

Tuberculosis in the Air We Breathe:  
A Model Assessment of Texas Provisions for Tuberculosis Case Identification

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## **ABSTRACT**

This study has three purposes: (1) to examine the suggested provisions for case identification in the 2012 CDC *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws*; (2) to use the *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws* as a comparative framework to assess current Texas TB law for case identification; and (3) to make recommendations to improve Texas TB laws for case identification based on the comparative assessment. This study uses case study methodology and a coding research procedure for the systematic assessment of Texas law for TB case identification. A conceptual framework based on the four general provision categories for TB case identification outlined in the *Menu*- reporting, screening, laboratory testing, and examination- was operationalized to direct the data collection and assessment. Study findings demonstrate that overall, Texas law provides significant authority for TB reporting, screening, laboratory testing and examination activities. However, only the *Menu* standards for screening were fully met. Weaknesses were found for reporting, laboratory testing and examination. In addition, essential screening standards supported by the literature were absent in the *Menu* recommendations and the Texas provisions. In conclusion, action is needed to update and amend Texas laws for TB case identification. Making the changes suggested in this study for Texas statutes and regulations requires limited resources and offers significant tangible benefits. Recommendations and goodwill are important and beneficial, but relying solely on them to curtail the risk of this deadly disease is insufficient. Only legal requirements ensure that best practices for TB prevention and care are consistently implemented.

## **ABOUT THE AUTHOR**

The author, Raiza Ruiz, is a native of Cuba who immigrated to the USA in 1997. She now resides in Austin, TX. She began her public health career in 2005 as a public health investigator for the City of Austin Health and Human Services Department and currently serves as the Congregate Settings Coordinator for the Texas Department of State Health Services. In her current role, she directs and oversees tuberculosis (TB) prevention and care activities in congregate settings in Texas, including TB targeted testing activities conducted by 39 regional and local health departments and 152 correctional and detention facilities.

Raiza Ruiz holds a Bachelor of Applied Arts and Sciences and a Public Manager Certification from Texas State University. Upon the successful completion of this project she will have earned a master's degree in public administration from Texas State University.

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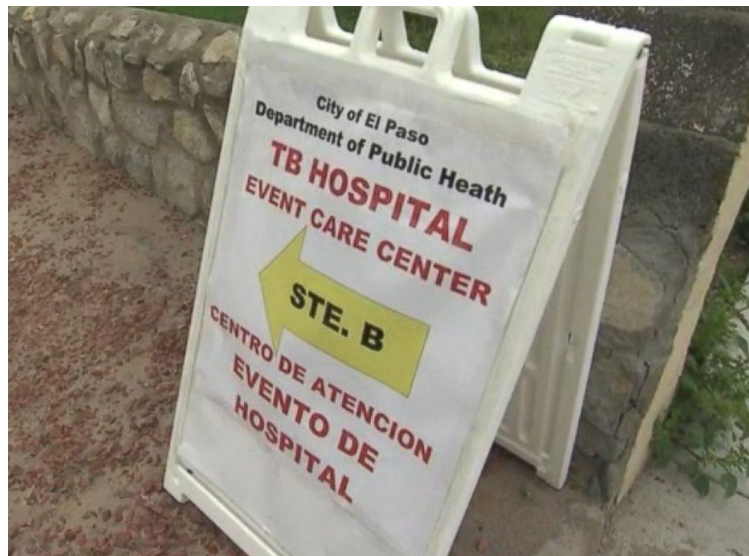
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## Chapter 1 : INTRODUCTION

On August 27, 2014, a female nurse working in the nursery at Providence Memorial Hospital in El Paso, TX was diagnosed with active tuberculosis (TB) and placed on medical leave (Fox News Health, 2014). She was clinically evaluated for TB after testing positive during a routine employee screening at the hospital. However, she had reported symptoms consistent with TB as early as December 2013. Experts later determined she was sick with TB and had been infectious for over a year prior to her diagnosis. More than 859 infants were exposed to her during the time she remained undiagnosed between September 2013 and August 2014 (ABC News, 2014).

A complex public health investigation was launched by the El Paso Department of Health with aid from TB experts from the Centers for Disease Control and Prevention (CDC) and the Texas Department of



**Figure 1.1: TB Screening Sign. El Paso, TX**

Source: ABC News, September 22, 2014

<http://abcnews.go.com/Health/700-babies-texas-tested-tb-exposure/story?id=25679644>

State Health Services (DSHS). The goal of the investigation was to

identify and test persons exposed, including all the infants, and to offer them treatment if infected. Unfortunately, many exposed persons had moved by the time they were identified and some could not be located. Exposed babies were located in Mexico, New Mexico, Arizona and various cities across Texas. Fortunately, the nurse was adequately treated and cured and none of the contacts located and fully screened became sick with TB. Unfortunately, 11 babies were

infected, 9 babies could not be located and screened, and 83 were contacted but screening results are unknown (DSHS, 2015). It is possible they were evaluated by a private physicians but that information could not be verified by public health investigators. Only time will tell if anyone exposed during this incident will develop TB disease in the future.

After the lapsed in employee health protocol at the hospital was discovered, DSHS hospital regulators launched an inspection and found more violations that threatened the hospital's Medicare funding. The hospital was required to submit a corrective plan to the Centers for Medicare and Medicaid Services to avoid such sanction (Fox News Health, 2014; ABC News, 2014).

## **Background**

Tuberculosis (TB) is a deadly disease that remains a serious public health concern today. Worldwide, over nine million people fell ill with TB in 2014, and one and a half million died from the disease (WHO, 2015b). Over 95 percent of all TB deaths occurred in developing countries, where resources are scarce to ensure proper treatment and where HIV infection is common (WHO, 2015b). While the worldwide impact of TB is still a reason for concern, the TB incidence has fallen each year since 2000, and is now 18 percent lower than it was then (WHO, 2015b).

In the U.S., 9,412 new TB cases were reported in 2014, with an incidence rate of 3.0 cases per 100,000 persons (CDC, 2015). California, New York, Florida and Texas combined accounted for half of all TB cases reported in 2014 (CDC, 2015, pp. 265-269). National TB rates have been declining since the TB resurgence peaked in 1992. In Texas, a total of 1,269 TB cases were reported that same year with an incidence rate of 4.7 cases per 100,000 persons (DSHS, 2015). Texas is considered a high incidence state because its incidence rate is higher than the

national average. In 2014, Texas experienced a reversal of the downward trend in TB rates and, contrary to the international and national trends, its rate increased from 4.3 cases per 100,000 in 2013 (DSHS, 2015).

Some major challenges to TB elimination are the emergence of drug-resistant TB, immigration from countries where TB is more common, the human immunodeficiency virus (HIV) epidemic, and transmission in congregate settings.

TB is curable, but inappropriate treatment can lead to new multidrug resistant TB (MDR-TB) strains that are life-threatening and pose increased dangers to society (Vincler & Gordon, 1996). In 2015 alone, over 480,000 people developed multidrug resistant TB worldwide (The White House, 2015, p. 3). Fewer than 20 percent from that number accessed treatment and fewer than half from that small fraction were cured due to inadequate health systems (The White House, 2015, p. 3). Most of the people with TB and MDR-TB live outside the U.S. (The White House, 2015), but in an increasingly connected world, TB can spread beyond borders. The well-reported case of Andrew Speaker illustrates this danger. In 2007, Mr. Speaker, an Atlanta personal-injury lawyer, defied the health department's orders and took seven international flights despite his recent diagnosed of extensively drug-resistant-TB (XDR-TB) risking potential exposure of flight passengers to XRD-TB (Ameigh, Semier, Lobkeucher, & Scanlan, 2015). An MDR-TB outbreak in the U.S. could have serious consequences due to astronomical cost of treatment. On average, the cost of treatment is \$17,000 for a person with drug-susceptible TB. In contrast, the treatment cost is \$150,000 for a person MDR-TB, and \$482,000 for a person with XDR-TB (The White House, 2015, p. 3).

In the past, TB disease impacted mostly U.S.-born persons but since 2002, foreign-born persons from countries where TB is more common have accounted for the majority of TB cases

in the U.S. (CDC, 2011, p. 6). Preliminary data published by the CDC for 2015 indicates that the TB incidence among foreign-born persons remained approximately 13 times higher than the incidence for U.S.-born persons from 2013 to 2015 (CDC, 2016).

TB and HIV have been closely linked since HIV first emerged. HIV weakens the immune system of persons infected with TB and increases the risk of progression to active TB disease by 20 to 30 percent (WHO, 2015b; University of California, 2013). As a result, TB is the leading killer of people with HIV, and HIV has significantly increased the worldwide incidence of TB (University of California, 2013). In 2005, one in three HIV deaths were due to TB co-infection (WHO, 2015b).

TB transmission in congregate settings due to serious delays in TB detection and gaps in infection control protocols is another major challenge to TB elimination. Overall, TB is not common in the general population in the U.S., but certain congregate settings are at increased risk for TB transmission (Ameigh, Semier, Lobkeucher, & Scanlan, 2015). While TB numbers continue to decline, disease outbreaks in settings such as homeless shelters and correctional facilities still occur. Congregate settings where transmission is more common have a high concentration of vulnerable and hard-to-reach populations which makes TB diagnosis and treatment more challenging and resource intensive.

## **The Way Forward**

In the face of the tremendous burden TB imposes on public health, it is imperative to have government commitment, adequate funding, updated strategies and laws that support TB prevention and control activities. CDC recommendations for TB prevention and care have been updated but must be matched with these most essential tools to accomplish the ultimate goal of TB elimination.

## Research Purpose

Legal preparedness is an essential factor in the control of public health threats, including TB (The Centers for Law and Public's Health, 2009). TB laws grant governments the authority to enact regulations and act to prevent TB in the community. Some laws also set limits on the exercise of public health powers to protect the rights and dignity of persons with TB disease. However, many state laws remain outdated and show discrepancies for current standards. In 2012, the U.S. Department of Health and Human Services Centers for Disease Controls and Prevention (CDC) published a “*Menu of suggested provisions for state tuberculosis prevention and control laws*” (the *Menu*) to aid in the evaluation and enhancement of state laws and regulations (CDC, 2012).

A comprehensive comparison of current Texas TB laws and the CDC *Menu* suggested that provisions would be helpful. Texas TB laws, like the TB laws of many other states, have not kept pace with changes in technology and science. They have been enacted at different times in response to different conditions and circumstances. A comparison could reveal where Texas law falls short of best practice. Closer adherence to CDC guidelines should improve TB prevention and care in Texas.

The scope of this Applied Research Project (ARP) is limited to one component of the *Menu*: case identification. Time and resource constraints for the ARP do not permit a comprehensive analysis of all recommended provisions. However, this project is envisioned as the first study in a series that covers the entire *Menu*. As such, it establishes the legal and public health framework to justify future studies and offers a methodology that can be easily replicated to ensure quality findings. The practical ideal type of framework established here can also be

used by other states to evaluate their TB provisions. This external validity is a key benefit of this ARP.

The purpose of this ARP is to first examine the suggested provisions for case identification in the 2012 CDC *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws*. Second, the *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws* is used as a comparative framework to assess current Texas TB provisions for case identification. Third, based on the comparative assessment, recommendations to improve Texas TB laws for case identification are made.

## Chapter 2 : LITERATURE REVIEW

### Chapter Purpose

The purpose of the literature review is to examine and explain the theory and practice of TB prevention and care, and the legal framework to which the *Menu* of suggested provisions must conform. Understanding this information is essential to the accuracy of the assessment of current Texas TB law and the success of the project.

This chapter includes an overview of important TB related information, a review of the legal framework for public health, and an overview of the ideal model used in this study- the *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws*. The end of the chapter contains a summary of TB related definitions and a glossary of acronyms.

### TB Overview

This section presents an overview of TB including disease transmission, the difference between TB infection (TBI) and disease, populations at high risk for TB, screening, diagnosis and treatment. Because TB laws must be based on sound theory, and are created to support TB prevention and care, this information constitutes the essence of the provisions.

### TB Defined

TB is a disease caused by bacteria called *Mycobacterium tuberculosis* (MTB). It is most common in the lungs, and thus is called pulmonary TB (CDC, 2011, p. 21). It may also develop in other parts of the body (Kornusky & Lawrence, 2014), in which case it is called extra-pulmonary TB.

### TB Transmission

TB is transmitted through the air when a person with TB in the lungs (pulmonary TB), throat (laryngeal TB), or the membrane that lines the lungs and the wall of the chest cavity



(pleural TB) coughs, sneezes, speaks or sings and releases TB bacteria into the air and someone nearby inhales them (Ameigh, Semier, Lobkeucher, & Scanlan, 2015) (CDC, 2011, pp. 21-22). TB is not infectious when it is outside the lungs (extrapulmonary TB), except for laryngeal and pleural TB (NTCA & NTNC, 2011, pp. 7-8).

Not everyone exposed to a person with TB disease will inhale the bacteria and become infected. For most people, transmission generally requires close, frequent, or prolonged exposure. However, some persons with TB disease are more contagious because they can produce and release more bacteria to the air. This increases the probability of transmission, even without prolonged exposure (CDC, 2011, pp. 22-24; NTCA & CDC, 2005, pp. 7-8).

### **Populations at High Risk for TB**

Because MTB is transmitted through the air, anyone can be exposed and become infected or sick with TB, but some groups are at greater risk. Populations at high risk can be divided into two categories: (1) persons who are at high risk of becoming infected with TB; and (2) persons who are at high risk for developing TB disease once infected (Figure 2.1).

For the first group, the risk for TBI is higher because they live, work or frequent settings where TB is more common and are therefore more likely to be exposed. Their risk is also related, although in a lesser degree, to the genetic and immune status of the individuals in those settings (Heymann, 2015, p. 641). This group includes foreign-born persons, residents or employees of high-risk congregate settings such as prisons and jails, healthcare facilities, nursing homes, long-term care facilities and homeless shelters, and people who inject illicit drugs (Barraza, Collmer, Meza, & Penunuri, 2015; CDC, 2005, p. 22).

For the second group, the higher risk for developing TB disease is due to conditions, usually medical conditions, which make them more likely to progress to TB disease once

infected. These conditions include HIV infection, diabetes, cancer, injection drug use, chronic renal failure, leukemia or lymphoma, being underweight, premature immune systems in children, and recent TB exposure (Kornusky & Lawrence, 2014) (CDC, 2011, p. 31).

### **The Difference between TB Infection and TB Disease**

Most persons infected with TB do not become sick. Their immune system forms a barrier that keeps the bacteria contained and inactive (CDC, 2008a, p. 13). They do not have signs and symptoms of TB and are not contagious (Table 2.1) (CDC, 2011, p. 30) (Kornusky & Lawrence, 2014). This is called TB infection (TBI).

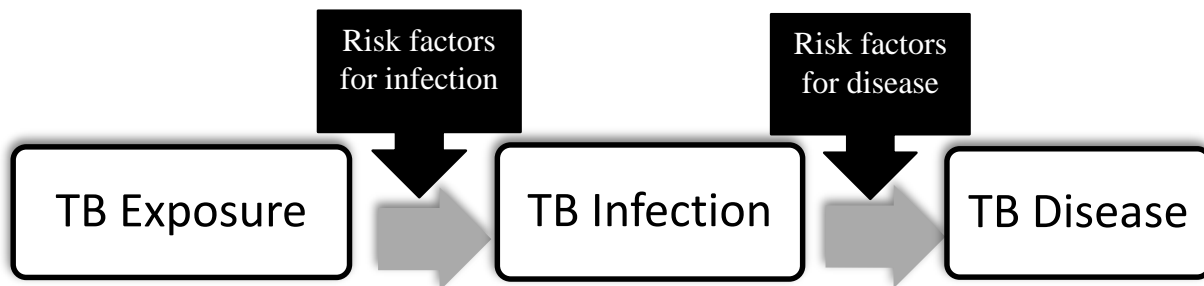
Approximately five to ten percent of persons infected with TB become sick (The Centers for Law and Public's Health, 2009, p. 8). Their immune system cannot contain the infection. The TB bacteria become active and start to multiply in the body. Sick persons may show signs and symptoms that can include coughing, hemoptysis (coughing blood), chest pain, unexplained weight loss, loss of appetite, night sweats and fatigue (CDC, 2014c). They may also have a positive TB skin test or TB blood test and sputum tests (smears and cultures). This is called TB disease or active TB disease (Table 2.1). Active TB is contagious and very serious, sometimes causing damage or even death. It is curable with adequate therapy and treatment is required (CDC, 2011).

**Table 2.1: TB infection vs. TB disease**

TB Infection (TBI)	TB Disease
TB bacteria are inactive	TB bacteria are active
Tuberculin skin test or IGRA are usually positive	Tuberculin skin test or IGRA are usually positive
Person is not contagious	Person may be contagious
Person does not have TB signs and symptoms	Person usually has TB signs and symptoms
Chest radiograph is usually normal	Chest radiograph may be abnormal
Laboratory tests (Sputum smears and cultures) are negative	Sputum tests (smears and cultures) may be positive
Not a case	A TB case

Source: Adapted from *Core Curriculum on Tuberculosis: What the Clinician Should Know* (p.30) and *Tuberculosis Nursing: A Comprehensive Guide to Patient Care* (p. 16)

The progression from TBI to active disease (Figure 2.1) may occur soon after the person is infected or many years later (CDC, 2008a, p. 17). If untreated, approximately five percent of the persons infected develop active disease within the first two years of becoming infected (CDC, 2011, p. 30). Another five percent will develop active TB in their lifetime without treatment (CDC, 2011, p. 30).



**Figure 2.1: Progression to TBI and disease**

**TB Testing and Diagnosis**

TBI is diagnosed with the Mantoux tuberculin skin test (TST) or TB blood tests called interferon-gamma release assay (IGRA). There are two types of IGRA, the QuantiFERON-TB Gold test (QFT-G) and the T-SPOT-TB (Ameigh, Semier, Lobkeucher, & Scanlan, 2015). These tests become positive two to eight weeks after exposure (CDC, 2011, p. 114) (Heymann, 2015, p.

638). A negative TST or IGRA does not exclude the diagnosis of TB disease or infection. Thus, TB screening should always include signs and symptoms screening. Additionally, a positive TST or IGRA test does not differentiate between TB infection and disease. Persons with a positive TST or IGRA or with signs and symptoms consistent with TB need additional screening to exclude active disease (CDC, 2008a; CDC, 2014c).

Diagnosis for TB disease involves a complete medical evaluation with a review of the person's medical history, physical examination, chest radiograph, and laboratory testing (CDC, 2011, p. 78) (CDC, 2014c). A medical history review helps the clinicians identify: (1) person's history of exposure to TB, infection or disease; (2) underlying medical conditions that increase the likelihood of progression to active disease such as HIV infection; and (3) demographic factors, such as occupation and country of origin that increase the risk of exposure to TB or to drug resistant TB (CDC, 2014c). A physical examination provides information on the patient's overall condition and factors that may create treatment complication and affect how TB is treated (CDC, 2014c). A chest radiograph is used to detect chest abnormalities, in particular, for patients who may have pulmonary TB disease. Abnormalities may appear anywhere in the lungs and may differ in size, shape, density, and cavitation (CDC, 2014c). Radiography may be used to exclude pulmonary TB in a person with a positive TST or IGRA but without TB symptoms. However, it does not definitively diagnose TB (CDC, 2014c).

