



WORLD HEALTH ORGANIZATION

Prevention of Blindness & Deafness

WHO/PBD/GET/04.1

Report of the Seventh Meeting

of the WHO Alliance for the

Global Elimination of

Blinding Trachoma

Geneva, 6-8 January 2003



GET 2020

GLOBAL ELIMINATION OF BLINDING TRACHOMA BY THE YEAR 2020

© World Health Organization. 2004

All rights reserved. Publications of the World Health Organization can be obtained from Marketing and Dissemination, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 2476; fax: +41 22 791 4857).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Dotted lines on maps represent approximate borderlines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned.

Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The World Health Organization does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use.

CONTENTS

Page

| | | |
|-----------|--|-----------|
| 1. | INTRODUCTION | 1 |
| 2. | REPORTS OF ACTIVITIES UNDERTAKEN SINCE THE LAST MEETING | 1 |
| | Endemic countries – members of the Alliance | 1 |
| | Afghanistan | 1 |
| | Brazil | 2 |
| | Burkina Faso..... | 2 |
| | Cambodia..... | 3 |
| | Chad..... | 3 |
| | People's Republic of China..... | 4 |
| | Egypt | 5 |
| | The Gambia | 6 |
| | Ghana..... | 7 |
| | Guinea | 8 |
| | Kenya..... | 9 |
| | Lao People's Democratic Republic..... | 9 |
| | Mali | 10 |
| | Mauritania | 11 |
| | Mexico..... | 11 |
| | Morocco..... | 12 |
| | Mozambique..... | 13 |
| | Myanmar | 13 |
| | Nepal | 14 |
| | Niger..... | 14 |
| | Nigeria..... | 15 |
| | Oman | 15 |
| | Pakistan | 15 |
| | Senegal | 16 |
| | Sudan | 17 |
| | Republic of Tanzania..... | 19 |
| | Uganda..... | 20 |
| | Viet Nam | 20 |
| 3. | NEW ORGANIZATIONS | 21 |
| | ACASAC | 21 |
| | Kilimanjaro Centre for Community Ophthalmology | 22 |
| 4. | WHO GLOBAL OVERVIEW | 23 |

| | | |
|------------|--|-----------|
| 5. | IMPLEMENTATION OF THE SAFE STRATEGY AT THE COUNTRY LEVEL: SWOT ANALYSIS BY COMPONENT (working groups) | 25 |
| 5.1 | Working Group 1 (Burkina Faso, Guinea, Mali, Mauritania, Morocco, Niger, Senegal)..... | 25 |
| 5.2 | Working Group 2 (Afghanistan, Egypt, Oman, Pakistan, Sudan)..... | 26 |
| 5.3 | Working Group 3 (The Gambia, Ghana, Kenya, Malawi, Nigeria, United Republic of Tanzania, Uganda) | 28 |
| 5.4 | Working Group 4 (Brazil, People's Republic of China, Mexico, Lao People's Democratic Republic, Nepal, Viet Nam) | 31 |
| 6. | UPDATE ON TCDC PROGRESS AND SYNERGY WITH VISION 2020 | 33 |
| 7. | ANY OTHER MATTERS | 33 |
| | Report of the Scientific Workshop..... | 33 |
| | CONCLUSIONS AND RECOMMENDATIONS | 35 |
| | ANNEX 1. Agenda..... | 37 |
| | ANNEX 2. List of participants | 38 |

1. INTRODUCTION

The Seventh Meeting of the WHO Alliance for the Global Elimination of Blinding Trachoma was held at the headquarters of the World Health Organization, from 6 to 8 January 2003.

The meeting was opened by Dr Serge Resnikoff, Coordinator of the WHO programme for the Prevention of Blindness and Deafness, who expressed recognition of the efforts already carried out by participants. Trachoma, he indicated, was a disease that affected the least favoured sectors of society – the problem was immense, and limits could not yet be defined. Resources were scarce and needed to be used effectively. Dr Resnikoff welcomed Afghanistan, the People's Republic of China, Mexico and Uganda for the first time. The Alliance would define the current situation, try to measure progress and consider possible synergies.

There were ongoing activities in almost all countries, and the Alliance was beginning to have a very positive effect on the attempt to eliminate blinding trachoma. There was collective action between nongovernmental organizations (NGOs) and governments, which was what had been sought. Most attending countries, apart from Nepal and Afghanistan, reported programmes in action, although not covering the entire country in all cases. There was some difficulty reported in obtaining finalized figures for 2002, due to the early meeting date. Dr Resnikoff explained that the meeting had been moved up because of the election of the new Director-General of the World Health Organization and that next year's meeting would be from 22 to 24 March 2003.

Dr Youssef Chami Khazraji was elected Chairperson of the meeting and Dr Peter Kilima Vice-Chairperson. Ms Hannah Kuper and Dr Amza Abdou were elected Rapporteurs.

The provisional agenda was adopted with no modification (Annex 1). The list of participants is contained in Annex 2.

2. REPORTS OF ACTIVITIES UNDERTAKEN SINCE THE LAST MEETING

Endemic countries – members of the Alliance

Afghanistan

Afghanistan was, at present, better than during the war, but illiteracy and a bad economy and health education system were problems currently facing the country, even during peacetime. There was a high incidence of blinding trachoma, seen by Afghan ophthalmologists and known to be there, but war and the displacement of the population precluded good population statistics. Some doctors and NGOs, however, had local statistics. There was more trachoma in northern, central and western Afghanistan, and in some provinces in the east. Since completely preventable, the disease could be controlled with a good plan. Technical support was needed from WHO, and more assistance in medications, surgical instruments and financing. Trachoma was not a disease of the rich, and treatment should be free. Negotiations were being attempted with NGOs with a view to providing water to help with clean faces. There was a need for sulfonamides and tetracycline. Trachoma was currently being treated privately in Afghanistan, and help was requested in addressing the country's problem, since the disease was a disease of the poor.

Discussion

WHO had held a workshop in Afghanistan, making recommendations to the Ministry of Health on the establishment of a comprehensive national eye care programme. The draft document was ready and included all diseases. It was true that the country needed assistance, or would be left behind, and it was already a victim of terrible neglect. The value of partnership was underscored, and there was an opportunity to work together and bring in the resources that partners were keen to provide. The VISION 2020 Task Force was aware of the needs in Afghanistan, and there was a definite recommendation that the regional coordination groups be very active. The WHO Regional Office for the Eastern Mediterranean was keen and ready to support Afghanistan through human resources, development of capacity-building, materials and the seeking of NGO support. World Vision noted the need for water, and their water specialist would be sent to Afghanistan to survey and to report.

The Kingdom of Morocco offered a donation of tetracycline within the framework of cooperation of members of the Alliance and members of the Eastern Mediterranean Region. The needs should be outlined, particularly for children who might be affected by active trachoma. It was believed that free distribution to ophthalmologists in the provinces and in rural areas would be most effective in getting rid of some percentage of trachoma.

Brazil

The results of the trial of azithromycin done in Sao Paulo showed that in Brazil, at the year interval, a single 20 mg/kg dose of azithromycin was giving equivalent results to tetracycline twice a day for six weeks. However, at earlier stages (three, six and nine months), tetracycline performed better. This was perhaps due to the fact that the study was being conducted in the city of São Paulo, where the prevalence of trachoma is low (2.2%). Sao Paulo did not report any trachoma until the 1990s. Diverse reactions were reported in 39% of the tetracycline patients and in 24% of the azithromycin patients.

In 2002, a national epidemiological survey was conducted in four States.

Brazil had restructured its plan in the last five years, from a centralized vertical programme to Federal and State levels, concentrating only on the endemic areas. In the Indian Tocantin area of the Amazon in 2000, over 50 000 cases of trachoma were diagnosed, along with TT and CO. In 2000, the Government allowed any city where trachoma had been diagnosed to request funds for environmental sanitation, and 500 people were trained to work with the problem.

At one point, trachoma appeared to be below the level of concern, but later reappeared, making the implementation of the SAFE strategy important for prevention. In the 1970s, a survey of schoolchildren identified a prevalence of trachoma of more than 20%. While 20 States had been working with this problem, by 1997 only six were working. It was also reported that, while certain areas had been considered endemic-free, pockets had now been discovered.

Burkina Faso

In a country of 10 300 000 inhabitants, where 45% of the people were below the poverty line and the economy largely agricultural, trachoma was estimated in 1997 (by a top ophthalmological institute) at 26.8% trachoma and 5.1% trichiasis. It was still considered a public health problem in Burkina Faso and was the second largest cause of blindness.

In December 2001, there was a "trachoma day", with 1000 cases, 300 operated, 48 agents trained in screening and 18 trained for surgery. During the first quarter of 2002, 1600 cases were detected and 400 cases had surgery.

The lack of a high level of activity was due to several factors: lack of funding by partners, no separate trachoma control programme, difficulty in detecting cases, insufficiently trained health personnel, and the delay until October 2002 in appointing a national coordinator following the departure of the previous coordinator in December 2001.

The objective was to reduce trachoma by 50% by 2005. The priority was prevention, and intrasectoral as well as intersectoral collaboration was being sought. Activities had been identified in which participation (technical equipment, etc.) would be appreciated from each partner.

The depletion of stocks of tetracycline was a concern, as well as the cost. Tetracycline currently cost US\$ 0.30 per tube, and two tubes were needed. The compliance rate was unknown, since prescriptions were distributed in mass campaigns; there was a problem in follow-up. Most family members had the disease. Community health centres distributed tetracycline.

The political commitment existed, but more financial resources needed to be committed to the problem. That had prevented the programme of activities from being carried out fully since 1997, taking place only in certain villages and including school education in ocular hygiene, etc., for both teachers and children.

Cambodia

In April-May 2000, a Trachoma Rapid Assessment (TRA) was conducted in three provinces of Cambodia – Takeo, Prey Veng and Svay Rieng.

The 2002 activities through October were: 28 days of eye camps; 553 adults screened; 44 surgeries performed; and 2031 schoolchildren screened. In addition, educational materials for trachoma were developed and printed, 60 village health workers (VHWs) received trachoma training, seven children with active trachoma were treated with antibiotic eye ointment and 167 schoolchildren were screened.

Chad

Chad was a very large country of 1 200 000 km², with a population of 7 500 000 and three climatic zones. It was an extremely poor country, of mainly agricultural and pastoral activities. There had been no national coordinator for the last year.

There were 14 health areas, 22 health districts and a three-tier health system. There was the general national referral, the intermediate level that provided a complementary package and the peripheral level represented by health zones providing a minimum package. In 1995, the prevalence of blindness was estimated at 2.21%; this was still so, and the causes of the more than 150 000 cases of blindness were cataract, trachoma, glaucoma, corneal opacity and onchocerciasis.

Two pilot surveys were carried out in five health areas in the year under report. The results were that the rate of prevalence for TI and TF was 43% in the first survey (113 000 people) and 53.1% in the second survey, with 239 000 people requiring treatment. The prevalence of tissue and scarring blindness was 1.7% in the first survey (3493 people) and 1.1% in the second survey (3889 people). The totals in the five health areas were more than 352 000 people who should be treated and 7400 people who should be operated.

In 2001, only 368 operations took place. In the second survey area, there were no operators for trichiasis, so training was provided for trachoma surgery and equipment for 10 health regions where the first survey was carried out. Twenty thousand tubes of tetracycline were purchased and had been distributed through WHO, OPC and the Swiss Red Cross.

In 2002, there had been few activities, due to the lack of a coordinator for more than a year.

The problems were (1) the lack of qualified personnel, (2) the lack of transport for mobile teams, and (3) the lack of supplies, drugs and consumables.

The solutions would be (1) a training programme, (2) support from WHO and OPC for camps, (3) the acquisition of mobile facilities, (4) the organization of a further survey, (5) an intersectoral committee – Ministry of Public Health, Ministry of Water and Environment, and (6) Ministry of Agriculture, Ministry of Education and Communication, and partner NGOs (OPC and the Swiss Red Cross).

The Swiss Red Cross was instrumental in allowing a workshop for a three-year action programme for 2003-2005, principally for trachoma control, emphasizing the SAFE strategy, and for cataract.

People's Republic of China

China had reduced its trachoma problem from 50% of the total population in the 1960s to 3% in 2001, but it was still approximately 10% in trachoma-prevalent areas. The great improvement had been credited to the fighting action of ophthalmologists and the Government. Four booklets released by WHO had been translated into Chinese and provided to the relative hospitals and institutions.

Trachoma therapy training courses had been undertaken by the WHO Collaborating Centre for the Prevention of Blindness in China and the national and local prevention of blindness directory offices. Public education was carried out via community public posters, broadcasting, television, etc.

In the 1960s, trachoma was the first cause of blindness; now it was the third. Trachoma was disproportionately found in rural areas, with very little in the urban areas. Approximately six million persons needed trichiasis surgery. Topical antibiotics currently used were rifampin, erythromycin, tetracycline and sulfadiazine, the latter being less used and only in city hospitals. Azithromycin was less used because of price and patent. Two thousand county hospitals performed trichiasis surgery, all works being supported by the Ministry of Health, WHO and the China Ophthalmological Association. In 1999, the first National Workshop on Assessment and Management of Trachoma was held.

The future strategy for China included four levels of network of importance, monitored by all government levels:

- (1) Incorporating the SAFE strategy, trachoma control was included in primary health care at the village and community levels by WHO and the local prevention of blindness directory office.
- (2) Education would be provided to the primary health care doctors and ophthalmologists for surgery and rational medications and in improvements in the environment and lifestyle to reduce the repeated infections and complications.
- (3) With support from the Ministry of Health and WHO, there would be a survey set up in western and north-western China to obtain more accurate data.

- (4) Research and development were being carried out at Beijing Tong Ren Hospital, which first isolated the strain in 1955 through Drs Zhang and Tang, and new medication approaches were being considered. Consideration would be given to importing azithromycin for distribution in China.

