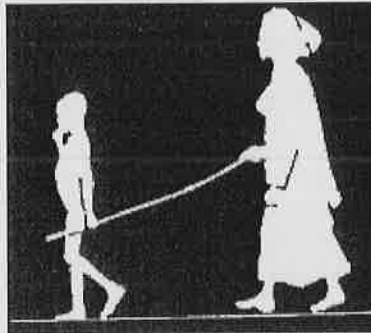


SUMMARY PROCEEDINGS

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



**The Carter Center
February 10-11, 2000**

**Funded by:
Conrad N. Hilton Foundation
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ACRONYMS

CBM	Christoffoel Blinden Mission
CDC	Center for Disease Control and Prevention
CMA	Christian Mission Aid
DFID	Department for International Development
FGD	Focus Group Discussions
GOS	Government of Sudan
HKW	Helen Keller Worlwide
IOTA	Institut d'Ophtalmologie tropical d'Afrique
ITI	International Trachoma Initiative
KAP	Knowledge, Attitudes, and Practices
MOH	Ministry of Health
NGO	Non-Governmental Organization
NPPB	National Program for Prevention of Blindness
NR	Northern Region (Ghana)
OLS	Operation Lifeline Sudan
SAFE	Surgery, Antibiotics, Face Washing & Environmental Improvement
SRC	Swiss Red Cross
SSI	SightSavers International
TCC	The Carter Center
TCP	Trachoma Control Program
TRA	Trachoma Rapid Assessment
UNICEF	United Nations Children's Fund
UWR	Upper West Region (Ghana)
WHO	World Health Organization
WVI	World Vision International

EXECUTIVE SUMMARY

The first annual Program Review for The Carter Center-assisted trachoma control programs was held on 10-11 February 2000 at The Carter Center headquarters in Atlanta. 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 with a particular focus on indicators for program monitoring and evaluation. Discussions on the "F" and "E" components of the SAFE strategy¹ were highlighted during this Review.

National trachoma control program coordinators representing the ministries of health of Ghana, Mali and Niger attended, along with The Carter Center's principal partner in Khartoum, Sudan. In addition, The Carter Center's resident technical advisors and country representatives from Ethiopia, Mali, Niger, Nigeria and Sudan participated in the meeting. Representatives of the Conrad N. Hilton Foundation, Lions Clubs International Foundation (LCIF), Pfizer Inc., the International Trachoma Initiative (ITI), the World Health Organization (WHO), Helen Keller Worldwide (HKW), HealthNet-Sudan, the U.S. Centers for Disease Control and Prevention (CDC), and Emory University also participated. President Carter greeted the participants by speaker telephone during the meeting.

Each country program prepared a half-hour long presentation on the history and current status of its national trachoma control program, followed by one hour of discussion by all participants. While each of these national programs is being assisted by The Carter Center (among other partners), the national coordinator presented information on their entire programs, including activities being supported by other partners. 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 program and program partnerships with other ministries and international development organizations were also presented. Discussions included successes, constraints, and challenges of the country programs as well as program goals and objectives for the year 2000. At the end of the meeting, the participants made recommendations for each of the countries on how to improve their trachoma control efforts and how to strengthen the "F" and "E" components of the SAFE strategy being implemented by the national program.

Since this was the first such annual Program Review to be held for these Trachoma Control Programs, which are all just getting underway, the available data were limited, but a solid beginning was made. These Proceedings provide a record to help document the maturation and future accomplishments of these programs.

¹SAFE is the acronym for:

Surgery to correct trichiasis

Antibiotics to treat inflammatory trachoma (topical tetracycline or oral azithromycin)

Face and hand washing to prevent transmission of chlamydia, and

Environmental activities to improve access to water and household sanitation.

INTRODUCTION

The Carter Center Trachoma Control Program began its activities working in collaboration with the ministries of health of Ghana, Mali and Niger in 1998 with support from the Conrad N. Hilton Foundation. In 1999, thanks to the Lions-Carter Center SightFirst Initiative, the Center expanded its trachoma control activities to begin assisting Ethiopia and Sudan. The Carter Center works directly with national governments, local Lions Clubs and other partner organizations to achieve control of trachoma through community-based interventions, operations research, and advocacy.

Based on experience from the Guinea Worm Eradication and River Blindness Control Programs, The Carter Center maintains an emphasis on health education and community mobilization – enabling and encouraging people to help themselves. To this end, the Center assists national trachoma control programs in conducting epidemiological, sociological and operations research studies. These studies include prevalence surveys, and knowledge, attitudes and practices (KAP) studies to obtain baseline information on trachoma. The Center also assists ministries of health in implementing interventions to control trachoma, with an emphasis on the “F” and “E” components of the SAFE strategy.

One of the basic principles followed by The Carter Center is to work in partnership to help implement health programs. The Center works closely with ministries of health wherever possible, particularly with the national coordinator of the trachoma control program. The Center also collaborates with other international organizations working in trachoma control and blindness prevention such as Christoffel Blinden Mission (CBM), Sight Savers International (SSI), the World Health Organization (WHO), Swiss Red Cross, Orbis, International Trachoma Initiative (ITI), Helen Keller Worldwide (HKW) and World Vision International (WVI). The Conrad N. Hilton Foundation and Lions Clubs International Foundation (via the Lions-Carter Center SightFirst Initiative) are the primary donors supporting The Carter Center’s trachoma control activities.

MALI

Presented by Dr. Doulaye Sacko, director
PNLC/MSP, Mali

Assessment

Like many sub-Saharan countries, blindness is a major public health problem in Mali. Isolated blindness surveys conducted between 1980 and 1990 indicated that 14,400 people (1.2% of its population) were blind. The main causes of blindness are cataract (45%), trachoma (25%), and glaucoma (9%). To address the problem of blindness in the country, the MOH established a national blindness prevention program in 1994. There have been major efforts to include primary eye care services into the basic health care services. Therefore, 500 health personnel with no former background in eye care were trained in primary eye care services to serve the population.

In terms of trachoma control in particular, Mali established a national trachoma control program in 1996, which was integrated into other blindness prevention activities. In 1998, a national committee against trachoma was created under the trachoma control program. The committee includes representatives from the ministries of education, environment, rural development and water, and NGOs such as Helen Keller Worldwide (HKW), The Carter Center, Institut d'Ophthalmologie tropicale d'Afrique (IOTA), Sight Savers International (SSI) and WHO. This committee works closely with UNICEF, International Trachoma Initiative (ITI) and Edna McConnell Clark Foundation.

A national prevalence survey on trachoma was conducted in February 1996-May 1997, and it confirmed that trachoma is a serious problem in the country. The survey showed estimated TT cases to be 2.5% of women >15 years, estimated number TF/TI cases to be 34.9% of 0-10 year old children, and 85,000 persons with trichiasis in need of surgery (map, graph, Tables 1 and 2).

Interventions

The prevalence survey has enabled the program to determine its priorities and set target objectives for the year 2000: an estimated 550,000 children under 10 years of age will benefit from ophthalmic antibiotic treatment and 2,000 people will obtain trichiasis surgery among 85,000 trichiasis cases (1,500 trichiasis surgeries were conducted in 1999). Other program objectives for 2000 include to train 15 trichiasis surgeons, to conduct Zithromax™ distribution in selected target populations (total of 800,000) in Koulikoro region, to strengthen training on trachoma intervention strategies at all levels, to establish monitoring and evaluation, and to improve intersectorial collaboration.

