Appendix A
Glossary

Acid-fast bacilli (AFB) smear
An examination of a specimen (e.g., sputum) that has been spread onto a glass slide, stained, washed in an acid solution, and then placed under the microscope for examination; used to detect acid-fast bacilli in a specimen. Acid-fast bacilli are not decolorized by acid-alcohol after having been stained with dyes such as basic fuchsin.

Active case finding
Identifying unreported cases of TB disease by actively searching for them (e.g., laboratory and pharmacy audits).

Adenopathy
Swelling or enlargement of the lymph nodes.

Adult-type TB
A clinical presentation of TB disease more typical of an adult. Characterized by upper lobe infiltration and cavitation associated with sputum production.

Airborne infection isolation (AII)
Isolation of patients infected with organisms that are spread via airborne droplet nuclei <5 microns in diameter.

Airborne infection isolation (AII) room
Single-occupancy patient-care room in which environmental factors are controlled to minimize the transmission of infectious agents that are usually spread from person to person by droplet nuclei associated with coughing or aerosolization of contaminated fluids. AII rooms typically have specific requirements for controlled ventilation, air pressure, and air filtration.

Alveoli
The small air sacs at the end of airways in the lung.

Amikacin
An injectable second-line drug in the aminoglycoside class that is used for patients with drug-resistant tuberculosis whose isolate has demonstrated or presumed susceptibility to the drug.

Aminoglycoside
A class of broad-spectrum antibiotics active against gram-negative bacteria; can cause renal toxicity and ototoxicity. Aminoglycosides used to treat TB include streptomycin, amikacin, and kanamycin.

Amprenavir
An inhibitor of HIV-1 protease. It is used in combination with other antiretroviral agents for the treatment of HIV-1 infection.

Anergy
Inability to react to skin-test antigens because of a weakened immune system. (Anergic)

Anergy testing
Conducted by giving skin tests using two substances other than tuberculin; done to determine whether a person is anergic. People who do not react to any of the substances, including tuberculin, after 48 to 72 hours (that is, people who have less than 5 mm of induration to all of the skin tests) are considered to have cutaneous anergy to those antigens.

Antiretroviral agents
The categories of antiretroviral agents currently available for the treatment of HIV-1 infection are nucleoside reverse transcriptase inhibitors (NRTI), nucleotide reverse transcriptase inhibitors (NtRTI) and nonnucleoside reverse transcriptase inhibitors (NNRTI), and protease inhibitors (PI).

Apex
The narrow, somewhat conical upper part of a lung. (Plural: apices)

Bacille Calmette-Guérin (BCG) vaccine
Vaccine made from biologic substances derived from a strain of *Mycobacterium bovis* that was attenuated by Calmette and Guérin at the Pasteur Institute in Lille, France. An early version of BCG was first administered to humans in 1921. It is widely used in the World Health Organization's (WHO) immunization programs in highly TB-prevalent countries to reduce risk of life-threatening TB meningitis and disseminated disease in children and adolescents.

Boosted reaction
An increased response of the immune system to a second or subsequent occasion on which it encounters a specific antigen.

Bronchiectasis
Persistent and progressive dilation of bronchi or bronchioles as a consequence of inflammatory disease, obstruction, or congenital abnormality. Symptoms include fetid breath and paroxysmal coughing, with the expectoration of mucopurulent matter.

Bronchoscopy
An examination of the interior of the tracheo-bronchial tree with a flexible fiberoptic device; it is used for inspection, performance of endobronchial diagnostic tests, taking of specimens for biopsy and culture, or removal of foreign bodies.

Capreomycin
A second-line injectable drug that is used for patients with drug-resistant tuberculosis.

Cavity
A hollow space within the lung, visible on a chest radiograph, which may contain many tubercle bacilli; often occurs in people with severe pulmonary TB disease.

Close contacts
Persons who had prolonged, frequent, or intense contact with a person with TB while he or she was infectious. Close contacts are more likely to become infected with *M. tuberculosis* than contacts who see the person with TB less often.

Creatinine
A waste product of protein metabolism that is found in the urine. It can be measured to assess overall kidney function. An abnormally elevated blood creatinine level is seen in those individuals with kidney insufficiency and kidney failure.