Generally, TB is diagnosed with laboratory testing of clinical specimens, including sputum, urine, and cerebrospinal fluid (CDC, 2012). These specimens should be examined and cultured. The laboratory examination includes: (1) sputum smear; (2) direct detection of MTB in clinical specimens using nucleic acid amplification (NAA); (3) specimen culture for identification; and (4) drug-susceptibility testing to detect drug resistance (CDC, 2011, p. 83). A

culture is done to confirm the diagnosis regardless of other test results (CDC, 2014c). In the absence of culture results, TB may be diagnosed based on clinical signs, symptoms and response to treatment (CDC, 2011, p. 93). Because culture results may require weeks, treatment and control efforts must start when TB is first suspected and stop later if the cultures are negative and a diagnosis of TB is excluded (NTCA & NTNC, 2011, p. 39).

## **TB Treatment**

TB is preventable and treatable (WHO, 2015b). Persons with positive results need to start and complete an adequate treatment for TB (Alkhalawi, McNabb, & Assir, 2015). Without treatment, they could die and potentially infect ten to fifteen additional persons annually (Alkhalawi, McNabb, & Assir, 2015).

Treatment for TBI is often called preventive treatment because it kills the inactive bacteria to prevent illness in the future. There are four treatment options for TBI using three approved drugs (CDC, 2011, pp. 118-122). While treatment should be considered for everyone with TBI, not everyone is a good candidate for treatment. In general, treatment for TBI is recommended for persons at risk of progression to active disease who are likely to adhere to treatment and complete it without complications (Kornusky & Lawrence, 2014) (CDC, 2011, pp. 31-33).

The standard treatment for TB disease lasts at least six months or longer. It starts with a four-drug therapy which is later adjusted when the drug susceptibility tests show which drugs are effective in killing the bacteria in the person's body (CDC, 2011, p. 139). Failure to complete the treatment or to take the treatment as prescribed fosters the development of drug resistance (Kornusky & Lawrence, 2014; CDC, 2011).

While it is critical to find and treat TB, adherence to TB screening recommendations for high-risk populations and adherence to the long TB treatment are particularly challenging. The next section of this ARP explores the legal framework that provides necessary enforcement mechanisms for TB prevention and control.

## **Legal Framework for TB Prevention and Control**

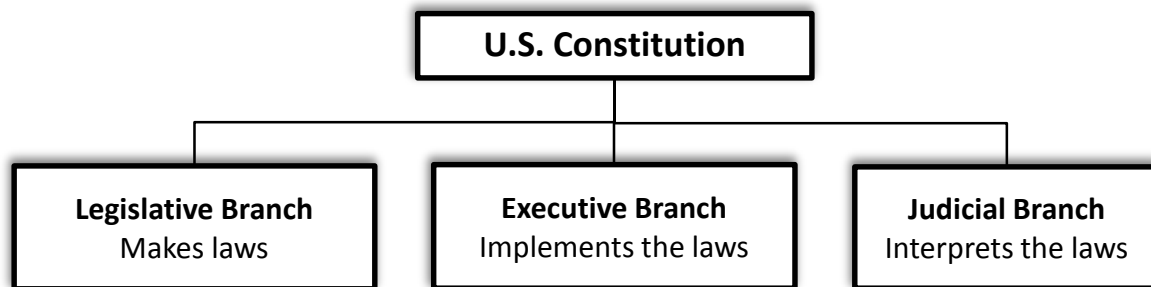
In the U.S., a legal framework establishes specific authority and responsibility for public health matters, including TB prevention and control. To be valid and enforceable, TB provisions must fit in the framework like a piece of a puzzle. For example, a state law or regulation that infringes on constitutional individual rights, such as an arbitrary respiratory isolation mandate for persons with TB without substantive due process, is invalid and unenforceable. This section outlines structural and rights-based limitations for TB provisions. It also provides definitions for “law” and “regulation” and a brief summary of how they are interrelated. This information impacts the way provisions are adopted and must be carefully considered before making recommendations to improve Texas TB laws for case identification.

### **U.S. Constitution’s Structural Limitations**

The U.S. Constitution creates structural limitations that perform three essential functions influencing how TB provisions can be planned and implemented. First, it divides power among the three branches of government (separation of powers). Second, it allocates power among the federal and state governments (federalism). Third, it limits the government powers to protect individual liberties (The Centers for Law and Public's Health, 2009, p. 11). These three functions are explained in the sections that follow.

### ***Separation of Powers***

The U.S. Constitution separates government powers under three branches of government that include: (1) the legislative branch which creates laws; (2) the executive branch which implements laws; and (3) the judicial branch which interprets the laws (The Centers for Law and Public's Health, 2009, p. 11) (Rosenbloom, Kravchuk, & Clerkin, 2009). The principle of separation of powers allows each branch of government to manage an area of government with minimal interference and prevents each branch from exercising any power assigned to another, except in the instances expressly permitted. Additionally, the principle of separation of powers prevents concentration of power in any branch to avoid unchecked authority to apply the law inappropriately (The Centers for Law and Public's Health, 2009, p. 11). Laws distribute powers among various agencies and require coordination to avoid contradictions and stay consistent with the constitutional separation of powers. The separation of powers within the constitution is illustrated in Figure 2.2.



**Figure 2.2: Separation of powers**

Source: Adapted from *The United States Government Manual 2014* by the Office of the Federal Register. National Archives and Records Administration (2014, p. 22).

The Department of Health and Human Services (DHHS) is the federal agency in the executive branch charged with strengthening the public health and welfare (Office of the Federal Register, 2014, p. 194). The Centers for Disease Control and Prevention (CDC) is one of the

major components of DHHS and plays a key role in TB prevention and care in the U.S. and abroad. The CDC was established on July 1, 1946. Today, CDC is the U.S. top public health agency and a synonym of public health around the world (Turnock, 2004). The agency is headquartered in Atlanta, Georgia and has more than 14,000 employees in nearly 170 occupations (CDC, 2015a). It works with states and other partners to protect the public health. Highly regarded CDC field employees work by invitation in all 50 states and more than 50 countries (CDC, 2015a). The CDC's mission is highlighted in Figure 2.3.



### **Mission**

*CDC protects America from health, safety and security threats, both foreign and in the U.S. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease and supports communities and citizens to do the same.*

*CDC increases the health security of our nation. As the nation's health protection agency, CDC saves lives and protects people from health threats. To accomplish its mission, CDC conducts critical science and provides health information that protects our nation against expensive and dangerous health threats, and responds when these arise.*

### **Figure 2.3: CDC Mission**

Source: Center for Disease Control and Prevention, 2016,  
<http://www.cdc.gov/about/organization/mission.htm>

Specific TB related activities performed by the CDC include monitoring epidemiology, formulating strategies, promulgating guidance, distributing funds, providing consultation and building capacity for TB programs (CDC, 2005, p. 2; Rosenbloom, Kravchuk, & Clerkin, 2009). The CDC does not have authority to write TB laws but provides guidance for states seeking to reform or enhance their statutes. As such, it was the driving force in the development of the *Menu of suggested state TB provisions*.



A similar structure to the federal government for the separation of powers (Figure 2.2) exists in state governments. State powers are allocated among: (1) state legislatures with the power to enact laws; (2) state executive agencies, also called administrative agencies, with the power to implement the laws through rules or regulations; and (3) the judiciary with the power to interpret them. However, the Texas Constitution also permits exceptions to the separation of powers principle that are “expressly” permitted (Bruff, 1990, p. 1337). These exceptions allow state administrative agencies to perform important legislative, executive and judicial functions. Thus, state agencies promulgate regulations having the force of law, decide when to prosecute persons violating them, and adjudicate the issues through administrative hearings. Texas courts have had to reconcile the appearance of this “fourth branch” of government with the constitutional structure and apply parameters for the application of the separation principle (Bruff, 1990, p. 1337).

In Texas, only the state legislature has the power to enact TB laws. However, many ideas for TB laws come from the Texas Department of State Health Services (DSHS) or other interest groups because legislators lack the appropriate expertise. DSHS is the lead health agency in Texas and belongs to the executive branch of government. The agency’s mission is to “improve health and well-being in Texas” (DSHS, 2015). DSHS’ Tuberculosis and Refugee Health Services Branch directs and oversees TB activities for the state (See Figure 2.4.).



***Tuberculosis and Refugee Health Services Branch***

***Mission***

*To prevent, control and eliminate tuberculosis among the people of Texas.*

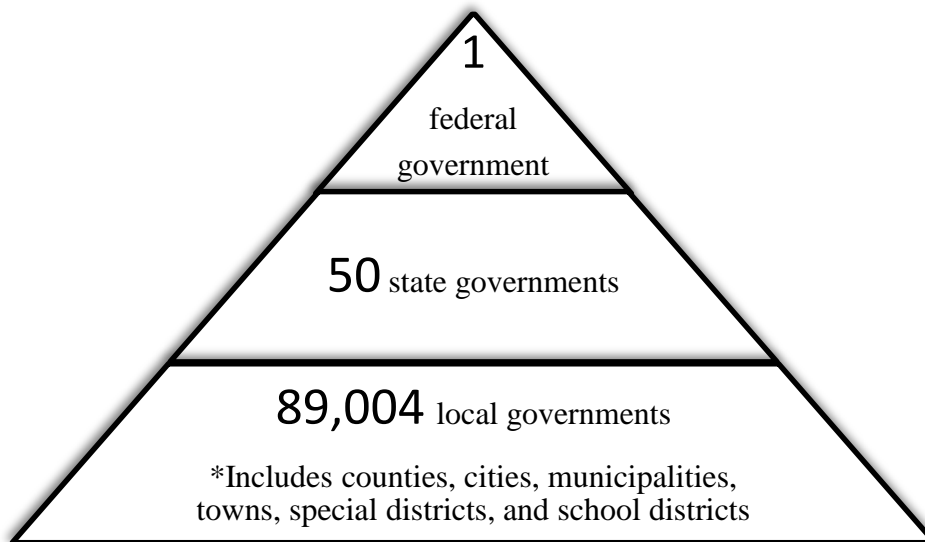
**Figure 2.4: DSHS Tuberculosis and Refugee Health Services Branch**

Source: Texas Department of State Health Services,  
<http://www.dshs.state.tx.us/idcu/disease/tb/programs/default.aspx>

### **Federalism**

Governmental powers are similarly distributed between the federal, state and local governments (Rosenbloom, Kravchuk, & Clerkin, 2009; Schmidt, 2006, pp. 81-83). Consistent with the principles of federalism, each level of government has mutually exclusive powers to regulate and act to protect the public health in different ways. The validity of TB provisions depends on a fundamental question: Does the governmental entity have the constitutional power to act in the matter?

The federal structure developed by the framers of the Constitution is essential to governing the complicated network of approximately 89,055 governments at federal state and local levels (U.S. Census Bureau, 2014) (Figure 2.5) and must be considered when assigning rights and obligations through TB statutes and regulations.



**Figure 2.5: Government in the United States<sup>1</sup>**

Source: Graph by author with data from the United State Census Bureau, <https://www.census.gov/newsroom/releases/archives/governments/cb12-161.html>

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<sup>1</sup> Data released by the United States Census Bureau on August 30, 2012

## **Federal**

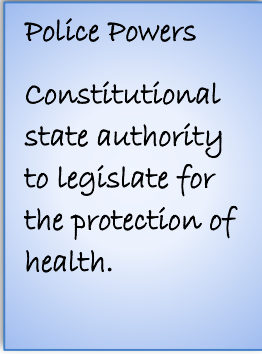
The first level of government is the federal government. The U.S. Constitution gives it limited but supreme powers expressly identified in the constitution, called enumerated powers (Breslow, 2002). Those include the power to regulate trade, control military threats and insurrections, and regulate commerce between states (Schmidt, 2006, pp. 85-86).

Federal public health powers, at least as enumerated in the U.S. Constitution, are minimal. Federal health powers rest primarily on commerce powers or the power of Congress to regulate whatever passes in commerce between states, as well as whatever affects interstate commerce under Article 1, Section 8, clause 3 of the U.S. Constitution (Breslow, 2002). This allows it to be directly involved in environmental protection, occupational health and safety, and food and drug safety (Wallace, Kohatsu, & Last, 2008).

In general, the federal government does not have the authority to perform public health activities unless it is invited to act on behalf of a state or local jurisdiction. The federal government participates in public health programs through cooperative grant programs, a non-contractual mechanism that provides federal funding for state and local governments that agree to perform specific activities (Breslow, 2002). When federal grants became available after 1935, the power and influence of the federal government grew as states eagerly accepted conditional federal funding for public health matters and priorities became increasingly set by the federal government (Turnock, 2004, p. 131). For example, reporting of aggregated TB data is an activity required by cooperative grants (CDC, 2005, p. 3). Overall, the federal and state government's collaboration to solve common public health problems is favorable.

## **State**

The second level of government is the states which are subordinate to the federal government but have substantial legal sovereignty over matters of health, safety and welfare. The tenth amendment of the U.S. Constitution reserves all the powers not specifically enumerated for the state government. These state broad powers are called “police powers” (The Centers for Law and Public's Health, 2009), which are defined as “the authority to legislate for the protection of the health, morals, safety, and welfare of the people” (Schmidt, 2006, p. 86).



Police Powers  
Constitutional  
state authority  
to legislate for  
the protection of  
health.

**Figure 2.6: State Police Powers**

State police powers are the core constitutional authority for public health (Wallace, Kohatsu, & Last, 2008). Consequently, states direct most public health decisions and regulate and restrict activities in the interest of public health. State health departments are primarily responsible for population-based services and account for most of the investment in public health (The Centers for Law and Public's Health, 2009, p. 12). Nonetheless, states often choose not to exercise their full authority and shift some public health functions to local governments. This may be done by legal means, such as a regulatory delegation or a requirement for the lower government. In other instances, the transfer of authority is motivated by funding or other incentives for the local government (Turnock, 2004, p. 136).

### **Local**

Local governments, such as counties, cities, municipalities, towns and special districts, are the front line of public health practice and enforce state and local standards. The state legislature establishes public health powers and may delegate them to the local government in three different ways that include: (1) specific delegation of a state authority or responsibility in

the form of statutory or regulatory requirement; (2) transfer of authority motivated by funding or other incentives for the local government; and (3) home rule powers (Turnock, 2004). Home rule options permit local jurisdictions to enact a local constitution or charter and to take additional authority and powers which are not prohibited by the state or federal laws (Turnock, 2004). For example, a home-ruled city has the power to levy taxes to fund public health activities.

Using powers granted by state law and acting on reasonable grounds, local government may pass some additional subsidiary public health ordinances, rules and regulations (Grad, 2005, pp. 16-20; Breslow, 2002). Local government may seize property, inspect and close businesses, destroy animals, involuntarily treat, or even lock away individuals (Grad, 2005, pp. 16-17). For example, in Texas, a local health department employee, by delegation of the state, has the authority to enter a business to conduct a TB contact investigation and screen individuals or animals exposed to TB.

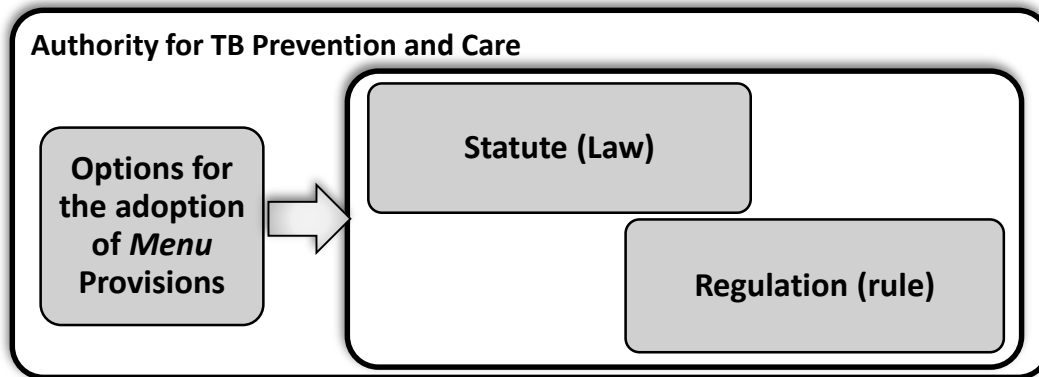
### **Rights-Based Limitation**

The U.S. Constitution sets limits on the exercise of public health powers in order to protect the rights and dignity of persons with TB disease. These limits ensure that public health actions are fair, reasonable and in accordance with the law. Constitutionally protected rights include freedom of expression, freedom of religion, bodily integrity, health information privacy, equal protection, due process, and freedom from unlawful governmental searches (The Centers for Law and Public's Health, 2009, p. 11). Another important validation for TB provisions depends on this question: Does the specific manner in which the TB provision was enacted violate or exceed any constitutional principle or individual rights?

Prevention and control measures imposed on a person to protect the public health must be the least restrictive possible to reduce or eliminate the public risk while giving the greatest possible freedom to the affected person (Vincler & Gordon, 1996). Restrictive measures should only be applied after all attempts for voluntary adherence have failed. However, in certain situations, the legitimate public interest to prevent or control the spread of a deadly disease outweighs the infringement on individual rights necessary to implement effective testing, treatment, and infection control strategies (CDC, 2012, p. 10). For example, if a person with XDR-TB refuses treatment and poses a risk of transmission to the public, the serious threat justifies limiting the individual's freedom. In such case, an isolation order is used to separate the person with XDR-TB from those who are healthy, and to restrict the person's movement to stop the spread of illness (Price, 2015, p. 54).

### **Statutes and Regulations**

Statutes and regulations embody the legislative authority that governs a state or local government. Before adopting a CDC *Menu* suggested provision, states must carefully consider whether it is better suited for a statute or regulation (Figure 2.7). In the *Menu*, the CDC suggests possible options for addressing TB concerns but specifies that the suggested provisions “need to be considered within the policy and legal frameworks of the jurisdiction contemplating adoption of the suggested provisions” (CDC, 2012, p. 4) . This section contrasts these two legal instruments and highlights key considerations for the recommendations in this research project.



**Figure 2.7: Authority for TB prevention and care**

### ***Statutes***

Statutes are laws passed by the legislative branch. The *Encyclopedia of Public Health* defines statutes as the “body of direction or command requiring or prohibiting certain conduct to achieve specific objectives, enforceable by legal action” (Breslow, 2002, p. 693). Statutes grant authority for administrative agencies, such as a DSHS, to adopt regulations in accordance with the statute and to carry out designated powers.

State statutes are subordinate to federal law. While the authority to make and implement public health laws rests on the states, some conflicts may arise with constitutional provisions for the separation of powers or federalism. In the case of conflict between federal and state law, the federal law will prevail (Grad, 2005, p. 21). The Supremacy Law of the Constitution makes federal law superior to all conflicting state or local laws (Schmidt, 2006, p. 87).

Statutes are often intentionally broad (CDC, 2005, p. 2). They can be voided or changed only by the legislative process (New Jersey Medical School National Tuberculosis Center, 2005, p. 4), which in Texas takes place when the legislature meets in odd-number years or during specially called extra sessions. During the Texas legislative session, hundreds of bills are introduced by legislators for consideration by the Legislature. A portion of these bills never make it to the governor’s desk for approval. This causes delays in updating obsolete or

inadequate statutes and prevents administrative agencies from implementing new standards.

Therefore, states benefit from broad statutes that confer discretion to the regulatory body (CDC, 2012, p. 5). Using this discretion, state executive agencies implement the statutes through the development of regulations and can make needed modifications within the constraints of the law.

