. For each country, background data on the prevalence and distribution of trachoma, published research conducted in the country, and reports of any previous evaluations were gathered and analysed. A participatory evaluation was then done in each country, lasting three to four weeks. The evaluation team in each country consisted of national program staff, Ministry of Health personnel, LSHTM staff, and an international expert. New data were collected for the evaluation, using the following techniques:

- (1) semi-structured interviews of key informants from a range of stakeholder organizations, at national, regional, zonal, district and local levels;
- (2) self-administered questionnaires of frontline workers involved in each component of SAFE implementation;
- (3) testing inter-observer agreement on trachoma grading between national program personnel, and comparing assessments to those of a "gold standard;"
- (4) semi-structured interviews, case studies and focus group discussions of program beneficiaries in randomly selected trachoma-endemic communities; and
- (5) direct observation of trichiasis surgery, antibiotic distribution and health promotion wherever possible, and inspection of latrines and water sources installed in trachoma-endemic areas.

The evaluation team met in plenary to write conclusions and recommendations. These were conveyed to the Ministry of Health and other partners in a post-evaluation debriefing session. LSHTM staff then drafted a report, which was edited by all members of the evaluation team before its eventual distribution.

Overall **key findings** for the eight country evaluations are:

- (1) Except in Morocco, there is a lack of good recent data on the distribution and magnitude of the public health problem posed by trachoma.
- (2) Surgical output is insufficient. "S" coverage is less than 20% in all countries except Morocco. Reasons for this include:
 - a) insufficient health promotion about TT and "S," and inadequate case finding
 - b) cost-recovery from patients in some countries
 - c) lack of trained surgeons in some trachoma-endemic districts
 - d) lack of transportation, resulting in low output per surgeon
- (3) There is a lack of monitoring of surgical quality.
 - a) supervision of surgeons is inadequate
 - b) there is little follow-up of operated cases

- (4) High quality antibiotic distribution is possible, even in extremely resource-poor settings.
- (5) There is no consistent strategy for antibiotic distribution, in terms of:
 - whether, or when, mass or targeted treatment should be employed
 - the lower age limit for azithromycin treatment
 - exclusion criteria and contraindications to the use of azithromycin
 - coverage targets
 - dosage interval
- (6) Antibiotic coverage is usually considered ‘high,’ thanks to good community acceptance and involvement. Nationally high coverage can have a dramatic impact on prevalence of infection and (in time) signs of active disease.
- (7) A variety of methods are used for health promotion. Radio seems effective at achieving widespread recognition of the problem, but does not transmit deep understanding.
- (8) Health promotion staff are often poorly motivated. This limits the effectiveness of community-level and person-to-person education.
- (9) Community knowledge about the link between trachoma and trichiasis is weak.
- (10) Inadequate water and sanitation remain major problems in nearly all program areas.
- (11) Inter-sectoral collaborations are necessary to improve water supplies.
- (12) Health promotion is vital for encouraging latrine construction and proper use.
- (13) Indicators and procedures for monitoring are not standardised. The indicators used in some places do not make sense.
- (14) Monitoring of program activities could be significantly improved through a few well-defined indicators and good reporting procedures.
- (15) The degree of integration of trachoma control into other prevention of blindness activities (i.e., VISION 2020) and the general health system is variable at both national and local levels. There is also inconsistency in what is understood by ‘integration’.
- (16) There is a need for strong partnerships with appropriate Ministries and NGOs involved in eye care and community development. This requires strong leadership from a national co-ordinator or steering committee. Although Partnership Committees are formed in most countries, ownership of the program by the stake-holders needs strengthening.
- (17) National trachoma control programs presently cover less than 50% of trachoma-endemic areas in their countries. Expanding coverage within countries is a priority.

Current activities of TIME include:

- a) production of a CD-ROM containing all project outputs and evaluation reports;
- b) drafting a national program manager’s manual;
- c) contributing to standardization of monitoring indicators; and
- d) participation in national program strategic planning workshops.

Dr. Solomon took the opportunity of his presentation to speak on behalf of the TIME team to express gratitude to all of the countries involved in the project, for their professional contributions, hard work and excellent hospitality; and to the ITI for financial support.

