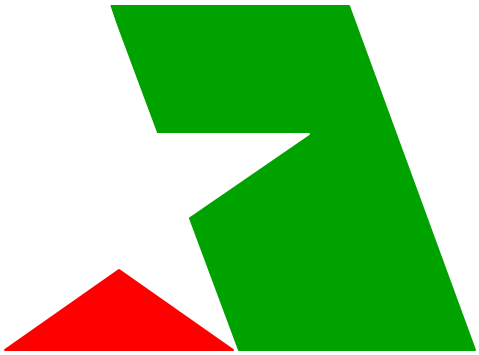
Strategic Plan 2005-2010



D I E Z C O N T R A

T E N A G A I N S T T B

L A T U B E R C U L O S I S

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TEN AGAINST TUBERCULOSIS (TATB)
STRATEGIC PLAN
2005-2010

"The promotion and protection of the health of the people
is essential to sustained economic and social development
and contributes to a better quality of life and to world peace."
(Alma-Ata Declaration III, 1978)

"Rats and cockroaches
live by competition under the laws of supply and demands,
it is the privilege of human beings
to live under the laws of justice and mercy."[1]

I. – Introduction

Ten Against Tuberculosis (TATB) is a binational initiative created by the health officers of the ten U.S.-Mexico border states during the June 1995 annual meeting of the U.S.-Mexico Border Health Association (USMBHA) held in San Diego, California.

The goal of TATB "is to […] identify and address the opportunities and challenges that cannot effectively be addressed unilaterally by either country acting alone."[2] TATB facilitates binational cooperative efforts along the U.S.-Mexico border to reduce tuberculosis morbidity, mortality, and transmission.

A sense of urgency about an elevated rate of tuberculosis along the Mexico-U.S. border led to this initiative. Border state health officials realized that "the effectiveness of local, state and national tuberculosis control programs is seriously compromised when limited international border collaboration interferes with consistent treatment and follow-up."[3]

The Ten Against TB group brings together technical staff of TB programs, including epidemiologists, laboratory experts, and health officers of the ten border states of Mexico and the U.S. Other members include government health representatives from both federal governments, the Pan-American Health Organization (PAHO), the U.S.-Mexico Border Health Commission (USMBHC), the U.S.-Mexico Border Health Association (USMBHA), and non-governmental organizations, among them Migrant Clinicians' Network (MCN), Project Concern International (PCI), Rotary Club International, American Lung Association (ALA), and the International

[1] Quote from Wendell Berry, cited in the Bulletin of the Indian Council of Medical Research (ICMR), New Delhi, March 24, 2003.
[2] "Ten Against Tuberculosis: Two Nations, One Disease, One Effort". Flyer prepared in 1996 and published at http://www.globalhealth.gov/americaaffairsten.shtml.
[3] *Idem*.

Committee of the Red Cross (ICRC). The internal structure of TATB consists of an *Executive Committee*, a *Steering Council*, and a *Secretariat.*
To achieve its goals, the TATB group supports the following broad activities established in the *Operational Guidelines*:[4]

- Raise the awareness of the general public by advocating the importance of TB issues.
- Share and disseminate information about border health activities.
- Stimulate new ideas for prevention, treatment, and management of TB.
- Guide project implementation by identifying creative partnerships.
- Offer feedback to health care providers on practical implementation of TB-related projects.
- Mediate when appropriate.
- Remove barriers to the implementation of needed activities.

The following are important events that have helped guide the development of the TATB model:

On May 5, 1997, in Mexico City, Donna Shalala, then Secretary of the Department of Health and Human Services (DHHS) of the U.S., and Juan Ramón de la Fuente, former Secretary of Health (SSA) of Mexico, signed a joint statement of cooperation with the TATB initiative.

In June 1997, in Saltillo, Coahuila, the governors of the ten U.S.-Mexico border states joined in this commitment by signing an agreement to "support Ten Against TB, a binational collaboration […] with the goal of developing and implementing binational strategies to reduce the spread of tuberculosis in the region."[5]

In San Antonio, Texas, on June 1, 1999, the TATB Steering Council approved the *Guiding Principles and Operational Guidelines for Ten Against Tuberculosis Binational Working Group*, a document based in the "simplicity and flexibility […] that would allow the group to function in a framework of cooperation and mutual respect."[6]

At the annual meeting of the U.S.-Mexico Border Health Commission (the Commission) held in San Diego, California on November 23, 2002, Ten Against Tuberculosis (TATB) was officially designated as the "technical advisory group on tuberculosis" for the Commission.

II. – Strategic Plan Purpose

The purpose of the strategic plan is to set forth goals and measurable objectives to guide activities and investment in TB Control along the U.S.-Mexico border. The Strategic Plan will direct the mobilization of resources into priority initiatives to advance progress toward the *Healthy Border*

[4] See Ten Against TB, *Guiding Principles and Operational Guidelines for Ten Against Tuberculosis Binational Working Group*, TATB Steering Council, May 1999, p.6.
[5] See the text of the Joint Declaration of the XV Conference of México-U.S. Border State Governors, held July 5–6, 1997 in Saltillo, Coahuila State, México. http://www.sos.state.tx.us/border/jdsxv.shtml
[6] See Ten Against TB, *Minutes of the Steering Council Meeting*, San Antonio, June 1, 1999, p.6.

2010 goals as established by the U.S.-Mexico Border Health Commission: to reduce the incidence of tuberculosis on the Mexican side of the border by 10% and on the North American side of the border by 50%.

III. – Tuberculosis

Tuberculosis is an airborne infectious disease, caused by the microorganism *Mycobacterium tuberculosis* (*MTB*). It spreads when a person sick with the disease coughs, breathes, or talks, sending droplets containing the bacteria into the air. Anyone can inhale these droplets and become infected, putting them at lifetime risk of developing active disease.

Thomas Dormandy began the last chapter of his respected work on the history of tuberculosis, appropriately stating that, "tuberculosis has been called the perfect expression of an imperfect civilization."[7] In fact, tuberculosis is a social disease in the broadest sense of the word, since its spread is intimately tied to a population's living conditions. "The risk of infection and of becoming ill is determined by socioeconomic factors such as nutrition, lifestyle, stress, etc."[8]

Improving socioeconomic and environmental conditions in the U.S. and in some European countries between the first and second world wars began to suggest the possibility of eradicating tuberculosis. Although the Second World War interrupted the trend of declining incidence in the number of tuberculosis cases, these hopes were revived with the advent of antibiotics for tuberculosis, which began with the discovery of streptomycin in 1943. The basic medications currently used in treating tuberculosis were discovered decades ago: pyrazinamide (PZA) in 1950, isoniazid (INH) in 1952, ethambutol (EMB) in mid-1960s, and rifampin (RIF) by the end of the 1960s.

Between 1985 and 1992 the number of cases in the U.S. began to increase. The same trend multiplied throughout the world. The main causes of this rise had their origins in "complacency and neglect," the steady decrease and withdrawal of federal, state, and local funds for tuberculosis control, complacency of health officials, and the increase in the rate of tuberculosis disease in most of the rest of the world.[9]

Three other factors[10] appear to have led to the increase in tuberculosis in Third World countries: 1) the changing demography of these countries, which is affected by economic, political, social and cultural changes; 2) the emergence of multidrug-resistant strains (MDR-TB); and 3) the HIV-AIDS epidemic.

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[7] *A History of Tuberculosis. The White Death*, The Hambledon Press, London and Rio Grande, 1999, 433 pp.

[8] "Module on Detection and Diagnosis", *DOT Training Modules, National Program for Prevention and Control of Tuberculosis*, Mexico, 1996, p. 4.

[9] Institute of Medicine, Lawrence Geiter (ed.), *Ending Neglect. The Elimination of Tuberculosis in the U.S.*, National Academy Press, Washington, D.C., 2000.

[10] See "Epidemiology of Tuberculosis", in *Manual for binational case management of tuberculosis patients*, MCN-HOPE, Austin, pp. 8ff.

Demographically, infant mortality in many poorer countries began to decrease after the Second World War, and those children reached the age groups with high tuberculosis morbidity rate (20-45 years). In several of these same countries, socio-political and economic factors, (including armed conflicts in the Third World as a result of the prolonged Cold War (1946-1989), increased poverty rates, different forms of urban violence, peasants' struggle for land, interethnic conflics, and natural disasters), have created large numbers of uprooted populations, which are malnourished and live in over-crowded communities lacking basic sanitation. This demographic condition, experienced by the majority of migrants and refugees, is a leading cause of deaths from tuberculosis today in Asia, Sub-Saharan Africa, South America, some Caribbean islands, and in the Mexican southern and northern border states.