### ***Regulations***

Regulations are developed in the executive branch of government by administrative agencies with a great deal of authority (Longest, 1998). In Texas, these agencies receive their power from Title 4 of the Texas Government Code (Texas Government Code, 2015).

Regulations are sometimes called rules or administrative law. While the terms “regulation” and “rule” are used interchangeably in practice, they are defined somewhat differently in some sources. For example, the Texas Government Code Section 311.005 “rules” definition only states that “rule includes regulation” (Code Construction Act). However, the term “regulation” continues to be used in the broadest sense in countless Texas statutes and regulations. Regulations are a form of public policy made to implement statutes and are more specific laws. Every regulation must have a statute that enables it. There can be a statute without a regulation, but not a regulation without an authorizing statute (CDC, 2012, p. 5). Even regulations based on the soundest scientific theory have no legal effects without an enabling statute. Like statutes, regulations have the force of law but they are designed to be more flexible and efficient. They can be reviewed and amended through the rule-making process when new technologies and data become available and new recommendations and guidelines are published (CDC, 2012, p. 5). However, regulations often carry sunset provisions and expire unless the executive agency periodically reviews them (New Jersey Medical School National Tuberculosis Center, 2005, p. 4).

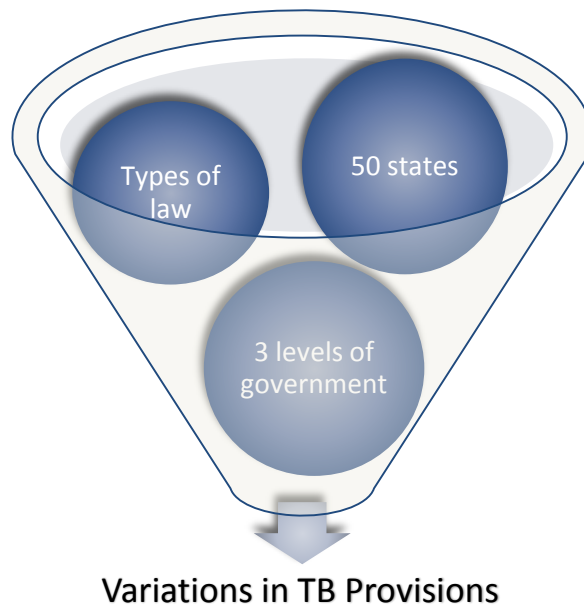


## Conceptual Framework: Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws

The *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws* is the ideal model used in this study. This document provides guidance to states considering revision of their TB laws. The following section explores how this document was created and what makes it a reliable comparative framework to assess current Texas TB laws for case identification.

### Implementation of TB Policy

The complex relationship among the many layers of government, combined with the various forms of TB law, has resulted in a patchwork of TB provisions in the U.S (Figure 2.8). The authority to make and implement health law rests with the states. This means that there could be at least 50 different ways to develop a legal framework to contain TB. Since the threat of TB and its mode of transmission are common for all states, some kind of collective guidance that crosses states is helpful.



**Figure 2.8: Reasons for national variations in TB Provisions**

To aid states in improving the patchwork of TB law, the Advisory Council for the Elimination of Tuberculosis asked the CDC to lead the creation of model TB legislation. As the leading public health agency in the U.S., the CDC plays a key role in updating states on the latest technology and science for TB prevention and care. The CDC is also nationally recognized for its wealth of experience creating model law with high acceptability.

The CDC created the *Menu* in collaboration with stakeholders. In 2009, starting with suggested provisions published in 1993 as a foundation, CDC experts researched, reviewed and categorized TB statutes and regulations for all 50 states, the District of Columbia and New York City and drafted menu provisions. On February 2010, the agency convoked a group of TB experts, attorneys from state and local TB programs nationwide, representatives from partner organizations, and federal attorneys and policy staff to provide feedback and recommendations (CDC, 2012).

The *Menu* was organized to provide options within each section to facilitate implementation based on the current policy, legal framework and resources available for implementation in the state wanting to adopt the provisions (CDC, 2012). It contains seven chapters organized as follows:

- I. *Definitions for consideration*
- II. *Legislative intent*
- III. *Enabling statutes and rulemaking provisions*
- IV. *Case identification*
- V. *Case management*
- VI. *Protection of individual rights*
- VII. *Interjurisdictional collaboration*

Due to time and resource constraints, this ARP provides an in-depth assessment for *case identification* provisions included in Chapter IV only. This *Menu* chapter provides four ideal

components for TB case identification and examples of current provisions from various states which include those components.

## **Chapter Summary**

State TB legal provisions are essential to protecting the public health. To be effective, TB provisions must be based on the best theory and practice for TB prevention and care. They must also be broad or flexible enough to adapt to new knowledge and evidence for individual occurrences. To be enforceable, TB provision must work in a large and co-dependent legal framework that balances government powers, protects individual rights and establishes a hierarchy of laws to avoid and resolve conflicts and contradictions. These considerations form the basic building blocks for state TB provisions. The next chapter examines the *Menu* recommended provisions for TB case identification that will be compared to the Texas TB statutes and regulations. First, a list a definitions and acronyms is provided to help readers understand key concepts and technical terms.

## Definitions

**Table 2.2: Definitions for technical health terms used in this ARP**

<b>Acid-fast bacilli (AFB):</b> Mycobacteria that retain color after they have been stained and then washed in an acid solution; they may be detected under a microscope in a stained smear (CDC, 2008b, p. 2).
<b>Active case finding:</b> Identifying unreported cases of TB by actively searching for them (CDC, 2014d, p. 1).
<b>Case:</b> A person with suspected or confirmed TB disease; also called an index case or index patient (CDC, 2014b, p. 2).
<b>Contact:</b> A person exposed to someone with infectious tuberculosis (CDC, 2011, p. 249).
<b>Contact investigation:</b> A systematic process for identifying persons exposed to someone with infectious TB, evaluating them for TB infection and disease, and if needed, providing appropriate treatment (CDC, 2014b, p. 2).
<b>Culture:</b> Organisms grown in media (liquid or solid substances containing nutrients) with the purpose of identifying them (CDC, 2011, p. 249).
<b>Droplet nucleic:</b> Very small droplets that may be released into the air when a person with infectious TB coughs, sneezes or talks. They can remain suspended in the air for several hours, depending on the environment (CDC, 2011, p. 249).
<b>Epidemic:</b> “The occurrence, in a defined community or region of cases of an illness (or an outbreak) with a frequency clearly in excess of normal expectancy” (Heymann, 2015, p. 695).
<b>Index case:</b> “The initial case that prompts a contact investigation” (CDC, 2014d, p. 3).
<b>Isolation:</b> Separation of ill persons who have a communicable disease from healthy persons and the restriction of the movement of ill persons to help stop the spread of certain diseases (Price, 2015, p. 54).
<b>Law:</b> Body of direction or command requiring or prohibiting certain conduct to achieve specific objectives, enforceable by legal action. Laws grant authority for administrative agencies to carry out designated powers and also limit the government’s use of power to protect an individual’s rights (Longest, 1998; CDC, 2012; Breslow, 2002).
<b>Legal authority:</b> Any provision of law or regulation that carries the force of law, including but not limited to statutes, rules, regulations, and court rulings (ASTHO, 2015).
<b>Legislative intent:</b> A statement of purpose in TB prevention and control laws (CDC, 2012, p. 10).
<b>Legislation:</b> “The preparation and enactment of laws by a legislative body through its lawmaking process. The legislative process includes evaluating, amending, and voting on proposed laws and is concerned with the words used in the bill to communicate the values, judgments, and purposes of the proposal. An idea becomes an item of legislative business when it is written as a bill” (Cornell University Law School, 2015).
<b>Mycobacterium tuberculosis:</b> A type of tuberculous mycobacteria that causes tuberculosis (CDC, 2011, p. 252).
<b>Operational decision:</b> Operational decisions are made to implement public laws and are also a form of public policy. Organizations and agencies in the executive branch of a government, regardless of level (federal, state or local), inevitably make many operational decisions to implement laws. These decisions are protocols and procedures. In general, operational

decisions are intended to be less permanent than rules (Longest, 1998) .
<b>Police powers:</b> “The authority to legislate for the protection of the health, morals, safety, and welfare of the people” (Schmidt, 2006, p. 86).
<b>Procedures:</b> Any procedure established by a jurisdiction relating to the legal question being researched, regardless of whether the procedures have the force of law (ASTHO, 2015, p. 2).
<b>Provision:</b> In the legal sense, provisions may take one of two basic forms: laws, also called statutes, or regulations, also called rules. In this ARP, provision refers to the physical document that outlines the standards or legal requirement.
<b>Public health emergency:</b> “Any acute threat, hazard, or danger to the health of the population of the jurisdiction, whether specific or general, whether or not officially declared” (ASTHO, 2015, p. 2).
<b>Quarantine:</b> “Separates and restricts the movement of <i>well</i> persons who may have been exposed to a communicable disease to see if they become ill. These people may not be aware of exposure to a disease, or they may have the disease but do not show symptoms” (Price, 2015, p. 54).
<b>Rule:</b> A term that is used indistinctively or regulations under the Texas Government Code Chapter 311 (Code Construction Act).
<b>Smear:</b> A specimen that has been smeared onto a glass slide, stained, washed in and acid solution, and then placed under a microscope for examination to detect acid fast bacilli in the specimen (CDC, 2008b, p. 4).
<b>State law:</b> Decisions made by legislators that are codified in the statutory language of enacted legislation (Longest, 1998).Others are the rules and regulations established to implement legislation or to operate government and its various programs.
<b>TB case:</b> “A person with suspected or confirmed TB disease; sometimes referred to as an index case or index patient” (CDC , 2014b, p. 2).
<b>TB outbreak:</b> More TB cases than expected within a geographic area or population during a particular time period with evidence of recent transmission among those cases (CDC, 2014d, p. 5).
<b>TB suspect:</b> Person with history and symptoms that suggest that he or she may have or be developing TB (Heymann, 2015, p. 704) .

## Acronyms

**Table 2.3: TB related acronyms**

<b>ARP:</b> Applied Research Project
<b>CDC:</b> Centers for Disease Control and Prevention
<b>DOT:</b> Directly Observed Therapy
<b>HIPPA:</b> Health Insurance Portability and Accountability Act
<b>HIV:</b> Human Immunodeficiency Virus, the virus that causes AIDS
<b>IGRA:</b> Interferon-Gamma Release Assay, a type of TB blood test.
<b>MDR:</b> Multiple Drug-Resistant Tuberculosis
<i><b>Menu:</b> Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws</i>
<b>MTB:</b> Mycobacterium Tuberculosis
<b>NAAT:</b> Nucleic Acid Amplification Test
<b>TB:</b> Tuberculosis
<b>TBI:</b> Tuberculosis Infection
<b>TST:</b> Mantoux Tuberculin Skin Test
<b>XDR:</b> Extensively Drug-Resistant Tuberculosis
<b>WHO:</b> World Health Organization

## Chapter 3 : CDC MENU PROVISIONS FOR TB CASE IDENTIFICATION

### Chapter Purpose

The purpose of this chapter is to present and examine the *Menu*'s suggested provisions for TB case identification. I use the information presented here as a comparative framework to assess current Texas provisions for TB case identification and to make recommendations to improve Texas TB provisions. The chapter concludes with a conceptual framework (Table 3.5) linking the *Menu* TB provisions for TB case identification to the supporting literature.

### TB Case Identification Provisions

TB case identification provisions are necessary to achieve the highest priorities for TB control: comprehensive TB case finding and treatment. A TB case is defined as a person with suspected or confirmed TB disease (CDC , 2014b, p. 2). When a case is found and treated, the person's life and productivity are saved. Society also benefits when patients are cured and TB transmission is interrupted (CDC, 2005, p. 1).

Provisions for TB case identification require cooperation from local hospitals, physicians, community-based organizations, and laboratories to focus on early case identification to assign responsibility for follow-up activities. Case identification has four components (NTCA & NTNC, 2011, p. 2) that include:

- A. reporting,
- B. screening,
- C. laboratory testing, and
- D. examination

These four components form the basis of the framework to analyze Texas case identification laws and regulations. In each of the following four sections, a component is examined and the model provisions used in their analysis are introduced.

## **A. Reporting**

TB reporting is the most common, expedient and cost-effective way to identify TB patients (CDC, 2014a). It refers to the legally required reporting of persons identified with presumptive or confirmed TB (CDC, 1999, p. 26). Reporting is essential in the planning, implementation, monitoring and evaluation of public health practice (WHO, 2015a, p. 5).

State and local health departments are responsible for planning TB prevention and control strategies. Using information from a register with updated information on TB cases in their jurisdictions, they are able to study local epidemiology to anticipate when and where resources will be needed (Heymann, 2015; Grad, 2005). They then use needs assessments based on data to plan regulation that supports program efforts.

Public health authorities also have the primary responsibility for ensuring the quality and completeness of all TB-related services, regardless of where the patient receives medical care. Upon notification, public health program TB experts can oversee the standards of care and collaborate with the treating physician to ensure good health outcomes for the patient (CDC, 2011, p. 229) (CDC, 2012) .

When reports give warnings for impending outbreaks or epidemics, the health authority can implement disease control measures. For example, acting on reasonable grounds, the health authority may initiate a contact investigation, or issue orders for mandatory examination, isolation or quarantine (Grad, 2005, p. 90).

Monitoring and evaluation of public health action depends on the systematic collection, analysis and interpretation of public health data. Combined, these processes help ensure the effectiveness of TB control measures and identify problem areas. Findings can be used for program advocacy, building training and capacity, directing resources to the most productive



areas accounting for available resources, generating additional resources, and recognizing achievement (CDC, 2011, p. 231).

### ❖ *Suggested Provisions for Mandated Reporting*

Every state must have the authority to collect information (Danilla, Laine, Livingston, & Como-Sabeti, 2015, p. 13) necessary to perform essential public health functions. At their best, reporting provisions must outline timeframes for reporting, agencies and persons required to report, specific conditions under which reports are required, penalties for not reporting, ways to manage reported information and indemnity for reporters. The CDC *Menu* recommended provisions that outline these best TB reporting practices are included in Table 3.1 These provisions are used in the analysis of Texas TB laws and regulations.

**Table 3.1: Mandated reporting**

<b>CDC Suggested State Provision</b>	<b>Description</b>
<b>A. Mandated reporting</b>	General requirement that “anyone having knowledge” of a confirmed or suspected case of active TB shall report it to the health authority within 24 hours (CDC, 2012, p. 13).
<b>1. Required reporters of communicable disease</b>	Specific persons required to report are healthcare providers, laboratories, administrators for health care facilities, correctional facilities, schools, youth camps, child care centers, preschool, or institution of higher education, federal and tribal entities (“to the extent permitted by law”), infection control staff, public health officials, coroners, administrators of congregate settings, emergency medical service personnel, law enforcement officers, firefighters and persons in charge of good establishments (CDC, 2012, pp. 13-15).
<b>2. Information/ Data to be reported</b>	Requirement to submit specific information for person with TB disease and infection. Reporters must submit complete data applicable to them. Information/ data to be reported includes name, address, and whether the person is homeless, phone number, sex and date of birth, race and ethnic origin, country of birth and date of arrival in the U.S., occupation, site of disease, chest radiograph date and results, laboratory test results, TST or IGRA results, HIV

	status, risk factors (resident of correctional facility, long-term care facility and alcohol and drug use), date treatment started, drug side effects, adverse reactions and monitoring records, list of medications, patient’s progress or lack of process, signature of person submitting report, date the report is submitted, name of contacts, address, and results of screening (CDC, 2012, pp. 15-18).
<b>3. Penalties for failure to report</b>	Legal penalties for persons or entities failing to report as required by law may include licensure-related penalties, fines, and misdemeanor offenses (CDC, 2012, p. 18).
<b>4. Duty to report Non-adherent patients</b>	Requirement for healthcare providers to report non-adherent patients to public health officials to coordinate and implement any necessary public health action within 24 hours. Reportable violations may include terminating treatment against medical advice; failure to follow the medical treatment plan; failure to comply with measures to prevent transmission; and leaving the hospital against medical advice (CDC, 2012, p. 19).
<b>5. TB Registries, proper disclosure/ Use of Information, and immunity for reporters</b>	Provision that maximizes the reporting of new TB cases, minimizes the reporting of duplicate cases, and protects the confidentiality of reports. It includes requirements to maintain a register of all cases, to keep records confidential, to set limitations on use, and to give immunity for reporters (CDC, 2012, p. 20).

**B. Screening**

Screening is a strategic component of TB control included as key case identification activity. The purpose of TB screening is to find persons infected with TB who are at high risk for progression to active TB disease in order to offer them preventive treatment (CDC, 2012, p. 21). Treatment will prevent them from getting sick in the future and infecting others (CDC, 2008b, p. 6). Two key strategies for the success of TB screening programs are targeting the right groups for testing, and ensuring adequate and complete treatment for those who need it.

Only persons likely to be infected with TB or at high risk for progression to disease should be targeted for TB screening. Screening persons at low risk for TB is not recommended

(CDC, 2008b, p. 6). It identifies few infected persons and takes away scarce TB resources from other areas (CDC, 2012, p. 21) .

There are two approaches for targeted TB screenings. The first approach is to promote clinic-based testing of persons who are under a clinician's care for a medical condition that increases the risk of progression to TB disease, such as HIV or diabetes. The second approach is to establish specific projects that target a population with high prevalence of TBI or at high risk for acquiring TB disease if they have infection, or both. This may include screening in homeless shelters and jails, for example. This approach requires identification of populations or areas with high TB risk through epidemiologic analysis and profiling (CDC, 2005).

Before screening activities begin, adequate resources must be available for follow-up screening and treatment of persons with a positive TST or IGRA. Finding and accurately diagnosing persons at high risk that do not start or complete treatment does not contribute to TB prevention. While not everyone diagnosed with TBI should be managed with medical treatment, the purpose of screening should be finding persons who are most likely to benefit from it. Screening should not be conducted for any population, regardless of risk, with minimal opportunity for treatment completion (CDC, 2005).

#### ❖ ***Suggested Provisions for Screening***

State and local health officials must be authorized to screen high risk populations for TB. Statutes must include expressed legal authority to conduct screening and identify specific high risk populations and settings where screening is beneficial. Table 3.2 shows the screening provisions recommended in the CDC *Menu* which are used to analyze Texas laws and

regulations. Notably, the *Menu* does not include specific standards to ensure the adequacy of the screening such as performing a TST or IGRA in conjunction with symptom screening<sup>2</sup>.

**Table 3.2: Screening**

<b>CDC Suggested State Provision</b>	<b>Description</b>
<b>B. Screening</b>	Provisions that authorize public health officials to screen for TB in order to interrupt transmission by identifying and treating persons with TB (CDC, 2012, p. 21).
<b>1. Express legal authority to screen</b>	Authority of public health officials to screen for TB (CDC, 2012, p. 21).
<b>2. Specific individuals/ populations to be screened</b>	Authority to implement screening programs for specific individuals or populations that are at increased risk of developing TB or having TBI and offer them treatment (CDC, 2012, p. 21).

