

ECUADOR

CULTURAL COMPETENCY AND TUBERCULOSIS CONTROL

A Practical Guide for Health Professionals
Working with Foreign-born Clients



GEOGRAPHIC LOCATION

- Ecuador is located in western South America.¹
- The capital of Ecuador is Quito.¹
- The country is bordered to the north by Colombia, to the south and east by Peru and to the west by the Pacific Ocean.¹
- **The country has three distinct geographical regions:**²

Costa: Coastal lowlands in the western section of the country

Sierra: Also referred to as the Central Highlands

Oriente: Comprised of jungles in the Amazon basin, located in the eastern-most portion of the country

Note: The information provided within is an introduction only and does not characterize all individuals from this country.

BACKGROUND INFORMATION

OFFICIAL LANGUAGE(S):

- **Official language:** Spanish¹
- **Indigenous languages:** Quichua, the Ecuadorian dialect of Quechua spoken by Ecuadorians of Indian descent¹

ETHNIC GROUPS:

- **Majority:** 71.9% Mestizo (mixed Indian and Spanish)¹
- **Minority:** 6.1% Caucasian, 7.2% African, 0.4% others¹

DOMINANT RELIGION(S) WITHIN THIS COUNTRY:

- Roman Catholic - 95%¹

LITERACY OF CITIZENS: *Defined as persons age 15 years and older that can read and write.*

- Total population: 91.6%
Male: 93.1%
Female: 90.2% (2011 est.)¹

MEDICAL SYSTEM:

- The medical system within Ecuador is a mix of private and public services.³
Note: Within the health services supervised by the Ministry of Public Health - families are required to cover all the expenses for hospitalization, tests, and medication that a patient may need.³
- Because of low salaries, most public health professionals have their own private practices; these practices primarily serve the middle- and upper-class sectors of society.³

MAJOR INFECTIOUS DISEASES WITHIN THE BIRTH COUNTRY:

- **Vector-borne:** Dengue Fever and Malaria (*P. vivax* and *P. falciparum*)¹

FERTILITY RATE OF WOMEN RESIDING WITHIN THE BIRTH COUNTRY:

- 2.29 children born/woman (2014 est.)¹

THE ESTIMATED NUMBER OF INDIVIDUALS FROM THIS COUNTRY EMIGRATING ANNUALLY TO THE UNITED STATES:

- According to data collected in 2010 by the U.S. Census Bureau, approximately 564,631 individuals originating from Ecuador reside in the United States.⁴
- 9,284 persons from Ecuador obtained legal permanent resident* status within the USA during fiscal year 2012.⁵
- The average number of persons from Ecuador who obtained legal permanent resident status annually (2003-2012): 11,277.⁵

**Legal permanent residents are foreign nationals who have been granted the right to reside permanently in the United States. Often referred to simply as “immigrants,” they are also known as “permanent resident aliens” and “green card holders.”*

According to 2012 Immigration and Naturalization and US Homeland Security Data, individuals who became naturalized citizens from this country indicated the following top 10 states as their state of residence.

The percentage of the total number of legal permanent residents is provided:⁶

1. New York - 39.3%
2. New Jersey - 17.7%
3. Florida - 12.2%
4. Connecticut - 5.0%
5. California - 4.2%
6. Illinois - 3.1%
7. North Carolina - 2.2%
8. Texas - 2.2%
9. Pennsylvania - 1.5%
10. Massachusetts - 1.4%

THE ESTIMATED NUMBER OF INDIVIDUALS FROM THIS COUNTRY EMIGRATING ANNUALLY TO CANADA:

- Ecuador is not among the top ten South and Central American source countries from which immigrants apply for permanent resident status in Canada.⁷

THE ESTIMATED NUMBER OF INDIVIDUALS FROM THIS COUNTRY EMIGRATING ANNUALLY TO COUNTRIES WITHIN THE EUROPEAN UNION:

- According to demographic statistics from 2011 the greatest numbers of immigrants from Ecuador reside in Spain.⁸

TUBERCULOSIS EPIDEMIOLOGY

BASED ON THE ESTIMATED INCIDENT CASES (ALL FORMS) OF TUBERCULOSIS IN 2012, THIS COUNTRY IS RANKED NUMBER 98 OUT OF 212 COUNTRIES WORLD-WIDE.⁹

Estimated Burden of Tuberculosis (2012):

