Standards of Care for Patients with Suspected and Confirmed Drug-Susceptible Tuberculosis in Connecticut: Reporting, Diagnosis, and Treatment

Recommendations from the Connecticut Department of Public Health and The Connecticut Advisory Committee for the Elimination of Tuberculosis (CACET)*

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Table of Contents

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*CACET members participating in the development and review of this document:

Lloyd Friedman, MD, Chairman, Milford Hospital/Yale-New Haven Hospital
Jack Ross, MD, Hartford Hospital
Francine Truglio, APRN, New Britain Health Department
Carol Steinke, RN, Hartford Health Department
Beth Mertz, RN, Hartford Health Department
Richard Zuwallack, MD, St. Francis Medical Center
David Banach, MD, University of Connecticut Health Center
Stephen Updegrove, MD, MPH, American Academy of Pediatrics, CT Chapter
Mark Lobato, MD
CT Department of Public Health Staff: Heidi Jenkins; Danielle Orcutt, MPH; Lynn Sosa, MD; Maureen Williams, RN; Yvette Mateo; Gary Budnick

Introduction

The Connecticut Department of Public Health (DPH) in collaboration with the Connecticut Advisory Committee for the Elimination of Tuberculosis have developed and adopted standards of care for patients suspected of and subsequently diagnosed with drug-susceptible tuberculosis (TB) in Connecticut. These standards are based on national standards developed by the Centers for Disease Control and Prevention (CDC) and its partner organizations and advisory groups[1–4] and state requirements to report tuberculosis and make a treatment plan in collaboration with and approval by local and/or state public health officials.[5–6] These standards are intended to provide guidance in Connecticut for clinicians, hospitals, local health departments, and state TB control and state regulatory officials.

DPH TB Control Program Responsibilities and Expectations

- Provide free drugs to treat TB disease and TB infection (860-509-7722)
- Help arrange for or, if necessary, provide directly observed therapy (DOT) and monitoring for adverse events for all patients with TB disease
- Identify providers who will accept uninsured patients
- Provide medical consultation
- Provide smear, culture, and drug susceptibility testing at no cost at the Connecticut Public Health Laboratory (860-920-6649). Genotyping is also facilitated through the Connecticut Public Health Laboratory.
- Provide guidance to local health departments for the identification and evaluation of contacts to patients with pulmonary TB; provide materials for identifying contacts with TB infection (skin test or blood test)
- Reimburse for diagnostic tests, medical visits, and treatment including DOT for TB patients who are uninsured or underinsured

Summary of Key Standards

Provider Responsibilities and Expectations

- Providers and laboratories are required to notify the DPH TB Control Program and local health department immediately by phone followed by a written report within 12 hours when TB disease is strongly suspected in a patient, usually when treatment is initiated or when there is radiologic or microbiologic evidence of TB disease.[7]

- Clinical management of a patient with TB includes monitoring treatment to completion. The provider initiating treatment for TB assumes this responsibility unless clinical management has been formally transferred to another provider.
- Additional notification to the DPH TB Control Program is required immediately if 1) therapy is stopped for medical or any other reason, 2) a patient is not adherent to treatment or appointments, 3) a patient is lost to follow-up, and/or 4) the patient has persistently positive smears for acid fast bacilli (AFB) or culture results after 2 months of treatment.
- Providers who care for persons at risk for TB should maintain proficiency in the diagnosis and treatment of TB. They should confer with the DPH TB Control Program regarding treatment whenever needed.
- Providers should offer opt out human immunodeficiency virus (HIV) testing to all patients with TB disease and TB infection.
- Providers should also offer Hepatitis B and C testing for patients, especially those at increased risk for these infections. Diabetes testing is also encouraged for patients at risk.

TB Diagnosis

- Most patients being evaluated for pulmonary TB disease usually only need a chest radiograph to make a presumptive diagnosis of TB and for monitoring response to treatment. CT scans might be ordered for patients in whom other diagnoses are being considered.
- At least three sputum specimens (spontaneous or induced, preferably one early morning specimen) ≥8 hours apart should be submitted from patients with suspected pulmonary TB for acid fast bacilli (AFB) sputum-smear results and mycobacterial culture; in addition, two of these specimens should be submitted for nucleic acid amplification testing (NAA) before starting treatment. Specimens other than sputum should be considered only if sputum cannot be obtained.
- A negative tuberculin skin test (TST) or interferon gamma release assay (IGRA) result should not be used to determine if a patient has active TB disease.
- A negative NAA should not be considered as definitive evidence against TB disease in a patient with TB symptoms.
- An HIV test should be performed for all TB patients.
- The diagnosis of culture-negative TB or intra-thoracic TB in children is usually a clinical diagnosis.

TB Treatment

- For most patients with a definite or presumptive diagnosis of TB, four antituberculosis drugs (isoniazid, rifampin, pyrazinamide, and ethambutol) should be started after specimens are collected for microbiologic examination but before cultures are finalized.

- All persons with TB must have a treatment plan approved by the local health director in the patient's town of residence, as required by state law.[5] For hospitalized patients, this plan must be made and approved before discharge from the hospital.
- For patients with pulmonary, laryngeal, or pleural TB, the plan must include treatment by directly observed therapy (DOT), performed in person or electronically.
- Patients should be actively monitored for adherence and adverse events related to treatment with a minimum of a monthly office visit until therapy is completed. Adherence monitoring should include notation of cumulative and interval counts of the number of **doses** received by DOT.
- Consultation with an expert is highly recommended for all patients co-infected with HIV and patients with drug resistant TB. Medical consultation is available through the DPH TB Control Program.

TB Infection Control

- Patients with confirmed or suspected TB in institutionalized settings should be isolated in an airborne isolation (e.g. negative pressure) room.
- Patients with confirmed or suspected TB in institutionalized settings should not be released from airborne isolation to a general population until the following criteria have been met: 1) three consecutive negative AFB sputum smear results, 2) demonstrated clinical improvement (e.g., minimal dry cough cough), 3) tolerance to antituberculosis drugs, and 4) have received standard multidrug anti-tuberculosis treatment for a minimum of 2 weeks.
- Most TB patients do not need to be hospitalized and can be safely isolated at home. Home isolation should be considered for individual patients in consultation with the local health department responsible for the patient.
- TB patients isolated at home (AFB smear positive or negative), in general, should meet the same criteria as hospitalized patients for release from isolation and before return to work and routine activities.

Local Health Department Responsibilities and Expectations for TB Patient Case Management

- Local health departments retain the authority and responsibility for the case management of all TB patients in their jurisdiction, regardless of provider type or site of disease.[5]
- TB case management includes the following minimum activities:
    - Review TB Surveillance Report and interview all new patients regardless of site of disease in a timely manner (usually within 3 working days).
    - Approve appropriate discharge plans for hospitalized patients and treatment plans for non-hospitalized patients.

- Ensure timely and thorough contact investigations are performed for infectious TB patients.
- Ensure medical treatment, follow-up and adherence, including DOT.
- Regularly monitor changes and updates to patient treatment plans.

Standards for Provider Responsibilities and Expectations

Standard 1.1 Reporting to the DPH TB Control Program and the Local Health Department

TB disease, regardless of anatomic site, is a reportable condition to DPH.[6] All providers and laboratories must immediately report patients having suspected or confirmed TB disease by telephone to the DPH TB Control Program (860-509-7722) followed by a written report within 12 hours of suspicion of disease. Patients should also be reported to the local health department where the patient resides. Patients should be reported using the two-page Tuberculosis Surveillance Report Form (Appendix 1). Patients should be reported, even if definitive culture results are not known, if there is microbiologic (e.g. positive AFB smears) or radiologic evidence of TB.