In order to address the F and E components of the program, the national program has been collaborating with the national center for community health education and conducted a KAP study in 1997 to help develop health education messages for trachoma in Koulikoro Region. The program restarted its Information Education Communication (IEC) campaign in January 1998 in Koulikoro Region by training 80 community health workers on trachoma. Another KAP study is planned in Koulikoro Region. The program intends to strengthen health education strategies for

trachoma and conduct advocacy for environmental improvement in 2000. HKW is involved in school health in all of the areas where it is assisting trachoma control efforts.

Major challenges identified by the program are the lack of political support and lack of personnel to implement the SAFE strategy.

Recommendations

- The national program should make an effort to increase the rate of trichiasis surgery in order to reduce the overall backlog of patients requiring surgery..
- The national program should request an assignee from the MOH to provide programmatic support to the national coordinator.
- The program should invite UNICEF to be part of the trachoma control committee.

Additional Note

It is expected that UNICEF will help with trachoma control in the Gao Region.

Proposed Areas for Trachoma Control Interventions - Mali



Shaded areas indicate regions of intervention

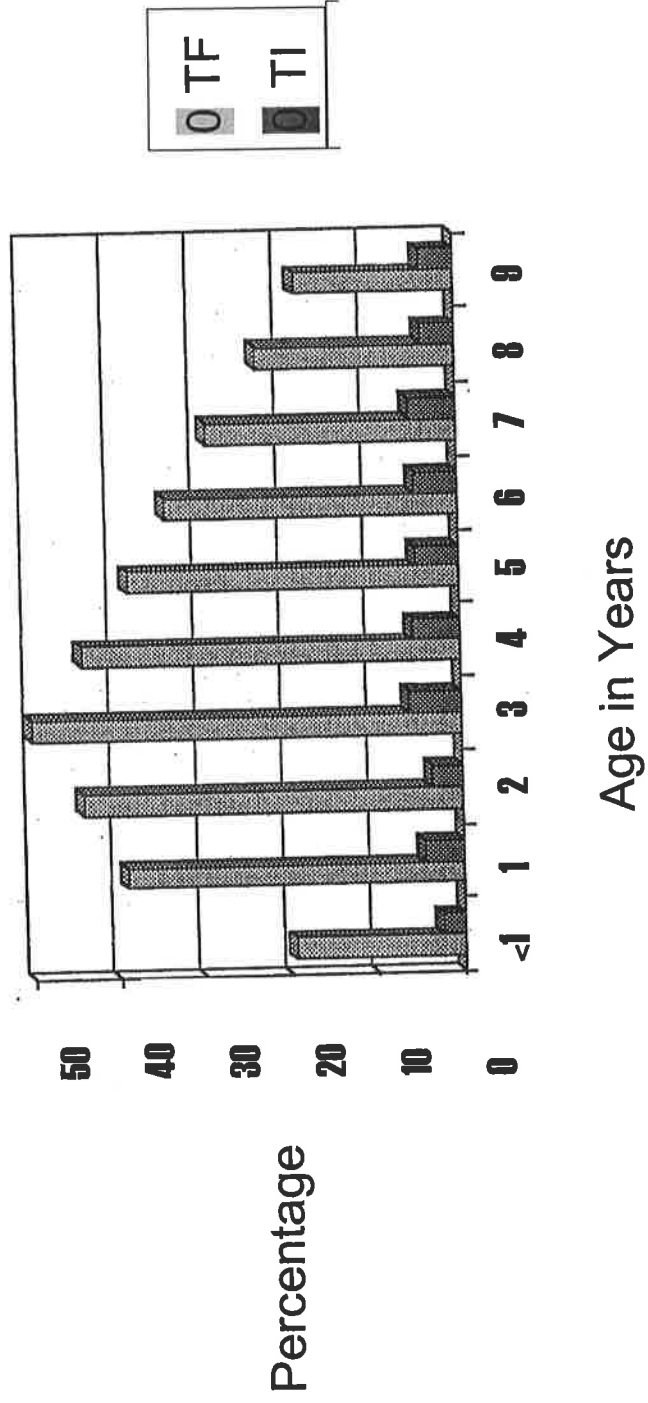
**Summary of Trachoma Prevalence Data
Mali Trachoma Control Program**

Regions	Prevalence of TF/TT (children 0 -10 years)	Prevalence of TT (women > 15 years)	Estimated number of cases of trichiasis (*)
Kayes	42.50%	3.30%	17,500
Koulikoro	33.50%	3.90%	23,000
Sikasso	31.70%	2.90%	19,000
Ségou	23.10%	1.80%	12,000
Mopti	44.10%	1.70%	10,500
Tombouctou	31.70%	1.20%	2,500
Gao-Kidal	46.20%	0.70%	1,200
Total	34.90%	2.50%	85,700

Source: preliminary results of the national trachoma survey, February 1996-May 1997,
National Blindness Prevention Program and IOTA Presented February 26, 1998

* Based on the estimate that prevalence of TT men is 50% of that in women.

Distribution of TF and TI between ages 0 - 9



GHANA

Presented by Dr. Maria Hagen, national coordinator
Trachoma Control Program, Ghana

Assessment

The National Eye Care Program started in 1991 with the establishment of an eye care secretariat and a national coordinator. This secretariat is responsible for all National Prevention of Blindness Programs and reports to the Institutional Care Directorate and Public Health Directorate in the Ministry of Health. The broad objective of the program is to provide a comprehensive package of eye care services and increase delivery from 40% to 60% of the population by 2001. Currently, there are 75 eye care centers throughout the country, 40 ophthalmologists, and 190 ophthalmic nurses. There are also trained health and non-health workers (general medical practitioners, community nurses, community based volunteers) in primary or basic eye health.

Cataract and glaucoma are the major eye problems in Ghana, followed by trachoma. Trachoma is found to be prevalent in the hot and dry areas of the northern part of the country, in the Northern (NR) and Upper West (UWR) Regions especially. Peculiarly, the Upper East Region located next to these two regions is relatively free of trachoma (and Guinea worm), resulting probably from its geographical configuration (increased water supply).

Estimates of trichiasis and TF/TI cases cannot be determined from available data. Therefore, plans for conducting trachoma prevalence studies in the Northern Region and Upper West Region are underway (map).

Interventions

Present records do not reveal the number of people with TF/TI treated with antibiotics since antibiotics are also used for other forms of conjunctivitis. One hundred to one hundred twenty people had trichiasis surgery in 1999. However, there is a need to determine the total number of trichiasis cases in the country in order to measure the impact of the intervention and know the trichiasis case backlog. The planned prevalence studies will identify trichiasis cases in need of surgery in selected study areas.

As a result of a trachoma control meeting, a National Trachoma Control Task Force, composed of national and regional ministry of health staff including Health Education (Ghana Education Services) and Health Research units, ophthalmologists, water & sanitation and partner international non-governmental organizations (NGO) and chaired by the head of the Disease Control Unit was established in December 1998. The goal of the trachoma control initiative is to eliminate blindness due to trachoma. Specific objectives include to increase the capacity for trichiasis surgery, to reduce prevalence of active trachoma and to collaborate with other agencies to implement the F and E components of the SAFE strategy. Partners in the Trachoma Control Task Force include The Carter Center, Swiss Red Cross, Christoffel Blinden Mission (CBM), World Vision International (WVI), Sight Savers International (SSI), International Trachoma Initiative (ITI), WHO, UNICEF and Department for International Development (DFID). This

task force seeks to ensure that trachoma control activities are implemented in the field and integrated into the health care delivery system until a national trachoma control program is in place. In order to facilitate trachoma control activities, a trachoma control manager living in affected areas, as well as focal regional and district personnel responsible for trachoma need to be appointed to work with regional and district health management teams and implement trachoma control activities on the ground.