China believed that the county doctors should be trained to handle the six million trichiasis cases. The programme cost was covered mainly by the Government, with simple things such as: each person should use his/her own towel and use soap, plus the use of antibiotics. The Government had focused more on the ageing. The areas of north and north-western China that would be most indicated for a survey would be Shang tin, Ching hai and Ningxia. Uganda had stated that tetracycline was used in that country for this condition because of concern about drug resistance and expense. China did not have that research and might need to do it in those areas.

Discussion

A 1989 survey indicated that trachoma and its complications existed only in people 40 years of age and over, due in large part to the implementation of primary health care in China. That was not a specific trachoma control programme. Another survey revealed that there were parts of China that had much trachoma which, after the following of given recommendations, disappeared. The integration of trachoma control into every county's main health care programme was recommended.

Egypt

In 1960, trachoma was declared a public health problem in that country of 67 million inhabitants, and treatment was started. In 2000 – following a Rapid Assessment and a survey which indicated that the prevalence of trachoma had again risen and the feeling that trachoma was not well estimated over the country – the Ministry of Health and Population started applying successive five-year plans towards the control of blinding trachoma.

In 2002, training programmes were conducted in three governorates in Nile Delta and Upper Egypt. According to the Ministry of Health and Population, 400 health care physicians, 550 nurses and 50 school health doctors had now been trained in trachoma and refractive errors. In July 2002, a workshop was held to prepare the Egyptian programme for control of trachoma, in collaboration with ITI. The Al Noor Foundation held another workshop in October 2002, on the occasion of World Sight Day, and several outreach campaigns were carried out.

In 2002, the Ministry of Health and Population and ITI established a trachoma control programme through a Memorandum of Understanding, beginning with two governorates – Menofiya (Lower Egypt) and Menia (Upper Egypt) – and expanding afterwards to other areas. The agenda of priorities was (1) political commitment to eliminate trachoma, (2) good efforts and various activities, (3) Ministry of Health and Population/Al Noor Foundation new control act, and (4) Ministry of Health and Population and ITI – two governorates this year, expanding to others.

As to the question of whether in Egypt there had been misassessment or deterioration, it was not misassessment but deterioration, rising from bad habits in villages and lack of education in washing. There was not active involvement in every rural area.

It was expected that, with the current activities planned, by the end of 2003 there would be the possibility of providing national figures for Egypt relating to trachoma.

The Gambia

In The Gambia, trachoma remained the leading cause of preventable blindness. In 1996, TF/TI was reported to be 5.9% in the age-group of 1-9 years. The highest levels were the Lower River (11.5%), Western (9.5%) and North Bank (7.7%) Divisions. TS increased with age to a maximum of 19.4% among those aged 45 years or older. TT ranged from 1.3% in the Upper River Division, 2.4% in the capital city (Banjul), to a high of 4.6% and 5.4% in the Lower River and North Bank Divisions respectively.

The Gambia was committed to implementing the SAFE strategy with its partners, which included Sight Savers International, The Edna McConnell Clark Foundation, WHO and other agencies, including the Medical Research Council (MRC).

The following activities had been carried out:

- (1) In January-March 2002, a nationwide screening for active trachoma and entropion trichiasis was conducted. Of 193 360 persons screened, 111 473 were children (3833 of whom had active trachoma) and 362 adults had entropion trichiasis. Those with the active disease were given azithromycin or tetracycline. Azithromycin was not used for all, due to a shortage of the drug in The Gambia.
- (2) Trichiasis surgery camps were conducted in each health division, in addition to routine community lid surgery free of charge by community ophthalmic nurses.
- (3) Facial cleanliness and environmental sanitation: Sanitary kits were given to some at-risk villages, to encourage them to reduce fly breeding sites. More vibrant SAFE posters were distributed, and television trachoma eye health messages were shown in English and two local languages over a three-month period. There was sensitization of 29 youth and 33 women's groups in the urban area, with special emphasis on regular face-washing.

The Gambia and Senegal conducted a community screening for trichiasis in Nyoro (Senegal) from 26 March to 3 April 2002, as part of the Health for Peace Initiative PBL component. One hundred and sixty-eight trichiasis cases were operated free of charge at a lid surgery camp sponsored by MRC. The joint proposal to ITI from The Gambia and Senegal included the proposed areas of the North Bank Division (The Gambia) and Kaolack Region (Senegal). The Gambia National Eye Care Programme, MRC and the London School of Hygiene and Tropical Medicine were working together on a number of research projects in trachoma. The feeling was that joint programmes were critical to the control of trachoma in that area. Senegal conducted a national trachoma assessment in March 2002.

A flies-and-eyes project was carried out for trachoma between 1999 and 2001 and was a large-scale, community-based, cluster-randomized, controlled trial. As to whether eye-seeking flies were active vectors for trachoma, the answer in that project was affirmative. Fly control happened through the use of pesticide spray and the construction of pit latrines. Spraying was associated with a reduction in trachoma prevalence of 56%, and with 30% of latrines. Insecticide spraying was expensive and, to be possible, needed donor support. The programme was focused on latrine improvement, which was accepted by the community and was relatively cheap.

A study of the effects of azithromycin showed it to appear less effective, due to possible reinfection after subsequent travel to a large annual public event attended by one million people.

Another study focused on the use of azithromycin and an additional study on trichiasis surgery. Trichiasis recurred in about 20% of patients one year after surgery. That study focused on

the possible recurrence of infection with trachoma and other bacteria by using azithromycin immediately following surgery and another single dose six months after surgery. All 452 patients, including the control group, were given 1% tetracycline eye ointment. The results were expected in 2003.

Since the majority of patients were women and children who were in the home, and the man made the financial decisions, women were sometimes denied surgery. In The Gambia, cataract surgeons trained the community ophthalmic nurses in eye care, and lid surgery could be carried out in the patient's house at no cost. Because of this approach, The Gambia had greatly reduced the problem. Each trained community surgeon was estimated to be able to deal with 100 cases per year.

The Ministry of Health had said that the unrest upset the work.

Discussion

The Health for Peace Initiative in four countries, originated by politicians, had had a very successful approach and worked on cataract, AIDS, malaria and surveillance, adding prevention of blindness in 2001. It included a major training component, and a team from The Gambia had travelled to Senegal to help conduct surgeries. The four countries – The Gambia, Guinea-Bissau, Guinea Conakry and Senegal – had been so happy with it that two other countries were applying to join.

Ghana

In that country of 18.8 million population, the programme objectives were to reduce TF/TI by 50% and to operate on all TT cases registered within the year (an estimated 500 patients). It was also wished to provide advocacy for the provision of water and sanitary facilities.

In 2001, 336 of 373 cases were operated and, in 2002, operations were carried out on 421 cases of TT. The objective was to treat 117 000 patients. In 2002, 101 000 patients were treated. Azithromycin was used for everyone except pregnant women and children, who received tetracycline.

The two regions of Ghana which had a high prevalence of trachoma were in the Northern Region (NR) and the Upper West Region (UWR), and five districts within those regions had trachoma control activities.

In 2002, 1741 small group sessions were conducted, 234 communities received education on personal and environmental hygiene, 2507 were addressed by a mass media campaign, 36 water points were established, and 29 latrines were constructed.

In 2002, the first "trachoma week" was celebrated in the two regions, with jingles featuring on the mass media in several languages in different areas. A survey in 175 additional communities in five programme districts was carried out and a prevalence survey in 41 communities in one additional district. Of 216 communities, only nine were trachoma-free. In seven districts, TF in the 1-9 years range was from 0% to 40%, TS from 1% to 39%, TT from 1% to 30% and CO from 0% to 19.8%.

There were improvements in latrine coverage. The Carter Center started 20 latrines. ITI and World Vision also contributed with the ITI Phase II application approved, and the trachoma ethnographic study continued. A comprehensive inventory of water and latrine facilities (line listing) would be undertaken, and an objective of 200-400 latrines was being considered.

In 2003, it was wished to perform 1100 TT operations per year, retrain 12 TT surgeons, train 60 general nurses in PEC and treat 140 000 persons with antibiotics. The plan was to survey for TT surgery outcomes (visual outcome/recurrence/complications) and to carry out prevalence surveys in all communities in NR and UWR. The house-to-house strategy was and would be employed.

Discussion

The use of events ("the camp") greatly increased the output indicators as compared to the original facility-based, or community-based, surgery, because the fear of being operated on might be overcome when women saw other people agreeing to operations during market days, festivals, etc. It was important, when doing outcome surveys, to mention which variable had been used so that the most effective method would be known.

Guinea

That West African country, with an estimated population in 2001 of 7 814 079, had two regions with high trachoma prevalence (High and Middle Guinea).

In High Guinea in April 2001, a survey indicated 33% TI, 2.7% TT and 0.8% CO. The estimate was that 204 053 children aged less than 10 years should be treated for active trachoma and that 20 286 adults should have surgery for TT.

In May 2002 in Middle Guinea, the Ophthalmic Centre of Labé and SSI partnered for a survey, and 20 villages were selected. In a population of 6400, 1200 children aged less than 10 years were examined. The survey showed that the prevalence rate for TT was 1.09% and for CO 0.40%. The prevalence of TF was 21.24%, and of TI 2.85%.

The major risk factor in Guinea was personal hygiene: 43.98% of the population had dirty faces. Guinea had a large water supply, but 4.9% of the population lived more than half-an-hour from a water source.

Other problems were human waste, 96.4% of concessions being at risk, and the absence of latrines: 70.79% of households were without latrines; 25.08% of active trachoma occurred in children who did not have latrines, against 19.53% in those with latrines.

In June 2001, a workshop took place to develop a plan of action for the High Guinea region to implement the SAFE strategy, with the partnerships of the French Ministry of Foreign Affairs, OPC, WHO and IOTA. Thirty operators were trained in TT, 1120 community agents were trained, and donations were received of equipment, medications and consumables for 100 cases to be operated per year per operator.

There was a need for improvement in domestic hygiene and for the establishment of a system for drug provision. An activity programme for five years was established at the workshop.

Three NGOs were very important: SSI in Middle Guinea, OPC in High Guinea (which was the largest trachoma region), with CBM covering the forested region. Other NGOs involved were Orbis and HKI. A subregional school for ophthalmology was being established by the West African Health Organization, with support from CBM and SSI.

Discussion

It was agreed that, with the Pfizer grant, more in-depth work would be possible with Guinea in the implementation of the national action plan. Regarding the backlog of trichiasis surgery, the

training in TT surgery was applauded, but the cost of US\$ 10 was questioned, as being beyond the financial scope of some people. Surgery was being conducted currently in the hospitals. Once the action plan was implemented, this could be done in the field and, with NGO support, there would be better coverage and lower cost.

There was a possibility to learn from the Health for Peace Initiative, already implemented in Guinea Conakry, while taking into account the more complex issues to be dealt with in a larger country. It was relevant to train ophthalmologists and, while that might be beyond the scope of the Alliance, the question was being looked into in WHO/PBD and a meeting would be held in the near future.

Kenya

Kenya was a country with 30 million inhabitants, 60% of whom were rural, and with a GDP of US\$ 345. In 2001, there were 67 static and mobile clinics, in 54 of which there were reported 21 941 trachoma cases.

In December 2001, a Rapid Assessment was done with WHO, the Ministry of Health and the Division of Communicable Diseases. That was in response to a request from the team already in place, which suspected eye disease problems.

In 2002, a Rapid Assessment was carried out in four districts, 65 members of which were trained, as were 128 PEC workers. As a follow-up to West Pokot during the second week of December, 10 ophthalmological clinical officers, one general clinical officer and one ophthalmic nurse were trained, as were 396 volunteer community health nurses. Twelve water tanks were installed through Pfizer support.

There was a Community Trachoma Control Programme run by local people in 2002, sponsored by AMREF, SSI, Pfizer and the Ministry of Health; 9707 persons were screened. Active trachoma was found in 967 cases, TS in 219. Forty trichiasis surgeries were conducted.

There were plans to conduct more Rapid Assessments, since looking at 16 districts showed that a problem existed.

Lao People's Democratic Republic

In 1999, Laos, with a population of five million, conducted a Rapid Assessment and decided to bolster trachoma control through the addition of prevention of blindness to primary health care and the integration of both.

Laos had a collaborative pilot project in five districts between the Ministry of Health, the Ministry of Education and WHO, with training in school districts for teachers and children featuring an STH prevention video and a game board with cards, developing IEC materials, and increasing teachers' teaching capacity with teachers' booklets and children's comic books.

Discussion

It was indicated that the game board came with sets for all diseases (schistosomiasis, guinea-worm, trachoma, etc.), which was an easy way to introduce trachoma since the children were already familiar with the dynamics of the game. That provided the mechanism to introduce trachoma control into areas not otherwise covered.

The recommendations included collaboration with other agencies, in order to expand trachoma control activities to improving the health of children and involving village administration and parents in the trachoma control programme.

Mali

Many activities had taken place since the November 2001 meeting of the Alliance. Through the efforts of mobile surgical teams and camps, 2500 trichiasis surgeries were conducted, that figure being perhaps underestimated because of the problems of notification of cases. There were 15 campaigns moving towards the peripheral area, as compared with 10 in 2001. However, 20%-30% of people still refused to be operated. A study had been carried out on low acceptability. Problems included a low level of information on TT surgery, certain beliefs in traditional forms of treatment that existed, and decision-making – the person was not present when the decision on the operation had to be made (the woman often did not take the decision; sometimes the male was not involved; and it had to be a collective decision in the community, which was difficult to obtain).

