Promoting Cultural Sensitivity

A Practical Guide for Tuberculosis Programs That Provide Services to Persons from Mexico

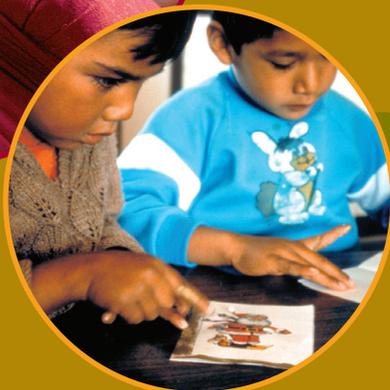*A donde fueres, haz lo que vieres.*
"Wherever you go, do as you see."
—Mexican Proverb
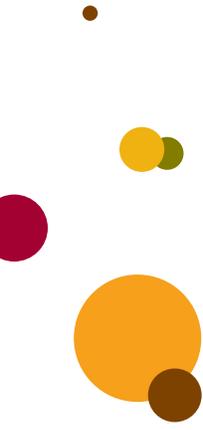
Promoting Cultural Sensitivity

A Practical Guide for Tuberculosis Programs That Provide Services to Persons from Mexico

An elderly woman in Mexico.
© Rick Maiman, and the David and Lucile Packard
Foundation. Courtesy of Photoshare.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

2008

For Additional Information

For more information or for a list of available guides, please contact:

Division of Tuberculosis Elimination
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Coordinating Center for Infectious Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE, Mailstop E-10
Atlanta, GA 30333

Phone: (404) 639-8120

Web site: http://www.cdc.gov/tb

Contents

Introduction

Promoting Cultural Sensitivity: A Practical Guide for Tuberculosis Programs That Provide Services to Persons from Mexico is one guide in a series that aims to help tuberculosis (TB) program staff provide culturally competent TB care to some of our highest priority foreign-born populations. Other guides in the series focus on persons from China, Somalia, Vietnam, and Laos.

Intended Audience

This guide is intended for health care providers, community-based workers, program planners, administrators, health educators, and resettlement agencies that work with Mexican communities. This guide is designed to increase the knowledge and cultural sensitivity of health care providers, program planners, and any others serving persons from Mexico. The ultimate aim is to foster culturally competent TB care and services for Mexicans in the United States.

About the Guides

Each guide in this series includes the following:

- A two-page summary of program tips.

- Chapters on history and immigration; culture; health issues; and common perceptions, attitudes, and beliefs about TB.

- A concluding summary.

- Appendices, including additional resources for working with TB patients and interpreters.

- Useful resources.

- References.

Some of the information in the guides, such as the practical tips, can be applied directly, while other sections are more informative and will help providers better understand the background and sociocultural context of the population. A deeper understanding of pertinent issues will heighten the cultural sensitivity of TB care providers, enhance communication, and improve the overall effectiveness of organizations and staff in cross-cultural settings.

The content of these guides was gathered in two ways. First, an in-depth review of TB-related epidemiologic, behavioral, and ethnographic literature on Mexicans in the United States was performed. Secondly, in 2003, the Division of Tuberculosis Elimination (DTBE) at the Centers for Disease Control and Prevention (CDC) undertook a qualitative study to describe ethnographic aspects of the increasing burden of TB among five foreign-born populations. Selected major findings from this study are presented in each of the guides.
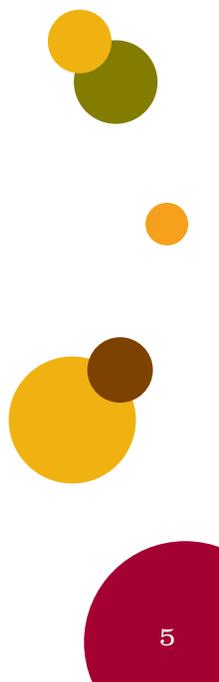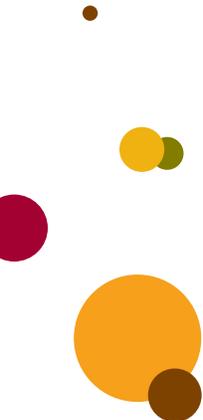
How to Use This Guide

• The tips section at the front of the guide provides a summary of practical suggestions, which are also interspersed throughout the guide in textboxes. Keep these tips readily accessible and refer to them as often as necessary.

• The chapters on history, immigration, and cultural issues (Chapters 1 and 2) provide important background information on the cultural group. Depending on your needs and interests, you will want to read in depth or skim.

• Chapter 3 begins with "Health Statistics at a Glance," which highlights TB and related health issues. The remainder of the chapter expands upon this information. If you provide direct health services, you may wish to read this section in depth.

• Chapter 4 provides information about special issues facing Mexicans in the United States.

• Chapter 5 contains findings from the CDC study on common TB perceptions, attitudes, and beliefs. If you work directly with TB patients, you will want to read this section thoroughly.

• Appendix A presents a set of questions that can be used to elicit a patient's understanding or perception of his or her own health problems. You may wish to use these questions or slightly modified questions to begin a conversation with a new TB patient.

• Appendix B provides suggestions for working with interpreters. Refer to these suggestions when working with people with limited English proficiency.

• Appendix C provides a list of resources for both patients and providers. These resources include culture-specific educational materials and fact sheets. Use them to enhance communication with patients of different cultures.

• Refer to the other appendices as needed.

Background

Worldwide, tuberculosis (TB) is one of the most deadly infectious diseases. Although it is curable and preventable, TB claims the lives of more than 5,000 people every day (nearly 2 million deaths per year) (World Health Organization [WHO], 2006a). TB disproportionately affects poor and marginalized groups of society who are often at higher risk for TB, both around the world and in the United States (Dubos & Dubos, 1952; Mitnick, Furin, Henry, & Ross, 1998; Sepkowitz, 2001).

Domestically, the number of TB cases has decreased steadily since 1992, but this reduction has not affected all populations equally. In 2005, the TB case rate among foreign-born persons was almost nine times that of persons born in the United States (21.9/100,000 compared with 2.5/100,000). The same year, 55% of all TB cases in the United States were among foreign-born persons (Centers for Disease Control and Prevention [CDC], 2006b). Most cases among this group result from reactivation of latent TB infection (LTBI) acquired in countries of birth with high TB prevalence (Zuber, McKenna, Binkin, Onorato, & Castro, 1997).

The high incidence of TB in the United States among foreign-born persons poses challenges to public health programs across the country (CDC, 2006b). Although disparities between U.S.-born and foreign-born TB patients are caused by multiple factors, persons born outside the United States often face challenges related to personal or cultural beliefs, behaviors, and needs when accessing TB services. Attempts to control TB in foreign-born populations have sometimes been hindered by cultural and linguistic barriers, as well as challenges related to resettlement, employment, and socioeconomic position. Understanding these issues is crucial to the prevention and control of TB among foreign-born populations.

Cultural Competency in Tuberculosis Service Delivery

Cultural competence is an essential element of quality health care and can help improve health outcomes, increase clinic efficiency, and produce greater patient satisfaction (Brach & Fraser, 2000). Although there is no one universally accepted definition of cultural competence, it may generally be understood to be a set of attitudes, skills, behaviors, and policies that enable organizations and staff to work effectively in cross-cultural situations. Furthermore, it reflects the ability to acquire and use knowledge of the health-related beliefs, attitudes, practices, and communication patterns of patients and their families in order to improve services, strengthen programs, increase community participation, and close the gaps in health status among diverse population groups (U.S. Office of Minority Health, 2006). Linguistically appropriate services are a key component of culturally competent health systems. In 2001, the U.S. Office of Minority Health issued Culturally and Linguistically Appropriate Service (CLAS) standards to help health care organizations move toward cultural competence (see Appendix C). Several of these standards are federal mandates supported by Title VI of the Civil Rights Act (1964), which prohibits discrimination on the basis of national origin and language. In summary, these standards aim to ensure that all federally funded health facilities provide services in a language understood by patients.

To move towards cultural competence, health care providers and other program staff should understand the ethnic and cultural needs of the populations they serve. Providing effective care involves taking the time to learn from patients what is important to them in the experience of illness and treatment. According to medical anthropologist Arthur Kleinman, finding out "what is at stake" for the individual will provide crucial information to use in communication and in tailoring a treatment plan (Kleinman & Benson, 2006). Culture does matter in the clinic, and providers must remember that they too bring a cultural perspective to the patient-provider relationship. Increasing staff knowledge of the cultural and ethnic backgrounds of populations served is one important aspect of the CLAS standards.
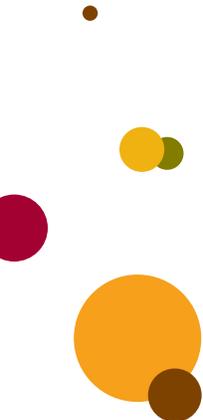
Considerations When Using This Guide

Although the information in this publication was gathered from many sources, it will not apply to all Mexicans in the United States. Mexican culture, as all others, is dynamic. Cultural perspectives may vary depending upon a person's age, sex, education, social class, or degree of acculturation. To ensure that TB services are both sensitive and appropriate, users of this guide are encouraged to use an approach grounded in an understanding of the cultural background of those served, while also appreciating each patient's individuality and uniqueness.

Further, providers must also recognize their own beliefs and biases, as these may inadvertently be communicated to patients and families. Awareness of one's own verbal and nonverbal communication styles will help avoid social gaffes that may offend others and adversely affect the relationship. Good patient-provider relationships are built on trust and respect; therefore, providers wishing to care effectively for their patients should heighten their sensitivities to both differences and similarities and use knowledge to guide their practice (Lipson & Dibble, 2005).

Clarification of Terms

In 1970, the U.S. Census Bureau designated the term "Hispanic" as an ethnic category referring to people from Mexico, Spain, or the Spanish-speaking countries of Latin America and the Caribbean. Hispanic and Latino are terms that suggest cultural and ethnic homogeneity; however, there is no consensus on a preferred term. In this guide, we use "Hispanic/Latino" when the original research refers to this broader group and the terms "Mexican" and "Mexican American" when research refers specifically to those groups. To understand the Mexican populations in the United States more fully, it may be helpful to determine the region of Mexico from which people originate, including the health beliefs, practices, and problems specific to the region.

Tips for Providing Culturally Competent Tuberculosis Services to Persons from Mexico

Below are practical suggestions presented in *Promoting Cultural Sensitivity: A Practical Guide for Tuberculosis Programs That Provide Services to Persons from Mexico*. These tips are intended for tuberculosis (TB) program staff, including program planners, managers, and providers who work with persons from Mexico. For additional background and resources, please consult the full version of the guide.

Interactions with Mexican Patients and Family Members

- **Many Mexican patients may not speak English fluently and may prefer interactions and materials in Spanish. Ensure that adequate bilingual staff and Spanish-language materials are available.**

- **Because family is very important to Mexicans, it may be helpful to speak with both the patient and family members. However, to protect confidentiality, seek a patient's permission first.**

- **Take time to establish rapport. Mexican patients may more likely trust health care workers with whom they have a personal relationship.**

- **To build rapport, consider beginning a conversation with a story or small talk.**

- **Do not assume that nonverbal cues, such as nodding "yes," mean that a patient is agreeing to take medications as prescribed.**

- **Seek a patient's permission before making physical contact during an examination. Mexicans may be uncomfortable being touched by a health care provider.**

Tuberculosis Diagnosis and Treatment

- **Recognize that some Mexicans may use folk remedies. As a result, they may delay seeking treatment while waiting to see the effect of these remedies.**

- **When possible, discuss ways to incorporate traditional remedies into TB treatment.**

- **Because many medications, including antibiotics, are obtained easily in pharmacies in Mexico, it is important to ask patients what medicines or treatment they have taken for their symptoms.**

- **Unauthorized immigrants may avoid seeking health care because of the fear of deportation. Explain that they will not be deported because of their TB treatment.**

- **Many Mexicans immigrate for economic opportunities, thus value their jobs highly. TB care that minimizes job interference, such as Saturday hours or extended clinic hours, will more likely be accepted.**

- **Lack of transportation can severely hinder receipt of care. Consider alternative strategies, such as offering transportation or transportation tokens. If possible, use mobile units to test for and treat TB in communities. Outreach programs that combine services with culturally appropriate education are often more effective among at-risk populations with limited financial resources.**
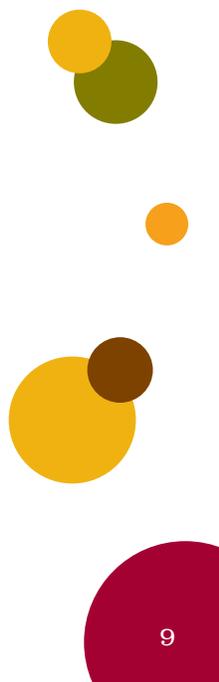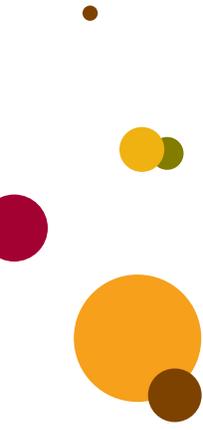
• Mexican patients may have preconceptions about the role that the Bacille Calmette-Guérin vaccine plays in producing a positive tuberculin skin test. Explain that for adults a large reaction likely indicates recent exposure to TB and that treatment can prevent TB disease. Use pamphlets about the vaccine to guide the conversation.

