

Trachoma Elimination in the Americas

Third Regional Meeting of Program Managers
Tocantins, Brazil, 12 - 14 August 2014

Report

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Acronyms

NID	Neglected Infectious Diseases
ITI	International Trachoma Initiative
LAC	Latin America and the Caribbean
NTD	Neglected Tropical Diseases
WHO	World Health Organization
PAHO	Pan American Health Organization
PCR	Polymerase chain reaction
SAFE	Surgery, Antibiotics, Facial cleanliness and Environmental improvement
TF	Trachomatous inflammation–follicular
TI	Trachomatous inflammation–intense
TS	Trachomatous conjunctival scarring
TT	Trachomatous Trichiasis
UIG	Ultimate Intervention Goal

Glossary

Mass drug administration	The periodic distribution of drugs to the entire population at risk within a region, regardless of individual infection status. It is a public health intervention that can be implemented through various mechanisms to reach the population, including door-to-door distribution, mobile or fixed distribution posts, schools, children's homes, or community meeting places (e.g., markets, fairs).
Ectoparasite	An organism living on the outside of another organism (the host), which benefits at the expense of the host. Some ectoparasites that can affect humans and pets are fleas, ticks, lice, ear mites, and scabies mites.
Neglected infectious diseases	These are caused by various microorganisms and, for the most part, are chronic diseases with lasting effects on health. They primarily affect populations living in conditions of poverty, with low levels of income and education. NIDs affect children's growth, physical and intellectual development, and ability to learn, which in turn diminishes their labor productivity and capacity to earn an adequate income in the future. Some NIDs can cause physical disfigurement, resulting in social stigmatization.
GeneXpert	A closed, independent, totally integrated, and automated platform for molecular analysis, which provides quick and accurate results with minimal risk of contamination. The system purifies, concentrates, detects, and identifies specific sequences of nucleic acids, providing direct results from unprepared samples.
School age child	A child between 5 and 14 years old, regardless of whether s/he attends school. The ages may vary from one country to another.
Preschool age child	A child between 1 and 4 years of age.
Prevalence	Number of cases of a disease present in a population group in a given period.
Preventive chemotherapy	Use of anthelmintic drugs or antibiotics, alone or in combination, as a public health tool to fight helminths or <i>Chlamydia trachomatis</i> . It is the early and periodic administration of drugs to reduce the occurrence, duration, severity, and long-term consequences of disease.
Sign	Evidence of disease perceptible to a physician upon examination, versus the subjective sensations (symptoms) of the person who presents with the disease.

Executive summary

During the *Third Regional Meeting of Program Managers—Trachoma Elimination in the Americas*, it was confirmed that progress has been made with implementing the SAFE strategy (Surgery, Antibiotics, Facial cleanliness, and Environmental improvement) in the four countries where there is evidence of blindness caused by *Chlamydia trachomatis*.

After analyzing the epidemiological data presented by each country, it is estimated that approximately 11.1 million people are at risk of infection (11 million in Brazil, 17,000 in Colombia, and 74,940 in Guatemala). According to the data presented by Mexico, the 363,537 people living in the area with a recent history of trachoma are no longer at risk for blinding trachoma, and the country is in the process of compiling evidence in a dossier to request PAHO/WHO verification of its elimination. Each of the four countries has a different epidemiological status, which means that the challenges for trachoma elimination should be addressed individually.

Although in the Region of the Americas there is evidence of foci of blinding trachoma in the four countries mentioned above, a surveillance system must be implemented to collect information confirming that there are no other foci within the four countries, and that there are no foci in other countries of the Region.

The managers of the programs in the four countries with known foci, PAHO/WHO technical staff, experts from Johns Hopkins University's Collaborating Center for trachoma, and experts from the International Trachoma Initiative, all participated in the regional forum. Their collaboration has boosted activities to eliminate blinding trachoma, making it possible to standardize concepts and approaches in the Region.

The regional meeting will be held every two years, so that during the intervening period progress can be made implementing specific actions for each country. The regional meeting will be an opportunity to analyze and discuss priority issues so that the programs can move forward.

Below are the conclusions and recommendations of the meeting.

Conclusions

1. Brazil, Colombia, Guatemala, and Mexico have experience and expertise, and they have made great strides implementing actions under the four components of the SAFE strategy (Surgery, Antibiotics, Facial cleanliness, and Environmental improvement). They are supported by the political, technical, and financial commitments of their Ministries of Health, and trachoma has been included in their national plans to control and eliminate neglected infectious diseases. The main advances presented at this third regional meeting were:
 - a. Brazil has stepped up activity in the 600 priority municipalities (11 million people at risk of infection), providing surgeries for trachomatous trichiasis and implementing targeted preventive chemotherapy. As an innovative strategy, the Ministry of Health is conducting an integrated campaign for Hansen's disease, soil-transmitted helminth infections, and trachoma in schoolchildren, which has enabled it to increase case-finding of active trachoma among children between 2011 and 2013. Similarly, it is conducting mass drug administration

- in indigenous districts with at-risk populations. The plan to control and eliminate neglected infectious diseases includes blinding trachoma and it falls within the framework of the national plan called *Brasil Sem Miséria* (Brazil without Extreme Poverty).
- b. Colombia completed mapping of the only documented focus of blinding trachoma (17,000 people at risk in 232 communities in the department of Vaupés). It is doing integrated administration of azithromycin and albendazole in those communities, has integrated ectoparasitic disease control measures, and has conducted three surgical campaigns for cases of trichomatous trichiasis. Colombia is adapting a strategy of information, education, and communication for the indigenous communities affected by trachoma in order to implement the facial cleanliness component of the SAFE strategy. The neglected infectious diseases control and elimination plan includes trachoma and falls within the 2012-2021 Ten-Year Public Health Plan.
 - c. Guatemala implemented a round of preventive chemotherapy in the priority areas of Sololá Department (74,940 people at risk), achieving 94.8% coverage. Educational activities promoting personal hygiene practices were done before, during, and after the round of treatment. The Guatemalans are designing a protocol to do an impact evaluation study in 2015. The neglected infectious diseases control and elimination plan includes trachoma and is within the framework of the *Plan Hambre Cero* (Zero Hunger Plan), which is national in scope.
 - d. Mexico is compiling information to document the elimination of blinding trachoma in the country (363,537 people in the six municipalities of the endemic area are no longer at risk), based on the recommendations received from the Pan American Health Organization/World Health Organization (PAHO/WHO) in 2013; authorities are designing a protocol to assess the epidemiological status of the other municipalities in the State of Chiapas. The Secretary of Health of the State of Chiapas is designing a strategy to transition the trachoma brigades to neglected infectious disease brigades, and they are working on a proposal to prepare a comprehensive plan to control and eliminate these diseases.
2. The four countries have different characteristics in terms of endemicity and population groups affected by blinding trachoma, and each has implemented actions to reach the elimination goals. But information on the results of mapping (baseline and evaluation), actions implemented, progress made, and the challenges faced by each country has not been sufficiently documented, published or disseminated to help other countries use the lessons learned in the Region of the Americas. The subjects that require urgent documentation and publication, among others, are:
- a. Targeted preventive chemotherapy in Brazil, including criteria for its use, implementation strategies, and the results obtained.
 - b. Integrated administration of albendazole and azithromycin in Colombia, and documentation that no severe adverse events occurred.
 - c. Results of the baseline survey conducted in 2011 in the priority area in Guatemala.
 - d. Actions implemented in Mexico which have brought prevalence rates of active trachoma in children and trichomatous trichiasis in adults down to the thresholds established for the elimination of blinding trachoma.