Mali had benefited from azithromycin donations (for women who were not pregnant and given in mass campaigns to females under 15 years of age). For pregnant women and for children of less than one year of age, tetracycline was still used. Those treatments were carried out by the villages themselves, based on the onchocerciasis ivermectin distribution method. Following good results, new villages with no onchocerciasis control were now going to have trachoma control through regular, locally accepted community channels of contraception distribution, etc. In four health districts, 3200 community agents had been trained in drug distribution. Seven hundred and fifty thousand people were treated in 2002, and 250 000 had already been treated in 2003. Tetracycline was widely used for conjunctivitis and other eye problems.

The message of the SAFE strategy was being conveyed through mass educational materials and audio/video, and also in schools. Mali's population was largely illiterate, so that theatre and sketches were effective for stressing facial cleanliness.

Collaboration would continue between ITI and Johns Hopkins University, involving the clean face programme and the trachoma control programme. There would be a water supply programme with the West African Water Initiative with World Vision, to improve water supplies. Azithromycin distribution in 2003 would expand from four districts to 14 as the second phase, covering 3.5 million inhabitants.

Discussion

It was noted that UNICEF, Lions Clubs and Water Aid had been asked to target the "F" and "E" components of the SAFE strategy.

There had been intensive surgical activity, and ITI had been involved with the distribution of antibiotics in a first phase. There had been a water supply programme developed by the West African Water Initiative. Acknowledgement was made to World Vision, UNICEF, Lions Clubs and Water Aid.

It was pointed out that a link with the ivermectin districts was very important in countries where there was both high onchocerciasis and high trachoma. The question was discussed as to whether there should be a single network delivering PEC as well as treatment for trachoma and onchocerciasis. Several comments reflected the belief that current and existing frameworks should be used, such as combining with the distribution of vitamin A, etc.

Mauritania

The overall TI rate in 2002 was 4.2%. TF ranged from 7% to 25%. In 2002, eight trichiasis operators and 120 nurses were trained, a public awareness camp was developed, and 11 000 tubes of tetracycline were provided through OPC.

The goal was to operate on 50% of the trichiasis cases, to treat 80% of the children under 10 years and women over 15 years of age in the endemic zone, and to eliminate blindness from trachoma in five years. Problems with past campaigns were due to a lack of financing.

Strategies included an action plan, with help from Mali. In Area One there was now a low rate of trichiasis, but hyperendemic pockets of active trachoma. There was an oasis with a high fly population, and there were also shanty-towns. The Area One strategy was training, surgical camps and provision of mobile surgery. Azithromycin would be given in the trachoma pockets in campaigns, and tetracycline given where indicated. The strategy in Zone I stressed facial cleanliness in health education in schools, and environmental change with the Ministry of Water and national "trachoma days".

The strategy in Area 2 was to retrain technicians in surgery, the distribution of ointment in schools at Mahhadrass and an information campaign through teachers. The strategy aimed at dealing with the highest prevalence – surgery on all trichiasis cases (1800 to 2500) and 18 operators to be trained (currently six operators would handle 100 patients). Additional strategies were to supervise the quality of surgery and, in the case of azithromycin for children under 10 years and women over 14 years of age, the supply of 140 000 doses – the funding probably to be resolved with State monies or local NGOs.

Facial cleanliness would involve the training of personnel; environmental change would be implemented with an information campaign. Through OPC and WHO, 60 000 tubes of tetracycline had been purchased, and the Government was also making some available (US\$ 0.10).

Discussion

The Area One strategy would be based on door-to-door active case-finding, while Area Two would be based on the provision of care in a fixed location.

Mexico

In Oxchuc, Chiapas, in 1962 trachoma was diagnosed and, in 1965, *Chlamydia trachomatis*. A study was conducted in the Oxchuc area. In 1985, 25% active trachoma in children of 0-15 years of age was found, and 100% of patients older than 40 years had some evidence of trachoma infection in the past. WHO declared an endemic zone of five regions in Chiapas in 1985.

In 2000, a study in 18 villages indicated that 1.6% of the population had active trachoma and 11% had some grade of trachoma. For that reason, the programme of prevention and control was restarted for the Government of Chiapas in the Mexican South-East, in the mountainous region where water was a problem since people lived in rural and arid areas.

In 2001, Mexico started a trachoma programme again in Chiapas. The population, of more than 133 000, spoke Spanish and called trachoma "double hair in the eye". The programme structure was the following:

- (1) Basic establishment of a system of epidemic surveillance for the areas of risk.
- (2) Prevention: To integrate promotional and educational activities for health. To negotiate the provision of water of quality for human consumption.
- (3) Control: Opportune diagnosis and treatment of cases. Treatment to the population at risk.

The aims were: to reduce in 95% of cases the presence of *C. trachomatis* with azithromycin; to achieve the cure of at least 95% of patients with active trachoma; to plan surgical care for at least 80% of the active trichiasis patients; and to prevent trichiasis progression to CO in 90% of cases.

In different communities of the endemic area, 26 866 people were examined. Four hundred and forty-seven cases were detected – 169 patients were diagnosed with active trachoma, while 278 had inactive trachoma. Of the examined patients, 1.66% had some form of trachoma. TF was treated with antibiotics, while 178 TT surgeries were done.

There was an opportunity for the local as well as the Federal Government to participate in creating an administrative directive committee that would help, and a subcommittee for ensuring that water of quality was distributed in the indigenous communities at risk. Representative epidemiological surveys were needed that characterized the magnitude and transcendence of the disease. More resources (inputs or money) needed to be negotiated from the Government as well as from the private sector.

Discussion

The restarting of the programme was noted with appreciation. The cases found were scattered, not in clusters. The examinations were in larger towns. There were other regions in Mexico with similar conditions, and the trachoma studies would be expanded. Ocular examinations were used rather than laboratory tests, because of cost and technical support. The primary health workers went to local governments.

Since the problem was less than 2.5%, it was not considered a global threat, but pockets of trachoma existed which could show an active trachoma prevalence of 70% or more.

Regarding the venue of the 2004 meeting, Kabul was suggested. However, previously considered motions to hold meetings in endemic countries had revealed that, even if the representative were willing, the country's authorization would be needed. There were also matters of logistics to be considered, as well as the facilities available at WHO (interpreters, meeting rooms, administrative staff).

Morocco

The Alliance was brought up to date especially on activities during the last two years, since Morocco was participating for the first time in three years. Morocco had identified trachoma as a public health problem in the five provinces of the South-East. The goal was to eliminate trachomatous blindness by 2005.

Intervention was being attempted at all levels. In 1999, azithromycin was used – Morocco being the first country in the world to do so – and facial cleanliness was stressed. About 650 000 doses had been distributed annually since 1999. Azithromycin was well accepted, with a refusal rate of less than 0.04%.

All activities were decided at the local level with the village associations. With help from ITI, 32 health care professionals and 232 trichiasis operators were trained. They carried out 2553

operations in 2001 and 2633 in 2002. Between 1992 and 2002, 30 441 people had been diagnosed with trichiasis. In 2001, 723 839 persons were treated with antibiotics – 229 297 <10 and 494 542 >10 years of age; 94% were treated with azithromycin 1200 mg.

In 2002, 574 315 persons were treated – 180 907 <10 and 393 408 >10 years of age.

There were 280 local associations which had drilled 123 wells (water tanks), constructed 1116 latrines in the schools and mosques and conducted 1290 demonstrations on hygiene. Nine out of 10 people accepted surgery.

It was felt that community-based distribution was the most cost-effective for onchocerciasis, with nurses delivering primary health care. That method was accepted by the population, and would thus go unchanged for trichiasis.

In 2003, the London School of Hygiene and Tropical Medicine would be conducting an evaluation of trachomatous blindness in collaboration with ITI. The Minister of Health of Morocco would be visiting local authorities in January, in the five endemic provinces, to announce new trachoma projects and companies which would be charged with covering those five provinces.

The new Minister wished to develop campaigns against other causes of blindness. There was a cataract backlog of 200 000 cases, despite 25 000 operations currently carried out in the public sector and 25 000 in the private sector. It was felt that trachoma and cataract needed to be combined, including also glaucoma.

Mozambique

Mozambique had shown progress. In 2002, a first-ever population-based survey was undertaken in the Northern Manica province, in the central part of the country, with 8893 subjects. In children, TF/TI was measured at 39%. In persons over 40 years of age, there was more than 4% trichiasis, found largely in women. In March, a stakeholder seminar was held and, in June, a seminar on a national level in Maputo. From 29 July to 2 August there was a five-day training in primary eye care and trachoma, for 21 workers. A primary eye care manual was translated into Portuguese, and many copies were available.

"Trachoma and eye care days" were held on 10-11 December 2002. One objective was a test approach to create community interest and to evaluate knowledge and skills. Donor support in 2001-2002 was acknowledged from the Conrad N. Hilton Foundation, the Bill and Melinda Gates Foundation and Pfizer, Inc.

Myanmar

The goal was to eliminate trachoma by 2005 and reduce blindness to <0.5% by 2020. The Myanmar trachoma control programme was started in 1965, following the statistics in 1964 of 43% in the Central Dry Zone (Mandalay, Magway and Sagaing) Division.

The public health sector now had 16 centres, with 650 schools examined yearly. About 1050 villages had monthly village eye health programmes, with trichiasis surgery and trachoma treatment conducted at the village level. There were 2027 surgeries in 2001, and trachoma prevalence was measured at 0.94% in 2000-2001.

Rapid Assessments had been conducted in three districts and seven villages in the Mongawa district. Of 2036 persons screened, 1.43% had trachoma (3.73% of children had active trachoma), and 4.83% had households with more than a half-hour's walk from the water source.

In the Sagaing province of the Monywa district, of 7276 people: 0.32% had trichiasis, with children at 4.81% active trachoma; 4.40% had dirty faces; 46.91% of households were at risk from the proximity to garbage, human waste or animal pens; and 2.49% of households were without latrines.

Tetracycline had been used since 1964, and to consider other antibiotics would require gaining community acceptance. Trachoma prevalence was very low, and other factors receiving attention included better water and sanitation, environmental greening, irrigation, and transportation in the villages.

Nepal

Western Nepal was the endemic area, with 90% of trachomatous blindness occurring in that area. There were pockets of high trachoma percentages in other areas. Trachoma had been diagnosed in Nepal since 1981. Tetracycline had been used.

Work had been done with ITI and the Nepal Prevention of Blindness Programme. Fifty thousand children were given azithromycin, 1096 TT surgeries were carried out, and health education was provided to 785 villages. A house-to-house survey was carried out in the districts for all children <10 years of age; TT surgery was done at the same time, with one day provided for follow-up. During the first year it had been going very well, one village being handled at a time.

Discussion

The backlog of trichiasis cases was noted (20 000 in 1996). The challenge was to increase the number of surgeries to 1000 in the first year. It was also noted that during the first year, the emphasis was on training and on finding the best way to carry out surgery, because in previous reports it was found that 25% of cases were recurrent. Distribution only was being carried out currently, with no screening for ocular chlamydial infections.

Niger

Seventy thousand people had been diagnosed with trachoma in Niger, a country of 12 million population and one of the poorest in the world. Fifty-two percent of the population had access to potable water; blindness from all causes was estimated at 2.2%. There were varying rates of trachoma prevalence: in Zinder province, it was 62.7%, with 4.1% trichiasis in women over 14 years of age; in Diffa, it was 54.8%, with 1% in women over 14 years of age; and in Maraedi, it was 45.7%, with 2.7% in women over 14 years of age.

In 2002-2003, the aim was to concentrate on two districts – Magaria and Matamèye. While incorporating the SAFE strategy, 8136 surgeries (9710 eyes) were completed in 2002. Some districts might not yet have reported at the time of the meeting. The cost of the operation was from US\$ 1.30 to US\$ 3 at health centres; in a camp it was free of charge. There were eight supervisors and 22 technicians, with six motorcycles, who went to villages to promote the SAFE strategy and do some surgeries. There were "national vaccination days" and public holidays. In 2002, 91 723 doses of azithromycin were distributed; 7202 tubes of tetracycline were given. The objective in 2003 was to distribute 676 000 doses of azithromycin and 67 000 tubes of tetracycline (donation from Pfizer/ITI). Sixty bricklayers were to construct latrines, hopefully 40 in 2003. The Carter Center had helped in the construction of 11 050 latrines in Zinder.

The partners were HKI, World Vision (Project 2003-2007), the Carter Center, BBC World Service Trust and UNICEF.

There was a high prevalence of trachoma in Diffa. The area was very clean, and the family honour was a clean courtyard. In Zinder, animals mixed with the people; in Diffa this was taken more seriously. The programme gave the necessary tools in terms of what trachoma entailed and how to fight it.

In Niger and Mali, there was a high prevalence of trachoma in children, due to lack of water. World Vision was working with well-drilling there. The programme was being expanded to Mali, with the help of the Conrad N. Hilton Foundation.

Nigeria

A coalition, which had met four times, had been formed with the Carter Center, HKI, SSI and CBM. The objective was to develop a coordinated work plan for trachoma control and a separate task force. HKI was thanked for its sponsorship in Nigeria's attendance at the meeting.

While no total country assessment had yet been conducted, 200 000 people were blind from trachoma; there was an overall prevalence of blindness of 1.3%. Trachoma seemed to be most prevalent in the north, close to Niger. In Nigeria, a Carter Center survey of 6105 persons showed relatively insignificant TF/TI, but TT at 2%. An HKI survey of 10 610 persons showed 1% active trachoma and 4.4% trichiasis. CBM's survey would be completed by January/February 2003. Only one northern State did not have an NGO working in it. All wished to use azithromycin in their programme. The draft of the VISION 2020 programme would be finished. The Government had passed an initial budget.

One objective was that, by the second quarter of 2003, there would be a community-based assessment of blinding trachoma. It was wished to implement all aspects of the SAFE strategy because of the large population of 120 million (the largest in Africa).

Discussion

It was noted that the 2.5% global prevalence for trachoma was well below the WHO threshold for a global threat, although pockets existed where 75% of children had trachoma. It was pointed out also that 2.5% or 3.5% in a Nigerian State where there was a large population indicated many people with trachoma.