Standard 1.2 Assumption of Care and Appropriate Monitoring of Patients

Any healthcare provider treating a patient for TB assumes an important public health responsibility. To fulfill this responsibility, the provider must be capable of providing care through the completion of treatment. This includes seeing patients at least monthly and sending the Tuberculosis Treatment and Follow-up Care Report Form (Appendix 1) to both DPH and the local health department. If a provider is unable to do this for the full course of treatment, they must facilitate and formally transfer care of the patient to another provider. **No patient can be denied care because of their inability to pay for their TB care.**[8]

The minimum recommended schedule for medical follow-up is as follows:

- After the initial appointment, patients should have clinical evaluations by the provider at least monthly. Consider a visit two weeks after the initial visit for patients with extensive or severe disease and those with TB resistant to rifampin.
- For patients with pulmonary disease, sputa should be obtained for AFB smear weekly until three consecutive negative smears are documented; additional specimens might be required to document culture conversion, preferably prior to the completion of two months of treatment.
- The State TB Control Program should be informed immediately about patients who are lost to medical follow-up.
- Routine measurements of hepatic and renal function and platelet count are not necessary during treatment unless patients have baseline abnormalities or are at

increased risk of hepatotoxicity (e.g., hepatitis B or C virus infection, excessive alcohol use).

- At each monthly visit, patients taking ethambutol should be questioned regarding possible visual disturbances including blurred vision or scotoma. Monthly office testing of visual acuity and color discrimination is recommended. Patients with abnormal findings should be referred to an ophthalmologist.

Additional notification to the TB Control Program and the local health department is also required when 1) therapy is stopped for medical or any other reason, 2) a patient is nonadherent to treatment or appointments, 3) a patient is lost to follow-up, or 4) the patient has persistently positive smears for AFB or culture results after 2 months of treatment.

Standard 1.3 Maintain Proficiency in TB Diagnosis and Treatment

It is expected that healthcare providers who care for patients at risk for TB disease maintain proficiency in the diagnosis and treatment of TB. Opportunities for TB education are available both through webinars and on-site trainings throughout the year in the region through a variety of resources.[9]

***Medical consultation is available through DPH or the Regional Training and Medical Consultation Center and providers are highly encouraged to seek consultation whenever needed, especially at the beginning of treatment.**

Consultation with DPH should be actively sought for all of the following situations: HIV coinfection, drug resistance, children ≤5 years old, and pregnancy.

Standard 1.4 HIV Testing

Given the strong interaction between TB and HIV and the importance and impact that HIV infection and treatment has on TB, all patients with TB disease, regardless of age, should be routinely tested for HIV infection.[10-11] It is also recommended that all patients with TB infection receive HIV testing. Since July 1, 2011, informed consent for HIV testing is no longer required in the state of Connecticut.[12]

Standard 1.5 Hepatitis and Diabetes Testing

Many TB patients are also at risk for hepatitis; in addition, the medications used to treat TB are often hepatotoxic. It is recommended that patients be offered testing for Hepatitis B and C (e.g. Hepatitis B surface antigen, Hepatitis B core antibody and Hepatitis C antibody) when appropriate, and especially when risk factors are present. In addition, diabetes is becoming an important co-morbidity among TB patients that can impact their treatment. Providers are also encouraged to screen patients for diabetes, especially those with risk factors.

Standards for TB Diagnosis

Standard 2.1 "Think TB"

All persons with otherwise unexplained productive cough lasting three weeks or more or other signs and symptoms suggestive of TB should be evaluated for TB, especially those with a TB risk factor. A TB risk assessment, including risk factors, can be found in Appendix 2.

Standard 2.2 Chest Radiography

Chest radiography is the initial imaging modality of choice for evaluating a patient with suspected pulmonary TB.

- Initially, the anteroposterior is the optimal view with possible additional lordotic or lateral views obtained as needed.
- Children aged ≤7 years should have anteroposterior and lateral views obtained at the initial imaging.

Computerized tomography is usually not required for diagnosis but may be done if other conditions are being considered in the differential diagnosis (e.g., cancer).

Standard 2.3 Collection of Specimens and Microbiologic Testing

All persons with chest radiographic findings suggestive of TB should have three sputum specimens submitted for microbiological examination, ideally, before therapy is started. This includes acid fast bacilli (AFB) smear and culture. Adults and children suspected of having pulmonary TB that are capable of producing sputum should have sputum specimens collected 8–24 hours apart. At least one early morning specimen should be obtained. In patients who are not producing sputum spontaneously, induction of sputum using aerosolized hypertonic saline should be attempted in an airborne infection isolation setting, if possible, and any specimen resulting from an induction should be sent to the laboratory for AFB smear and culture; such specimens should be labeled "induced sputum". Sputum induction can almost always yield a specimen; even if specimens appear watery, they should be submitted for testing. DPH and local health departments can assist in the collection of induced sputum for non-hospitalized patients. Directions and guidance for the collection of induced sputum are available.[13] In the rare event that sputum induction is unsuccessful, bronchoscopy should be considered for adults and adolescents. Sputum collection should be considered after a bronchoscopy procedure. DPH and local health departments will usually substitute one bronchoscopy specimen for one of three sputum specimens in the assessment of the infectivity of a patient.

Children who cannot produce sputum should have gastric aspirates performed for culture and drug susceptibility testing.

Treatment for persons suspected with TB disease should be continued until AFB cultures are finalized (6–8 weeks after collection). Even if cultures are negative, some patients might be treated for culture-negative pulmonary TB (see Standard 3.6).

Standard 2.4 Nucleic Acid Amplification (NAA) Testing

NAA testing is recommended for all patients with suspicion of TB and in whom the result would impact management of the patient. NAA testing should be performed on two sputum specimens for a patient as part of the initial diagnostic evaluation. An NAA positive result on an AFB positive sputum smear is presumed TB unless proven otherwise. A negative NAA result on an AFB negative sputum smear should not be used to rule out TB disease in a patient with TB symptoms. NAA testing is available through the DPH Public Health Laboratory; this test can also detect rifampin resistance. DPH staff can assist in the interpretation of NAA results in conjunction with AFB smear results. NAA testing should not be used to monitor response to treatment in TB patients. [13–15] (Appendix 3)

Standard 2.5 TST/IGRA Testing

A tuberculin skin test (TST) or interferon gamma release assay (IGRA) is not a necessary test to diagnose TB disease. A negative TST or IGRA should never be used to rule out TB disease in a patient with clinical signs and symptoms of TB.[1]

Standard 2.6 HIV Testing

All patients with suspected or confirmed TB disease, regardless of age or site of disease, should be tested for HIV. Testing should ideally be opt out testing.[11] Informed consent is no longer required for HIV testing in Connecticut.[12]

Standard 2.8 Radiographic Findings of Previous TB Disease

Patients with parenchymal or fibrotic lesions should not be classified as “old” healed TB based on a single imaging study of the lungs. Either a negative full diagnostic evaluation including sputum cultures or two stable chest radiographs taken at least 6 months apart in the absence of symptoms are needed.

Patients for whom the clinician has a high suspicion of TB, especially those with abnormal chest radiographs, should have appropriate treatment started and continued until cultures are finalized. Some patients with negative cultures might be treated for culture-negative TB (see Standard 3.6).[1]

Standard 2.9 TB in Children[16]

The diagnosis of pulmonary or intrathoracic adenopathy TB in children with negative sputum smears should be based on the finding of chest radiographic abnormalities consistent with TB and either a history of exposure to an infectious patient, previous residence and/or travel to a high TB incidence country, or evidence of TB infection (positive TST or IGRA result). For such patients, obtain specimens by gastric washings or sputum induction for culture and drug susceptibility testing.