Helen Keller International School-Based Trachoma Program Evaluation, Data from Nepal

Presented by Dr. Paul Emerson, University of Durham, UK

In 1999, with support from the Gates Foundation, Helen Keller International (HKI) initiated a school-based trachoma program in six countries: Morocco, Mali, Niger, Burkina Faso, Tanzania and Nepal. A team from the University of Durham was employed to conduct an external evaluation of the program, which is nearing completion. The first country to have its evaluation completed is been Nepal. .

Program description

The HKI school-based program has been operating in two districts, Kailali and Kanchanpur, in the Far Western Region of Nepal from 2000. The evaluation studies were conducted between April and October 2003. Annual mass treatment for active trachoma with Pfizer-donated Zithromax is provided with support from the International Trachoma Initiative in Kailali and Kanchanpur for all children aged 1-10 years, and to older patients detected by community screening. Distribution of azithromycin is done through camps at the ward level (the smallest administrative unit) and is accompanied by health education in the camps and a general media campaign.

Implemented in October 2000 with the training of 100 teachers from 50 schools, the school-based program expanded to include 101 schools with approximately 30,000 pupils by June 2001. Through cost-sharing calculated on a school-by-school basis it aimed to:

- 1) Provide each participating school with the physical infrastructure (water on site and adequate access to latrines) required for meaningful hygiene promotion.
- 2) Educate pupils about trachoma: A set of four age specific booklets – ‘the trachoma curriculum’ – forming the backbone of the teaching resources. Lessons in the booklets are ready to use so teachers are not burdened with extra preparation.
- 3) Promote positive hygiene behaviors among the school children, facilitated by providing access to water and latrines.
- 4) Promote positive hygiene behaviors in the wider community. Additional activities utilize the existing infrastructure - nursery facilities, non-formal educational groups, and the system of female community health volunteers.

Field staff from a local NGO are employed as facilitators for the program. Each facilitator supervises up to ten schools, making regular visits to motivate pupils and teachers and to help organize extra-curricular activities such as ‘Teams Against Trachoma’, inter-school quizzes and rallies.

An evaluation in two parts

Part 1: Evaluators from Durham made two site visits for the evaluation, in May and October 2003. The first site visit was a participatory evaluation, which aimed to collect process indicators on the scope and scale of the program and to prepare for the second site visit. The second part of the evaluation was a more formal impact assessment using standard knowledge, attitudes and practices (KAP), and prevalence surveys in each of the countries in which HKI has a school-based trachoma control program.

Part 2: Using a randomized study design with the school as the sample unit, three program and three non-program schools were randomly selected from each district, to give a total of 12 schools (six intervention schools and six comparison schools) for the impact assessment study. A random sample of 30 index children (stratified by school year) was selected for interviews from each school

register. These children and their mothers were interviewed. Each mother and child pair was interviewed at the same time, but separately. The day after interviews were completed, all children present at school were screened for trachoma by staff from Geeta Eye Hospital using the WHO simplified system.

The interviews were done in Nepali using a structured questionnaire developed in English, translated to Nepali and back-translated to English. The questionnaires had been field tested in the first visit and all the possible responses to questions were coded. Data were double entered by different entry clerks before analysis. The school was used as the unit of analysis for both interviews and prevalence surveys.

Findings

All of the 12 schools randomly selected for inclusion in the study agreed to participate. We interviewed all 720 pupils and mothers selected from the schools and screened 2,886 children. There were no differences between the program and non-program schools in the number of pupils on the school roll; the proportion of pupils screened; the age or sex distribution of pupils; the proportion of pupils reporting access to latrines at home; or the time since last azithromycin distribution.

Prevalence surveys and KAP interviews: The mean school prevalence of active trachoma was 0.90% in program schools and 3.49% in non-program schools. The mean prevalence of active trachoma was 74.3% lower in program than in the non-program schools. Children from both program and non-program schools were generally very clean when screened with no difference in the proportion having any food or dust on their face (2.3% in program schools and 2.8% in non-program school). Children from program schools were less likely to have ocular or nasal discharge than those from non-program school (3.6% compared to 8.4%).