3. The participation of partners, of PAHO/WHO, and of the WHO Global Trachoma Program in the regional forum, as well as technical cooperation from experts, continues to be important for strengthening elimination efforts in the four countries.
4. The methodological proposal to do active case-finding of trichomatous trichiasis in population groups living in areas without a history of ocular trachoma, which was presented by the PAHO/WHO Regional Neglected Infectious Diseases Program, is considered useful for seeking out population groups that may be affected by the disease, so that actions can be taken in accordance with the results. PAHO/WHO will make the adjustments requested at this meeting and will send the document to countries in order to do the pilot test.
5. WHO is currently reviewing the process for preparing post-treatment surveillance guidelines, but the countries should not stop their activities while they await the final guidelines.
6. The countries of the Region are appropriately implementing public health actions to achieve the elimination of blinding trachoma, and this experience provides lessons learned to other regions that are coming close to elimination.

Recommendations

1. It is recommended that PAHO/WHO promote collaborative work among countries in order to share experiences, strengthen capacities, and standardize the criteria and procedures used by the programs in the various elimination components.
2. It is recommended that the four countries step up their efforts to publish the results of their programs to eliminate blinding trachoma, thus contributing evidence so that other countries can benefit faster and efforts will not be duplicated at the global level.
3. Considering that indigenous populations can be at greater risk of infection, it is recommended that countries include these populations in their mapping initiatives, as well as populations that move across the borders between countries with known foci.
4. It is recommended that the four countries use the system to train and certify trachoma examiners which was standardized by the Global Trachoma Mapping Project as part of efforts to improve standardization among examiners and, therefore, improve the quality of the data collected for surveys and in case-finding.
5. It is recommended that the four countries implement a trichomatous trichiasis case information system to allow monitoring of incident cases and old cases (reluctant patients, recrudescence, –non-operated patients, etc.), and also differentiate cases of trichomatous trichiasis from others.
6. It is recommended that the four countries revise their visual health programs to include the component of trichomatous trichiasis surgery and thereby ensure the quality of the surgery and access to comprehensive services, including rehabilitation.
7. It is recommended that WHO move quickly to establish guidelines for verification of the elimination of blinding trachoma, in order to help countries to prioritize actions and make better use of their technical, human, and financial resources as prevalence levels diminish.
8. The four countries will validate and implement the regional proposal for active case-finding of trichomatous trichiasis made by the PAHO/WHO Neglected Infectious Diseases program. It is recommended that PAHO/WHO adjust the proposal and the validation plan in accordance with the

suggestions from this meeting, and send it to the four countries and to the experts for final adjustments and revisions.

9. It is recommended that the four countries design and adapt strategies for the components of facial cleanliness and environmental improvements (components F and E of the SAFE strategy) which respond to the social and cultural characteristics of the communities affected by trachoma.
10. It is recommended that the four countries strengthen their laboratory capacity in order to complement the epidemiological information on trachoma. In this effort, links and work with the PAHO/WHO Collaborating Centers is an opportunity for the countries.

We thank the Ministry of Health of Brazil, the Secretary of Health of Tocantins in Brazil, and the United States Agency for International Development (USAID), whose essential support made this third regional meeting possible.

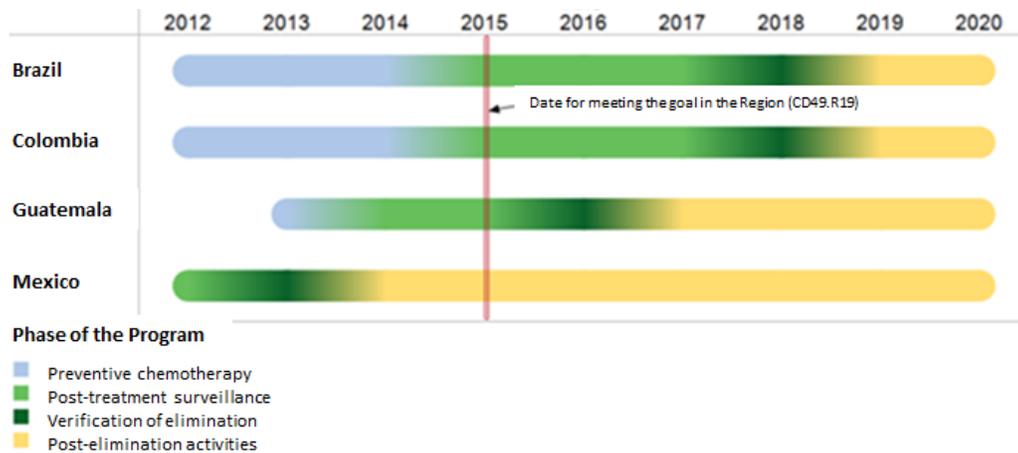
This comprehensive report is submitted to preserve the historical memory of blinding trachoma in the Region of the Americas, to follow up on the commitments made at the meeting, and to help accomplish what must be done in the coming years.

1. Summary of the Current Status of Blinding Trachoma Elimination Programs in the Region of the Americas

1.1. General progress in countries with known foci of blinding trachoma

Figure 1 shows a projection of progress in the four countries with known foci of blinding trachoma as they move towards its elimination. This projection was done by the PAHO/WHO regional program on Neglected Infectious Diseases (NID), based on the countries no longer having foci and continuing to implement all the components of the SAFE strategy. This exercise seeks to approximate what could be achieved in the Region based on available data.

Figure1. Blinding trachoma in the Americas: phases of the program by country



Source: PAHO/WHO Regional NID program, based on official data reported by the four countries, 2013.

Two previous regional meetings on blinding trachoma elimination have been held in the Region: the first in Colombia in 2011 and the second in Guatemala in 2012. These meetings were forums to analyze and discuss the implementation of actions in the countries, in the company of experts on the subject. They were also useful for standardizing concepts related to implementation of the SAFE strategy, and to promote integration with programs to eliminate other NIDs.

In 2013, instead of holding a regional meeting, actions were coordinated to implement the recommendations given to the countries at the prior meetings.

Guatemala implemented a round of mass drug administration in Sololá with drugs donated by ITI, achieving 94.8% coverage. Authorities are currently designing a protocol for a post-treatment evaluation survey, which will be conducted in 2015 (Figure 2).

Colombia moved toward mass drug administration in that country's known focus in Vaupés Department, and is also holding surgery campaigns with the support of a surgeon from Johns Hopkins University's DANA Center (Figure 3).

Figure2. Mass drug administration in Sololá, Guatemala in 2013.



Source: Ministry of Public Health and Social Welfare of Guatemala.

Figure3. TT corrective surgery campaign in the Department of Vaupés, Colombia, 2014.



Source: Ministry of Health and Social Protection and PAHO/WHO

Through PAHO/WHO, Mexico invited trachoma experts to review its compilation of epidemiological information to document the elimination of blinding trachoma in the country, and make recommendations. The trachoma brigades continue to work in the six municipalities of Chiapas State where there is a recent history of trachoma (Chanal, Huixtán, Ocosingo, Oxchuc, Tenejapa and San Juan Cancuc, with a total population of 363,537 in 267 localities), and they continue providing surgery to TT patients that need it. The Clean Faces campaign continues to be the main strategy for facial cleanliness in those communities in the six municipalities (Figure 4).

Figure 4. Eye exams for children in the State of Chiapas, Mexico, 2013.



Source: Secretary of Health of the State of Chiapas and PAHO/WHO

Brazil conducted a comprehensive and innovative campaign to distribute antiparasitic drugs and detect cases of leprosy and trachoma in schoolchildren. This resulted in the examination of 45,295 children, 2,307 of whom were diagnosed with active trachoma. The cases, their household contacts, and in some cases other children at their schools, were all treated. Corrective surgeries for TT and the mass distribution of azithromycin in the indigenous districts with prevalence rates that warrant this intervention (Figure 5), also continued.

