

Appendix B: Abbreviations and Glossary

Abbreviations

ACET	Advisory Council for the Elimination of Tuberculosis	II-Is	Indian Health Service (PHS)
AFB	acid-fast bacilli	INH	isoniazid
AFDC	Aid to Families with Dependent Children program	INS	Immigration and Naturalization Service (U.S. Department of Justice)
AHCPR	Agency for Health Care Policy and Research (PHS)	IPT	isoniazid preventive therapy
AI/AN	American Indian or Alaskan Native	IUATLD	International Union Against Tuberculosis and Other Lung Diseases
AIDS	acquired immunodeficiency syndrome	IVDUS	intravenous drug users
ALA	American Lung Association	<i>M.avium</i>	<i>Mycobacterium avium</i>
BCG	bacillus Calmette-Gue'rin (vaccine)	<i>M.bovis</i>	<i>Mycobacterium bovis</i>
BMRC	British Medical Research Council	MDR-TB	multidrug-resistant tuberculosis
BPHC	Bureau of Primary Health Care (HRSA)	<i>M.tb.</i>	<i>Mycobacterium tuberculosis</i>
CDC	Centers for Disease Control and Prevention (PHS)	NCNR	National Center for Nursing Research (NIH)
CMI	cell-mediated immunity	NCRR	National Center for Research Resources (NIH)
DI	Disability Insurance program (SSA)	NHLBI	National Heart, Lung, and Blood Institute (NIH)
DNA	deoxyribonucleic acid	NIAID	National Institute of Allergy and Infectious Diseases (NIH)
DRG	Diagnosis Related Group system	NIDA	National Institute on Drug Abuse (NIH)
DTH	delayed-type hypersensitivity	NIGMS	National Institute of General Medical Sciences (NIH)
DOT	directly observed therapy	NIH	National Institutes of Health (PHS)
EMB	ethambutol	NIMH	National Institute of Mental Health (NIH)
FDA	Food and Drug Administration (PHS)	NIOSH	National Institute for Occupational Safety and Health (CDC)
GAO	General Accounting Office (U.S. Congress)	NVPO	National Vaccine Program Office (U.S. DHHS)
HEPA	high efficiency particulator air (filter)	OSHA	Occupational Health and Safety Administration (U.S. Department of Labor)
HCFA	Health Care Financing Administration (-U.S. DHHS)	OTA	Office of Technology Assessment (U.S. Congress)
HCWS	health care workers		
HIV	human immunodeficiency virus		
HRSA	Health Resources and Services Administration (PHS)		

PA PUS	powered air purification respirators
PAS	para-amino salicylic acid
PCR	polymerase chain reaction
PHS	Public Health Service (U.S. DHHS)
PPD	purified protein derivative
PZA	pyrazinamide
R&D	research and development
RIF	rifampin
RVCT	“Report of a Verified Case of Tuberculosis” surveillance system (CDC)
SAMHSA	Substance Abuse and Mental Health Services Administration (PHS)
SM	streptomycin
SSA	Social Security Administration (U.S. DHHS)
SSI	Supplemental Security Income Program (SSA)
TB	tuberculosis
U.S. AID	Agency for International Development (U.S. International Development Cooperation Agency)
U.S. DHHS	U.S. Department of Health and Human Services
U.S. DVA	U.S. Department of Veterans Affairs
UV	ultraviolet light
UV-B	ultraviolet-B light
UV-C	ultraviolet-C light
WHO	World Health Organization

Terms

Acid -fast bacilli: Organisms that retain certain stains even after being washed with acid alcohol. Most are mycobacteria. When seen on a stained smear of sputum or other clinical specimen, a diagnosis of tuberculosis should be considered.

Acquired resistance: This term refers to the human-made condition of patients who are unresponsive to one or more of the primary drugs used to treat TB as a result of prior inadequate or erratic treatment. In the CDC’S classification of drug resistance, this is referred to as secondary resistance. *Compare* Primary resistance, Multidrug-resistant tuberculosis, Secondary resistance, Transmitted resistance.

Active tuberculosis: The latter of the two general stages in the progression of TB. Individuals with active TB can be symptomatic and contagious—particularly if they are untreated or inadequately treated. Active TB can affect many organs or tissues; the lungs, however, are the most common

site of infection. The disease can be transmitted during the active stage by persons expelling airborne particles containing tubercle bacilli through coughing, singing, speaking, or sneezing. Symptoms vary with the organ or body system involved, but generally include weakness, fever, chest pain, coughing, and when a small blood vessel is eroded, bloody sputum. See Tubercle bacillus, Tuberculosis.