Another cause is the appearance of multi-drug resistant (MDR) strains, especially among patients in the Third World and the former Soviet Union. It has been said that if AIDS originated in the Third World, MDR-TB originated, or at least was first noticed, in the "heart of the Fourth World, New York" on August 30, 1991 with the publication of four short articles in the *Morbidity and Mortality Weekly Report* of the Centers for Disease Control and Prevention (CDC).[11] The "Fourth World" mentioned here refers to those who live on the streets, the homeless in this and other large cities in the heart of the "First World."

Multi-drug resistance represents one of the most important public health threats in the world today.[12] Drug resistant strains of TB can be as contagious as non-resistant strains, but are less treatable and represent a death sentence for patients in poor countries. In many of these countries, not only is the high cost and diminished effectiveness of second line medications a barrier to treatment, but also essential laboratory support and patient monitoring infrastructure is lacking. Besides reducing poverty,[13] the most important instrument of tuberculosis control recommended by the World Health Organization (WHO) for these countries is the application of directly observed therapy (DOT) to ensure that patients appropriately complete therapy. However, the scarcity of financial resources,[14] lack of adequate training for health workers, laboratories without adequate equipment for tuberculosis detection, lack of transportation for patients and medical personnel, insufficient medication for the entire course of treatment, lack of proper nutrition for patients, in addition to the great population mobility across state and national borders, often makes the effective application of this strategy extremely complicated.

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[11] *MMWR*, 40 (1991), p. 585, quoted by Dormandy, Thomas, in *op.cit*., p. 386.

[12] See Lee B. Reichman & Janice Hopkins Tanne, *Timebomb. The Global Epidemic of Multi-Drug-Resistant Tuberculosis*, McGraw-Hill, 2002.

[13] The close relationship between tuberculosis and poverty was underlined in 2002 by the world TB day theme of that year: "Stop TB, fight poverty". *The campaign diary* stressed the underlying fact that fighting poverty is also fighting TB and vice-versa.

[14] Governmental commitment in countries with elevated tuberculosis rates is crucial to guarantee the resources necessary for a more appropriate management of this disease, which often implies substantial change in the national priorities. The "good example of Peru" in this regard, was recalled by the vice-minister of health of this South American country in 2001: "In terms of resources, this has supposed some changes in funding: a 20% less for defense, a 56% more to health and a budget for tuberculosis control in 2002, of 23 million dollars". Quoted by the International Union Against Tuberculosis and Lung Disease on behalf of the Stop TB Partnership, in *Stop TB, fight poverty. The campaign diary. World TB Day 24 March 2004*, p. 25.
http://www.stoptb.org/world.tb.day/WTBD_2002/default.asp

On a global scale, the HIV-AIDS epidemic, combined with tuberculosis, worsened an already bad situation. The risk of disease progression among immunocompromised persons, such as those with human immunodeficiency virus (HIV), is far greater than to a person with a healthy immune system. Coinfection with HIV and TB has been estimated in more than 30% of all cases in countries where HIV is prevalent.

In response to this crisis, the World Health Organization declared tuberculosis a reemerging disease in 1993. However, ten years after this declaration, the effectiveness of tuberculosis control has not improved sufficiently to reverse ominous trends. This year, there are more people infected with the *M. Tuberculosis* bacterium than in any previous time in history, or more than one-third of the world population. The estimated number of new cases of tuberculosis, close to 8 million in 1997, could become 10.2 million in 2005. According to the WHO, 22 countries[15] account for 80% of world cases. Ninety-eight percent of the two to three million annual deaths from tuberculosis[16] occur in the same countries in which 95% of the active tuberculosis cases are found.

In the Americas,[17] Brazil is the only country that appears among the 22 countries with the highest risk for tuberculosis. It stands as 15th in the world in number of cases, estimated at 110,000, with an incidence rate of 62 per 100,000 populations. Haiti has fewer total cases, but with a rate of 319 per 100,000, its tuberculosis burden compares to Sub-Saharan African countries. The estimated burden of tuberculosis for four other South American countries, Bolivia (234),[18] Peru (202), Ecuador (137), and Guyana (115) is greater than that of the Central American countries, with the exception of Costa Rica and Panama. The countries with the lowest estimated burdens in Latin America are Cuba, Costa Rica, and Chile (rates between 12 and 18).

Mexico, with a rate of 14.4 per 100,000 inhabitants in 2003, is among the countries in which the incidence of tuberculosis is moderately serious, with a higher rate in the northern and southern border states, where migration is heaviest. The U.S. rate for 2003 is 5.1, placing it among nations with the lowest TB burden, although very far from reaching the goal established in the 1989 by the CDC's Advisory Council for the Elimination of Tuberculosis, whose strategic plan was to eliminate tuberculosis (defined as a case rate of less than one per million population) by the year 2010, with an interim target of a case rate of 3.5 per 100,000 population by the year 2000.[19]

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15 These countries are: Afghanistan, Bangladesh, Brazil, Cambodia, China, Congo, Ethiopia, India, Indonesia, Kenya, Mozambique, Myanmar, Nigeria, Pakistan, Philippines, Russia, South Africa, Thailand, Uganda, Tanzania, Vietnam, Zimbabwe.

16 It is difficult and embarrassing to calculate the exact number of fatalities caused by a curable disease, 95% of which occurs among the poorest people.

17 See *WHO Report 2004*, p. 146, at http://www.who.int/tb/publications/global_report/en/.

18 Numbers in parenthesis corresponds to rate (cases per 100,000 population).

19 See "A Strategic Plan for the Elimination of Tuberculosis in the United States", in *Morbidity and Mortality Weekly Report* (MMWR), CDC, April 21, 1989, Vol. 38, No. S-3.

IV. – The Border between Mexico and the U.S.

The political border that separates Mexico and the U.S. covers a distance of 1, 952 miles (or 3,141 kilometers) between the Gulf of Mexico and the Pacific Ocean. The border states comprise various large desert regions: the Altar or Sonoran Desert, the Mojave Desert, and the deserts of Chihuahua, which extend into the states of Texas and New Mexico. Texas and Chihuahua are the largest states in their respective countries (not counting Alaska), but contain areas that are largely unpopulated.

Figure 1. – U.S.-Mexico Border. Sister Cities and Population

Population Data Sources:
US Census Bureau, 2000
Instituto Nacional de Estadística, Geografía, e Informática (INEGI), 2000

There are at least three criteria for describing the border region between Mexico and the United States.[20] The first refers to the 39 Mexican municipalities and the 25 U.S. counties that lie directly along the border. The second element of a description is that of the binational environmental protection programs—based on the 1983 "La Paz Accord," which defines the border region as incorporating the territory up to 62 miles (100 kilometers) from the international boundary into the interior of each country. The third, and last criterion, refers to the geographical areas of the

[20] These criteria were taken from the work of Gasca Zamora, José, *Espacios trasnacionales. Interacción y fragmentación en la frontera México-Estados Unidos*, Universidad Nacional Autónoma de México, México, 2002, pp. 50-51.

border states in the U.S.: California, Arizona, New Mexico, and Texas, and the north of Mexico: Baja California, Sonora, Chihuahua, Coahuila, Nuevo Leon, and Tamaulipas.

Clearly, this last description is the one that is most appropriate for the purposes of Ten Against TB, because it takes into account all of the historical, social, and economic factors that affect the border region, as well as the political and administrative structures relating to healthcare within each of these ten states. At the same time, however, the strategic plan focuses its proposals within the area closest to the international border (following the first criterion), where there are fourteen pairs of "sister-cities" located along both sides of the border.

In the whole border region, the six most populated metropolitan areas are:

Area	**Population (millions) (2001)**
San Diego-Tijuana	4.0
Mexicali-Calexico	0.8
El Paso-Ciudad Juarez	1.9
Laredo-Nuevo Laredo	0.4
Brownsville-Matamoros	0.5
Harlingen/McAllen-Reynosa	1.0

In socioeconomic terms, four of the seven poorest cities in the U.S., and five of the poorest counties are situated along the border of Texas and Mexico. As a whole, counties on the U.S. side of the border have experienced more than 30 years of rise in unemployment and decline in per capita income. In the city of El Paso, Texas, for example, poverty is two times greater than the national average, and the average income is three times lower, the result of what David Simcox calls "growth without prosperity.[21] Access to health care is also deficient along the U.S. side of the border. El Paso with an uninsured rate of 35% has the highest uninsured rate of any large city in the country.[22]

In contrast, the six northern Mexican states are among the federal jurisdictions with the lowest rate of extreme poverty in Mexico, and these states also have the lowest rate of unemployment.[23] Nevertheless, stark contrasts remain between the living conditions of the majority of the population south of the border as compared with people living in the U.S.