Figure 5. Active case-finding of TF/IT in children and training of ophthalmological surgeons to perform TT corrective surgery in Brazil, 2013



Source: Ministry of Health of Brazil

It should be stressed that the four countries are using their own resources to conduct these activities for the elimination of blinding trachoma, and they are receiving seed funds and technical cooperation from PAHO/WHO and some donors, such as ITI and the DANA Center for preventive ophthalmology. Brazil, Colombia, and Guatemala included the elimination of blinding trachoma in their national plans for the elimination of NIDs.

1.2. Summary of epidemiological status of blinding trachoma in each country, and progress made under the components of trichomatous trichiasis corrective surgery and use of antibiotics for active trachoma

1.2.1. Brazil

Main action strategy: Step up activity in municipalities that are prioritized due to extreme poverty, TF prevalence $\geq 10\%$ in rural areas, history of trachoma, and hyperendemic indigenous areas. There has been innovation in terms of combining activities with efforts to combat soil-transmitted helminth infection and Hansen’s disease among schoolchildren. Brazil’s ultimate intervention goals are shown in Table 1.

Table 1. Population at risk for trachoma infection and ultimate intervention goals in Brazil

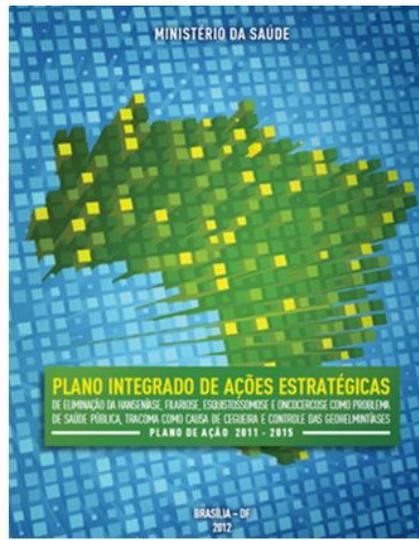
Population at risk	Ultimate intervention goals through 2015
11 million people	Component A: 1.05 million
	Component S: 6,100 surgeries for new cases of TT
	Component F: 600 municipalities
	Component E: 600 municipalities

The elimination of blinding trachoma is an integral part of the 2011-2015 Comprehensive Strategic Plan of Action to eliminate Hansen’s disease, lymphatic filariasis, schistosomiasis, and onchocerciasis as public health problems, eliminate blinding trachoma, and to control soil-transmitted helminth infections (Figure 6).

Between 2008 and 2013 the number of people receiving eye exams for trachoma increased from 231,481 to 441,882. During this period prevalence rates for TF have remained below 5% nationally (3.9% in 2010, 4.3% in 2011, 4.8% in 2012 and 4.2% in 2013). During this same period the number of municipalities conducting active case-finding of TF/TI among children increased from 202 municipalities in 2008 to 437 in 2013.

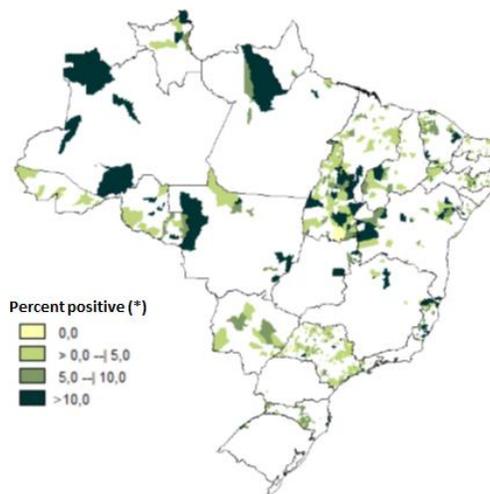
In the 600 municipalities identified as endemic, targeted preventive chemotherapy is done by treating the cases found as well as their household contacts. When prevalence is high, the classmates of the cases are also treated, and sometimes even all children at the school (Figure 7).

Figure 6. Brazil's 2011-2015 Comprehensive NID Elimination Plan



Source: Ministry of Health of Brazil

Figure 7. Prevalence of TF/TI in Brazilian children by municipality, 2013.



Source: Ministry of Health of Brazil

In indigenous districts prevalence rates range between 8.3% and 44.2% (Alto Rio Negro 44.2%, Vilhema 15.2%, Tocantins 29.8%, Leste de Roraima 18.3%, Médio Rio Solimoes 8.3%, Yanomami 31.5% and Matto Grosso 11.2%). In these indigenous districts mass drug administration is being conducted.

A trachoma survey is being conducted, starting in Pernambuco. Preliminary data show a 4.6% prevalence rate for TF among children between the ages of one and nine years.

Under the comprehensive campaign against soil-transmitted helminth infection, Hansen's disease, and trachoma, which was implemented in 2013, 45,295 schoolchildren in 34 municipalities were examined for TF. 2,307 positive cases were found, and 2,387 students and 1,237 household contacts were treated.

In 2013 as part of the routine activities of the trachoma program, 18,634 cases of TF/TI and 74,536 contacts were treated in the country. In the indigenous areas 15,699 people were examined and 6,539 cases were found; mass drug administration was done in these indigenous districts. Treatment is free of charge in the country and includes azithromycin in tablet form for adults and oral suspension for children. The drugs are acquired on the national market.

Trichomatous trichiasis case-finding is done at the local level and any cases are sent to referral units. Various surgical techniques are used, depending on the type and progression of the trichiasis and scarring. The techniques used are photocoagulation, electrolysis, and palpebral surgery. Professional ophthalmologists authorized to perform TT surgery in the country receive training. In 2013 they performed 1,158 TT surgeries. Through active TT case-finding in 35 municipalities of six states, 16,533 people over 15 years of age were examined, 67 were referred, and nine were operated on. A specific file and case identification card were created for TT case-finding. The manual on TT surgery was updated.

1.2.2. Colombia

Main action strategy: Activities under the “S” and “A” components were stepped up in Vaupés—the only focus. Rapid assessment of TF, and TT case-finding in areas bordering the known focus area and among at-risk rural populations were conducted; and activities were combined with soil-transmitted helminth infection control. Colombia’s ultimate intervention goals through 2017 are seen in Table 2.

Table 2. Population at risk for trachoma infection and ultimate intervention goals in Colombia

Population at risk	Ultimate intervention goals through 2017
17,000 people Indigenous population in rural Vaupés	Component A: 16,609
	Component S: 99 surgeries for new TT cases
	Component F: 232 communities
	Component E: 232 communities

The elimination of blinding trachoma is an integral part of the 2013-2017 Comprehensive National Inter-programmatic Plan for the Prevention, Control, and Elimination of Neglected Infectious Diseases. The Plan also includes actions regarding onchocerciasis, soil-transmitted helminth infections, and ectoparasitic diseases (Figure 8).