### **C. Laboratory Testing**

Laboratory testing provisions are the next step in case identification. These provisions ensure that necessary tests are consistently performed to diagnose TB cases. To accomplish this goal, health departments collaborate with health care providers and laboratories (CDC, 2014a, p. 6). Health care providers who encounter a possible case of TB must ensure that a specimen from the person is submitted for laboratory testing. The CDC recommends that laboratories receiving these specimens perform a set of required tests for TB. These tests include smears, culture, nucleic acid amplification (NAA) or equivalent testing, drug susceptibility tests, and mycobacterial identification (CDC, 2012, p. 24) (CDC, 2011).

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<sup>2</sup> Performing TST or IGRA in conjunction with symptom screening is strongly recommended in the literature. See the section “TB Testing and Diagnosis” in the Literature Review Chapter.

Sometimes the specimens are submitted to private laboratories that do not perform the full range of required TB tests. These labs must forward a viable sample of the initial positive culture to the public health laboratory for confirmation of results and drug susceptibility testing (CDC, 2012, p. 24) (Heymann, 2015, p. 639).

❖ ***Suggested Provisions for Laboratory Testing***

Laboratory testing provides a definitive diagnosis for TB. States must adopt provisions to ensure that specimens are submitted for testing and the recommended tests are done. Table 3.3 specifies the CDC recommended provisions used in the assessment of Texas laws and regulations.

**Table 3.3: Laboratory testing**

<b>CDC Suggested State Provision</b>	<b>Description</b>
<b>C. Laboratory testing</b>	Provision that requires a physician or clinical laboratory that diagnoses a case of TB to ensure that any viable sample from the individual is sent to the health department’s public health laboratory for susceptibility testing and genotyping. Another provision requires any laboratory that provides mycobacteriology services provides a nucleic acid amplification test (NAAT) or equivalent testing, drug susceptibility test, and mycobacterial identification (CDC, 2012, pp. 23-24).

**D. Examination**

The final set of CDC recommended provisions for case identification is for TB examination. The goal of examination is to facilitate immediate initiation of an appropriate treatment regimen for persons with suspected or confirmed TB or TBI (CDC, 2012, p. 17). In general, a TB examination includes a review of the person’s TB signs and symptoms, medical history, TB risks and, if recommended, a chest radiograph (CDC, 2011, p. 78). The CDC

recommends examination of TB suspects, contacts and persons with Class B1 and B2 referrals (The Centers for Law and Public's Health, 2009).

Health departments must be authorized to examine persons known to have active TB, and persons considered TB suspects, for whom there are reasonable grounds to suspect TB disease. It is primarily the duty of those persons to seek a medical evaluation to protect themselves and others. However, when they are unable or unwilling, the responsibility to take action to protect public health falls on the health department (CDC, 2012).

Health departments actively find TB cases through the examination of persons, called contacts, who are exposed to someone with infectious TB disease (CDC, 2014a, p. 5). These contacts may be family members, roommates, close friends, coworkers or classmates of the infectious person (CDC , 2014b, p. 2). Approximately one percent of contacts have TB disease when they are first identified. Another 20 to 30 percent of contacts are infected with TB and may progress to TB disease if they are not diagnosed and treated in a timely manner (CDC , 2014b, p. 4).

Contacts are identified using a method called contact investigation. TB contact investigation is a systematic process for identifying persons exposed to someone with infectious TB, evaluating them for TBI and disease, and providing appropriate treatment if needed (CDC , 2014b, p. 2). A contact investigation is required for all cases of presumed or confirmed infectious TB disease. It must start as soon a case is reported or comes to the public health department's attention. The investigation must be stopped when test results show that the person with presumed TB does not have it (CDC , 2014b, p. 7).

Class B1 and B2 referrals are notifications from the CDC's Division of Global Migration and Quarantine informing the health department of persons who recently arrived in the U.S as

refugees, parolees, asylees, or other form of legal immigration to the U.S., and who were diagnosed overseas with clinically active, not infectious TB (Class B1) or not clinically active, not infectious TB (Class B2). These classifications are made within 12 months of immigration and require a medical exam within 30 days of arrival to the U.S. to prevent potential TB transmission (CDC, 2012, p. 25).

❖ ***Suggested Provisions for Examination***

TB laws and statutes for TB examination are a necessity for health departments. States should be authorized to mandate examination when there is sufficient evidence to “reasonably believe” that the person: (1) has contagious TB and refused medical examination; (2) is engaging in conduct that can result in TB transmission to the public; or (3) may develop MDR or XDR-TB (The Centers for Law and Public's Health, 2009, p. 17). Table 3.4 shows the *Menu* recommended provisions for examination used to assess Texas laws and regulations.

**Table 3.4: Examination**

<b>CDC Suggested State Provision</b>	<b>Description</b>
<b>D. Examination</b>	Provisions that authorize public health officials to issue an order for examination or to petition a court directly for an order of examination of patients with confirmed or suspected TB, persons exposed to them, or persons with Class B1 and B2 referral to preserve and protect the public health (CDC, 2012, pp. 24-27).
<b>1. Examination of TB suspects</b>	Authority to examine any person when there are reasonable grounds to believe that the person has contagious TB and refuses medical examination or is classified as a Class B1 referral (CDC, 2012, pp. 24-25).
<b>2. Examination of contacts</b>	Authority to provide TB examination for contacts of person with active TB disease (CDC, 2012, pp. 26-27).

## **Summary of Conceptual Framework**

The conceptual framework used to analyze Texas case identification laws and regulations is presented in Table 3.5. This practical model uses the framework suggested in the CDC *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws* to set the criteria for evidence collection and evaluation. Case identification provisions fall into four major categories that include reporting, screening, laboratory testing and examination requirements.



**Table 3.5: Conceptual framework linked to the literature<sup>3</sup>**

<b>Title:</b> A Model Assessment of Texas Provisions for Tuberculosis Prevention and Control Laws <b>Purpose:</b> The purpose of this ARP is to first examine the suggested provisions for case identification in the 2012 CDC <i>Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws</i> , and then to use the <i>Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws</i> as a comparative framework to assess current Texas TB law for case identification. The next purpose is to make recommendations to improve Texas TB laws, based on the comparative assessment.	
PROVISIONS FOR TB CASE IDENTIFICATION	
Ideal Type Provisions	Literature
A. Reporting 1. Required Reporters of Communicable Disease 2. Information/Data to be Reported 3. Penalties for Failure to Report TB 4. Duty to Report Non-adherent Patients TB Registries. Proper Disclosure/ Use of TB information, and Immunity of Reporters	(Alkhalawi, McNabb, & Assir, 2015) (CDC, 2013) (CDC, 1999) (CDC, 2011) (CDC, 2012) (CDC, 2014a) (Danilla, Laine, Livingston, & Como-Sabetti, 2015) (Grad, 2005) (Heymann, 2015) (WHO, 2015a)
B. Screening 1. Express legal Authority to Screen 2. Specific Individuals/ Population to be Screened	(Alkhalawi, McNabb, & Assir, 2015) (Barraza, Collmer, Meza, & Penunuri, 2015) (CDC, 2005) (CDC, 2008b) (CDC, 2012) (CDC, 2014c) (Cavanaugh, et al., 2012) (Kornusky & Lawrence, 2014)
C. Laboratory Testing	(Alkhalawi, McNabb, & Assir, 2015) (CDC, 2011) (CDC, 2012) (CDC, 2014a) (CDC, 2014c) (Heymann, 2015)
C. Examination 1. Examination of TB Suspects requirements 2. Examination of Contacts requirements	(Alkhalawi, McNabb, & Assir, 2015) (CDC, 2014a) (CDC, 2014b) (CDC, 2011) (CDC, 2012) (CDC, 2014c) (Grad, 2005) (The Centers for Law and Public's Health, 2009)

<sup>3</sup> The table format for the *Conceptual framework linked to the literature* was adapted from ideas presented in the book “*A playbook for research methods: Integrating conceptual frameworks and project management*” by Patricia Shields and Nandhini Rangarajan (DATE??).

## **Chapter Summary**

Chapter 3 examined the suggested provisions for case identification in the 2012 CDC *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws*. The results of this examination are used in the next chapters to assess current Texas TB law for case identification and to make recommendations to improve Texas TB laws for case identification.

## Chapter 4 : METHODOLOGY

### Chapter Purpose

The purpose of this chapter is to present the methodology used to find and assess Texas state laws for TB case identification. Chapter 3 moves from the framework presented in the literature review to modes of evidence collection and measurement (Shields & Rangarajan, 2013). It presents the operationalization of *Menu* guidelines for Texas and identifies documents used in the assessment.

### Operationalization of the Ideal Type Provisions

Table 4.1 shows the operationalization of the provisions in the conceptual framework and connects it to the evidence gathered for the assessment. This operationalization table is the foundation for the systematic and comprehensive assessment that is necessary to achieve the ARP purpose. The operationalization table is designed using the gauging (or assessment) research purpose and a “practical ideal type” framework. The word “practical” indicates that the criteria or model components are not perfect and are subject to revision (Shields & Rangarajan, 2013). However, the practical ideal type provisions offered by the CDC in the *Menu* are the best components the researcher could find. They are well-supported in the literature and highly regarded by national TB experts. The table is based on the structure provided in the *Menu*; therefore, it includes four general categories- reporting, screening, laboratory testing, and examination. Three of the four categories contain provision subcategories that refine the specifics of the “ideal” or norm. These elements in the practical ideal type framework direct the data collection and analysis as well as the organization of the results (Shields & Rangarajan, 2013, p. 161).

**Table 4.1: Operationalization of the conceptual framework<sup>4</sup>**

<p><b>Title:</b> A Model Assessment of Texas Provisions for Tuberculosis Prevention and Control Laws  <b>Purpose:</b> The purpose of this ARP is to first examine the suggested provisions for case identification in the 2012 CDC <i>Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws</i>, and then to use the <i>Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws</i> as a comparative framework to assess current Texas TB law for case identification. The next purpose is to make recommendations to improve Texas TB laws, based on the comparative assessment.</p>	
<p><b>PROVISIONS FOR TB CASE IDENTIFICATION</b></p>	
<p>Ideal Type Provisions</p>	<p>Sources of Evidence</p>
<p>A. Reporting</p> <ol style="list-style-type: none"> <li>1. Required Reporters of Communicable Disease</li> <li>2. Information/Data to be Reported</li> <li>3. Penalties for Failure to Report TB</li> <li>4. Duty to Report Non-adherent Patients</li> <li>5. TB Registries. Proper Disclosure/ Use of TB information, and Immunity of Reporters</li> </ol>	<p>Reporting provisions meeting the ideal standards are present in at least one of the following:</p> <ul style="list-style-type: none"> <li>• Texas Government Code</li> <li>• Texas Health and Safety Code</li> <li>• Texas Administrative Code</li> </ul>
<p>B. Screening</p> <ol style="list-style-type: none"> <li>1. Express Legal Authority to Screen</li> <li>2. Specific Individuals/ Population to be Screened</li> </ol>	<p>Screening provisions meeting the ideal standards are present in at least one of the following:</p> <ul style="list-style-type: none"> <li>• Texas Government Code</li> <li>• Texas Health and Safety Code</li> <li>• Texas Administrative Code</li> </ul>
<p>C. Laboratory Testing</p>	<p>Laboratory testing provisions meeting the ideal standards are present in at least one of the following:</p> <ul style="list-style-type: none"> <li>• Texas Government Code</li> <li>• Texas Health and Safety Code</li> <li>• Texas Administrative Code</li> </ul>
<p>D. Examination</p> <ol style="list-style-type: none"> <li>1. Examination of TB Suspects Requirements</li> <li>2. Examination of Contacts Requirements</li> </ol>	<p>Examination provisions meeting the ideal standards are present in at least one of the following:</p> <ul style="list-style-type: none"> <li>• Texas Government Code</li> <li>• Texas Health and Safety Code</li> <li>• Texas Administrative Code</li> </ul>

The following sections provide an overview and justification for the research method and procedure used for the assessment. The units of analysis, which are especially important for the ARP, are also presented and discussed.

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<sup>4</sup> The table format for the *Operationalization of the Conceptual Framework* was adapted from ideas presented in the book “*A playbook for research methods: Integrating conceptual frameworks and project management*” by Patricia Shields and Nandhini Rangarajan.

## Research Method: Case Study<sup>5</sup>

This applied research uses the case study method to assess Texas TB case identification provisions. A case study is the most suitable method for an in-depth and comprehensive evaluation of Texas statutes and regulations for TB case identification. This type of assessment works best to answer the ARP central research question: “How do the Texas provisions for TB case identification compare to provisions in the CDC *Menu*?” Answering “how” is a key distinction of case study research (Yin, 2013). Author Robert K. Yin defines the scope of a case study as “*an empirical inquiry that investigates a contemporary phenomenon (the “case”) in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident*” (Yin, 2013, p. 16).

### Units of Analysis: Texas Status and Regulations

The units of analysis (or cases) for this study are the current Texas statutes and regulations that govern TB control. Selecting this unit of analysis makes the study more focused and practical. It also supports the research purpose by focusing the data collection and assessment on the state statutes and regulations that must be compared to the practical ideal type provisions in the *Menu*. The following section explains the process used to find Texas statutes and regulations to ensure that all the “cases” applicable to this study were included in the assessment.

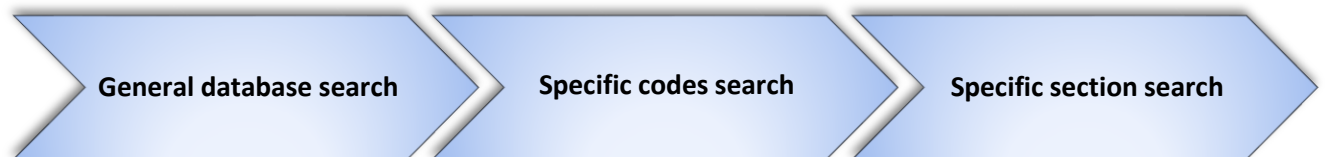
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<sup>5</sup> This section is adapted from concepts and ideas in the Playbook (Shields & Rangarajan, 2013) and the ARPs by Victor H. Ruiz (2010) and Curtis W. Leeth (2014) which used case study methodology and coding sheets (Leeth, 2014; Ruiz, 2010).

### ***Finding Texas Statutes and Regulations***

To find Texas TB statutes and regulations, I conducted an exhaustive search in the *Westlaw* legal research database and the *Texas Constitution and Statutes* government website available online at <http://www.statutes.legis.state.tx.us/Index.aspx>. These sources contain the Texas Constitution and statutes through the Regular Session of the 84<sup>th</sup> Legislature, June 2015. The Texas Constitution is current through the amendments by voters in November 2015. These sources also contain the Texas Administrative Code (TAC) with the current versions of Texas regulations through January 22, 2016 (Westlaw, 2016).

First, Westlaw’s general database index for Texas was used to identify the titles of relevant codes (or provisions) that cover the broad legal topic. The database provides the option to narrow the search to Texas statutes and regulations. Within the state search option, it is also possible to further narrow the search to “statutes and court rules” or “regulations”. Second, the specific code titles were searched to find the precise sections relevant to TB. Third, the code section and text were examined in the specific sections identified using the index for each subject code or title (see figure 4.1).



**Figure 4.1: Process used to search for TB statutes and regulations in Westlaw**

Although Westlaw is considered a reliable and comprehensive legal source, a second corroborative search was done in the *Texas Constitution and Statutes* government website to ensure all statutes and regulations applicable to this study were found. In many informative commentaries contained in these sources and often in day-to-day practice, the statutes and

regulations are called “codes” because they are organized or codified by subject matter. Three major publications for Texas state laws and regulations were found which contain a compilation of Texas law: Vernon’s Texas Statutes and Codes Annotated (V.T.C.A.), Vernon’s Civil Statutes, and the session laws. These publications are the original sources of the provisions found in Westlaw. Table 4.2 provides an overview of these publications.

**Table 4.2: Publication containing Texas statutes and regulations**

<b>Publication Source</b>	<b>Description</b>
Vernon’s Texas Statutes and Codes Annotated	Texas law publication that is updated annually. Includes current constitutional or statutory law, notes on the legislative history of the law, and cross references to related judicial cases, attorney general opinions, and law review articles.
Vernon’s Civil Statutes	Publication containing statutes that have not been incorporated into a code. Most, but not all of these, are codified. It includes revised civil statutes, the Penal Code and the Code of Criminal Procedure.
Session Laws (also known as General and Special Laws)	Publication containing new laws, known as session laws, without reference to a code or civil statute section.

One challenge searching for applicable statutes and regulations in the publications was the large number of materials available in the publications. Thus, maintaining the attention on the case study question and unit of analysis was necessary to find the relevant information. First, the publications in Table 4.2 were triaged to prioritize legal resources that were more likely to answer the research question. Then, more time was spent reviewing materials relevant to the study question and unit of analysis. Materials deemed relevant after the initial search include the Texas Government Code (TGC), the Texas Health and Safety Code (THSC) and the TAC contained in the publication sources (See Figure 4.2). The first two “codes” are statutes while the Administrative Code contains TB regulations implemented by state agencies based on the statutes (See Figure 4.2).



**Figure 4.2: Texas laws and regulations that govern TB control**

The purpose of these codes is to make the law more accessible and understandable (Texas Government Code, 2015). They may impact TB case identification directly or indirectly. For example, some statutes and regulations may have general requirements for communicable disease reporting and may or may not mention TB specifically. Table 4.3 provides an overview of these statutes and regulations. Additionally, examples of these documents are provided in appendices D, E and F.

**Table 4.3: Texas statutes and regulations containing TB provisions**

Name of the Statute or Regulation	Description
Texas Government Code (TGC)	The TGC is a topic-by-topic list of the state’s general and permanent statute law without substantive change. It contains 11 titles that include: (1) General Provisions; (2)Judicial Branch; (3) Legislative Branch; (4)Executive Branch; (5) Open Government, Ethics; (6) Public Officers and Employees; (7) Intergovernmental Relations; (8) Public Retirement Systems; (9) Public Securities; (10) General Government; and (11) State Symbols and Honors, Preservation. Each of the titles contains multiple chapters or subchapters (Texas Government Code, 2015).
Texas Health and Safety Code (THSC)	The THSC is a topic-by-topic revision of the state’s general and permanent statute without substantive changes. It contains 12 titles including: (1) General Provisions, (2) Health, (3) Vital Statistics, (4) Health Facilities, (5)Sanitation and Environmental Quality; (6) Food, Drugs, Alcohol, and Hazardous Substances; (7)Mental Health and Intellectual Disability; (8) Death and Disposition of the Body; (9) Safety; (10) Health and Safety of Animals; (11) Civil Commitment of Sexually Violent Predators; (12) Health and Mental Health. Each of the titles contains multiple chapters (Texas Health and Safety Code, 2015).



<p>Texas Administrative Code (TAC)</p>	<p>The TAC is the complete collection of current indexed rules, also called agency regulations. The Texas Secretary of State is responsible for annually publishing adopted regulations of state agencies in the TAC. The Texas Register contains proposed rules, notices, executive orders, and other information for general use by the public and is published weekly. When an agency or a regulated industry cites agency regulations (or rules), the citation is to TAC. Title 25 contains health services codified in 15 parts that contain 471 chapters combined (Texas Administrative Code, 2015).</p>
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**Strengths and Weaknesses of Document Analysis**

Once the relevant Texas statutes and regulations were collected, document analysis was used to interpret and assess their content. Documents found in Westlaw and the *Texas Constitution and Statutes* government website can verify with relative ease if there is proper authority for TB case identification in Texas. The documents found in those sources are stable<sup>6</sup>, specific<sup>7</sup> and valid. However, the existence of documents meeting the *Menu* standards does not guarantee the law is being properly implemented or followed.