Social Stigma

• To allay fears, emphasize the need for only short-term isolation during active TB treatment.

• Address concerns and confusion about the difference between TB disease and latent TB infection. Clarify that a person with latent TB infection does not need to be isolated and cannot spread germs.

• When promoting TB services, emphasize confidentiality.

Tuberculosis Education and Outreach

• Take time to understand the patient's perceptions of TB. A two-way exchange offers the opportunity to tailor education, dispel inaccurate notions, and emphasize pertinent messages.

• Organize community leaders to hold discussions to highlight risk factors and address how TB is and is not transmitted.

• Provide community education about TB risk. Emphasize that risk is increased by spending time in places where TB is common, not by personal hygiene.

• When possible, provide tailored information in formats preferred by Mexican patients, namely community talks, public service announcements on TV or radio, or pamphlets in Spanish.

Chapter 1. Mexican History and Immigration to the United States

Mexican Geography and History

Mexico, a country composed of 31 states and home to 105 million people, is bordered by Texas, New Mexico, Arizona, and California to the north; Guatemala and Belize to the south; the Caribbean Sea and the Gulf of Mexico to the east; and the Pacific Ocean to the west (Smith, 2000; U.S. Department of State, 2004). Though the Olmecs, Mayas, Toltecs, and Aztecs originally inhabited the region, the Spanish ruled Mexico during 1521–1810. This led to the adoption of Spanish culture and language.

After the Mexican War of Independence (1810–1821), the newly independent Mexican government attempted to gain control of all its regions, including Texas. The Mexican-American War (1845–1848) was sparked over control of Texas and ended with the treaty of Guadalupe-Hidalgo, in which Mexico ceded Texas and part of California to the United States (Smith, 2000). After the Mexican-American War, the government was considerably weakened and faced reconstruction problems and economic hardships.

The popular rejection of dictator Porfirio Díaz led to the Mexican Revolution of 1910, a violent social and cultural movement. Though the Constitutional Congress approved a new constitution in 1917, the violence continued until 1920. During the first half of the twentieth century, the increased stability of the government helped advance economic and social development. Because of recent changes in economic policy, especially those attributable to the 1994 North American Free Trade Agreement (Sanchez & Karp, 2000), an agreement to establish mutually advantageous trade rules between North American countries (NAFTA Secretariat, 1992), Mexico has seen higher economic growth, including a surge in foreign investment and trade.

Immigration to the United States

Throughout its history, the United States has attracted Mexican immigrants in search of employment and economic opportunities. During 1850–1880, Mexican workers immigrated to the United States (mainly Arizona, California, Colorado, New Mexico, and Texas) as part of a general, foreign labor movement. During the early 1900s–1960s, the migration of Mexican workers fluctuated with historic events, including the Mexican Revolution, the Great Depression, World War II, and the Bracero Treaty (1942) that allowed millions of Mexicans to work under contract with U.S. growers and ranchers (Library of Congress, 2002; Public Broadcasting Service, 2005).
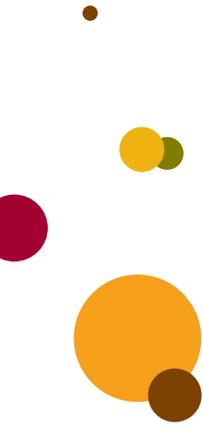
After the Bracero program ended in 1964, the major U.S. policies to affect Mexican immigration have included the Immigration Act of 1965 and the Immigration Reform and Control Act of 1986. These policies legalized more than two million Mexicans who had lived in the United States for a specified length of time and removed immigration quotas on the basis of national origin. In 1996, the Illegal Immigration Reform and Immigrant Responsibility Act was passed to strengthen the border and facilitate the removal of illegal immigrants.

Currently, Hispanics are the fastest growing minority population in the United States. According to the 2000 U.S. Census, Hispanics constitute 12.5% (35 million) of the U.S. population, and at 67%, Mexicans represent the largest percentage of Hispanics (Ramirez & de la Cruz, 2002). By 2050, the Hispanic population is predicted to double in size to 24% and become the largest minority population. Though the greatest concentrations of Hispanics reside in California, Texas, and Illinois, states with considerable growth over the past decade include Tennessee, Alabama, Georgia, North Carolina, New Mexico, Arizona, and Idaho (Greico, 2003).

Mexicans represent the largest group of legal immigrants in the United States, accounting for about one-fifth of immigrants (Passel, 2004). Each year, an estimated 800,000–1 million immigrants make the journey between Mexico and the United States (Greico, 2003). Mexico is also the largest source of unauthorized immigrants in the United States. Of the 9.2 million Mexican-born people living in the United States in 2000, almost 70% were unauthorized (United States Immigration and Naturalization Service Office of Policy and Planning, 2003).

Chapter 2. Overview of Mexican Culture

This chapter provides an overview of Mexican culture in terms of social structure, family, gender, religion, language, literacy, communication styles, socioeconomic position, traditional health beliefs and practices, and health care-seeking behaviors. Readers are cautioned to avoid stereotyping Mexicans on the basis of these broad generalizations. Also note that Mexican culture, as all others, is dynamic and expressed in various ways, owing to individual life experience and personality. Some Mexicans living in the United States may be more or less acculturated to mainstream U.S. culture.

Social Structure, Family, and Gender

Typically, Mexican households in the United States consist of five or more people (Therrien & Ramirez, 2001). The traditional patriarchal structure grants the father or oldest male relative the greatest power, whereas women are expected to show submission (Kemp & Rasbridge, 2004). Though a matriarch often determines when a family member needs medical care, the male head still gives permission to seek treatment (Smith, 2000). The entire family, however, may be involved in the decision-making process (Galanti, 2004).

Religion

Christianity is the most common religion. Most Mexicans (89%) identify themselves as Catholic, while a smaller percentage (6%) identify themselves as Protestant (U.S. Department of State, 2004). Faith and church are often central to family and community life; this is especially apparent in the understanding of illnesses and healing (Kemp & Rasbridge, 2004). Although the Aztec religion, a system of animism (belief that spirits inhabit natural objects) and polytheism (worship of more than one god), is nearly extinct, some aspects are preserved in traditional medical beliefs (Smith, 2000).

A woman and child in Mexico.
© Rick Maiman, and the David and Lucile Packard Foundation. Courtesy of Photoshare.

Suggestion

- Because family is very important to Mexicans, it may be helpful to speak with both the patient and family members. However, to protect confidentiality, seek a patient's permission first.

- Do not assume that nonverbal cues, such as nodding "yes," mean that a patient is agreeing to take medications as prescribed.

Language and Literacy

Spanish is the official language of Mexico; however, as many as 100 Native American languages, such as Nahuatl, Maya, Mixteco, and Zapoteco, are still spoken by nearly 8% of the population (Gordon, 2005). Because of public education programs, the literacy rate in Mexico has improved over the past 35 years. Among Mexicans aged 15 years and older, the literacy rate rose from 74% in 1970 to 89% in 2004 (U.S. Department of State, 2004). A brief list of Spanish phrases and tuberculosis vocabulary is provided in Appendix E.

Communication Styles

Communication styles often reflect Mexican cultural values and can influence how Mexicans interact with one another and with health care providers. Both verbal and nonverbal communication can impact the experience of Mexican patients in a health care setting and may influence their care-seeking behaviors and treatment adherence.

Verbal Communication

Mexican social norms emphasize the importance of personal relationships (Salimbene, 2000; Smith, 2000). Verbal communication should be courteous and respectful. The Spanish *usted* form (i.e., the formal, polite "you") should be used to address patients (Guarnero, 2005). *Familismo* is the value of family over individual or community needs and the expression of strong loyalty, reciprocity, and solidarity among family members (Postgraduate Medical Council of New South Wales, n.d.; Smith, 2000; University of Washington Medical Center, 1999). Mexican patients may want to include family members in discussions of treatment and care; therefore, it may be helpful for the provider to speak with both the patient and his or her family. However, to protect confidentiality, providers should first get permission from the patient.

A young girl in Mexico.
© 2006 Enriqueta Valdez-Curiel. Courtesy of Photoshare.

Suggestion

- Unauthorized immigrants may avoid seeking health care because of the fear of deportation. Explain that they will not be deported because of their TB treatment.

- Because many medications, including antibiotics, are obtained easily in pharmacies in Mexico, it is important to ask patients what medicines or treatment they have taken for their symptoms.

Nonverbal Communication

Although maintaining eye contact is a sign of respect in some cultures, Mexicans may interpret it as a challenge or intimidation. Additionally, a patient's silence may indicate many things, such as doubt, shyness, disapproval, anger, politeness, or not understanding. It should not be interpreted as agreement or disagreement. The provider can attempt to clarify with further explanation or additional questions. During an examination, patients may feel uncomfortable being touched by a health care provider, as this contact is generally reserved for family members and close friends (Guarnero, 2005).

An elderly woman sells jelly to make a living.
© Kathy Strauss. Courtesy of Photoshare.

Socioeconomic Position in the United States

Economic opportunity fuels Mexican population growth in the United States. Mexicans, legal and illegal, are drawn by better paying jobs to support their families in Mexico (Library of Congress, 2002; Public Broadcasting Service, 2005). Although wages are higher, Mexicans living in the United States often face social and economic challenges.

Nearly 70% of Mexicans (aged 25 years and older) do not have a high school diploma or its equivalent, compared with 22% of the general U.S. population. In 1999, the median income among Mexican families was about $30,000 (compared with the U.S. median of $50,000), and 24% of Mexican families lived in poverty (compared with 9.2% of the U.S. population) (U.S. Census Bureau, 2000).

In the 2002 National Survey of Latinos, 39% of Mexicans reported having no health insurance (Pew Hispanic Center & Kaiser Family Foundation, 2004). Research suggests a lack of health insurance results in fewer visits to primary care physicians (Hough et al., 1987; Trevino, Moyer, Valdez, & Stroup-Benham, 1991) and more emergency room visits (Smith, 2000).

Suggestion

- Take time to establish rapport. Mexican patients may more likely trust health care workers with whom they have a personal relationship.

- To build rapport, consider beginning a conversation with a story or small talk.

A woman and her infant in Mexico.
© Rick Maiman, and the David and Lucile Packard Foundation. Courtesy of Photoshare.

Traditional Health Beliefs and Practices

The meaning of health varies among Mexicans. Some may maintain that health results from good luck or is a reward for good behavior (Spector, 1996). Furthermore, illnesses are thought to have either natural or supernatural causes. The following are descriptions of common Mexican folk illnesses, causes, and remedies.

Humoral Imbalance

In general, physical and mental illness is thought to result from an imbalance between a person and the environment, expressed as either "hot" and "cold" or "wet" and "dry" (Kemp & Rasbridge, 2004; Spector, 1996). The four humors contained in the body include blood (hot and wet), yellow bile (hot and dry), phlegm (cold and wet), and black bile (cold and dry) (Spector, 1996). An imbalance of the humors causes illness. Humors vary by person, depending on where in Mexico a person originates.

To correct an imbalance, people consume foods or herbs with the opposite quality (e.g., "cold" conditions are treated with "hot" medications). If a health care provider suggests a remedy deemed inappropriate for a particular condition (e.g., penicillin, a "hot" medicine, for a "hot" disease such as fever), patients are less likely to comply (Smith, 2000).

Suggestion
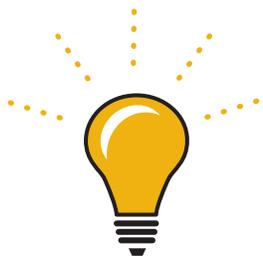
- Many Mexican patients may not speak English fluently and may prefer interactions and materials in Spanish.

- Ensure that adequate bilingual staff and Spanish-language materials are available.