Almost all the pupils (97%) from program schools reported that they had taken part in trachoma related activities (including azithromycin distribution) compared to just 26% in non-program schools. Ninety-seven percent of pupils in program schools could correctly identify a photograph of trichiasis compared to 30% in non-program schools. Similarly 73% compared to 22% knew that trachoma caused trichiasis and 98% compared to 47% knew that trachoma could cause blindness. Children in program schools knew more about trachoma than those in non-program schools: 89% compared to 17% could give three or more symptoms of trachoma; 63% compared to 14% could give three or more transmission routes of trachoma; and 43% compared to 8% could give three or more ways to avoid trachoma.

The results were very similar for the mothers with 42% reporting having taken part in a trachoma activity if their child attended a program school compared to just 2% of those whose child attended a non-program school. Seventy-five percent of mothers with children in program schools could correctly identify a photograph of trichiasis compared to 18% in non-program schools and 90% compared to 45% knew that trachoma could cause blindness. Mothers with children in program schools had much more knowledge of trachoma than those with children in non-program schools: 73% compared to 17% could give three or more symptoms of trachoma, 52% compared to 7% could give three or more transmission routes of trachoma and 31% compared to 3% could give three or more ways to avoid trachoma.

Students and mothers of students in program schools reported different behaviors, too. Children in program schools were less likely to share a towel than those in non-program schools (40.2% compared to 69.8%) and more likely to always use a latrine if one was available (86.8% compared

to 65.9%). Mothers with children in program schools were less likely to use the same towel to dry all their children than those with children in non-program schools (49.6% compared to 76.2%).

Summary

- The HKI school-based trachoma program in Nepal has achieved all its objectives and has many model features
- There is a dramatic difference in knowledge of trachoma between program and non-program schools for both pupils *and* mothers
- The program is associated with 74% lower trachoma prevalence in program schools compared to non-program schools

Conclusions

- The data from the Nepal program suggest that school-based trachoma programs implemented in conjunction with the SAFE strategy can:
 - dramatically improve the knowledge of pupils and mothers
 - achieve lower levels of active trachoma
- School-based trachoma programs can enhance the sustainability of antibiotic distribution
- With political support it would be possible to take such programs to scale rapidly

Flies and Eyes in the Amhara Region: Assessment of Species Composition and Ecology of Eye-Seeking Flies in Relation to Trachoma Transmission in Ethiopia

Results from the masters thesis of Mr. Gashu Fentie, University of Addis Ababa

Presented by Dr. Ellen Dotson, U.S. Centers for Disease Control and Prevention

It is now becoming widely accepted that eye-seeking flies are mechanical vectors of blinding trachoma. Dr. Paul Emerson's research in The Gambia suggests that *Musca sorbens* is the most common insect vector of trachoma. Muscoid flies are commonly found swarming on the unclean eyes and noses of children in trachoma-endemic areas. Laboratory experiments have shown that eye-seeking flies can mechanically carry and transmit *Chlamydia trachomatis* from infected guinea pigs to uninfected guinea pigs. The eyes of children with active trachoma are theorized to be the principal reservoir of *Chlamydia trachomatis* in trachoma-endemic areas.

The South Gondar Zone of the Amhara Region of Ethiopia is hyper-endemic for blinding trachoma, and has a very high density of eye-seeking flies. In 2002, Mr. Gashu Fentie began studying eye-seeking flies in relation to trachoma transmission in South Gondar to gather baseline entomological data on the species and ecology of flies swarming around the faces of children. The specific objectives of the study were to