Aid to Families with Dependent Children program:

A program, established by the Social Security Act of 1935, providing cash payments to needy children (and their caretakers) who lack support because at least one parent is dead, disabled, continually absent from the home, or unemployed. Eligible families must meet income and resource criteria specified by the relevant State.

AIDS (acquired immunodeficiency syndrome): A disease caused by HIV and characterized by a deficiency of the immune system. The primary defect in AIDS is an acquired, persistent, quantitative functional depression within the T4 subset of lymphocytes. This depression often leads to infections caused by microorganisms that usually do not produce infections in individuals with normal immunity. HIV infection can be transmitted from one infected individual to another by means that include the sharing of a contaminated intravenous needle and engaging in unprotected sexual intercourse (i.e., intercourse without the use of condoms).

Alveoli: Terminal air sacs in the lung.

Anergy: The inability to mount an immune response to one or several skin-test antigens as a result of immunosuppression due to disease (e.g., HIV) or immunosuppressive drugs. Anergic individuals infected with the TB bacilli may falsely test negative with the PPD skin test.

Antimicrobial drug: Pharmaceutical agent used to kill or inhibit the growth of microorganisms in humans. See First-line drugs, Second-line drugs.

Attenuated live vaccine: A preparation of weakened bacteria or viruses, fractions thereof, or synthesized antigens identical or similar to those found in the disease-causing organisms, that is administered to produce or increase immunity to a particular disease. In this report, attenuated live vaccine is used in reference to BCG vaccine.

BCG (bacillus Calmette-Guerin) vaccine: A family of related vaccines, originally derived from an attenuated strain of *M.bovis*, believed to enhance the human immune system's response to infection and prevent the multiplication and dissemination of bacilli to various parts of the body. The efficacy of vaccine is still under debate. CDC recommends its use in the United States be restricted to selected high-risk populations among children.

Case rate: This term refers to the number of cases of active TB diagnosed in a given year per 100,000 population.

Caseous necrosis: The characteristic lesion of TB, it appears grossly as gray-white areas that resemble cheese.

Cavitation: The formation of hollow spaces (cavities) in the lungs.

CD4 cells: See T-lymphocytes.

Centers for Disease Control and Prevention: The Federal agency, established in 1973 within the Public Service of then U.S. Department of Health, Education, and Welfare (now U.S. Department of Health and Human Services), charged with the primary responsibility for providing funding and other resources, leadership, and coordination to the Nation's tuberculosis control and prevention efforts. Prior to 1973, CDC existed as the Communicable Disease Centers.

Compliance: Refers to the completion by patients of all aspects of the treatment regimen as prescribed by the medical provider. Other terms, such as "adherence," are sometimes used.

Contact tracing: The procedure of tracing persons who have been in contact with a patient suffering from tuberculosis or other infectious diseases, with the object of discovering the source of infection and preventing its spread.

Delayed-type hypersensitivity: An immune process that occurs in response to tuberculous infection that destroys bacilli-laden inactivated macrophages. An overabundance of DTH causes most of the tissue damage characteristic of pulmonary tuberculosis.

Diagnosis: Identification of a disease or condition by a scientific evaluation of a patient's physical signs, symptoms, medical history, laboratory tests, and procedures.

Directly observed treatment: A compliance-enhancing strategy in which each dose of medica-

tion is observed by a healthcare worker or other responsible person. In this report, also referred to as directly observed therapy.

Disability: In this report, disability refers to the condition that qualifies certain patients with TB for benefits administered by programs of the U.S. Social Security Administration. The agency defines disability as an inability to engage in any substantial gainful activity by reason of any physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months.

Disability Insurance program: See Social Security Disability Insurance program.

Disposable particulate respirator: A face mask that is designed to fit snugly and to filter out particles under the supervision of a health care worker or other responsible person.

Droplet nuclei: Microscopic particles (1 to 5 microns in diameter) produced by coughing, sneezing, or talking that carry tubercle bacilli and remain airborne by normal air currents in a room.

Drug-resistant tuberculosis: Tuberculosis caused by tubercle bacilli that have mutated to render them unresponsive to anti-TB drugs. *Compare* Acquired resistance, Multidrug-resistant tuberculosis, Primary resistance, Secondary resistance, and Transmitted resistance.