Oman

The same programme was ongoing, as in previous years. There were conflicting numbers of TF/TI in the population under 15 years of age in a better socioeconomic area, which was unusual. It was felt that this might be due to misdiagnosis of other follicular types of infection, and a test would be welcomed to verify whether or not the findings were trachoma.

It was noted that Oman had made substantial progress and was currently carrying out studies. Trachoma was not a separate programme, but was still a very fine one.

Pakistan

Pakistan, with 140 million inhabitants (62.5% rural), reported 2.4% TF/TI in children and 1.6% trichiasis in a 1997-1998 survey, initiated after intervention in the 1960s by WHO and a subsequent decline in infection rates. The second national PBL survey was conducted in 2002, Trachoma Rapid Assessment (TRA) in 2001-2002 and the Trachoma Strategic Plan for Intervention in 2002 (the Trachoma Task Force was approved by the Government in July 2001). There were

currently 1900 ophthalmologists in Pakistan. There were six nodes in the provincial comprehensive eye care cell network, along with the Pakistan Institute of Community Ophthalmology.

The objectives of TRA were to give an overview. Two areas had high priority with active trachoma – in the north (Fana) and in the south-east, in the desert (Sind). Trichiasis prevalence was highest in the north. The south-east was barren, but 20 years ago the Government instituted door-to-door water supplies. In the north, there was plenty of water but not household water.

Phase I had been completed in the National Trachoma Action Plan. Phase II was the pilot phase – one district in every province to have programme management, a door-to-door survey, community programming, surgery and antibiotics. This was scheduled for 2003. Phase III would extend the pilot phase to the rest of the country – scheduled for 2004-2010.

Azithromycin was produced, and available, in the country and would be used for antibiotic distribution through the existing health offices. Facial cleanliness and environmental change were expected to be very time-consuming.

Discussion

The group noted the very professional and comprehensive approach to treating trachoma control within the existing eye care services, not another vertical programme, especially the creation of different maps highlighting the severity. While TRA was not used as an epidemiological tool, the results indicated the location of the severity of the problems. In one year, that plan was developed – a monumental achievement considering the size and the logistic difficulties found in Pakistan: the development of the national plan at a cost of US\$ 15 000. That was a challenge for all other countries. It was requested that the process be well documented so that other countries could follow. An integrated programme worked well for Pakistan, which had a low trachoma prevalence, but for countries with a high endemic prevalence a separate vertical programme was necessary.

Credit was paid to the sponsors: SSI, CBM, The Fred Hollows Foundation, Dark and Light, and Eye Care Himalaya, and also to the team from the Pakistan Institute of Community Ophthalmology (PICO).

VISION 2020 Pakistan

The Khyber Institute of Ophthalmic Medical Sciences (KIOMS) had a clinical wing and a public health wing (PICO). The clinical wing offered a short-term diploma and related eye care, and assisted PICO in training. The public health wing offered a Master's Degree and, as of December 2002, had trained 300 ophthalmic technicians and 51 community ophthalmologists, and given orientation training for 90 senior ophthalmologists, and microsurgery and IOL implantation training.

The objectives were to establish a centre of excellence in teaching and training, sustainable comprehensive eye care services, research and high-quality management.

Senegal

The decentralization of trichiasis surgery was presented. Trachoma was the second largest cause of blindness in Senegal, a flat country with 9.8 million, mostly rural, inhabitants. Fifty percent were less than 15 years of age and 58% were rural. A 2000 evaluation indicated 320 000 children infected and 91 500 cases of trichiasis – it was thus considered a public health problem. OPC provided support for provision of surgery. Blindness was estimated at 1.4%, cataract accounting for 0.31% and trachoma 0.26%.

For the SAFE strategy, it was wished to broaden trichiasis surgery to the health post level, to use azithromycin and tetracycline as widely as possible, and to involve the other areas of education and environment. Lack of resources and other sectors' lack of involvement had hindered the action plan.

More than 90 000 tubes of ointment were required to be distributed in the Diourbel region, where trachoma prevalence was highest (14 500 persons in need of surgery and 69 000 in need of treatment). Dakar had the second highest prevalence.

OPC assistance had allowed for the training of head nurses for trichiasis surgery. The objective was to allow at least one of three health posts to be able to carry out trichiasis surgery and each nurse trained to carry out 10 surgeries per month. There were two phases: the first in September 2001, with eight nurses trained for one month, and the second in 2002, with five nurses trained for three weeks – that was during a yellow fever epidemic and malaria, plus hospital renovation, which meant that not everyone was available. The second three-week session was planned for January 2003.

Training included hospital demonstrations and camp interventions – 10 interventions per day were sought. The Trabut technique was used, which was easy to carry out but the risk of recurrence was higher. All districts but Touba had trained representation. Touba had 500 000 people officially, one million unofficially, and the health system was under pressure during the malaria periods of October and November, during which time it was difficult to obtain a health worker.

In 2001, 223 trichiasis operations were carried out, and 451 in 2002. There were 15 recurrences after surgery (five carried out by OPC). There had been three mass treatment interventions, exclusively in the Bambéye district.

Discussion

The survey carried out in 2000 had shed light on areas that had disparities (it was not possible to survey two districts due to unrest). It was mentioned that the trichiasis kits were sometimes used for circumcision, rather than for their intended purpose, and the question arose as to when the rest of the survey would be completed. Unrest was still present, and the survey could thus not be completed currently. There was much interest from nurses in receiving training – when they mastered the technique they very much wished to use their knowledge. The Government reimbursed them for those surgeries, which was an additional motivational factor.

A large source of trachoma was annual public events in Touba and The Gambia. Two million people converged for these festivals. Efforts had been made to organize cataract camps at the same time but, since people came for reasons other than surgery, that had not been effective.

Sudan

Active trachoma (TF/TI) statistics in Sudan included Halfa 47%, Renk 19% and Malakal 45%. The prevalence of trichiasis in Halfa was 1.9% in people of >15 years of age, while in Malakal it was 13% in those of >15 years of age. That was surprising, since southern Sudan had been thought to be non-endemic. Renk showed TT at 7% in people of >15 years of age.

In 2002, the northern areas were served through the Ministry of Health and the southern areas, including Malakal, by Operation Lifeline Sudan partnership. Regarding the SAFE strategy: (1) "S" – eligible populations were Malakal 3938, Mayo 2200, Halfa 344 and Renk 50. However, the surgery rate was very low. Twenty-three (1%) persons were operated on in Malakal, and in

Khartoum (Mayo Camp) 59 surgeries were completed (3%). (2) "A" – Pfizer provided azithromycin to 50 439 (43%) persons in Malakal, 30 785 (99%) in Halfa and 38 350 (96%) in Mayo for the total treatment of 119 574 persons (64% of the eligible population). (3) "F" – Sixty-two health education sessions were conducted in Malakal, one session in Halfa, four sessions in Renk and eight sessions in Mayo. The school health programme in Malakal was launched. (4) "E" – There was definitely more access to clean water and latrines. In Malakal, 128 pit latrines were constructed and, in the Mayo displaced persons camp, more than 150 (there was a construction problem there, due to the nature of the ground). Partners were IRC, UNICEF and CARE. Advocacy was provided by the Government, as well as the improved water supply in Malakal.

There was a pilot eye camp in Malakal, where four ophthalmic medical assistants were trained in lid surgery and 18 general medical assistants in PEC and trachoma. In late December 2002, 25 medical assistants were trained in TT surgery (bilamellar tarsal rotation – BTR), and four should be included in mobile teams. Eye care activities had been integrated, and TT surgery was now also included in cataract camps.

In February 2002, in Khartoum, VISION 2020 was launched with a five-year plan. VISION 2020 Sudan Workshop recommendations included mapping and prioritizing TCP activities, carrying out Rapid Assessments where necessary, implementing the SAFE strategy and increasing the number of trained ophthalmologists and ophthalmic medical assistants.

According to a health education impact study which was conducted in Malakal from May to November 2001, TF/TI in November in the test village (treated with azithromycin) was 21%, and in the control village 57%. Face-washing in the test village increased by 10% and in the control village decreased by 11%.

In a follow-up prevalence survey in September 2002, 10 villages were selected. The data for four villages were now available. TF/TI decreased in all four villages, and clean faces were associated with decreased TF, which was statistically significant. A clean face was defined as the lack of ocular or nasal discharge, less than three flies on the face, or lack of traces of food on the face. Food on the face was not deemed to be significantly associated with active trachoma.

The next steps in 2003 for Sudan were to have a complete national trachoma prevalence survey, to train surgeons (through help from CBM) and integrate TT surgery in all eye camps, to complete annual mass treatment campaigns, to expand health education and advocacy, and to expand latrine promotion activities. An expression of appreciation was given for the help of the Carter Center.

Discussion

The long civil war had destroyed all infrastructure facilities, including eye care facilities, and note was taken of the special situations in which Sudan was working. It was questioned as to what steps could be taken to face the large number of trichiasis cases, and whether there was the facility. There was a programme to train TT surgeons in BTR, with assistance from CBM. Another workshop would take place in Malakal. The need for an additional 100 surgery kits was noted, in order that each individual trained could be given a kit upon completion of training. WHO/EMRO had provided 40 kits and 10 000 tubes of tetracycline, and was committed to helping Sudan with more kits in the next biennium.

It was asked what adjustments were needed because of the civil strife. With regard to onchocerciasis and trachoma, it was fortunately possible to work on both sides of the conflict, and they were now considered components of peace-building processes.

United Republic of Tanzania

Since 1982, half of the country was deemed endemic – the central, eastern and southern parts. Twelve million persons were at risk of infection and one to two million children had active infection. In 1988, a census was taken for surgery. Prevalence surveys had been carried out in villages before mass treatment. In 2002, all villages of Rombo district had prevalence surveys completed by the Kilimanjaro Centre for Community Health (KCCO). There was mass treatment with azithromycin. The national prevalence survey had been carried out in 2002 but was not yet compiled. In the western part of the country, action might be needed but, near Burundi and Rwanda, reports had not been received. The need for Rapid Assessments in those areas was mentioned.

The SAFE strategy was started in 1999 in six, now expanded to 10, programme districts, including all components. That was in central Tanzania, where the prevalence was highest when the National Prevention of Blindness Programme was established. In the non-programme endemic districts, Radio Tanzania, daily newspapers, television and national radio handled mainly the "S", "F" and "E" components.

The expansion of villages from year to year (six villages per year in each district) meant that, in 2002, 200 villages were included, bringing the total number to 450.

"S" – 2000 surgeries were conducted in 2001 and 1500 in 2002, but those numbers were not complete. "A" – 300 000 persons were treated in 2002, giving an approximate total of 700 000 persons since 1999. "F" and "E" – health education sessions were conducted in 12 villages/district. The six control villages were included in the regular programme the following year. Data analysis was provided by Johns Hopkins University. Thanks were given to ITI and the Congo Trachoma Project.

In 2002, the age of children surveyed for disease was increased to nine years (from previous one to seven years). The use of azithromycin was stressed, as was the importance of hygiene.

In the near future, the SAFE strategy was expected to be expanded to 20 districts, with support from the Ministry of Health, the World Bank and ITI.

Discussion

The question was raised as to how the areas for treatment were determined. It was pointed out that eye care programmes knew where trachoma was, from information and research. Another factor was that in geographically dry districts conditions were right for trachoma.

The reduction in severe trachoma (TI) was dramatic six months after treatment, which was carried out twice per year. It was felt that, with the integration of trachoma into the district health plans, the target would be met to eliminate blinding trachoma by 2020, with six villages per year.

Morocco and Tanzania had World Bank support, but as a loan, not a donation.

It was suggested that using a Rapid Assessment to prioritize villages or communities would be a good idea, as would the use of Rapid Assessments for the entire country, as in Pakistan. It was also mentioned that a high-prevalence village (more than 20%) would be selected, followed by contiguous villages, thus totalling six.

It was stated that, in Mauritania, the World Bank provided loans which had to be reimbursed and that Morocco was now reimbursing a loan from the 1990s.

Uganda

In Uganda, a landlocked eastern African country with a population of 24.6 million, trachoma was the second leading cause of blindness, after cataract. Eye diseases were among the 10 most common causes of morbidity, but were given less consideration when allocating resources.

NGO assistance was given from SSI, AUSAID and CBM. There was a five-year strategic plan for prevention of blindness, and a global declaration of support was signed in 2000 with WHO. Most districts were covered by the SAFE strategy. There was a National Prevention of Blindness Committee.

Lid surgery had been performed in Kamuli, one of the endemic districts. Trachoma had been diagnosed in two regions – eastern and north-eastern. A Rapid Assessment had been carried out in Kamuli district: 6000 cases of TI were diagnosed, and 675 cases had had surgery by December 2002. In that year, a prevalence study was carried out in Kotiba district, in the north-west: trachoma prevalence was 8.3%, blindness 3.7%. Associated factors were lack of education, poor personal hygiene, human waste around the homestead (the people were nomadic), rubbish and flies, and poor housing.

In 2002, the most-used antibiotic was tetracycline, which was sometimes out of stock. The school health programme had been targeted.

Discussion

It was noted that a number of countries had been putting in latrines, while others were focusing on running water. Data from epidemiological studies indicated that access to running water was always important – pit latrines were sometimes important.

In the two regions where trachoma was rampant, the eastern region was agricultural, with permanent homes. There were pit latrines, but their usage was a problem. In the north-eastern region, where the Nile started and where there was Lake Victoria, there was a reasonable supply of water – the emphasis there would thus be on pit latrines. In the north-eastern region, the nomadic people did not have a permanent structure or permanent latrines.

Cultural barriers included the fact that children and pregnant women were not supposed to use pit latrines.