Note: Due to significant under-registration, the actual scope of the TB epidemic in Ecuador is unknown; notification in the last decade has been irregular.¹¹

Incidence: 59/100,000¹⁰

Prevalence: 98/100,000¹⁰

Reported Cases of TB (2012):

5,456¹⁰

Estimated Burden of HIV Infection (2012):

Estimated prevalence: 0.4%¹¹

Low estimate (adults): 0.3%¹¹

High estimate (adults): 0.7%¹¹

UNAIDS Estimates 26,000-64,000 persons in Ecuador are living with HIV.¹¹

TB/HIV Co-infection (2012):

Estimated co-infection: 13%¹⁰

LEVEL OF MULTI-DRUG RESISTANT TB*: * Multi-drug Resistance is defined as resistance to at least Isoniazid and Rifampicin

Among new TB cases (2012 data)

- The prevalence of multi-drug resistant TB* is 4.9%,¹²

Among previously treated TB cases

- The prevalence of multi-drug resistance TB* is 24.3%¹²
- It is estimated that there were 730 incident MDR-TB cases in Ecuador in 2010.¹²

STANDARD TB DRUG TREATMENT/TB MEDICATIONS READILY AVAILABLE FOR THE TREATMENT OF TB IN THIS COUNTRY:

- *No specific information on standard TB drug treatment regimens used in this country found in the literature.*

TB CONTROL/DOTS COVERAGE:

- According to the World Health Organization, 96% of the country's citizens are covered by DOTS.¹⁴ (data from 2013)

TB MEDICATION AVAILABLE AT NO COST:

☒ Yes ☐ No ☐ Information Not found/Unknown

Note: This information was found on a Facebook publication (July 16, 2012) from "Respira Ecuador", name of the National TB Program in Ecuador.

TB MEDICATIONS AVAILABLE ONLY THROUGH NATIONAL TB PROGRAM

☐ Yes ☐ No ☒ Information Not found/Unknown

TB MEDICATIONS AVAILABLE THROUGH PRIVATE PHARMACIES WITH A PRESCRIPTION:

☐ Yes ☐ No ☒ Information Not found/Unknown

USE OF BCG VACCINE:

☒ Yes ☐ No

Approximately what percent of the population is covered by the BCG vaccine:

Greater than 99% coverage (WHO-UNICEF estimates, 2011)¹³

NICKNAMES/COMMON NAMES FOR TB :

• *Information not found in the literature.*

COMMON ATTITUDES, BELIEFS AND PRACTICES RELATED TO TUBERCULOSIS

GENERAL COMMENTS

- Ecuador is one of the poorest countries in South America.
- In 2012, Ecuador had the third highest rate of multi-drug resistant tuberculosis in the Americas, with 223 confirmed cases.¹⁰
- People in Ecuador often delay seeking medical care, instead turning to homemade or traditional remedies.^{3, 15, 16}
- In Ecuador, TB is recognized by some as a contagious disease, that is serious and can cause death. Spitting and coughing blood are recognized as symptoms of TB.¹⁷

Common Misperceptions Related to TB Etiology/Cause

- According to traditional beliefs, an illness indicates a problem that has arisen in a patient's relations with peers, nature or supernatural beings.¹⁸
- TB may be viewed as a complication from pneumonia.¹⁷
- Poor nutrition weakens body and allows for TB to develop Infection (general) or improperly treated common cold or flu infection.
- Other less common causation theories are; interaction of poor nutrition and infection, environmental causes, poor personal hygiene and "Vices"¹⁹

COMMON MISPERCEPTIONS RELATED TO DISEASE TRANSMISSION

- The most common misperception about transmission is contact with eating utensils, bedding, clothing, towels, etc. and contact with discarded sputum or urine of infected person.¹⁹
- Less common misperceptions are casual contact with an infected person and sexual contact with an infected person¹⁹

CURES/TREATMENTS THAT MAY BE USED

Note: Cures or treatments that may be used specifically to treat TB were not found in the literature. The following information describes treatments that may be used among persons from Ecuador to treat illnesses in general.