Empacho

Illness can also result from a "dislocation" of different parts of the body. One example of dislocation is *empacho*, a form of upset stomach or indigestion, thought to be caused by eating the wrong food at the wrong time of day, eating undercooked food, or swallowing gum. *Empacho* includes common symptoms such as stomach pain or cramps, vomiting, diarrhea, indigestion, or constipation. The most common treatment is rubbing the stomach or back gently with cooking oil and pinching the spine (Smith, 2000; Spector, 1996).

Mal de Ojo

Mal de ojo ("bad eye") is caused when someone looks with admiration or jealousy at another person. The person looked upon experiences malaise, sleepiness, fatigue, and severe headache. Folk remedies include saying a prayer while passing an egg over the victim's body then placing the egg in a bowl under the victim's bed overnight, or alternately, having the person who caused *mal de ojo* care for the victim (Kemp & Rasbridge, 2004; Smith, 2000).

Envidia

Many Mexicans believe *envidia,* or envy, causes illness and bad luck. Envy can be provoked by success, but can result in misfortune and illness. Some research concludes that low economic status is associated with the belief in *envidia* (Spector, 1996).

Susto

Susto, also known as fright sickness, arises from a traumatic or frightening experience and is thought to cause soul loss, whereby the soul leaves the body and wanders freely. Although *susto* affects men and women, women are considered more at risk than men (Kemp & Rasbridge, 2004). Symptoms include anxiety, depression, insomnia, introversion, irritability, lethargy, and anorexia.

Tuberculosis (TB) is sometimes classified as *susto*. Treatments for *susto* include herbal teas, relaxation techniques, covering the face with a cloth and sprinkling holy water, spitting a mouthful of water or alcohol into the person's face unexpectedly, or the use of a folk healer to coax the soul back to the person's body (Kemp & Rasbridge, 2004; Spector, 1996).

Suggestion
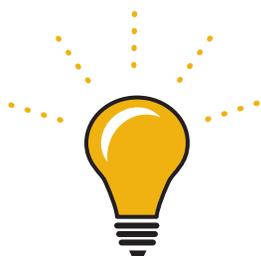
- Recognize that some Mexicans may use folk remedies. As a result, they may delay seeking treatment while waiting to see the effect of these remedies.

- When possible, discuss ways to incorporate traditional remedies into TB treatment.

- Seek a patient's permission before making physical contact during an examination. Mexicans may be uncomfortable being touched by a health care provider.

Health Care-seeking Behaviors

Mexicans may combine traditional health care practices with Western medicine. In Mexico, Western medicine is prevalent in larger cities; however, urban Mexicans who cannot afford these services often resort to traditional practices. Traditional health-seeking behaviors include using home remedies and seeking care from relatives, neighbors, community members, or traditional health care providers. Home remedies often include drinking herbal or spiced teas.

Two boys waiting for vaccinations.
© Patricia Poppe and CCP. Courtesy of Photoshare.

If the home remedy is ineffective, the ill person may consult a *yerbero* (herbalist), a *sobador* (massage therapist), or a *partera* (midwife) (Kemp & Rasbridge, 2004). If a person does not experience relief, he or she may seek the services of a *curandero* (holistic healer). *Curanderos*, male or female, address the social, physical, spiritual, and psychological aspects of health. Other forms of healing that may be used during the treatment process include conducting religious rituals such as prayer, using religious symbols (either worn on the body or kept in the home), making promises, and visiting shrines (Spector, 1996).

Some medications sold only by prescription in the United States, including antibiotics, may be purchased easily without a prescription from Mexican *farmacias* (pharmacies). Regardless of their insurance status, Mexicans living in the United States may make regular trips to Mexico to purchase medications at a lower cost (Becker, Garcia, & Ellertson, 2004; Calvillo & Lal, 2003; Flores, Ochoa, Briggs, Garcia, & Kroeger, 2003). Further, Mexicans living in the United States are likely to travel to Mexico to purchase TB medications to avoid the social or legal stigma associated with divulging their TB status in a Western health setting (Flores et al., 2003; Larkey, Hecht, Miller, & Alatorre, 2001). In Mexico, antibiotics are the most commonly purchased medication as nearly 43% of antibiotic purchases may be made without a prescription (Calva & Bojalil, 1996). Many Mexican pharmacy workers, however, may not be licensed to sell antibiotics, and may sell customers an inadequate regimen or incomplete course of TB medication, which may contribute to drug resistance.

Chapter 3. The Health of Mexicans

Health Statistics at a Glance

Tuberculosis

In Mexico
- In 2005, the estimated tuberculosis (TB) incidence was 23 per 100,000 (WHO, 2006b).
- In 2004, 2.4% of new TB cases were multidrug-resistant (WHO, 2006b).
- Bacille Calmette-Guérin (BCG) vaccine coverage at birth is 99% (WHO, 2005).

In the United States
- In 2005, 25% of TB cases among foreign-born persons occurred in persons from Mexico (CDC, 2006b).

HIV/AIDS
- In Mexico, the prevalence of AIDS in adults is 0.3% (World Resources Institute, 2006).
- In the United States, Hispanics (approximately 67% of whom are of Mexican origin) account for about 16% of the total diagnosed AIDS cases (CDC, 2005a; Ramirez & de la Cruz, 2002).
- Hispanic males in the United States have a higher AIDS case rate than Hispanic females (40.3 compared with 12.4 per 100,000 population) (CDC, 2003a).
- Among Mexican males in the United States, the majority of AIDS cases occur among men who have sex with men and among injection drug users (CDC, 2003b).

Diabetes Mellitus
- Since 2000, diabetes has become the principal cause of death in Mexico among women and the second leading cause of death among men (Rull et al., 2005).
- In the United States, Mexicans are twice as likely as non-Hispanic whites to be diagnosed with diabetes (National Center for Health Statistics, 2006).
- By 1998, 1.2 million of the 30 million Hispanics in the United States had been diagnosed with diabetes, and it is estimated that another 675,000 are undiagnosed (U.S. Census Bureau, 2000).

End-stage Renal Disease
- In the United States, Mexicans are 1.45 times more likely than non-Hispanic whites to have end-stage renal disease (Tareen et al., 2005).

Cancer
- Data from 1988–1998 show significantly greater incidences of leukemia in Hispanic children compared with non-Hispanic whites in the United States (61.5 cases per 106 person-years compared with 48.8 cases per 106 person-years) (Wilkinson et al., 2005).
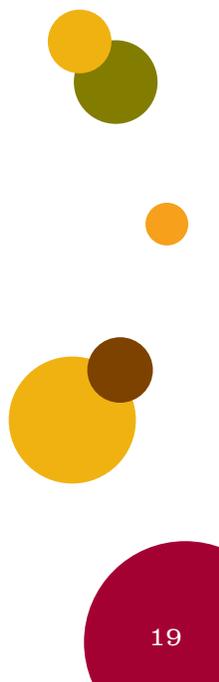
Tuberculosis Among Mexicans

In Mexico

Over the past 15 years in Mexico, the estimated TB incidence has steadily decreased from a rate of 49 per 100,000 in 1990 to 33 per 100,000 in 2002 (World Bank Group, 2002). In 2005, the World Health Organization (WHO) reported an estimated TB incidence of 23 per 100,000 (2006b). One study showed that primary resistance to one or more first-line TB drugs used in Mexico (isoniazid, rifampin, or pyrazinamide) was 12%; acquired resistance (among patients with prior treatment with anti-TB drugs) was 50% (CDC, 1998).

A handmade poster to educate the community about treatment in Yucatan, Mexico.
© 2005 Gautier. Courtesy of Photoshare.

In 2004, according to the WHO, 2.4% of new TB cases in Mexico were defined as multidrug-resistant (resistant at least to isoniazid and rifampin) (2006b). In 1996, Mexico began implementing directly observed treatment short-course (DOTS). As of 2005, DOTS was available to 100% of Mexicans (WHO, 2006b).

In the United States

During 1993–2005, TB surveillance data showed that Mexicans living in the United States consistently accounted for the largest proportion of TB cases among all foreign-born groups. In 2005, 25% (n=1942) of TB cases among foreign-born persons in the United States occurred in persons from Mexico (CDC, 2006b). During 2000–2004, the total case count was 9,555. Over that period, 6.4% of TB cases were resistant to isoniazid and 27.3% were extrapulmonary (CDC, 2005b).

In 2005, 15% of reported TB cases among Mexican adults (n=1871) occurred among those who had been in the United States for 1 year or less; 20% occurred among those in the United States 1–4 years; and 50% occurred among those in the United States 5 or more years. For the remainder, the number of years in the United States prior to diagnosis was unknown (CDC, 2006b). See Appendix F for information about tuberculosis screening policies for persons overseas.

Figure 3-1.

Countries of birth of foreign-born persons reported with TB—United States, 2005

Mexico (25%)

Other countries (38%)

Philippines (11%)

Viet Nam (8%)

Guatemala (3%)

Haiti (3%)

China (5%)

India (7%)

Source: CDC Tuberculosis Surveillance Reports.

Bacille Calmette-Guérin

Bacille Calmette-Guérin (BCG) is currently used in many parts of the world as a vaccine against TB. In Mexico, BCG vaccine coverage at birth is 99% (WHO, 2005). Post-vaccination tuberculin reactivity is not an indicator of the protective efficacy of BCG vaccination, because it is not an indicator of immunity to *Mycobacterium tuberculosis*. Reaction to a tuberculin skin test caused by BCG vaccination wanes rapidly in individuals who receive the vaccine in the neonatal period and more slowly in those vaccinated at an older age (Menzies, 2000).

CDC's current TB testing guidelines state that a positive reaction to tuberculin in BCG-vaccinated persons indicates infection with *M. tuberculosis* when the person tested is at increased risk for recent infection or has medical conditions that increase the risk for disease. (See Table 7 in the June 09, 2000 *MMWR* for criteria for tuberculin positivity.)* Therefore, a history of BCG vaccination should not influence decisions about treatment of latent TB infection (LTBI) (CDC, 2000).

* Centers for Disease Control and Prevention. (2000). MMWR Weekly: Targeted tuberculin testing and treatment of latent tuberculosis infection. Retrieved November 8, 2007, from http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4906a1.htm.

Tuberculosis-related Health Issues

Understanding other health issues affecting the lives of Mexican patients provides critical information for TB care providers. Conditions that can increase the risk of LTBI progressing to TB disease include the following (CDC, 2004):

- HIV/AIDS.
- Previous TB (in a person who received inadequate or no treatment) indicated by chest radiograph findings.
- Prolonged corticosteroid therapy and other immunosuppressive therapy.
- Recent infection with *M. tuberculosis* (within the past 2 years).
- Substance abuse (especially intravenous drug use).
- Silicosis.
- Diabetes mellitus.
- End-stage renal disease.
- Cancer of the head and neck.
- Hematologic and reticuloendothelial diseases.
- Intestinal bypass or gastrectomy.
- Chronic malabsorption syndromes.
- Low body weight (10% or more below ideal).

Of these conditions, those that are most relevant to people from Mexico are further explored here.

HIV/AIDS

Once a person is infected with *M. tuberculosis*, HIV infection is the strongest known risk factor for developing TB disease. While the average probability of progressing from TB infection to disease is less than 10% over the lifetime of a person not infected with HIV, the risk is 5%–8% per year for those who are HIV-infected and not on Highly Active Anti-Retroviral Therapy (HAART) (Markowitz et al., 1997; Selwyn et al., 1989), a combined use of several antiretroviral drugs that inhibits the ability of the virus to multiply in the body (National Cancer Institute, n.d.).

The effect of HAART on the progression from TB infection to TB disease is not well understood (Markowitz et al., 1997; Selwyn et al., 1989), though some evidence indicates that it may have a protective effect on the risk of developing TB (Badri, Wilson, & Wood, 2002; Girardi et al., 2000; Girardi et al., 2004; Jones, Hanson, Dworkin, & DeCock, 2000; Santoro-Lopes, Felix de Pinho, Harrison, & Schechter, 2002). In addition, research suggests that active TB disease accelerates the course of untreated HIV infection, which may lead to more opportunistic infections and earlier death (Lopez-Gatell et al., 2007; Thomas, 2006; Whalen et al., 1995; Whalen et al., 2000; Zar et al., 2007).