**Research Procedure: Systematic Assessment Using the Coding Sheet**

Given the large content size of the TGC, the THSC and the TAC, a coding sheet was used to facilitate a systematic assessment to determine the degree to which existing state provisions meet the standards in the ideal type provisions. Coding ensured consistent and valid

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<sup>6</sup> A “stable” document can be reviewed repeatedly. This is a strength of using documentation as a source of evidence (Yin, 2013, p. 106).

<sup>7</sup> A “specific” document contains exact names, references, and details (Yin, 2013, p. 106).

interpretation of the results. In years past, many award-winning, recognized and cited ARPs successfully used coding for the systematic assessment of document content<sup>8</sup>.

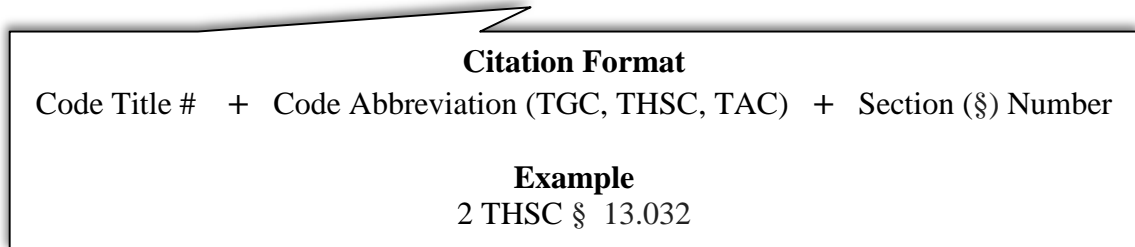
The coding sheet (Tables 4.4, 4.5, 5.6 and 4.7) constructed for this study is guided by the operationalization table. It is broken into four separate tables for each of the *Menu* case identification provision main categories: reporting, screening, laboratory testing, and examination. To help focus the analysis, each of the tables indicates the evidence that should be gathered for the assessment at the top of the table. Then, the tables provide a side-by-side comparison of the ideal type provisions and the assessed documents (TGC, the THSC and the TAC). The related material found in the documents is then codified into three clearly defined categories:

1. **Standard met:** All the essential elements in the *Menu* provision are contained in one or more of the existing Texas statutes and regulations. They may be covered by one statute or regulation, or its elements may be broken into several state provisions that combined provide the legal authority recommended in the *Menu*. Texas legal provisions codified in this category meet the *Menu* standards.
2. **Standard partially met:** Some elements of the *Menu* provision are included in one or more existing state statutes or regulations while others are missing. Provisions codified in this category need revision to meet the *Menu* standard.
3. **Standard not met:** The essential elements in the *Menu* provisions are not present in the existing Texas statutes and regulations. Provisions codified in this category will need to be developed.

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<sup>8</sup> For examples of Applied Research Project using coding sheets visit the Texas State University ARP digital collection at <https://digital.library.txstate.edu/handle/10877/105>.

Last, each provision assessment is followed by a legal citation and comments (see Figure 4.3). The citations format in the coding tool includes the code title number, code abbreviation



and code section (§) number.

**Figure 4.3: Code citation format**

This citation format ensures that the sources of evidence can be easily identified and that the results can be referenced in the final research findings. Table 4.4 is the coding sheet for Texas provisions for TB case identification.

**Table 4.4: Coding sheet part 1- Reporting**

<b>PROVISIONS FOR TB CASE IDENTIFICATION: REPORTING</b>									
Evidence: Reporting provisions meeting the ideal standards are present in the TGC, THSC or TAC.									
<i>Ideal Type Provision</i>	<i>Texas Government Code</i>			<i>Texas Health and Safety Code</i>			<i>Texas Administrative Code</i>		
<b>A. Reporting</b>	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
1. Required Reporters of Communicable Disease									
	<b>Provision Citation and Comments</b>								
2. Information/ Data to be Reported	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
	<b>Provision Citation and Comments</b>								
3. Penalties for Failure to Report TB	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
	<b>Provision Citation and Comments</b>								
4. Duty to Report Non-adherent Patients	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
	<b>Policy Citation and Comments</b>								
5. TB Registries. Proper Disclosure/ Use of TB information, and Immunity of Reporters	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
	<b>Provision Citation and Comments</b>								

**Table 4.5: Coding Sheet part 2- Screening**

<b>PROVISIONS FOR TB CASE IDENTIFICATION: SCREENING</b>									
<b>Evidence:</b> Screening provisions meeting the ideal standards are present in the TGC, THSC or TAC.									
<i>Ideal Type Provision</i>	<i>Texas Government Code</i>			<i>Texas Health and Safety Code</i>			<i>Texas Administrative Code</i>		
<b>B. Screening</b>	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
1. Express Legal Authority to Screen									
	<b>Provision Citation and Comments</b>								
2. Specific Individuals/ Population to be Screened	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
	<b>Provision Citation and Comments</b>								

**Table 4.6: Coding sheet part 3- Laboratory testing**

<b>PROVISIONS FOR TB CASE IDENTIFICATION: LABORATORY TESTING</b>									
<b>Evidence:</b> Laboratory testing provisions meeting the ideal standards are present in the TGC, THSC or TAC.									
<i>Ideal Type Provision</i>	<i>Texas Government Code</i>			<i>Texas Health and Safety Code</i>			<i>Texas Administrative Code</i>		
<b>C. Laboratory Testing</b>	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
1. Laboratory Testing									
	<b>Provision Citation and Comments</b>								

**Table 4.7: Coding sheet part 4- Examination**

<b>PROVISIONS FOR TB CASE IDENTIFICATION: EXAMINATION</b>									
<b>Evidence:</b> Examination provisions meeting the ideal standards are present in the TGC, THSC or TAC.									
<i>Ideal Type Provision</i>	<i>Texas Government Code</i>			<i>Texas Health and Safety Code</i>			<i>Texas Administrative Code</i>		
<b>D. Examination</b>	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
1. Examination of TB Suspects Requirements									
	<b>Provision Citation and Comments</b>								
3. Examination of Contacts requirements	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met	Standard met	Partially Met	Not Met
	<b>Provision Citation and Comments</b>								

## **Chapter Summary**

This chapter presented the methodology used to find and assess Texas state statutes and regulations for TB case identification. The core of the chapter is the operationalization of the provisions presented in the previous chapter. The decision to use a case study methodology and document analysis and research procedures selections were thoroughly discussed and justified. The next chapter presents the findings of the assessment.

## Chapter 5 : RESULTS

### Chapter Purpose

This chapter answers the ARP central research question: How do the Texas provisions for TB case identification compare to provisions in the CDC *Menu*? The results are organized using the four components for TB case identification presented in Chapter 3: (A) reporting; (B) screening; (C) laboratory testing; and (D) examination. First, the data findings for each component are presented and analyzed. Then, the results of the assessment for all the documents are combined and summarized to show the final results.

The collected Texas statutes and regulations were assessed into three clearly defined categories: standard met, standard partially met and standard not met. The documents were cited in the coding sheet and the summary of findings, and listed and summarized them in Appendices A, B and C. Texas TB provisions were also found in other statutes and regulations which do not apply to the *Menu* provisions and therefore, they are not discussed in this chapter. For example, the Texas Government Code Chapter 511 contains requirements for the transfer of TB records for out-of-state inmates that do not affect TB reporting, screening, laboratory testing or examination. Similarly, the Agriculture Code contains provisions for cattle TB screening and testing which are outside the scope of this analysis.

The assessment results indicate that existing Texas TB provisions provide most of the essential authority for TB case identification recommended in the CDC *Menu*. However, some areas of the state law still fall short of best practice. In the next sections, Texas provisions for reporting, screening, laboratory testing and examination are presented and assessed using the corresponding section of the coding sheet.



**A. Reporting**

The first component for TB case identification is reporting. Every state must have the authority to collect information necessary to protect the public health. The evidence shows that in Texas, reporting authority and responsibility is established by the THSC and the TAC. Most reporting requirements in the *Menu* are met and exceeded except the duty to report non-adherent patients which is only partially met. Document findings and assessment results for reporting are presented next.

***TGC Reporting Provisions Assessment***

Reporting requirements are not mentioned in TAG. Table 5.1 shows the results of the assessment for the TB reporting ideal standard.

**Table 5.1: Assessment of reporting provisions in TGC**

<b><i>Ideal Type Provision</i></b>	<b><i>Texas Government Code</i></b>		
<b>A. Reporting</b>	Standard met	Partially Met	Not Met
1. Required Reporters of Communicable Disease			✓
	<b>Provision Citation and Comments</b>		
	Not covered.		
2. Information/ Data to be Reported	Standard met	Partially Met	Not Met
			✓
	<b>Provision Citation and Comments</b>		
	Not covered.		
3. Penalties for Failure to Report TB	Standard met	Partially Met	Not Met
			✓
	<b>Provision Citation and Comments</b>		
	Not covered.		
4. Duty to Report Non-adherent Patients	Standard met	Partially Met	Not Met
			✓
	<b>Policy Citation and Comments</b>		
	Not covered.		

5. TB Registries. Proper Disclosure/ Use of TB information, and Immunity of Reporters	Standard met	Partially Met	Not Met
			✓
	<b>Provision Citation and Comments</b>		
Not covered.			

**THSC Reporting Provisions Assessment**

Most reporting requirements in the *Menu* are met and exceeded in the THSC except the duty to report non-adherent patients, which is not covered in the statute. The THSC outlines the required reporters of communicable disease, penalties for failure to report, proper use of information and immunity for TB reporters. For information or data to be reported, the statute provides broad authority but defers to the DSHS website for a current list of reportable diseases, which includes TB. Some Texas standards go beyond the *Menu* recommendations including, among others, broad authority for the health commissioner to require special reporting outside the parameters of the existing statute during a public health disaster, and required reporting of persons suspected of exposing others to TB. Table 5.2 shows the results of the assessment of the reporting provisions in the THSC.

**Table 5.2: Assessment of reporting provisions in THSC**

<b>Ideal Type Provision</b>	<b>Texas Health and Safety Code</b>		
<b>A. Reporting</b>	Standard met	Partially Met	Not Met
1. Required Reporters of Communicable Disease	✓		
	<b>Provision Citation and Comments</b>		
2 THSC § 81.042			
2. Information/ Data to be Reported	Standard met	Partially Met	Not Met
	✓		
	<b>Provision Citation and Comments</b>		
2 THSC §81.041; 2 THSC §81.044 ; 2 THSC §89.071; 4 THSC §265.026			

3. Penalties for Failure to Report TB	Standard met	Partially Met	Not Met
	✓		
	<b>Provision Citation and Comments</b>		
	4 THSC §81.049		
4. Duty to Report Non-adherent Patients	Standard met	Partially Met	Not Met
			✓
	<b>Policy Citation and Comments</b>		
	Not covered.		
5. TB Registries. Proper Disclosure/ Use of TB information, and Immunity of Reporters	Standard met	Partially Met	Not Met
	✓		
	<b>Provision Citation and Comments</b>		
	2 THSC §81.007; 2 THSC §81.046; 2 THSC §81.048		

**TAC Reporting Provisions Assessment**

The *Menu* reporting standards are partially met in the TAC. The document does not explicitly include the duty to report non-adherent patients. A somewhat equivalent standard is in 25 TAC §97.9 which requires that copies of court order management be submitted to DSHS. Because court order management is done for some non-adherent patients but not necessarily for all, this standard is not fully addressed. All other elements for reporting are met and exceeded, including the list of required reporters of communicable disease, information or data to be reported, penalties for failure to report, TB registries, proper disclosures, use of information, and immunity for TB reporters. Table 5.3 shows the results of the assessment of the reporting provisions in the TAC.

**Table 5.3: Assessment of reporting provisions in the TAC**

<i>Ideal Type Provision</i>	<i>Texas Administrative Code</i>		
<b>A. Reporting</b>	Standard met	Partially Met	Not Met
1. Required Reporters of Communicable Disease	✓		
	<b>Provision Citation and Comments</b>		
	25 TAC § 97.2		
2. Information/ Data to be Reported	Standard met	Partially Met	Not Met
	✓		
	<b>Provision Citation and Comments</b>		
	25 TAC §97.3; 25 TAC §97.178		
3. Penalties for Failure to Report TB	Standard met	Partially Met	Not Met
	✓		
	<b>Provision Citation and Comments</b>		
	25 TAC §97.2		
4. Duty to Report Non-adherent Patients	Standard met	Partially Met	Not Met
		✓	
	<b>Policy Citation and Comments</b>		
	25 TAC §97.9		
	<i>Equivalent Texas Provision:</i> Required submission of court order documents related to court order management of TB		
5. TB Registries. Proper Disclosure/ Use of TB information, and Immunity of Reporters	Standard met	Partially Met	Not Met
	✓		
	<b>Provision Citation and Comments</b>		
	25 TAC §97.6; 25 TAC §97.8		

**Assessment Summary for Reporting (A)**

The evidence supports the existence of Texas reporting statutes and regulations that meet or exceed the *Menu* standard, with the exception of the duty to report non-adherent patients, which is only partially met. Specific reporters of communicable disease deviate from the *Menu* recommendations, but are covered in much greater detail and exceed the *Menu* recommendations. On the other hand, the duty to report non-adherent patient is not specifically

addressed. Another statute provides some level of responsibility related to this standard, but is less than adequate. Table 5.4 shows the overall results of the assessment for Texas provisions for TB case identification.

**Table 5.4: Summary of Reporting Assessment**

Ideal Type Provisions	Sources of Evidence			Final Assessment
	TGC	THSC	TAC	
<b>A. Reporting</b>				
1. Required Reporters of Communicable Disease	Not met	Met	Met	Met
2. Information/Data to be Reported	Not met	Met	Met	Met
3. Penalties for Failure to Report TB	Not met	Met	Met	Met
4. Duty to Report Non-adherent Patients	Not met	Not Met	Partially Met	Partially Met
5. TB Registries. Proper Disclosure/ Use of TB information, and Immunity of Reporters	Not met	Met	Met	Met

*TGC*: Texas Government Code; *THSC*: Texas Health and Safety Code; *TAC*: Texas Administrative Code

## B. Screening

The second component for TB case identification is screening, which is a strategic component of TB control and plays a key role in TB case identification. In Texas, the TGC, THSC and the TAC provide authority and responsibilities for TB screening. Overall, the *Menu* standards for screening are met. Document findings and assessment results for screening are presented next.

**TGC Screening Provisions Assessment**

The screening standards set by the CDC *Menu* are only met for a very specific population in TAG §501.060<sup>9</sup>. This statute only offers express legal authority to screen TDCJ employees and volunteers. Notably, Chapter 501, which is called “Inmate Welfare”, does not contain TB screening requirements for TDCJ inmates. Table 5.5 shows the results of the assessment of the screening provisions in the TGC.

**Table 5.5: Assessment of screening provisions in TGC**

<b>Ideal Type Provision</b>	<b>Texas Government Code</b>		
	Standard met	Partially Met	Not Met
<b>B. Screening</b> 1. Express Legal Authority to Screen		✓	
	<b>Provision Citation and Comments</b>		
	4 TGC §501.060		
2. Specific Individuals/ Population to be Screened	Standard met	Partially Met	Not Met
		✓	
	<b>Provision Citation and Comments</b>		
4 TGC §501.060			

**THSC Screening Provisions Assessment**

The THSC meets the *Menu* standards for screening. It gives public health officials broad powers to screen for TB in order to interrupt transmission, including the power to screen suspects, cases and contacts. The statute also requires TB screening for specific individuals and populations including jail inmates, employees and volunteers. Additionally, it ensures that

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<sup>9</sup> See Appendix A for more information on TAG §501.060.

persons with confirmed or suspected TB are screened, regardless of their ability to pay. Another section authorizes local governments to establish a TB control board, set TB guidelines, and levy taxes to fund TB screening programs. Table 5.6 shows the results of the assessment of the screening provisions in the THSC.

**Table 5.6: Assessment of screening provisions in THSC**

<i>Ideal Type Provision</i>	<i>Texas Health and Safety Code</i>		
<b>B. Screening</b>	Standard met	Partially Met	Not Met
1. Express Legal Authority to Screen	✓		
	<b>Provision Citation and Comments</b>		
	2 THSC §81.050; 2 THSC §81.051; 2 THSC §81.082; 2 THSC § 81.095; 2 THSC §89.011; 2 THSC §89.051; 2 THSC §121.003; 4 THSC §265.026		
2. Specific Individuals/ Population to be Screened	✓		
	<b>Provision Citation and Comments</b>		
	2 THSC § 81.050; 2 THSC §81.095; 2 THSC 81.172; 2 THSC §89.011; 2 THSC §89.051; 4 THSC §265.026		

***TAC Screening Provisions Assessment***

The TAC meets the *Menu* screening standards, even though it diverges slightly in response to the epidemiology of TB in Texas. The *Menu* provision examples of specific individuals and populations to be screened include laboratorians and students of post-secondary educational institutions. Screening for these specific populations is not required by Texas law because other populations are more at risk in this state. Alternatively, TAC requires screening for employees, volunteers and inmates of correctional and detention facilities, employees and residents of child care residential facilities, and persons suspected of exposing others to TB among others. Table 5.7 shows the results of the assessment of screening provisions in the TAC.

**Table 5.7: Assessment of screening provisions in the TAC**

<i>Ideal Type Provision</i>	<i>Texas Administrative Code</i>		
	Standard met	Partially Met	Not Met
<b>B. Screening</b>			
1. Express Legal Authority to Screen	✓		
	<b>Provision Citation and Comments</b>		
	25 TAC §97.8; 25 TAC §97.9; §25 TAC 97.173; 25 TAC §97.174; 25 TAC §97.190; 37 TAC §163.21; 37 TAC §163.39; 37 TAC §163.40		
2. Specific Individuals/ Population to be Screened	Standard met	Partially Met	Not Met
	✓		
	<b>Provision Citation and Comments</b>		
	25 TAC §97.8; 25 TAC §97.9; 25 TAC §97.12; 25 TAC §97.174; 37 TAC § 163.39; 37 TAC §163.40; 37 TAC §343.604; 37 TAC §351.4		

**Assessment Summary for Screening (B)**

Overall, the evidence supports the existence of screening statutes and regulations that meet and exceed the *Menu* recommendations. The current provisions are flexible and provide powers for TB control but also include specific screening requirements for individuals and populations disproportionately affected by TB in Texas, such as correctional and detention facilities employees, volunteers and inmates. Nonetheless, an important screening component is missing from the *Menu* recommendations and Texas law: specific screening requirements that also include TB signs and symptoms screening. Since signs and symptoms screening is not included in the conceptual framework and coding tool, this is not reflected in the assessment results. Table 5.8 shows the summary of the screening assessment in Texas statutes and regulations.



**Table 5.8: Summary of Screening Assessment**

Ideal Type Provisions	Document Assessment			Final Assessment
	TGC	THSC	TAC	
<b>B. Screening</b>				
1. Express legal Authority to Screen	Partially Met	Met	Met	Met
2. Specific Individuals/ Population to be Screened	Partially Met	Met	Met	Met

*TGC:* Texas Government Code; *THSC:* Texas Health and Safety Code; *TAC:* Texas Administrative Code

**C. Laboratory Testing**

The last component for TB case identification is laboratory testing. Laboratory testing provisions ensure that necessary tests for TB case identification are consistently performed. In Texas, the THSC and the TAC provide authority and responsibilities for laboratory testing. Overall, this *Menu* standard is partially met. Document findings and assessment results for laboratory testing are presented next.

