CHAPTER 15: TUBERCULOSIS EVALUATION FOR NEW ARRIVALS AND STATUS ADJUSTERS

INTRODUCTION

Each year, millions of individuals apply for permanent United States (U.S.) residency (new arrivals). To reduce the spread of infectious disease in the U.S., applicants are required to undergo an overseas medical examination that includes a screening for tuberculosis (TB). The Bureau of TB Control (BTBC) receives hundreds of notifications annually for individuals who require additional TB follow-up after arrival in the United States. BTBC is federally required to follow up with all new arrivals with an address in New York City (NYC) who have a TB classification.

In addition to new arrivals, hundreds of thousands of individuals apply to change their immigration status (status adjusters) on an annual basis. Status adjusters have their initial medical screening, which includes a screening for TB.

NEW ARRIVAL MEDICAL SCREENING FOR TUBERCULOSIS

The medical screening for TB among persons overseas applying for U.S. immigration status and nonimmigrants who are required to have an overseas medical examination is an essential component of the medical evaluation designed to detect and treat infectious forms of TB among applicants and to reduce the risk of spread of TB after immigration. In an effort to reduce the spread of TB, persons coming to the U.S. as immigrants, refugees, or other legal permanent residents are required to be screened for TB prior to their arrival. Individuals entering the U.S. as non-immigrants, including those on temporary visas, do not require pre-entry medical screenings.

OVERSEAS MEDICAL SCREENING PROCESS

Using the TB Technical Instructions developed by the Centers for Disease Control and Prevention (CDC), specialized overseas physicians, referred to as panel physicians, screen applicants for active TB disease prior to United States immigration. (See *Figure 15.1: Process Overview: Overseas Medical Screening Exam for Tuberculosis*.) A complete medical screening examination for TB disease consists of a medical history, physical examination, interferon gamma release assay (IGRA) when required, chest radiograph (CXR) when required, and sputum smears and culture testing for *Mycobacterium tuberculosis* (*M. tuberculosis*). Requirements vary based on age of applicant and the WHO-estimated TB disease incidence rate in the country where the exam occurs.

For applicants 15 years of age and older, medical screenings consist of a medical history, physical exam, and CXR. If the panel physician determines that any of the following are present, the applicant is required to provide three sputum specimens for acid-fast bacilli (AFB) smear and culture for mycobacteria:

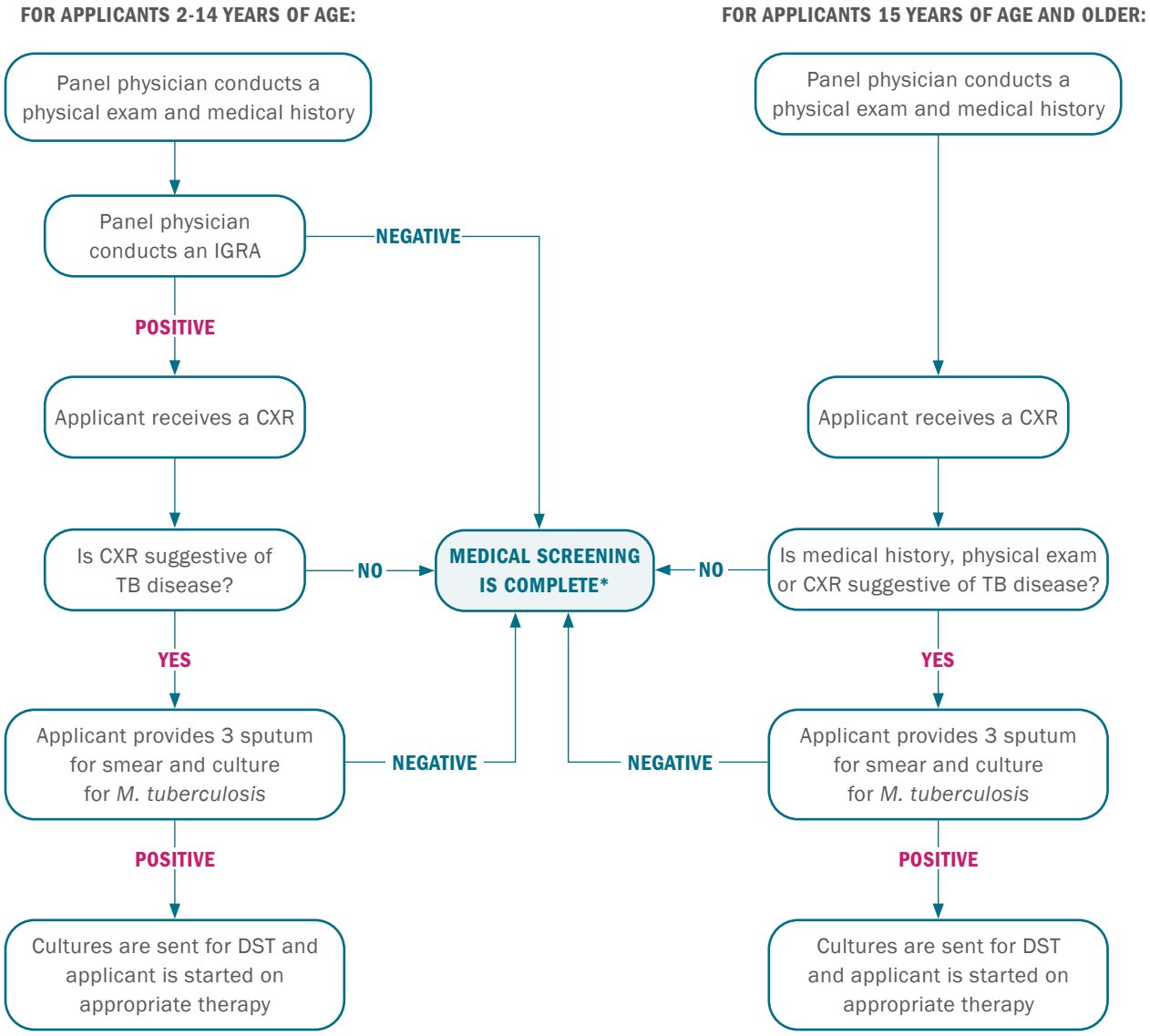
- The CXR is suggestive of TB disease
- The applicant has signs or symptoms consistent with TB disease
- The applicant has human immunodeficiency virus (HIV) infection

If mycobacterial culture growth is observed, the laboratory determines whether *M. tuberculosis* complex and/or a nontuberculous mycobacterium (NTM) is present.

For applicants two to 14 years of age living in countries with a World Health Organization (WHO)-estimated TB incidence rate of 20 cases or more per 100,000 persons, panel physicians will administer an IGRA as part of the medical screening process; in the event that the country of origin does not have an IGRA licensed for use, the tuberculin skin test (TST) can also be used. If the IGRA is interpreted to be positive or the applicant has signs and symptoms consistent with TB disease, the panel physician will perform a CXR. If the CXR is abnormal consistent with TB, child applicants may also be required to provide three sputum specimens for AFB microscopy and culture. If the CXR is normal, child applicants are not required to initiate latent TB infection (LTBI) therapy in their country of origin; they are referred to the health department upon arrival in the U.S. for LTBI treatment.

All applicants younger than two years of age living in countries with a WHO-estimated TB incidence rate of 20 cases or more per 100,000 persons have a physical examination and history provided by a parent or guardian. If the applicant has signs and symptoms consistent with TB disease or HIV infection, the panel physician also administers a test for TB infection (IGRA or TST), a CXR (anteroposterior or posterior-anterior view and a lateral view), and the applicant provides three sputa specimens for AFB microscopy and culture.