Viet Nam

Programmes were progressing, and Viet Nam was aiming at the elimination of blinding trachoma in the next five years. The criteria used were a prevalence of active trachoma of less than 5% and a prevalence of TT of less than 1%. The question was raised as to when Viet Nam hoped to eliminate trichiasis, since the country had been working on the problem for the last 20 to 30 years.

There had been a significant reduction in trachoma from 1990 to 1995. Active trachoma had decreased from 17.5% (1990) to 7.05% (1995) and was now estimated at 4%. TT prevalence had decreased from 1.75% to 1.15% and CO from 0.75% to 0.19%.

Viet Nam had four different zones, with different prevalence of active trachoma and complications: the Red River delta and northern central provinces, the Mekong River delta, and the northern mountainous and highland provinces. The Red River delta and northern central provinces had a high prevalence of trachomatous complications (TT), due to severe trachoma in the past. There was a population of 24.9 million in that region.

In the northern mountainous and highland provinces (population 11.084 million), there was a low prevalence of trachoma, which existed primarily in pockets. Hygiene conditions were poor. The central provinces (population 13.7 million) had a low prevalence of active trachoma and TT and an active PBL programme.

The Mekong River delta provinces (population 26.5 million) did not have statistics supporting trachoma as a cause of blindness; PBL activities were weak; and hygiene conditions were poor.

In 2002, for the SAFE strategy in the northern and central provinces and in the Mekong River delta, US\$ 5 500 000 had been spent: US\$ 4.9 million for 350 000 doses of drugs and US\$ 600 000 for project implementation.

Phase I: ITI assisted in 13 districts of eight provinces, covering 2.7 million people. Fifteen province eye doctors, 585 community health workers and 1500 volunteer health workers were trained; there were 235 training courses on “F” and “E” for teachers and for members of the Women’s Union and the Red Cross Society; 1.7 million people were screened. The prevalence of TF/TI before and after the programme was 7.3% and 2.7% respectively. The number of patients treated was 428 000, and 18 870 TT surgeries were carried out.

In Phase II, started in October 2002 and continuing until 2004, 11 districts of seven provinces in the north of Viet Nam were included (population 1.8 million). The total budget was US\$ 15 million, including 927 000 doses of azithromycin. The number of TT surgeries that would be done: 17 000. US\$ 1.1 million were budgeted for programme implementation. That included the training of 30 provincial eye doctors, 628 community health workers, 2844 village health workers, 10 853 teachers and more than 3000 members of the Women’s Union and the Red Cross Society.

Regarding the lid surgery campaign, it was estimated that there were 300 000 cases yet to be operated.

Discussion

To the question as to when Viet Nam would eliminate blinding trachoma, it was stated that the Government planned that to be the case by 2010. In a number of small districts, some villages and communities still had a high incidence of active trachoma.

3. NEW ORGANIZATIONS

Asesoría Capacitación y Asistencia en Salud Ac (ACASAC)

For the first time in those communities, in 1996, two members of the ACASAC trachoma team, in collaboration with the University of Chiapas, provided surgical assistance to 80 persons with trichiasis. ACASAC was an NGO founded in 1995 to provide technical assistance in the health and communication fields in communities, especially in ocular care in trachoma control for indigenous people.

In 2000, the Social Network Against Trachoma was created in Chiapas and, in 2002, turned over to ACASAC, which had added a training component.

In 2002, there were three objectives, resulting in the following: (1) there were 210 surgical procedures, the majority BTR, with the main age 55 years; (2) there was training for diagnosis –

two physicians were trained in BTR and there were 18 sessions of health training for community health workers; (3) educational videos were issued to encourage community participation, and 32 social network meetings were held in which the SAFE strategy was promoted.

The goal was to improve health institutions' capacity in the detection and treatment of trachoma. Video sessions for education and trachoma discussions were conducted. Agreements were established with local authorities for promotion and surgery. Four radio spots were produced, and the Chiapas Ministry of Health was responsible for their distribution.

Challenges still facing ACASAC were the resistance of local health personnel to implementing universal screening, staff turnover in the government health agencies, and the lack of gender perspective and women's participation in trachoma prevention and control programmes – programmes for the prevention and control of trachoma should include another "F" component for female empowerment.

Kilimanjaro Centre for Community Ophthalmology (KCCO)

KCCO was a one-year-old centre located in Tumaini University. There were three areas of work – training, programmes and research were integrated.

Start-up support was given by the Al Noor Foundation, HKI, the International Eye Foundation (IEF), ITI and the Seva Foundation. The project donors/funders included CBM, Canadian Development Aid, HKI, ITI, Seva Canada and WHO. Partners were the Ministries of Health of Egypt and the United Republic of Tanzania, the BC Centre for Epidemiologic and International Ophthalmology, the London School of Hygiene and Tropical Medicine, and LAICO.

The areas of work included cataract, trachoma, childhood cataract and ocular leprosy, cross-cutting themes of management for better service delivery and gender equity the use of services.

Trachoma-related activities in Egypt had been research – both the outcomes of routine trichiasis surgery and the community understanding of trachoma and its control. There had also been support from Al Noor and the Ministry of Health for the Neia survey and other capacity-building.

In Tanzania, the research had been in interventions for improving the uptake of trichiasis surgery (gender equity) and in community interventions, assisting in the creation and implementation of a system for the routine monitoring of trichiasis surgical outcome and for assisting the Ministry of Health in the development of the national VISION 2020 plan, which had trachoma as an integral part, of a workshop and of the launch. There had also been training, research and the creation of a strategy in Kilimanjaro. That covered a population of 2 million, and trichiasis activities were integrated in that strategy. The Haruma Hospital and the London School of Hygiene and Tropical Medicine had been the major players in the Rombo project.

In eastern Africa, there had been district training in VISION 2020 plans and in the integration of trachoma within existing prevention of blindness programmes. There was an ophthalmic resource centre within KCCO for East Africa, and a trachoma resource centre was being established. One area is looking at the promotion of gender-equity issues in blindness, including trachoma (in terms of policy, programme and research).

4. WHO GLOBAL OVERVIEW

The challenges were as follows:

- There was not yet an exhaustive list of countries with/without blinding trachoma.
- The total burden of blinding trachoma was not yet clear.
- Yearly reporting at the Alliance meetings was sporadic for some countries.
- There were large countries with no national data.
- There were some countries with data for few districts/one region only.
- Old data were used to estimate needs/burden/treatment objective.
- Some countries had no/few data on performed activities.
- Many national reporting systems were incomplete for trachoma.
- Political support was often limited to the declaration of support, but was not (yet) more concrete.
- Partnership with other ministries was still weak.

On the positive side, the following were noted:

- World Health Assembly resolution WHA51.11 had set the political framework for trachoma elimination in Member States.
- There was better knowledge of the trachoma burden (national surveys) in an increasing number of endemic countries.
- There was consistent reporting of activities in a growing number of endemic countries.
- There was better coordination in-country among partners.
- There were increasing visits for exchanges between national coordinators of neighbouring countries, and plans had been made for the development of technical cooperation between developing countries (Health for Peace Initiative, etc.).
- There was ownership of activities by national bodies and partners.
- There was increasing service delivery of the SAFE strategy.
- The global framework for Assessment of Elimination of Blinding Trachoma had started.
- There was an increasing number of international agencies involved.
- There was a long-standing commitment of international partners (unique for trachoma control and most important).
- Trachoma data were included in the WHO *Global atlas of infectious diseases*.
- Trachoma was now a fixed component of other communicable disease activities for elimination/eradication.
- New opportunities were offered by the VISION 2020 initiative, which included trachoma as one of the diseases to be controlled.

The following countries were determined at the outset of the trachoma control process:

- Algeria – Chad – Ethiopia – The Gambia – Ghana – Guinea Bissau – Mali – Morocco – Myanmar – Nepal – Niger – Oman – Pakistan – United Republic of Tanzania – Viet Nam – Yemen

Major developments included the following:

- The development of simplified assessment tools (TRA – LQAS)
- New treatment schemes

- The development of easier mapping systems and the transfer of this capacity at the national level
- Increased visibility of trachoma in the international health scenario
- Increased funding for trachoma control activities
- Increased scientific evidence of SAFE strategy effectiveness and risk factors
- The lack of integration of trachoma control in public health care training – not yet fully achieved
- The still weak link to the educational/environmental sector – very important for part of the SAFE strategy

Resolution WHA51.11 did not have any definition for the elimination of blinding trachoma, as had been the case for most of the other diseases targeted for elimination or eradication.

A meeting on "Development of guidelines for assessment of the elimination of blinding trachoma", held in Geneva in November 2001, had set the definition of blinding trachoma:

Blinding trachoma is active inflammatory trachoma of a duration and intensity sufficient to cause tarsal conjunctival scarring, which leads to trichiasis and visual loss. Elimination of blinding trachoma in a specific geographical area is achieved and sustained when the prevalence of active inflammatory trachoma is maintained at less than 5% in children aged 1-9 years, and no operable cases of trichiasis are left uncorrected in that area.

A set of indicators was discussed and identified. It was the specific prevalence of TF in children aged 1-9 years and the prevalence and absolute numbers of males and females over 40 years of age with uncorrected trichiasis. There was also a short list of indicators for specific components of the SAFE strategy. The next step was the development of manual guidelines for clarifying ways to collect the information required. The field-test of manual guidelines in selected countries, the development of a process to be followed by Member States to request the joint assessment of the elimination of blinding trachoma and, last, the financing mechanism for the assessment were important.

Discussion

The impressive and informative overview was noted. One area not defined in the definition of elimination was the meaning of "specific geographical area". The global prevalence was 2.5% – not a global problem. In 1948, the global prevalence was about 20% – 650 million in a 3-billion population. In certain large regions or, in some villages such as in Chiapas, prevalence was more than 20%. In some regions, several families would account for all the TF/TI. As skills and personnel were developed, there was an obligation to track down the last residual areas.

The question was asked as to how one could say trachoma was blinding before the scarring developed. It was replied that a discussion consensus was difficult to obtain. There were some ways, but very complex and requiring skills and capacity of grading that were not thought to be in the average ability of those dealing with trachoma. That definition should enable national trachoma control programmes to engage their respective ministries of health, and that is what WHO would like to see for bringing forward the joint assessment of elimination of blinding trachoma. The word "certification" was not in the report because it would be very complex to certify the elimination of blinding trachoma forever – there were countries that had certified that and which were now reporting increasing cases of trichiasis and trachoma.

It was stated that São Paulo had recorded a lower trachoma prevalence in the 1970s, and the trachoma programme was stopped because it was considered a waste of money. Ten years later, some areas had very bad trachoma and scarring, and TF/TI. While there was now a low prevalence

of TF/TI, a surveillance programme for every city had been set up to see at least 1% of children, in order to ensure that they did not have trachoma. If trachoma was not searched for, it would not be found. There was less than 2% active trachoma in São Paulo, but some areas now had 6% TF/TI.

Once at the stage for manual guidelines, clear-cut guidelines would be needed to enable countries to assess the magnitude of the problem before elimination could be certain. The greatest concern was the elimination of trachoma as a major public health problem, because the world could not afford resources to wipe out trachoma while there were other major pressing problems. Eradication would thus be a losing battle at that time. Advocacy should be for the elimination of *blinding* trachoma. What was needed was a process of certification, in view of the fact that Brazil and Egypt now had recurrent problems. That would prevent the same countries being discussed in 10 years' time.

5. IMPLEMENTATION OF THE SAFE STRATEGY AT THE COUNTRY LEVEL: SWOT ANALYSIS BY COMPONENT (working groups)

5.1 Working Group 1 (Burkina Faso, Guinea, Mali, Mauritania, Morocco, Niger, Senegal)

Following are some common issues on the SAFE strategy:

Strengths

- Political will and commitment
- National team
- Each country had adopted SAFE
- Cooperation with NGOs: planning done – technical advice and input provided
- Organization of trichiasis surgery campaigns

Weaknesses

- Political commitment, but lack of financial support
- Lack of mobilization of available funds
- Lack of human resources
- Lack of skills competence in epidemiology, which would provide good management
- Lack of equipment and consumables
- Active partners, but lack of coordination
- Recovery systems for trichiasis surgery
- Lack of coordination between the programme and the national structure
- Eye care needs covered in some regions, but not countrywide
- Even with the implementation of the SAFE strategy, there were still many unknown factors
- Lack of operational research
- Lack of applied research

Onchocerciasis control programmes – lack of objectives or common targets

Annual reference indications and ultimate objective

- Surgical campaigns: 60% trichiasis surgery taken care of during campaigns – had fixed centres and were training, but were not using

Opportunities

- The community should be empowered in relation to the programme – the objective was greater empowerment through the community
- Intersectoral collaboration could be developed
- District teaching framework for poverty reduction – could be most beneficial for trachoma control activities
- Partnerships with NGOs – the example had been onchocerciasis
- Decentralization of services allowed to do away with administrative red tape
- VISION 2020 approach – contribution of WHO and regional bodies

Constraints

- Cost of surgery
- Mobilization of resources
- Excessive burden on operational staff – one nurse for 20 000 inhabitants
- Social and cultural events where nothing could be done
- Training of staff
- The problem of non-availability of azithromycin
- Generics not available
- Difficulties in supervision
- Lack of quality control
- Evaluation
- Lack of staff

5.2 Working Group 2 (Afghanistan, Egypt, Oman, Pakistan, Sudan)*Strengths*

- Existence of national trachoma control programmes and VISION 2020 programme
- Ownership of the programmes by nationals
- Functional multisectoral partnership
- Existence of public/private partnership
- GET 2020 participation

*Weaknesses (see Threats)**Resources*

- Health system based on WHO tertiary care structure
- Human resources available
- Clear understanding of disease epidemiology among professionals
- Capacity for training of trainers
- Quality of surgery and availability of instruments
- Availability of azithromycin
- Availability of ocular tetracycline

Management

- Monitoring and evaluation capacity
- National baseline data collected

- Ongoing national monitoring and evaluation
- Ongoing provincial monitoring and evaluation
- Ongoing district monitoring and evaluation
- Routine data collection
- Routine data use

Effective access to services

- Affordable services available
- Public accessibility to services
- Public awareness of services
- Availability of IEC

Opportunities

- Participation in GET 2020 Alliance
- WHO Alliance resolution
- Availability of training materials in local languages
- Financial support from external agencies
- Technical support from external agencies
- Knowledge of trachoma by the local public
- Peace, or cease-fire
- Trust in authorities
- Well-coordinated NGO partnership

Threats

- War
- International sanctions
- Threat of war
- Civil unrest
- Illiteracy
- Large population
- Formidable geographical barriers
- Poverty
- Gender and age disparities
- Non-availability of adequate water and sanitation
- Cultural resistance to change
- Other cultural constraints
- Mistrust of authority

Recommendations

- Regional meetings were suggested for countries with the same circumstances.
- The national community should have distinct subdivisions.
- International partners should concentrate on training and technical support.
- The improvement of the environment should be the number-one priority, since it could reduce the disease significantly.