Culture
Organisms grown on or in media (liquid or solid substances containing nutrients) so that they can be identified; a positive culture for *M. tuberculosis* contains tubercle bacilli, whereas a negative culture contains no detectable tubercle bacilli.

Cycloserine
A second-line drug that is used for treating patients with drug-resistant tuberculosis.

Delavirdine
A nonnucleoside reverse transcriptase inhibitor of the human immunodeficiency virus type 1 (HIV-1). It is used in combination with other antiretroviral agents for the treatment of HIV-1 infection.

Delayed-type hypersensitivity
An increased reactivity to specific antigens mediated by lymphocytes and not by antibodies.

Demographic factors
Factors such as country of origin, age, gender, ethnic or racial group, and occupation.

Directly observed therapy (DOT)
A strategy used to help patients adhere to treatment; it means that a health-care worker or another designated person watches the TB patient swallow each dose of the prescribed drugs.

Droplet nuclei
Very small droplets, 1 to 5 microns in diameter, that may be expelled when a person who has infectious TB coughs or sneezes; they can remain suspended in the air for several hours, depending on the environment.

Drug-resistant TB
TB disease caused by *Mycobacterium tuberculosis* organisms that are resistant to at least one first-line antituberculosis drug.

Efavirenz
A nonnucleoside reverse transcriptase inhibitor of the human immunodeficiency virus type 1 (HIV-1). It is used in combination with other antiretroviral agents for the treatment of HIV-1 infection.

Ethambutol (EMB)
A first-line drug for treating all forms of TB. It is included in initial treatment regimens primarily to prevent emergence of rifampin (RIF) resistance when primary resistance to isoniazid (INH) may be present.

Ethionamide
A second-line drug used for patients with drug-resistant tuberculosis disease.

Extensively drug-resistant TB (XDR TB)
Extensively drug-resistant TB is a rare type of MDR TB that is resistant to isoniazid and rifampin, plus any fluoroquinolone and at least one of three injectable second-line drugs.

Extrapulmonary TB
TB disease that occurs in places other than the lungs, such as the lymph nodes, the pleura, the brain, the kidneys, the larynx, or the bones.

False-negative reaction
A negative skin test reaction in a person infected with *M. tuberculosis*.

False-positive reaction
A positive skin test reaction in a person not infected with *M. tuberculosis*.

Fluorochrome staining
The use of any fluorescent dye (e.g., auramine, rhodamine) used to label or stain. Must be viewed using a fluorescence microscope.

Fluoroquinolones
A class of synthetic broad-spectrum antibacterial drugs. Examples of fluoroquinolones used to treat TB are levofloxacin, moxifloxacin, gatifloxacin, and ofloxacin.

Gatifloxacin
A fluoroquinolone used as a second-line drug in the treatment of TB.

Granuloma
Chronic inflammatory lesion characterized by large numbers of cells of various types (e.g., macrophages, lymphocytes, fibroblasts, and giant cells).

Hemoptysis
The expectoration of blood or of blood-stained sputum.

Hepatotoxicity
Injury to the liver; can be a side effect of medications.

High-risk congregate settings
Settings where there is a high risk of TB transmission; examples may include correctional facilities, nursing homes, homeless shelters, hospitals, residential facilities for persons living with AIDS, and other health care facilities.

High-risk racial or ethnic minority populations
Populations that have higher rates of TB infection or disease. This may include Asians and Pacific Islanders, Hispanics, African Americans, Native Americans.

Hilar
Relating to, affecting, or located near the depression in the medial surface of a lung that forms the opening through which the bronchus, blood vessels, and nerves pass. Seen in the center of a chest radiograph.

Indinavir
An inhibitor of HIV-1 protease. It is used in combination with other antiretroviral agents for the treatment of HIV-1 infection.

Induration
A palpable, raised, hardened area.

Infectiousness
The infectiousness of a person with TB disease is directly related to the number of tubercle bacilli that he or she expels into the air. Persons who expel many tubercle bacilli are more infectious than patients who expel few or no bacilli.

Interferon gamma release assay (IGRA)
A test that detects the presence of *M. tuberculosis* infection by measuring the immune response to the TB bacteria in whole blood.

Isoniazid (INH)
A first-line drug for treatment of all forms of TB.

Kanamycin
An injectable second-line drug in the aminoglycoside class that is used for patients with drug-resistant tuberculosis.