***TGC Laboratory Testing Provisions Assessment***

Laboratory testing is not mentioned in TGC. Table 5.9 shows the results of this assessment.

**Table 5.9: Assessment of laboratory testing provisions in TGC**

Ideal Type Provision	Texas Government Code		
	Standard met	Partially Met	Not Met
<b>C. Laboratory Testing</b>			
1. Laboratory Testing			✓
	Provision Citation and Comments		
	Not covered.		

***THSC Laboratory Testing Provisions Assessment***

The THSC partially meets the *Menu* standards for laboratory testing. It authorizes, but does not require, smear and culture laboratory testing. Additionally, the THSC does not require a

nucleic acid amplification test (NAAT) or an alternative test, nor does it require that a viable sample from the individual be sent to the public health laboratory for testing. The THSC ensures access to laboratory testing for communicable diseases regardless of the person’s ability to pay. It also authorizes local governments to collect taxes and fund TB activities, including laboratory testing. Table 5.10 shows the results of laboratory testing provisions in THSC.

**Table 5.10: Assessment of laboratory testing provisions in THSC**

<i>Ideal Type Provision</i>	<i>Texas Health and Safety Code</i>		
<b>C. Laboratory Testing</b>	Standard met	Partially Met	Not Met
1. Laboratory Testing		✓	
	<b>Provision Citation and Comments</b>		
	2 THSC §81.082; 2 THSC §81.151; 2 THSC §81.172; 2 THSC §121.003		

***TAC Laboratory Testing Provisions Assessment***

The *Menu* laboratory testing standards are partially met in TAC. It contains some regulations for TB evaluation and diagnostics using smears and culture. However, no requirements are outlined in TAC for submission of specimens to the public health laboratory, or for genotyping and NAAT. Table 5.11 shows the assessment results of laboratory testing provisions in the TAC.

**Table 5.11: Assessment of laboratory testing provisions in the TAC**

<i>Ideal Type Provision</i>	<i>Texas Administrative Code</i>		
<b>C. Laboratory Testing</b>	Standard met	Partially Met	Not Met
1. Laboratory Testing		✓	
	<b>Provision Citation and Comments</b>		
	25 TAC §97.3; 25 TAC §97.8; 25 TAC §97.9; 25 TAC §97.175		

### Assessment Summary for Laboratory Testing (C)

The evidence supports the existence of Texas laboratory testing statutes and regulations that partially meet the *Menu* standards. State law authorizes smear and culture laboratory testing but does not require NAAT or genotyping. On the other hand, Texas has legal standards for laboratory testing that go beyond the *Menu* recommendations, including guaranteed access to laboratory testing for everyone who needs it and the government’s authority to collect taxes to pay for TB services. Table 5.12 shows the summary of the assessment for Texas statutes and regulations for laboratory testing.

**Table 5.12: Summary of Laboratory Testing Assessment**

Ideal Type Provisions	Document Assessment			Final Assessment
C. Laboratory Testing	TGC	THSC	TAC	
1. Laboratory Testing	Not Met	Partially Met	Partially Met	Partially Met

*TGC*: Texas Government Code; *THSC*: Texas Health and Safety Code; *TAC*: Texas Administrative Code

### D. Examination

The last component for TB case identification is examination. A TB examination is necessary to initiate an appropriate treatment regimen for persons with suspected or confirmed TB disease and for persons with TBI. In Texas, the THSC and the TAC provide authority and responsibilities for TB examination. Overall, the *Menu* standards for examination are partially met. Document findings and assessment results for screening are presented in Table 5.13.

**TGC Examination Provisions Assessment**

TB examination is not mentioned in TGC. Table 5.13 shows the results of this assessment.

**Table 5.13: Assessment of examination provisions in TGC**

<i>Ideal Type Provision</i>	<i>Texas Government Code</i>		
	Standard met	Partially Met	Not Met
<b>D. Examination</b>			
1. Examination of TB Suspects Requirements			✓
	<b>Provision Citation and Comments</b>		
	Not covered.		
2. Examination of Contacts requirements			✓
	<b>Provision Citation and Comments</b>		
	Not covered.		

**THSC Examination Provisions Assessment**

The THSC partially meets the *Menu* standards for examination. It provides sufficient authorization for public health officials to issue orders of examination for TB cases and suspects and to petition the courts for an order to implement TB control measures as needed. The statute also authorizes public health officials to examine persons exposed to an infectious TB case. In addition to the *Menu* standards, the THSC ensures that anyone needing a TB examination is able to obtain the needed health care services regardless of the ability to pay. The THSC gives the state and local governments the authority to fund and establish TB programs able to offer TB examination. One important requirement is missing in the THSC: the requirement to screen persons with Class B1 and B2 referrals. Table 5.14 shows the summary of the assessment for Texas statutes and regulations for examination in the THSC.

**Table 5.14: Assessment of examination provisions in THSC**

<i>Ideal Type Provision</i>	<i>Texas Health and Safety Code</i>		
<b>D. Examination</b>	Standard met	Partially Met	Not Met
1. Examination of TB Suspects Requirements		✓	
	<b>Provision Citation and Comments</b>		
	2 THSC § 13.032; 2 THSC § 81.050; 2 THSC §81.172; 2 THSC 81.082; 2 THSC § 81.083; 2 THSC §89.012; 2 THSC §89.053; 4 THSC §265.026 <b>Missing-</b> Examination requirement for Class B1 and B2		
2. Examination of Contacts requirements	Standard met	Partially Met	Not Met
	✓		
	<b>Provision Citation and Comments</b>		
2 THSC §13.036; 2 THSC §81.053; 2 THSC §81.061; 2 THSC §81.082; 2 THSC §81.151; 2 THSC §81.172; 2 THSC §89.012; 2 THSC §121.003; 4 THSC §265.026			

**TAC Examination Provisions Assessment**

Similarly to its enabling statute, the TAC partially meets the *Menu* standards for examination. It provides sufficient authorization for public health officials to issue orders of examination for TB cases and suspects but it does not legally require screening for persons with Class B1 and B2 referrals. On the other hand, the TAC ensures that anyone needing a TB examination is able to obtain the needed health care services regardless of the ability to pay. This element exceeds the ideal standard. Table 5.15 shows the summary of the assessment for Texas statutes and regulations for TB examination in the TAC.

**Table 5.15: Assessment of examination provision in the TAC**

<i>Ideal Type Provision</i>	<i>Texas Government Code</i>		
	Standard met	Partially Met	Not Met
<b>D. Examination</b>			
1. Examination of TB Suspects Requirements		✓	
	<b>Provision Citation and Comments</b>		
	25 TAC §97.175 Missing- Examination requirement for Class B1 and B2		
2. Examination of Contacts requirements	Standard met	Partially Met	Not Met
	✓		
	<b>Provision Citation and Comments</b>		
25 TAC §97.8; 25 TAC §97.9; 37 TAC § 343.604			

**Assessment Summary for Examination (D)**

The evidence supports the existence of Texas examination legal standards that partially meet the *Menu* standards. State law authorizes the examination of TB cases and suspects and guarantees that anyone needing a TB examination is able to obtain it. On the other hand, Texas law does not include standards for examination of persons with Class B1 and B2 referrals. Table 5.16 shows the summary of the assessment for Texas statutes and regulations for examination.

**Table 5.16: Summary of Examination Assessment**

<b>Ideal Type Provisions</b>	<b>Document Assessment</b>			<b>Final Assessment</b>
	TGC	THSC	TAC	
D. Examination				
1. Examination of TB Suspects requirements	Not Met	Partially Met	Partially Met	Partially Met
2. Examination of Contacts requirements	Not Met	Met	Met	Partially Met

**TGC:** Texas Government Code; **THSC:** Texas Health and Safety Code; **TAC:** Texas Administrative Code

The next section provides a summary of the results and final research outcomes.

## Summary of Results

Texas law provides significant authority for TB reporting, screening, laboratory testing and examination activities. However, only the *Menu* standards for screening were fully met. Weaknesses were found for reporting, laboratory testing and examination. Missing components in Texas law include for reporting- the duty to report non-adherent patients; for laboratory testing- the requirement to perform NAAT or an alternative test and genotyping; for examination- requirements to examine persons with Class B1 and B2 Referrals. Understandably, existing statutes and regulations often do not mirror the provisions in the *Menu*, but most of the standards recommended in the *Menu* provisions are present in Texas statutes and regulations. The final results shown in Table 5.17 link the Menu standards to Texas statutes and regulations supporting these standards.

**Table 5.17: Summary of Findings**

<b>Title:</b> A Model Assessment of Texas Provisions for Tuberculosis Prevention and Control Laws		
<b>Purpose:</b> The purpose of this ARP is to first examine the suggested provisions for case identification in the 2012 CDC <i>Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws</i> , and then to use the <i>Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws</i> as a comparative framework to assess current Texas TB law for case identification. The next purpose is to make recommendations to improve Texas TB laws, based on the comparative assessment.		
<b>PROVISIONS FOR TB CASE IDENTIFICATION</b>		
<b>Ideal Type Provisions</b>	<b>Sources of Evidence</b>	<b>Results</b>
<b>A. Reporting: Partially Met</b>		
1. Required Reporters of Communicable Disease	2 THSC § 81.042; 25 TAC § 97.2;	Met
2. Information/Data to be Reported	2 THSC §81.041; 2 THSC §81.044; 2 THSC §89.071; 4 THSC §265.026; 25 TAC §97.3; 25 TAC §97.178	Met
3. Penalties for Failure to Report TB	4 THSC §81.049; 25 TAC § 97.2;	Met
4. Duty to Report Non-adherent Patients	25 TAC §97.3	Partially Met
5. TB Registries. Proper Disclosure/ Use of TB information, and Immunity of Reporters	2 THSC §81.007; 2 THSC §81.046; 2 THSC §81.048; 25 TAC §97.6; 25 TAC §97.8	Met
<b>B. Screening: Met</b>		
1. Express legal Authority to Screen	4 TGC §501.060; 2 THSC §81.050; 2 THSC §81.051; 2 THSC §81.082; 2 THSC § 81.095; 2 THSC §89.011; 2 THSC §89.051; 2 THSC §121.003; 4 THSC §265.026; 25 TAC §97.8; 25 TAC §97.9; 25 TAC §97.173; 25 TAC §97.174; 25 TAC §97.190; 37 TAC §163.21; 37 TAC §163.39; 37 TAC §163.40	Met
2. Specific Individuals/ Population to be Screened	4 TGC §501.060; 2 THSC § 81.050; 2 THSC §81.095; 2 THSC 81.172; 2 THSC §89.011; 2 THSC §89.051; 4 THSC §265.026; 25 TAC §97.8; 25 TAC §97.9; 25 TAC §97.12; 25 TAC §97.174; 37 TAC § 163.39; 37 TAC §163.40; 37 TAC §343.604; 37 TAC §351.4	Met
<b>C. Laboratory Testing: Partially Met</b>		
1. Laboratory Testing	2 THSC §81.082; 2 THSC §81.151; 2 THSC §81.172; 2 THSC §121.003 25 TAC §97.3; 25 TAC §97.8; 25 TAC §97.9; 25 TAC §97.175	Partially Met



<b>D. Examination: Partially Met</b>		
1. Examination of TB Suspects requirements	2 THSC § 13.032; 2 THSC § 81.050; 2 THSC §81.172; 2 THSC 81.082; 2 THSC § 81.083; 2 THSC §89.012; 2 THSC §89.053; 4 THSC §265.026; 25 TAC §97.175	Partially Met
2. Examination of Contacts requirements	2 THSC §13.036; 2 THSC §81.053; 2 THSC §81.061; 2 THSC §81.082; 2 THSC §81.151; 2 THSC §81.172; 2 THSC §89.012; 2 THSC §121.003; 4 THSC §265.026; 25 TAC §97.8; 25 TAC §97.9; 37 TAC § 343.604	Met

**TGC:** Texas Government Code; **THSC:** Texas Health and Safety Code; **TAC:** Texas Administrative Code

### Chapter Summary

This chapter accomplished the second purpose of this ARP: to assess current Texas laws for TB case identification using the *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws* as comparative framework. To accomplish this purpose, the data findings for each component were presented and analyzed. Then, the results of the assessment for all the documents were combined and summarized to show the final results. The study found that the *Menu* standards are met for screening and partially met for reporting, laboratory testing and examination. The next chapter presents the recommendations and conclusion from this study.

## Chapter 6 : RECOMMENDATIONS AND CONCLUSION

### Chapter Purpose

This chapter reflects on the key findings of this study and offers recommendations to maintain the legal framework necessary to ensure identification of TB cases in Texas. TB laws are a powerful tool for public health workers and serve to balance individual rights and governmental powers to protect the public health. The CDC *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws* offers reliable guidance to improve Texas TB laws. One key advantage of this document is the flexibility it affords the state to select and modify the *Menu* provisions in order to meet the needs of the Texas public health system and facilitate implementation of the recommendations within an already existing legal structure. Using the *Menu* as a comparative framework to assess current Texas TB law for case identification can shed tremendous light into the strengths and weaknesses of Texas TB law.

### Key Findings Discussion

This study demonstrates that Texas has powerful statutes and regulations for communicable disease prevention and care, including TB. Existing state provisions meet most of the recommended standards for TB case identification but there are still gaps and shortcomings in legal authority for reporting, screening, laboratory testing and examination that limit Texas' ability to provide TB prevention and care.

#### A. Reporting

Texas reporting laws and regulations do not fully meet the ideal standard. An important gap identified here is the lack of reporting requirements for non-adherent patients. This may have fatal consequences for a TB patient that opts out of treatment for a deadly disease. Untreated or inadequately treated TB may result in death, TB transmission in the community and the

development of drug resistant TB strains that are more difficult and expensive to treat or that could become incurable.

## **B. Screening**

*Menu* standards for reporting are met. However, an essential screening element is missing in the *Menu* recommendations and Texas legal provisions: TB signs and symptoms screening. This essential standard for TB screening is widely supported by the literature<sup>10</sup>. Combined with the TB skin test or IGRA, symptom screening is indisputably the most efficient means for early identification of TB suspects. Symptoms screening doesn't require additional resources and yields great results. This shortcoming was not reflected in the assessment results of screening provisions in the Results chapter because it is not included in *the Menu* (comparative framework). However, as explained in the Methodology Chapter, the criteria or model components in the *Menu* are not perfect.

## **C. Laboratory Testing**

Texas legal authority for laboratory testing partially meets the ideal standard. Current standards for laboratory testing are very general and mention only the use of smears and cultures for TB diagnosis. Texas does not have requirements for NAAT or an equivalent test. Additionally, Texas does not require that a viable sample from TB cases and suspects be sent to the public health department for susceptibility testing or genotyping. These missing elements may result in diagnosis delays, inadequate treatment or poor TB control measures.

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<sup>10</sup> Specific TB signs and symptoms and recommendations for TB screening are explained in the TB Overview section in the Literature Review chapter.

## **D. Examination**

Texas provisions for examination partially meet the ideal standard. They provide sufficient authority to screen TB suspects and cases but do not include requirements for Class B1 and B2 referrals. This represents a missed opportunity to treat TB infection and disease in already diagnosed persons.

## **Recommendations**

Based on the study findings, it is recommended that Texas laws for reporting, screening, laboratory testing and examination be revised and updated to meet *Menu* recommendations and best practices. Making the recommended changes to Texas statutes and regulations requires limited resources and offers significant tangible benefits. Recommendations for changes based on the results of this study are offered next.

### **A. Reporting**

A new statute must establish the duty to report no-adherent TB patients. A regulation is not suitable to meet this recommendation in the absence of an enabling statute.

### **B. Screening**

The Texas Administrative Code must be enhanced to include more specific TB screening standards. This regulation could be built upon the general authority for TB screening already provided by the Texas Health and Safety Code.

### **C. Laboratory testing**

A new broad requirement should be included in the Texas Health and Safety Code Chapter 81 requiring TB laboratory testing to meet standards set by DSHS. This statute should then be implemented through more flexible regulations in the Texas Administrative Code. Regulations are more flexible and better suited to evolve as new diagnosis tests emerge or if the

laboratory testing recommendations change based on new evidence. The new regulations can require that a physician or clinical laboratory that diagnoses a case of TB sends any viable sample from the TB patient to the DSHS public health laboratory for susceptibility testing and genotyping. Additionally, any laboratory should be asked to perform a NAAT or equivalent test, drug susceptibility tests, and mycobacterial identification.

#### **D. Examination**

A new section must be added to the Texas Health and Safety Code Chapter 81 requiring the examination of all persons with B1 and B2 referrals.

#### **Future Research**

Future research is recommended to assess additional *Menu* provisions. This research focuses on *Menu* provisions for TB case identification. However, documents analysis discovered other Texas TB provisions which are not related to TB cases identification but have a profound impact in TB prevention and care. Other provisions recommended in the *Menu* that should be the subject of future studies provide legal authority for TB case management, protection of individual rights and interjurisdictional collaboration.

This study did not consider the feasibility of the recommendations it offers based on its findings. For example, the recommendation to submit viable samples from TB patients to the DSHS public health laboratory for drug susceptibility testing did not consider the funding and laboratory capacity to manage all the state specimens for TB cases. Further research will be necessary when considering the implementation of the study recommendations.

## Conclusions

Action is needed to update and amend Texas laws for TB case identification. TB imposes a tremendous burden on public health. Inaction leads, without a doubt, to missed TB cases and delayed diagnosis that results in TB transmission in the community. The decreasing national TB rates create the perception that TB is a disease of the past, which causes obvious TB signs and symptoms to be overlooked and attributed to other diseases. A clear legal framework for TB case identification is essential for the elimination of this terrible disease. As shown in the example provided in the Introduction chapter, recommendations and goodwill are important and beneficial, but relying solely on them is insufficient. Only legal requirements ensure that best practices are consistently implemented. Nonetheless, the real-life example illustrates the limitations of state legal provisions, particularly in their application to binational cases. Many of the babies exposed where located in Mexico, if any were to be found sick with active disease, the authorities would not be able to relay on Texas laws and regulations because they have no effect outside the state borders.

This study accomplished three purposes. First, it examined the suggested provisions for case identification in the 2012 CDC *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws*. Second, the *Menu of Suggested Provisions for State Tuberculosis Prevention and Control Laws* was used as a comparative framework to assess current Texas TB law for case identification. It is desired and expected that these outcomes accomplish other goals that extend beyond this report. A short term goal is to present the findings to executives at the Texas Department of State Health Services and encourage immediate action to enhance Texas TB laws. In the long term, the goals are to achieve better TB laws with a real impact in public

health in Texas, and to share the study through publications with other states seeking to evaluate and improve their legal framework for TB prevention and care.

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## APPENDIX A: TEXAS GOVERNMENT CODE DATA FINDINGS

The Texas Government Code (TGC) contains very limited requirements for TB prevention and care. The only TB provision applicable to this study in this statute is found in Title 4, Subtitle G, and Chapter 501. The data finding and results of the assessment are presented next. A general overview of the TGC data finding and references are provided in this Appendix

### Title 4. Subtitle G. Chapter 501: Inmate Welfare

Chapter 501, Section 501.060 requires the Board of Criminal Justice to establish requirements for TB screening of the Texas Department of Criminal Justice (TDCJ) employees and volunteers in a manner similar to that established in THSC Chapter 89. TDCJ should provide TB screening if a person is an employee of the TDCJ institutional division, the correctional manager care plan operated by the Texas University of Texas Medical Branch in Galveston, the Texas Tech University Health Science Center Correctional Manager Care Plan, and if the person requests the screening.