Table 3-1. Total AIDS cases in the United States by race/ethnicity

Race/Ethnicity	Estimated AIDS cases in 2005	Cumulative estimated AIDS cases through 2005	Percentage of total AIDS cases	Rate per 100,000 population
White, non-Hispanic	11,780	385,537	39.1	5.9
Black, non-Hispanic	20,187	397,548	40.4	54.1
Hispanic	7,676	155,179	15.8	18.0
Asian/Pacific Islander	483	7,659	0.8	3.6
American Indian/ Alaska Native	182	3,238	0.3	7.4

In Mexico, the prevalence of AIDS in adults is 0.3% (World Resources Institute, 2006). In the United States, Hispanic males have a higher AIDS case rate than Hispanic females (40.3 compared with 12.4 per 100,000 population) (CDC, 2003a). Among Mexican males in the United States, most AIDS cases occur among men who have sex with men and among injection drug users (CDC, 2003b). Table 3-1 presents the estimated number of diagnosed AIDS cases in the United States in 2005 and cumulatively since the beginning of the epidemic. Hispanics (approximately 67% of whom are of Mexican origin) comprise about 16% of the total diagnosed AIDS cases (CDC, 2005a; Ramirez & de la Cruz, 2002).

Substance Use

Both TB and drug use are prevalent in crowded, low-income areas. As a result, drug users are 2–6 times more likely to be infected with TB than nonusers (National Institute on Drug Abuse, 1999). In addition, alcohol abuse may increase among Mexican migrants as a result of stress over economic hardship (Finch, Catalano, Novaco, & Vega, 2003).

Diabetes Mellitus

People with diabetes are at a higher risk of progressing from latent TB infection to TB disease. TB occurs more frequently among diabetics and causes greater mortality (Guptan & Shah, 2000). Diabetes has a significant impact on the lives of Hispanics, including Mexican-Americans. In the United States, rates among Hispanics are similar to those of black males, though lower than those of black females. The rates among Hispanics are much greater than those among non-Hispanic whites.

Since 2000, diabetes has been the principal cause of death in Mexico among women and the second leading cause of death among men (Rull et al., 2005). Also in Mexico, diabetes is the number one cause of adult, non-obstetric hospital admission (Jimenez-Cruz & Bacardi-Gascon, 2004). By 1998, 1.2 million of the 30 million Hispanics in the United States had been diagnosed with diabetes, and it is estimated that another 675,000 are undiagnosed (U.S. Census Bureau, 2000). During 2001–2004, Mexicans were twice as likely as non-Hispanic whites to be diagnosed with diabetes, and in 2004, Hispanics were 1.5 times as likely as non-Hispanic whites to die from diabetes (National Center for Health Statistics, 2006).

Figure 3-2. Diabetes in the United States by race/ethnicity, 1980–2004
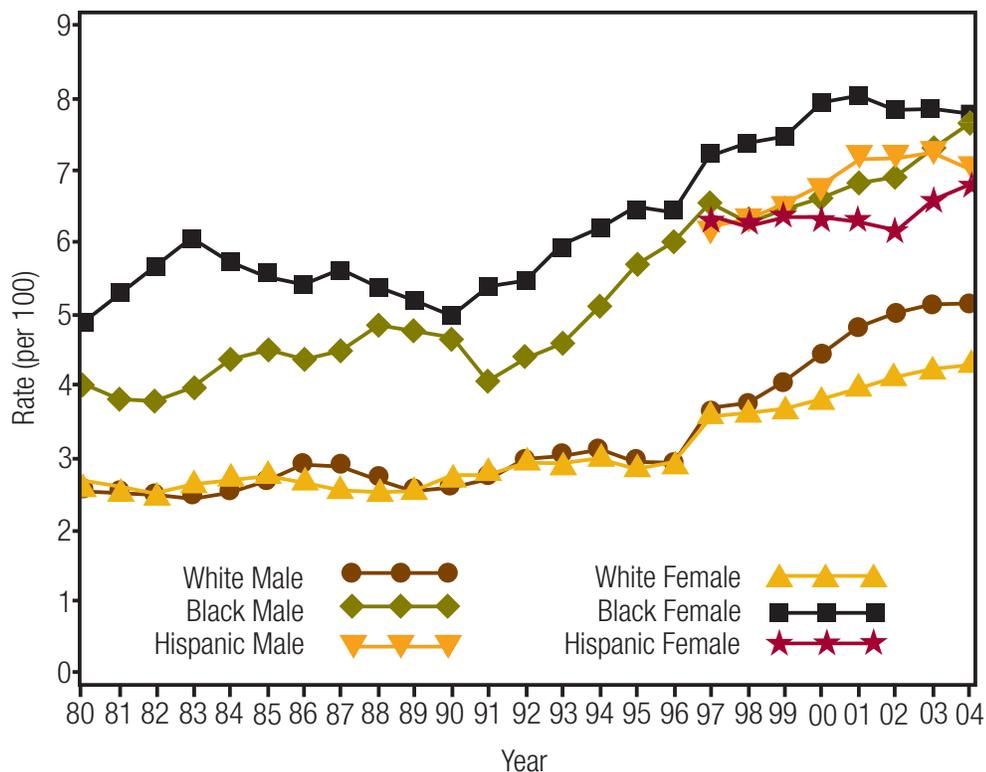
Source: Centers for Disease Control and Prevention, National Diabetes Surveillance System. Retrieved February 8, 2008, from http://www.cdc.gov/diabetes/Statistics/prev/national/figraceethsex.htm.

End-stage Renal Disease

End-stage renal disease (ESRD) occurs when the kidneys are no longer able to function at a level necessary to sustain life. In the United States, Mexicans suffer from disproportionately high rates of ESRD in comparison with non-Hispanic whites. Mexicans are 1.45 times more likely than non-Hispanic whites to develop ESRD (Tareen et al., 2005).

Cancer

Though cancer data is limited for the Hispanic American population, certain cancers affect Hispanics more. In 2003, Hispanic women were 2.2 times more likely to be diagnosed with cervical cancer than non-Hispanic white women (Office of Minority Health, n.d.). Hematologic and reticuloendothelial diseases, such as leukemia and Hodgkin's disease, increase the risk of progression to TB disease, and these diseases appear to affect Hispanics more than non-Hispanic whites. In 2003, research showed that Hispanics had lower one-year and three-year leukemia survival rates when compared with non-Hispanic whites (Serna et al., 2003). Data from 1988–1998 show significantly greater incidence of leukemia among Hispanic children in the United States compared with non-Hispanic whites (age-standardized incidence rates, 61.5 cases per 106 person-years compared with 48.8 cases per 106 person-years) (Wilkinson et al., 2005). Incidence of Hodgkin's disease was greater in Hispanic children than in non-Hispanic white children, but the difference was not significant (Wilkinson et al., 2005).

Tuberculosis Caused by *Mycobacterium bovis*
In recent years, TB caused by *Mycobacterium bovis* has been reported in the United States. This bacterium, a species of the *M. tuberculosis* complex, primarily infects cattle but can be transmitted to humans who consume unpasteurized milk products from countries such as Mexico where *M. bovis* is common. To protect against *M. bovis*, people, especially young children and the immunosuppressed, should not consume unlabeled or unpasteurized products such as *cotija, crema mexicana, queso fresco,* and *queso blanco.*
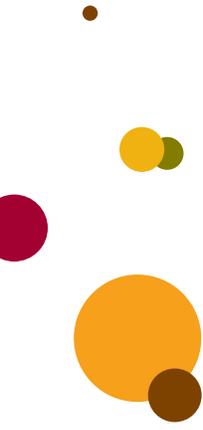
Chapter 4. Special Issues Among Mexicans in the United States

The proximity of Mexico to the United States creates a number of special issues that may impact the health of Mexicans living in the United States.

Seasonal and Migrant Farm Workers

A seasonal farm worker is defined as an individual required to be absent from a permanent place of residence to seek employment in agricultural work (Migrant Clinician Network, 2005). In the United States, approximately 92% of seasonal farm workers were born in Mexico (Rosenbaum & Shin, 2005). Migrant and seasonal farm workers and their families confront health challenges that stem from extreme poverty, mobility, the nature of the work, and living and working arrangements that impede access to health care and insurance.

Health Care Coverage

Seasonal farm workers and their families are less likely to have health insurance and, as a result, are extremely underinsured. In 2000, 85% of migrant and seasonal farm workers were uninsured, compared with 37% of the general U.S. population (Rosenbaum & Shin, 2005). Of the 15% who were insured, only 5% were covered by Medicaid, the state-controlled program that pays for medical care for people with low incomes and few resources (Centers for Medicare and Medicaid Services, n.d.). Difficulties accessing Medicaid services include ineligibility for benefits, difficulty enrolling, state residency barriers, and inaccessible site locations.

Limited Income

Seasonal and migrant farm workers have much lower annual incomes than those of the average American. In 2000, the median income for seasonal workers was $6,250 compared with $42,000 for U.S. workers overall (Rosenbaum & Shin, 2005).

English Literacy

Many seasonal workers have trouble seeking health care because of significant language barriers. Approximately 90% report reading and speaking little or no English (Rosenbaum & Shin, 2005).

Day Laborers

In the United States, day laborers or *jornaleros* do a great deal of the construction, landscaping, and painting work. Although demographics vary greatly, day laborers are typically young males from Mexico or Central America (Valenzuela Jr., Theodore, Melendez, & Gonzalez, 2006). Many are unauthorized immigrants. Studies in the Los Angeles area show that day laborers often face dangerous working conditions and abuse by employers in the form of underpayment or nonpayment. Numerous groups advocate for better treatment of day laborers. Efforts include legalizing day laborers and providing a structured environment in which they can seek employment.

Unauthorized Immigrants

Mexico accounts for the largest number of people who immigrate illegally to the United States. In 2005, Mexicans made up more than half of all unauthorized immigrants, approximately 6 million of the estimated 10.5 million illegal immigrants (Hoefer, Rytina, & Campbell, 2006). Among Mexican immigrants in the United States for fewer than 10 years, 80%–85% are estimated to be unauthorized (Passel, 2006). In addition, Mexicans have historically been the ethnic group least likely to become naturalized citizens (Rytina, 2006).

Health Care Coverage

Legal residents and low-income citizens are twice as likely to have health insurance than unauthorized immigrants and low-income non-citizens (Kaiser Commission on Medicaid and the Uninsured, 2003; Prentice, Pebley, & Sastry, 2005). In 2001, approximately 28% of low-income citizens lacked health insurance, whereas 60% of low-income non-citizens lacked health insurance (Kaiser Commission on Medicaid and the Uninsured, 2003). Although unauthorized immigrants are eligible for Medicaid in some states, usage is low. Unauthorized Mexican immigrants may avoid seeking health care, even when urgently needed, because they fear deportation to Mexico (Chavez, 1984).

Limited Income

Unauthorized workers earn considerably less than authorized workers. Specifically, about two thirds of unauthorized workers in the United States earn less than twice the minimum wage. In contrast, only one third of U.S. workers earn similar wages (Passel, Capps, & Fix, 2004). Many financial assistance programs, such as Supplemental Security Income or Social Security, are unavailable to unauthorized immigrants, and they may be prohibited from other social services, such as food stamps (Berk, Schur, Chavez, & Frankel, 2000).

Suggestion
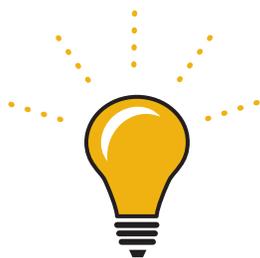
- Mexican patients may have preconceptions about the role that the Bacille Calmette-Guérin vaccine plays in producing a positive tuberculin skin test. Explain that for adults a large reaction likely indicates recent exposure to TB and that treatment can prevent TB disease. Use pamphlets about the vaccine to guide the conversation.
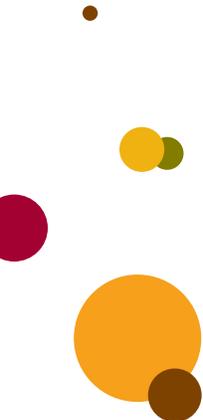
Border State Residents

In 2005, 25% of TB cases among foreign-born persons occurred in persons from Mexico (CDC, 2006b). In the border states of Arizona, California, New Mexico, and Texas, TB case rates among people born in Mexico were 5 times higher than rates among those born in the United States. Additionally, approximately 75% of TB cases among people born in Mexico are found in this border region (Schneider, Laserson, Wells, & Moore, 2004). Low socioeconomic position, crowded living conditions, limited access to health care, and frequent border crossings have contributed to the rise in TB rates on both sides of the border (CDC, 2001). Additional factors, such as conflicting cultural expectations, language barriers, limited cross-border coordination, and lack of cultural competence among some providers, also contribute to delays in diagnosis and treatment and low overall quality of health care (Rodriguez-Reimann, Nicassio, Reimann, Gallegos, & Olmedo, 2004).