- In Ecuador, a combination of Western and traditional medicine practices, as well as religious and lay/family healing procedures (or home remedies) are used in the interpretation and management of illness/disease by all levels of society.^{15, 18}

Note: How diseases are classified (i.e. psychosomatic, folk, and infectious) by community members and healers often differs from how they may be classified by Western medicine. Traditional disease classifications vary significantly by region.¹⁶

- Individuals with “psychosomatic conditions” or illnesses considered to be “folk disease” may prefer to use traditional healers or home treatments.¹⁶
- Persons suffering from illnesses that are thought to be “infectious” or from painful conditions may prefer modern health services.¹⁶

Home remedies may include:

- Drinking chamomile tea for an upset stomach and passing an egg over the body for illnesses related to fever are traditional remedies.²⁰

USE OF TRADITIONAL HEALERS

- Traditional healers (*curanderos*) may be used as a primary, secondary, or tertiary healthcare resource and usually involve the use of medicinal plants in care.²⁰ Treatments are based on the holistic indigenous concept of health.²¹

Note: Persons living in urban areas generally do not visit traditional healers, and instead rely on western medicine.²⁹

Stigma and Stigmatizing Practices Surrounding TB in this Country

- In Ecuador, the perception of TB is that the disease is present in rural areas (especially indigenous communities) and jails, among HIV patients, among the very poor, and among the homeless.¹⁷

IMPORTANT TUBERCULOSIS EDUCATION POINTS:

- In Ecuador, doctors are well respected authority figures. Often patients will not ask questions to clarify information provided to them, request explanations or voice complaints to a physician. Encourage patients and family members to ask questions and discuss their concerns with physicians and non-physician staff.³
- Assess patients’ perceptions of the treatment they require to treat their illness.
- Emphasize the need for and reasons why TB medications must be taken even when symptoms resolve.

- In Ecuador, public services often require patients to pay fees. Explain the services or care that will be provided at no cost to the patient.
- Some Ecuadorians immigrate without following proper legal procedures. Assure patients that a diagnosis of TB is not a cause for deportation. Discuss confidentiality policies.
- Patients may understand their diagnosis, but may not feel comfortable explaining the diagnosis to their family members. Ask patients if they would like a healthcare professional to explain the diagnosis and treatment plan to family members.²²

COMMON ATTITUDES, BELIEFS AND PRACTICES RELATED TO HIV AND AIDS

GENERAL COMMENTS

- In 2012, there were estimated to be 4,200 new cases of HIV, and 52,000 people living with HIV. (UNAIDS estimates, 2012)²³

COMMON MISPERCEPTIONS RELATED TO HIV/AIDS ETIOLOGY/CAUSE

- Within Latin America there is a general taboo in discussing sex. In the past, educational campaigns focusing on sexual and reproductive health have been lacking.²⁴

COMMON MISPERCEPTIONS RELATED TO DISEASE TRANSMISSION

- Talking or casually touching an HIV positive individual.²⁵
- Being cared for by a nurse, doctor or dentist who is HIV positive themselves or who provides care to AIDS patients.^{26, 27}
- Mosquito bites²⁵

CURES/TREATMENTS THAT MAY BE USED

Note: In general, Latin America socio-cultural attitudes have become more tolerant of homosexuality²⁸, but discrimination against homosexuals still exists.²⁹

STIGMA AND STIGMATIZING PRACTICES

- Within Ecuador, HIV/AIDS is associated with homosexuality and sex work. Consequently, the disease is stigmatized and feared.²²
- HIV/AIDS is also associated with promiscuity. A person who is promiscuous is thought to be “punished” with HIV/AIDS.²²

- Some believe that *SIDA* suddenly develops within the body of the promiscuous or “bad” person as a result of many sexual activities and multiple partners. Subsequently “good people” do not get HIV/AIDS.²²
- Females who have multiple sex partners may be viewed as “low level humans with no education.”²²

Note: In Latin America socio-cultural attitudes and legal penalties (in some areas) discourage homosexuality.³⁰

IMPORTANT HIV EDUCATION POINTS:

- Assess clients’ knowledge of HIV and AIDS, prepare to provide basic/general information.
- Address the following common misperception surrounding HIV/AIDS:
 - Only those persons who look very thin have the disease.
- Discuss stigma with clients as well as confidentiality policies.
- Condom use in Ecuador is low. Discuss the benefits associated with condom use (for both men and women), offer instruction in the proper use of condoms.
- Some Ecuadorians immigrate without following proper legal procedures. Assure patients that a diagnosis of HIV/AIDS is not a cause for deportation. Discuss confidentiality policies.²²

GENERAL PRACTICES

CULTURAL COURTESIES TO OBSERVE:

- Handshakes are used when initially meeting and when departing.^{2,31}
- It is culturally acceptable for men and women to shake hands with each other.³¹
- Friends may receive an embrace or an “air kiss” on both cheeks as part of a greeting.^{2,31}
 - Men typically embrace and pat each other on the shoulder (called an “abrazo”).
 - Women kiss once on the right cheek.