5.3 Working Group 3 (The Gambia, Ghana, Kenya, Malawi, Nigeria, United Republic of Tanzania, Uganda)

Strengths (general)

- Trachoma was recognized by authorities as a priority disease
- Trachoma was an emotive disease – easily supportable
- Strong partner support

Weaknesses (general)

- Difficulties in coordinating multiple partners

Opportunities (general)

- Availability of the SAFE strategy
- Integration of SAFE within existing ministry of health programme
- Partnership
- Technical cooperation between developing countries

Threats (general)

- Compartmentalization of different levels of health care not allowing continuity of care from the community through tertiary referral
- Multiplicity of donor reporting requirements
- Risk of creating a vertical programme
- Lack of appreciation in endemic communities of the progression from active disease in children to trichiasis and blindness in adults (cause and effect)
- Political ethnic instability
- Lack of good systems for flow of information

SAFE-SPECIFIC SWOT ANALYSIS:

Surgery strengths

- Surgery technique available
- Cost of surgery low
- Easy to train non-ophthalmologists in surgical technique
- Could be done outside of hospital – carrying out surgery in the community increased uptake
- Surgery outcome generally good
- Easy case-finding
- Patients might not need escorts

Surgery weaknesses

- Lack, or bad distribution, of human resources
- Long-term outcome unknown
- Fear of surgery among patients
- Inadequate instruments and supplies
- Lack of transport to providers or patients

- Patients lived in remote and underserved areas
- Poor acceptance in TT
- TT patients mostly disenfranchised
- TT patients primarily female and often not allowed to make decisions
- Follow-up required
- Cosmetic outcome of surgery might discourage uptake or reduce satisfaction
- Lack of advocacy for surgery
- Poor motivation of providers
- Inadequate financial support
- Limited improvement post-surgery was a poor advertisement

Surgery opportunities

- Existing community-based workers could be used for case-finding
- Case-finding of trichiasis could be combined with cataract case-finding
- TT was irritating – people therefore wanted relief from symptoms and were easily convinced to undergo surgery

Surgery threats

- People developed coping mechanisms because TT developed slowly
- Poor surgery could reduce acceptance
- Traditional practice – epilation, for example – could lead to poor acceptance and also to further damage
- Regulations governing training and practice of TT surgery by non-doctors
- Lack of post-training support (supervision, supplies)
- Lack of management (planning, etc.)
- Patients said they did not have time to have surgery – women were most affected, and they were the ones who provided the support for daily living

Antibiotics strengths

- Effective drugs were available
- Tetracycline eye ointment was affordable
- Storage and transport were easy
- Tetracycline was on the essential drugs list
- Azithromycin was a single dose
- There was no evidence of resistance in target groups

Antibiotics weaknesses

- Azithromycin was expensive
- Compliance with tetracycline eye ointment was poor
- Lack of faith in tetracycline
- Distribution system could be onerous
- Azithromycin not recommended for <6 months of age
- Use of suspension and breaking of tablet for proper dosing – cumbersome to distribute
- Need to train distributors and provide supplies
- Access to azithromycin donation programme limited and mechanisms of access not clear
- Patent laws prevented the local manufacture of generic azithromycin

- Lack of evidence on which to base decisions on whom to treat, on required coverage levels and on frequency and duration of treatment of endemic communities
- Difficulty in defining ultimate treatment goal

Antibiotics opportunities

- Generic azithromycin requested
- Community-directed distribution (CDD)
- Use of other CDD programmes (e.g. ivermectin)
- Community monitoring of distribution

Antibiotics threats

- Donor fatigue
- Potential emergence of resistance in non-target pathogens
- Leakage of donated azithromycin to market
- Competition for scarce resources with other, “emerging”, diseases
- Stopping the antibiotic before clearance of disease from the area
- Poor antibiotic coverage could reduce efficacy
- Health sector reform might put pressure on districts to assume costs incurred in carrying out distribution

"F" and "E" strengths

- Trachoma could be prevented through public health measures
- “F” and “E” improved general health and well-being and would increase productivity
- Water (and sanitation) interventions were very popular with communities

"F" and "E" weaknesses

- Limited availability and accessibility of safe water and sanitation in the most affected communities
- "F" and "E" involved behavioural change, which required changes in knowledge, attitudes and beliefs – that was difficult
- "F" and "E" monitoring indicators were difficult to apply (and were not always standardized)
- Health ministries did not have authority over the provision of water and sanitation
- Current methods of health education were unproven or not sufficiently effective
- Public health acts were outdated, non-existent or not implemented

"F" and "E" opportunities

- Could be advocate to other ministries and agencies
- Effective health education for children would influence generations
- Community-level construction, operation and maintenance of water sources
- “F” and “E” to be seen as part of integrated community development
- Technical support available from other agencies

"F" and "E" threats

- Dependence on municipal authorities
- Some communities not keen to be responsible for construction or maintenance
- Lack of understanding of the link between trachoma and flies, sanitation and personal hygiene
- High cost of producing IEC materials
- High cost of using IEC materials (behavioural change required multiple approaches)
- Expertise in IEC not widely available

5.4 Working Group 4 (Brazil, People's Republic of China, Mexico, Lao People's Democratic Republic, Nepal, Viet Nam)

Each country was taken separately, as their trachoma control programmes differed.

Highlights of similarities

- Political support for trachoma control
- Primary health care system available
- Trachoma control programme integrated in prevention of blindness programmes, apart from in Brazil and Mexico

Strengths

- *Laos* – International partnership; number of human resources available; number of drugs and supplies available; partnership with educational sector
- *Mexico (Chiapas)* – Political support at local and federal level; good network; Ministry of Water and Sanitation involved with trachoma control; social health network established and working
- *Myanmar* – Trachoma control and PBL programme integrated; knowledge of the disease; political support; human resources; awareness of the disease by the population
- *Nepal* – Political commitment; National Trachoma Task Force operational; good number of human resources; international support
- *Viet Nam* – Good primary health care network; political support; international partnership; good human resources and regular reporting system

Weaknesses

- Lack of data in some countries such as *Brazil, China* and *Mexico* – good data on *Viet Nam* and *Myanmar*
- *Laos* – Eye care was not a priority for the country; primary health care workers were not trained in trachoma; lack of water and sanitation
- *Mexico* – Primary health care workers did not treat with azithromycin; drug shortage; beliefs for use of water that needed to be changed; some political unrest in the area; population did not have awareness of the disease
- *Myanmar* – Drug shortage; operational financing
- *Nepal* – NGO-run programme; donation-driven; lack of surgeons
- *Viet Nam* – Large backlog of TT cases

Opportunities

- *Brazil* – Had a poverty agenda and could include trachoma in that new policy
- *China* – Internal partnership and development; potential support from the Government; basic medical insurance system
- *Laos* – Poverty policy
- *Mexico* – Financial support from private sector; international partnership and establishment of trachoma surveillance system
- *Myanmar* – VISION 2020
- *Nepal* – Very good eye care programme integrated into the health care system; ITI-supported extension; universal declaration of education

Threats

- *Brazil* – Change of management or coordination; stoppage of survey by government decision; change of policy
- *China* – End of international support by change of policy; PBL network not efficient
- *Mexico* – There might be a war in Chiapas; different policies between federal and local levels
- *Nepal* – Political unrest in trachoma control areas
- *Viet Nam* – Lack of coordination or management

Working groups – discussion

- Clarity was needed on the absence of financial support if a country had political support.
- Political recognition was there, and governments attended the Alliance meetings. However, very few poor countries had financial allocations to blindness, and even less for trachoma control.
- Regarding resource allocations, planning was based on mortality rates, as well as funding priorities.
- Major public health problems and certain programmes such as malaria, malnutrition and immunization campaigns, were given priority. Blindness often came long after.
- Governments were aware that blinding trachoma was an important problem, affecting mainly highly indebted poor countries. The World Bank had relieved the debt for some countries, and the money was being used for poverty alleviation strategies. It was hoped that governments would channel some of those resources to trachoma control, since it was a disease of poor people.
- GET 2020 was a time-bound programme. Any national programme had to be time-bound. Countries launching trachoma control programmes should integrate them into existing programmes, so as to avoid starting vertical interventions.
- There was an opportunity to look at integration at a national level and also through the community distribution levels.
- It was time to review the number of countries who had baseline data but which had not acted. There should be immediate follow-up, or credibility would be lost. Countries should be reviewed as to when action started and whether it was sporadic, or planned to finish within the time frame.
- In EMRO, prevention of blindness programmes had been integrated with other community-based initiatives. Regional meetings would be held for all groups who had made some improvement, but were still lagging behind.

6. UPDATE ON TCDC PROGRESS AND SYNERGY WITH VISION 2020

The first workshops focused on advocacy for trachoma control, followed by national planning workshops. District/regional implementation was now occurring.

The opportunity of integrating trichiasis surgery with cataract surgery was considered.

The interest was mentioned of surveys over TRAs, since regions usually felt they knew where the problems existed.

The uneven availability of azithromycin was discussed, and the alternative use of tetracycline was recommended.

Comments

GET 2020 needed to be integrated into VISION 2020 – it needed to be part of the international programme, so that when VISION 2020 was attempting to mobilize the additional US\$ 2 billion needed by 2020, part of that suite of projects and activities would include trachoma control programmes, as well as onchocerciasis control.

A good opportunity for integration would be the vitamin A supplementation programme, which targeted children under five and mothers, as in trachoma control. Vitamin A programmes also provided education that could include facial cleanliness messages.

The WHO/GET 2020 Alliance was to be considered the working group on trachoma in the framework of VISION 2020.

7. ANY OTHER MATTERS

Report of the Scientific Workshop

A one-day meeting was held in which the scientists tried to review all new evidence coming out of research carried out, or providing results, during the last year.

Antibiotics

- Height-based dosing was feasible – a single standard might be feasible; splitting tablets had several disadvantages and was not necessary. The administration of all units of tablets appeared to be feasible to get dosage within the appropriate range.
- Pregnancy – There was no evidence of teratogenicity in preclinical studies, hence the Class B FDA classification of azithromycin; some azithromycin outcomes were improved in azithromycin-treated pregnant women. It would be useful to harmonize the insert with Pfizer commercial international product information, in order to make it clear that pregnancy was not a contraindication for treatment.
- Problem linkage – There appeared to be an opportunity to link trichiasis surgery with cataract surgery in a broader eye care programme. There was a need to obtain gender-specific information from local populations on barriers to surgery, in order to facilitate access to and utilization of care.
- Infection after treatment: programmatic issues – Several reports indicated that mass treatment with azithromycin had the potential to lower dramatically the prevalence and intensity of infection, as indicated by laboratory testing with PCR. Even a year after treatment, the antibiotic might have a delayed effect on the clinical disease. There was a

difference between laboratory findings and clinical grading using the simplified WHO grading system. Mass treatments were found to be effective in both mesoendemic and hyperendemic areas. In one mesoendemic area, infections appeared to be reduced progressively after three annual treatments. Those were encouraging results, but there was insufficient evidence to recommend community treatments less frequently than once per year. Treatment might involve targeting to high-risk groups, in order to balance the coverage of cases and the treatment of individuals who did not need treatment. Different programme areas had different sources of reinfection, and that appeared to be one issue found particularly in The Gambia. Regarding pneumococcal resistance in trachoma programmes, four separate surveys after up to three mass treatments with azithromycin had revealed only a lower level of microlyte resistance in pneumococcus after six months past azithromycin treatment. There was little evidence of the development of antibiotic resistance in *Chlamydia*, and that could be monitored further.

Surgery

Trichiasis – A report from Tanzania revealed a high recurrence rate for trichiasis of over 30%, with full obduration from 18 months to eight years after surgery. Recurrence was associated with active trachoma in the household. That reinforced the need for ongoing surgical quality assurance.

Environmental improvement

(a) Programmatic issues

- It was possible to build latrines at a relatively low cost, which would reduce fly-eye contacts. Latrine construction had not yet been shown to reduce trachoma prevalence.
- Results from Tanzania suggested that spraying in combination with azithromycin treatment might reduce active disease and severe disease at six months during the rainy season, but not at 12 months during the dry season. Results from The Gambia demonstrated that spraying reduced the muscasorbens population – it was the fly proven to be involved in the spreading of trachoma, and clinically active trachoma was thus reduced.