Multidrug-resistant Tuberculosis

TB patients born in Mexico and living on the U.S.-Mexico border are more likely than U.S.-born patients to be infected with strains resistant to one or more first-line drugs (Markowitz et al., 1997). Proximity to the border does not seem to account for differences in rates of multidrug-resistant (MDR) TB. This suggests that patients may be infected with MDR TB in Mexico prior to their arrival in the United States (Schneider et al., 2004).

CureTB System

For TB patients who frequently cross the U.S.-Mexico border, receiving continuous and effective care is a challenge. Binational collaborations such as CureTB were developed to help medical providers coordinate. CureTB facilitates the exchange of information between health care providers in the United States and Mexico and serves as a referral program for TB patients and their contacts who frequently travel between the two countries. Services are available to all patients and providers in the United States and Mexico (Health and Human Services Agency, County of San Diego, n.d.). The program can be accessed by calling (619) 542-4013 or visiting http://www2.sdcounty.ca.gov/hhsa.

Chapter 5. Common Perceptions, Attitudes, and Beliefs About Tuberculosis Among Mexicans

Findings from Tuberculosis-specific Behavioral and Social Science Research

In 2003, the Centers for Disease Control and Prevention (CDC) conducted an ethnographic study of 50 Mexican-born persons in the United States to understand better the tuberculosis (TB)-related experiences, perceptions, and attitudes of Mexicans. In this chapter, this study is referred to as "the CDC study." (See Appendix D for a description of the study design, methods, and study population.) The information presented in this chapter comes from both the CDC study and other TB-related behavioral and social science literature concerning Mexicans. It should be noted that the CDC study findings have limited generalizability because of the study's small, non-randomly selected sample; thus, the information will not apply to all Mexicans. Program staff should use discretion in determining how applicable the information may be for their specific context. However, taken as a whole, the research findings suggest several programmatic implications.

Mexicans may not consider themselves at high risk for TB. The CDC study found that nearly half of respondents believed they were at low risk for TB, while the other half felt they were at medium risk. However, many respondents reported that their family and friends worried about contracting the disease (Joseph, Waldman, Rawls, Wilce, & Shrestha-Kuwahara, 2008). Perceptions of risk can reflect a respondent's level of knowledge about risk factors and transmission and may lead to delays in seeking care. Although some Mexicans may believe they are protected from TB disease because they received the BCG vaccine (Poss, 1998), no evidence of this perception was found in the CDC study.

Suggestion

- Organize community leaders to hold discussions to highlight risk factors and address how TB is and is not transmitted.

- Provide community education about TB risk. Emphasize that risk is increased by spending time in places where TB is common, not by personal hygiene.

Indeed, the literature indicates a variety of beliefs among Mexicans regarding the BCG vaccine, particularly with respect to its purpose and effectiveness. In a study conducted in New York state, Mexican migrant workers commonly perceived that BCG prevented a wide array of diseases, from chicken pox to heart problems (Poss, 1998). In a Washington, DC, study of Latino immigrants including Mexicans, participants attributed their TB infection to having received the BCG vaccination (Ailinger & Dear, 1998). Similar findings were reported in a study of Mexicans residing on the U.S.-Mexico border near the Mexican state of Sonora (McEwen, 2005) and were supported by physicians in Mexico. In addition, one participant stated that a medical doctor in Mexico explained that "people in the States don't understand [that] if you take the vaccine then of course you are going to come up positive. There was no need to take the medication."

Mexicans may fear being ostracized by their friends and community if they reveal their TB status. Additionally, they may anticipate experiencing a deep sense of personal shame and expect to be treated differently. One man explained that a person with TB "will be pushed away. He will not be invited to anyone's home again" (Joseph et al., 2008). The literature agrees with this finding. One study of social and cultural factors in TB control found that many Mexican TB patients were not accepted back into their homes after being hospitalized for treatment (Rubel & Carro, 1992). In another study, participants cited numerous cases of people with TB being ostracized (McEwen, 2005). These concerns may delay care seeking and diminish adherence to treatment. In the CDC study, those who reported strong fears of ostracism were less likely to have received any TB education, which suggests that education may help decrease perceptions of stigma.

Suggestion

- To allay fears, emphasize the need for only short-term isolation during active TB treatment.

- Address concerns and confusion about the difference between TB disease and latent TB infection. Clarify that a person with latent TB infection does not need to be isolated and cannot spread germs.

Mexicans may not accurately understand TB transmission, symptoms, or prevention. In the CDC study, many respondents did not know that TB is transmitted through the air, and some believed TB could be transmitted by sharing eating utensils or exchanging bodily fluids (Joseph et al., 2008). Similar inaccuracies are documented in other studies. A small study conducted in New York state found that although most participants knew the cause of TB and its transmission, many listed alternative causes, such as smoking (Poss, 1998). Conversely, a study of Latino immigrants including Mexicans found that many participants did not know the cause of their TB infection (Ailinger & Dear, 1998). That TB is caused by smoking is not an unfounded perception, however. A recent meta-analysis showed consistent evidence that, while smoking does not cause TB, it is associated with an increased risk of contracting the disease (Lin, Ezzati, & Murray, 2007).

Suggestion

- Take time to understand the patient's perceptions of TB. A two-way exchange offers the opportunity to tailor education, dispel inaccurate notions, and emphasize pertinent messages.

- When promoting TB services, emphasize confidentiality.

Mexicans may use alternative remedies or treatments for TB. Although many Mexicans reported they would seek professional medical help in Mexico if they thought they had TB, some indicated in the CDC study that they would use traditional health specialists. Additionally, to relieve symptoms and restore a perceived humoral imbalance, some Mexicans reportedly may use special teas and natural herbs obtained at *tiendas naturistas* (homeopathic stores) or *farmacias* (pharmacies). Providers should recognize that some Mexicans may choose alternative treatments or consult a pharmacist before seeing a doctor, especially if they consider the cost of treatment prohibitive.

Suggestion

- Lack of transportation can severely hinder receipt of care. Consider alternative strategies, such as offering transportation or transportation tokens.

- Many Mexicans immigrate for economic opportunities, thus value their jobs highly. TB care that minimizes job interference, such as Saturday hours or extended clinic hours, will more likely be accepted.

Challenges with TB treatment may be common. Some Mexicans taking treatment for TB or latent TB infection may have difficulty adhering to the treatment regimen. In the CDC study, respondents had concerns about side effects of the medicine, and many mentioned difficulty remembering to take the pills on a regular basis. They also faced other challenges due to inconvenient clinic schedules and locations not easily accessible without reliable transportation (Joseph et al., 2008).

One study in New York documented willingness among Mexican migrant workers to participate in a TB screening program. In the program, bicultural health promoters conducted Spanish-language education using skits, demonstrations, and audience participation. Except for chest radiographs, the entire program took place in migrant camps. As a result, 75% of the study participants received a skin test, and 98% of these tests were read. The study concludes that when given the opportunity to be tested in a culturally appropriate and geographically accessible screening program, migrant farm workers will likely participate (Poss, 2000).

Many Mexicans want more information about TB, even those who had already received information. Presenting TB information in a familiar, easily understood format increases the chance that the information will be used (Ailinger & Dear, 1998). Although Mexicans have high rates of Spanish literacy, they may not be English literate. Thus, resources in Spanish are likely more useful. In the CDC study, many respondents preferred community talks and public service announcements on the local radio station or on Spanish-language TV channels. Many mentioned the effectiveness of Spanish-language pamphlets. For those with limited literacy, culturally appropriate, Spanish-language videos or *fotonovelas* may also be an effective way to educate about TB.

Suggestion

- If possible, use mobile units to test for and treat TB in communities. Outreach programs that combine services with culturally appropriate education are often more effective among at-risk populations with limited financial resources.

- When possible, provide tailored information in formats preferred by Mexican patients, namely community talks, public service announcements on TV or radio, or pamphlets in Spanish.

Conclusion

To meet the challenge of controlling tuberculosis in the United States, the care and treatment of all patients should be appropriate and effective, regardless of country of origin, language, or cultural factors. That entails not only addressing the linguistic and cultural needs of populations with or at risk for TB, but also focusing on the individual's perspective. This guide is intended to provide an understanding of the social and cultural setting from which some Mexican patients may come. It is not meant to stereotype or stigmatize; on the contrary, the authors of this guide fully recognize and appreciate the rich diversity of the myriad groups who have settled in the United States.

This guide aims to remind TB care providers that culture does matter in the clinic and that they too bring a cultural perspective to the patient-provider relationship. Providing effective TB care involves taking the time to learn from patients what is important to them personally in the experience of illness and treatment. In the words of Arthur Kleinman, ascertaining "what is at stake" for the individual will provide crucial information to use in tailoring the treatment plan. Being "Mexican" may not be a significant issue to a patient; being responsible for the care of multiple family members and juggling two part-time jobs without health insurance may. In short, focusing on the patient as an individual and maintaining open, two-way communication will foster effective TB care.

Appendix A. Using Kleinman's Questions to Understand Patients' Perceptions of Tuberculosis

While this guide encourages a broad understanding of Mexican culture, it is also essential to remember that each individual has personal beliefs. Several methods exist to help health care providers understand how an individual thinks about his or her own health problems. One method is to use a series of questions developed by medical anthropologist Arthur Kleinman (CDC, 1999; Kleinman, 1986). These questions, which have been tailored to tuberculosis (TB) here, can help providers see the illness from the patient's point of view by eliciting the patient's understanding of TB—its name, cause, timing, effects, severity, and treatment.

These questions also address the fears a patient may have, how TB may impact the patient, and the effects TB may have on his or her family or friends. Health care providers can use these questions to discuss TB with patients. The questions also can be adapted to address issues related to latent TB infection. These questions may be incorporated into an existing health assessment or an ongoing assessment of a patient's educational needs and treatment adherence. Questions can be reworded in accordance with a patient's cultural, linguistic, and educational backgrounds. The number and sequence of the questions also can be tailored to the circumstances.

Suggestion

Use Kleinman's questions to understand your patients' perceptions of TB.

- What do you call your illness (the problem)?
- What do you think causes TB?
- Why do you think you got sick when you did?
- What do you think TB does to your body?
- How severe is your sickness?
- What kind of treatment do you think you should receive?
- What are the most important results you hope to receive from this treatment?
- What are the main problems TB has caused?
- What do you fear most about TB?
- How do your family members or close friends feel about you having TB?
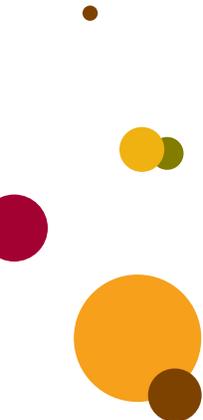
Appendix B. Tips for Working with Interpreters

A good interpreter is able to communicate effectively across cultures and convey important nuances. The most effective interpreters have been trained and assessed for active listening skills and for the ability to extract meaning and use descriptions when there are no language equivalents (CDC, 2006a). Whenever possible, make an effort to match the sex, general age, and social class of the patient and interpreter. In general, avoid using family members as interpreters, especially if sensitive topics are being discussed. An unknown third party may better be able to maintain confidentiality and provide unbiased communication (CDC, 2006a).

When communicating through an interpreter, speak slowly and clearly. Use a positive tone of voice that conveys your interest in the patient. Face the patient, not the interpreter. Speak in short units of speech, allowing sufficient time for the interpretation. Avoid medical terminology or professional jargon, as well as slang and idiomatic expressions. Clear, simple, lay language is generally most effective.

Encourage the interpreter to translate the patient's words as closely as possible and not to paraphrase, polish, or omit anything that may result in loss of the patient's true meaning. Be aware of nonverbal communication such as silence, distance between individuals, eye contact, emotional expressiveness, and body movements (CDC, 2006a). You may wish to ask the interpreter for clarification of the meaning of any nonverbal cues to be sure you have understood correctly any cross-cultural meaning. Above all, be patient: careful interpretation often takes considerable time.

Appendix C. Tuberculosis and Cultural Competence Resources

The following resources contain additional information on tuberculosis (TB) education and culturally competent care. See Appendix G for additional references used in the guide. Web site addresses for nonfederal organizations are provided solely as a service to the users of this guide; the Centers for Disease Control and Prevention (CDC) is not responsible for their content. Provision of these addresses does not constitute an endorsement of any organization by CDC or the federal government, and none should be inferred. At the time this guide went to press, all links were active.

General Tuberculosis Resources

Centers for Disease Control and Prevention, Division of Tuberculosis Elimination
http://www.cdc.gov/tb
This Web site is for health care professionals, patients, and the general public. The site can be used to search for TB guidelines, surveillance reports, education and training materials, and other TB-related Web links and resources.