When shaking hands, use the appropriate greeting for the time of day:

- *Buenos días* (Good morning)
- *Buenas tardes* (Good afternoon)
- *Buenas noches* (Good evening)

Note: The use of “Hola” as a salutation is considered rude. “Hola” is a very casual word that is used between friends or with children. When a clinician uses “Hola” as a salutation a patient may be confused or feel offended.²²

Is there a need to match client and provider by Gender?

☒ Yes ☐ No ☐ Information Not found/Unknown

Comments: Patients from Ecuador often prefer practitioners of the same sex and older practitioners.³

FAMILY

- The family structure is patriarchal, with men dominating family decision making.³
- Female patients might come to clinic appointments with a male partner or family member. It is recommended that the male companion not be utilized as an interpreter because of a tendency to answer a question without translating the question to the patient. Trained interpreters should be used instead.²²
- Women play a major role in taking care of the household, especially in situations involving health and disease.³

NAMES

- Only use first names when invited to do so.³¹

CULTURAL VALUES

- Ecuadorians have a double standard when it comes to punctuality. On the one hand, a professional will be expected to be prompt. On the other hand, a person from Ecuador may not arrive to a pre-arranged meeting on time.² Healthcare providers may want to discuss time schedules at the start of treatment/therapy.
- If possible avoid rushing greetings and immediately asking a client questions. To demonstrate a sincere interest in a client from Ecuador, take the time to engage in small talk. If meeting with a family or group shake hands and greet everyone individually.²
- Do not take a photo of a person from Ecuador without explaining reasons why. People may believe that having a photo taken of them is personally intrusive.²

COMMUNICATION PATTERNS (VERBAL AND NON-VERBAL)

- Using a nod for “yes” or shaking your head “no” may not always be understood by a person from Ecuador. Be sure to reply to any question by answering verbally.³¹
- As in other Latin American countries, eye contact is very important. Maintain eye contact throughout conversations with a person from urban areas of Ecuador.²

Note: In rural areas of Ecuador direct eye contact is avoided. Eye contact is especially avoided with women and children based on beliefs that women and children are particularly vulnerable to being bewitched (from mal de ojo or “evil eye”).³

- Ecuadorians are often very animated in conversation and will stand or sit in close proximity when talking with another person. It is also common to pat a person on the back when speaking with them, or to place a hand on the arm or shoulder of the person. If a healthcare professional is touched in this manner, they should recognize

that this is very much a part of the Ecuadorian communication style and try not to back away.^{2, 31}

The following gestures may also be considered inappropriate or offensive to a patient from this country:

- Yawning is considered impolite.³¹

DIET AND NUTRITION

- In the sierra, the diet is composed mainly of potatoes, rice, corn, beef, pork or chicken.³
- On the coast, staple foods include fish, rice, plantains and bananas.³

TRANSLATED EDUCATIONAL MATERIALS AVAILABLE ONLINE

TUBERCULOSIS SPECIFIC MATERIALS (TITLES PROVIDED IN ENGLISH)

BROCHURES AND FACT SHEETS

General disease information

- **Tuberculosis – an introduction**

<http://ethnomed.org/patient-education/tuberculosis/tb-facts-spanish.pdf>

SNTC PRODUCTS IN SPANISH

- **Vivir a todo Pulmón! A story of TB English**

http://sntc.medicine.ufl.edu/Files/Products/sntc_vivir_fotonovela_English.pdf

- **Vivir a Todo Pulmón! Una Historia de TB Novela Spanish**

https://sntc.medicine.ufl.edu/Files/OnTheFly/Content/sntc_vivir_fotonovela.pdf

- **You can Prevent TB Video**

<https://sntc.medicine.ufl.edu/Files/OnTheFly/YCPTB.html>

- **You can Prevent TB Handout**

<http://sntc.medicine.ufl.edu/Files/Products/0UFTB%20Spanish%20Flyer.pdf>

- **Vivira Todo Pulmon! Poster**

<http://sntc.medicine.ufl.edu/Files/Products/12011%20Vivir%20poster-FINAL-PRINT--Spanish.pdf>