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[21]See "Immigration, Population and Economic Growth in El Paso, Texas. The Making of an American *Maquiladora*", by the Center for Immigration Studies, El Paso, 1993. This article is available at: http://www.cis.org/articles/1993/paper7.html. For data on poverty and other socioeconomic variables in the border region of Texas and Mexico, see: http://www.shapleigh.org/BordelandsReport1stchapterAwithGraphsA.pdf

[22] Chris Roberts, "El Paso fights for Medicaid money", in *The Daily Texas*, October 28, 2003. About the health conditions on the Texas-Mexico border see also Window on State Government, "Bordering the future", at: http://www.window.state.tx.us/border/ch08/ch08.html

[23] Extreme poverty in Mexican northern states is about 10%, while the southern states have an index of more than 40%. See the article by Israel Rodriguez, "Las cifras oficiales de desempleo y pobreza, irreales: OCDE" in *La Jornada*, México, Friday, June 27, 2003. This article mentions the official rates of unemployment and poverty by the Organization for Cooperation and Economic Development.

The foreign debt crisis in Latin America, which began in Mexico in 1982, ended the economic model of import substitution and began the implementation in its place of the neoliberal globalization or free market model[24], which the signing of the North America Free Trade Agreement (NAFTA), inaugurated on January 1, 1994, is one of its components. These economic and political factors are highlighted as principal causes of the increase in Mexican migration to the northern states in search of jobs in the maquiladora industry and to the U.S.

The most visible result of the economic model adopted in 1982 is migration. In 2000, the Mexican census showed a growth in the population of the six northern border states of between 3.6% and 5.5% compared with the national average of 1.7% per year. This growth is mainly attributed to migration from the central and southern states of Mexico in search of work in the maquiladora industry, the only sector where employment opportunities doubled between 1994 and 2000, while they stagnated in the rest of the country.[25]

The average annual Mexican migration to the U.S., around 30,000 persons between 1930 and 1980, increased to 170,000 in the 1980s and then again to an estimated 360,000 persons in the 1990s. In 2003, the *National Population Council* (CONAPO)[26] estimated that 400,000 Mexicans had immigrated to the U.S. During the last "two lost decades"[27] for the Latin American economy, the population of Latin American and Caribbean origin in the U.S. grew from 4.4 million to 14.5 million, and of this almost 30% was of Mexican origin.

The positive effect of this migration[28] is the increase in the monetary remittances sent by immigrants to their countries of origin. In 2003, these remittances from Mexican migrants to their families grew to U.S. $13.3 billion[29] from U.S. $2.5 billion in 1990, and are currently the most important source of foreign direct investment (FDI) in the country. A growing number of Latin

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[24] See the article by Noria Homes y Antonio Ugalde on the impact of neoliberalism, globalization, or "neoliberal globalization" on the politics of health in the U.S.–Mexico border: "Globalization and Health at the U.S.-Mexico border", *American Journal of Public Health*, December 2003, Vol 93, No. 12, pp. 2016-2022. This article is available at: http://www.sociologistswithoutborders.org/contributions/Globalization_and_Border_Health.pdf. See also Carmona, Camilo Garizál, "La globalización neoliberal y el concepto de desarrollo sustentable", in http://www.monografias.com/trabajos16/globalizacion-neoliberal/globalizacion-neoliberal.shtml. For a definition of neoliberalism see: Wikipedia The Free Encyclopedia, "Neoliberalism", at http://en.wikipedia.org/wiki/Neoliberal#Neoliberal_theory. Also Vázquez, Rodolfo Angel, "Neoliberalismo y Crisis Política", article avaible at: http://utal.org/economia/neoliberalismo.htm

[25] Jeff Faux, "Economía y democracia en la 'constitución' del TLCAN", in *Foreign Affairs en Español. TLCAN, diez años después*, Vol. 4., Núm 1, 2004, p. 98.

[26] The Consejo Nacional de Población (CONAPO) is the equivalent in Mexico of the U.S. Census Bureau.

[27] See Luna, Jorge Rolon, *Dos Décadas Perdidas. Subdesarrollo y Derecho Internacional del Desarrollo*, Consejo Latinoamericano de Ciencias Sociales (CLACSO), Buenos Aires, Biblioteca Virtual (http://www.clacso.org); Also Easterly, William, "The Lost Decades: Developing Countries' Stagnation in Spite of Policy Reform 1980-1998", in http://are.berkeley.edu/~harrison/globalpoverty/Easterly_01_The_Lost_Decades.pdf.

[28] See for example, Escobar, Rodolfo Rosas, "El 'otro México': Su importancia e impacto económico. Una economía transnacional", en http://www.foros.gob.mx/read.php?f=18&i=19&t=1

[29] LA JORNADA, Mexico D.F., Wednesday, February 4, 2004. In 2003, 31.5% of all foreign remittances were to sent to just three states: Michoacan, Jalisco and Guanajuato. The federal entity receiving the smaller amount was Baja California Sur, a total of 18 million dollars, or 0.13% of the total. Also, in 2003 only 93 municipalities, out of the total 2,443 existing municipalities in the whole country of Mexico, never received any foreign remittances, neither have inhabitants with migrant background, according to CONAPO.

American families rely on these remittances from family members who live and work in the U.S. for their own survival.[30]

Though notoriously hard to estimate, the percentage of undocumented immigrants between 1993 and 1997 was reportedly 48%. Between 1998 and 2000, this proportion was 63%, and between 2001 and 2003, it was 75%.[31] In 2003 there were between seven and nine million undocumented immigrants in the U.S., of which an estimated four million were of Mexican origin.

V. – Tuberculosis along the U.S.-Mexico border

As an infectious disease, tuberculosis knows no geographic, political, economic, or social boundaries, although more than 95% of its victims are from the poorest populations in the world. Poorer populations include ethnic minorities in the First World, and immigrants from Third World countries, as well as migrants inside the borders of their own countries in search of better living conditions.

In the U.S., the 2000 census showed that, for the first time, the majority of the foreign-born population (51%) came from Latin America and the Caribbean, including 28.7% from Mexico.[32]

Aware that immigration was a growing risk factor in the transmission of tuberculosis, in 1986 the Centers for Disease Control and Prevention (CDC) added the category "country of birth" to the standard form for reporting tuberculosis. Since then, immigrants appear in these statistics as "foreign-born," and the proportion of total cases attributed to the foreign born has steadily increased.

In 1991, 73% of reported cases of tuberculosis were found among persons born in the U.S. (19,161 cases), while 27% were found among the foreign-born or immigrants (6,982).[33] In 2001, for the first time, the national distribution became practically leveled at 50% of tuberculosis cases from each of these groups (7,845 and 7,865, respectively).

In 2003, foreign-born accounted for 53.1% (7,902 cases) of all tuberculosis cases in the U.S. (See Graph 1.) Among border states, California (with 3,227) and Texas (with 1,594) had the largest number of cases in 2003, of which 75% in California and 45% in Texas were among immigrants. (See Table 1.)

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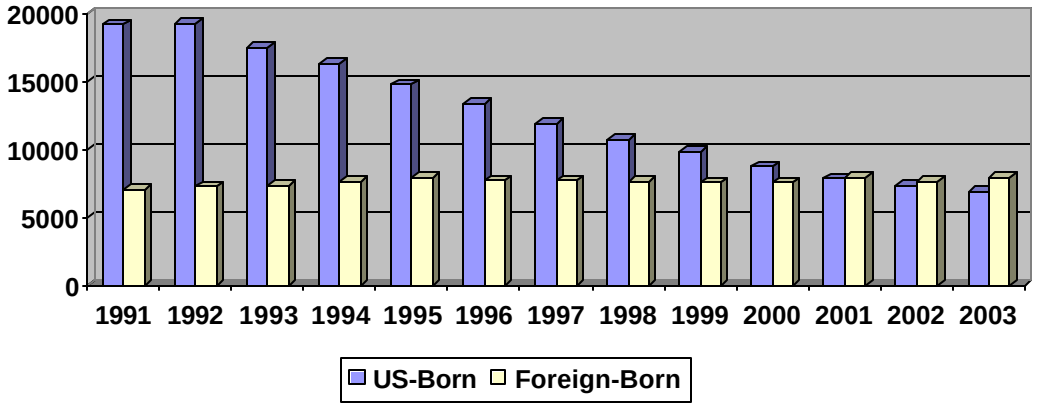
[30] Between 1992 and 2000 there was an increase of 90% on the numbers of households receiving remittances, presently close to 1.2 millon households. One in 10 households recepients in population with less than 2,500 inhabitants (CONAPO).