Standards for TB Treatment

Standard 3.1 Treatment Regimen

All patients (including those with HIV infection) who have not been treated previously should receive a nationally accepted first-line treatment regimen using DOT.[1]

- The initial treatment phase (2 months) should start with daily (5–7 days per week) isoniazid, rifampin, pyrazinamide, and ethambutol along with pyridoxine (vitamin B6.) Dosages of medications are based on CDC recommendations; adults and children weighing more than 40 kg should be given the standard dosages of medications.[1]
- Once sensitivities are known, ethambutol can be stopped if the organism is found to be susceptible to isoniazid, rifampin and pyrazinamide. For pansensitive TB, these three drugs are continued for a total initiation phase of 2 months. Regimens should be given daily (5–7 days per week) whenever possible; intermittent treatment (thrice weekly with DOT) treatment should be reserved for situations where daily DOT cannot be done.
- The continuation phase (4 months) for most patients consists of isoniazid and rifampin given daily or intermittently (thrice weekly), with a preference for daily treatment, until a total of six months of therapy is achieved or longer if there have been interruptions in treatment. As for the initiation phase, intermittent treatment should be reserved for situations where daily DOT cannot be performed.
- For patients with pulmonary cavitary lesions on chest radiograph and positive culture results after 2 months of treatment, or patients whose initial treatment phase did not include pyrazinamide, the continuation phase should be extended by three months for a total of 9 months of therapy. Intermittent treatment (thrice weekly) in these patients should only be considered with caution.
- In patients with HIV infection, therapy should be daily (5–7 days per week). Intermittent treatment (thrice weekly) in these patients should only be considered with caution. It is strongly recommended that patients be referred to an expert in treating HIV/TB coinfection.[1]
- Never add one drug to a failing treatment regimen. Contact the DPH TB Control Program for medical consultation.

- Fluoroquinolones should be used with caution in the treatment of presumed community-acquired pneumonia in patients with a risk factor for TB because they are active against *Mycobacterium tuberculosis* complex and, thus, may cause transient improvement in persons with TB and lead to delayed diagnosis and continued transmission.[17] Monotherapy for undiagnosed active TB may lead to drug resistance.[18] Fluoroquinolones generally should not be added to the standard TB regimen or used to replace a drug in the standard TB regimen unless there is a concern for drug resistance. **If there is a concern for drug resistance, call the DPH TB Control Program for consultation.**

Standard 3.2 Treatment Adjustments

Once drug susceptibility results are known and the isolate is susceptible to isoniazid, rifampin, and pyrazinamide, the use of ethambutol can be stopped. Pyrazinamide should be stopped after two months of treatment. Patients with pulmonary cavitary disease and a positive sputum culture after two months of treatment should have the length of treatment extended to nine months total treatment.

If treatment is interrupted for more than 2 weeks, a plan to restart therapy consistent with CDC guidelines should be discussed with the DPH TB Control Program.[1]

Standard 3.3 Directly Observed Therapy (DOT)

DOT is the standard of care for **all** patients with pulmonary, laryngeal, or pleural TB and should be used for all doses during the course of therapy. DOT is also recommended for all patients with extrapulmonary TB, especially if patients are high risk for complications or poor outcomes (e.g. pregnant women, children, HIV coinfected). Electronic DOT is an option for all patients for ensuring medication adherence. Guidelines and procedures for electronic DOT in Connecticut are available on the DPH website.[19]

Standard 3.4 Co-infection with HIV

All patients with TB and HIV coinfection should be evaluated immediately to determine if antiretroviral therapy is indicated during the course of treatment for TB.[1] Appropriate arrangements for access to antiretroviral drugs should be made for patients who meet indications for treatment.

- Initiation of treatment for TB disease should not be delayed.
- Given the complexity of concurrent administration of antituberculosis treatment and antiretroviral therapy, immediate consultation with a physician who is expert in treatment of TB and HIV coinfection is recommended before initiation of concurrent treatment for HIV infection, regardless of which disease appeared first.

Standard 3.5 Assessing Drug Resistance

An assessment of the likelihood of drug resistance, based on history of prior treatment, exposure to a possible source patient having a drug-resistant organism, and the prevalence of drug resistance in the country from which the patient originated, should be obtained for all patients.

- Notify the DPH TB Control Program whenever drug resistance is a concern.
- Patients who fail treatment or who have persistently positive cultures (after two months of appropriate therapy) should always be assessed for possible drug resistance.
- For patients in whom drug resistance is considered to be likely, culture and drug susceptibility testing for isoniazid, rifampin, pyrazinamide, and ethambutol should be performed promptly and second-line drug susceptibility testing should be strongly considered. The DPH Public Health Laboratory can facilitate the testing of specimens for drug resistance at CDC and other public health laboratories.

Standard 3.6 Smear-Negative Pulmonary TB and Culture Negative TB[1]

The early diagnosis of sputum smear-negative pulmonary TB should be based on the following criteria:

- The patient has a risk factor for infection with *Mycobacterium tuberculosis*
- Clinical course and chest radiography findings are consistent with TB.
- The patient has at least three negative sputum AFB smears (including at least one early morning specimen).
- Sputum cultures are obtained with results pending.
- There are no alternative diagnoses that have been confirmed and would explain the findings.

Smear negative patients who ultimately have negative cultures might be considered to have culture negative TB if there is clinical improvement while on the standard four drug TB treatment regimen and improvement on chest radiograph after two months of treatment. If these criteria are met, the patient can be continued on isoniazid and rifampin for two more months (four months total) to complete therapy for culture negative TB.

Standards for TB Infection Control

Note: These standards apply to patients with TB disease sensitive to the usual regimen of TB drugs. For patients with multi-drug resistant TB, please consult with the DPH TB Control Program for guidance on infection control in all setting types.

Standard 4.1 Airborne Infection Isolation in Institutionalized Settings

Institutionalized patients with suspected TB in congregate settings (e.g., hospital, correctional facility, long-term care facility) should be immediately segregated in an airborne infection isolation (AII) room until deemed non-infectious. CDC minimally recommends the infection control measures below.

- Patients who have a positive AFB sputum smear result (without an NAA result pending or available), a positive NAA result or are smear negative but TB is highly probable should start on standard multidrug anti-tuberculosis treatment using 4 drugs and be placed in an AII room.
- For institutionalized patients begun on treatment for strongly suspected or confirmed TB disease, release from AII should be conditioned on the following: 1) three consecutive negative AFB sputum smear results, 2) demonstrated clinical improvement (e.g., minimal dry cough, fever resolution), 3) tolerance of antituberculosis drugs, and 4) have received standard multidrug anti-tuberculosis treatment for a minimum of 2 weeks. Additional considerations that may warrant longer isolation are 1) extensive pulmonary disease, 2) possible MDR TB or XDR TB, 3) likely exposure of immunocompromised persons if released from isolation too soon, 4) release to a congregate setting or 5) noncooperation with treatment.
- For patients placed in AII because of possible pulmonary or laryngeal TB, AII precautions may be discontinued when the patient has three consecutive negative AFB sputum smear results and another diagnosis that explains the clinical condition. Two negative NAA results on two sputums can be supportive of the decision to remove a patient from isolation in these situations.[13]
- For patients placed in AII because of possible pulmonary or laryngeal TB and there is no alternative diagnosis, AII precautions may be discontinued when the patient has three consecutive negative AFB sputum smear results, the patient has received appropriate antituberculous treatment with multiple drugs for a minimum of 2 weeks, and has demonstrated clinical improvement (e.g. minimal dry cough, fever resolution). The health department should be consulted for assistance with these cases.
- If a patient has two AFB smear positive specimens that are NAA negative, they can generally be presumed to not have TB and be released from AII.
- Hospitalized children aged <8 years without a parenchymal or cavitary lesion on chest radiograph might not require placement in an AII room. Policies and procedures should be in place to evaluate children with suspected primary TB for infectiousness (e.g., cough, infiltrate or cavitation on chest radiograph). Discussion with hospital infection control practitioners and the health department is recommended on a case by case basis.
- To protect hospital staff and other patients from an undiagnosed source TB cases, adult and adolescent family, household members, and friends visiting children hospitalized with TB should be screened at least with a symptom check and, if symptomatic, a chest radiograph before being allowed to visit the child.[16]

Standard 4.2 Infection Control for Smear Positive Pulmonary TB Patients in the Community

Many TB patients do not need to be hospitalized and can be safely isolated at home. See "Standards for Local Health Department Responsibilities and Expectations for TB Patient Case Management" for necessary activities to determine if a household is appropriate for home isolation of a patient. Smear positive pulmonary TB patients isolated at home should meet the same criteria listed above in Standard 4.1 for release from isolation before return to work and routine activities.