Tuberculosis Education and Training Resources
http://www.findtbresources.org
This Web site is for health care professionals, patients, and the general public. The site can be used to search for TB education and training materials in various languages and to locate TB-related Web links.

Resources For Mexican Patients

Estuve Expuesto a la Tuberculosis. ¿Que Hago Ahora? (I Have Been Exposed to Tuberculosis. What Do I Do Now?)
http://www.sfdph.org/dph/files/TBdocs/TBbrochures/CONTACT_spanish02162005.pdf
This brochure explains active and latent TB and how TB is and is not contracted.

Tratamiento Para la Infección de Tuberculosis
http://www2.sdcounty.ca.gov/hhsa/documents/TB-451sTratamientoLTBI.pdf
This brochure explains TB treatment and how to complete treatment successfully.

Resources For Providers

The American Medical Association
http://www.ama-assn.org
http://www.ama-assn.org/ama/pub/category/6759.html
The American Medical Association offers a *Cultural Competence Compendium*, a 460-page resource guide, to help physicians and other health professionals communicate with patients and provide individualized, respectful, patient-centered care. Selected sections of the book are available at the Web site.
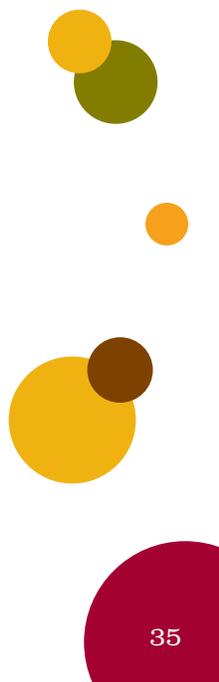
The Center for Cross-Cultural Health
http://www.crosshealth.com
The Center for Cross-Cultural Health has produced materials to guide communities faced with the challenge of providing culturally competent care. Sample language policies, guidelines for working with interpreters, instruments to help measure an organization's cultural competency, and lists of translated health education materials are available.

Cough It Up!
http://www.dshs.state.tx.us/lab
This videotape, available at the Texas Department of State Health Services' Web site, provides information about how to supply health care providers with a sputum sample.

Culturally and Linguistically Appropriate Services in Health Care
http://www.omhrc.gov/clas
The National Standards on Culturally and Linguistically Appropriate Services (CLAS), the CLAS Standards, makes recommendations for national standards for culturally and linguistically appropriate services in health care. Based on an analytical review of key laws, regulations, contracts, and standards currently in use by federal and state agencies and other national organizations, these standards were developed with input from a national advisory committee of policy makers, health care providers, and researchers. Each standard is accompanied by commentary that addresses the proposed guidelines' relationship to existing laws and standards and offers recommendations for implementation and oversight to providers, policy makers, and advocates.

CulturedMed
http://culturedmed.sunyit.edu
CulturedMed is a Web site promoting culturally competent health care for refugees and immigrants. The library also houses a research center containing relevant print materials. The bibliographies and links found on the Web site contain items that discuss health beliefs or ethnographic information about various ethnic groups.

DiversityRx
http://www.diversityrx.org
DiversityRx is a clearinghouse of information on how to meet the language and cultural needs of minority, immigrant, refugee, and other populations seeking health care.

EthnoMed
http://www.ethnomed.org
The EthnoMed Web site hosted by Harborview Medical Center, University of Washington, Seattle, contains information about cultural beliefs and medical issues pertinent to the health care of recent immigrants to Seattle, many of whom are refugees fleeing war-torn parts of the world.

Guía Para Supervisores Comunitarios del Tratamiento de la Tuberculosis (A Guide for Tuberculosis Treatment Supporters)
http://whqlibdoc.who.int/hq/2002/WHO_CDS_TB_2002.300_spa.pdf
This guide explains TB treatment and how to control TB in the community.

Guidance to Federal Financial Assistance Recipients Regarding Title VI Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons
http://www.hhs.gov/ocr/lep/revisedlep.html
This Web site offers guidance to help federally funded programs comply with regulations affecting people with limited English proficiency.

Healthy Roads Media
http://www.healthyroadsmedia.org/spanish
This Web site contains free multimedia health education materials in a number of languages, including Spanish. Tuberculosis is one topic covered; others include cancer, exercise, and nutrition.

Linguistic and Cultural Aspects of Tuberculosis Screening and Management for Refugees and Immigrants
http://ethnomed.org/ethnomed/clin_topics/tb/tb.html
This site presents a transcript of a presentation on TB screening, case management, and cultural differences between Western and non-Western approaches to medicine.

Protocol Para el Manejo de Pacientes Binacionales con Tuberculosis (Manual for the Management of Binational Tuberculosis Patients)
http://www.migrantclinician.org/_resources/Binational_TB.pdf
This manual from the Migrant Clinicians Network discusses managing binational TB patients.

Guidelines for the Prevention of Tuberculosis in Health Care Facilities in Resource-Limited Settings
http://whqlibdoc.who.int/hq/1999/WHO_TB_99.269.pdf
This guide explains how to control TB risk for health care workers in developing countries.

Tuberculosis and Cultural Competency: Notes from the Field
http://www.umdnj.edu/globaltb
This newsletter was developed to provide an ongoing educational forum for cultural competency training. The content includes a "teaching case" that reflects the experiential knowledge of health care providers working in TB, as well as relevant information and resources for culturally proficient skills development. The newsletters, which are published twice annually, are available on the Web site of the New Jersey Global Tuberculosis Institute under "Product List A–Z."

Title VI of the Civil Rights Act of 1964
http://www.hhs.gov/ocr/discrimrace.html
This Web site provides information regarding the Civil Rights Act of 1964. The Office for Civil Rights (OCR) within the U.S. Department of Health and Human Services (HHS) is responsible for enforcing the nondiscrimination requirements of Title VI of the Civil Rights Act of 1964. It applies to covered entities under the jurisdiction of OCR. This jurisdiction includes entities that conduct programs or activities that receive federal financial assistance from HHS.

Tuberculosis Training and Education Network
http://www.cdc.gov/tb/tbetn
The Tuberculosis Training and Education Network (TB ETN) was formed to bring TB professionals together to network, share resources, and build education and training skills. Members include representatives from TB programs, correctional facilities, hospitals, nursing homes, federal agencies, universities, the American Lung Association, Regional Training and Medical Consultation Centers, and other U.S. and international organizations interested in TB education and training issues. TB ETN's Cultural Competency Subcommittee has developed a cultural competency resource list that is available to health care professionals.
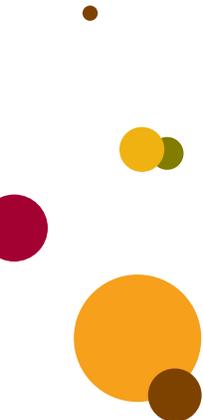
Appendix D. Centers for Disease Control and Prevention Study Summary

A total of 50 persons born in Mexico were selected to participate in the 2003 Centers for Disease Control and Prevention (CDC) study of tuberculosis (TB). These respondents were distributed among two study sites and involved public TB clinics administered by the state or local health department. The sites were recruited on the basis of local epidemiology, interest, and ability to participate. To elicit a range of responses, both TB patients and people recruited directly from the community (i.e., people who were not patients at the local TB clinic) were included.

In the CDC study, sites played an active role in choosing which foreign-born groups to recruit. In general, CDC aimed to include the same group in two sites to facilitate analysis of the influence of local context on participant responses. Although this guide focuses on data from Mexicans, four other groups included in the overall study were Somalis, Vietnamese, Lao Hmong, and Chinese.

Study Population and Participant Recruitment

In Denver, Colorado, and Atlanta, Georgia (DeKalb County), participants born in Mexico were chosen by the study site staff to participate. This decision reflected the local epidemiological trends, as well as the need for TB-specific ethnographic information regarding this population.

This study used a convenience sampling strategy. In addition to country of birth, specific criteria and informal quotas for specific subgroups were identified, with local circumstances determining final sampling. The sample criteria were as follows:

- Persons aged 18 years or older.

- Persons residing within the area served by the local health department.

- Only one respondent per household.

- Approximately 50% of respondents with fewer than five years' residency in the United States.

Participants were recruited either through the community contacts of the bilingual, bicultural researchers (50%) or through recruitment of TB clinic patients by clinic staff (50%). The clinics recruited a balance of patients who 1) had a negative tuberculin skin test, 2) had received a diagnosis of latent TB infection (LTBI), or 3) had received a diagnosis of TB disease. The combination of quota and snowball sampling strategies was not random, but instead followed methodology appropriate to qualitative research. The demographics and TB status of the Mexican study group are presented in Tables D-1 and D-2.

Table D-1. Description of Mexican cohort

	N = 50, n (%)
Recruited from clinic/health department	26 (52)
Age at interview (mean, range)	34, 18–67
18–24	10 (20)
25–44	32 (64)
45–64	6 (12)
≥65	2 (4)
Years in United States (mean, range)	7, 0–36
1–4 years	25 (50)
≥5 years	25 (50)
Female	35 (70)
From urban area	23 (46)
Completed high school	13 (26)
English speaking	15 (30)
English literate	15 (30)
Any language literate	50 (100)

Table D-2. Tuberculosis (TB) status of Mexican cohort

	N = 50, n (%)
Screened*	38 (76)
TB disease diagnosis	8/38 (21)
Started TB treatment	8/8 (100)
Completed or currently on TB treatment	8/8 (100)
LTBI[†] diagnosis	19/38 (50)
Started LTBI treatment	12/19 (63)
Completed or currently on LTBI treatment	11/12 (92)

* Screened by one or more methods, such as tuberculin skin test, chest radiography, symptom screening, or sputum.
[†] Latent TB infection.

Appendix E. Spanish Phrases and Tuberculosis Vocabulary

The following is a list of tuberculosis (TB)-related terms and phrases and their Spanish translations. Health care professionals may speak or point to the word or phrase that they would like to communicate to their patient. The list is not meant to be used in lieu of interpretation services. Spanish language interpreters may also wish to refer to this table during consultations.

Terms and Phrases	Spanish Equivalent
Greetings	
Good morning/afternoon/evening, my name is _____.	Buenos días/Buenas tardes/Buenas noches, soy _____.
I am sorry, I do not speak Spanish.	Perdone, pero no hablo español.
We are waiting for an interpreter.	Estamos esperando a un intérprete.
Symptoms of TB	
Do you have any of these symptoms?	¿Tiene usted cualquiera de estos síntomas?
Cough	Tos
Blood in phlegm	Sangre en la flema
Chest pain	Dolor de pecho
Fever	Fiebre
Chills	Escalofríos
Night sweats	Sudores durante la noche
Loss of appetite	Pérdida del apetito
Weight loss	Pérdida de peso
Side Effects from TB Medications	
The medicines used to treat TB may cause the following side effects.	La medicina usada para la TB puede causar estos efectos secundarios.
Skin rash	Erupción en la piel
Blurred or changed vision	Visión borrosa o cambios en la vista
Upset stomach	Malestar del estómago
Abdominal pain	Dolor de abdomen
Fatigue/tiredness	Fatiga/cansancio
Appetite loss	Pérdida del apetito
Nausea	Náusea
Vomiting	Vómito
Yellowish skin or eyes	Piel u ojos amarillentos
Dark urine	Orina oscura
Tingling sensation in hands and feet	Sensación de hormigueo en las manos o los pies
Joint aches	Dolor de las articulaciones
Balance problems	Problemas de equilibrio
Hearing loss	Pérdida del oído
Ringing in the ears	Zumbido en los oídos
Easy bruising	Se hacen moretones con facilidad
Slow blood clotting	Coagulación lenta de la sangre

Traditional Health Beliefs	
Form of upset stomach or indigestion	Empacho
"Bad eye," the result of looking with admiration or jealousy at another person	Mal de ojo
"Envy," which can cause illness or bad luck	Envidia
Fright sickness	Susto
Traditional Healers	
Have you gone to a _____?	¿Ha visitado a un(a) _____?
Holistic healer	Curandero
Herbalist	Yerbero
Massage therapist	Sobador
Midwife	Partera
Useful Phrases	
It is important that you take all of the pills as instructed.	Es importante que se tome todas las pastillas según las indicacciones.
Do you have any questions about the medication?	¿Tiene algunas preguntas sobre la medicina?
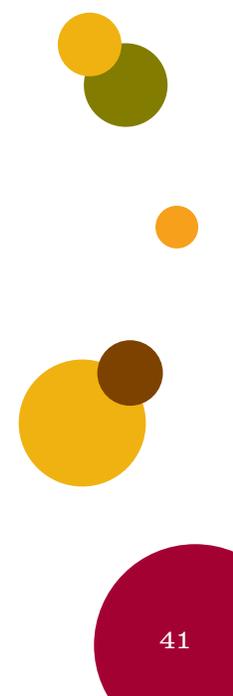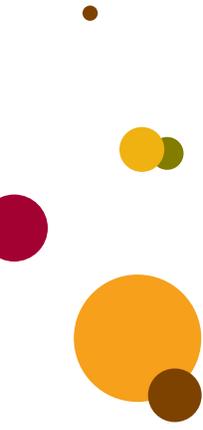
Appendix F. Tuberculosis Screening Policies for Persons Overseas

Technical Instructions for Tuberculosis Screening

Tuberculosis screening is required for people overseas who are applying for permanent legal status and for nonimmigrants required to have an overseas medical examination (referred to as "applicants"). The Technical Instructions for Panel Physicians summarized here apply to persons from Mexico and supersede all previous Technical Instructions. This summary is adapted from the 2007 Technical Instructions issued by the Immigrant, Refugee, and Migrant Health Branch of the Division of Global Migration and Quarantine (DGMQ), Centers for Disease Control and Prevention (CDC, 2007). For more details or questions about the Technical Instructions, please contact CDC's Immigrant, Refugee, and Migrant Health Branch at 404-498-1600.