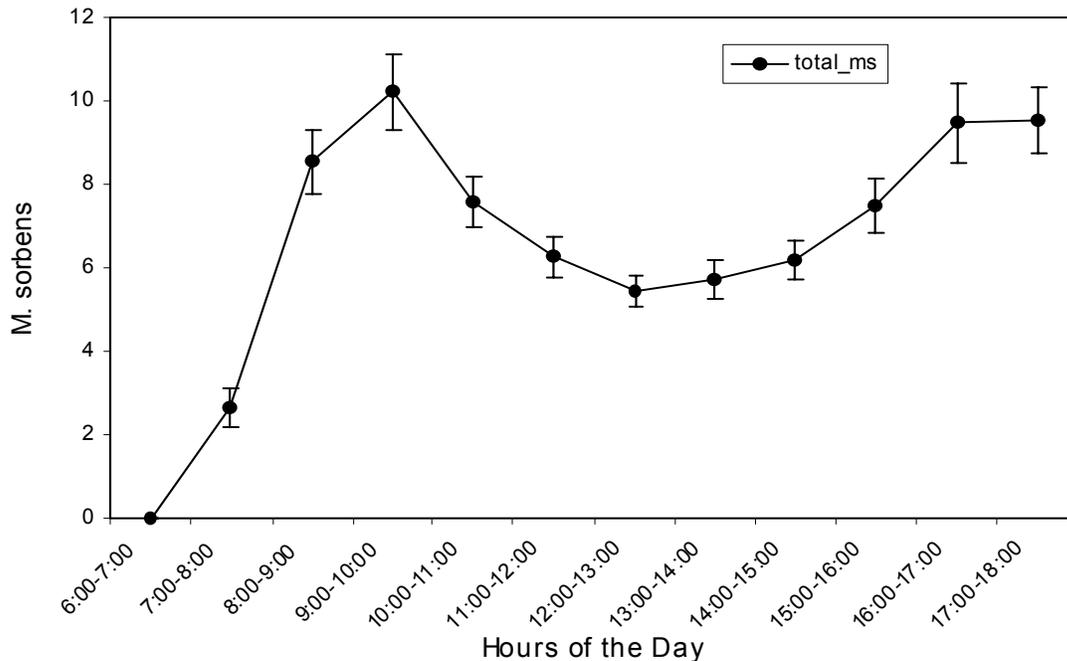
- study the species composition of eye-seeking flies
- determine the density and diurnal activity of eye-seeking flies
- study the breeding media of eye-seeking flies.

The study was done in one village in Dera District from December 2002 to March 2003. Forty households were selected at random from the village and one child 2-10 years of age was recruited for the study from each household. The number of flies swarming on the faces of children was quantified by simply counting and collecting flies, using a hepa-filter aspirator. To determine the general trend of the diurnal fly activity, the sum of the number of flies counted/collected from each child during each hour of the day was averaged and plotted against time of observation. Data were also obtained from the heads of households for trachoma risk factor analysis using a standardized questionnaire. Different animal excreta, human feces and house garbage were investigated to determine the breeding sites of eye-seeking flies under natural conditions in the field, using funnel cage exit traps. Finally, an ophthalmic nurse examined the eyes of the study children for clinical signs of trachoma. All the trachoma positive children were given tetracycline eye ointment and trachoma prevention education was given to the community.

Most (about 94.5 %) of the flies captured on the faces of children were *Musca sorbens*. *Musca domestica* accounted for 2.2% and the remaining flies were of unidentified *Musca* species. There were 2.5 times more female flies collected than males, which may be because females need protein from ocular or nasal discharge for egg production. The density of flies was found to increase between 9:00-11:00 in the morning and 16:00-18:00 in the afternoon. The maximum peak was recorded in the morning hours. Temperature and relative humidity were found to be the two most important environmental factors governing the diurnal activity of flies. The main breeding media for *M. sorbens* were found to be human and dog feces. Flies emerging from

canine feces were found to be smaller than those from human feces. The flies emerging from human feces were found to be similar in size to those captured on the faces of children.

Diurnal Activity of *Musca sorbens*



Each point is the average number of flies (n=160) collected from the face of each child for a total of five minutes for each hour of the day. Bars represent confidence intervals.

The results of this study suggest that

- basic environmental hygiene should be improved to remove human and animal feces from the environment
- face washing should be encouraged early in the morning and early afternoon
- an extensive effort should be made by governmental and non-governmental organizations to help improve water supply and sanitation in trachoma-endemic villages
- tethering dogs around the house and removing their droppings should be given special attention
- health and hygiene education should stress the importance of flies as the agents of disease.

It is hoped that this research will contribute to the success of trachoma prevention and control activities in Ethiopia and strengthen the implementation of the F&E components of the SAFE strategy.