There have been isolated data from previous studies in Daboya District in 1996 and Yapei in 1997, both in the Northern Region, indicating the presence of trachoma. At the end of 1999, a trachoma rapid assessment was conducted in Northern and Upper West Regions to prioritize communities for specific interventions in relation to the SAFE strategy. This study was conducted in 122 sub-districts in the two regions (one community per sub-district) of which 70% needed some sort of intervention within the SAFE strategy. Indicators examined included the presence of TT cases, TF/TI cases and dirty faces of children. Other studies also included a Zithromax™ distribution trial in West Daboya sub-district and a KAP study, which included a focus group discussion and household surveys on trachoma in all five districts of the UWR. Preliminary findings from the focus group discussion indicate communities are aware of trachoma and trichiasis, and identified local terms for the diseases. Communities stated their beliefs on the cause, spread and health seeking behavior for trachoma. Main problems identified were limited access to health resources (distance and cost) for the communities, leading patients to use traditional remedies first. Outreach health workers occasionally visit communities but do not address eye problems and only give referrals.

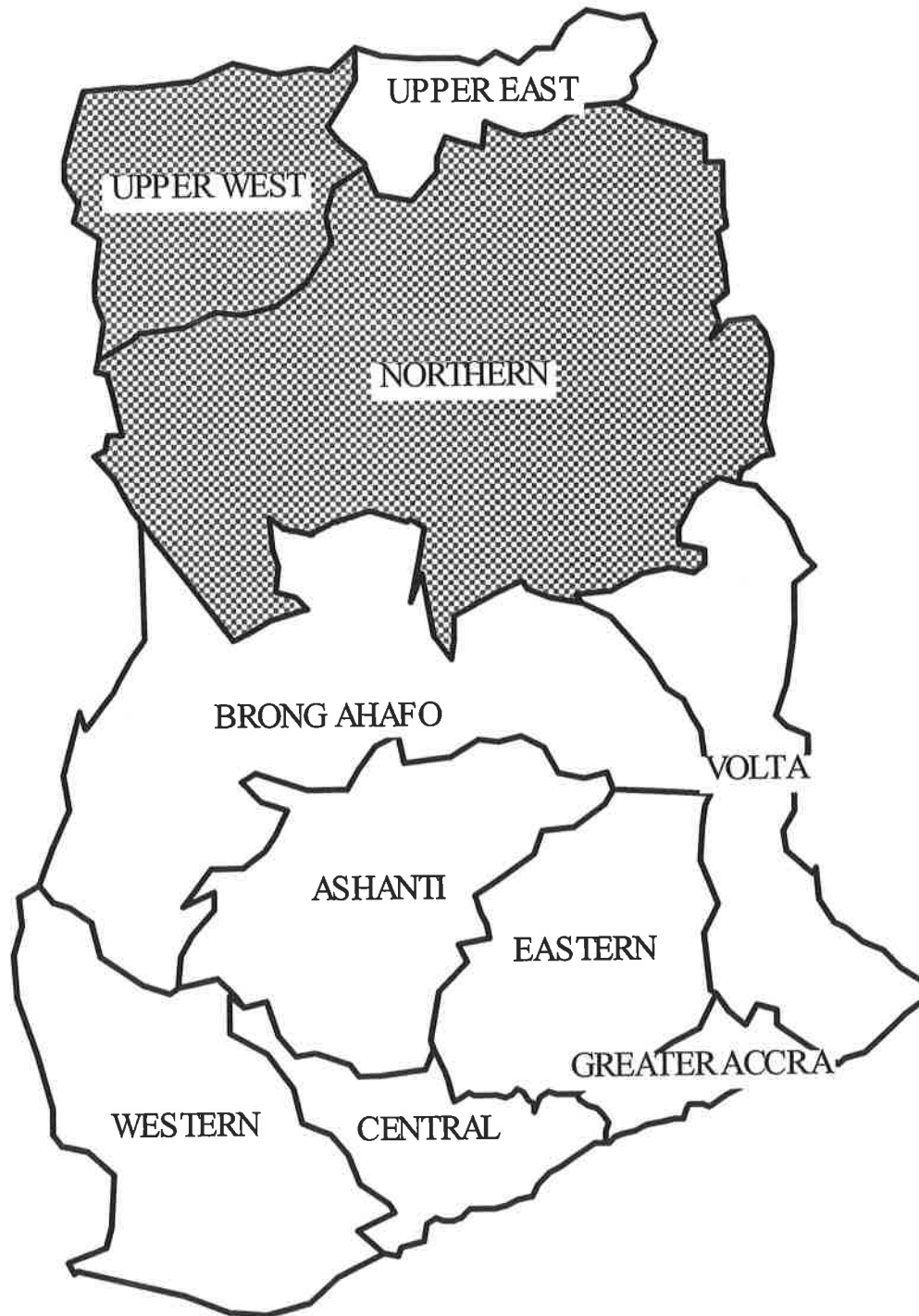
The KAP studies are to prepare for developing health education materials. In 1997, an annual prevention of blindness awareness activity focused on onchocerciasis and trachoma.

Future activities planned for the Ghana Task Force include prevalence studies, to be conducted in the UWR and NR, a KAP study in the NR, application to the ITI for Zithromax™ donation, and the training of eye care professionals (10 ophthalmic nurses) in trichiasis surgery. Tumu and Wa Districts will pilot the SAFE Strategy in UWR; Savelugu, Tolon and Tamale Districts in NR. Prevalence studies to provide baseline data have already begun in these 5 districts.

Recommendation

- The Trachoma Control Task Force should pursue its efforts to conduct prevalence surveys in NR and UWR.

Proposed Areas for Trachoma Control Interventions - Ghana



Shaded areas indicate regions of intervention

NIGER

Presented by Dr. Abdou Amza, Ophthalmologist
Chu-Hopital Lamorde, Niger

Assessment

A blindness prevalence survey conducted in 1998 showed that approximately 198,000 persons (2.2% of the population) suffer from blindness in Niger. The major causes of blindness are: cataract (45%), trachoma (25%), and glaucoma (22%). A national blindness prevention program was established in 1987 with nine ophthalmologists and 60 trichiasis surgeons of whom 20 are ophthalmic nurses. The program works closely with the Trachoma Control committee, which was formed in 1999 by the Ministries of Health, Water and Social Development and Education. International partners such as The Carter Center, Lions, Helen Keller Worldwide (HKW), Christoffel Blinden Mission (CBM), African Muslim Agency (AMA) and WHO are also member of the committee.

A national trachoma prevalence survey was conducted in eight regions, including in the capital, Niamey from 1997 to 1999. Findings indicated 43.7% of children under 10 years had TF/TI and 1.7% of women over 15 years had trichiasis (Table 1 and 2). The highest prevalence of trachoma was identified in Zinder, Diffa and Maradi Regions (maps).

Interventions

A KAP study was conducted in 1997 in Zinder, with the assistance of HKW, focusing on communities' perceptions of surgery. Health education materials were developed based on the findings. In 1999, 704 trichiasis surgeries were conducted (707 in 1998). Although all health facilities receive antibiotic ointment, it may be used for many purposes making it difficult to estimate the number of ophthalmic antibiotics specifically for trachoma. The program plans to intensify interventions in Zinder, Diffa and Maradi, which were found to be the most trachoma endemic regions. The objectives include: to perform surgeries on all TT cases detected; to treat all trachoma cases with ophthalmic ointment; to implement trachoma related hygiene/sanitation activities; to establish a trachoma map – based on prevalence studies, to conduct KAP studies in Diffa and Maradi; and to train and equip personnel to reach present objectives.