Standard 4.3 Infection Control for Smear-Negative Pulmonary TB Patients in the Community

In general, patients with smear negative pulmonary TB should be isolated and not allowed to return to work or routine activities until the same criteria as outlined in Standard 4.1 above are met. Any deviation from these criteria must be discussed with and approved by the local health department and the DPH TB Control Program.

Standards for Local Health Department Responsibilities and Expectations for TB Patient Case Management

Standard 5.1 Legal Authority for Responsibility and Management of TB Patients

Connecticut General Statutes 19a-265 outlines the legal authority for the care and management of TB patients.[6] Local health departments retain the authority and responsibility for the case management of all TB patients in their jurisdiction, regardless of provider type or site of disease.

Standard 5.2 Treatment/Discharge Plans

Patients who are evaluated, diagnosed, or treated for suspected TB disease require a plan for the continuation of treatment. Treatment plans are used for those for whom treatment was initiated on an outpatient basis. Discharge plans are used for those for whom treatment was initiated in an institutional setting (e.g., hospital, correctional facility, long-term care facility). All plans should be developed in collaboration with and approved by the local health department in the town to which the patient is being discharged before release or currently resides. The plan should include 1) the treatment regimen including amount of treatment completed in the facility and duration of treatment needed, 2) the name of the person or agency providing DOT, 3) obstacles to adherence, 4) patient contact information, and 5) the name and contact information of the provider (Appendix 4). The patient should not be discharged until the local health

director or his/her designee discusses, approves, and signs the discharge plan along with the treating clinical provider and the patient.6

Patients can be discharged home while still potentially infectious or started on TB treatment on an outpatient basis if they have a specific treatment plan including DOT that has been approved by the local public health department director (or their designee); such patients should have stable housing and there should be no risk of exposing uninfected persons who are at high risk for progressing to TB disease (e.g., children aged <5 years, persons infected with HIV). Until the patient is deemed noninfectious, he or she should not have visitors who are uninfected.

Standard 5.3 Contact Investigations for Infectious TB Patients[20]

Every new TB patient, regardless of site of disease, should have at least one interview and/or visit within 3 business days of notification of the case to the local health department. Local health departments are responsible for ensuring that a contact investigation is performed for all infectious TB patients; this includes patients with pulmonary, laryngeal and pleural TB. Contact investigations begin with an interview of the patient and should be done within three business days of notification of the case. This might mean interviewing a patient in the hospital when feasible. Contacts identified and the outcomes of their evaluation should be documented on a Contact Investigation Worksheet (TB-5) form and returned to the DPH TB Control Program (Appendix 5). Interim TB-5 forms should be returned within 60 days of case notification with most contact investigations completed and final documentation sent to the DPH TB Control Program within 90 days of case notification. DPH TB Control Program staff are available to assist with contact investigations, especially those that involve contacts outside of the jurisdiction of the local health department for the patient and workplace investigations.

Identifying and evaluating high risk contacts should be the first priority in a contact investigation. This group includes children <5 years old and immunocompromised adult contacts; these contacts should be evaluated and managed consistent with national and state recommendations.[15,19] This includes a TST or IGRA AND a chest radiograph. If both results are negative, the contact should be placed on appropriate prophylaxis (isoniazid or rifampin, based on the suspected sensitivity pattern of the patient) until the exposure/incubation period is complete. Patients returning to a home setting with these high risk contacts should not do so until the contacts have completed this evaluation and started prophylactic therapy.

Minimum evaluation for persons who have significant contact with an infectious patient should be a TST or IGRA followed by a chest radiograph if either of these tests is positive and any other appropriate tests to complete an evaluation for active TB. Contacts with an initially negative TST or IGRA result should have the test repeated 8–10 weeks after exposure has ended. If the test result converts to positive, they should be managed as

any other contact with TB infection. Contacts with a positive TST or IGRA should be reported to both the local health department and DPH TB Control Program and offered treatment for TB infection unless contraindicated.

Standard 5.4 Promoting Adherence and Directly Observed Therapy (DOT)

TB control entails a case management system that includes the patient, the provider, and the health department. To foster and assess adherence, a patient-centered approach to drug treatment, based on mutual respect between the patient and the provider, should be developed for all patients.

DOT is the standard of care for all patients with pulmonary, laryngeal, or pleural TB and should be used for **all** doses during the course of therapy. DOT is also recommended for all patients with extrapulmonary TB, especially if patients have a history of non-adherence or are at high risk for complications or poor outcomes (e.g. pregnant women, children, HIV coinfected). DOT is recommended for all patients regardless of background, profession or socioeconomic status.

DOT can be performed either in person or electronically using a variety of different devices (e.g. computer/laptop, tablet, mobile phone). Guidelines and procedures for electronic DOT in Connecticut have been developed and are available through the DPH TB Control Program.

A written record (DOT log) of all medications given, bacteriologic response, and adverse reactions should be maintained for all patients, regardless of the type of DOT being performed. (Appendix 6)

- The number of **doses** taken by the patient defines treatment completion.
- Documentation of each dose should be done by the person providing DOT and be available to the clinician at each visit.

Based on availability, the DPH TB Control Program can provide measures such as incentives (e.g. grocery gift cards) and/or enablers (e.g. bus tokens) to promote adherence for individual TB patients.

Standard 5.5 Monitoring Treatment and Adverse Drug Effects

The local health department is responsible for monitoring all patients with TB disease, regardless of site of disease, from initiation to completion of treatment. The responsibility for monitoring includes patients who might be receiving DOT or other services from DPH TB Control Program staff, visiting nurse associations, or other facilities. This includes (but is not limited to) ensuring adherence to DOT and medical visits and addressing nonadherence when necessary, communicating with healthcare providers for treatment updates or about adverse events, and maintaining appropriate documentation (e.g. DOT logs).

All patients should be monitored for response to therapy, best judged in patients with pulmonary and laryngeal TB by follow-up sputum microscopy and culture on a monthly basis until two consecutive sputa cultures are negative.

- At each appointment and dose by DOT, patients should be questioned about possible adverse drug effects.
- Patients with persistently positive AFB smears or culture results after 2 months of medications, with or without symptoms, should be evaluated carefully to identify the cause of the delayed response in consultation with the DPH TB Control Program.
- Patients who have positive cultures after four months of treatment are considered treatment failures and should have therapy modified in consultation with an expert. In patients with extrapulmonary TB and in children, the response to treatment is best assessed clinically.

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Appendices

1. Tuberculosis Surveillance Report; Tuberculosis Treatment and Follow-Up Care Report
2. TB Risk Assessment Questionnaire (English and Spanish)
3. NAA Guidelines for DPH lab
4. Discharge/Treatment Plan Template
5. TB-5 Form
6. DOT Log
7. Resources link: CDC website, TB Resources, RTMCC

Fax or mail to:
Connecticut Department of Public Health
Tuberculosis Control Program
410 Capitol Avenue, MS #11TUB
P.O. Box 340308
Hartford, CT 06134-0308
Phone: 860-509-7722 Fax: 860-509-7743

Tuberculosis Surveillance Report

Complete for ALL TB Disease and Latent TB Infection

Patient Name – Last, First, Middle	Sex at Birth	Date of Birth	Best Phone Number	Alternate Phone
	☐ Male ☐ Female ☐ Other (specify): _____	____|____|____ MM DD YYYY		

Street Address	City	State	Zip	Ever Served in U.S. Military
				☐ Yes ☐ No

Race (select one or more)
☐ American Indian/Alaska Native ☐ Asian (specify): _____ ☐ Black or African American
☐ White ☐ Native Hawaiian or Other Pacific Islander (specify): _____

Ethnicity (select one)
☐ Hispanic or Latino/a
☐ Not Hispanic or Latino/a

Preferred Language
_____

Country of Birth

Month-Year Arrived in U.S.