Ultimate Intervention Goals

This report summarizes presentations by Dr. Silvio Mariotti, Ophthalmologist, World Health Organization; Mr. Teshome Gebre, Resident Technical Advisor, The Carter Center/Ethiopia; and Dr. James Zingeser, Technical Director, Trachoma Control Program, The Carter Center.

The process that led to the first proposed *ultimate intervention goals* (UIGs) for trachoma control programs began at the Seventh Meeting of the WHO Alliance for the Global Elimination of Blinding Trachoma, held in Geneva, in January 2003. Discussions on UIGs continued seven weeks later at the fourth annual Program Review of Carter Center-Assisted Trachoma Control Programs. UIGs were modeled on Ultimate Treatment Goals (UTGs), created by the Global 2000 River Blindness Program. Dr. Frank Richards' presentation at the 2003 Program Review, *Using indicators to measure program coverage*, described the evolution and use of UTGs in onchocerciasis control programs. In subsequent presentations and discussions at the 2003 Program Review, UIGs for trachoma control were refined and the participating TCP managers agreed to calculate UIGs for the 2004 Program Review. WHO convened the Second Global Scientific Meeting on Trachoma in Geneva on 25-27 August 2003, in part, to refine the definition of UIGs and the methodology to calculate them. [Four weeks after the 2004 Program Review, the evolution of UIGs continued at the Eighth Meeting of the WHO Alliance for the Global Elimination of Blinding Trachoma.]

The active development of UIGs continued throughout the two days of the 2004 Program Review. The TCPs of Niger, Sudan and the Amhara Region of Ethiopia each presented their first estimates of UIGs. In special presentations, Mr. Teshome Gebre described the methodology used for calculating UIGs in the Amhara Region, and Dr. Silvio Mariotti reported on UIG recommendations from the WHO Second Global Scientific Meeting. However, by the end of the first day, it was apparent that there was still much confusion and controversy surrounding UIGs and their calculation. In response, at the end of the second day of the meeting, Dr. Zingeser gave a presentation to address some of these issues. The following is a summary of Dr. Zingeser's presentation.

What gets measured gets done. Hence, the choice of *what* we measure is extremely important. To make that choice we must first ask: *What decision(s) and subsequent action(s) will be based on this measurement?* Measuring intervention progress relative to short-term goals is valid for evaluating pilot projects, but not for long-term programs. Measurements based on long-term goals give us a valuable perspective, they allow us to evaluate how far we have come and how far we have to go – and that is what we want from UIGs: to focus on the long-term.

Most of the confusion and controversy over defining and calculating UIGs has come about because we do not yet have consensus on what we want to measure. To facilitate reaching that consensus, it would be useful to define each UIG in terms of *action, need,*

unit and threshold. [Some of the following was revised to reflect discussions at the Eighth Meeting of the WHO Alliance for the Global Elimination of Blinding Trachoma.]

Surgery

Action: corrective trichiasis surgery

Need: to estimate number of persons who require surgery

Unit: persons

Threshold: one person with uncorrected trichiasis

Antibiotics

Action: mass azithromycin treatment

Need: to estimate number of persons who require treatment

Unit: persons

Threshold: $TF_{1-9} > 10\%$

Facial cleanliness

Action: hygiene education

Need: to estimate number of villages that need hygiene education

Unit: villages

Threshold: $TF_{1-9} > 10\%$

Environmental improvement: Latrines

Action: promote latrine construction, maintenance and use

Need: to estimate number of villages that need latrine programs¹

Unit: villages

Threshold: $TF_{1-9} > 10\%$ & less than 50% of households have access to latrines

Environmental improvement: Water

Action: provide safe water

Need: to estimate number of villages that need safe water

Unit: village

Threshold: $TF_{1-9} > 10\%$, $CF_{1-9} < 80\%$ ² & less than 50% of households have access to safe water within 1 km

Reaching consensus on the action, need, unit and threshold for each UIG will facilitate subsequent discussions as we refine our thinking about UIGs and create more useful tools for TCP planning, advocacy, monitoring and evaluation. Consensus on this framework will give us all a solid foundation for the future development of UIGs.