Drug-susceptible tuberculosis: Tuberculosis caused by tubercle bacilli that are sensitive to anti-TB drugs.

Efficacy: The probability of benefit to individuals in a defined population from a health care technology applied for a given health problem under ideal conditions.

Epidemiology: The scientific study of the distribution and occurrence of human diseases and health conditions, and their determinants.

Extrapulmonary tuberculosis: Tuberculosis in any part of the body other than the lungs, See laryngeal TB, miliary TB, osteotuberculosis, and TB meningitis.

First-line drugs: The five primary drugs-isoniazid, rifampin, pyrazinamide, ethambutol, and streptomycin-used to treat tuberculosis. Current treatment regimens for uncomplicated cases usually involves taking these drugs in two phases. *Compare* Second-line drugs.

Glucocorticoid drug: Pharmaceutical agent used to suppress the immune system to treat allergic or inflammatory diseases.

Granuloma: A nodular inflammatory lesion usually small or granular, firm, persistent, and containing compact grouped large white blood cells that ingest microbes.

HEPA (high efficiency particulate air) filter: Specialized filter that is capable of removing nearly all particles greater than 0.3 microns in diameter. May be of assistance in environmental control of tuberculosis transmission. Requires expertise in installation and maintenance.

Hepatitis: Diseases characterized primarily by inflammation of the liver. In this report, it refers to the most serious adverse effect of isoniazid, one of the drugs commonly used to treat tuberculosis.

High-risk populations: Certain demographic groups who are at a greater risk than the general U.S. public to contract a particular disease. In the case of TB, these groups include individuals who are economically disadvantaged; co-infected with HIV; foreign born; members of a racial or ethnic minority group; substance abusers; homeless; migrant farm workers; incarcerated; very young or advanced in age.

Histological: Pertaining to the study of anatomy that deals with the minute structure, composition, and function of the tissues; also called microscopical anatomy.

HIV (human immunodeficiency virus): The pathogen that causes AIDS.

HIV-seronegative: Refers to individuals who produce a negative reaction to tests that detect HIV antibodies as an indicator of HIV infection.

HIV-seropositive: Refers to individuals who produce a positive reaction to HIV antibody tests showing antibodies to HIV indicating infection with HIV.

Immunocompetent: Individuals that are capable of producing normal or adequate immune responses.

Immunocompromised: A term used to describe individuals who have a diminished or impaired immune response as a result of diseases (such as cancer or AIDS), malnutrition, or prior medical treatment involving immunosuppressive drugs or irradiation.

Immunodeficiency: A deficiency of immune response or a disorder characterized by deficiency of immune response; classified as antibody (B cell),

cellular (T cell), combined deficiency, or phagocytic dysfunction disorders. Cellular immunodeficiencies are marked by recurrent infections with low-grade or opportunistic pathogens, by graft-versus-host reactions following blood transfusions, and by severe disease following immunization with live vaccines.

Immunosuppression: Refers to the suppression of natural human immune responses by infection as caused by disease, malnutrition, or prior medical treatment involving drugs or irradiation.

Immunosuppressive drugs: Pharmaceutical agents that suppress natural human immune responses to prevent the rejection of grafts or organ transplants.

Immunotherapy: The treatment of disease by the administration to the patient of antibody raised in another individual or another species (passive immunotherapy) or by immunizing the patient with antigens appropriate to the disease (active immunotherapy).

Incidence: The frequency of new occurrences of disease within a defined time interval. The incidence rate is the number of new cases of specified disease divided by the number of people in a population over a specified period of time, usually 1 year.

Incident cases: New cases of a disease within a defined time interval.

INH (isoniazid) preventive therapy: The treatment of tuberculous infection with the antibacterial drug isoniazid to prevent progression of tuberculous infection to active disease.

Laryngeal tuberculosis: Tuberculosis of the larynx.

Latent tuberculosis: See Tuberculous infection.

Lesion: Any abnormal discontinuity of tissue or loss of function. A wound, injury, or one of the individual points or patches of a multifocal disease.

Liquefaction: A disease-related process of solid tissues decomposing into liquid.

Lymphadenitis: See Tuberculous lymphadenitis.

Microphage: A large and versatile immune cell found in many tissues of the body that has an important role in host defense mechanisms by ingesting microbes, including bacteria, viruses, fungi, and other foreign particles,

Medicaid: A government medical assistance program that pays for medical expenses for the poor and certain other classes of uninsured people, estab-

lished by the Title XIX of the Social Security Act of 1965. Each State administers its own program Medicaid is funded by both the State and Federal Governments.