Identified constraints that may hinder the trachoma control program include patients' limited access to health facilities and health personnel (including surgeons), insufficient number of surgical kits, cost of surgical intervention, reluctance by patients to have surgery, unreliable supply of tetracycline, poor supervision at all levels, insufficient clean water supply, poor hygiene and sanitation behaviors, religious constraints and logistical problems.

The challenges to the program are thus to enhance acceptance of trichiasis surgery by patients, increase compliance with six weeks tetracycline treatment by patients through an intensified IEC campaign, and increase access to clean water supplies in rural areas.

Additional Notes

The Nigerien Trachoma Control Program (TCP) needs to set goals, objectives and targets for the program and have a guaranteed budget to meet all its needs. In addition, the program needs to set its indicators to measure success based on its capacity.

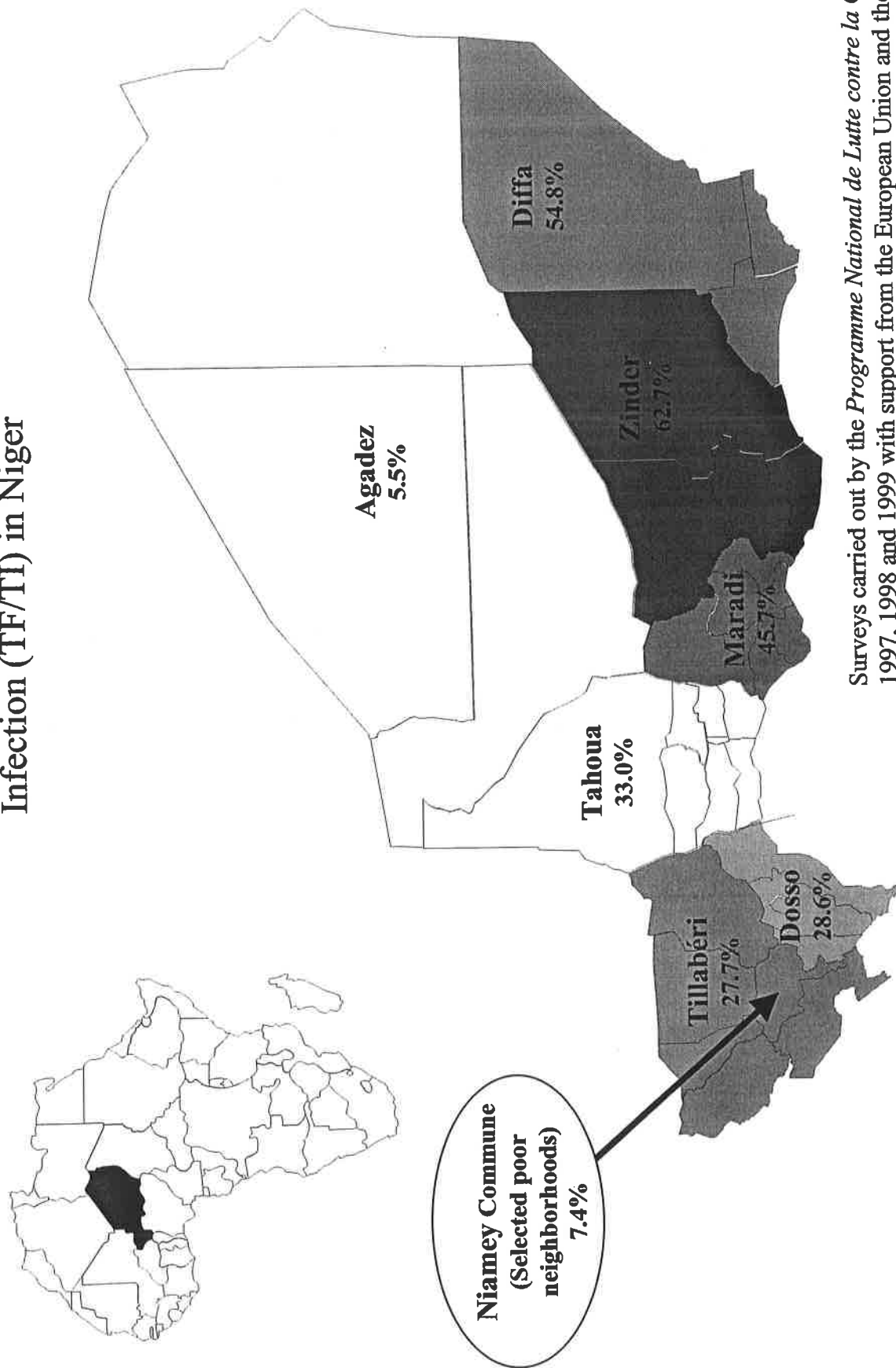
TCP plans should emphasize setting up training objectives (supervisors, health workers, volunteers), and monitoring the number of villages reached, with coverage rate and number of health education sessions conducted.

HKW has assisted health education about trachoma in five districts of Zinder Department since 1996. They plan to extend assistance for health education and surgery to two more districts in the same department in 2000.

Recommendations

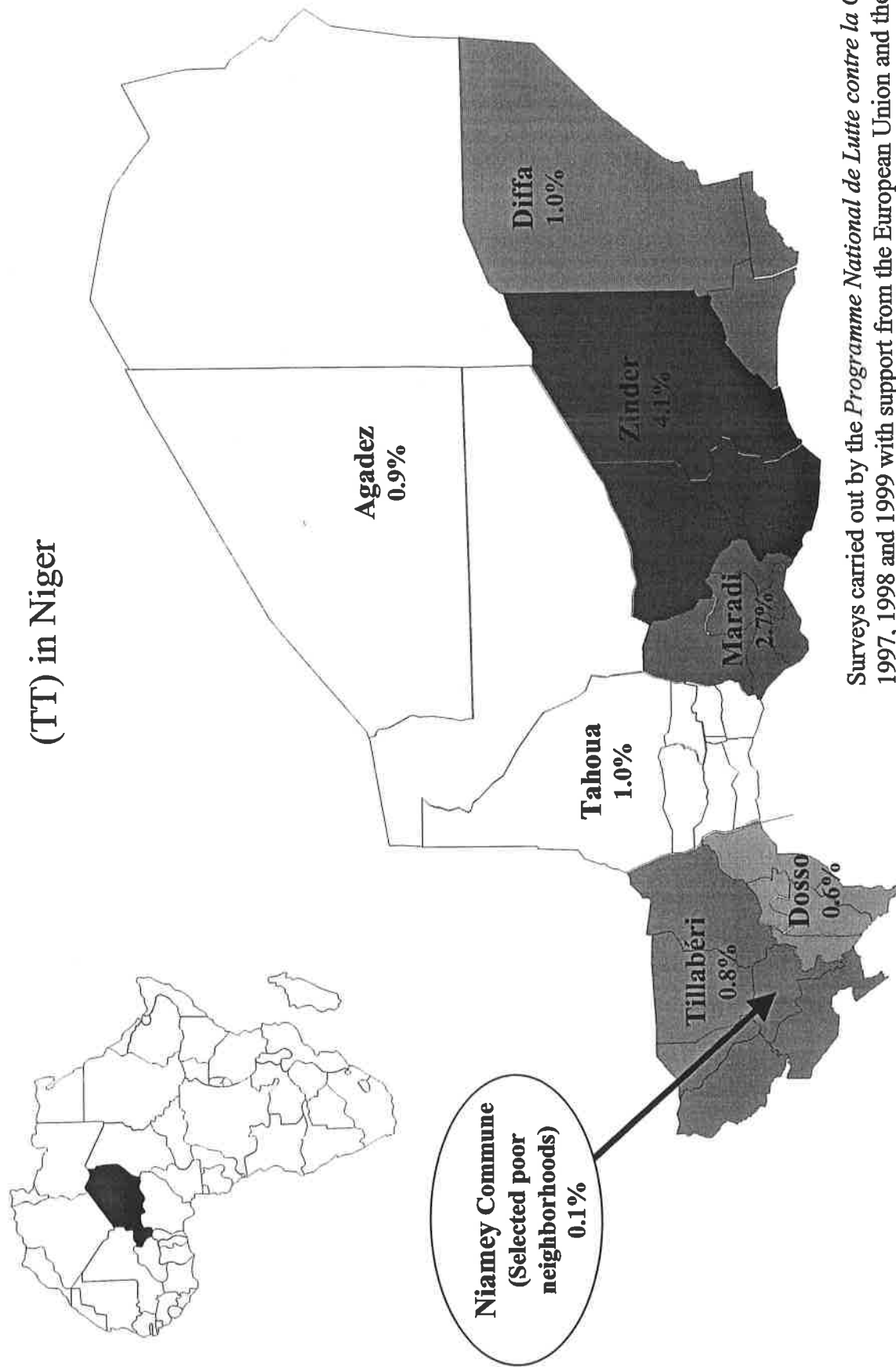
- Trained trichiasis surgeons did not obtain surgical kits to perform surgeries after their training. The program should guarantee these supplies are available for trained personnel.
- The program should invite UNICEF to be part of the national committee, especially for community based interventions and water and sanitation.