Immigration Status at First Entry to the U.S.
☐ Not applicable/U.S. born*
* U.S. born or born abroad to a parent who was a U.S. citizen.
* Born in 1 of the U.S. territories, U.S. Island areas or U.S. outlying areas

☐ Student Visa ☐ Family/Fiance Visa ☐ Other Immigration Status
☐ Employment Visa ☐ Refugee ☐ Immigrant Visa
☐ Tourist Visa ☐ Asylee or Parolee ☐ Unknown

Pediatric TB Patients (<15 years old)
Patient lived outside U.S. for > 2 months?
☐ Yes ☐ No
If YES, specify countries: _____

Country of Birth for Guardian(s) (specify)
Guardian 1: _____
Guardian 2: _____

Patient's Insurance Status
☐ Uninsured ☐ Private
☐ Medicare ☐ Other (specify): _____
☐ Medicaid

Status at Diagnosis
☐ Alive ☐ Dead
☐ Date of death: ____\|____\|____ MM DD YYYY

Primary Occupation in the past 12 months
☐ Health care worker ☐ Correctional employee ☐ Retired
☐ Migrant/Seasonal worker ☐ Not seeking employment (e.g. student, homemaker, disabled person) ☐ Unemployed
☐ Other occupation: _____ ☐ Unknown

Most recent employer/school name:

Employer/school address:

SCREENING

Tuberculin (Mantoux) Skin Test (TST):

Date Read: ____\|____\|____ MM DD YYYY

☐ Positive: _____ millimeters of induration
☐ Negative
☐ Not done

Interferon Gamma Release Assay for Mycobacterium Tuberculosis (IGRA):

Date Collected: ____\|____\|____ MM DD YYYY

☐ Positive ☐ Indeterminate
☐ Negative ☐ Not Done

Test Type
☐ QuantiFERON ☐ T-Spot.TB

History of Negative TST?
☐ Yes
☐ No

Date of Last Negative TST? ____\|____ MM YYYY

History of Latent TB Infection or TB Disease?
☐ Disease Year: _____
☐ Infection Year: _____
☐ None

IMAGING – ATTACH COPIES OF ALL IMAGING REPORTS

Initial Chest Radiograph (CXR)

Date: ____\|____\|____ MM DD YYYY

☐ Normal
☐ Abnormal
☐ Not Done

If ABNORMAL:
Evidence of a cavity ☐ Yes ☐ No
Evidence of miliary TB ☐ Yes ☐ No

Other Imaging Study Select one: ☐ CXR ☐ CT Scan ☐ MRI

Date: ____\|____\|____ MM DD YYYY

☐ Normal
☐ Abnormal
☐ Not Done

If ABNORMAL:
Evidence of a cavity ☐ Yes ☐ No
Evidence of miliary TB ☐ Yes ☐ No

BACTERIOLOGY RESULTS – ATTACH COPIES OF ALL RESULTS

#	Date Collected	Specimen Type	Smear	Nucleic Acid Amplification Test	Culture
1	____|____|____ MM DD YYYY	☐ Sputum ☐ Fluid (specify):_____ ☐ Tissue (specify): _____	☐ Positive ☐ Negative ☐ Pending	☐ Positive ☐ Negative ☐ Indeterminate ☐ Not Done; Rifampin resistant detected? ☐ Yes ☐ No ☐ Not Done	☐ (+) MTB ☐ Negative ☐ Pending ☐ Non-TB sp.
2	____|____|____ MM DD YYYY	☐ Sputum ☐ Fluid (specify):_____ ☐ Tissue (specify): _____	☐ Positive ☐ Negative ☐ Pending	☐ Positive ☐ Negative ☐ Indeterminate ☐ Not Done; Rifampin resistant detected? ☐ Yes ☐ No ☐ Not Done	☐ (+) MTB ☐ Negative ☐ Pending ☐ Non-TB sp.
3	____|____|____ MM DD YYYY	☐ Sputum ☐ Fluid (specify):_____ ☐ Tissue (specify): _____	☐ Positive ☐ Negative ☐ Pending	☐ Positive ☐ Negative ☐ Indeterminate ☐ Not Done; Rifampin resistant detected? ☐ Yes ☐ No ☐ Not Done	☐ (+) MTB ☐ Negative ☐ Pending ☐ Non-TB sp.

DIAGNOSIS & EVALUATION

Diagnosis
☐ TB Disease (specify site): _____
☐ Latent TB Infection

Reason for Evaluation
☐ TB symptoms (onset date) ____\|____\|____ MM DD YYYY ☐ Abnormal chest radiograph consistent with TB disease
☐ Contact investigation ☐ Targeted testing ☐ Health care worker ☐ Employment/Administrative testing
☐ Class B1/B2 evaluation ☐ Immigration medical exam ☐ Incidental lab report

Rev. 12/20/2016

Fax or mail to:
Connecticut Department of Public Health
Tuberculosis Control Program
410 Capitol Avenue, MS #11TUB
P.O. Box 340308
Hartford, CT 06134-0308
Phone: 860-509-7722 Fax: 860-509-7743

Tuberculosis Surveillance Report

Complete for ALL TB Disease and
Latent TB Infection

Patient Name: _____
Last First

HIV / HEPATITIS TESTING – ATTACH COPIES OF POSITVE RESULTS

HIV Test Date _____|_____|_____ (MM DD YYYY)

HIV Test Results: ☐ Negative ☐ Positive ☐ Indeterminate ☐ Results pending ☐ Refused

Hepatitis Test Date _____|_____|_____ (MM DD YYYY)

Tests performed: ☐ B ☐ C

Was patient positive for: ☐ B ☐ C

RISK FACTORS

Resident of Long Term Care Facility at Time of Diagnosis?
☐ Yes ☐ No If YES, please specify facility name and type:
_____
_____

Resident of Correctional Facility at Time of Diagnosis?
☐ Yes ☐ No If YES, specify facility:
_____

Resident of Correctional Facility at any time?
☐ Yes ☐ No

Within past year has the patient:
☐ Been homeless? ☐ Yes ☐ No
☐ Used injection drugs? ☐ Yes ☐ No
☐ Used other drugs? ☐ Yes ☐ No
☐ Used excess alcohol? ☐ Yes ☐ No

ADDITIONAL TB RISK FACTORS / MEDICAL CONDITIONS

☐ Contact of infectious TB patient (2 years or less)
☐ Contact of MDR-TB patient (2 years or less)
If known case, give name of source case: _____
☐ Missed contact (2 years or less)
☐ Incomplete Latent TB infection treatment
☐ Diabetes mellitus
☐ Pregnant - Due date: _____|_____|_____
☐ End stage renal disease
☐ Immunosuppression (not HIV/AIDS)
☐ Post-organ transplant
☐ Tumor necrosis factor-alpha (TNF-α) antagonist therapy.
☐ Cancer
☐ Smoking, if yes ☐ Curent ☐ Former
☐ None

Other medical conditions/comments:

TREATMENT

Initial treatment regimen – Please complete for all medications and dosages.

Start Date: _____|_____|_____ (MM DD YYYY)

Expected Duration (months)

☐ Isoniazid _____ mg	☐ Other_____ _____ mg	
☐ Rifampin _____ mg	☐ Other_____ _____ mg	
☐ Pyrazinamide _____ mg	☐ Other_____ _____ mg	
☐ Ethambutol _____ mg	**Please specify NON-TB medications:**	
☐ Pyridoxine (B6) _____ mg	_____ _____ mg	
☐ Rifapentine _____ mg	_____ _____ mg	
☐ Rifabutin _____ mg	_____ _____ mg	
☐ Other _____ _____ mg	_____ _____mg	

Are you requesting FREE medication from the DPH Tuberculosis Program?
☐ Yes ☐ No

IF YES, PLEASE ATTACH A PRESCRIPTION.