FIGURE 15.1: Process overview: Overseas medical screening exam for tuberculosis



Adapted from: United States Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases, & Division of Global Migration and Quarantine. (2009). CDC Immigration Requirements: Technical Instructions for Tuberculosis Screening and Treatment-Using Cultures and Directly Observed Therapy. Retrieved from https://www.cdc.gov/immigrantrefugeehealth/pdf/tuberculosis-ti-2009.pdf.

***If patient is diagnosed with latent TB infection, treatment is deferred until the applicant is in the U.S.**

Abbreviations Used: CXR=chest radiograph; DST=drug-susceptibility test; IGRA=interferon gamma release assay; TB=tuberculosis

Applicants for immigration to the U.S. are screened as directed by the CDC's TB Technical Instructions for Panel Physicians. These instructions can be found at: www.cdc.gov/immigrantrefugeehealth/exams/ti/panel/tuberculosis-panel-technical-instructions.html

OVERSEAS TUBERCULOSIS CLASSIFICATIONS

Panel physicians assign each applicant a TB classification based on the results of their TB medical screening:

- **No TB Classification:** Applicants who have no findings suggestive of TB disease or LTBI. Travel clearance is for six months from the time the evaluation is complete.
- **Class A TB Disease:** Applicants with confirmed active TB disease. This also includes applicants with extrapulmonary TB who have a CXR suggestive of pulmonary TB disease, regardless of sputum smear and culture results. These applicants are not cleared for travel until completion of treatment unless a waiver is granted.
- **Class B0 TB, Pulmonary:** Applicants who were diagnosed with active TB disease or presented to the panel physician while on TB treatment and successfully completed treatment with directly observed therapy (DOT) under the supervision of a panel physician prior to immigration. Travel clearance is valid for three months from the date final cultures are reported as negative.
- **Class B1 TB, Pulmonary:** Applicants have signs or symptoms, physical exam, or CXR findings suggestive of TB disease, **OR** have known HIV infection, but have negative AFB sputum smears and cultures and are not diagnosed with TB disease. This classification also includes applicants who were diagnosed with TB disease, refused DOT treatment, and are returning after treatment and completion of one-year wait. If all parts of the examination are complete, travel clearance is valid for three months from the date final cultures are reported as negative.
- **Class B1 TB, Extrapulmonary:** Applicants diagnosed with extrapulmonary TB disease with a normal CXR and negative sputum smears and cultures. Travel clearance is valid for three months from the date final cultures are reported as negative.
- **Class B2 TB, LTBI Evaluation:** Applicants who have a positive test for TB infection, but otherwise have a negative evaluation for TB disease. Contacts with a positive IGRA or TST ≥ 5 mm must receive this classification in addition to a Class B3. Travel clearance is valid for six months from the time the evaluation is complete.
- **Class B3 TB, Contact Evaluation:** Applicants who are a recent contact of a known TB case (have been exposed to an individual with confirmed infectious active TB disease), regardless of IGRA or TST results. If the IGRA or TST is positive and there is no evidence of TB disease, there will be two classifications, B2 and B3; if negative, B3 only. Information about the source case, name, alien number (if applicable), relationship to contact, and drug resistance of TB disease must also be document. Travel clearance is valid for six months from the time the evaluation is complete.

BUREAU OF TUBERCULOSIS CONTROL NEW ARRIVAL ACTIVITIES

COLLECTION AND PROCESSING OF NEW ARRIVAL INFORMATION

BTBC receives a notification for each new arrival who receives any A or B TB classification and has a NYC address listed as their destination. These notifications inform BTBC that an individual has moved into the area and requires prompt follow-up and evaluation. The CDC's Division of Global Migration and Quarantine (DGMQ) manages and processes all overseas medical examination documents and TB classification results. CDC DGMQ transmits Alien Notification Packages via the Electronic Disease Notification (EDN) system and sends email notifications to BTBC regarding all new arrivals to NYC. A designated unit, the BTBC Immigrant and Refugee Unit (IRU) is primarily responsible for responding to notifications, in collaboration with other BTBC staff and community providers. BTBC staff access the EDN system on a daily basis, downloading EDN TB worksheets, overseas medical examination forms, and other documents associated with new arrivals with TB classifications.