[31] See article by Robles Nava, Francisco, "Aumenta la cifra de emigrantes mexicanos. Un promedio de 437 mil personas salió de México, la mayoría sin papeles, hacia EU en los últimos tres años", *La Opinión*, 27 de enero de 2004. The article comments recent data published by CONAPO, regarding the trend of Mexican migration to the U.S. The percentages refer to proportions of undocumented immigrants of total immigration.

[32] *Profile of Foreign-Born Population in the U.S.: 2000*, U.S. Census Bureau, U.S. Department of Commerce, December 2001, p. 10.

[33] CDC, "Executive Commentary", *Reported Tuberculosis in the U.S., 2001*. Division of Tuberculosis Elimination, Surveillance Reports, http://www.cdc.gov/nchstp/tb/surv/surv2001/default.htm

Graph 1. - Number of Tuberculosis Cases[34]
Comparison between U.S.-born and foreign-born, 1991-2003



In addition, 25 states reported that more than 50% of their cases had been among foreign-born in 2003. The rate of tuberculosis in 2003 among foreign-born was 23.4 per 100,000 persons, or 8.7 times higher than among U.S.-born persons (2.7 cases per 100,000).

Between 1998 and 2003, for the states that reported the highest number of TB cases (California, Texas, and New York) the decrease in cases among U.S.-born persons (32%; from 3,179 to 2,155) was four times greater than among foreign-born (7.6%; from 4.420 to 4,086).[35]

In 2002, 12.2% of the U.S. population was born in other countries, of which 52% was from Latin America and of those 28.7% from Mexico. However, Latin America and the Caribbean were the regions of origin for 43% of tuberculosis cases, with 24.6% of those of Mexican origin.

Table 1 (below) shows the percentage of tuberculosis in the four states along the southern U.S. border, compared to the national average over the last six years (1998–2003) among those born in the U.S. (U.S.-born), those born outside the country including Mexico (foreign-born), and those born in Mexico.

[34] Idem, "Reported Tuberculosis in the U.S., 2003."
[35] Idem, "Trends in Tuberculosis – U.S., 1998-2003", en *MMWR*, Weekly (March 19, 2004 / 53 (10); pp. 209-214. http://www.cdc.gov/mmwr/preview/mmwrhtml./mm5310a2.htm

Table 1. - Percentage of tuberculosis among U.S.-born, Foreign-born (F-b), and Mexican-born (Mex)

	% in 1998			% in 1999			% in 2000		
	U.S.	F-b	Mex	U.S.	F-b	Mex	U.S.	F-b	Mex
Arizona	61.0	39.0	69.6	58.8	40.8	62.6	43.3	55.9	66.4
California	29.9	69.6	31.4	29.8	69.4	32.7	27.6	72.0	31.8
New Mexico	69.1	30.9	66.6	70.3	29.4	89.4	60.9	35.0	87.5
Texas	62.5	37.2	59.2	60.3	39.3	56.1	59.3	41.0	60.6
U.S. Average	**58.1**	**41.3**	**23.1**	**56.0**	**43.1**	**23.2**	**53.2**	**46.1**	**23.4**

	% in 2001			% in 2002			% in 2003		
	U.S.	F-b	Mex	U.S.	F-b	Mex	U.S.	F-b	Mex
Arizona	52.6	46.0	61.7	49.9	51.7	75.7	40.7	58.0	
California	25.2	74.0	32.1	24.0	75.2	34.0	24.3	75.0	
New Mexico	77.8	22.0	66.7	63.2	35.1	65.0	57.1	40.8	
Texas	56.8	43.0	54.8	57.6	42.2	58.2	55.3	44.6	
U.S. Average	**49.1**	**49.3**	**23.4**	**48.4**	**50.8**	**24.6**	**46.4**	**53.1**	**26.0**

Fuente: *Centers for Disease Control and Prevention* (CDC).

The incidence of tuberculosis is greater than the national average in California and Texas on the U.S. side, and in Baja California, Tamaulipas, Nuevo León and Sonora on the Mexican side (See Table 2).

Chihuahua and Coahuila have reported rates closer to the national average, while on the U.S. side, Arizona and New Mexico reported rates lower than the national average, with the exception of 2003, in which Arizona reported a rate of 5.3 per 100,000.

In 2003, California (with 9.1), Texas (with 7.1), and Arizona (with 5.3) were among the 12 states reporting rates higher than the national average. In addition, the average rates of the four U.S. border states (7.9) have begun to increase again, with the exception of the rate in New Mexico (2.6), which continues to decline.

The percentage of annual decline both in number of cases (1.4%) and in rate (1.9%) is the lowest since 1992, "raising concern about a possible slowing of the progress against TB." [36] If the proposed $5.5 million budget cut for national tuberculosis control programs funded by CDC in fiscal year 2005 becomes a reality, rates of tuberculosis may well begin to rise.[37]

The U.S. and Mexican border states with the highest rates reflect the actual routes of migration from the central and southern Mexican states toward the northern border states with the U.S. The states of Baja California and Tamaulipas have become the main destinations for migration

[36] *Id.Ibid.*
[37] See Notes from June 23-24, 2003' s Advisory Council on the Eliminational of Tuberculosis (ACET).

along the border and of temporary migration for Mexican, Central American, and South American migrants whose destinations are the U.S. and Canada.

Table 2. - Rate* of Pulmonary Tuberculosis in Mexican and U.S. Border States, 1995-2003

	1995	1996	1997	1998	1999	2000	2001	2002	2003
U.S.	**8.7**	**8.0**	**5.6**	**6.8**	**6.4**	**5.8**	**5.6**	**5.2**	**5.1**
Arizona	7.6	6.4	6.5	5.4	5.5	5.1	5.4	4.8	5.3
California	14.8	13.5	12.6	11.8	10.9	9.7	9.7	9.0	9.1
New Mexico	5.0	5.2	4.1	3.9	3.7	2.5	3.0	3.1	2.6
Texas	12.7	11.0	10.3	9.2	8.2	7.2	7.7	7.1	7.2
Border States	**13.3**	**9.0**	**8.3**	**7.6**	**7.0**	**6.1**	**6.4**	**6.0**	**7.9**
Mexico	**18.7**	**18.2**	**20.7**	**18.7**	**17.2**	**15.8**	**16.1**	**15.1**	**14.4**
Baja California	57.8	36.0	28.9	35.1	33.8	36.6	57.4	48.1	41.6
Chihuahua	28.0	23.7	14.4	16.4	19.0	15.0	17.6	18.2	15.4
Coahuila	22.0	19.8	18.6	22.5	19.0	16.5	17.9	17.2	17.3
Nuevo León	28.4	26.0	29.3	36.6	25.9	26.7	31.1	27.9	28.8
Sonora	29.1	26.8	19.7	19.2	21.1	21.3	22.6	21.7	23.0
Tamaulipas	34.0	31.3	33.0	38.5	34.5	38.0	35.4	35.8	30.6
Border States	**32.6**	**27.1**	**24.1**	**28.0**	**25.5**	**25.7**	**30.3**	**28.2**	**26.3**

*Cases per 100,000. 2003 figures use the 2000-2050 population projections by the Consejo Nacional de Población (CONAPO).
Sources: *Centers for Disease Control and Prevention* (CDC) and *Centro Nacional de Vigilancia Epidemiológica y Control de Enfermedades*, (CENAVECE). National Tuberculosis Program, Mexico.

VI. – Conclusions

The socioeconomic and political factors in recent decades, and the increasingly deteriorating living conditions in Third World countries, present a significant barrier to the hope of the First World countries to eliminate tuberculosis in the near future. Overcoming this barrier depends on improving diagnosis and treatment among immigrants and other minority groups, who currently represent the second most important risk factor for tuberculosis. As it has since the mid-1850s, poverty stands out as the greatest risk for tuberculosis.

While better living conditions and access to human and material resources allow tuberculosis to be controlled in the First World, many Third World countries are "on the brink of a catastrophe."[38]

[38] There is plenty of literature about the threat hanging over the health systems in rich countries and the imminent colapse facing the poorest countries and the old Soviet Union, one of the effects of the neoliberal globalization. See for example: Garret, M., *The coming plague. Newly emerging diseases in a world out of balance*. Nueva York, Penguin Books, 1995; Cueto, M., *El regreso de las epidemias. Salud y sociedad en el Perú del siglo XX*, Lima, IEP, Editores, 1997; Buj Buj, Antonio, "¿La inmigración como riesgo epidemiológico? Un debate sobre la evolución de la tuberculosis en Barcelona durante el último decenio (1990-2000)", in *Scripta Nova*, Revista Electrónica de Geografía y Ciencias Sociales, Universidad de Barcelona No. 94 (95), 1 de agosto de 2001; See also the already mentioned work of Reichman, Lee B. & Janice Hopkins Tanne, *Timebomb*, and National Tuberculosis Center, "Brief History of Tuberculosis", New Jersey Medical School.