Medicare: A federally administered health insurance program covering the cost of services for people 65 years of age or older, receiving Social Security Disability Insurance payments for at least 2 years, or with end-stage renal disease. Medicare consists of two separate but coordinated programs—hospital insurance (Part A) and supplementary medical insurance (Part B). Health insurance protection is available to qualified persons without regard to income.

Meningitis: See Tuberculosis meningitis.

Miliary tuberculosis: Tuberculosis of various body organs and tissues resulting from millet-like (miliary) lesions or life-threatening meningitis that have been transported through the bloodstream from the initial site of infection (usually the lungs). See Active TB, Latent TB, *Mycobacterium TB*, Tuberc bacillus, Tuberculosis, Tuberculous infection.

Multidrug-resistant tuberculosis: Tuberculosis that occurs in persons who are unresponsive to two or more of the anti-TB drugs used to treat the disease, particularly the two most powerful ones—isoniazid and rifampin. See Acquired resistance, Primary resistance, Transmitted resistance.

Mycobacterium: *The* name of the bacterial family that causes TB and other infectious diseases in humans and animals. In this report, only three members of this category are discussed—*Mycobacterium avium*, *Mycobacterium bovis*, and *Mycobacterium tuberculosis*.

Mycobacterium avium: A non-tuberculous mycobacterial infection that occurs frequently in individuals with AIDS and can lead to serious complications and death.

Mycobacterium tuberculosis: *The* bacteria that causes tuberculosis in humans. See *A4ycobacterium*, *11.E* tuberculosis.

National Action Plan to Combat MDR-TB: In 1992, following the recent worsening of the TB problem as indicated by the series of MDR-TB outbreaks, a national plan was released by CDC to enhance the Federal Government's 1988 strategic plan, "National Action Plan to Combat Multidrug-Resistant Tuberculosis. The Action Plan identified a de-

tailed plan to control drug-susceptible TB and MDR-TB implementation involving an array of Government agencies and professional organizations. See box 7-B for a summary of key points of the Action Plan.

Orphan drug: A drug product discovered and developed for the treatment of a rare disease or a drug product not expected to produce enough revenue to cover its R&D or manufacturing and distribution costs.

Osteotuberculosis: Tuberculosis of the bone.

Polymerase chain reaction: A laboratory process through which repeated cycling of the reaction reproduces a specific region of DNA, yielding millions of copies from the original. The process has been adapted for the rapid detection of TB, although such tests remain expensive and require significant expertise to use.

Powered air purification respirators: Powered, halfmask respirators equipped with high-efficiency particulate filters that are specialized filters capable of removing nearly all particles from the air. These devices have been used as environmental control measure by health care workers to control the transmission of TB.

Prevalence: In epidemiology, the number of cases of diseases, infected persons, or persons with disabilities or some other condition, present at a particular time and in relation to the size of the population. Also called 'prevalence rate.' *Compare* Incidence.

Prevalent cases: Total number of cases of a disease present in a defined population at a particular time.

Prevention: The averting of disease, traditionally characterized as primary, secondary, and tertiary prevention. primary prevention aims at avoiding disease altogether. Secondary prevention strategies detect disease in its early stages of development, with the hope of improving outcome. Tertiary prevention attempts to arrest further deterioration in individuals who already suffer from a disease.

Primary resistance: This term refers to a naturally occurring biological phenomenon in patients who are unresponsive to the common drugs used to treat the tuberculosis but are not known to have received prior treatment. Also called transmitted resistance in this report. In CDC'S classification, primary resistance also refers to infection by a TB organism already drug resistant. *Compare* Acquired resis-