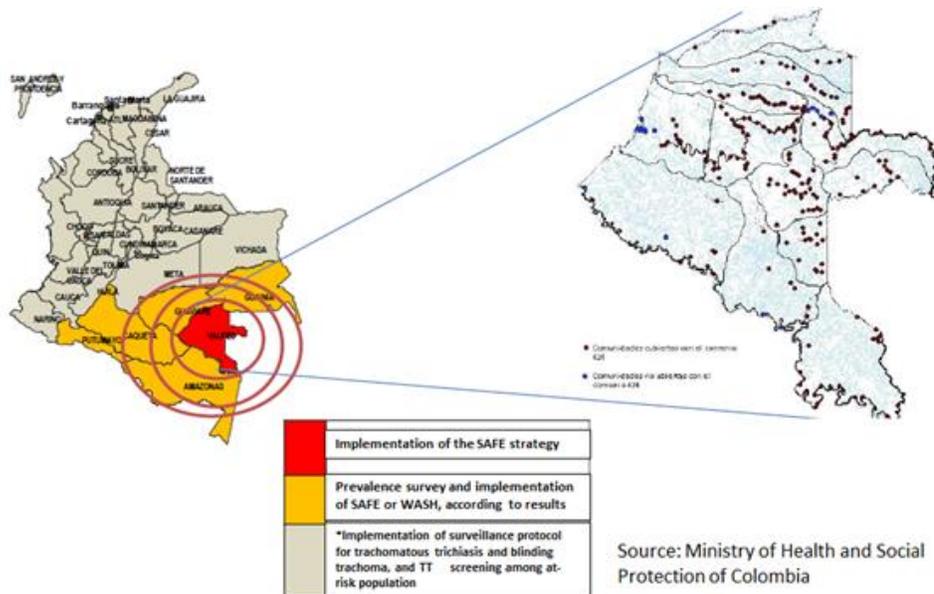
Figure 8. Colombia's 2013-2017 Comprehensive National Plan to fight NIDs



Source: Ministry of Health and Social Protection of Colombia

The Ministry of Health and Social Protection has delimited an area around the known focus in Vaupés Department to conduct prevalence surveys on active trachoma in children and trachomatous trichiasis in adults. This expanded area includes five additional departments. In the other departments of the country TT case-finding will be conducted among population groups living in conditions of risk as part of regular health public activity.

Figure 9. Trachoma focus in Colombia and strategies for its elimination



Source: Ministry of Health and Social Protection of Colombia

In the Vaupés Department focus TF/TI prevalence is 24.2%, while TT prevalence is 3.9 per 1,000 population. All the components of the SAFE strategy are being implemented in this Department.

Between 2012 and 2013 two rounds of mass drug administration were conducted using azithromycin and tetracycline; coverage was above 80%. At the same time, the entire population was treated with albendazole for soil-transmitted helminth infections. This approach was taken since it is so difficult to access the area, which makes it technically and financially unfeasible to go into the communities twice for separate treatments at different times. There are no reports of serious adverse events from this joint administration of drugs, which are acquired on the national market.

Two TT surgery campaigns have been conducted, in which 49 out of 99 identified patients were operated on. Four ophthalmological plastic surgeons have been certified by a surgeon from the Wilmer Eye Institute of Johns Hopkins University to perform the bilamellar tarsal rotation technique. These campaigns were financed by the Ministry of Health and Social Protection, with the support of insurance companies in the Department where the focus lies. Patients in the immediate postoperative stage have been monitored (the day after surgery), and also one week, six months, and ten months later. This has provided feedback for the team of surgeons and motivated people with TT to adhere to the surgical procedure. Based on this experience, the 2015 surgery campaign will include surgeries for other problems identified in these communities, such as cataracts and pterygiums. This reflects the country's interest in moving from a trachoma care program to a comprehensive visual health program.

Furthermore, during the mass drug administration campaigns, case-finding activities have been conducted to detect TF/TI among children and TT among adults. Educational activities on facial hygiene are held, and surveys are conducted to determine risk factors at schools. Surveys are conducted to determine knowledge, attitudes, and practices among current and former surgery patients, follow-up is done with surgery patients, and other diseases such as ectoparasitosis are addressed.

1.2.3. Guatemala

Main action strategy: A round of mass drug administration was done in an area determined to have TF prevalence rates of 5-10%; the facial cleanliness and environmental improvement components were strengthened, and TT surgery activities were maintained. Guatemala's ultimate intervention goals through 2015 are presented in Table 3.

Table 3. Population at risk for trachoma infection and ultimate intervention goals in Guatemala.

Population at risk	Ultimate intervention goals through 2015
74,940 people in the Department of Sololá	Component A: 74,940
	Component S: 69 surgeries of new TT cases
	Component F: 53 communities in the Xejuyup Health District, Boca Costa de Nahualá

Population at risk	Ultimate intervention goals through 2015
	Component E: 53 communities in the Xejuyup Health District, Boca Costa de Nahualá

Elimination of blinding trachoma was included in the Strategic Plan for the Prevention, Care, Control, and Elimination of Neglected Infectious Diseases in Guatemala. Other diseases included in the Plan are soil-transmitted helminth infections, Chagas disease, leishmaniasis, leprosy, and onchocerciasis (Figure 10).

Figure 10. Guatemala’s Comprehensive National Plan to fight NIDs



Source: Ministry of Public Health and Social Welfare of Guatemala

Activities aimed at eliminating blinding trachoma are centered in Sololá Department. Based on clinical reports of trachoma cases in 2006, four municipalities in two departments were selected in 2011 for a TF/TI and TT survey. Two districts in the municipalities of Nahualá and Santa Caterina de Ixtahuacán had prevalence levels of 5-10% and required a round of targeted preventive chemotherapy.

The population of the intervention area is 74,940 (41,850 of them in Xejuyup, 33,090 in Guineales) of the Maya Quiche ethnic group; 10,492 are under age 10, and 23,981 are women of child-bearing age. There are 95 communities in total (10 villages and 85 hamlets within 250 square kilometers, comprising 21% of Sololá Department) (Figure 11).

In 2011 TF/TI prevalence among children 1-9 years of age was 8.1% for Nahualá and 8.6% for Santa Catarina Ixtahuacán in the Boca Costa region of Sololá Department. TT prevalence was less than 1 case per 1,000 population.

In 2013, through the disability program, the national eye health commission, and the Guatemalan Committee of Blind and Deaf Persons, 14 TT surgeries were performed by trained ophthalmologists and/or plastic surgeons.

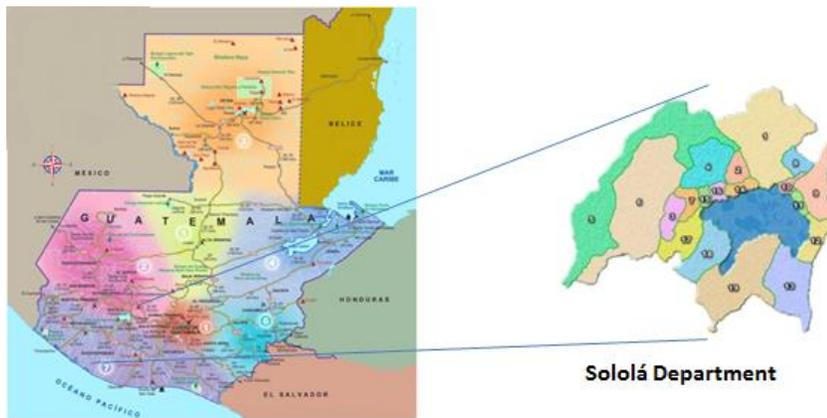
In September 2013 mass drug administration (MDA) was done for 75,000 people, including children, adults, and older adults in the districts of Xejuyup and Guineales in Sololá Department; 94.8% coverage

was achieved. Drugs for the campaign were donated by ITI (tablets for adults and oral suspension for children), and PAHO/WHO donated the tetracycline ointment for children under six months of age.

A height-dosing stick to measure treatment doses for children was prepared for use during the MDA campaign, which facilitated field operations (Figure 12). The campaign used the structure of the health services and health workers from the intervention area, while support and technical cooperation were received from ITI and PAHO/WHO.

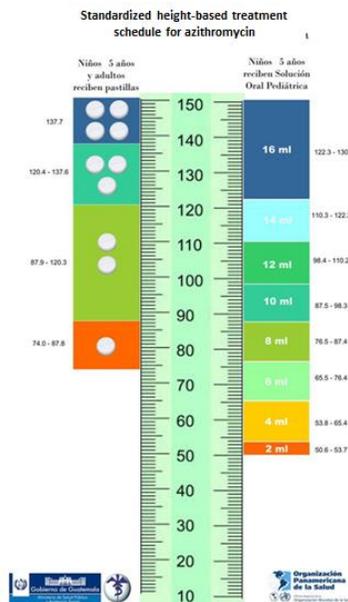
The Ministry of Health is preparing a protocol to assess post-intervention prevalence in Sololá; the survey will be conducted in 2015.