Percentage of Children ≤ 10 years with Active Trachoma Infection (TF/TI) in Niger



Surveys carried out by the *Programme National de Lutte contre la Cécité* in 1997, 1998 and 1999 with support from the European Union and the Carter Center.

Percentage of Women ≥ 15 years with Trichiasis (TT) in Niger



Surveys carried out by the *Programme National de Lutte contre la Cécité* in 1997, 1998 and 1999 with support from the European Union and the Carter Center.

Results National Trachoma Survey, Niger
Table 1: Results for TF and TI for children of 10 years of age and below

	Total Population less than 11 Years	TF	TF (%)	TI	TI (%)
Agadez	113,734	6,255	5.5	455	0.4
Diffa	62,854	34,444	54.8	19,988	31.8
Dosso	508,953	145,560	28.6	20,867	4.1
Maradi	691,020	315,796	45.7	94,670	13.7
Tillabery	811,187	224,699	27.7	27,580	3.4
Tahoua	589,775	194,626	33.0	1,844	4.1
Zinder	611,942	383,688	62.7	91,179	14.9
Niamey	221,618	16,400	7.4	665	0.3
NATIONAL	3,611,084	1,321,468	36.6%	257,248	7.1%

* Population figures are taken from:

Projections Démographiques 1994-2025; Ministère du Développement Social, de la Population, de la Promotion de la Femme et de la Protection de l'enfant; République du Niger
 Surveys based on a representative sample of rural areas in all regions. In Niamey City, sample based on selected poor neighborhoods.

Results National Trachoma Survey, Niger
Table 2: Results for Trichiasis (TT) for Women 15 Years and Older, and Estimations for All Adults 15 Years and Older

	Women 15+	Men 15+	Total	TT (%) among Women	TT (#) Women and Men*
Agadez	92,949	90,638	183,587	0.9%	1,108
Diffa	61,364	63,973	125,337	1.0%	827
Dosso	377,037	383,304	760,341	0.6%	3,029
Maradi	557,875	507,918	1,065,793	2.7%	19,634
Tahoua	472,825	435,748	908,573	1.0%	6,181
Tillabery	671,934	660,568	1,332,502	0.8%	7,137
Zinder	548,775	559,741	1,108,516	4.1%	30,150
Niamey	170,865	187,771	358,636	0.1%	233
NATIONAL	2,953,624	2,889,661	5,843,285	1.7%	68,299

* It is estimated that prevalence of trichiasis in men is 1/3 of the prevalence in women. It is assumed that there is no trichiasis in children under 15, however, clinically, trichiasis has been observed in children as young as 8 years in Niger.

Population figures are taken from:
Projections Démographiques 1994-2025; Ministère du Développement Social, de la Population, de la Promotion de la Femme et de la Protection de l'enfant; République du Niger

Surveys based on a representative sample of rural areas in all regions. In Niamey City, sample based on selected poor neighborhoods.

SUDAN

Presented by Professor Mamoun Homeida, national coordinator/onchocerciasis
Academy of Medical Science and Technology, Sudan

Assessment

For more than 17 years, poverty and civil war have devastated the infrastructure and economy of Sudan. Among the services damaged by this political situation is health care. In spite of having one ophthalmologist in every state supported by the Government of Sudan, there are few, if any, preventive services. In many areas of southern Sudan, health services are provided through the Operation Lifeline Sudan/South (OLS/S) consortium. OLS/S includes 30 NGOs which, along with UNICEF, implement health programs for, and in collaboration with, the local populations.

Trachoma has long been considered a serious disease in Sudan, affecting a large percentage of the population in all parts of the country. Prior to 1999, information on trachoma was mainly extrapolated from hospital and clinical records, as well as anecdotal information from both government and OLS/S medical personnel. In preparation for the Lions SightFirst proposal in 1999, The Carter Center assisted the Federal MOH to conduct a prevalence study in two hyper-endemic regions, Malakal and Wadi Halfa, in the south and north of Sudan, respectively (map). The study in Malakal found that 45% of children between 1 and 10 years of age had active trachoma, and 10% of women over 30 had trichiasis. In Wadi Halfa, 47% of children between 1 and 10 had active trachoma, and 2.4% of women over 30 had trichiasis. These findings in both the north and south of Sudan surpass the WHO thresholds for declaring trachoma to be a serious public health problem.

In OLS/S supported areas, anecdotal reports from health care personnel suggest that trachoma is widespread and severe. There are limited scientific data available on eye infections in general, however 12-18% of clinic visits recorded monthly by NGOs are for unspecified eye diseases. As part of a larger health study conducted in the Lankien district in Upper Nile State by one NGO (Christian Mission Aid) data indicated high levels of both inflammatory trachoma and trichiasis.

Interventions

In order to address the problem, a trachoma control program was established for the government-controlled areas based on the experience gained from the onchocerciasis program and based on the National Onchocerciasis Task Force (NOTF) and Guinea worm eradication model. A Trachoma Technical Consultative Committee was formed in June 1999 to oversee technical and coordination issues of the program. A senior ophthalmologist, an epidemiologist, a clinical pharmacologist, a health educationalist, The Carter Center representative and staff from the MOH make up the Technical Consultative Committee. The main international partners in the trachoma control program are The Carter Center and Lions Clubs International Foundation (LCIF).

The program is planning to have a series of activities including to conduct KAP studies and develop health education materials, train workers and volunteers and start community education and mobilization. The program needs to intensify health education for face washing, including in

areas where water is easily accessible. Previous experience has shown that Sudanese villagers will not comply with topical treatment for eye disease. Therefore, the program intends to establish an oral antibiotic treatment strategy as part of the implementation of the SAFE strategy in Upper Nile, Wadi Halfa and displaced persons camps (near Khartoum). The TCC strongly believes that Zithromax™ needs to be obtained for a successful program in Sudan.