CONTACTING NEW ARRIVALS FOR DOMESTIC TUBERCULOSIS EVALUATION

BTBC IRU staff are assigned new arrivals to follow up with based on the individual's listed address in NYC. Staff initiate contact with new arrivals and begin processing the individual for TB evaluation at either a NYC Health Department TB clinic or a non-Health Department provider. New arrivals are contacted in the following order of priority:

1. Children up to 15 years of age in each class
2. TB Class A
3. TB Class B1-untreated
4. TB Class B0-completed treatment
5. TB Class B2 or B3

Staff contact these new arrivals by phone, email, mail, or home visit and refer them to a NYC Health Department TB clinic or a medical provider of their choice for domestic TB evaluation. In some cases, new arrivals will be unreachable or may refuse to be evaluated for TB. When this occurs, all relevant information is documented in the new arrivals' EDN TB Follow-Up Worksheets and BTBC staff follow guidelines provided by CDC DGMQ.

OUTREACH AND PATIENT INTERVIEWS FOR NEW ARRIVALS

When new arrivals present at a NYC Health Department TB clinic for their scheduled initial evaluation, assigned staff meet with and educate them about TB and next steps in their care. BTBC staff discuss the new arrival's current TB status, the TB evaluation process at BTBC, and the importance of keeping all clinic appointments. Additionally, all patient data listed in EDN is confirmed and information is updated as needed. All information discussed with new arrivals is done in a culturally sensitive manner and services and information are provided in their primary language. Interpretation services are available when necessary.

EVALUATION AND FOLLOW-UP OF NEW ARRIVALS BY BUREAU OF TUBERCULOSIS CONTROL AND NON-BUREAU OF TUBERCULOSIS CONTROL PROVIDERS

NYC Health Department TB clinics are the primary location for new arrivals with TB notifications to receive evaluations and follow-up care once in NYC. BTBC physicians examine each new arrival based on BTBC's policies for evaluating patients for TB; examinations include a physical exam, CXR, and sputum specimens for AFB and culture when necessary. BTBC IRU staff are responsible for obtaining outcomes of TB evaluation from the patient's electronic medical record (EMR) and the BTBC electronic surveillance and case management system (Maven), and transferring required data and information into the EDN TB worksheet until a final disposition is recorded in the EMR. BTBC staff submit completed EDN TB worksheets to CDC DGMQ. If a new arrival decides to receive follow-up care at a community provider, a chart review is conducted to obtain all information needed for EDN.

All new arrivals are followed up with until a final treatment determination has been made by the medical provider; while some new arrivals will not require any additional follow-up, others may be diagnosed with LTBI or active TB disease and start treatment. New arrivals requiring additional follow-up or treatment are monitored and EDN is routinely updated as required until the patient completes treatment or is no longer followed up by BTBC.

In addition to EDN, information on new arrivals who are found to have active TB disease or have signs and symptoms consistent with TB disease is entered into Maven.

(See *Chapter 2: Diagnosis and Treatment of Latent Tuberculosis Infection*, *Chapter 3: Diagnosis of Tuberculosis Disease in Adults*, and *Chapter 5: Treatment of Drug-Susceptible Tuberculosis Disease in Adults*.)

NEW ARRIVAL COHORT REVIEWS AND QUALITY ASSURANCE

To ensure the highest quality care for each new arrival receiving evaluation and treatment from BTBC, various quality assurance (QA) mechanisms are employed. Similar to general case management activities, each quarter BTBC conducts a cohort review for new arrivals. During the new arrival cohort review, staff present on the follow-up and outcomes for each of their patients to supervisors, BTBC physicians, and other staff. (See *Chapter 16: Program Evaluation and Research*.)

In addition to cohort reviews, supervisors conduct biweekly reviews of all assigned new arrivals. This process ensures prompt and appropriate tracking, evaluation, referral, and follow-up of data and information.