CDC PRODUCTS IN SPANISH

- **General Info Poster**

<http://www.cdc.gov/usmexicohealth/pdf/tuberculosis-8.5x11.pdf>

- **Questions and answers about TB / Preguntas y respuestas sobre la tuberculosis**

<http://www.cdc.gov/tb/esp/publications/faqs/TBQASP.pdf>

- **La tuberculosis: link between TB and HIV / La tuberculosis: Conexión entre la TB y el VIH (el virus del SIDA)**

<http://www.cdc.gov/tb/esp/publications/pamphlets/TB-HIVSpan.PDF>

- **La tuberculosis: ¡Debe saber esto!**

<http://www.cdc.gov/tb/esp/publications/pamphlets/TBgtfctsSpan.PDF>

- **Podcasts at CDC**

Find TB, Treat TB, Working together to eliminate TB/ Detectemos la TB. Trátemos la TB. Trabajemos juntos para eliminar la TB.

<http://www2c.cdc.gov/podcasts/player.asp?f=8631395>

- **The TB Skin Test**

http://ethnomed.org/patient-education/tuberculosis/tb-test-spanish.pdf/at_download/file

- **For you and your family – The secret for preventing TB is medication!**

http://ethnomed.org/patient-education/tuberculosis/tb-pills-spanish.pdf/at_download/file

HIV EDUCATIONAL MATERIALS

- **HIV Facts**

<http://www.health.ny.gov/publications/9243.pdf>

- **Say Yes to the Test**

<http://www.health.ny.gov/publications/9684.pdf>

- **What you need to know about HIV & STD's**

<http://www.health.ny.gov/publications/9112.pdf>

- **100 questions about HIV/AIDS**

<http://www.health.ny.gov/publications/0214.pdf>

**Please note that this resource list is not conclusive and does not represent all the resources available for this subject. Additional TB educational resources may also be found at www.findtbresources.org*

REFERENCES

1. Central Intelligence Agency. The World Factbook 2013-14. Washinton, DC: 2014.
2. Sabath AM. International business etiquette. What you need to know to conduct business abroad with charm and savvy. Latin America. Franklin Lakes, NJ: Career Press; 2000.
3. D'Avanzo CE, Geissler EM. Pocket guide to cultural health assessment: Mosby Inc; 2003.
4. Ennis SR, Ríos-Vargas M, Albert NG. The Hispanic Population: 2010. 2011. [cited 2014 November 10]. Available from: <http://www.census.gov/prod/cen2010/briefs/c2010br-04.pdf>.
5. US Department of Homeland Security. 2012 Yearbook of Immigration Statistics. Washington, D.C: 2013.
6. Profiles on Legal Permanent Residents: 2012. Country of Birth [database on the Internet]. 2013 [cited October 29, 2014]. Available from: <https://www.dhs.gov/profiles-legal-permanent-residents-2012-country>.
7. Facts and figures 2012 – Immigration overview: Permanent and temporary residents [database on the Internet]. 2012. [cited October 28, 2014]. Available from: <http://www.cic.gc.ca/english/pdf/research-stats/facts2012.pdf>.
8. Eurostat press. Acquisition of citizenship in the EU 2013. Available from: http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-27112013-AP/EN/3-27112013-AP-EN.PDF.
9. Incidence of tuberculosis (per 100,000 people) [database on the Internet]. 2014 [cited October 26, 2014]. Available from: http://data.worldbank.org/indicator/SH.TBS.INCD?order=wbapi_data_value_2012+wbapi_data_value+wbapi_data_value-last&sort=-desc.
10. World Health Organization. Global Tuberculosis Report 2013. Geneva: World Health Organization: 2014.
11. UNAID. HIV and AIDS estimates: Ecuador. 2013 [cited 2014 November 10]; Available from: <http://www.unaids.org/en/regionscountries/countries/ecuador>.
12. World Health Organization. Multidrug and extensively drug-resistant TB (MDR/XDR-TB): 2010 global report on surveillance and response. 2010.
13. World Health Organization. Immunization summary: A statistical reference containing data through 2011. 2011.
14. Encyclopedia of the Nations. DOTS population coverage - Tuberculosis - Communicable Diseases - World Health Organization. 2007; Available from: <http://www.nationsencyclopedia.com/WorldStats/WHO-tb-dots-population-coverage.html>.
15. Pedersen D, Coloma C. Traditional medicine in Ecuador: the structure of the non-formal health systems. Social science & medicine. 1983;17(17):1249-55.
16. Kroeger A. South American Indians between traditional and modern health services in rural Ecuador. Bulletin of the Pan American Health Organization. 1982;16(3):242-54.