Latent TB infection (LTBI)
Persons with latent TB infection have *M. tuberculosis* organisms in their bodies but do not have TB disease, have no symptoms, and are noninfectious. Such persons usually have a positive reaction to the TST or IGRA.

Levofloxacin
A fluoroquinolone used as a second-line drug in the treatment of TB.

Lymphadenopathy
Swelling of the lymph nodes.

Macrophage
A type of white blood cell that ingests foreign material; found in the alveoli of the lungs.

Mantoux tuberculin skin test (TST)
Skin test used to detect TB infection. In the United States, it is performed by using a 27-gauge needle and syringe to inject 0.1 ml containing 5 tuberculin units of purified protein derivative (PPD) between the layers of the skin (intradermally), usually on the forearm; the reaction to this test, the induration (palpable hardened area), is measured 48 to 72 hours after the injection and is classified as positive or negative depending on the size of the induration and the patient's risk factors for TB.

Mediastinal
Pertaining to the space in the thoracic cavity behind the sternum and between the two pleural sacs (containing the lungs).

Miliary TB
TB disease that occurs when tubercle bacilli enter the bloodstream and are carried to all parts of the body, where they grow and cause disease in multiple sites; so named because the chest radiograph of patients with miliary TB often looks as though millet seeds are scattered throughout the lung.

Moxifloxacin
A fluoroquinolone used as a second-line drug in the treatment of TB.

Multidrug-resistant TB (MDR TB)
TB disease caused by *Mycobacterium tuberculosis* organisms that are resistant to more than one anti-TB drug. MDR TB is defined as resistance to at least isoniazid and rifampin. It is more difficult to treat than drug-susceptible TB.

Mycobacterium avium
A nontuberculous mycobacteria (NTM) causing disease primarily in domestic fowl and other birds. This bacterium can also cause opportunistic infections in immunocompromised persons; often disseminated infections.

Mycobacterium bovis
A type of tuberculous mycobacteria; the bovine variety of the tubercle bacillus. Before the pasteurization of milk became common practice, these mycobacteria were often spread to humans through contaminated milk; in the United States today, *M. bovis* rarely affects humans.

Mycobacterium gordonae
A type of nontuberculous mycobacteria (NTM); *M. gordonae* is one of the least pathogenic of the mycobacteria.

Mycobacterium intracellulare
A nontuberculous mycobacteria (NTM) found in lung lesions and sputum of humans; may cause bone and tendon-sheath lesions in rabbits; some strains are pathogenic for mice.

Mycobacterium tuberculosis
A type of tuberculous mycobacteria; a gram-positive bacterium that causes tuberculosis. It is sometimes called the tubercle bacillus.

***Mycobacterium tuberculosis* complex**
The *M. tuberculosis* complex includes seven other TB-causing mycobacteria: *M. bovis, M. africanum, M. microti, M. canetti, M. caprae, M. pinnipedii,* and *M. mungi*.

Nelfinavir
An inhibitor of HIV-1 protease. It is used in combination with other antiretroviral agents for the treatment of HIV-1 infection.

Nevirapine
A nonnucleoside reverse transcriptase inhibitor of the human immunodeficiency virus type 1 (HIV-1). It is used in combination with other antiretroviral agents for the treatment of HIV-1 infection.

Nonnucleoside reverse transcriptase inhibitors (NNRTI)
Antiretroviral agents used for the treatment of HIV-1 infection.

Nontuberculous mycobacteria (NTM)
Mycobacteria other than those comprising the *M. tuberculosis* complex. NTM may cause pulmonary disease resembling TB; however, NTM are NOT usually spread from person to person. Just how and why people become infected with NTM is not clear. Although the germs are found easily in water and soil, they do not affect most people.

Nucleotide reverse transcriptase inhibitors (NtRTI)
Antiretroviral agents used for the treatment of HIV-1 infection.

Palpating
A light feathery touch with the fingertips to feel for any induration. A sweeping motion is used to search the forearm for the indurated reaction.

Para-amino salicylic acid (PAS)
An oral drug used in treatment of drug-resistant tuberculosis.

Paradoxical reaction
A temporary exacerbation of symptoms, signs, or radiographic manifestations after initiation of treatment for TB disease.