Excel spreadsheets for calculation of each UIG were presented. Those spreadsheets were subsequently reviewed and improved at the 8th Meeting of the WHO Alliance for the Global Elimination of Blinding Trachoma, and are available for field testing.

¹ As the program progresses and better data are available, this can be changed to estimate the number of latrines to be built.

² CF_{1-9} means *facial cleanliness of children aged 1-9 years*

APPENDIX I: The Disease

Trachoma is the world's leading cause of preventable blindness. The World Health Organization estimates that 6 million people are blind due to trachoma, most of whom are women, and another 540 million – almost 10 percent of the world's population – are at risk of blindness or severe visual impairment. Trachoma is caused by repeated infections of the eyelids by the bacterium *Chlamydia trachomatis*, and can be prevented through simple hygiene. Most cases occur in rural, arid areas of developing countries, such as the Sahelian region of Africa, where access to clean water is limited.

The early, acute stage of the disease is called *inflammatory trachoma*, and is most common among children. Women are repeatedly exposed to inflammatory trachoma in their role as primary caretakers of children. It is therefore not surprising to find that women develop chronic trachoma two to three times more often than men. Trachoma is transmitted through discharge from the eyes and nose of infected individuals, which may be passed to others on hands, towels and clothing, or by flies, which are attracted to ocular and nasal discharges. As a trachoma patient's eyelids are repeatedly infected with chlamydia, subsequent scarring of the conjunctiva deforms the eyelid margin, resulting in eyelashes turning inward and rubbing against the cornea. This condition, called *trichiasis*, causes pain and scarring of the cornea, which eventually leads to blindness.

Recent developments have brought new hope that we can effectively control this disease. In 1987, eye care experts and the World Health Organization (WHO) developed a simplified trachoma grading scale, which facilitated and standardized the diagnosis and identification of all stages of trachoma. In 1996, WHO established the GET2020 Alliance, which brings international non-governmental development organizations, donors and researchers together to work collectively in controlling trachoma. In addition, with support from the Edna McConnell Clark Foundation (EMCF) and WHO, the *SAFE strategy* was created to control trachoma through community-based interventions.

Another important development was the finding that the oral antibiotic *azithromycin*, taken once or twice annually, is as effective in preventing chronic trachoma as six weeks of daily treatment with tetracycline eye ointment, the previously recommended therapy. To assist ministries of health in implementing the "A" component of the SAFE strategy, the International Trachoma Initiative (ITI), formed through the collaboration of EMCF and Pfizer Inc, is managing a significant donation of Zithromax, Pfizer's brand of azithromycin, for treatment of trachoma in selected developing countries.

APPENDIX II

AGENDA Fifth Annual Program Review Carter Center-Assisted Trachoma Control Programs The Carter Center, Cecil B Day Chapel March 4 - 5, 2004

Thursday, March 4

7:30 - 8:00	<u>Breakfast in Ivan Allen Foyer</u>	
8:00 - 8:30	Welcome and introductory remarks	Dr. James Zingeser
F & E		
8:30 - 9:00	Nigeria Presentation	Dr. Nimzing Jip
9:00 - 9:30	Ethiopia Presentation	Mr. Mulat Zerihun
9:30 - 10:00	Niger Presentation	Dr. Kadri Boubacar
10:00 - 10:30	<u>Coffee Break/Ivan Allen Foyer</u>	
10:30 - 11:30	Sudan Presentation	Prof. Mamoun Homeida Ms Alice Onsarigo
11:30 - 12:00	Mali Presentation	Dr. Mamadou Bathily
12:00 - 12:30	Ghana Presentation	Dr. Maria Hagan
12:30 - 1:30	<u>Lunch in Ivan Allen Foyer</u>	
1:30 - 2:00	Group Photo	
Special Sessions		
2:00 - 2:20	WHO update	Dr. Silvio Mariotti
2:20 - 2:50	Niger F&E Assessment	Mr. Mohamed Salissou Kane
2:50 - 3:10	<u>Coffee Break/Ivan Allen Foyer</u>	
3:10 - 3:30	Mali F&E Assessment	Dr. Mamadou Bathily
3:30 - 4:00	Ghana Radio Learning Groups	Dr. Daniel Yayemain
4:00 - 4:30	Setting UIGs, the Ethiopian experience	Mr. Teshome Gebre
4:30 - 5:00	Taking F&E to scale	Dr. Mamadou Diallo