- tance, Multidrug-resistant tuberculosis, Secondary resistance, Transmitted resistance,
- Pulmonary tuberculosis:** Tuberculosis of the lungs, the most common form of the disease.
- Report of a Verified Case of Tuberculosis:** The individual TB case report sent by State and local health authorities to CDC that allows uniform collection and analysis of data on TB cases in the United States.
- Research and development:** In this report, research and development refers to Federal funding of the activities to detect, prevent, and control the TB problem in the United States, including basic scientific inquiry, behavioral research, health services research, development of new or improved diagnostic tools, infection control, and clinical research into vaccines and treatment.
- Resistance:** See Drug-resistant tuberculosis.
- Second-line drugs:** Drugs used to treat TB when a patient is unresponsive to treatment with first-line drugs. The second-line drugs include amikacin, capreomycin, cycloserine, ethionamide, kanamycin, and p-aminosalicylic acid. *Compare* First-line drugs.
- Secondary resistance:** See Acquired resistance.
- Sensitivity:** One measure of the validity (or accuracy) of a diagnostic or screening test: the percentage of all those who actually have the condition being tested who are correctly identified as positive by the test. Operationally, it is the number of true positive test results divided by the number of patients that actually have the disease (true positives divided by the sum of true positives plus false negatives). *Compare* Specificity.
- Social Security Disability Insurance program:** A Federal social insurance program for workers who have contributed to the social security retirement program and become disabled before retirement age. Beneficiaries receive monthly cash payments.
- Specificity:** One measure of the validity (or accuracy) of a diagnostic or screening test: the percentage of all those who do not have the condition being tested who are correctly identified as negative by the test. Operationally, it is the number of true test negatives (all those with a negative test result who actually do not have the condition being tested for) divided by the sum of true negatives plus false positives (i.e., all those who do not have the condition). *Compare* Sensitivity.
- Sputum smear-positive:** Sputum that is positive for AFB when stained and viewed under a microscope. Individuals with TB who are sputum smear-positive for AFB are considered more infectious than those with smear-negative sputum.
- Supplemental Security Income:** A Federal income support program for low-income disabled, aged, and blind persons. Eligibility for the monthly cash payments is based on the individual's current status without regard to previous work or contributions to a trust fund. Some States supplement the Federal benefit.
- Surveillance:** Constant observation of an area to determine the level of disease activity. In this report, surveillance refers to public health activities that include maintaining registries of clinical information concerning cases and suspected cases and conducting contact investigations to locate additional cases.
- T-lymphocytes:** Specialized white blood cells involved in the body's immune response. B-lymphocytes originate in the bone marrow and when stimulated by an antigen produce circulating antibodies (Immoral immunity). T-lymphocytes are produced in the bone marrow and mature in the thymus gland and engage in a type of defense that does not depend directly on antibody attack (cell-mediated immunity).
- Transmitted resistance:** This term refers to TB drug resistance that occurs when a strain of TB already resistant to one or more anti-TB drugs is transmitted to a new case (e.g., in institutional settings) and results in resistance to the same number and types of drugs as in the source case. *Compare* Acquired resistance, Multidrug-resistant tuberculosis, Primary resistance, Secondary resistance.
- Tubercle bacillus:** A bacillus (bacteria) causing tuberculosis; usually refers to *Mycobacterium tuberculosis*, the principal cause of human tuberculosis.
- Tuberculin skin test:** A method for demonstrating infection with *mycobacterium tuberculosis* in which antigenic material from *M.tb.* cultures is introduced into the skin, either intradermally or percutaneously.

Tuberculosis: A treatable infectious disease caused by some species of *Mycobacteria*. Individuals can contract TB when exposed to airborne particles containing tubercle bacilli through inhalation (i.e., coughing, singing, speaking, or sneezing). TB has two general stages: tuberculous infection (latent tuberculosis) and active tuberculosis. The first stage is asymptomatic and *not* contagious to others, whereas active TB is symptomatic and contagious—particularly if untreated or inadequately treated. See Active TB, Latent TB, *Mycobacterium TB*, Tubercle bacillus, Tuberculous infection. See *also* Extrapulmonary TB, Pulmonary TB, Laryngeal TB, Miliary TB, and TB meningitis.

Tuberculosis meningitis: Tuberculosis of the membranes surrounding the brain and spinal cord.

Tuberculous infection: Condition in which living tubercle bacilli are present in an individual, without

producing clinically active disease. Infected individuals usually have a positive tuberculin skin test, but not symptoms related to the infection, and are not infectious. TB infection is necessary to develop active TB disease. Also known as latent tuberculosis.

Tuberculous lymphadenitis: Tuberculosis of the lymph nodes.

Ultraviolet radiation: A form of invisible electromagnetic radiation having a shorter wavelength than that of the violet end of the spectrum and longer than that of x-rays. In this report, ultraviolet radiation refers to an infection control method using ultraviolet light sources to kill bacteria. These lights can be part of ceiling or wall fixtures or found within air ducts of recirculating ventilation systems.