**Table 6.1: Overview of Title 4, Subtitle G, Chapter 501**

#### **Title 4. Executive Branch**

- Subtitle G. Corrections
  - **Chapter 501.** Inmate Welfare
    - *Subchapter B:* General Medical and Mental Health Care Provisions
      - § **501.060. Tuberculosis Screening**

***Applicable Ideal Type Provisions:*** Screening and Examination

## Texas Government Code Assessment Results

Overall, the CDC *Menu* standards are not met in TGC. The TB standards set by this statute are minimal and insufficient but may be complemented by the THSC and TAC. The TB requirements in the TGC only apply to the Texas Department of Criminal Justice (TDCJ). The results of the assessment are shown in the next subsections.

## APPENDIX B: TEXAS HEALTH AND SAFETY CODE DATA FINDINGS

The majority of the statutory requirements for TB case identification in Texas are found in the Texas Health and Safety Code (THSC). In Texas, DSHS and local governments receive most of their public health powers from Titles 2 (Health) and Title 4 (Health Facilities). In total, four code subtitles, five chapters, and 23 sections offer some level of authority for reporting, screening, laboratory testing and examination. A general overview of the THSC data finding and references are provided in this Appendix.

### Title 2. Subtitle A. Chapter 13. Health Department Hospitals and Respiratory Facilities

Chapter 13 in Subchapter B is called *Texas TB Code*. It ensures the provision of care, treatment and if needed, hospitalization for TB suspects and patients. It also authorizes local city and county health officers to issue warrants of arrest for the removal of persons with infectious TB and to treat without consent, certain persons with mental illness or an intellectual disability “as appropriate”. This statute also authorized DSHS to contract for diagnostic and other services available in a community or region as necessary to prevent further spread of tuberculosis.

**Table 6.2: Overview of Title 2. Subtitle A. Chapter 13**

#### **Title 2. Health**

- Subtitle A. Texas Department of Health
  - **Chapter 13.** Health Department Hospitals and Respiratory Facilities
    - Subchapter A. Care and Treatment in Department Hospitals
      - § 13.005 Care and Treatment of Certain Patients
    - *Subchapter B:* Texas Tuberculosis Code
      - § 13.032: Purpose
      - § 13.036: Patient Admission; Examination Certificate
      - § 13.046. Admission of Nonresident patients

*Applicable Ideal Type Provisions:* Screening and Examination

### Title 2. Subtitle D. Chapter 81. Communicable Diseases

Chapter 81 is the most important and comprehensive statute for communicable disease control in Texas. It outlines the authority of the state to protect the public health and requires that “each person acts responsibly to prevent and control communicable disease” (Texas Health and Safety Code, 2015). Chapter sections include, among others, legal requirements for the designation of reportable conditions, persons required to report, safekeeping of records and reports, reporting procedures, reports of death, confidentiality, mandatory testing, investigation of causes of communicable disease and methods of prevention, inspection, health department rights of entry, criminal penalty for concealing communicable disease, criminal penalty for refusing health department entry or inspection, duty of the health department, administration of communicable disease control measures, criminal penalty for violation of control measures, testing for accidental exposure, application of court orders, apprehension under order, detention in protective custody, release from detention, and use of physical restraint. This chapter also protects the patients’ right to refuse treatment for spiritual or religious reason, rights to jury,

notification of rights, and general rights relating to treatment (Texas Health and Safety Code, 2015).

### **Table 6.3 Overview of Title 2. Subtitle D. Chapter 81**

#### **Title 2. Health**

- Subtitle D. Prevention, Control and Reports of Diseases
  - **Chapter 81. Communicable Diseases**
    - *Subchapter A. General Provisions*
      - § 81.007 Limitation of Liability
      - § 81.009 Exception from Medical Treatment
    - *Subchapter C. Reports of Reportable Diseases*
      - § 81.041 Reportable Diseases
      - § 81.042 Person Required to report
      - § 81.044 Reporting Procedures
      - § 81.046 Confidentiality
      - § 81.047 Epidemiological Reports
      - § 81.049 Failure to Report; Criminal Penalty
      - § 81.050 Mandatory testing of persons suspected of exposing other person to reportable diseases, including HIV infection
    - *Subchapter D: Investigation and Inspection*
      - § 81.061 Investigation
    - *Subchapter E: Control*
      - § 81.082 Administration of Control Measures
      - § 81.083 Application of Control Measures to Individual
      - § 81.095 Testing for Accidental Exposure
    - *Subchapter G: Court Orders for Management of Person with Communicable Diseases*
      - § 81.151 Application of Court Order Management
      - § 81.172 Order for Temporary Management
      - § 81.151 Order for Extended Management
      - § 81.174 Order of Care and Commitment

*Applicable Ideal Type Provisions:* Reporting, Screening and Examination

### **Title 2. Subtitle D. Chapter 89. Screening and Treatment for Tuberculosis in Jails and Other**

Chapter 89 provides statutory requirements for screening and treatment of tuberculosis in jails and other correctional facilities. This statute applies only to a jail that has a bed capacity of 100 beds or more, transfers inmates from another jails with that capacity, or transfer inmates from another state. It contains requirements for screening inmates, employees and volunteers in the jail. It also includes stipulations for follow-up evaluations, treatment, reporting, rulemaking, adoption of local standards, continuity of care, and report of inmates with tuberculosis (Texas Health and Safety Code, 2015).

**Table 6.4: Overview of Title 2. Subtitle D. Chapter 89****Title 2. Health**

- Subtitle D. Prevention and Report of Diseases
  - **Chapter 89.** Screening and Treatment for Tuberculosis in Jails and Other Correctional Facilities
    - *Subchapter B:* Screening for of Jail Employees and Volunteers
      - § 89.011. Screening of Jail Employees and Volunteers
      - § 89.012. Follow up evaluations and treatment
    - *Subchapter C:* Inmate Screening and Treatment
      - § 89.051. Inmate Screening and Treatment
      - § 89.052. Rescreening; Diagnostic Evaluations
      - § 89.053. Follow up evaluations
    - *Subchapter D.* Reporting, Rulemaking, Minimum Standards
      - § 89.071 Reporting

*Applicable Ideal Type Provisions:* Screening, Reporting and Examination

**Title 2. Subtitle F. Chapter 121: Local Public Health Reorganization Act**

Chapter 121 authorizes a municipality, the commissioner's court of a county or the administrative board of a public health district to enforce any necessary law and adopt ordinances or rules to protect the public health. It also authorizes them to charge fees for public health services. The chapter also prohibits a municipality, county or public health district from denying services to an individual because of inability to pay for the services. The definition of public health services provided in this chapter includes infectious disease control and prevention services and laboratory services. This statute ensures screening, examination and laboratory services are provided to TB patients but it does not specifically address the TB requirements in the ideal type provisions.

**Table 6.5: Overview of Title 2. Subtitle F. Chapter 121****Title 2. Health**

- Subtitle F: Local Regulation of Public Health
  - **Chapter 121.** Local Public Health Act
    - *Subchapter A:* General Provisions
      - § 121.003. Powers of Municipalities and Counties

*Applicable Ideal Type Provisions:* Screening and Examination



## **Title 4. Subtitle C. Chapter 265: Joint Municipality and County Hospitals**

Chapter 265, gives authority to the commissioners' court and each municipal governing body that designates the ownership and control of a joint hospital to levy taxes for the purpose of conducting a joint program of TB control in their jurisdiction to protect the public health through TB "alleviation, suppression and prevention" (Texas Health and Safety Code, 2015). The chapter also gives the county and each municipality authority to establish a TB control board and sets guidelines for that governing body. Under this statute, the county and each municipality may provide economic aid to indigent persons with TB and pay administrative expenses, including expenses of case investigation and necessary equipment and services.

**Table 6.6: Overview of Title E. Subtitle C. Chapter 265**

### **Title 4: Health Facilities**

- Subtitle C. Local Hospitals
  - Chapter 265. Joint Municipal and County Hospital
    - Subchapter C. Joint hospital control
      - § 265.026. Tuberculosis Control

*Applicable Ideal Type Provisions:* Screening

## APPENDIX C: TEXAS ADMINISTRATIVE CODE DATA FINDINGS

The Texas Administrative Code (TAC) contains Texas regulations for TB case identification that are based on the TGC and THSC enabling statutes. TAC provisions for TB case identification were found in three code titles, six chapters and 22 sections. A general overview of the data finding and references is provided in this Appendix for reference.

### Title 25, Part 1, Chapter 97: Communicable Diseases

Title 97, Subchapter A contains multiple sections addressing the control of communicable diseases. It sets standards for who should report communicable diseases, what conditions to report and what isolates to report or submit, when to report a condition or isolate, where to report a condition or isolate, where to submit an isolate, reporting and other duties of local health authorities and regional directors, general control measures for notifiable conditions, quarantine of specific premises and application of control measures to private and common carriers, notification of emergency medical personnel, fire fighters, peace officers, detention officers, county jailers, or other person providing emergency care of possible exposure to a disease, and mandatory testing of person suspected of exposing certain persons to notifiable conditions and workers' compensation issues relevant to post-exposure management of emergency responders. Other provisions are also included in this comprehensive regulation that are not mentioned here because they do not apply to the ideal type provisions.

Title 97, Subchapter H sets the standards for tuberculosis screening and treatment for TB and TBI of employees, volunteers and inmates or detainees in county jails and other correctional facilities that have a bed capacity of 100 beds or more, that transfer inmates from another county with a capacity of 100 beds or more, and that jail house inmates from another state or county.

**Table 6.7: Overview of Title 25. Part 1. Chapter 97**

#### **Title 25. Health Services**

- Part 1. Department of State Health Services
  - **Chapter 97.** Communicable Diseases
    - *Subchapter A: Control of Communicable Diseases*
      - § 97.2 Who Shall Report
      - §97.3 What Conditions to Report and What Isolates to Report or Submit
      - §97.4 When to Report a Condition or Isolate;
      - §97.5 Where to Submit an Isolate; Where to Submit an Isolate
      - §97.6 Reporting and Other Duties of Local Health Authorities and Regional Directors
      - §97.8 General Control Measures for Notifiable Conditions
      - §97.9 Quarantine of Specific Premises and Application of Control Measures to Private and Common Carriers
      - §97.12 Mandatory Testing of Person Suspected of Exposing Certain Persons to Notifiable Conditions and Workers' Compensation Issues Relevant to Postexposure Management of Emergency Responders
    - *Subchapter H: Tuberculosis Screening for Jails and Other Corrections Facilities*
      - § 97.171. Purpose
      - § 97.172. Scope

- § 97.173. Screening
- § 97.174. Scope of Professional Examination/Evaluation
- § 97.175. Diagnostic Evaluations
- § 97.178. Reporting
- § 97.190. Approval of Local Jails Screening Standards

***Applicable Ideal Type Provisions:*** Reporting, Screening, Laboratory Testing, Examination

## **Title 37, Part 6, Chapter 163: Community Justice Assistance Division Standards**

Chapter 163 Section (§) 163.21 gives the authority and responsibility to the Community Supervision and Corrections Department (CSCD or department) Director for developing a manual that incorporates all the written policies and procedures for routine tasks of the department, including screenings and other medical services for TB and other communicable diseases. Section 163.39 requires TB screening for CSCD staff as soon as practical but no later than seven calendar days of assuming duties. It also requires follow-up screening on all staff, at a minimum, once a year from the anniversary of day of the initial screening. The results of the screening should be maintained on file. This section also requires a TB screening for all offenders within seven days of intake and annually thereafter. Section 163.40 requires that the department takes steps to protect offenders and staff in case of TB exposure.

### **Table 6.8: Overview of Title 37. Part 6. Chapter 163**

#### **Title 37. Public Safety and Corrections**

- Part 6. Texas Department of State Health Services
  - **Chapter 163.** Community Justice Assistance Division Standards
    - § 163.21. Administration
    - § 163.39. Residential Services
    - § 163.40. Substance Abuse Treatment

***Applicable Ideal Type Provisions:*** Screening and examination

## **Title 37, Part 9, Chapter 273: Health Services**

Chapter 273, Section 273.7 requires that correctional and detention facilities that meet the Texas Health and Safety Code Chapter 89 criteria develop and implement a plan for TB screening of employees, volunteers and inmates.

### **Table 6.9. Overview of Title 37. Part 9. Chapter 273**

#### **Title 37. Public Safety and Corrections**

- Part 9. Texas Commission on Jail Standards
  - **Chapter 273.** Health Services
    - § 273.7. Tuberculosis Screening Plan

***Applicable Ideal Type Provisions: Screening***

**Title 37, Part 11, Chapter 343: Secure Juvenile Pre-Adjudication Detention and Post-Adjudication Correctional Facilities**

Chapter 343, Section 343.604 sets standards for health screenings in Texas juvenile detention and correctional facilities. It requires a health screening within two hours of intake into a facility that includes TB screening, examination and medical referrals.

**Table 6.10: Overview of Title 37, Part 11. Chapter 343**

**Title 37: Public Safety and Corrections**

- Part 11: Texas Juvenile Justice Department
  - **Chapter 343.** Secure Juvenile Pre-Adjudication Detention and Post-Adjudication Correctional Facilities
    - *Subchapter D:* Secure Post-Adjudication Correctional Facility Standards § 343.604. Health Screening

***Applicable Ideal Type Provisions:*** Screening and examination

**Title 37, Part 11, Chapter 351: Standard of Short-Term Detention Facilities**

Chapter 351 Section 351.4 sets standards for short-term detention facilities intake, admission and release. It requires that a health screening that includes screening for TB be done within an hour of intake into the facility. It also requires that persons with an emergency medical illness not be admitted and be directed to a health care facility.

**Table 6.11: Overview of Title 37. Part 11. Chapter 351**

**Title 37. Public Safety and Corrections**

- Part 11. Texas Juvenile Justice Department
  - **Chapter 351.** Standards for Short-Term Detention Facilities
    - *Subchapter B:* Short-Term Detention Facility Standards § 351.4. Intake, Admission and Release

***Applicable Ideal Type Provisions:*** Screening

## **Title 40, Part 19, Chapter 354: Social Services and Assistance**

Section 748.1583 establishes requirements for persons over the age of one year old that live, work, or volunteer in childcare residential operations. The regulation states that persons meeting those criteria must have a documented TB screening within 30 days on admission or employment unless they can provide documentation of screening within the previous 12 months. The TB screening clearance must be provided within 40 days of the person beginning to live, work or volunteer in the facility.

**Table 6.12: Overview of Title 1, Part 15, Chapter 354**

**Title 40. Social Services and Assistance**

- Part 19. Department of Family and Protective Services
  - **Chapter 748.** Minimum Standards for General Residential Operations
    - Subchapter J. Child Care
      - Division 3. Communicable Disease
        - § 748.1583. Who must have a tuberculosis (TB) examination?

***Applicable Ideal Type Provisions:*** Screening and examination

**APPENDIX D: EXAMPLE OF TGC STATUTE**

**Excerpt for TGC Chapter 501**

GOVERNMENT CODE

TITLE 4. EXECUTIVE BRANCH

SUBTITLE G. CORRECTIONS

CHAPTER 501. INMATE WELFARE

SUBCHAPTER A. GENERAL WELFARE PROVISIONS

Sec. 501.054. AIDS AND HIV EDUCATION; TESTING. (a) In this section, "AIDS," "HIV," and "test result" have the meanings assigned by Section 81.101, Health and Safety Code.

(b) The department, in consultation with the Texas Department of Health, shall establish education programs to educate inmates and employees of the department about AIDS and HIV. In establishing the programs for inmates, the department shall design a program that deals with issues related to AIDS and HIV that are relevant to inmates while confined and a program that deals with issues related to AIDS and HIV that will be relevant to inmates after the inmates are released. The department shall design the programs to take into account relevant cultural and other differences among inmates. The department shall require each inmate in a facility operated by the department to participate in education programs established under this subsection.

(c) The department shall require each employee of the department to participate in programs established under this section at least once during each calendar year.

(d) The department shall ensure that education programs for employees include information and training relating to infection control procedures. The department shall also ensure that employees have infection control supplies and equipment readily available.

(e) The department, in consultation with the Texas Department of Health, shall periodically revise education programs established under this section so that the programs reflect the latest medical information available on AIDS and HIV.

(f) The department shall adopt a policy for handling persons with AIDS or HIV infection who are in the custody of the department or under the department's supervision. The policy must be substantially similar to a model policy developed by the Texas Department of Health under Subchapter G, Chapter 85, Health and Safety Code.

(g) The department shall maintain the confidentiality of test results of an inmate indicating HIV infection at all times, including after the inmate's discharge, release from a state jail, or release on parole or mandatory supervision. The department may not honor the request of an agency of the state or any person who requests a test result as a condition of housing or supervising the inmate while the inmate is on community supervision or parole or mandatory supervision, unless honoring the request would improve the ability of the inmate to obtain essential health and social services.

(h) The department shall report to the legislature not later than January 15 of each odd-numbered year concerning the implementation of this section and the participation of inmates and employees of the department in education programs established under this section.

(i) The department may test an inmate confined in a facility operated by the correctional institutions division for human immunodeficiency virus at any time, but must test:

(1) during the diagnostic process, an inmate for whom the department does not have a record of a positive test result; and

(2) an inmate who is eligible for release before the inmate is released from the division.

(j) If the department determines that an inmate has a positive test result, the department may segregate the inmate

from other inmates. The department shall report the results of a positive test to the Department of State Health Services for the purposes of notification and reporting as described by Sections 81.050-81.052, Health and Safety Code.

Sec. 501.060. TUBERCULOSIS SCREENING. (a) The board will establish requirements for tuberculosis screening of department employees and volunteers in a manner similar to that established for jail employees and volunteers as outlined in Subchapter B, Chapter 89, Health and Safety Code.

(b) The institutional division shall provide tuberculosis screening for a person if:

- (1) the person is an employee of:
  - (A) the institutional division;
  - (B) the correctional managed care plan operated by The University of Texas Medical Branch at Galveston; or
  - (C) the Texas Tech University Health Science Center Correctional Managed Care Plan; and
- (2) the person requests the screening.



**APPENDIX E: EXAMPLE OF THSC STATUTE**

**Excerpt for THSC Chapter 89**

HEALTH AND SAFETY CODE

TITLE 2. HEALTH

SUBTITLE D. PREVENTION, CONTROL, AND REPORTS OF DISEASES

CHAPTER 89. SCREENING AND TREATMENT FOR TUBERCULOSIS IN JAILS  
AND OTHER CORRECTIONAL FACILITIES

SUBCHAPTER A. GENERAL PROVISIONS

Sec. 89.001. DEFINITIONS. In this chapter:

(1) "Community corrections facility" means a facility established under Chapter 509, Government Code.

(2) "County jail" means a facility operated by or for a county for the confinement of persons accused or convicted of an offense and includes:

(A) a facility operated by or for a county for the confinement of persons accused or convicted of an offense;

(B) a county jail or a correctional facility authorized by Subchapter F, Chapter 351, Local Government Code; and

(C) a county correctional center authorized by Subchapter H, Chapter 351, Local Government Code.