Pathogenesis
The origin and development of disease.

Paucibacillary
Having or made up of few bacilli.

Peripheral neuropathy
Injury to the nerves that supply sensation to the arms and legs, causing a tingling sensation or a weakened sense of touch in the hands and feet.

Pleural effusion
The collection of fluid (including blood) in the pleural space.

Polymerase chain reaction (PCR)
The first practical system for in vitro amplification of DNA and, as such, one of the most important recent developments in molecular medicine.

Primary TB
TB disease occurring soon after the initial infection with *M. tuberculosis*. Occurs commonly in children or in immunocompromised hosts. Primary TB is characterized by intrathoracic adenopathy, mid- and lower-lung zone infiltrates, and the absence of cavitation.

Protease inhibitors (PI)
Antiretroviral agents used for the treatment of HIV-1 infection.

Pyrazinamide (PZA)
A first-line drug for the treatment of all forms of TB.

QuantiFERON-TB Gold In-Tube test (QFT-GIT)
A whole-blood test for diagnosing TB infection. QFT-GIT measures the patient's immune reactivity to *Mycobacterium tuberculosis*, the bacterium that causes TB.

Reticuloendothelial diseases
Diseases of the phagocytic system of the body, including the fixed macrophages of tissues, liver, and spleen.

Rifabutin
Used as a substitute for rifampin (RIF) in the treatment of all forms of TB caused by organisms that are known or presumed to be susceptible to this drug. The drug is generally reserved for patients who are receiving any medication having unacceptable interactions with RIF or have experienced intolerance to RIF.

Rifampin (RIF)
A first-line drug for treatment of all forms of TB. Rifamycins are an essential component of all short-course regimens.

Rifamycin
A class of drugs that include rifampin, rifabutin, and rifapentine.

Rifapentine (RPT)
May be used once weekly with INH in the continuation phase of treatment for HIV-seronegative patients with noncavitary, drug-susceptible pulmonary TB who have negative sputum smears at completion of the initial phase of treatment.

Ritonavir
An inhibitor of HIV-1 protease. It is used in combination with other antiretroviral agents for the treatment of HIV-1 infection.

Saquinavir
An inhibitor of HIV-1 protease. It is used in combination with other antiretroviral agents for the treatment of HIV-1 infection.

Silicosis
A form of lung disease resulting from occupational exposure to and inhalation of silica dust over a period of years, usually associated with concurrent tobacco use; characterized by a slowly progressive fibrosis of the lungs, it results in impairment of lung function.

Skin-test conversion
A negative tuberculin skin test reaction which increases in size by ≥10 mm within 2 years; indicative of recent infection with *M. tuberculosis*.

Streptomycin (SM)
An aminoglycoside used as a second-line drug in the treatment of TB. Among patients likely to have acquired *M. tuberculosis* in a high-incidence country, the relatively high rate of resistance to SM limits its usefulness.

Symptoms suggestive of hepatitis or hepatotoxicity
Symptoms include nausea, loss of appetite, vomiting, persistently dark urine, yellowish skin, malaise, unexplained elevated temperature for more than 3 days, or abdominal tenderness.

T-SPOT®.*TB* test
A cellular in vitro blood test for the diagnosis of active and latent TB infection that enumerates the response of effector T-cells that have been sensitized to *Mycobacterium tuberculosis*.

Targeted testing
Targeting testing is the tuberculin skin testing of groups for which rates of TB are substantially higher than for the general population.

Transmission
Transmission occurs when a person inhales droplet nuclei containing *M. tuberculosis*, and the droplet nuclei traverse the mouth or nasal passages, upper respiratory tract, and bronchi to reach the alveoli of the lungs.

Tubercle bacilli
Mycobacterium tuberculosis organisms.

Ultraviolet germicidal irradiation (UVGI)
A sterilization method that uses ultraviolet light to break down microorganisms.

Virulence
The ability of any agent of infection to produce disease. The virulence of a microorganism (such as a bacterium or virus) is associated with the severity of the disease it is capable of causing.

Volar surface
Palm-side-up surface of the forearm, about 2 to 4 inches below the elbow.

Ziehl-Neelsen or Kinyoun
Methods for staining acid-fast bacteria; acid-fast organisms appear red, other tissue elements light blue; basic fuchsin dye.