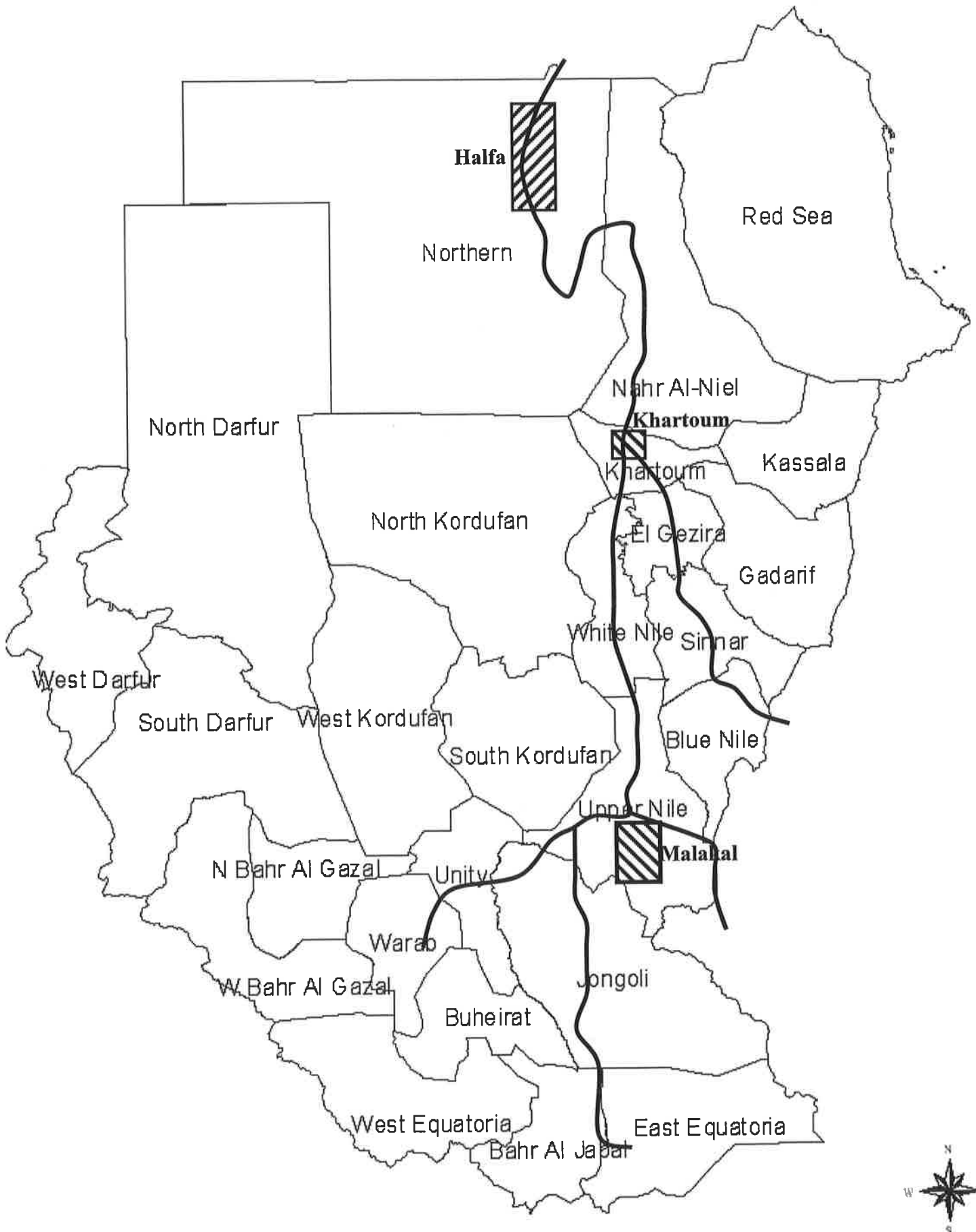
Trachoma control activities in OLS/S supported areas will be coordinated and monitored on behalf of the Sudan Trachoma Task Force by The Carter Center/Nairobi. The program will be implemented in selected areas by partner NGOs, which may include Christian Mission Aid (CMA) and MedAir, both of which have well established primary health care programs in the target communities. Each NGO will implement the entire SAFE strategy, integrated into existing programs. The Carter Center's Nairobi and Lokichokio (Kenya) offices will work with both NGOs on research, training, surveillance and treatment activities. As in the National Onchocerciasis Task Force and Guinea Worm Eradication Program, the national coordinator in Khartoum will speak for the program of all Sudan.

The challenges the program faces include: inability to access villages due to war and rain; the nomadic nature of the community, the lack of access to clean water; lack of compliance with ointment, forcing the program to rely mainly on oral antibiotics; and difficulties in targeting mobile communities to provide effective health education messages and other services.

Additional Note

The program needs to identify a contact person for trachoma in Sudan. The GOS should be represented at WHO meetings on trachoma.

Sudan



ETHIOPIA

Presentation on Carter Center activities

By Mr. Teshome Gebre, country representative, The Carter Center, Ethiopia

Assessment

The prevalence of blindness in Ethiopia is thought to be among the highest in the world. An estimated nine hundred thousand people (1.5% of the population) are blind and six million suffer from low vision. Although a nationwide population-based prevalence study has not been conducted, health clinic data suggest that the major causes of blindness are cataracts (40%) and trachoma (30%). The Prevention of Blindness Team of the Ministry of Health estimates that there are one million cases of trichiasis and 10 million cases of active trachoma requiring treatment in Ethiopia. Nonetheless, the Ministry of Health still does not recognize trachoma as a major public health problem.

Curative eye care services in Ethiopia are very limited. There are only 54 ophthalmologists (43 of whom work in the capital) and 46 ophthalmic medical assistants (11 in the capital) serving 60 million people. Even more importantly, preventive eye care services are practically nonexistent, and there is no national health policy addressing eye disease and eye care services

Program Structure

In 1986, the National Program for Prevention of Blindness (NPPB) was established as a centralized vertical program with 39 technical and support staff. In 1993, the NPPB was reorganized under the ministry's Department of Epidemiology as the Prevention of Blindness Team with one team leader and two experts. Currently, reorganization is underway, combining blindness prevention with work on other diseases, further reducing the status and capacity of the Prevention of Blindness Team. There is as yet no national trachoma control program, nor is there a national coordinator of trachoma control activities. One of the challenges the trachoma control initiative faces is the fact that trachoma is not recognized as a public health problem by the government. There is no support from the government and the ministry of health in improving eye care services. Currently, there is no health policy addressing eye diseases and eye care services. The shortages of eye care services and equipment, as well as eye care professionals are major constraints. In addition, the absence of regional coordinators for prevention of blindness activities increases the difficulty of working on eye health in rural areas where affected communities live. However, an informal national prevention of blindness task force has been created by various organizations working in eye health. The informal task force includes representatives of the Lions Clubs of Ethiopia, CBM, Orbis International, The Carter Center, and Help Age/Ethiopia. The ministry's Prevention of Blindness Team leader is an active and important member of this task force. WHO and UNICEF will soon be part of this informal task force.

The MOH is now highly decentralized, including the organization of eye care services. Regional health bureaus, zonal health departments and woreda health offices are responsible for providing eye care services to the population. These administrative levels have not been very effective in implementing prevention of blindness activities due to a lack of manpower and resources. It is,

therefore, very important for new trachoma control initiatives to train and assist health care personnel at the peripheral levels.