Over the last few years, health has been increasingly considered a fundamental human right[39] for which nations and social organizations are responsible. This recognition should be followed by concrete actions to make those rights a reality, using all resources available in the local, national, and international arenas. The past few decades' experience in tuberculosis control efforts shows that the logic of the global market, with its "law of supply and demand", is incapable of attracting investment to the production of new tuberculosis medications, much less a vaccine, because although "tuberculosis is a life-threatening disease," it "has no commercial value."[40]

Since "it is not possible to erect a protective *cordon sanitaire*" along national borders, the best justification for the U.S. and other developed countries to be involved in the world's tuberculosis control efforts, beyond their "narrow self-interest", is "the moral duty to act to save the lives of millions who would otherwise die."[41]

Armed with this lofty humanitarian argument, the Institute of Medicine, in *Ending Neglect*, proposes to overcome the *impasse* inherent in the market-based reasoning of drug-producing companies with their recommendations for "the role of the U.S. in global tuberculosis control."[42] This country, along with other industrialized nations, has the scientific, technological, and financial resources needed for the scale of enterprise needed to develop a vaccine. The authors conclude their recommendations quoting their own 1998 report titled *The Future of Public Health* that "our nations's vital interests are clearly best served by sustained and strengthened U.S. engagement in global health."[43] A very different proposal from Spain considers that at present, absent a "miraculous vaccine, […] the best option is to avoid poverty, overcrowding or segregating disadvantaged social groups."[44]

A new collaborative ethos, based on solidarity, and authentic respect for the dignity of human life, (not on technical and economic supremacy) is crucial to overcoming the barriers created by different histories, cultures, and political and economic interests between countries of the First and Third worlds.

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[39] The *Mexican National Health Program 2001-2006. The Democratization of Health in Mexico: Towards a Universal Health System* states that "health coverage cannot be considered a commodity, an object of charity or a privilage: it is a social right", in "Executive Summary," Introduction, p. 2, http://www.salud.gob.mx/pdf/version_final_ingles2.pdf. See also the 1987 Alma-Ata Declaration, "Salud para Todos", available at: http://www/femeba.org.ar/fundacion, and the article by Debabar Banerji, "Salud para todos, parte de la lucha por un mundo más justo", en *Revista del Sur* (145/146) November/December 2003, in http://www.redtercermundo.org.uy. The official version in various languages of the "People's Charter for Health", Bangladesh, December 8, 2000, can be found at: http://www.phmovement.org/charter/almaata.html.

[40] This is how a drug company executive summoned up the situation. This quote is taken from Reichman, Lee B. & Janice Hopkins Tanne, *Timebomb*, p.179. The Institute of Medicine in *Ending Neglect* argues against the supposed "lack of a market" for new antituberculosis drugs stating that today's estimate "puts the global expenditure for the four main antituberculosis drugs at $800 million to $900 millon per year" compared to the $350 million "commonly cited as the cost for the development of a new drug". This fact "would definitely justify the development of new drugs" including in "market terms". See *op.cit.*, p. 140.

[41] *Idem*, p. 153.

[42] Institute of Medicine, *op. cit*., pp. 149-158.

[43] *Idem*, p. 158.

[44] Antonio Buj Buj, "¿La inmigración como riesgo epidemiológico? Un debate sobre la evolución de la tuberculosis en Barcelona durante el último decenio (1990-2000)", in *Scripta Nova*, op.cit., p. 17.

Members of the binational initiative Ten Against Tuberculosis, with this strategic plan for the border regions of Mexico and the U.S., intend to contribute to this effort that unites civil society, government and non-governmental organizations, technicians and tuberculosis experts, the general population and in particular patients themselves, in order to achieve and insure the right to health and to life with dignity.

VII. – TATB Strategic Plan, 2005-2010 – Executive Summary

During various months between January 2003 and August 2004, members of the TATB Technical Committee met to discuss the different questions regarding the development of a strategic plan of action for the coming years. These discussions considered the general goals established by "Healthy Border 2010," the protocols at the federal level of both countries, and the objectives at the state and local levels.

The technical recommendations of this Strategic Plan cover the four areas already identified by the Ten Against TB Technical Committee in its second Plan of Action developed in 1998. Those action areas are the following:

1) Enhance Tuberculosis Epidemiology, Surveillance, and Case Finding;
2) Strengthen Laboratory Infrastructure to Enhance Identification and Confirmation of Tuberculosis;
3) Increase Health Promotion, Training, Communication for Tuberculosis Awareness; and
4) Improve Tuberculosis Case Management.

1. – Tuberculosis Epidemiology, Surveillance, and Case Finding

Definition of the Problem

Data Collection, Analysis and Dissemination
There is insufficient data available regarding tuberculosis morbidity and mortality along the U.S.-Mexico border. Information, including rates of disease and infection, and program statistics are important for planning and evaluation. In addition, specific binational data, including the number of patients with active TB who cross the border, are needed to characterize the magnitude of binational tuberculosis.

Case-finding
Comprehensive case detection is the critical first step in interrupting transmission and is essential in determining the true prevalence of TB along the border. Passive case finding relies on sick patients coming forward for care and requires user-friendly reporting systems to ensure notification of health departments by public and private providers. As previously noted, a binational case definition has been adopted in the U.S., but beyond this, there is no single systematic method that facilitates reporting of patients with active disease who cross the border. In addition, there are limited strategies to accomplish active case finding among hard-to-reach populations, such as immigrants. To improve understanding of the epidemiology of tuberculosis

along the U.S.-Mexico border, a common binational surveillance case definition needs to be adopted by both countries.

Objective 1: By 2005, develop a mutually agreed upon case definition for binational tuberculosis cases to be used in both the U.S. and Mexico.

Objective 2: By 2008, increase timely case finding of binational tuberculosis cases by 10%.

Objective 3: By 2010 design and implement a comprehensive binational tuberculosis data system compatible with, and responsive to the needs of U.S. and Mexican health care providers, researchers and consumers.

2. – Strengthening Laboratory Infrastructure to Enhance Identification and Confirmation of Tuberculosis

Definition of the Problem

Laboratory capacity

The prompt and accurate diagnosis of persons with tuberculosis is hampered by inadequate laboratory capacity along the U.S-Mexico border. Reference and local public heath laboratories need more and better trained staff to process basic specimens for AFB smear, culture, and susceptibility testing. A border laboratory network should include two regional reference laboratories in Mexico, ten state laboratories, and three local sister-city TB laboratories.

Objective 1: By 2008, create and maintain a border laboratory network that ensures reliable diagnosis of all TB cases, including cases of drug resistant TB.

Objective 2: By 2008, ensure adequate staffing levels and training to conduct basic testing within the laboratory network.

Objective 3: By 2006, create a mechanism for the timely exchange of laboratory specimens and resources across the U.S.-Mexico border.

Objective 4: By 2006, ensure that any patient who has specimens submitted for AFB culture is being co-managed by an official drugresistant TB committee.

3. – Health Promotion, Training, Communication for Tuberculosis Awareness

Definition of the Problem

Health promotion and training are needed at all levels among health care professionals and among targeted high-risk populations in the community. Use of currently available technology will enhance opportunities for health promotion. Adequate communication of the problem to decision-makers is required to garner resources needed for TB control.

Objective 1: By 2008, needs-based training and continuing education opportunities for all health care providers who work with binational tuberculosis will be readily available in convenient venues and through a variety of technologies. Health care providers include the public health workforce, laboratory workers, outreach workers (community health workers), nurses, and physicians.

Objective 2: By 2008, build capacity for binational TB training along the U.S.-Mexico border, that is specific to jurisdictional training and educational needs.

Objective 3: By 2007, the TATB will develop an inventory of available bilingual educational materials for professional and community education related to binational tuberculosis. These materials will be promoted through the Tuberculosis Information Center at CDC and other appropriate venues.

Objective 4: By 2007, Ten Against TB will develop, test and promote a bilingual health promotion and awareness campaign directed at community leaders, policy makers and residents of border communities with high rates of TB.

Objective 5: By 2006, identify funders that have an interest in supporting TATB initiatives.

Objective 6: By 2006, establish an enhanced system for exchanging information and networking regarding binational TB among border states and across the border.