Figure 10. 2014 intervention area of Guatemala’s blinding trachoma elimination program



Source: Ministry of Public Health and Social Welfare of Guatemala

Figure 11. Standardized height-based treatment schedule for azithromycin for the population in the intervention area in Guatemala



Source: Ministry of Public Health and Social Welfare of Guatemala

1.2.4. Mexico

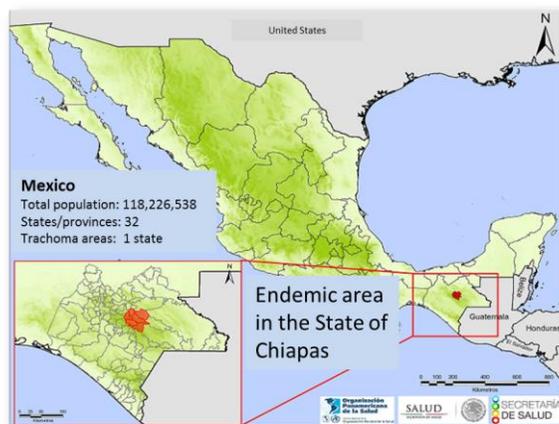
Main action strategy: Implement all components of the SAFE strategy with support from the Trachoma Brigades (technical, human, and financial resources devoted exclusively to the program). According to the epidemiological information analyzed, the country is at the elimination stage and may request PAHO/WHO verification of this in 2015. The ultimate intervention goals are presented in Table 4.

Table 4. Population at risk for trachoma infection and Mexico’s ultimate intervention goals

Population at risk	Ultimate intervention goals through 2015
363,537 people in six municipalities known to be endemic for trachoma	Component A: Individual case management
	Component S: 140 surgeries of new TT cases
	Component F: six municipalities with 267 localities
	Component E: six municipalities with 267 localities

In its recent history (late 1990s and early 2000s), Mexico identified an area that was endemic for blinding trachoma in the State of Chiapas, including five municipalities (Chanal, Huixtán, Oxchuc, Tenejapa, and San Juan Cancuc) in which the prevalence of active trachoma among children 1-9 years of age was 25%. Later the municipality of Ocosingo was included since active cases of trachoma were found among children (figure 13).

Figure 12. Endemic area of blinding trachoma in the State of Chiapas, Mexico.



Source: Ministry of Health of Mexico and Secretary of Health of the State of Chiapas, 2014

Prevalence rates for TF/TI among children 1-9 years old in each of the six municipalities known to be endemic within the State of Chiapas have been below 5% since 2004, and they were below 1% in 2013. TT prevalence among adults in each of the six municipalities has been below 1 per 1,000 population since 2005, and in 2013 it was less than 0.5 per 1,000.

In 2013, according to data from the national program, 71 cases of active trachoma (TF) were detected in children, 11 cases of scarring trachoma were found, and three cases of trichomatous trichiasis were found in adults.

The trachoma brigades go door-to-door doing active case-finding for TF/TI and TT in the six municipalities, and they treat children individually with azithromycin acquired on the national market (Figure 14). Although only three new cases of TT were found in 2013, the ultimate intervention goal is high (140 surgeries), since it includes cases that are ready for repeat operations.

Since the epidemiological indicators of TF prevalence in children and TT in adults have been consistently below the levels established for the blinding trachoma elimination goals, and since the State of Chiapas' trachoma program has continued to be very active during that same period, the national and subnational health authorities are compiling evidence to document the achievement of elimination. To that end, they are working on a dossier of historic and recent information on the program to support their request for PAHO/WHO verification of elimination.

Figure 13. Trachoma Brigade health workers in the State of Chiapas in Mexico



Source: Ministry of Health of Mexico and Secretary of Health of the State of Chiapas, 2014

The health authorities are working to determine which activities would continue during the post-elimination stage, including a transition plan to enable the trachoma brigades to convert into neglected infectious disease brigades. The Secretary of Health of the State of Chiapas is analyzing the status of NIDs in the municipalities in order to start preparing a state NID control and elimination plan.

1.3. Summary of progress made with the facial cleanliness and environmental improvement components in the four countries with known foci of blinding trachoma

1.3.1. Brazil

Health education activities are underway in the 600 municipalities in which ocular trachoma exists. These activities are primarily carried out in the schools, but in the indigenous districts they are carried out in the community.

The Blinding Trachoma Elimination Plan is part of the *Brasil Sem Miséria* program, which includes interventions in water, sanitation, nutrition, and family income. Additionally, government capacity is leveraged through financial incentives which allow municipalities to boost their trachoma activities. Finally, the programs are encouraged to combine their activities with those of the Indigenous Health Districts, the School Health Program, and the Visual Health Programs.

Within the integrated campaign against soil-transmitted helminth infection, Hansen’s disease, and trachoma, educational material has been developed for use in schools and in the indigenous communities to promote education and prevention activities (Figure 15).

Figure 14. Educational materials developed by the Ministry of Health of Brazil for the integrated deworming, Hansen’s disease, and trachoma campaign



Source: Ministry of Health of Brazil, 2014

Health education activities are incorporated into the School Health Program, which is backed by the Ministry of Health and Ministry of Education’s inter-sector collaboration. Similarly, teams working on the Family Health strategy do facial cleanliness and personal care and hygiene activities in the municipalities that have trachoma.

1.3.2. Colombia

The National NID Plan (including Blinding Trachoma) is part of the Ten-Year Public Health Plan (2012-2021), which establishes activities to address determinants related to these diseases.

The Ministry of Health and Social Protection has conducted studies in indigenous communities of Vaupés on the social and cultural factors that affect personal hygiene habits, water use, and the like. Based on these results and out of the country's interest in making progress with components F and E, a work plan was laid out to step up these activities in 2014-2015. The work plan establishes annual intervention goals for reaching the 232 communities that constitute the ultimate intervention goals (Figure 16).

Figure 15. Community-based activities in Vaupés, Colombia to shed light on the determinants of health affecting trachoma, and to promote education and prevention



Source: Ministry of Health and Social Protection of Colombia, 2014

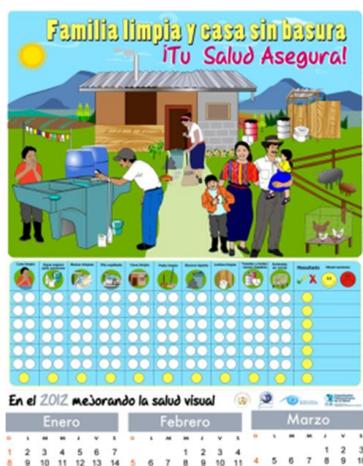
1.3.3. Guatemala

The NID Control and Elimination Plan (including Blinding Trachoma) is part of the *Plan Hambre Cero* whose objective, among others, is to reduce poverty, promote development, and reduce acute and chronic malnutrition.

The Ministry of Public Health and Social Welfare of Guatemala has defined the following lines of work for 2015: 1) Social participation and mobilization to implement components F and E; and 2) develop materials to promote better practices in personal hygiene and housing (Figure 17).

In 2013 personal hygiene and trachoma prevention measures were included in the educational activities conducted at the different stages of the mass drug administration campaign done in Sololá (before, during, and after). The following materials were distributed: 245 educational packets; 245 census forms; 245 identification cards; 10,000 copies of health education, promotion, and monitoring instruments; and 3,000 posters.