Interventions

Since the beginning of Lions-Carter Center SightFirst initiative, The Carter Center- Ethiopia has been working closely with the Ministry's Prevention of Blindness Team as well as members of other NGOs working in trachoma control, and Ethiopian Lions Clubs. The Carter Center in Ethiopia plans to assist the MOH to implement the SAFE strategy in Amhara and Tigre Regions (map), with an emphasis on the "F" and "E" components. Specific objectives in this collaborative effort include assessing the magnitude of trachoma and blindness in selected areas by conducting prevalence studies, conducting KAP studies, establishing a trachoma surveillance system, developing health education materials and organizing school health programs in the intervention areas. The Carter Center is also involved in trachoma control through the Ethiopian Public Health Training Initiative, The Carter Center-assisted national program which assists colleges and public health training centers in capacity building, redesigning teaching curricula and producing training materials. Currently, the program is working on a trachoma training module for health workers.

Additional Notes

The shortage of eye professionals should not hinder a trachoma control initiative which is directed toward preventive, rather than a curative, interventions.

In order to address the "S" component of the SAFE strategy, the local Lions-Carter Center collaboration could be used to encourage Lions eye camps every year with a mobile team of health workers conducting trichiasis surgeries in addition to surgeries conducted by the regional hospital.

If selected areas for intervention correspond to Guinea worm (GW) endemic areas, GW volunteers could be used to collect and transmit monthly data once a surveillance system is established.

Recommendation

- The Carter Center should play an advocacy role through the informal task force to urge the MOH to recognize trachoma as a serious public health problem in the country. The Carter Center should work with the regional MOH to demonstrate the gravity of the problem by conducting prevalence studies. These findings should be used as advocacy tools to demonstrate the extent and the urgency of the problem to the MOH.

Proposed Areas for Trachoma Control Interventions - Ethiopia



*Shaded areas indicate regions of intervention

“F” AND “E” OF THE SAFE STRATEGY

As part of the trachoma SAFE strategy, the F and E components, facial cleanness and environmental hygiene, are very important interventions because they focus on primary prevention. In addition, they can be implemented in the field even before the A and S components. Countries can begin implementing preventive activities as soon as endemic areas are determined. Trachoma Control Programs should emphasize that in addition to controlling trachoma, other health benefits, such as the reduction of other diseases can be obtained by improving hygiene and sanitation, and increasing availability of clean water. The major challenges are to find out how to reach people, how to convey messages, and how to help people adopt preventive behaviors. At the individual level, it is important to stimulate individuals' concern and knowledge of how to protect themselves and their families from trachoma. At the community level, creating community awareness and understanding of activities that may affect whole communities is key to the success of health education and community mobilization activities.

To obtain positive results from interventions on the F and E components, we must first understand the communities, in order to identify what motivational factors would be effective for them to make changes in their health behaviors and environment. Questions such as “what is it about clean faces that communities like?” or “what is it about latrines that people like?” are key in determining communities' perceptions of the disease's risk factors and of potential interventions. Are people in the community motivated by seeing children with clean faces? Are they concerned about a dirty environment? Raising these type of questions will help identify the motivational factors that trachoma control programs should use when reaching out to endemic communities, taking into account that these factors may vary from one setting to the other. This process may be a gradual endeavor, but will lead to successful sustainable interventions.

Various strategies have led to demonstrable changes in human behavior. These strategies, although different in every country, would be useful if shared among countries. How are these interventions done in different countries? Examples that have been shown to be effective include participatory approach, child-to-child approach, and school health education. Multiple media and community settings should be used to convey health education messages to at-risk communities.

In preparing health messages for trachoma, it is important to develop clear, succinct, well thought out messages. Messages should emphasize the potential benefits of the activities. For example, washing faces will lead to the reduction of conjunctivitis; or, building and using latrines may reduce flies. These activities should also be linked to improving hygiene, implying other benefits as well. Looking at the experience of the onchocerciasis control and Guinea worm eradication programs, the objective for the onchocerciasis program is to give each endemic community member Mectizan™. All messages support activities intended to encourage communities to take the drug, emphasizing the results of not getting the disease and to cut off or reduce symptoms in infected persons. In the Guinea worm eradication program, messages emphasize filtering water and not going into water sources with Guinea worm. Similar clear and specific messages targeting trachoma should be developed as well for the TCP. While developing and implementing these messages, it is important to establish a way of measuring how effective these interventions based on face washing, reducing flies and improving the

environment contribute, are in inducing behavior change and ultimately reducing trachoma. Indicators measuring the progress of “F” and “E” interventions need to be standardized and set from the beginning of trachoma control programs.

In working with issues on environmental improvement, which includes building latrines and providing safe water, trachoma control programs will face challenges in linking health activities with other government agencies working on latrines or water supply. From past experience, it is difficult for ministries of health to motivate other ministries to target their involvement in health programs. In order to achieve this collaboration, trachoma control programs should collect and use necessary information as advocacy tools to encourage other groups to participate in trachoma and other health activities. Data collected should be readily available to demonstrate the urgency and need for various sectors to be involved in preventive efforts. Later, data showing impact of the preventive efforts and acknowledging the contributions of the other agencies should also be given prominent attention. This aspect of rallying other agencies for trachoma is important because some of the necessary interventions may be beyond communities’ capacity, for example on interventions such as water supply. The involvement of other organizations should not be limited to ministries only, but should include international organizations and NGOs, as well as other donors.

MONITORING AND EVALUATION INDICATORS

In launching and implementing Trachoma Control Programs, it is essential to develop program indicators to measure the progress, impact and outcome of the various interventions. In order to measure the effect of specific interventions, there is a need to link indicators with each component of the SAFE strategy. TCPs should decide which specific indicators to use for reporting in their programs. Programs should take into account the feasibility of collecting data for these indicators in terms of financial and human resource requirements, and the periodicity in terms of the disease progression, and environmental barriers. In this initial stage, it is important to conduct operations research at the community level to identify which type of indicators programs should follow over time to monitor progress and to determine at what level these indicators should be collected.

As many TCPs are launched in various countries, programs should achieve consensus about which key standard indicators will enable all the countries to compare the status and progress of their programs with one another on each component of the SAFE strategy. At the outset, all programs should have baseline data in order to measure the gradual progress of the programs. These indicators could be also used as advocacy tools for governments and donors to demonstrate the extent of the problem and reinforce support from interested parties. These standardized indicators used by the different programs may be different from or in addition to the countries' other programmatic indicators.

Overall Prevalence Indicators

Any TCP should have baseline data on trachoma with specific figures for prevalence of TT, TS and TFTI. According to WHO, trachoma is considered to be a serious health problem when

- Greater than 20% of children between one and ten years have TFTI
- Greater than 30% of women 30 years of age or older have TS
- Greater than 1% of women 40 years of age or older have TT

Eight sets of indicators were proposed by The Carter Center at this Program Review for discussion and testing by the programs participating in the review meeting. These suggested indicators are

- Percent of women over 15 years old with TT
- Percent of children 1-10 years old with TF/TI
- Percent of TT target population having received surgery
- Percent of TF/TI target population treated with antibiotics
- Percent of target villages having received health education
- Percent of children 1-10 years old with clean faces (no ocular or nasal discharges, or flies on faces when observed)
- Percent of endemic communities with most (>50%) households having a toilet or covered latrine available
- Percent of endemic communities with most (>50%) households having a water source within 1 kilometer of the household

Indicators For Surgery "S"

Discussions on the above indicators included issues regarding WHO recommendations for examining only women over 40 years for TT. The reason given for the age cut off was to avoid diluting the figures since most people who get TT are older. Some programs felt limiting TT screening to persons over 40 years old would result in missing TT cases below 40 years of age as some country programs observe TT cases in people as young as 10 years old. In order to follow WHO guidelines and detect all TT cases, the screening could encompass all ages, and the programs could adopt their own programmatic indicator including women under 40 for TT, and maintain the WHO standard indicator to compare with other countries. Thus the age group used for reporting TT for the programmatic needs of the country would be different than the one used for reporting following WHO standards. This method would enable countries to include TT cases under 40 and provide them with the necessary services.