4. – Tuberculosis Case Management

Definition of the Problem

Many patients with tuberculosis have difficulty completing their treatment or receiving sustained supervised treatment. Some have confirmed multi-drug resistant (MDR) TB for which they may not be able to initiate or continue a treatment regimen due to lack clinical expertise and the scarcity of appropriate medications. These conditions favor increased TB morbidity, increased MDR disease, and continued transmission of TB. Similarly, contact investigations frequently are

not completed or performed thoroughly, thereby reducing the opportunity to achieve effective prevention in border-impact communities.

To prevent and control tuberculosis in border populations, it is necessary to eliminate barriers to effective binational case management. Strategies are required to ensure directly observed therapy (DOT), availability of complete schemes of first and second line TB medications, and completion of timely contact investigations for every binational patient.

Objective 1: By 2008, ensure the provision of barrier-free case management services and complete TB drug regimens to all patients who meet the case definition for binational tuberculosis so that each patient completes an established treatment regimen.

Objective 2: By 2007, provide specialized medical attention and treatment to all pediatric patients diagnosed with tuberculosis.

Objective 3: By 2008, develop effective and long-lasting consultative services that will assist with case management and ensure a lasting cure for all patients with complicated tuberculosis such as HIV/TB co-infection, diabetes and especially those with MDR-TB.

Objective 4: By 2008, expand Medicaid coverage to ensure adequate health care, diagnosis and treatment for patients receiving TB care in the U.S., regardless of immigration status or length of time in the U.S.

Objective 5: By 2008, ensure that each binational patient with tuberculosis receives a complete and timely contact investigation and that 90% of contacts are identified and evaluated for tuberculosis within a specified time period.

Objective 7: By 2008, ensure that all complicated TB cases, including MDR-TB cases, are being co-managed by an official state or binational drugresistant TB committee.

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TEN AGAINST TUBERCULOSIS PLAN OF ACTION

PROBLEM AREA I:

TUBERCULOSIS EPIDEMIOLOGY, SURVEILLANCE, AND CASE FINDING

Background

The control of tuberculosis begins with the identification of active cases of disease within the community and notification of these cases to the health authorities in accordance with applicable laws. This type of disease surveillance requires clear case definitions, practitioners who are knowledgeable in disease manifestations and reporting mandates, and user-friendly reporting infrastructures. Disease surveillance is especially challenging along the U.S.-Mexico border, where patients cross jurisdictions and the reporting infrastructures between the two nations are distinct and unlinked. This situation also complicates efforts to develop a comprehensive picture of the TB epidemiology among border populations.

Definition of the Problem

Data Collection, Analysis and Dissemination
There are insufficient data available regarding tuberculosis morbidity and mortality along the U.S.-Mexico border. Information, including rates of disease and infection and program statistics, are important for planning and evaluation. In addition, specific binational data, including the number of patients with active TB who cross the border, are needed to characterize the magnitude of binational tuberculosis.

An important element in understanding the epidemiology of any medical condition is the adoption of a case definition. Tuberculosis case definitions in the U.S. and Mexico share common elements but notable differences do exist.

In Mexico, an active TB case may be confirmed or unconfirmed. A confirmed TB case may be diagnosed by a positive AFB (acid-fast bacilli) smear, a significant histo-pathology report, or by identifying *MTB* on culture. An unconfirmed case is one that experiences typical clinical symptoms and appropriate therapeutic response, but lacks bacteriologic or histological confirmation.[45]

In the U.S., a TB case may also be confirmed or unconfirmed by laboratory tests. However, in the U.S. the TB culture is the generally accepted standard of diagnosis. In most cases, unlike in Mexico, an AFB smear alone is insufficient for establishing the diagnosis of active TB. An unconfirmed pulmonary case, referred to in the U.S. as a "clinical case", is as an individual with

[45] Secretaría de Salud, *Modificación a la Norma Oficial Mexicana NOM-006-SSA2-1993. Para la Prevención y Control de la Tuberculosis en la Atención Primaria a la Salud,* Secretaría de Salud, Diario Oficial de la Federación, 31 de octubre de 2000, pp. 34-53.

symptoms and other findings (e.g. X-ray, physical findings) compatible with active TB, who shows evidence of improvement after taking appropriate therapy for at least two months.

- To improve understanding of the epidemiology of tuberculosis along the U.S.-Mexico border, a common binational surveillance case definition needs to be created. Such a definition would enable standardized data collection and increase accuracy in data analysis and comparison.

Case-finding

Comprehensive case detection is the critical first step in interrupting transmission and is essential in determining the true prevalence of TB along the border. Passive case finding relies on sick patients coming forward for care and requires user-friendly reporting systems to ensure notification of health departments by public and private providers. There is no single systematic method that facilitates reporting of patients with active disease who cross the border. In addition, there are limited strategies to accomplish active case finding among hard-to-reach populations, such as migrants.

Objective 1: By 2005, develop a mutually agreed upon case definition for binational tuberculosis cases to be used in both the U.S. and Mexico.

Strategy / Action 1:

By July of 2005, the Mexican Secretariat of Health (SSA) and Centers for Disease Control and Prevention (CDC) will convene a work group of technical TB experts to develop consensus on a common binational TB case definition.

Target / Indicator:

A binational case definition is published and recognized in the U.S. and Mexico.

Objective 2: By 2008, increase timely case finding of binational tuberculosis cases by 10%.

Strategy / Action 1:

By 2007, SSA, CDC, and state TB Control Programs will work with the medical community, community health workers, and community-based organizations to develop and test strategies to increase early TB case detection of immigrants and other hard-to-reach populations along the U.S.-Mexico border.

Target / Indicator:

Ten strategies will be developed and tested by medical providers, community health workers and community-based organizations to enhance detection of binational TB cases.

Strategy / Action 2:

By 2007, institute reporting of binational tuberculosis cases by public and private sector providers in the U.S. and Mexico.

Target / Indicator 1:

Knowledge, skills and practices related to the early detection of binational tuberculosis among health care providers along the U.S.-Mexico border will be assessed.

Target / Indicator 2:

Annually provide training on case identification and reporting to U.S. and Mexican health care providers in 14 sister-city communities.

Target / Indicator 3:

Barriers to reporting among private sector providers on both sides of the U.S.-Mexico border will be identified and strategies to resolve them will be implemented.

Target / Indicator 4:

A system of active surveillance among panel physicians, civil surgeons, and border physician providers who serve immigrant populations on the U.S.-Mexico border will be implemented.

Objective 3: By 2010 design and implement a comprehensive binational tuberculosis data system compatible with, and responsive to the needs of U.S. and Mexican health care providers, researchers and consumers.

Strategy / Action 1:

By 2005, develop recommendations for a comprehensive tuberculosis data system responsive to the needs of binational health care providers, researchers and consumers that includes TB risk factors, morbidity, mortality, and the availability of health care / case management services.

Target / Indicator:

Recommendations for a comprehensive tuberculosis data system reviewed and approved by U.S. and Mexican stakeholders.

Strategy / Action 2:

By 2008, have binational data system ready for pilot testing in TATB member states and implemented in all sites by 2010.

Target / Indicator:

A binational tuberculosis data system is operated collaboratively by the Ten Against TB member states.

Strategy / Action 3:

Beginning in 2006, publish and distribute an annual report on the epidemiology of binational tuberculosis in the U.S. and Mexico.

Target / Indicator:

Annual report published each year beginning in 2006.

Strategy / Action 4:

By 2006, develop a website for collecting and distributing epidemiological data related to binational tuberculosis in English and Spanish.

Target / Indicator:

The Ten Against TB member states collaborate to make available a website that collects and disseminates data on binational tuberculosis.

PROBLEM AREA II:

STRENGTHENING LABORATORY INFRASTRUCTURE TO ENHANCE IDENTIFICATION AND CONFIRMATION OF TUBERCULOSIS

Background

In Mexico, a confirmed tuberculosis case is diagnosed by identifying acid-fast bacteria (AFB) on smear or *MTB* (*Mycobacterium tuberculosis*) on culture. A positive AFB smear alone is commonly used to confirm the diagnosis. An *MTB* culture is not required to make the diagnosis, but may be indicated when non-clinical response and/or drug resistance is suspected. In both the U.S. and Mexico, cases may also be diagnosed in the absence of positive *MTB* bacteriology by using clinical symptoms criteria. An AFB culture drug susceptibility panel performed on all *MTB* isolates helps guide drug therapy.

Recommended bacteriologic workup in both countries consists of collecting three sputum specimens on three separate, consecutive days. Specimens are processed by AFB smear. AFB culture and susceptibility testing on all isolates is always performed in the U.S., but only performed in Mexico there is when clinical non-response and/or AFB smear positivity is observed after 3 months of treatment. TB laboratory work is specialized and is usually performed in local public health and specialized reference laboratories.