Figure 16. Educational materials developed to promote preventive health practices



Source: Ministry of Public Health and Social Welfare of Guatemala, 2014

1.3.4. Mexico

The main line of work under the F and E components is the Clean Little Faces strategy, which the Trachoma Brigades have been carrying out for several years. Since 2004 there has been an annual “Regional Week to Combat Trachoma.” These week-long events include such activities as: parades of preschool and primary school children, messages on placards, puppet shows, poster-making contests, nursery rhymes, hand- and face-washing workshops, and placement of information kiosks in the community (Figure 18).

Figure 17. Facial cleanliness and environmental improvement activities in the municipalities of Chiapas, Mexico



Source: Secretary of Health of the State of Chiapas, 2014

In 2005, active case-finding was done on a door-to-door basis in the municipalities in the endemic area; ophthalmological examinations were conducted and the facial hygiene of children aged 1-10 years was assessed. It was noted that 96% of the children assessed had clean faces. Given the lack of criteria to define “clean faces,” the General Bureau of Health Promotion of the Secretary of Health of the State of Chiapas designed a strategy to promote proper face-washing, which emphasizes the importance of washing with soap and using a personal towel. A scorecard was developed for these assessments to indicate whether a face is washed well, OK, or wrong (Figure 19).

Figure 18. Educational material on facial hygiene, and facial cleanliness scorecard used in municipalities in the State of Chiapas, Mexico



Source: Secretary of Health of the State of Chiapas, 2014

In tandem with this, the government has made sizeable investments in water and sanitation in the municipalities of the endemic area, including the construction of drinking water systems and rainwater collection tanks.

2. Trachoma mapping in the Region of the Americas: available tools and recommendations

2.1. Trachoma mapping: needs and methodologies

Trachoma mapping should be done in the following places:

1. Where it is known that trachoma is endemic based on trachomatous trichiasis case-finding by the local health services; and
2. There is information that trachoma was previously endemic, and there has been no substantial improvement in standards of living.

If the above conditions do not exist, but socio-economic conditions and access to water and sanitation make it likely that there could be active trachoma, some field studies may be conducted to determine whether it is necessary to do formal mapping.

Once it is determined that there is trachoma in a specific population group and geographic area, baseline mapping is done and later maps are prepared to assess the impact of the activities undertaken. Laboratory tests should be conducted to determine whether *C. trachomatis* is circulating, which is a fundamental component of a trachoma focus. Real-time PCR is the technique currently used, but GeneXpert may also be used, which is a technique used extensively for other diseases such as to identify drug-resistant strains of tuberculosis.

When doing the mapping, it is important that the Ministries of Health ensure the quality of the surveys, particularly as regards the training and certification of the examiners. Bearing in mind that a trachoma survey will be looking for signs (trachomatous inflammation-follicular in children and trachomatous

trichiasis in adults), the skills of the examiner are crucial to ensure that the signs are properly classified, so that ultimately the results of the survey are valid.

WHO and its international partners have supported the development of a standardized methodology for training examiners. This methodology is being applied in the [Global Trachoma Mapping Project](#); countries are urged to use this methodology to ensure the quality of both baseline and impact evaluation surveys. Participants received a copy of these materials and the training guide in Spanish on the USB drive with the minutes from the meeting.

WHO is working to prepare a manual or procedures laying out the steps and criteria to verify elimination of blinding trachoma. To start, they are reviewing the proposal offered in the Report on the Meeting on Post-endemic Surveillance for Blinding Trachoma (WHO 2008), and experts are being consulted to define the concepts (post-treatment surveillance, post-elimination surveillance, etc.) and the procedures that could be standardized.¹

The lessons learned from other NIDs, such as onchocerciasis and lymphatic filariasis, will be used to define these procedures, including a set period for such actions as mass drug administration, after a period in which treatment is suspended and before the surveillance stage begins (post-treatment surveillance). At this stage epidemiological assessments are done, and an evaluation is conducted at the end of post-treatment surveillance to assess whether the epidemiological indicators confirm that elimination has been achieved.

Determining the end point at which elimination is achieved will require the establishment of both the criteria and laboratory tests needed to monitor the epidemiological indicators once low TF prevalence levels in children are achieved. Other alternatives, such as measuring the prevalence of *C. trachomatis* infection in specific age groups (PCR tests), or the prevalence of *C. trachomatis* antibodies in specific age groups, may be useful. However, these are some of the procedures WHO will determine with the experts.

2.2. Epidemiological research on trachoma in Brazil

The Ministry of Health of Brazil has assigned priority to epidemiological research on trachoma at educational institutions, in areas and communities where trachoma is known to exist, in areas with a history of hyper-endemicity for trachoma, and in municipalities with high levels of poverty. The following strategies have been followed: 1) surveys and active case-finding among school and preschool children; 2) community-based surveys in risk areas (higher poverty indicators and areas with high numbers of positives in the past); and 3) surveys among indigenous populations.

Based on the findings of this epidemiological research, the program determines which activities to carry out: 1) treat cases and their household contacts when TF prevalence is below 10%; and 2) treat the school or community population when TF prevalence is above 10%.

¹ The WHO meeting of experts was held in September 2014, after this regional meeting. It produced a document with recommendations for trachoma surveillance, which PAHO/WHO will share with the participants of this meeting.

They also obtain data on trichomatous trichiasis prevalence in adults, which allows them to identify TT cases and refer them to the surgery services, and to follow up on the TT cases once they are evaluated and either receive surgery get ruled out. The Ministry of Health evaluates the occurrence of TF and recurrences of TT cases after the intervention to monitor progress made at the local level.

The epidemiological research procedures are found in a protocol that clearly defines the instruments, forms, and information flows.

2.3. Experience using a simple tool for screening TT cases

The WHO Collaborating Center for trachoma, Dana Center at Johns Hopkins University, in association with the Kongwa, Tanzania Trachoma Project, developed a tool for active case-finding of TT. This tool was developed with the understanding that TT cases in a community indicate the possible presence of active trachoma, and therefore require an intervention program. It is also based on the assumption that, if there are TT cases in a community, people do not regularly go to permanent health facilities that provide vision or ophthalmological care, so active case-finding activities are justified.

The tool is a simple card for the recognition of TT cases by people who distribute or help distribute medications in communities. The card is accompanied by a few questions which people with TT consistently answered affirmatively.

Next, they developed training in the use of the cards and how to conduct examinations, including training about TT, the benefits of corrective surgery, and the flow of screened case reporting. After a community agent reports a possible case, a certified examiner visits and reviews all suspected TT cases; s/he also examines 100 people who were reported as negative for TT, and reviews 50 people who did not receive treatment during the round of mass drug administration.

The initial results showed that the tool made it possible to increase TT case-finding in the community five-fold. However, there is a high number of false positives and there are TT cases that will not be found (one in three). One of the tool's limitations was that it did not assess the severity of the TT; there were cases that went undetected such as those in which only one or two eyelashes touch the eyeball. Increased training for those doing the screening may help reduce the false positives and increase detection of TT cases that are not severe. Additionally, asking about the patient's history, such as epilation of the eyelashes, could help detect more cases.

2.4. Draft protocol for active case-finding of TT in the Region of the Americas

Based on this experience and in association with the WHO Collaborating Center on trachoma, the Dana Center for Preventive Ophthalmology, the PAHO/WHO regional NID program prepared a draft protocol for active case-finding of TT in communities in which trachoma is suspected to be causing blindness.

The proposal has the following specific objectives:

- Identify communities that, according to the selection criteria, are living in conditions that facilitate repeated and sustained reinfection with *C. trachomatis*.

- Do active case-finding of trachomatous trichiasis in each community selected, using the operative definitions of a case as well as the operative procedures.
- Collect and analyze the information in order to make decisions on the need to conduct additional studies or rule out the disease as a cause of blindness in the community.