Directly Observed Therapy Performed by:
☐ Local Health Dept ☐ VNA ☐ DPH ☐ Other (specify) _____

Discharge/Treatment Plan Completed? ☐ Yes ☐ No

Copies sent to: ☐ Local Health Dept ☐ DPH

PROVIDER INFORMATION

Was patient hospitalized?	Medical Record Number	Date Admitted	Date Discharged
☐ Yes **If yes, discharge plan required** ☐ No		_____|_____|_____ (MM DD YYYY)	_____|_____|_____ (MM DD YYYY)

Admitting Hospital	Phone
Attending Physician	Beeper/Pager No./Cell
Outpatient Follow-up Physician for TB	
Outpatient Facility	Phone
Address	Fax

Person Completing This Report	Phone	Date of This Report
		_____|_____|_____ (MM DD YYYY)

Fax or mail to:
Connecticut Department of Public Health
Tuberculosis Control Program
410 Capitol Avenue, MS #11TUB
P.O. Box 340308
Hartford, CT 06134-0308
Phone: 860-509-7722 Fax: 860-509-7743

Tuberculosis Treatment and Follow-up Care Report Form

Complete for ALL TB Disease and Latent TB Infection

Patient Name – Last, First, Middle	Date of Birth (MM/DD/YYYY)	Date of This Evaluation (MM/DD/YYYY)
Address – Street, City, State, Zip	Best Phone Number	Date of Next Evaluation (MM/DD/YYYY)

This Patient is Being Treated For (please check one)

☐ Active TB Disease ☐ Latent TB Infection

Patient's Insurance Status – (if changed/new)

☐ Uninsured ☐ Medicare ☐ Medicaid ☐ Private ☐ Other (specify): _____

CURRENT TREATMENT

Start Date (MM/DD/YYYY)

Check Drug(s) / Complete Dosages for Current Treatment

☐ Isoniazid _____(mg) ☐ Rifapentine _____(mg)

☐ Rifampin _____(mg) ☐ Rifabutin _____(mg)

☐ Pyrazinamide _____(mg) ☐ Pyridoxine (B6) _____(mg)

End Date: _____ ☐ Other: _____(mg)

☐ Ethambutol _____(mg) ☐ Other: _____(mg)

End Date: _____ ☐ Other: _____(mg)

If one or more drugs were stopped, please indicate which drug(s) and date:

Directly Observed Therapy (DOT)

Is/Was Patient on DOT?

☐ Yes, totally DOT, if yes was it:
- ☐ In Person DOT
- ☐ Electronic DOT

☐ Yes, both DOT and self-administered

☐ No, totally self-administered

If yes, number of doses to date: _____

Treatment Status

☐ Continuing

☐ Completed — Date Completed (MM/DD/YYYY)

Total Months of Treatment: _____

☐ Treatment Stopped (Complete Date Stopped at right and check reason below) — Date Treatment Stopped (MM/DD/YYYY)

Provide reason treatment was stopped.

☐ Refused
☐ Not TB
☐ Adverse Treatment Event
☐ Lost
☐ Other: _____

☐ Died (complete date at right) — Date of Death (MM/DD/YYYY)

☐ Restarted (complete date at right) — If Restarted, Date (MM/DD/YYYY)

☐ Moved (enter new address below)

New Address:

Email address: _____

If moved, were records sent to new provider/health department? ☐ Yes ☐ No

NEW TESTING AND FOLLOW-UP, ATTACH COPIES OF ALL NEW RESULTS

HIV

All TB patients should have testing. If HIV testing was pending, or not initially offered, what are the results now?

☐ Positive ☐ Pending
☐ Negative ☐ Refused
☐ Indeterminate

Date Tested (MM/DD/YYYY)

HEPATITIS

Was patient tested for hepatitis? ☐ No ☐ B ☐ C

If YES, was patient positive for: ☐ B ☐ C

Date Tested (MM/DD/YYYY)

COMPARATIVE IMAGING

Recommended **TWO** months after treatment started for TB disease. ☐ CXR ☐ CT Scan ☐ Other: _____

Results: ☐ Stable ☐ Improving ☐ Worsening

Date Tested (MM/DD/YYYY)

BACTERIOLOGY

Date first consistently negative sputum culture. (MM/DD/YYYY)

If no sputum culture conversion within 60 days (select one):

☐ Still positive culture
☐ NO follow-up sputum despite induction
☐ NO follow-up sputum and NO induction
☐ Patient Lost
☐ Patient Refused
☐ Died
☐ Other (specify): _____

ADDITIONAL INFORMATION

Comments:

PROVIDER INFORMATION

Current Health Care Provider: (Name and Address)

Telephone: ( )

Fax: ( )

Name of Person Completing This Report

Telephone: ( )

Date of This Report (MM/DD/YYYY)

MAIL: White copy to CT Department of Public Health, Yellow copy to the Local Health Department, and Pink to the patient's file.

Tuberculosis Test Interview and Consent

NAME: Last_____First_____

ADDRESS _____ **TOWN** _____ **PHONE** _____

Date of Birth:_____/_____/_____ **E-mail** _____

Country of Birth:_____ **If not US, year of entry**:_____

Have you traveled outside the US during the past 2 years? Yes □ No □

Where? _____ How long? _____

Usual doctor or place for care when you are sick? _____

TODAY:	Date: _____		Date: _____	
Cough (Unexplained or change from usual cough)	Y	N	Y	N
Weight loss (Unexplained or with loss of appetite)	Y	N	Y	N
Fever (Unexplained)	Y	N	Y	N
Increased fatigue	Y	N	Y	N
Chest pain	Y	N	Y	N
Shortness of breath	Y	N	Y	N
Night sweats (Unexplained)	Y	N	Y	N
Do you have any health problems? Please list _____	Y	N	Y	N
Are you taking medicine regularly? Please list _____	Y	N	Y	N
Have you had any immunizations in past month?	Y	N	Y	N

Have you ever:

Had a skin test (PPD) or blood test for tuberculosis? When? _____	Y	N	Y	N
Had a mark on your arm 2 or 3 days after the skin test?	Y	N	Y	N
Been sent for a chest x-ray after the skin or blood test?	Y	N	Y	N
Been told you have tuberculosis?	Y	N	Y	N
Spent time with a person who had active TB?	Y	N	Y	N
Had BCG vaccine?	Y	N	Y	N
Taken medicine for tuberculosis (TB Infection or active TB disease)	Y	N	Y	N
What medicines did you take?				
How long did you take the medicine?				

I request and give permission for tuberculosis testing:

1st Signature:_____**Date:**_____

2nd Signature:_____**Date:**_____

FOR OFFICE USE ONLY:

1st Test: □ TST □ T-Spot □ QFT-GIT

Manufacturer: _____ Exp. Date: _____ Lot Number (if applicable): _____

Date of Test:_____ Time: _____ By:_____

Result: _____ Date:_____ For TST: Arm Left □ Right □

2nd Test: □ TST □ T-Spot □ QFT-GIT

Manufacturer: _____ Exp. Date: _____ Lot Number (if applicable): _____

Date of Test:_____ Time: _____ By:_____

Result: _____ Date:_____ For TST: Arm Left □ Right □

CXR: Yes □ No □ Where: _____ Date:_____

Consentimiento y Entrevista de Prueba de Tuberculosis

APELLIDO_____**PRIMER NOMBRE**_____

DIRECCION _____ **PUEBLO** _____ **TELEFONO** _____

Fecha de Nacimiento: _____/_____/_____ **E-mail** _____

Pais de Nacimiento: _____ **Si no en EU, que año entro a los Estados**_____

Has viajado fuera de los Estados Unidos durante los últimos dos años? Si □ No □

Ha donde? _____ Por cuanto tanto tiempo? _____

Médico habitual o lugar de atención cuando estás enfermo? _____

Hoy:	Fecha: _____		Fecha: _____	
Tos (inexplicada)	Si	No	Si	No
Pérdida de peso (inexplicada)	Si	No	Si	No
Fiebre (inexplicada)	Si	No	Si	No
Aumento de la fatiga	Si	No	Si	No
Dolor en el pecho	Si	No	Si	No
Dificultad para respirar	Si	No	Si	No
Sudores de noche (inexplicada)	Si	No	Si	No
Tiene algún problema de salud? Por favor escriba _____	Si	No	Si	No
Está tomando alguna medicina regularmente? Por favor escriba _____	Si	No	Si	No
Ha tenido alguna vacuna en el último mes?	Si	No	Si	No

Alguna vez:

Tenía una prueba de la piel (PPD) o prueba de sangre para la tuberculosis? Cuando? _____	Si	No	Si	No
Tenía una marca en el brazo 2 o 3 dias después de la prueba de piel?	Si	No	Si	No
Has ido para una radiografía de pecho después de la prueba de la piel o de sangre?	Si	No	Si	No
Te han dicho que tiene tuberculosis?	Si	No	Si	No
Has pasó tiempo con una persona que tenía tuberculosis activa?	Si	No	Si	No
Tenía la vacuna BCG?	Si	No	Si	No
Has tomado medicamentos para la tuberculosis (infección de TB o enfermedad de TB activa)	Si	No	Si	No
Qué medicamentos toma?				
Cuánto tiempo llevas tomando medicina?				