Definition of the Problem

Laboratory capacity

The prompt and accurate diagnosis of persons with tuberculosis is hampered by inadequate laboratory capacity along the U.S-Mexico border. Reference and local public heath laboratories need more and better trained staff to process basic specimens for AFB smear, culture, and susceptibility testing. The border laboratory network should include two regional reference laboratories in Mexico, ten state laboratories, and three local sister-city TB laboratories.

<u>Objective 1</u>: By 2008, create and maintain a border laboratory network that ensures reliable diagnosis of all TB cases, including cases of drug resistant TB.

Strategy/Action 1:

By 2006, conduct a comprehensive survey of all border laboratories regarding their capacity to process basic TB laboratory tests in a timely manner. Tests should include AFB smear, culture and susceptibility testing as well as basic chemistry and hematology.

Strategy/Action 2:

By 2007, develop, conduct and analyze a needs assessment based on strategy/action 1 survey results.

Strategy / Action 3:

By 2007, compile a list of resources and equipment needed to ensure timely processing of specimens by basic and specialized reference laboratories.

Strategy / Action 4:

By 2008, request and receive financial and consultative support from national and international agencies to establish uniform infrastructure for each type of laboratory.

Target / Indicator:

Two regional high level reference laboratories in Mexico (in Nuevo Leon and Baja California), ten state reference public health laboratories in Mexico and the U.S., and three sister-city local public health laboratories.

Objective 2: By 2008, ensure adequate staffing levels and training to conduct basic testing within the laboratory network.

Strategy / Action 1:

By 2005, in partnership with the U.S. CDC, the Mexican SSA, and state health departments, conduct and analyze a comprehensive survey of staffing patterns and staff duties for all laboratories.

Strategy / Action 2:

By 2006, in collaboration with CDC and the Secretariat of Health, and state health departments, determine appropriate staffing levels.

Str**ategy / Action 3:**

By 2006, request support from national and international agencies to ensure adequate staffing for tuberculosis laboratories.

Strategy / Action 4:

By 2006, create and maintain up-to-date written and web-based curricula for laboratory staff to ensure the availability of timely training for laboratory personnel at all levels.

Strategy / Action 5:

By 2008, work with the U.S.-Mexico Border Health Commission and national TB training centers in the U.S. to secure needed resources to implement training programs and assure the participation of all border laboratory directors.

Target / Indicator:

By 2008, reference and local laboratories have sufficient trained personnel to conduct tuberculosis testing, including AFB smears, cultures and susceptibilities.

Strategy / Action 6:

By 2007, use established curricula to provide training to laboratory staff to assure quality basic and testing of tuberculosis specimens.

Strategy / Action 7:

By 2007, update protocols to ensure that all border state TB reference laboratories work under common criteria, and that all specimens submitted for susceptibility testing have been reviewed by state and binational drug resistant TB committees.

Strategy / Action 8:

By 2008, sponsor biennial TB laboratory training conferences and ensure participation by every TB laboratory director and all critical staff.

Objective 3: By 2006, create a mechanism for the timely exchange of laboratory specimens and resources across the U.S.-Mexico border.

Strategy / Action 1:

By 2005, work with the U.S.-Mexico Border Health Commision to identify specific barriers to the transport of specimens and resources across the U.S.-Mexico border and advocate for political solutions.

Strategy / Action 2:

By 2005, create and support a courier system in every sister-city pair to ensure uninhibited transport of laboratory specimens, laboratory equipment and laboratory results among laboratories and health care providers on both sides of the border.

Strategy / Action 3:

By 2005, create an *ad-hoc* binational TB laboratory work group that will meet regularly to identify and eliminate barriers to binational laboratory collaboration.

Strategy / Action 4:

By 2006, develop the appropriate procedures to ensure that all specimens sent to reference laboratories for culture and suscesptiblility testing will be discussed and cleared by an appropriate state Drug Resistant Tuberculosis Committee.

Target / Indicator:

Specimens and resources are transported across the U.S.-Mexico border in a legal and timely manner.

Objective 4: By 2006, ensure that any patient who has specimens submitted for AFB culture is being co-managed by an official drugresistant TB committee.

PROBLEM AREA III:

HEALTH PROMOTION, TRAINING, COMMUNICATION FOR TUBERCULOSIS AWARENESS

Definition of the Problem

Health promotion and training are needed at all levels among health care professionals and among high-risk populations in the community. Use of currently available technology will enhance opportunities for health promotion. Adequate communication of the problem to decision-makers is required to garner resources needed for TB control.

Objective 1: By 2008, needs-based training and continuing education opportunities for all health care providers who work with binational tuberculosis will be readily available in convenient venues and through a variety of technologies. Health care providers include the public health workforce, policy makers, laboratory workers, outreach workers (community health workers), nurses, and physicians.

Strategy / Action 1:

By 2006, conduct a training and continuing education needs assessment of health care workers who work with binational tuberculosis.

Target / Indicator:

A comprehensive training and continuing education needs assessment will be conducted among health care workers who deal with binational TB patients.

Strategy / Action 2:

By 2007, develop an annual training and continuing education plan based on needs identified in the formal needs assessment process.

Target / Indicator:

An annual training and continuing education plan will be developed and used to plan training and continuing education programs for health care providers and policy makers.

Strategy / Action 3:

By 2007, develop partnerships with area universities, U.S. and Mexican TB education centers, and other education specialists to enhance the quality and diversity of training opportunities.

Target / Indicator:

Universities and other specialists will participate in the development of training opportunities.

Strategy / Action 4:

By 2008, provide training and continuing education in a variety of venues and technologies that meet the needs of health care providers and policy makers who work with binational tuberculosis. The training will be available to Mexican and U.S. workers.

Target / Indicator:

A comprehensive training plan will be implemented and evaluated annually.

Objective 2: By 2008, build capacity for binational TB training along the U.S.-Mexico border that is specific to jurisdictional training and educational needs.

Strategy / Action 1:

By 2006, complete an inventory on binational TB education and training resources available in public health, academia and community organizations.

Strategy / Action 2:

By 2007, TATB will host a meeting to determine a strategic approach to implement border / binational educational and training activities.

Strategy / Action 3:

By 2008, training and education for TB should be standard practice in border institutions, border public health systems, and community organizations serving at risk population along the U.S.-Mexico border.

Objective 3: By 2007, the TATB will develop an inventory of available bilingual educational materials for professional and community education related to binational tuberculosis. These materials will be promoted through the Tuberculosis Information Center at CDC and other appropriate venues.

Objective 4: By 2007, Ten Against TB will develop, test and promote a bilingual health promotion and awareness campaign directed at community leaders and residents of border communities with high rates of TB.

Strategy / Action 1:

By 2005, develop, test and evaluate a public awareness campaign that results in increased awareness of the clinical presentation of tuberculosis and awareness of services and resources for tuberculosis along the U.S.-Mexico border.

Target / Indicator:

A public awareness campaign will be implemented and evaluated to increase awareness of the tuberculosis as a public health problem and available services along the U.S.-Mexico border.

Strategy / Action 2:

By 2006, develop, test and evaluate public awareness activities that increase awareness of TB as a cause of serious illness in young children and enhance the awareness of

tuberculosis services including diagnosis and treatment, as well as the importance of treatment adherence and completion.

Target / Indicator:

A public awareness campaign to increase awareness of TB as a cause of serious illness in children will be implemented and evaluated along the U.S.-Mexico border.

Strategy / Action 3:

By 2007, develop, test and evaluate activities to increase awareness of tuberculosis among high-risk populations.

Target / Indicator:

Activities to increase awareness of tuberculosis among high-risk populations and community leaders will be implemented and evaluated.

Strategy / Action 4:

By 2007, develop, test and evaluate activities to increase awareness of the problem of binational tuberculosis among community leaders along the U.S.-Mexico border.

Target / Indicator:

Activities will be designed and evaluated to increase the awareness of the problem of binational tuberculosis among community leaders along the U.S.-Mexico border.

Strategy / Action 5:

By 2007, identify indigenous communities in border areas with cultural and linguistic barriers and develop, test and evaluate strategies to increase awareness of tuberculosis and services available to care for individuals with TB.

Target / Indicator:

A public awareness campaign will be implemented and evaluated to increase awareness of tuberculosis among indigenous populations with cultural and linguistic barriers.

Strategy / Action 6:

By 2007, develop, test and distribute easy-to-read written materials on tuberculosis diagnosis, simple measures to decrease transmission and the importance of treatment adherence and completion.