(b) Other issues

- Laboratory assessment – Strategies to lessen the cost of laboratory testing were discussed. Laboratory quality assurance used in industry was presented as a way to improve Trachoma Rapid Assessment. A sampling procedure was designated to make decisions on which areas had a high and low prevalence of trachoma.
- Cost – Data were discussed in comparing the cost of trichiasis surgery in different locations, demonstrating the potential variation across countries.
- Quantitative real-time PCR – Several presentations were made that were based on quantitative real-time PCR. That new technique allowed the estimation of the load of infection, rather than just the absence or presence of infection. Research presented evidence that there was a group of individuals who had a high burden of infection and were more likely to cause infection in others. In one unpublished study, some individuals under the age of one had some of the highest burden of infection in the community. The potential importance of treating children under one was discussed. There was considerable discussion of requirements for sample collection to avoid contamination (regarding the laboratory testing for the quantitative PCR).

CONCLUSIONS AND RECOMMENDATIONS

1. The Alliance recognized the attendance of four new countries and their commitment to the goal of elimination of blinding trachoma by the year 2020. The Alliance requested the WHO/PBD secretariat to make all efforts to acquire the participation in future Alliance meetings of as yet unrepresented trachoma-endemic countries.
2. The group was encouraged by the progress made by a number of countries in defining the dimension of the trachoma problem and in initiating control programmes.
3. Data and information provided by "trachoma data forms" were very useful. Countries were encouraged to use those forms consistently. The Alliance recommended endemic countries to define the ultimate intervention goal required for the elimination of trachomatous blindness.
4. Countries were encouraged to start considering methods to integrate trachoma surveillance into local health systems, when specific control activities were no longer required.
5. The provision of an adequate water supply was a key component of environmental improvement. Countries and programmes were encouraged to ensure that adequate water supplies were made available in trachoma-endemic areas.
6. The group was pleased to see the clarification of operational issues on azithromycin treatment related to the use of height for dosing and the absence of a reason to withhold treatment during pregnancy. The infrequent occurrence of bacterial resistance to azithromycin and the absence of clinically significant resistance were also noted.
7. The Alliance was encouraged by plans developed by China to eliminate trachomatous trichiasis and hoped that those nationwide activities would start soon.
8. Recent trachoma-related data from India, which had recorded high prevalence rates of active trachoma in the past, were scanty. Considerable progress had been made in its control since 1963, when the National Trachoma Control Programme was launched. However, a project document prepared for submission to the World Bank, as recently as 1991, indicated that there were 40 million cases of trachoma in the country with an estimated 21 million active cases, based on a Government of India/WHO National Blindness Survey (1986). Given the long latent period between active trachoma infection and the sequela of trichiasis, it was likely that pockets of blinding trachoma might still exist in previously endemic areas. It was recommended that studies be conducted in previously endemic areas to exclude pockets of active and, more importantly, residual trichiasis cases.

9. The group noted with interest the progress made by Pakistan in the assessment of need for trachoma control and the great need in Afghanistan and encouraged both those and surrounding countries to work together to develop trachoma control action plans.
10. The group recognized the value of regional meetings for countries with similar conditions, to review national programmes and exchange views.
11. National GET 2020 plans should be integrated into VISION 2020 action plans. The Alliance would report to VISION 2020 on global trachoma control activities.
12. The group was encouraged by the collaboration between the research and the programmatic aspects of the Alliance. It was recommended to expand the scope to include qualitative research on behavioural change and patient perspectives.

ANNEX 1

AGENDA

Opening ceremony
Introduction of participants
Election of officers
Administrative announcements
Adoption of the agenda

1. Reporting of activities undertaken since previous meeting
2. Presentations by new participating endemic countries and organizations
3. Update on monitoring and assessment of elimination of blinding trachoma
4. Implementation of SAFE strategy at the country level: SWOT analysis by component (working groups)
5. Update on TCDC progress and synergies with VISION 2020
6. Update on operations and scientific research projects on SAFE strategy
7. Any other matters

Conclusions and recommendations
Date and place of next meeting
Closure of the meeting

ANNEX 2

LIST OF PARTICIPANTS

NATIONAL COORDINATORS

Professeur Sidi Ely AHMEDOU, Coordinateur, Programme national de Lutte contre la Cécité, Ministère de la Santé et des Affaires Sociales, BP 786, Nouakchott, **Mauritania/Mauritanie**
(Tel. +222 52 915 79 – Fax +222 52 973 78 – E.mail: *elysidi@yahoo.fr*)

Dr Abdul Hussein Juma AL LAWATI, Ophthalmologist, Ophthalmology Department, Al Nadha Hospital (PO Box 937, PC 112 Ruwi), Representative of the Directorate General of Health Affairs, Ministry of Health, PO Box 393, Muscat, **Sultanate of Oman/Sultanat d'Oman**
(Tel./Fax 968 773 20 45 – E.mail: *alijamoh@omantel.net.om* of Directorate General of Health Affairs)

Dr Abdou AMZA, Coordinateur adjoint, Programme national de Lutte contre la Cécité, Ministère de la Santé publique, BP 11347, Niamey, **Niger/Niger** (*Rapporteur*)
(Tel./Fax +227 75 29 06 – E.mail: *pnlcc@intnet.ne*)

Dr Dienne Iyalla APIAFI, National Coordinator, National Programme for the Prevention of Blindness, c/o National Eye Centre, PMB 226F, Kaduna, **Nigeria/Nigéria**
(Tel./Fax +234 62 311 400 – E.mail: *hkwj@isen.org* and *cyberworld10@hotmail.com*)

Mr Momodu BAH, Manager, National Eye Care Programme, Department of State for Health, 11 Old Primet Street, PO Box 950, Banjul, **The Gambia/Gambie**
(Tel./Fax +220 227 000 – E.mail: *eyecare.dos@gamtel.gm* and *djimbala@hotmail.com*)

Dr Youssef CHAMI KHAZRAJI, Chef de la Division des Maladies Transmissibles, Directeur de l'Epidémiologie et de la Lutte contre les Maladies, Service des Maladies Oculaires et Otologiques, Ministère de la Santé, 71 avenue Ibn Sina, Agdal, Rabat 10 000, **Maroc/Morocco** (*Chairperson*)
(Tel. + 212 37 67 1332 / 212 37 67 1244 -Fax +212 37 67 1298 –
E.mail: *ychami@sante.gov.ma*)

Dr D. DEZAUMBE, Coordinateur national, Programme de Lutte contre la Cécité, Ministère de la Santé de la République du Tchad, BP 221, Ndjamena, **Chad/Tchad**
(Tel +235 52 29 41 – Tel./Fax 235 52 08 97 – E.mail: *madani@intnet.td*)

Dr Natércia Palmira dos Santos FUMO, Assistant to the National Coordinator for the Prevention of Blindness, Ministry of Health, Av. Eduardo Mondlane/Salvador Allende, CP 264, Maputo, **Mozambique/Mozambique**
(Tel. +258 1 427 131 – Fax +258 1 493 121 (Attn. HKI) – E.mail: *naterciafumo@hotmail.com*)

Dr André GOEPOGUI, Médecin-chef adjoint, CHU Donka, BP 234, Conakry, **Guinea Conakry/Guinée Conakry**
(Tel. 224 29 31 59 – Fax 224 45 57 31 – E.mail: *oms.gui@eti-bull.net*)

Dr Maria HAGAN, National Coordinator, Eye Care Unit, Ghana Health Service, Private Post Bag, Ministries, Accra, **Ghana/Ghana**
(Tel. 233 21 666 815 – Fax 233 21 668 850 – E.mail: *eyecare@africaonline.com.gh*)

Professor Mamoun Mohamad Ali HOMEIDA, Academy of Medical Sciences & Technology, PO Box 12810, Khartoum, **Sudan/Soudan**
(Tel. +249 11 224 762 – Fax +249 11 224 799 – E.mail: amst33@hotmail.com)

Dr Abdul Majeed HOSHAM, Focal Point of Prevention of Blindness, c/o The WHO Representative, Street No. 13, Wazir Abkar Khan, Kabul, **Afghanistan/Afghanistan**
(Tel. +46 730 04 4636 – E.mail: Registry@afg.emro.who.int)

Dr Simon Benedict KATENGA, National Coordinator, Eye Care and Onchocerciasis Control Programme, Ministry of Health, PO Box 9083, Dar es Salaam, **Tanzania/Tanzanie**
(Tel. +255 22 213 00 25 – Fax +255 22 213 00 09 – E.mail: katenga@raha.com)

Dr Damson D. KATHYOLA, Ophthalmic Outreach Programme Manager, Lilongwe Central Hospital, PO Box 149, Lilongwe, **Malawi/Malawi**
(Tel. +265 754 375 – E.mail: damsonkathyola@yahoo.co.uk)

Prof. Mohammad Daud KHAN, National Coordinator, National Committee for the Prevention of Blindness, Pakistan Institute of Community Ophthalmology, Hayatabad Medical Complex, PO Box 125, Peshawar, **Pakistan/Pakistan**
(Tel. +92 91 921 73 77 – Fax +92 91 921 74 13 – E.mail: pico@pes.comsats.net.pk)

Dr Tun Aung KYAW, National Expert, Prevention of Blindness, Ministry of Health, Apt. 3, No. 164, 49th Street, Pazundaung P.D., **Union of Myanmar/Union de Myanmar**
(Tel. +95 1 291 102 – Fax +95 1 546 071)
Private: 105 (A), Yee-on-Gone Road, Nant Tha Kone Qr, Insein, Yangon, Union of Myanmar/Union de Myanmar (Tel. +95 1 642 177 – Fax +95 1 546 071)

Dr John Kipkorir A. LIMO, Chief Ophthalmologist, Coordinator of Ophthalmic Programmes, Ministry of Health, PO Box 1759, Nakuru, **Kenya/Kenya**
(Tel. +254 37 211 472 – Fax +254 2 715 239 – E.mail: kipkorir47@hotmail.com)

Dr Norma Helen MEDINA, Director, Ophthalmic Department, CVE, São Paulo, **Brazil/Brasil**
(E.mail: nhm2@hotmail.com)

Dr Medhat Ahmed Mokhtar MEHANNA, General Manager, Ophthalmic Department, Ministry of Health and Population, 3 Magles El-Shaab St, Cairo, **Egypt/Egypte**
(Tel./Fax +202 792 10 62 – E.mail: visionright@mohp.gov.eg)

Dr Chet Raj PANT, Chairman, National Trachoma Task Force, Nepal Eye Hospital, PO Box 335, Kathmandu, **Nepal/Népal**
(Tel. +977 1 260 813 – Fax +977 1 490 215 E.mail: ich@enet.com.np)

Dr Doulaye SACKO, Coordinateur, Programme national de Lutte contre la Cécité, Ministère de la Santé, Division de la lutte contre la maladie, BP 228, Bamako, **Mali/Mali**
(Tel. +223 23 89 30 – Fax +223 23 17 21 – E.mail: pnlc@datatech.toolnet.org)

Dr Boubacar SARR, Coordinateur, Programme national de Lutte contre la Cécité, BP 3817, Dakar, **Senegal/Sénégal**
(Tél./Fax +221 8 27 75 01 – E.mail: PNLCDAK@hotmail.com)

Dr Miguel Angel Lotzow STEINER, Médico Residente de Epidemiología, Prevención de Tracoma, Centro Nacional de Vigilancia Epidemiológica, Benjamin Franklin # 132, 1^{er} Piso; Col. Escandón; Delegación Miguel Hidalgo, México D.F., **Mexico/Mexique**
(Tel. +52 1 5526 14 6461 – Fax +52 1 5526 14 6462 – E.mail: malsteiner@yahoo.com.mx)

Dr Thi Kim Thanh TON, Director, National Institute of Ophthalmology, 85 Ba Trieu Street, Hanoi, **Viet Nam/Viêt Nam**
(Tel./Fax +84 4 943 80 04 – E.mail: tonthi.kimthanh@hn.vnn.vn)

Dr Vithoune VISONNAVONG, Directeur, Centre d'Ophtalmologie, Ministère de la Santé, Vientiane, **Lao People's Democratic Republic/République démocratique populaire lao**
(Tel./Fax +856 21 61 20 79 – E.mail: oph@laonet.net)

Dr WANG Ning-Li, Assistant Director, Tong Ren Eye Centre, Tong Ren Hospital, Beijing, **People's Republic of China/République populaire de Chine**
(E.mail: c/o Dr K. Konyama juntenop@iris.dti.ne.jp)

Dr B. Bernadette YODA, Ophtalmologiste, Programme National de Lutte contre la Cécité, 09 BP 650, Ouagadougou 09, **Burkina Faso/Burkina Faso**
(Tel +226 23 35 57 – E.mail: yoda_bernadette@yahoo.fr)

Dr Uch YUTHO, National Prevention of Blindness Coordinator, Ministry of Health, Ang Duong Hospital, PO Box 2027, Phnom Penh, **Cambodia/Cambodge**
(Tel./Fax +855 23 211 072 – E.mail: campbl@bigpond.com.kh)

REPRESENTATIVES OF WHO COLLABORATING CENTRES FOR THE PREVENTION OF BLINDNESS AND OTHER RESEARCH INSTITUTIONS

Dr Robin BAILEY, Senior Clinical Scientist, **Medical Research Council Laboratories**, Atlantic Road, Fajara, PO Box 273, Banjul, The Gambia/Gambie
(Tel. +220 495 894 – Fax +220 496 513 – E.mail: rbailey@mrc.gm
and Robin.Bailey@Ishtm.ac.uk)

Dr Paul COURTRIGHT, Director, **Kilimanjaro Centre for Community Ophthalmology**, Tumbani University, KCMC Hospital, PO Box 2254, Moshi, Tanzania/Tanzanie
(Tel +255 27 275 37 94 – E.mail:kcco@kilionline.com)

Dr Chandler R. DAWSON, Professor of Ophthalmology, **Francis I. Proctor Foundation for Research in Ophthalmology**, University of California San Francisco, Room S 315, 513 Parnassus Street, San Francisco, CA 94143-0412, USA
(Tel. +1 415 476 8137 – Fax +1 415 476 6085 – E.mail: dawson@itsa.ucsf.edu)