After a detailed review of the methodology, procedures, and work plan proposed to validate and implement the protocol, it was concluded that the methodology proposed is useful for TT case-finding; it may be applied initially in the four countries, and according to the findings, the necessary actions can be carried out. However, the adjustments suggested by all the participants at the regional meeting should be made, primarily regarding:

- Include a definition of confirmed case;
- Simplify the process of selecting the areas for active case-finding so that each country can make the necessary adaptations;
- Revise the terminology to avoid confusion over the meaning of post-treatment surveillance and active case-finding of trachomatous trichiasis;
- It is not necessary to restrict the time for conducting active case-finding; rather countries should be given flexibility to conduct it in whatever time they need;
- Include clear instructions on the need to ensure access to trachomatous trichiasis surgery services for the cases found, and refer them to visual health services for any eye pathologies;
- The methodology should be validated both in populations where trachomatous trichiasis is known to exist, and also in populations in which there are no reported cases but trachoma is suspected due to conditions of poverty, difficult access to health services, etc.;
- Three requirements must be considered when selecting populations on which to validate the methodology: feasibility, validity, and replicability.

Similarly, all the participants agreed that active case-finding of TT should be expanded to other countries in the Region in which there is no evidence of blinding trachoma, but conditions exist such as poverty, a rural setting, difficult access to health services, and lack of clean drinking water and basic sanitation.

The PAHO/WHO regional NID program will make the adjustments suggested by the participants, and will send the protocol to the four countries through the PAHO/WHO offices, so that the trachoma program managers can plan for the pilot study.

3. Elimination of blinding trachoma: activities to be carried out once goals are met

In accordance with the WHO guidelines, the ultimate intervention goals for achieving elimination of blinding trachoma are: reduce TF prevalence to below 5% in children 1-9 years of age, and TT prevalence to less than 1 case per 1,000 population.

In operational terms, prevalence baselines are established for the two indicators at the district level, with district understood to be areas with populations between 100,000 and 250,000. In districts whose TF basal prevalence is between 5% and 9%, facial cleanliness and environmental improvement activities must be implemented for at least three years and targeted preventive chemotherapy must be done. Where TF basal prevalence rates are 10% or higher, facial cleanliness, environmental improvement, and

preventive chemotherapy actions should be implemented over a three to five year period (depending on the basal prevalence), at the end of which the impact assessment should be conducted.

Once an average TF prevalence of less than 5% is achieved at the district level, it is expected that there will still be communities within the district with higher prevalence rates; therefore, reducing TF prevalence to below 5% in the impact assessment surveys for the districts involved does not suffice to find that the ultimate intervention goals have been met. For this reason, if the impact assessments at the district level find TF prevalence rates below 5% or 5-9%, the next thing to do is an assessment at the sub-district level.

The sub-district level provides more homogenous units for trachoma. They can be identified by geographical information about “hotspots” (high prevalence areas), a lack of infrastructure that would suggest high prevalence rates, or the sum of sub-districts within a district. A sub-district should not be smaller than three communities. In these cases, survey accuracy is $4\% \pm 2\%$.

If at the sub-district level TF prevalence in children aged 1-9 is less than 5%, the ultimate intervention goals are deemed to have been met; facial cleanliness and environmental improvement actions should continue, however preventive chemotherapy is no longer necessary. If TF prevalence is at 10% or above in the sub-district, preventive chemotherapy actions should continue, along with facial cleanliness and environmental improvement, for at least three more years. If TF prevalence in the sub-district is 5-9%, facial cleanliness, environmental improvement, and targeted preventive chemotherapy activities must continue.

As regards TT prevalence, the ultimate intervention goal is less than one case of TT unknown to the health system per 1,000 population in a district. A case of TT known to the system is one that was detected and operated on, or to whom surgery was offered but rejected (and there is documentation of this), or cases that received surgery and had recurrences. A case unknown to the health system is a case of TT in the community that was not previously recorded by the health service (but is detected in surveys or case-finding), or which was recorded but did not receive surgery, has not rejected it, and remains on the waiting list.

In the recommendations included in the report from the meeting on post-endemic surveillance of blinding trachoma, which WHO held in 2008 with experts, it was stated that in order to document elimination of blinding trachoma, the following information is required:

1. The surveys and activities carried out:
 - e.g., impact surveys at the sub-district level that show TF prevalence rates below 5%
 - a surveillance system which demonstrates that after suspending preventive chemotherapy for at least three years, there is no reemergence of TF.
2. Evidence that TT prevalence is below 1 per 1,000 population, and that the health services have the capacity to detect cases, treat them (such as with surgery), and monitor cases of TT.
3. Evidence of surveillance activities to detect and respond to a reemergence of TF and subsequent TT.

The report includes recommendations on which actions should be implemented during the post-treatment surveillance period (three years of no treatment in the communities), and how they should be done. On the basis of these criteria, the WHO Department of Neglected Tropical Diseases will work with experts to prepare a manual for verification of elimination of blinding trachoma.

The recommendation for the four countries in the Region of the Americas is that they continue the activities they have been carrying out, according to epidemiological status, pursuant to the basic rules:

- The SAFE strategy is recommended for moving toward control and elimination
- Do mapping at the district level
- Carry out the TT surgery programs to achieve the goals, documenting any recurrences and the comprehensive visual health care plans
- Conduct the activities for three to five years, and then assess the impact at the district level at the end of this period
- If the impact assessment at the district level suggests that TF prevalence is below 10%, do the assessment at the sub-district level and carry out actions in accordance with WHO guidelines
- As soon as the goals are reached, immediately begin post-treatment surveillance. WHO will be working on this with the experts and working groups to determine how and when post-treatment surveillance will be done.

Once the ultimate intervention goals are met, we must ensure that these achievements are not lost. For the TT component, cases of scarring trachoma and TT will continue to appear in the ensuing years, since adults who had active trachoma repeatedly in childhood will now develop this eye morbidity in adulthood. Therefore, management of complications related to trachoma must be integrated into the regular services at health and visual care centers. The purpose is to ensure that TT surgeries are performed, that diseases on the surface of the eye are treated, and people have access to low vision care services and rehabilitation.

Blinding trachoma elimination programs must put into place information systems on the surgery component to ensure that they can detect, treat, monitor, and evaluate TT cases. This means, for example, that they must have information which allows them to distinguish when the trichiasis was caused by trachoma and when it was caused by other problems. Furthermore, the information system should allow them to report and follow-up on recurrence rates, which are expected to be 10% or below one year after surgery.

Once the elimination goal is reached, the transition from a program that conducts TT surgery campaigns to a comprehensive care program should be considered a priority for national and local programs. With a comprehensive approach it is hoped that surgeries can be offered at the health services, that there will be a referral network for recurring or complicated cases, and that training be provided for sub-specialties, such as for eye plastic surgery.

It is likewise recommended that countries move from TT surgery campaigns or programs to comprehensive visual health care. This is important because there are multiple eye injuries, their management is complex, and a great many people are affected by various eye health problems.

4. Next steps

4.1. Specific actions in the four countries with known foci

4.1.1. Brazil

- The Ministry of Health of Brazil will conduct a detailed review of information at the municipal level regarding TF and TT prevalence rates in order to further refine the information it has received from the endemic areas. This includes a detailed review of TT cases, their evolution, and current status to determine whether the goal has been met in some foci. Once the information on the municipal level is updated, it will send PAHO/WHO the data so that the trachoma maps in the Region can be drawn at the second sub-national level (municipalities), and thus show exactly where the trachoma foci are located.
- Brazil is urged to publish the results of the interventions it has been conducting, along with an analysis of the evolution of elimination indicators. Its experience with targeted preventive chemotherapy will be very useful to other countries in the Americas and other regions.