Target / Indicator:

Ten new easy-to-read materials will be developed and field-tested related to the mechanisms of tuberculosis transmission and the importance of treatment adherence.

<u>Objective 5</u>: By 2006, identify funders that have an interest in supporting TATB initiatives.

Strategy / Action 1:

By 2005, partner with Rotary International to engage Rotary clubs in tuberculosis prevention and control activities.

Strategy / Action 2:

Convene a borderwide series of meetings to link interested funders to border TB initiatives.

Objective 6: By 2006, establish an enhanced system for exchanging information and networking regarding binational TB among border states and across the border.

Strategy / Action 1:

There will be at least one TB Symposium in key border communities to update health care providers on recent developments related to TB. The purpose will be to support and develop expert TB core competencies and capacity and to provide opportunities for networking;

Target / Indicator:

By 2006, health care providers will attend a locally accessible annual TB symposium designed to provide up-to-date information about binational TB and to promote networking opportunities.

PROBLEM AREA IV:

TUBERCULOSIS CASE MANAGEMENT

Background

Optimal case management includes prompt disease diagnosis, close clinical monitoring of medical regimens and their complications, assurance of adherence to treatment, and identification and evaluation of close contacts. Each of these strategies becomes more difficult when case management must be coordinated among health jurisdictions, particularly across international borders[46]. Because the highest percentage of foreign-born TB patients living in the U.S. come from and often travel to Mexico, methods to ensure coordinated case management between the two countries are important. These mechanisms should respect and take into account the differences in national protocols and procedures, health priorities and resources, and cultural and language differences. In the immediate U.S.-Mexico border area, case management involves substantial numbers of persons moving across the border as often as daily. TB patients who live on one side of the border might have their disease diagnosed or treated in the adjacent country; therefore, investigation of close contacts often involves school, work, and social settings on both sides of the border. Limited forums exist for disseminating information regarding successful case-management strategies across international borders. Ongoing coordination among TB control programs in border areas is vital, and local efforts to enhance these relationships should be encouraged.

U.S. and Mexican citizens cross the border for TB diagnosis and treatment routinely without notifying health departments of either country of their origin or destination. Case management and disease containment can be compromised because of lapses or changes in treatment regimens, failure to share clinical information, and timely contact investigations. Improved communication among TB agencies and providers at local, state, national, and international levels is needed to ensure effective case management and to coordinate care.

Definition of the Problem

Many patients with tuberculosis have difficulty completing their treatment or receiving sustained supervised treatment. Some have confirmed multi-drug resistant (MDR) TB for which they may not be able to initiate or continue a treatment regimen due to the scarcity of appropriate medications. These conditions favor increased TB morbidity, increased MDR disease, and continued transmission of TB. Similarly, contact investigations frequently are not completed or performed thoroughly, thereby reducing the opportunity to achieve effective prevention in border-impact communities.

To prevent and control tuberculosis in border populations, it is necessary to eliminate barriers to effective binational case management. Strategies are required to ensure directly observed therapy

[46] Centers for Disease Control and Prevention. Work Group Report on "Preventing and Controlling Tuberculosis Along the U.S.-Mexico Border ", en *MMWR Recommendations and Reports.* January 19, 2001 / 50(RR1); pp.1-2.

(DOT), availability of complete schemes of first and second line TB medications, and completion of timely contact investigations for every binational patient.

Objective 1: By 2008, ensure the provision of barrier-free case management services and complete TB drug regimens to all patients who meet the case definition for binational tuberculosis so that each patient completes an established treatment regimen.

Strategy / Action 1:

By 2007, federal and state authorities from U.S. and Mexico will take the necessary steps to strengthen existing health services in both countries by ensuring that every sister-city TB control program participates in a binational TB referral project.

Target / Indicator:

The fourteen sister-city pairs will participate in binational referral projects.

Strategy / Action 2:

By 2007, expand binational TB referral projects to include ten additional U.S. and five additional Mexican states and all Immigration and Customs Enforcement (ICE) detention centers.

Target / Indicator:

Ten additional U.S. states and additional Mexican states and all ICE detention centers will participate in referral projects.

Strategy / Action 3:

By 2006, establish a health information transmission system in each pair of border sister-cities that ensures timely and reliable exchange of patient referral information across the border.

Target / Indicator:

By 2006, dedicated telephones, fax lines, and electronic communication channels will be operational in each border sister-city pair.

Strategy / Action 4:

By 2006, finalize a mechanism for the timely and legal transport of medications and laboratory specimens across the U.S.-Mexico border.

Target / Indicator:

A system will be in place to ensure the legal transport of second-line medications and specimens across the border in order to ensure optimum patient treatment.

Strategy / Action 5:

By 2008, federal and state authorities will work with sister-city health jurisdictions to replicate successful binational TB control projects so that all sister cities are served by a binational project.

Target / Indicator:

Binational TB projects are operational in all fourteen sister-city public health units.

Strategy / Action 6:

By 2007, establish the necessary procedures and infrastructure to ensure that all patients with active tuberculosis receive treatment through daily directly observed therapy (DOT).

Target / Indicator:

Each area receiving tuberculosis medications, especially second-line medications, will present a plan to the appropriate authorities to ensure daily directly observed therapy and appropriate use of medications.

Objective 2: By 2007, provide specialized medical attention and treatment to all pediatric patients diagnosed with tuberculosis.

Strategy / Action 1:

By 2006, establish a network to make pediatric tuberculosis expert consultation accesible to all pediatric patients in the ten border states.

Target / Indicator:

A network of medical providers for pediatric tuberculosis will be available for each sister-city TB control program.

Strategy / Action 2:

By 2007, establish a medical advisory committee that will conduct an annual evaluation of care provided to pediatric patients in all ten states.

Target / Indicator:

Each case of pediatric tuberculosis will receive expert pediatric consultation.

Objective 3: By 2008, develop effective and long-lasting consultative services that will assist with case management and ensure a lasting cure for all patients with complicated tuberculosis, with HIV / TB co-infection, diabetes, and especially those with MDR-TB.

Strategy / Action 1:

By 2007, develop and maintain a network of providers utilizing existing regional and national centers of expertise in Mexico and the U.S. to:

- Provide additional consultation to health care providers who treat individuals who meet the case definition for binational tuberculosis
- Develop resources for the clinical care and case management of patients who meet the binational MDR-TB case definition
- Exchange information on MDR-TB clinical and case management issues
- Hold case conferences
- Conduct annual training focused on MDR-TB.

Targets / Indicators:

- A network provider list is compiled and disseminated.

- Each year, three case conferences with complex cases are presented from at least four binational regions.
- An inventory of educational resources specific to MDR-TB providers and to patients with MDR-TB in Spanish and English is compiled and distributed.
- Annual network meetings to review objectives for network, training and to identify needs are held along the U.S.-Mexico border.

Strategy / Action 2:

By 2007, develop a process to ensure that every binational drug resistant TB case is managed in coordination with a state or binational drug-resistant TB committee.

Target / Indicator:

A drug-resistant TB committee will be available to and operational in each of the ten border states and every major sister-city TB control program.

Strategy Action 3:

By 2007, binational TB patients with special characteristics or associated diseases are identified and registered in a binational case registry.

Target / Indicator:

A binational case registry will be established that includes data fields for special characteristics or associated diseases.

Strategy / Action 4:

By 2008, develop and pilot-test projects that provide case management and increase percentages of cure among patients with tuberculosis who are in prison, who are drug users, alcoholics, diabetics, infected with HIV or who are homeless, or have psychiatric problems.

Target / Indicator:

By 2008, all sister cities served by binational projects will provide case management to complicated tuberculosis cases.

<u>Objective 4</u>: By 2008, expand Medicaid coverage to ensure adequate health care, diagnosis and treatment for patients receiving TB care in the U.S., regardless of immigration status or length of time in the U.S.

Strategy / Action:

By 2008, all patients who meet the definition for binational tuberculosis cases and the Medicaid means test will be eligible for and receive Medicaid.

Target / Indicator:

The Medicaid TB program will include inpatient TB services, and will cover any U.S. or foreign-born person who meets the means test, regardless of immigration status.

Objective 5: By 2008, ensure that each binational patient with tuberculosis receives a complete and timely contact investigation and that 90% of contacts are identified and evaluated for tuberculosis within a specified time period.

Strategy / Action 1:

By 2007, develop, field-test and implement written protocols for conducting a complete contact investigation for patients who meet the case definition for binational tuberculosis.

Target / Indicator:

A contact investigation protocol will be developed, tested and implemented.

Objective 7: By 2008, ensure that all complicated TB cases, including MDR-TB cases, are being co-managed by an official state or binational drugresistant TB committee.

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