Yo pido y doy el permiso para prueba de tuberculosis:

1st Firma: _____**Fecha:**_____

2nd Firma:_____**Fecha:**_____

FOR OFFICE USE ONLY:

1st Test: □ TST □ T-Spot □ QFT-GIT

Manufacturer: _____ Exp. Date: _____ Lot Number (if applicable): _____

Date of Test:_____ Time: _____ By:_____

Result: _____ Date:_____ For TST: Arm Left □ Right □

2nd Test: □ TST □ T-Spot □ QFT-GIT

Manufacturer: _____ Exp. Date: _____ Lot Number (if applicable): _____

Date of Test:_____ Time: _____ By:_____

Result: _____ Date:_____ For TST: Arm Left □ Right □

CXR: Yes □ No □ Where: _____ Date:_____

Mycobacterium tuberculosis complex
Nucleic Acid Amplification (NAA) Test Requisition

Katherine A. Kelley State Public Health Laboratory
395 West Street, Rocky Hill, CT 06067
Phone: 860-920-6500 / Fax: 860-920-6718

For each clinical respiratory specimen where NAA testing is requested, complete this form, along with a Clinical Test Requisition, when submitting the specimen to the laboratory. Routine mycobacteria smear & culture will also be performed.

NAA testing will automatically be done on the first patient specimen submitted for routine mycobacteria smear & culture found to be **Acid-fast Bacilli (AFB) smear positive** by the CTDPH laboratory (the *M. tuberculosis* complex NAA Test Requisition is not required).

NAA Testing should **NOT** be ordered:

- When clinical suspicion is low (the positive predictive value of the test, the likelihood that the patient has tuberculosis when the test is positive, is low in such cases).
- To determine bacteriologic cure or to monitor response to antituberculous therapy

CTDPH TB Laboratory (860-509-8573) / **CTDPH TB Control Program** (860-509-7722)

Submission Requirements

☐ Clinical respiratory specimens (raw unprocessed): sputum, BAL, bronchial wash.

☐ Patient did not receive antituberculosis therapy, or received less than 3 days of therapy at the time of specimen collection.

☐ Specimens must be received by the laboratory within 10 days of collection.

☐ Test requests must be received within 7 calendar days of specimen receipt in the laboratory.

Submitter Information

Authorized Submitter's Name: _____

Phone : _____ Fax: _____

Patient Information

Name: _____

Patient /Specimen ID #: _____ Date of Birth: _____

Specimen Information

Type / Source: ☐ Sputum ☐ Bronchoalveolar Lavage (BAL) ☐ Bronchial Wash

Date Collected: _____Other Information_____

TUBERCULOSIS PATIENT MANAGEMENT PLAN

FAX in anticipation of discharge:

1. *Health Department for the client's town of residence*
2. *State of CT, TB Control Program, 860-509-7743*

CLIENT NAME_____ DOB _____ RECORD NO. _____

ADDRESS_____ PHONE _____ ADMIT DATE _____ D/C DATE _____

CLIENT'S EMERGENCY CONTACT_____ PHONE_____

ADDRESS_____

The following TB management plan for the client named above has been discussed with the undersigned care providers and client. The care providers agree that this plan is consistent with public health regulation 19a-504c and public act 95-138, requiring a written discharge plan and that plan provide the best medical and public health care available for this client.

This case was reported to the local and state health departments by _____ Date_____

Follow-up TB care physician_____ Phone _____ Appointment date _____

Drugs and Dosages Prescribed: □ INH _____ □ RIF _____ □ PZA _____ □ EMB _____

□ SM _____ □ B-6 _____ □ Other _____ □ Other _____

To be ingested: □ DAILY □ 2x WEEKLY □ 3x WEEKLY □ OTHER _____

(NOTE: Generally, all patients should be on 4 anti-TB drugs until susceptibility results are available.)

Supervision: □ Directly observed (DOT) *Current ATS standard of care* □ self-administered □ Other _____

DOT Worker(s) will be: _____ (weekdays) Phone _____

_____ (weekends) Phone _____

Site(s) and time(s) for Directly Observed Therapy (DOT):

at: _____ time: _____ on weekdays

if necessary, at: _____ time: _____ on weekends

Local/State Public Health Case Manager is _____ Phone: _____

TB specific education and counseling provided by _____ Date_____

Obstacles to therapy adherence identified to date: □ None

□ Homelessness □ Physical limitation □ Substance abuse _____

□ Cognitive limitation □ Mental status □ Other _____

Proposed interventions for obstacles identified above: _____

Referral(s) were/will be made on _____ (date):

Agency/Person: _____ Phone _____

Agency/Person: _____ Phone _____

The following individuals have been notified and approve of above treatment plan:

Physician: _____ Date: _____

Client: _____ Date: _____

Local Health Director or Designee: _____ Date: _____

Print Form

STATE OF CT TUBERCULOSIS CONTROL PROGRAM - CONTACT INVESTIGATION WORKSHEET (TB-5)

410 Capitol Avenue, MS #11TUB, P.O. Box 340308, Hartford, CT 06134-0308 Voice: (860) 509-7722 Fax:: (860) 509-7743

TUBERCULOSIS EPIDEMIOLOGIST: STATE CASE #

INTERVIEWER: ____________

FACILITY: ____________

DATE INTERVIEW INITIATED: ____________

PHONE: ____________

CASE INFORMATION:
NAME (LAST,FIRST, MI)____________ DOB:____________

SITE OF DISEASE:____________ INFECTIOUS PERIOD: START DATE ___/___/___ END DATE ___/___/___

EXPOSURE SETTING CODES:

[01] HOUSEHOLD
[02] NON-HOUSEHOLD/FRIENDS/RELATIVES
[03] RESTAURANT/BAR
[04] CORRECTIONAL FACILITY
[05] SCHOOL/DAY CARE
[06] NURSING HOME
[07] SHELTER
[08] HOSPITAL/ACUTE CARE
[09] WORKSITE
[10] UNKNOWN
[11] OTHER
SPECIFY:____________

RISK FACTOR CODES FOR CONTACTS:

[A] AGE < 5
[B] IMMUNOCOMPROMISED
[C] CXR CONSISTENT W/ INACTIVE TB
[D] OTHER MEDICAL RISK

REPORT AND DATE:
DATE SENT: ___/___/___
SENT TO: ____________
DATE FINAL REPORT REC'D: ___/___/___

CONTACT INFORMATION	EXPOSURE CODES / RISK FACTOR CODES	<8 WEEKS TST/QFT	>8 WEEKS TST/QFT	CXR	TREATMENT	PROVIDER
CONTACT INFORMATION: FIRST NAME:____ LAST NAME:____ ADDRESS:____ ____ PHONE:____ DOB: ___/___/___ GENDER:____ RACE:____ ETHNICITY:____	EXPOSURE CODES: RISK FACTOR CODES:	☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	CXR DATE:___/___/___ ☐ NORMAL ☐ ABNORMAL-CONSISTENT WITH INACTIVE TB ☐ ABNORMAL-CONSISTENT WITH TB DISEASE HIV TEST DATE: ___/___/___ RESULTS: ☐ POS ☐ NEG ☐ INDETERMINATE	TREATMENT DATE STARTED: ___/___/___ DATE STOPPED: ___/___/___ REGIMEN: ☐ INH ☐ RIF ☐ OTHER____ ☐ NO TREATMENT REASON NOT TREATED:	PROVIDER NAME:____ ADDRESS:____ ____ ____ PHONE:____
CONTACT INFORMATION: FIRST NAME:____ LAST NAME:____ ADDRESS:____ ____ PHONE:____ DOB: ___/___/___ GENDER:____ RACE:____ ETHNICITY:____	EXPOSURE CODES: RISK FACTOR CODES:	☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	CXR DATE:___/___/___ ☐ NORMAL ☐ ABNORMAL-CONSISTENT WITH INACTIVE TB ☐ ABNORMAL-CONSISTENT WITH TB DISEASE HIV TEST DATE: ___/___/___ RESULTS: ☐ POS ☐ NEG ☐ INDETERMINATE	TREATMENT DATE STARTED: ___/___/___ DATE STOPPED: ___/___/___ REGIMEN: ☐ INH ☐ RIF ☐ OTHER____ ☐ NO TREATMENT REASON NOT TREATED:	PROVIDER NAME:____ ADDRESS:____ ____ ____ PHONE:____
CONTACT INFORMATION: FIRST NAME:____ LAST NAME:____ ADDRESS:____ ____ PHONE:____ DOB: ___/___/___ GENDER:____ RACE:____ ETHNICITY:____	EXPOSURE CODES: RISK FACTOR CODES:	☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	CXR DATE:___/___/___ ☐ NORMAL ☐ ABNORMAL-CONSISTENT WITH INACTIVE TB ☐ ABNORMAL-CONSISTENT WITH TB DISEASE HIV TEST DATE: ___/___/___ RESULTS: ☐ POS ☐ NEG ☐ INDETERMINATE	TREATMENT DATE STARTED: ___/___/___ DATE STOPPED: ___/___/___ REGIMEN: ☐ INH ☐ RIF ☐ OTHER____ ☐ NO TREATMENT REASON NOT TREATED:	PROVIDER NAME:____ ADDRESS:____ ____ ____ PHONE:____

STATE OF CT TUBERCULOSIS CONTROL PROGRAM - CONTACT INVESTIGATION WORKSHEET(TB-5) -PAGE 2

410 Capitol Avenue, MS #11TUB, P.O. Box 340308, Hartford, CT 06134-0308 Voice: (860) 509-7722 Fax:: (860) 509-7743

CASE INFORMATION: DOB: STATE CASE #
NAME (LAST,FIRST, MI)

CONTACT INFORMATION: FIRST NAME:____ LAST NAME:____ ADDRESS:____ ____ PHONE:____ DOB: ___/___/___ GENDER:____ RACE:____ ETHNICITY:____	EXPOSURE CODES: RISK FACTOR CODES:	<8 WEEKS TST/QFT ☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	>8 WEEKS TST/QFT ☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	CXR DATE:___/___/___ ☐ NORMAL ☐ ABNORMAL-CONSISTENT WITH INACTIVE TB ☐ ABNORMAL-CONSISTENT WITH TB DISEASE HIV TEST DATE: ___/___/___ RESULTS: ☐ POS ☐ NEG ☐ INDETERMINATE	TREATMENT DATE STARTED: ___/___/___ DATE STOPPED: ___/___/___ REGIMEN: ☐ INH ☐ RIF ☐ OTHER____ ☐ NO TREATMENT REASON NOT TREATED:	PROVIDER NAME:____ ADDRESS:____ ____ ____ PHONE:____
CONTACT INFORMATION: FIRST NAME:____ LAST NAME:____ ADDRESS:____ ____ PHONE:____ DOB: ___/___/___ GENDER:____ RACE:____ ETHNICITY:____	EXPOSURE CODES: RISK FACTOR CODES:	<8 WEEKS TST/QFT ☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	>8 WEEKS TST/QFT ☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	CXR DATE:___/___/___ ☐ NORMAL ☐ ABNORMAL-CONSISTENT WITH INACTIVE TB ☐ ABNORMAL-CONSISTENT WITH TB DISEASE HIV TEST DATE: ___/___/___ RESULTS: ☐ POS ☐ NEG ☐ INDETERMINATE	TREATMENT DATE STARTED: ___/___/___ DATE STOPPED: ___/___/___ REGIMEN: ☐ INH ☐ RIF ☐ OTHER____ ☐ NO TREATMENT REASON NOT TREATED:	PROVIDER NAME:____ ADDRESS:____ ____ ____ PHONE:____
CONTACT INFORMATION: FIRST NAME:____ LAST NAME:____ ADDRESS:____ ____ PHONE:____ DOB: ___/___/___ GENDER:____ RACE:____ ETHNICITY:____	EXPOSURE CODES: RISK FACTOR CODES:	<8 WEEKS TST/QFT ☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	>8 WEEKS TST/QFT ☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	CXR DATE:___/___/___ ☐ NORMAL ☐ ABNORMAL-CONSISTENT WITH INACTIVE TB ☐ ABNORMAL-CONSISTENT WITH TB DISEASE HIV TEST DATE: ___/___/___ RESULTS: ☐ POS ☐ NEG ☐ INDETERMINATE	TREATMENT DATE STARTED: ___/___/___ DATE STOPPED: ___/___/___ REGIMEN: ☐ INH ☐ RIF ☐ OTHER____ ☐ NO TREATMENT REASON NOT TREATED:	PROVIDER NAME:____ ADDRESS:____ ____ ____ PHONE:____
CONTACT INFORMATION: FIRST NAME:____ LAST NAME:____ ADDRESS:____ ____ PHONE:____ DOB: ___/___/___ GENDER:____ RACE:____ ETHNICITY:____	EXPOSURE CODES: RISK FACTOR CODES:	<8 WEEKS TST/QFT ☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	>8 WEEKS TST/QFT ☐ TST ☐ QFT DATE: ___/___/___ TST INDURATION: ____MM QFT RESULT: ☐ POSITIVE ☐ NEGATIVE ☐ INDETERMINATE	CXR DATE:___/___/___ ☐ NORMAL ☐ ABNORMAL-CONSISTENT WITH INACTIVE TB ☐ ABNORMAL-CONSISTENT WITH TB DISEASE HIV TEST DATE: ___/___/___ RESULTS: ☐ POS ☐ NEG ☐ INDETERMINATE	TREATMENT DATE STARTED: ___/___/___ DATE STOPPED: ___/___/___ REGIMEN: ☐ INH ☐ RIF ☐ OTHER____ ☐ NO TREATMENT REASON NOT TREATED:	PROVIDER NAME:____ ADDRESS:____ ____ ____ PHONE:____

MONTHLY DIRECTLY OBSERVED THERAPY LOG

Month: ____________

Patient Name:	DOB:	Case Number:	Therapy Start Date:
Home Address:		Phone:	Treatment Prescribed: ☐ INH ________ ☐ EMB ________ ☐ RIF ________ ☐ B6 ________ ☐ PZA ________ ☐ Other ________
DOT Site (if different from home address):			
Other Locating Information:			
Physician of Record:		Phone:	Freq: ☐ Daily ☐ 2x Wkly ☐ 3x Wkly

Date	Enter Dosage For Each					Other	
mm/dd/yy	INH	RIF	PZA	EMB	PY/B6		Worker

Symptoms To Be Reviewed Daily With Patient

- Urine Darker Color Than Usual
- Stools Lighter In Color Than Usual
- Yellow Skin or Eyeballs
- Nausea / Vomiting More Than 2 Days
- Elevated Temp. For More Than 3 Days Without a Cold or Other Clear Reason
- Sustained Loss of Appetite
- Numbness or Tingling in Extremities

Comments (Include the date, description of problem, resolution plan and signature):

Appendix 7: Tuberculosis Information and Education Resources

Department of Public Health TB Control Program
https://www.ct.gov/dph/tb
State specific information including information about services provided, statistics, recommendations and report forms

Centers for Disease Control and Prevention
www.cdc.gov/tb
Access to national guidelines and statistics as well as fact sheets

Rutgers Global Tuberculosis Institute
http://globaltb.njms.rutgers.edu/
One of five regional centers for tuberculosis in the country funded by CDC; tasked with developing educational sessions and products related to TB; also provide medical consultation services

Find TB Resources
www.findtbresources.org
Website dedicated to sharing TB education resources; includes access to developed materials that are available for adaptation