Another issue on indicators for surgeries of TT cases was some country programs' reporting simply the number of TT surgeries conducted. This indicator would have more significance if the denominator, which should be the total number of TT cases in the country (or an estimate), is included, modifying the indicator to the percent of TT surgeries conducted during a specific time frame, e.g.:

$$\text{Percent of TT surgeries conducted} = \frac{\text{Number of TT cases operated per year}}{\text{Number of estimated TT cases in country}}$$

Even if this percentage is very small, it will indicate the magnitude of the problem and the high number of TT surgeries that need to be done. The increase of this percentage figure would indicate the progress achieved by the program if the estimated number of TT cases remains unchanged. If needed, the denominator can be specific to a certain population, such as a particular region or district.

In addition to this indicator, country programs can adopt their own target objective for the number of surgeries to conduct for one year and use this indicator to evaluate their own performances depending on feasibility and resources available, e.g.:

$$\text{Percent TT surgeries achieved} = \frac{\text{Number of TT surgeries conducted that year}}{\text{Number of surgeries planned to be done that year}}$$

Therefore, countries could use both indicators, the percent of TT surgery conducted and the percent of TT surgeries achieved; the first indicator to compare their progress with that of other country programs, and the second one to measure their own progress according to the objectives set by them.

Indicators For Antibiotics "A"

Regarding indicators for antibiotics, there needs to be two kinds of indicators covering oral and topical antibiotics. In the case of azithromycin, the number of persons treated divided by the target population or population at risk could provide the percent of target treatment achieved. However, most countries are using tetracycline ointment, thus need to have indicators to measure its use for trachoma. A series of questions arise when examining this issue.

- If the number of people treated with the ointment is measured, what would be the denominator and which population would it represent?
- Would programs assess the number of tubes available at health centers? How would this indicator assure that the ointment has reached trachoma patients without being distributed for other diseases?
- Would counting the number of tubes distributed to health centers be an indicator that the ointment was specifically used for trachoma? Would it be easier for programs to track ointment distribution systems or tubes distributed to individuals or village health workers?
- If used by a patient, how do programs measure the compliance of the patient in using the ointment for six weeks? How would programs measure the effect of ointment use for TF/TI?
- Should programs track the number of active trachoma cases in communities where ointment is made available? If yes, how frequently?
- Should programs track the number of health centers with ointment and number of villages that have access to ointment?

In order to develop sets of indicators for antibiotics, countries need to evaluate the resources they have available, identify which indicators would best measure their progress in providing community members with antibiotics and set up a data collection system at the community and health center levels.

Trachoma Control Program Review 2000
Prevalence Data of Trachoma

Country	Total Population	National Prevalence		Regional Prevalence		Notes
		TF/IT	TT	TF/IT	TT	
Mali	10,000,000	35% (1,350,000)	2.5% (85,700)	-	-	TFTI for < 10yrs TT for woman >15yrs
Ethiopia	61,000,000	-	-	-	-	
Ghana	18,000,000	-	-	-	-	TRA in two regions
Sudan	30,000,000	-	-	Malakal - 45%	10%	TFTI for 1-10yrs
				Halfa - 47%	2.4%	TT for women > 30yrs
Niger	10,000,000	38% (1,321,468)	1.4% (68,299)	-	-	TFTI for < 10yrs
						TT for women >=15yrs

- No Data

Ghana Mali Niger Sudan Ethiopia

Antibiotics

Azithromycin					
Treatment (1999)	0	0	0	0	0
Target Population	-	800,000 ¹	-	-	-
Percentage Coverage	-	-	-	-	-

Tetracycline Ointment

Treatment (1999)	yes	yes	yes	yes	yes
Target Population	-	-	-	-	-
Percentage Coverage	-	-	-	-	-

Surgery

Surgeries in 1999	120 ²	1,500 ²	704 ²	-	-
Target Population	-	85,700	68,299	-	-
Percentage Coverage	-	-	-	-	-

¹ for Koulikoro Region (year 2000)

550,000 <10% in Koulikoro Region

² Program Estimate

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

Thursday, 10 February 2000

9:00 - 9:30	Welcome and introductory remarks	Dr. Donald Hopkins Dr. James Zingesser
Mali		
9:30 - 10:00	Mali Presentation	Dr. Doulaye Sacko
10:00 - 10:50	Discussion/recommendations	Dr. James Zingesser
10:50 - 11:20	Coffee Break	
Ghana		
11:20 - 11:50	Ghana Presentation	Dr. Maria Hagan
11:50 - 1:00	Lunch in Copenhill Café <i>(Group photo and optional tour of The Carter Center)</i>	
1:00 - 1:50	Discussion/recommendations	Dr. James Zingesser
Niger		
1:50 - 2:20	Niger presentation	Dr. Abdou Amza
2:20 - 2:50	Coffee Break	
2:50 - 3:40	Discussion/recommendations	Dr. James Zingesser
F & E		
3:40 - 4:40	Discussion: the "F" & "E" aspects of the SAFE strategy	Dr. James Zingesser
5:00 - 7:00	<i>Reception at The Carter Center</i>	
7:00 - 8:30	<i>Conversations at The Carter Center</i>	

Friday, 11 February 2000

Ethiopia		
9:00 - 9:30	Ethiopia (Role of The Carter Center)	Mr. Teshome Gebre Dr. James Zingesser Dr. James Zingesser
9:30 - 10:20	Discussion/recommendations	
10:20 - 10:50	Coffee Break	
Sudan		
10:50 - 11:30	Sudan	Prof. Mamoun Homeida Mr. Bruce Ross Dr. James Zingesser
11:30 - 12:20	Discussion/recommendations	
12:20 - 1:20	Lunch in Copenhill Café	
Other Items		
1:20 - 3:20	Discussion: Program Monitoring and Evaluation Indicators	Dr. James Zingesser
3:20 - 3:50	Coffee Break	
3:50 - 4:30	General conclusions/reflections	Dr. Donald Hopkins

APPENDIX III

LIST OF PARTICIPANTS

Ghana

Dr. Maria Hagan

Mali

Dr. Doulaye Sacko

Dr. Mamadou Kane

Mr. Brad Barker (Carter Center)

Niger

Dr. Abdou Amza (Ophtalmologue PNLCC)

Dr. Danny Haddad (Helen Keller
Worldwide)

Mr. Salissou Kane (Carter Center)

Sudan

Prof. Mamoun Homeida

Mr. Bruce Ross (Carter Center)

Mr. Elvin Hilyer (Carter Center)

Ms. Irene Goepp (HealthNet International)

The Carter Center

Dr. Donald Hopkins

Mr. Teshome Gebre (Ethiopia)

Mrs. Marisa Jensen

Ms. Dana Latimer

Mrs. Dana Lee

Ms. Misrak Makonnen

Ms. Wanjira, Mathai

Dr. Emmanuel Miri (Nigeria)

Mrs. Megan Reif

Dr. Frank Richards

Mr. Rick Robinson

Dr. Ernesto Ruiz

Ms. Cynthia Stover

Ms. Shandal Sullivan

Mr. Craig Withers

Dr. James Zingeser

Conrad N. Hilton Foundation

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Mr. Peter Lynch

Mrs. Rebecca Teel - Daou

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Dr. Rachel S. Barwick

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Dr. Pik Pin Goh

Dr. Deborah McFarland

Mr. James C. Setzer

Helen Keller Worldwide

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International Trachoma Initiative

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Ms. Shandal Sullivan
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