(3) "Governing body" means:

(A) the commissioners court of a county, for a county jail;

(B) the district judges governing a community corrections facility, for a community corrections facility;

(C) the governing body of a municipality, for a jail operated by or under contract to a municipality; or

(D) the community supervision and corrections department, for a jail operated under contract to a community supervision and corrections department.

(4) "Health authority" has the meaning assigned by Section 121.021.

(5) "Jail" means:

(A) a county jail; or

(B) a facility for the confinement of persons accused of an offense that is:

(i) operated by a municipality or a vendor under contract with a municipality under Subchapter F, Chapter 351, Local Government Code; or

(ii) operated by a vendor under contract with a community supervision and corrections department under Chapter 76, Government Code.

(6) "Local health department" means a health department created under Subchapter D, Chapter 121.

(7) "Physician" means a person licensed to practice medicine in a state of the United States.

(8) "Public health district" means a health district established under Subchapter E, Chapter 121.

(9) "Screening test" means a rapid analytical laboratory or other procedure to determine the need for further diagnostic evaluation.

(10) "Tuberculosis" means a disease caused by *Mycobacterium tuberculosis* or other members of the *Mycobacterium tuberculosis* complex.

Sec. 89.002. SCOPE OF CHAPTER. Except as provided by Subchapter E, this chapter applies only to a jail that:

(1) has a capacity of at least 100 beds; or

(2) houses inmates:

(A) transferred from a county that has a jail that has a capacity of at least 100 beds; or

(B) from another state.

SUBCHAPTER B. SCREENING OF JAIL EMPLOYEES AND VOLUNTEERS

Sec. 89.011. SCREENING OF JAIL EMPLOYEES AND VOLUNTEERS.

(a) The governing body of a jail or community corrections facility, through the community supervision and corrections department, shall require that each employee or volunteer working or providing services in a jail or a community corrections facility, who meets the screening guidelines prescribed by department rule, present to the governing body a certificate signed by a physician that states that:

- (1) the employee or volunteer has been tested for tuberculosis infection in accordance with department rules; and
- (2) the results of the test indicate that the person does not have tuberculosis.

(b) In lieu of a screening test, an employee or volunteer with a history of a positive screening test may provide:

- (1) documentation of that positive test result and of any diagnostic and therapeutic follow-up; and
- (2) a certificate signed by a physician that states that the person does not have tuberculosis.

(c) The health authority may require an employee or volunteer to have an additional screening test or medical examination if the department determines that an additional test or examination is necessary and appropriate to protect the public health.

(d) An employee or volunteer is exempt from the screening test required by this section if:

- (1) the screening test conflicts with the tenets of an organized religion to which the individual belongs; or
- (2) the screening test is medically contraindicated based on an examination by a physician.

Sec. 89.012. FOLLOW-UP EVALUATIONS AND TREATMENT. (a) An employee or a volunteer with a positive screening test result must obtain a diagnostic evaluation from the person's own physician to determine if the person has tuberculosis.

(b) If the employee or volunteer has tuberculosis, the governing body may not permit the person to begin or continue the person's employment duties or volunteer services unless the person is under treatment for the disease by a physician and the person provides to the governing body a certificate signed by the attending physician stating that the patient is noninfectious.

Added by Acts 1993, 73rd Leg., ch. 786, Sec. 1, eff. Sept. 1, 1993. Amended by Acts 1997, 75th Leg., ch. 348, Sec. 4, eff. Sept. 1, 1997.

SUBCHAPTER C. INMATE SCREENING AND TREATMENT

Sec. 89.051. INMATE SCREENING REQUIRED. (a) Each inmate in a jail or community corrections facility shall undergo a screening test for tuberculosis infection approved by the executive commissioner if:

(1) the inmate will probably be confined in jail or a community corrections facility for more than seven days; and

(2) the inmate meets the screening guidelines prescribed by department rules.

(b) The inmate must be tested on or before the seventh day after the day the inmate is first confined.

(c) An inmate listed by Subsection (a) is not required to be retested at each rebooking if the inmate is booked into a jail or a community corrections facility more than once during a 12-month period unless the inmate shows symptoms of tuberculosis or is known to have been exposed to tuberculosis.

(d) An inmate is exempt from the screening test required by this section if:

(1) the screening test conflicts with the tenets of an organized religion to which the individual belongs; or

(2) the screening test is medically contraindicated based on an examination by a physician.

## Tuberculosis in the Air We Breath

Sec. 89.052. RESCREENING; DIAGNOSTIC EVALUATIONS. The department or a health authority may require a governing body to provide an additional screening test or a diagnostic evaluation if the department or health authority determines that an additional screening test or a diagnostic evaluation is necessary and appropriate to protect the health of the jail inmates, employees, volunteers, or the public.

Sec. 89.053. FOLLOW-UP EVALUATIONS. (a) If an inmate has a confirmed positive screening test result, the governing body shall provide a diagnostic evaluation to determine whether the inmate has tuberculosis.

(b) The sheriff, jail administrator, or director of the community corrections facility shall provide appropriate accommodations to an inmate who has tuberculosis or is suspected of having tuberculosis, including respiratory isolation, if necessary, and adequate medical care and treatment that meet the accepted standards of medical practice.

(c) The jail or community corrections facility shall provide preventive therapy to an infected inmate if the preventive therapy is prescribed by the attending physician and the inmate consents to the treatment.

Added by Acts 1993, 73rd Leg., ch. 786, Sec. 1, eff. Sept. 1, 1993. Amended by Acts 1997, 75th Leg., ch. 348, Sec. 8, eff. Sept. 1, 1997.

Sec. 89.054. INMATE TRANSFER AND RELEASE. A copy of an inmate's medical records or documentation of screenings or treatment received during confinement must accompany an inmate transferred from one jail or community corrections facility to another or the Texas Department of Criminal Justice and be available for medical review on arrival of the inmate.

Added by Acts 1993, 73rd Leg., ch. 786, Sec. 1, eff. Sept. 1, 1993.

SUBCHAPTER D. REPORTING; RULEMAKING; MINIMUM STANDARDS

Sec. 89.071. REPORTING. (a) A case of tuberculosis shall be reported to the appropriate health authority or to the department not later than the third day after the day on which the diagnosis is suspected.

(b) The results of a screening test shall be reported to the department monthly in a manner approved by the department.

Added by Acts 1993, 73rd Leg., ch. 786, Sec. 1, eff. Sept. 1, 1993.

Sec. 89.072. RULEMAKING. The department shall recommend to the Commission on Jail Standards and the Texas Department of Criminal Justice rules to carry out this chapter, including rules describing:

(1) the types of screening tests and diagnostic evaluations and the scope of the professional examinations that may be used to meet the requirements of this chapter;

(2) the categories of employees, volunteers, or inmates who must have a screening test under this chapter;

(3) the form and content of the certificate required under Subchapter B for employees and volunteers;

(4) the deadlines for filing a certificate;

(5) the transfer of employee or volunteer certificates and inmate records between facilities;

(6) the frequency of screening tests for employees, volunteers, and inmates;

(7) the criteria for requiring an additional screening test or a diagnostic evaluation or examination; and

(8) the reporting of a screening test or an evaluation or examination result to the appropriate health authority or to the department.

Added by Acts 1993, 73rd Leg., ch. 786, Sec. 1, eff. Sept. 1, 1993. Amended by Acts 1997, 75th Leg., ch. 348, Sec. 9, eff. Sept. 1, 1997.

Sec. 89.073. ADOPTION OF LOCAL STANDARDS. (a) The standards prescribed by this chapter and the rules adopted by the executive commissioner relating to screening tests or examinations for tuberculosis required for certain employees and volunteers are minimum standards.

(b) With the prior approval of the department:

(1) a governing body may adopt and enforce standards for carrying out this chapter if the standards are compatible with and equal to or more stringent than the standards prescribed by this chapter and department rules; and

(2) a private facility may adopt and enforce standards for carrying out this chapter if the standards are compatible with and equal to or more stringent than the standards prescribed by this chapter and department rules.

(c) The executive commissioner shall adopt substantive and procedural rules to govern the submission of standards adopted under Subsection (b). At a minimum these rules must contain:

(1) a procedure for the submission of standards for departmental review; and

(2) an internal departmental appeal process by which a governing body or private entity may seek a review of the department's decision to reject proposed standards.

Added by Acts 1993, 73rd Leg., ch. 786, Sec. 1, eff. Sept. 1, 1993. Amended by Acts 1997, 75th Leg., ch. 348, Sec. 10, eff. Sept. 1, 1997.

Amended by:

Acts 2015, 84th Leg., R.S., Ch. 1 (S.B. [219](#)), Sec. 3.0312, eff. April 2, 2015.

SUBCHAPTER E. CONTINUITY OF CARE

Sec. 89.101. DEFINITIONS. In this subchapter:

(1) "Corrections facility" means:

(A) a jail or community corrections facility, without regard to whether the jail or facility satisfies the requirements of Section 89.002;

(B) any correctional facility operated by or under contract with a division of the Texas Department of Criminal Justice; or

(C) a detention facility operated by the Texas Juvenile Justice Department.

(2) "Offender" means a juvenile or adult who is arrested or charged with a criminal offense.

Added by Acts 1997, 75th Leg., ch. 348, Sec. 11, eff. Sept. 1, 1997.

Amended by:

Acts 2015, 84th Leg., R.S., Ch. 1 (S.B. 219), Sec. 3.0313, eff. April 2, 2015.

Sec. 89.102. REPORT OF RELEASE. A corrections facility shall report to the department the release of an offender who is receiving treatment for tuberculosis. The department shall arrange for continuity of care for the offender.

Added by Acts 1997, 75th Leg., ch. 348, Sec. 11, eff. Sept. 1, 1997.



## APPENDIX F: EXAMPLE OF TAC REGULATION

### Excerpt for TAC Chapter 97

## Texas Administrative Code

### Texas Administrative Code

<a href="#">TITLE 25</a>	HEALTH SERVICES
<a href="#">PART 1</a>	DEPARTMENT OF STATE HEALTH SERVICES
<a href="#">CHAPTER 97</a>	COMMUNICABLE DISEASES
<a href="#">SUBCHAPTER</a>	CONTROL OF COMMUNICABLE DISEASES
<a href="#">A</a>	
RULE §97.3	What Condition to Report and What Isolates to Report or Submit

---

(a) Humans.

(1) Identification of notifiable conditions.

(A) A summary list of notifiable conditions and reporting time frames is published on the Department of State Health Services web site at <http://www.dshs.state.tx.us/idcu/investigation/conditions/>. Copies are filed in the Emerging and Acute Infectious Disease Branch, Department of State Health Services, 1100 West 49th Street, Austin, Texas 78756.

(B) Repetitive test results from the same patient do not need to be reported except those for mycobacterial infections.

(2) Notifiable conditions or isolates.

(A) Confirmed and suspected human cases of the following diseases/infections are reportable: acquired immune deficiency syndrome (AIDS); amebiasis; amebic meningitis and encephalitis; anaplasmosis; ancylostomiasis; anthrax; arboviral infections including, but not limited to, those caused by California serogroup virus, chikungunya virus, dengue virus, Eastern equine encephalitis (EEE) virus, St. Louis encephalitis (SLE) virus, Western equine encephalitis (WEE) virus, yellow fever virus, West Nile (WN) virus, and Zika virus; ascariasis; babesiosis; botulism, adult and infant; brucellosis; campylobacteriosis; carbapenem resistant *Enterobacteriaceae* (CRE); Chagas disease; chancroid; chickenpox (varicella); *Chlamydia trachomatis* infection; cryptosporidiosis; cyclosporiasis; diphtheria; echinococcosis; ehrlichiosis; fascioliasis; gonorrhea; *Haemophilus influenzae*, invasive; Hansen's disease (leprosy); hantavirus infection; hemolytic uremic syndrome (HUS); hepatitis A, acute hepatitis B infection, hepatitis B acquired perinatally, any hepatitis B infection identified prenatally or at delivery, acute hepatitis C infection, and acute hepatitis E infection; human immunodeficiency virus

(HIV) infection; influenza-associated pediatric mortality; legionellosis; leishmaniasis; listeriosis; Lyme disease; malaria; measles (rubeola); meningococcal infection, invasive; multidrug-resistant *Acinetobacter* (MDR-A); mumps; novel coronavirus causing severe acute respiratory disease; novel influenza; paragonimiasis; pertussis; plague; poliomyelitis, acute paralytic; poliovirus infection, non-paralytic; prion diseases, such as Creutzfeldt-Jakob disease (CJD); Q fever; rabies; rubella (including congenital); salmonellosis, including typhoid fever; Shiga toxin-producing *Escherichia coli* infection; shigellosis; smallpox; spotted fever group rickettsioses (such as Rocky Mountain spotted fever); streptococcal disease: invasive group A, invasive group B, or invasive *Streptococcus pneumoniae*; syphilis; *Taenia solium* and undifferentiated *Taenia* infections, including cysticercosis; tetanus; trichinosis; trichuriasis; tuberculosis (*Mycobacterium tuberculosis* complex); tuberculosis infection; tularemia; typhus; vancomycin-intermediate *Staphylococcus aureus* (VISA); vancomycin-resistant *Staphylococcus aureus* (VRSA); *Vibrio* infection, including cholera (specify species); viral hemorrhagic fever; and yersiniosis.

(B) In addition to individual case reports, any outbreak, exotic disease, or unusual group expression of disease that may be of public health concern should be reported by the most expeditious means.

(3) Minimal reportable information requirements. The minimal information that shall be reported for each disease is as follows:

(A) AIDS, chancroid, *Chlamydia trachomatis* infection, gonorrhea, HIV infection, and syphilis shall be reported in accordance with Subchapter F of this chapter (relating to Sexually Transmitted Diseases Including Acquired Immune Deficiency Syndrome (AIDS) and Human Immunodeficiency Virus (HIV));

(B) for tuberculosis disease - complete name, date of birth, physical address and county of residence, information on which diagnosis was based or suspected. In addition, if known, radiographic or diagnostic imaging results and date(s); all information necessary to complete the most recent versions of forms TB 400 A & B (Report of Case and Patient Services), TB 340 (Report of Contacts) and TB 341 (Continuation of Report of Contacts); laboratory results used to guide prescribing, monitoring or modifying antibiotic treatment regimens for tuberculosis to include, but not limited to, liver function studies, renal function studies, and serum drug levels; pathology reports related to diagnostic evaluations of tuberculosis; reports of imaging or radiographic studies; records of hospital or outpatient care to include, but not limited to, histories and physical examinations, discharge summaries and progress notes; records of medication administration to include, but not limited to, directly observed therapy (DOT) records, and drug toxicity and monitoring records; a listing of other patient medications to evaluate the potential for drug-drug interactions; and copies of court documents related to court ordered management of tuberculosis.

(C) for contacts to a known case of tuberculosis - complete name; date of birth;

physical address; county of residence; and all information necessary to complete the most recent versions of forms TB 400 A & B (Report of Case and Patient Services), TB 340 (Report of Contacts), and TB 341 (Continuation of Report of Contacts);

(D) for other persons identified with TB infection - complete name; date of birth; physical address and county of residence; and diagnostic information;

(E) for hepatitis B (chronic and acute) identified prenatally or at delivery - mother's name, address, telephone number, age, date of birth, sex, race and ethnicity, preferred language, hepatitis B laboratory test results; estimated delivery date or date and time of birth; name and phone number of delivery hospital or planned delivery hospital; name of infant; name, phone number, and address of medical provider for infant; date, time, formulation, dose, manufacturer, and lot number of hepatitis B vaccine and hepatitis B immune globulin administered to infant;

(F) for hepatitis A, B, C, and E - name, address, telephone number, age, date of birth, sex, race and ethnicity, disease, diagnostic indicators (diagnostic lab results, including all positive and negative hepatitis panel results, liver function tests, and symptoms), date of onset, pregnancy status, and physician name, address, and telephone number;

(G) for hepatitis B, perinatal infection - name of infant; date of birth; sex; race; ethnicity; name, phone number and address of medical provider for infant; date, time, formulation, dose, manufacturer, and lot number of hepatitis B vaccine and hepatitis B immune globulin administered to infant, hepatitis B laboratory test results;

(H) for chickenpox - name, date of birth, sex, race and ethnicity, address, date of onset, and varicella vaccination history;

(I) for Hansen's disease - name; date of birth; sex; race and ethnicity; disease type; place of birth; address; telephone number; date entered Texas; date entered U.S.; education/employment; insurance status; location and inclusive dates of residence outside U.S.; date of onset and history prior to diagnosis; date of initial biopsy and result; disease type i.e., tuberculoid, borderline and lepromatous; date initial drugs prescribed and name of drugs; name, date of birth and relationship of household contacts; and name, address, and telephone number of physician;

(J) for novel influenza investigations occurring during an influenza pandemic-- minimal reportable information on individual cases, a subset of cases or aggregate data will be specified by the department;

(K) for all other notifiable conditions listed in paragraph (2)(A) of this subsection - name, address, telephone number, age, date of birth, sex, race and ethnicity, disease, diagnostic indicators (diagnostic lab results and specimen source, and clinical indicators), date of onset, and physician name, address, and telephone number; and

(L) other information may be required as part of an investigation in accordance with Texas Health and Safety Code, §81.061.

(4) Diseases requiring submission of cultures. For all anthrax (*Bacillus anthracis*); botulism, adult and infant (*Clostridium*

*botulinum*); brucellosis (*Brucella* species); all *Haemophilus influenzae*, invasive, in children under five years old (*Haemophilus influenzae* from normally sterile sites); listeriosis (*Listeria monocytogenes*); meningococcal infection, invasive (*Neisseria meningitidis* from normally sterile sites or purpuric lesions); plague (*Yersinia pestis*); Shiga toxin-producing *Escherichia coli* infection (*E.coli* O157:H7, isolates or specimens from cases where Shiga toxin activity is demonstrated); *Staphylococcus aureus* with a vancomycin MIC greater than 2 µg/mL; tuberculosis (*Mycobacterium tuberculosis* complex); tularemia (*Francisella tularensis*); and vibriosis (*Vibrio* species) - pure cultures (or specimens as indicated in this paragraph) shall be submitted accompanied by a current department Specimen Submission Form.

(5) Laboratory reports. Reports from laboratories shall include patient name, identification number, address, telephone number, age, date of birth, sex, race and ethnicity; specimen submitter name, address, and phone number; specimen type; date specimen collected; disease test and test result; normal test range; date of test report; and physician name and telephone number.

(b) Animals.

(1) Clinically diagnosed or laboratory-confirmed animal cases of the following diseases are reportable: anthrax, arboviral encephalitis, tuberculosis (*Mycobacterium tuberculosis* complex) in animals other than those housed in research facilities, and plague. Also, all non-negative rabies tests performed on animals from Texas at laboratories located outside of Texas shall be reported; all non-negative rabies tests performed in Texas will be reported by the laboratory conducting the testing. In addition to individual case reports, any outbreak, exotic disease, or unusual group expression of disease which may be of public health concern should be reported by the most expeditious means.

(2) The minimal information that shall be reported for each disease includes species and number of animals affected, disease or condition, name and phone number of the veterinarian or other person in attendance, and the animal(s) owner's name, address, and phone number. Other information may be required as part of an investigation in accordance with Texas Health and Safety Code, §81.061.