STATUS ADJUSTER MEDICAL SCREENING FOR TUBERCULOSIS

Status adjusters are individuals applying to change their U.S. visa immigration status. As these individuals are already in the U.S. when applying for this change, their required medical examination is completed by a U.S.-based civil surgeon. Similar to the evaluation of new arrivals, the status adjuster medical screening includes a TB component.

Effective October 2018, CDC DGMQ released updated guidelines for the evaluation of status adjusters, which include:

- Mandated use of IGRA for all applicants two years of age and older
- CXR for applicants with:
  - A positive IGRA result; or
  - Known HIV infection, regardless of IGRA result; or
  - Signs or symptoms of TB disease, regardless of IGRA result; or
  - Extrapulmonary TB, regardless of IGRA result
- Mandated reporting of applicants with LTBI to the local health department

STATUS ADJUSTER TUBERCULOSIS CLASSIFICATION

Civil surgeons assign each applicant a TB classification based on the results of their TB medical screening:

›› **No TB Classification:** Applicants without clinical findings of TB disease, without known HIV infection, and with a negative IGRA. This includes applicants with a remote history of TB disease who have a negative IGRA, no current signs or symptoms of TB disease, and no known HIV infection.

›› **Class A TB:** All applicants with active TB disease. This class includes applicants who are diagnosed with TB disease by the civil surgeon and health department AND applicants who present to the civil surgeon already on TB treatment at the time of their medical exam. This class also includes applicants with extrapulmonary TB who have a CXR suggestive of TB disease, regardless of sputum smear and culture results.

›› **Class B0, Pulmonary TB:** Applicants who were diagnosed with TB by the civil surgeon and health department during the medical examination process and successfully completed treatment on DOT.

›› **Class B1, Pulmonary TB:** Applicants who have signs or symptoms, physical exam, or CXR findings suggestive of TB disease; or have known HIV infection. These applicants are referred to the health department for additional evaluation, but have negative AFB sputum smears and cultures and are not diagnosed with TB disease.

›› **Class B1, Extrapulmonary TB:** Applicants with extrapulmonary TB, a normal CXR, and negative sputum smears and cultures (if required).

›› **Class B2 TB, LTBI:** Applicants who have a positive IGRA, or history of a positive IGRA, and a CXR not suggestive of TB disease. All of these applicants must be reported to the health department of jurisdiction.

›› **Class B1, Other Chest Condition (non-TB):** Applicants with an abnormal CXR suggestive of disease that is not TB and no clinical signs or symptoms suggestive of active TB.

Civil surgeons perform the medical examination for people applying for adjustment of status for U.S. permanent residence according to the procedures prescribed in the CDC's Technical Instructions for Civil Surgeons. These instructions can be found here: https://www.cdc.gov/immigrantrefugeehealth/civil-surgeons/tuberculosis.html

Effective October 2018, all status adjusters with a positive IGRA result must be reported to the local health department. In NYC, reports must include the IGRA test result, CXR result, and patient contact/demographic information. Reports can be submitted electronically at https://a816-healthpsi.nyc.gov/NYCMED/Account/Login.

SUMMARY

Providing appropriate TB evaluation and follow-up to all new arrivals and status adjusters is vital to TB prevention and care efforts. Within BTBC, various staff provide information and care in a culturally appropriate manner, working with new arrivals to ensure understanding and adherence to BTBC processes. BTBC works collaboratively with CDC DGMQ and others to evaluate and treat this high-risk population and reduce the spread of TB in NYC.

KEY SOURCES

United States Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases, Division of Global Migration and Quarantine. *Tuberculosis Technical Instructions for Panel Physicians*; 2018. https://www.cdc.gov/immigrantrefugeehealth/exams/ti/panel/tuberculosis-panel-technical-instructions.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fimmigrantrefugeehealth%2Fexams%2Fti%2Fpanel%2Ftuberculosis-implementation.html.

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