> **Any applicant for whom the clinical suspicion of tuberculosis is high enough to warrant treatment for tuberculosis disease, regardless of laboratory results, is considered to have a diagnosis of tuberculosis.**

> **Applicants 2–14 years of age living in countries with a World Health Organization (WHO)-estimated tuberculosis incidence rate of ≥20 cases per 100,000 population should have a tuberculin skin test.**

> **Prior receipt of Bacille Calmette-Guérin (BCG) vaccination does not change the screening requirements or the required actions based on tuberculin skin test results.**

A complete screening medical examination for tuberculosis consists of a medical history, physical examination, chest radiography (CXR) (when required), determination of immune response to *Mycobacterium tuberculosis* antigens (i.e., tuberculin skin testing [TST], when required), and laboratory testing for HIV infection (for applicants ≥15 years of age) and *M. tuberculosis* (when required). Please see 2007 Technical Instructions at DGMQ's Web site for complete details at http://www.cdc.gov/ncidod/dq/technica.htm.

All applicants <15 years of age require a physical examination and history from a parent or responsible adult who knows the child best. Applicants <15 years of age who are ill and have signs or symptoms suggestive of tuberculosis should have a TST. If the TST is ≥5 mm, a CXR (anteroposterior or posteroanterior view and a lateral view for applicants <10 years of age; posteroanterior view for applicants ≥10 years of age) should be performed. An exam shall include three sputum specimens to undergo microscopy for acid-fast bacilli (AFB), as well as culture for mycobacteria and confirmation of the *Mycobacterium* species, at least to the *M. tuberculosis* complex level, and any laboratory or additional studies that are deemed necessary, either as a result of the physical examination or pertinent information elicited from the applicant's medical history for the panel physician to reach a conclusion about the presence or absence of tuberculosis, but see 42 CFR 34.3(b)(v).

Applicants <15 years of age who are a known contact of someone with recently diagnosed tuberculosis and applicants 2–14 years of age living in countries with a WHO-estimated tuberculosis incidence rate of ≥20 cases per 100,000 population should have a TST. If the TST is ≥5 mm, a CXR (antero-

posterior or posteroanterior view and a lateral view for applicants <10 years of age; posteroanterior view for applicants ≥10 years of age) should be performed. If the CXR findings are suggestive of tuberculosis, the applicant should provide three sputum specimens to undergo microscopy for AFB, as well as culture for mycobacteria and confirmation of the *Mycobacterium* species, at least to the *M. tuberculosis* complex level.

Applicants ≥15 years of age require a medical history, physical examination, and CXR. If the applicant has a CXR with findings suggestive of tuberculosis, has signs and symptoms of tuberculosis, or has HIV, the applicant should provide three sputum specimens to undergo microscopy for AFB, as well as culture for mycobacteria and confirmation of the *Mycobacterium* species, at least to the *M. tuberculosis* complex level.

Applicants should be assigned one or more tuberculosis classifications. The applicant's classification should be recorded on the Tuberculosis Classification Cover Sheet. Table F-1 is a listing of the tuberculosis classifications and descriptions.

Table F-1. Tuberculosis (TB) classifications and descriptions

Class	Description
No TB Classification	Applicants with normal tuberculosis screening examinations.
Class A TB with waiver	All applicants who have tuberculosis disease and have been granted a waiver.*
Class B1 TB, Pulmonary No Treatment	Applicants who have medical history, physical exam, or CXR findings suggestive of pulmonary tuberculosis but have negative AFB sputum smears and cultures and are not diagnosed with tuberculosis or can wait to have tuberculosis treatment started after immigration.
Class B1 TB, Pulmonary Completed Treatment	Applicants who were diagnosed with pulmonary tuberculosis and successfully completed directly observed therapy prior to immigration. The cover sheet should indicate if the initial sputum smears and cultures were positive and if drug susceptibility testing results are available.
Class B1 TB, Extrapulmonary	Applicants with evidence of extrapulmonary tuberculosis. The anatomic site of infection should be documented.
Class B2 TB, LTBI Evaluation	Applicants who have a tuberculin skin test ≥10 mm but otherwise have a negative evaluation for tuberculosis. The size of the TST reaction, the applicant's status with respect to LTBI treatment, and the medications used should be documented.
Class B3 TB, Contact Evaluation	Applicants who are a contact of a known tuberculosis case. The size of the applicant's TST reaction should be documented, if performed. Information about the source case, name, alien number, relationship to contact, and type of tuberculosis should also be documented.

* Waivers may be pursued by immigrants or refugees with a complicated clinical course who would benefit from receiving treatment in the United States.

Appendix G. References

Ailinger, R. L., & Dear, M. R. (1998). Adherence to tuberculosis preventive therapy among Latino immigrants. Public Health Nursing, 15(1), 19–24.

Badri, M., Wilson, D., & Wood, R. (2002). Effect of highly active antiretroviral therapy on incidence of tuberculosis in South Africa: A cohort study. The Lancet, 359, 2059–2064.

Becker, D., Garcia, S., & Ellertson, C. (2004). Do Mexico City pharmacy workers screen women for health risks when they sell oral contraceptive pills over-the-counter? Contraception, 69, 295–299.

Berk, M. L., Schur, C. L., Chavez, L. R., & Frankel, M. (2000). Health care use among undocumented Latino immigrants. Health Affairs (Millwood), 19(4), 51–64.

Brach, C., & Fraser, I. (2000). Can cultural competency reduce racial and ethnic disparities? A review and conceptual model. Medical Care Research and Review, 57(1), 181–217.

Calva, J., & Bojalil, R. (1996). Antibiotic use in a periurban community in Mexico: A household and drugstore survey. Social Science and Medicine, 42(8), 1121–1128.

Calvillo, J., & Lal, L. (2003). Pilot study of a survey of US residents purchasing medications in Mexico: Demographics, reasons, and types of medications purchased. Clinical Therapeutics, 25(2), 261–577.

Centers for Disease Control and Prevention. (1998). Population-based survey for drug resistance of tuberculosis—Mexico, 1997. Morbidity and Mortality Weekly Report, 47(18), 371–375.

Centers for Disease Control and Prevention. (1999). Self study modules on tuberculosis, chapter 9: Patient adherence to tuberculosis treatment. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention. (2000). Targeted tuberculin testing and treatment of latent tuberculosis infection. Morbidity and Mortality Weekly Report, 49(RR06), 1–54.

Centers for Disease Control and Prevention. (2001). Preventing and controlling tuberculosis along the US–Mexico border: Work group report. Morbidity and Mortality Weekly Report, 50(RR1), 1–25.

Centers for Disease Control and Prevention. (2003a). HIV/AIDS 2003 surveillance report: Table 6. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention. (2003b). HIV/AIDS 2003 surveillance report: Table 9. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention. (2004). Core curriculum on tuberculosis. Retrieved December 10, 2007, from http://www.cdc.gov/tb/webcourses/CoreCurr/index.htm.

Centers for Disease Control and Prevention. (2005a). HIV/AIDS surveillance report: HIV infection and AIDS in the United States. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention. (2005b). Reported tuberculosis in the United States, 2004. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention. (2006a). Effective TB interviewing for contact investigation: Self study modules. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention. (2006b). Reported tuberculosis in the United States: 2005. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention. (2007). Technical instructions for tuberculosis screening and treatment. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Medicare and Medicaid Services. (n.d.). Medicaid information resource. Retrieved September 13, 2005, from http://www.cms.hhs.gov/medicaid.

Chavez, L. (1984). Doctors, curanderos, and brujas: Health care delivery and Mexican immigrants in San Diego. Medical Anthropology Quarterly, 15(2), 31–37.

Dubos, R. J., & Dubos, J. (1952). The white plague: Tuberculosis, man and society. New Brunswick, NJ: Rutgers University Press.

Finch, B. K., Catalano, R. C., Novaco, R.W., & Vega, W. A. (2003). Employment frustration and alcohol abuse/dependence among labor migrants in California. Journal of Immigrant Health, 5(4), 181–186.

Flores, W., Ochoa, H., Briggs, J., Garcia, R., & Kroeger, A. (2003). Economic costs associated with inadequate drug prescribing: An exploratory study in Chiapas, Mexico. Acta Tropica, 88(1), 57–68.

Galanti, G. (2004). Hispanics (primarily Mexicans) cultural profile. In G. Galanti (Ed.), Caring for Patients from Different Countries (pp. 208–209). Philadelphia: University of Pennsylvania Press.

Girardi, E., Antonucci, G., Vanacore, P., Libanore, M., Errante, I., Matteelli, A., et al. (2000). Impact of combination antiretroviral therapy on the risk of tuberculosis among persons with HIV infection. AIDS, 14(13), 1985–1991.

Girardi, E., Antonucci, G., Vanacore, P., Palmieri, F., Matteelli, A., Iemoli, E., et al. (2004). Tuberculosis in HIV-infected persons in the context of wide availability of highly active antiretroviral therapy. European Respiratory Journal, 24, 11–17.

Gordon, R. G. J. (Ed.). (2005). Ethnologue: Languages of the World, fifteenth edition. Dallas, TX: SIL International.

Greico, E. (2003). The foreign born from Mexico in the United States. Migration Information Source. Retrieved February 29, 2008, from http://www.migrationinformation.org/feature/print.cfm?ID=163.

Guarnero, P. (2005). Mexicans. In J. Lipson & S. Dibble (Eds.), Cultural & Clinical Care (pp. 330–342). San Francisco: UCSF Nursing Press.

Guptan, A., & Shah, A. (2000). Tuberculosis and diabetes: An appraisal. The Indian Journal of Tuberculosis, 47(3), 2–8.

Health and Human Services Agency, County of San Diego. (n.d.). Cure TB: Binational TB referral program. Retrieved February 29, 2008, from http://www2.sdcounty.ca.gov/hhsa/ServiceCategoryDetails.asp?ServiceAreaID=161.

Hoefer, M., Rytina, N., & Campbell, C. (2006). Estimates of unauthorized immigrant population residing in the United States: January 2005. Washington, DC: U.S. Department of Homeland Security, Office of Immigration Statistics.

Hough, R. L., Landsverk, J. A., Karno, M., Burnam, M. A., Timbers, D. M., Escobar, J. I., et al. (1987). Utilization of health and mental health services by Los Angeles Mexican Americans and non-Hispanic whites. Archives of General Psychiatry, 44(8), 702–709.

Jimenez-Cruz, A., & Bacardi-Gascon, M. (2004). The fattening burden of type 2 diabetes on Mexicans: Projections from early growth to adulthood. Diabetes Care, 27(5), 1213–1215.

Jones, J. L., Hanson, D. L., Dworkin, M. S., & DeCock, K. M. (2000). HIV-associated tuberculosis in the era of highly active antiretroviral therapy. The International Journal of Tuberculosis and Lung Disease, 4(11), 1026–1031.

Joseph, H., Waldman, K., Rawls, C., Wilce, M., & Shrestha-Kuwahara, R. (2008). TB perspectives among a sample of Mexicans in the United States: Results from an ethnographic study. Journal of Immigrant and Minority Health, 10, 177–185.

Kaiser Commission on Medicaid and the Uninsured. (2003). Key facts: Immigrants' health care coverage and access. Washington, DC: The Henry J. Kaiser Family Foundation.

Kemp, C., & Rasbridge, L. A. (2004). Mexico. In Refugee and Immigrant Health: A Handbook for Health Professionals (pp. 260–270). Cambridge: Cambridge University Press.