Friday, March 5

7:30 - 8:00

Breakfast in Ivan Allen Foyer

S & A

8:00 - 8:30

Nigeria Presentation

Dr. Nimzing Jip

8:30 - 9:00

Ethiopia Presentation

Mr. Zelalem Abera

9:00 - 9:30

Niger Presentation

Dr. Kadri Boubacar

9:30 - 10:30

Sudan Presentation

Prof. Mamoun Homeida
Ms. Alice Onsarigo

10:30 - 11:00

Coffee Break/Ivan Allen Foyer

11:00 - 11:30

Mali Presentation

Dr. Mamadou Bathily

11:30 - 12:00

Ghana Presentation

Dr. Maria Hagan

12:00 - 1:00

Lunch in Ivan Allen Foyer

Special Sessions

1:00 - 1:20

TIME Update: Results from Participatory
Evaluations of Trachoma Control Programs
In Eight Countries

Dr. Anthony Solomon

1:20 - 1:50

ITI Update

Dr. Amos Sam-Abbenyi

1:50 - 2:10

School Health Evaluation

Dr. Paul Emerson

2:10 - 2:30

Flies and Eyes in the Amhara Region

Dr. Ellen Dotson

2:30 - 2:50

Standardized Reporting

Dr. James Zingesser

2:50 - 3:10

Coffee Break/Ivan Allen Foyer

3:10 - 4:00

Recommendations and Targets for 2004

Dr. James Zingesser

4:00 - 5:00

Conclusions and Reflections

Dr. Donald Hopkins

APPENDIX III: List of Participants

Ethiopia

Mr. Zelalem Abera
Mr. Mulat Zerihun
Mr. Teshome Gebre (Carter Center)
Dr. Anteneh Woldentensay (Carter Center)

Ghana

Dr. Maria Hagan
Dr. Daniel Yayemain
Mrs. Nwando Diallo (Carter Center)
Ms. Lydia Ajono (Carter Center)

Mali

Dr. Doulaye Sacko
Dr. Mamadou Bathily (Carter Center)
Mr. Yaya Kamissoko (Carter Center)

Niger

Dr. Kadri Boubacar
Mr. Salissou Kane (Carter Center)
Mr. Ali Amadou (Carter Center)

Nigeria

Dr. Emmanuel Miri (Carter Center)
Dr. Nimzing Jip (Carter Center)

Sudan

Prof. Mamoun Homeida
Dr. Magdi Ali
Dr. Samson Paul Baba
Mr. Raymond Stewart (Carter Center)
Mr. Mark Pelletier (Carter Center)
Ms. Alice Bosibori-Onsarigo (Carter Center)

The Carter Center

Dr. Donald Hopkins
Dr. James Zingeser
Dr. Frank Richards
Mr. Craig Withers
Ms. Nicole Kruse
Dr. Mamadou Diallo
Ms. Misrak Makonnen
Ms. Robin Vinson
Mr. Basil Safi
Ms. Shandal Sullivan
Mr. Don Denard
Mr. Marc Tewari
Ms. Kelly Callahan
Ms. Emily Howard
Ms. Sarah Hodgson
Ms. Stacy Taylor

Conrad N. Hilton Foundation

Ms. Dyanne Hayes

Lions Clubs International Foundation

Ms. Sonia Pelletreau

US Centers for Disease Control and Prevention

Dr. Robert Wirtz
Dr. Ellen Dotson
Dr. Josef Amann

Helen Keller Worldwide

Ms. Manisha Tharaney

International Trachoma Initiative

Dr. Amos Sam-Abbenyi
Mr. Jonathon Struthers

University of Durham

Dr. Paul Emerson

World Vision USA

Dr. Joseph Riverson
Mr. Samuel Jackson

London School of Hygiene and Tropical Medicine

Dr. Anthony Solomon

World Health Organization

Dr. Silvio Mariotti

Freeplay Foundation

Ms. Michelle Riley

Emory University

Mr. Ayman Elsheikh
Mr. Sadi Moussa
Dr. Martin Swaka