Professor Deborah DEAN, Research Scientist, Professor of Medicine, **Children's Hospital, Oakland Research Institute (CHORI)**, 5700 Martin Luther King Jr Way, Oakland, CA 94609, USA
(Tel. +1 510 450 7655 – Fax +1 510 450 7910 – E.mail: ddean@chori.org)

Mr Paul EMERSON, Public Health Entomologist, **Medical Research Council Laboratories**, MRC, PO Box 273, Banjul, The Gambia/Gambie
(Tel. +220 735 239 – Fax +220 735 512 – E.mail: pemerson@mrc.gm)

Dr Kevin D. FRICK, Assistant Professor, **Johns Hopkins Bloomberg School of Public Health**, 624 North Broadway, Room 606, Baltimore, MD 21205-1901, USA
(Tel. +1 410 614 4018 – Fax +1 410 955 0470 – E.mail: kfrick@jhsph.edu)

Ms Hannah KUPER, Epidemiologist, Clinical Research Unit, London School of Hygiene and Tropical Medicine (LSHTD), Department of Infectious and Tropical Diseases, Keppel Street, London, WC1E 7HT, United Kingdom/Royaume-Uni (*Rapporteur*)
(Tel. 44 20 7958 8359 - Fax. 44 20 7958 8317 - E.mail: hannah.kuper@lshtm.ac.uk)

Dr Thomas LIETMAN, Director, WHO Collaborating Center for Prevention of Blindness, **Francis I. Proctor Foundation for Research in Ophthalmology**, 95 Kirkham Street, University of California, Room 307, San Francisco, CA 94143-0944, USA
(Tel. +1 415 502 2662 – Fax +1 415 476 0527 – E.mail: tml@itsa.ucsf.edu)

Dr Hans LIMBURG, Senior Research Fellow, **International Centre for Eye Health**, Institute of Ophthalmology, University College London
Private: Bourgondiëweg 63, 1611 WC Bovenkarspel, The Netherlands/Pays-Bas
(Tel. +31 228 515 481 – Fax +31 228 523 853 – E.mail: h.limburg@worldonline.nl)

Dr David MABEY, Professor of Communicable Diseases, **London School of Hygiene and Tropical Medicine**, Keppel Street, London WC1E 7HT, United Kingdom/Royaume-Uni
(Tel +44 207 927 2297 – Fax +44 207 637 4314 – E.mail: d.mabey@lshtm.ac.uk)

Dr Denise MABEY, Consultant Ophthalmologist, South Wing Eye Department, **St Thomas Hospital**, London SE1 7EH, United Kingdom/Royaume Uni
(E.mail: dmabey@mabeys.demon.co.uk)

Professor Hugh TAYLOR, Professor of Ophthalmology, Director, WHO Collaborating Centre for Prevention of Blindness, **Centre for Eye Research Australia**, The University of Melbourne, 32 Gisborne Street, East Melbourne, Victoria 3002, Australia/Australie
(Tel. +613 9929 8368 – Fax +613 9662 3859 – E.mail: h.taylor@unimelb.edu.au)

Dr Lamine TRAORE, Ophthalmologiste, Responsable du département de la recherche, **Institut d'Ophthalmologie Tropicale de l'Afrique (IOTA)**, Boulevard du Peuple, BP 248, Bamako, Mali
(Tel +223 223 421 – Fax +223 225 186 – E.mail: iota@iotaoccge.org)

Professor Sheila WEST, El-Maghraby Professor of Preventive Ophthalmology, The Wilmer Institute, Rm 129, Johns Hopkins Medical Institutions, 600 North Wolfe Street, Baltimore, MD 21205, USA
(Tel. +1 410 955 2606 / Fax +1 410 955 0096 / E.mail: swest@dcpom.med.jhu.edu)

REPRESENTATIVES OF NONGOVERNMENTAL ORGANIZATIONS AND FOUNDATIONS

Ms Victoria BLAGBROUGH, Hygiene Promotion Adviser, **WaterAid**, Prince Consort House, 27-29 Albert Embankment, London SE1 7UB, United Kingdom/Royaume-Uni
(Tel. ++44 207 793 45 28 – Fax +44 207 793 45 45 –
E.mail: vickyblagbrough@wateraid.org.uk)

Mr Martin BULLARD, Trachoma Project Manager, **International Development Enterprises**, 1B 3b Giang Vô, Kim Mã, Ba Dinh, Hanoi, Viet Nam/Viêt Nam
(Tel. +84 4 846 14 76 – Fax +84 4 846 32 06 – E.mail: martin@idevn.org)

Dr Joseph A. COOK, Executive Director, **International Trachoma Initiative**, 441 Lexington Avenue, Suite 1600, New York, NY 10017-3910, USA
(Tel. +1 212 490 6460 – Fax +1 212 490 6461 – E.mail: jcook@trachoma.org and iti@trachoma.org)

Ms Catherine CROSS, Director, Overseas Programme, **Sight Savers International**, Grosvenor Hall, Bolnore Road, Haywards Heath, West Sussex RH16 4BX, United Kingdom/Royaume-Uni
(Tel +44 1444 446 600 – Fax +44 1444 446 677 – E.mail ccross@sightsavers.org)

Dr Taha EL-KHOBY, ITI Representative in Egypt, 31 Ahmad Hishmat St, Zamalek, Cairo, **Egypt/Egypte**
(Tel. +202 568 67 07 – Fax +202 760 17 56)

Dr Hannah FAAL, President, **International Agency for the Prevention of Blindness**, Sight Savers International, PO Box 950, Banjul, The Gambia/Gambie
(Tel. +220 494 663 – Fax +220 494 664 – E.mail: hbf@gamtel.gm)

Dr Allen FOSTER, Medical Director, **Christoffel Blindenmission e.V.**, Clinical Research Unit, London School of Hygiene and Tropical Medicine, Keppel Street, London , WC1E 7HT, United Kingdom/Royaume-Uni
(Tel. 44 207 612 78 03 - Fax. 44 207 612 78 14 - E.mail: allenfoster@compuserve.com)

Ms Dyanne M. HAYES, Vice President – Programs, **Conrad N. Hilton Foundation**, Suite 1000, 10100 Santa Monica Boulevard, Los Angeles, CA 90067, USA
(Tel. +1 310 556 4694 – Fax +1 310 556 2301 – E.mail: dyanne@hiltonfoundation.org)

Mr Roy HEAD, Editor, **BBC World Service Trust**, Bush House, PO Box 76, Strand, London WC2B 4PH, United Kingdom/Royaume-Uni
(Tel. +44 207 557 1424 and 557 2463 – Fax +44 207 379 1622 – E.mail: roy.head@bbc.co.uk)

Mr Hannes HEINIMANN, Programme Coordinator, **Swiss Red Cross**, Rainmattstr. 10, 3001 Bern, Switzerland/Suisse
(Tel. +41 31 387 72 95 – Fax +41 31 387 73 73 – E.mail: hannes.heinimann@redcross.ch)

Dr Pierre HUGUET, Expert OPC pour le trachome, **Organisation pour la Prévention de la Cécité (OPC)**, 796, route du Val d'Isneauville, 76160 Fontaine-sous-Préaux, France/France
(Tel./Fax +33 2 32 18 31 48 – E.mail: pierre.huguet@sante.gouv.fr)

Dr Peter KILIMA, Regional Coordinator, Anglophone Africa, **International Trachoma Initiative**, PO Box 3545, Dar es Salaam, Tanzania/Tanzanie (Vice-Chairperson)
(Tel. +255 22 212 2350 – Fax +255 22 212 2350 – E.mail: kilima@trachoma.or.tz)

Professor Volker KLAUSS, Medical Consultant to **Christoffel Blindenmission**, Professor of Ophthalmology, University Eye Hospital, Mathildenstr. 8, 80336 Munich, Germany/Allemagne
(Tel 49 89 5160 3824 – Fax +49 89 5160 4942 – E.mail: volkerklauss@ak-i.med.uni-muenchen.de)

Mr Chad MACARTHUR, Director of Training and Community Education, **Helen Keller Worldwide**, Suite 187, Private Bag X15, Menlo Park, Pretoria, South Africa/Afrique du Sud
(Tel. +27 82 404 43 84 – Fax +27 12 342 35 10 – E.mail: hki-rsa@lantic.net)

Ms Misrak MAKONNEN, Senior Programme Officer, **Global 2000**, **The Carter Center**, One Copenhill, 453 Freedom Parkway, Atlanta, GA 30307, USA
(Tel. +1 404 420 3830 – Fax +1 404 874 5515 – E.mail: mmakonn@emory.edu)

Mr Jeffrey MECASKEY, Program Director, **International Trachoma Initiative**, 441 Lexington Avenue, Suite 1600, New York, NY 10011, USA
(Tel. +1 212 490 6460 – Fax +1 212 490 6461 – E.mail: mecaskey@trachoma.org and iti@trachoma.org)

Dr Muluken MELESE, Medical Doctor, **Orbis International**, Ethiopia Country Office, PO Box 23285, Code 1000, Addis Ababa, Ethiopia/Ethiopie
(Tel. +251 1 620 996 – Fax +251 1 620 995 – E.mail: wondu@telecom.net.et)

Mr Aboubacar Philippe OUATTARA, **Sight Savers International**, BP E.1844, Rue 266, Porte 237, Djelibougou, Bamako, Mali
(Tel. +223 249 122 and 241 831 – Fax +223 240 754 – E.mail: ssibaba@aol.com)

Dr Joe de Graft RIVERSON, Executive Director for Donor Relations and Trachoma Programme Coordinator, **World Vision US**, 34834 Weyerhaeuser Way South, MS 400 Federal Way, PO Box 9716, Washington 98063-9716, USA
(Tel. +253 815 2156 – Fax +253 815 3447 – E.mail: jriverso@worldvision.org)

Dr Demissie TADESSE, Ophthalmologist, **National Committee for the Prevention of Blindness**, c/o CBM Africa Regional Office East II, PO Box 694, Addis Ababa, **Ethiopia/Ethiopie**
(Tel. +251 16 24 523 – Fax +251 16 24 516 – E.mail: cbm.roe2@telecom.net.et)

Ms Lisa Marie TAPERT, Director, Trachoma Program, **Helen Keller Worldwide**, 352 Park Avenue South, 12th Floor, New York, NY 10010, USA
(Tel. +1 212 561 8521/8019 or 993 9809 – Fax +1 212 561 8067 – E.mail: roserbasil@aol.com)

Dr James Alan ZINGESER, Senior Epidemiologist, **The Carter Center**, One Copenhill, 453 Freedom Parkway, Atlanta, GA 30307, USA
(Tel. +1 404 420 3854 – Fax +1 404 874 5515 – E.mail: jzinges@emory.edu)

OBSERVERS

Dr François MAJO, Ophtalmologiste, 18, rue Hoche, 78800 Houilles, France/France
(Tel./Fax +33 1 39 68 73 27 – E.mail: françois_majo@infonie.fr)

Mr John PENN, **BBC World Service Trust**, Bush House, PO Box 76, Strand, London WC2 4PH, United Kingdom/Royaume-Uni
(Tel. +44 207 557 1424 and 557 2463 – Fax +44 207 379 1622)

SECRETARIAT

Dr Abdul Hannan CHOUDHURY, Medical Officer, Control & Prevention of Blindness, World Health Organization, Regional Office for the Eastern Mediterranean, Abdul Razzak Al-Sanhouri Street, PO Box 7608, Nasr City, Cairo 11371, Egypt/Egypte
(Tel. +202 276 5356 – Fax +202 670 24 92 – E.mail : *choudhurya@emro.who.int*)

Dr Silvio P. MARIOTTI, Medical Officer, Prevention of Blindness and Deafness, Management of Noncommunicable Diseases, World Health Organization, 1211 Geneva 27, Switzerland/Suisse
(*Co-Secretary*)
(Tel +41 22 791 3491 – Fax +41 22 791 4772 – E.mail:*mariottis@who.int*)

Dr Ramachandra PARARAJASEGARAM, Medical Officer, Prevention of Blindness and Deafness, Management of Noncommunicable Diseases, World Health Organization, 1211 Geneva 27, Switzerland/Suisse
(Tel +41 22 791 3886 – Fax +41 22 791 4772 – E.mail: *parar@who.int*)

Dr Gopal POKHAREL, Medical Officer, Prevention of Blindness and Deafness, Management of Noncommunicable Diseases, World Health Organization, 1211 Geneva 27, Switzerland/Suisse
(Tel +41 22 791 2652 – Fax +41 22 791 4772 – E.mail:*pokharelg@who.int*)

Dr Serge RESNIKOFF, Coordinator, Prevention of Blindness and Deafness, Management of Noncommunicable Diseases, World Health Organization, 1211 Geneva 27, Switzerland/Suisse
(*Co-Secretary*)
(Tel +41 22 791 4124 – Fax +41 22 791 4772 – E.mail: *resnikoffs@who.int*)

Dr Madan P. UPADHYAY, Regional Adviser, Disability, Injury Prevention and Rehabilitation, World Health Organization, Regional Office for South-East Asia, Indra Prastha Estate, Ring Road, New Delhi 110002, India
(Tel. +91 11 337 0804 – Fax. +91 11 337 9507 & 337 0972 – E.mail:*upadhyam@whosea.org*)

Dr Derek YACH, Executive Director, Noncommunicable Diseases and Mental Health, World Health Organization, 1211 Geneva 27, Switzerland/Suisse
(Tel. +41 22 791 2736 – E.mail: *yachd@who.int*)

Dr Nevio ZAGARIA, Coordinator, Strategy Development and Monitoring for Eradication and Elimination, Prevention & Eradication, Communicable Diseases Control, Communicable Diseases, World Health Organization, 1211 Geneva 27, Switzerland/Suisse
(Tel. +41 22 791 2534 – Fax. +41 22 791 4777 – E.mail: *zagarian@who.int*)

= = =