Kleinman, A. (Ed.). (1986). Illness behavior: A multidisciplinary model. New York: Plenum.

Kleinman, A., & Benson, P. (2006). Anthropology in the clinic: The problem of cultural competency and how to fix it. PLoS Medicine, 3(10), e294.

Larkey, L. K., Hecht, M. L., Miller, K., & Alatorre, C. (2001). Hispanic cultural norms for health-seeking behaviors in the face of symptoms. Health Education and Behavior, 28(1), 65–80.

Library of Congress. (2002). Mexican immigration. Retrieved February 29, 2008, from http://memory.loc.gov/learn/features/immig/alt/mexican.html.

Lin, H.-H., Ezzati, M., & Murray, M. (2007). Tobacco smoke, indoor air pollution and tuberculosis: A systematic review and meta-analysis. PLoS Medicine, 4(1), e20.

Lipson, J. G., & Dibble, S. L. (Eds.). (2005). Providing culturally appropriate health care. In Culture and Clinical Care (First ed., pp. 250–263). San Francisco: UCSF Nursing Press.

Lopez-Gatell, H., Cole, S. R., Hessol, N. A., French, A. L., Greenblatt, R. M., Landesman, S., et al. (2007). Effect of tuberculosis on the survival of women infected with human immunodeficiency virus. American Journal of Epidemiology, 165(10), 1134–1142.

Markowitz, N., Hansen, N. I., Lewis, V. A., Schoenbaum, E. E., Vermund, S. H., Klein, R. S., et al. (1997). Incidence of tuberculosis in the United States among HIV-infected persons. Annals of Internal Medicine, 126, 123–132.

McEwen, M. M. (2005). Mexican immigrants' explanatory model of latent tuberculosis infection. Journal of Transcultural Nursing, 16(4), 347–355.

Menzies, D. (2000). What does tuberculin reactivity after Bacille Calmette-Guerin vaccination tell us? Clinical Infectious Diseases, 31(Suppl 3), S71–S74.

Migrant Clinician Network. (2005). The migrant/seasonal farmworker. Retrieved February 29, 2008, from http://www.migrantclinician.org/migrant_info/migrant.php.

Mitnick, C., Furin, J., Henry, C., & Ross, J. (1998). Tuberculosis among the foreign-born in Massachusetts, 1982–1994: A reflection of social and economic disadvantage. The International Journal of Tuberculosis and Lung Disease, 2(9), S32–S40.

NAFTA Secretariat. (1992). North American Free Trade Agreement. Retrieved February 29, 2008, from http://www.nafta-sec-alena.org/DefaultSite/index_e.aspx.

National Cancer Institute. (n.d.). Dictionary of Cancer Terms. Retrieved December 11, 2007, from http://www.cancer.gov/dictionary.

National Center for Health Statistics. (2006). Health United States, 2006 trends in the health of Americans. Hyattsville, MD: U.S. Department of Health and Human Services.

National Institute on Drug Abuse. (1999). Infectious diseases and drug abuse. Bethesda, MD: National Institutes of Health, U.S. Department of Health and Human Services.

Office of Minority Health. (n.d.). Cancer data/statistics. Retrieved February 29, 2008, from http://www.omhrc.gov/templates/browse.aspx?lvl=2&lvlID=20.

Passel, J. (2004). Mexican immigration to the US: The latest estimates. Migration Information Source. Retrieved February 29, 2008, from http://www.migrationinformation.org/Feature/print.cfm?ID=208.

Passel, J. (2006). The size and characteristics of the unauthorized migrant population in the U.S.: Estimates based on the March 2005 current population survey. Washington, DC: Pew Hispanic Center.

Passel, J., Capps, R., & Fix, M. (2004). Undocumented immigrants: Facts and figures 2004. Retrieved February 29, 2008, from http://www.urban.org/url.cfm?ID=1000587.

Pew Hispanic Center, & Kaiser Family Foundation. (2004). Health care experiences. Retrieved February 29, 2008, from http://www.kff.org/kaiserpolls/upload/Health-Care-Experiences-2002-National-Survey-of-Latinos-Survey-Brief.pdf.

Poss, J. E. (1998). The meanings of tuberculosis for Mexican migrant farmworkers in the United States. Social Science and Medicine, 47(2), 195–202.

Poss, J. E. (2000). Factors associated with participation by Mexican migrant farmworkers in a tuberculosis screening program. Nursing Research, 49(1), 20–28.

Postgraduate Medical Council of New South Wales. (n.d.). Cultural diversity in health: Mexican profile. Retrieved February 29, 2008, from http://www.diversityinhealth.com/regions/america/mexicans.htm.

Prentice, J. C., Pebley, A. R., & Sastry, N. (2005). Immigration status and health insurance coverage: Who gains? Who loses? American Journal of Public Health, 95(1), 109–116.

Public Broadcasting Service. (2005). Mexican immigrant labor history. Retrieved February 29, 2008, from http://www.pbs.org/kpbs/theborder/history/timeline/17.html.

Ramirez, R. R., & de la Cruz, P. (2002). The Hispanic population in the United States: March 2002. Washington, DC: U.S. Census Bureau.

Rodriguez-Reimann, D. I., Nicassio, P., Reimann, J. O. F., Gallegos, P. I., & Olmedo, E. L. (2004). Acculturation and health beliefs of Mexican Americans regarding tuberculosis prevention. Journal of Immigrant Health, 6(2), 51–62.

Rosenbaum, S., & Shin, P. (2005). Migrant and seasonal farmworkers: Health insurance coverage and access to care. Washington, DC: Kaiser Commission on Medicaid and the Uninsured.

Rubel, A., & Carro, L. (1992). Social and cultural factors in the successful control of tuberculosis. Public Health Reports, 107(6), 626–636.

Rull, J. A., Aguilar-Salinas, C. A., Rojas, R., Rios-Torres, J. M., Gomez-Perez, F. J., & Olaiz, G. (2005). Epidemiology of type 2 diabetes in Mexico. Archives of Medical Research, 36, 188–196.

Rytina, N. F. (2006). Estimates of the legal permanent resident population and population eligible to naturalize in 2004. Washington, DC: U.S. Department of Homeland Security Office of Immigration Statistics.

Salimbene, S. (2000). What language does your patient hurt in? A practical guide to culturally competent patient care. Amherst, MA: Diversity Resources.

Sanchez, M., & Karp, N. (2000). NAFTA's economic effects on Mexico (second draft). Retrieved February 29, 2008, from http://www.econ.umn.edu/~tkehoe/classes/SanchezKarp.pdf.

Santoro-Lopes, G., Felix de Pinho, A. M., Harrison, L. H., & Schechter, M. (2002). Reduced risk of tuberculosis among Brazilian patients with advanced human immunodeficiency virus infection treated with highly active antiretroviral therapy. Clinical Infectious Diseases, 34, 543–546.

Schneider, E., Laserson, K. F., Wells, C. D., & Moore, M. (2004). Tuberculosis along the United States–Mexico border, 1993–2001. Revista Panamericana de Salud Pública, 16(1), 23–24.

Selwyn, P. A., Hartel, D., Lewis, V. A., Schoenbaum, E. E., Vermund, S. H., Klein, R. S., et al. (1989). A prospective study of the risk of tuberculosis among intravenous drug users with human immunodeficiency virus infection. New England Journal of Medicine, 320, 545–550.

Sepkowitz, K. (2001). Tuberculosis control in the 21st century. Emerging Infectious Diseases, 7(2), 259–262.

Serna, D. S., Lee, S. J., Zhang, M. J., Baker, S., Eapen, M., Horowitz, M. M., et al. (2003). Trends in survival rates after allogenic hematopoietic stem-cell transplantation for acute and chronic leukemia by ethnicity in the United States and Canada. Journal of Clinical Oncology, 21(20), 3754–3760.

Smith, A. (2000). Ethnomed: Mexican cultural profile. Retrieved February 29, 2008, from http://ethnomed.org/ethnomed/cultures/mexican/mexican_cp.html.

Spector, R. (1996). Health and illness in Hispanic American communities. In R. Spector (Ed.), Cultural Diversity in Health and Illness (Fourth Ed., pp. 279–297). Stanford, CT: Appleton and Lange.

Tareen, N., Zadshir, A., Martins, D., Pan, D., Nicholas, S., & Norris, K. (2005). Chronic kidney disease in African American and Mexican American populations. Kidney International Supplement, 97, S137–S140.

Therrien, M., & Ramirez, R. R. (2001). The Hispanic population in the United States: March 2000. Washington, DC: U.S. Census Bureau.

Thomas, D.-J. (2006). Mycobacterial diseases in HIV-positive patients. Journal of Pharmacy Practice, 19(1), 10–16.

Title VI of the Civil Rights Act of 1964: Prohibition against exclusion from participation in, denial of benefits of, and discrimination under federally assisted programs on ground of race, color, or national origin, Pub. L. No. 88-352, 78 Stat. 252 (1964).

Trevino, F. M., Moyer, M. E., Valdez, R. B., & Stroup-Benham, C. A. (1991). Health insurance coverage and utilization of health services by Mexican Americans, mainland Puerto Ricans, and Cuban Americans. JAMA, 265(2), 233–237.

U.S. Census Bureau. (2000). Profile of selected demographic and social characteristics: People born in Mexico. Retrieved February 29, 2008, from http://www.census.gov/population/cen2000/stp-159/STP-159-Mexico.pdf.

U.S. Department of State. (2004). Background note: Mexico. Retrieved May 18, 2005, from http://www.state.gov/r/pa/ei/bgn/35749.htm.

U.S. Office of Minority Health. (2006). What is cultural competency? Washington, DC: U.S. Department of Health and Human Services.

United States Immigration and Naturalization Service Office of Policy and Planning. (2003). Estimates of the unauthorized immigrant population residing in the United States: 1990–2000. Washington, DC: U.S. Department of Homeland Security.

University of Washington Medical Center. (1999). Culture clues: Communicating with your Latino patient. Retrieved February 29, 2008, from http://depts.washington.edu/pfes/cultureclues.html.

Valenzuela Jr., A., Theodore, N., Melendez, E., & Gonzalez, A. L. (2006). On the corner: Day labor in the United States. Los Angeles: Center for the Study of Urban Poverty, UCLA.

Whalen, C., Horsburgh, C. R., Hom, D., Lahart, C., Simberkoff, M., & Ellner, J. (1995). Accelerated course of human immunodeficiency virus infection after tuberculosis. American Journal of Respiratory and Critical Care Medicine, 151, 129–135.

Whalen, C., Nsubuga, P., Okwera, A., Johnson, J. L., Hom, D. L., Michael, N. L., et al. (2000). Impact of pulmonary tuberculosis on survival of HIV-infected adults: A prospective epidemiologic study in Uganda. AIDS, 14, 1219–1228.

Wilkinson, J. D., Gonzalez, A., Wholer-Torres, B., Fleming, L. E., Mackinnon, J., Trapido, E., et al. (2005). Cancer incidence among Hispanic children in the United States. Revista Panamericana de Salud Pública, 18(1), 5–13.

World Bank Group. (2002). HNPStats: Health, nutrition and population data. Retrieved September 28, 2005, from http://devdata.worldbank.org/hnpstats.

World Health Organization. (2005). Vaccine preventable diseases monitoring system 2005 global summary. Retrieved February 29, 2008, from http://www.who.int/immunization_monitoring/en/globalsummary/countryprofileselect.cfm.

World Health Organization. (2006a). The global plan to stop TB 2006–2015: Actions for life, towards a world free of tuberculosis. Retrieved December 10, 2007, from http://www.who.int/bulletin/volumes/85/5/06-038513/en/index.html.

World Health Organization. (2006b). TB country profile: Mexico. Retrieved February 29, 2008, from http://www.who.int/GlobalAtlas/predefinedReports/TB/PDF_Files/mex.pdf.

World Resources Institute. (2006). EarthTrends: The environmental information portal, country profile: Mexico, 2003. Retrieved February 29, 2008, from http://earthtrends.wri.org/pdf_library/country_profiles/pop_cou_484.pdf.

Zar, H. J., Cotton, M. F., Strauss, S., Karpakis, J., Hussey, G., Schaaf, H. S., et al. (2007). Effect of isoniazid prophylaxis on mortality and incidence of tuberculosis in children with HIV: Randomised controlled trial. BMJ, 334, 105–106.

Zuber, P. L. F., McKenna, M. T., Binkin, N. J., Onorato, I. M., & Castro, K. G. (1997). Long-term risk of tuberculosis among foreign-born persons in the United States. JAMA, 278(4), 304–307.