4.1.2. Colombia

- It is recommended that Colombia publish the results of the baseline survey of its only known focus in Vaupés Department.
- The country is also urged to publish the results of joint administration of azithromycin and albendazole, since the Ministry of Health and Social Protection reports that no serious adverse events were recorded. This finding will provide evidence so that WHO can include this recommendation in its trachoma guidelines.
- It is recommended that laboratory tests (PCR) be included in the areas where baseline surveys are to be conducted, so as to have a complete description of potential new foci with information about the circulation of *C. trachomatis*.

4.1.3. Guatemala

- It is recommended that the country urgently publish the results of the survey conducted in Sololá in 2011, which formed the basis for implementing a round of targeted preventive chemotherapy in 2013.
- Similarly, it is recommended that Guatemala complete the drafting and approval of the impact assessment protocol in 2015. For the survey to be applied, it is recommended that the people who participated locally in the 2011 survey be identified, so as to facilitate retraining and execution of the field work.
- The Ministry of Public Health and Social Welfare is urged to increase activity under the TT surgery component. This includes asking PAHO/WHO for technical cooperation to train and certify one or two surgeons, implement an information system, and follow-up on TT initial and repeat cases.

4.1.4. Mexico

- It is recommended that the Ministry of Health of Mexico and the Secretary of Health of the State of Chiapas conduct the trachoma survey as soon as possible in the municipalities of that State outside the area known to be endemic, and that the results be incorporated into the dossier being prepared to request PAHO/WHO verification of elimination.
- The dossier should contain information and evidence on the activities carried out and epidemiological evidence regarding the absence of trachoma in states (other than Chiapas) that have a history of it.
- Mexico is the ideal place for PAHO/WHO to put into practice or validate the elimination verification guidelines to be produced in 2015. The Ministry of Health of Mexico is offering PAHO/WHO support to conduct this validation.
- The Ministry of Health of Mexico and the Secretary of Health of the State of Chiapas are urged to publish the country's experience with trachoma elimination. This would be useful to other countries in the Americas and other regions.
- The Ministry of Health of the State of Chiapas, together with the federal government, will establish and design a new strategy to transition from trachoma brigades to neglected infectious disease brigades.

Annex 1: Meeting Agenda

Trachoma Elimination in the Americas Third Regional Meeting of Program Managers

Palmas, Tocantins, Brazil, 12 - 14 August 2014

PAHO/WHO Regional Neglected Infectious Diseases Program, in partnership with the Ministry of Health of Brazil—
Surveillance Secretariat, and the Agency for International Development of the United States (USAID)

Meeting venue: Hotel Girassol Plaza, 101 Norte, Rua NS A, Conjunto 02, Lote 04, Plano Direto Norte, Palmas, Tocantins.

Purpose of the meeting

Continue to consolidate the actions of countries in Latin America and the Caribbean that have foci of blinding trachoma, and to strengthen actions to continue making progress toward the goal of elimination

Tuesday 12 August: Day 1

Opening Session

8:00–8:30 a.m. Registration
8:30–9:00 a.m. Opening of the Meeting

Session 1: Countries that are actively implementing components S and A of the SAFE strategy: Brazil and Colombia

Moderator: Serge Resnikoff

9:00–9:15 a.m. Introduction to the session: Martha Saboyá
9:15–10:00 a.m. Brazil’s progress in case management, distribution of azithromycin, and TT
 corrective surgeries
 Rosa Castalia Soares, Ministry of Health of Brazil
10:00–10:30 a.m. Colombia’s progress in the distribution of azithromycin in indigenous
 communities and TT corrective surgeries
 Julián Trujillo Trujillo, Ministry of Health and Social Protection of Colombia
10:30–10:45 a.m. Coffee/Tea
10:45–11:30 a.m. Questions and discussion on Session 1

Session 2: Countries conducting modulated implementation of components S and A of the SAFE strategy: Guatemala

Moderator: Sheila West

11:30–11:45 a.m. Introduction to the session: Martha Saboyá
11:45–12:15 p.m. Results of the round of treatment in Sololá-Guatemala, current status of the
 surgery component and progress in evaluating impact
 Marco Antonio Díaz, Ministry of Public Health and Social Welfare of Guatemala

12:15–12:45 p.m.. Questions and discussion on the situation in Guatemala

12:45–2:00 p.m.. *Lunch*

Session 3: Towards the elimination of blinding trachoma: Mexico

Moderator: Juan Carlos Silva

2:00–2:15 p.m.. Introduction to the session: Martha Saboyá
2:15–2:45 p.m.. Current status of elimination indicators, and progress in preparing the dossier for verification of elimination
Nadia Fernández, Ministry of Health of Mexico
2:45–3:15 p.m.. Questions and discussion on the situation in Mexico

Session 4: Panel on the challenges in implementing components F and E of the SAFE strategy

Moderator: Anthony Solomon

3:15–3:30 p.m.. Introduction to the session: Santiago Nicholls
3:30–3:45 p.m.. Tools available to strengthen components F and E
Paul Emerson, International Trachoma Initiative
3:45–4:00 p.m.. Inclusion of indigenous communities in activities under components F and E
Delegate of the Ministry of Health of Mexico
4:00–4:15 p.m.. Coffee/Tea
4:15–4:30 p.m.. Brazil's experience implementing activities under components F and E
Delegate of the Ministry of Health of Brazil
4:30–5:00 p.m.. Questions and discussion

Session 5: Recommendations to the four countries in the Region of the Americas that currently have evidence of blinding trachoma

Moderator: Martha Idalí Saboyá

5:00–5:30 p.m.. Components S and A
5:30–6:00 p.m.. Components F and E
6:00 p.m.. Close of day 1
7:00 p.m.. Welcome dinner

Wednesday 13 August: Day 2

Session 6. Blinding trachoma surveillance: work proposal for the Region of the Americas

Moderator: Santiago Nicholls

8:30–9:00 a.m.. Trachoma mapping: conditions and methodological characteristics
Anthony Solomon, WHO Global Trachoma Program
9:00–9:30 a.m.. Questions and discussion
9:30–10:00 a.m.. Trachoma surveillance in Brazil
Delegate of the Ministry of Health of Brazil

10:00–10:20 a.m.	Questions
10:20–10:40 a.m.	Coffee/tea
10:40–11:00 a.m.	Experience in the monitoring of trachoma cases at the grass roots level Sheila West
11:00–11:20 a.m.	Questions
11:20–12:00 noon	Proposal for sentinel surveillance in the Region of the Americas Martha Saboyá
12:00–1:00 p.m..	Questions and discussion on the surveillance proposal
1:00–2:00 p.m.	Lunch
2:00–6:00 p.m..	Field trip to Tocantins to see implementation of blinding trachoma elimination activities

Thursday 14 August: Day 3

Session 6: Continuation: Blinding trachoma surveillance: work proposal for the Region of the Americas

Moderator: Santiago Nicholls

8:30–10:30 a.m.	Roadmap to validate and implement trachoma sentinel surveillance in the Region of the Americas: group discussion
10:30–10:45 a.m.	Coffee/Tea

Session 7: Panel on experience with modulated interventions: towards elimination

Moderator: Martha Saboyá

10:45–11:00 a.m.	Introduction, Martha Saboyá
11:00–11:20 a.m.	What are the criteria to modulate mass drug administration and enter the stage of post-treatment surveillance? Sheila West
11:20–11:40 a.m.	What are the challenges in the surgery component when a country enters the post-treatment surveillance stage? Serge Resnikoff
11:40–12:20 p.m..	Questions and conclusions

12:20–2:00 p.m.. **Lunch**

Session 8. Closing session

Moderator: Martha Saboyá

2:00–3:00 p.m..	Presentation and discussion of the conclusions and general recommendations
3:00 p.m..	Closing of the meeting

Annex 2: List of participants

Country Representatives

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