17. Chiriboga G. "Experiences and World-views of Ecuadorian Migrants." In: Central Massachusetts Area Health Education Center/ Language Link, editor. *The Cultural Competency and TB: General Principles and Case Studies with Ecuadorian Migrants: The Charles P. Felton National TB Center and the New Jersey Medical School Global Tuberculosis Institute.*; 2007.
18. Ortega F. Health systems and traditional medicine in Ecuador. *DEVELOPPEMENT ET SANTE*. 1988(78):25-7.
19. Armijos RX, Weigel MM, Qinchá M, Ulloa B. The meaning and consequences of tuberculosis for an at-risk urban group in Ecuador. *Revista Panamericana de Salud Pública*. 2008;23(3):188-97.
20. Moss JA. Discovering the healthcare beliefs and practices of rural mestizo Ecuadorians. An ethn nursing study. *Invest Educ Enferm*. 2014;32(2):326-36.
21. Chelala C. Health in the Andes: The Modern Role of Traditional Medicine (Part I): How is modern science making use of traditional healing practices?2009 [cited 2014 Nov 9]. Available from: <http://www.theglobalist.com/health-in-the-andes-the-modern-role-of-traditional-medicine-part-i/>.
22. Erika Kido TB/HIV Testing Coordinator TB ETN University of Michigan. Personal Communication. 2007.
23. Joint United Nations Programme on HIV/AIDS (UNAIDS). *GLOBAL REPORT: UNAIDS report on the global AIDS epidemic 2013*. 2013.
24. Decat P, Nelson E, De Meyer S, Jaruseviciene L, Orozco M, Segura Z, et al. Community embedded reproductive health interventions for adolescents in Latin America: development and evaluation of a complex multi-centre intervention. *BMC public health*. 2013;13(1):31.
25. Cabezas MC, Fornasini M, Dardenne N, Borja T, Albert A. A cross-sectional study to assess knowledge about HIV/AIDS transmission and prevention measures in company workers in Ecuador. *BMC public health*. 2013;13(1):139.
26. Park IU, Sneed CD, Morisky DE, Alvear S, Hearst N. Correlates of HIV risk among Ecuadorian adolescents. *AIDS education and prevention*. 2002;14(1):73-83.
27. Quevedo M. A reluctant response to HIV/AIDS in Ecuador. *Sexual Health Exchange*. 2013(2):9-10.
28. Kohut A. The global divide on homosexuality: Greater acceptance in more secular and affluent countries. Washington, DC: Pew research center [Internet]. 2013 [cited 2014 Nov 16]. Available from: <http://www.pewglobal.org/2013/06/04/the-global-divide-on-homosexuality/#>.
29. United Nations Development Programme. Call to eliminate homophobia in Latin America and the Caribbean2009 [cited 2014 November 16]. Available from: <http://www.undp.org/content/undp/en/home/presscenter/pressreleases/2009/05/15/call-to-eliminate-homophobia-in-latin-america-and-the-caribbean/>.
30. Garcia-Abreu A, Noguer I, Cowgill K. HIV/AIDS in Latin American Countries: The Challenges Ahead. The World Bank, editor. Washington, D.C.2013.
31. Kwintessential. Ecuador - Language, Culture, Customs and Etiquette. . [cited 2014 November 18]; Available from: <http://www.kwintessential.co.uk/resources/global-etiquette/ecuador.html?highlight=YToxOntpOjA7czo3OiJlY3VhZG9yIjt9>.



Staff-to-Staff Tips and Insights

Do you have experience working with clients who were born in this country?

Share your insights with your colleagues.

<http://sntc.medicine.ufl.edu/>

©2014 Southeastern National Tuberculosis Center is founded by the Centers for Disease Control and Prevention Through a Cooperative Agreement #U52P5004089

