

Worldwide TB Statistics

1. Approximately 8 million new cases of active TB each year
2. World Health Organization (WHO) estimates 2–3 million deaths from TB annually
3. One in every three persons is infected with *M. tb*

U.S. TB Statistics

1. The U.S. TB epidemic peaked in the late 1800s, followed by a steady decline until 1985
2. Between 1985 and 1992, the incidence of TB increased by 20% nationwide
 - a. Factors contributing to the increase:
 - Increased immigration from countries with high incidence of TB
 - HIV infection
 - increasing numbers of people living in homeless shelters and correctional institutions
 - decreased funding of TB control programs

U.S. TB Statistics

b. Characteristics of the increase in TB cases:

- 92% of nation's total increase occurred in five states: NY, CA, NJ, FL, TX
- urban case rates rose 10%; nonurban rates fell from 54% to 46%
- African-American case rates increased 38%
- White case rates decreased 11%
- foreign-born cases increased
- age group was young (25-45 years)

U.S. TB Statistics

3. TB Control from 1992 to the present
 - a. Between 1992 and 2000, cases decreased by 45%
 - b. 2000 was the eighth straight year of declining numbers of cases and had the lowest case rate recorded since 1953, when national surveillance began

U.S. TB Statistics

- c. 2000: 16,377 cases were reported
(5.8 per 100,000)

Factors contributing to decline:

- increased government funding for TB control
- improved laboratory methods
- institutional infection control
- expanded treatment of LTBI in high-risk groups
- stronger efforts to ensure completion of therapy, including DOT

U.S. TB Statistics

d. Drug resistance

- MDR-TB (resistance to isoniazid [INH] *and* rifampin) remains uncommon in U.S.
- INH resistance is approximately 8% of cases nationwide

U.S. TB Statistics

- e. Race/ethnicity and U.S.-born vs. foreign-born
 - between 1992 and 2000, there was a sharp increase in the percentage of cases occurring in foreign-born persons
 - in 2000, approximately 75% of all reported TB cases occurred in racial and ethnic minorities
 - 2000: U.S. born = 54% of cases; foreign born = 46%

U.S. TB Statistics

- e. Race/ethnicity and U.S.-born vs. foreign-born (continued)
- African-Americans account for almost 1 out of every 3 cases
 - in 2000, most foreign-born TB cases came from Mexico, Philippines, Vietnam, India, China, Haiti, and South Korea
 - approximately half of all foreign-born TB cases occur within 5 years after arrival in the U.S.

U.S. TB Statistics

- f. Other high risk groups (2000)
- alcohol: 15% of cases had excess alcohol use
 - injection drugs: 2.5% of cases were injection drug users
 - homeless: 6.1% of cases were homeless persons
 - occupation: 56.8% of cases were unemployed

Definition of DOT and DOT Tasks

A. Definition of DOT

- DOT means that a health care worker or other designated individual (excluding a family member) watches the patient swallow every dose of the prescribed TB drugs (“supervised swallowing”)
- The American Thoracic Society and the Centers for Disease Control and Prevention recommend that every TB patient be considered for DOT
- Some jurisdictions mandate that *all* patients be placed on DOT

Definition of DOT and DOT Tasks

(continued)

B. DOT tasks

1. Deliver medication
2. Check for side effects
3. Verify medication
4. Watch patient take pills
5. Document the visit

Definition of DOT and DOT Tasks

(continued)

C. DOT staff may also assist in:

1. Helping patients keep appointments
2. Providing patient education
3. Offering incentives and/or enablers to encourage adherence
4. Connecting patients with social services/transportation
5. Drawing upon their familiarity with the client's home environment to identify household contacts

Definition of DOT and DOT Tasks

(continued)

D. Who can deliver DOT?

1. Usually: TB clinic personnel (nurse or other health care workers)
2. Staff at other health care settings, such as outpatient treatment centers
3. Other responsible persons (school personnel, employer, clergy)
4. Family members should *not* be used

Definition of DOT and DOT Tasks

(continued)

E. Can we reliably predict who will be nonadherent to their treatment?

No! Anyone can be nonadherent, regardless of social class, educational background, age group, gender, or ethnicity.

Definition of DOT and DOT Tasks

(continued)

F. DOT counseling: contracts and agreements

- Some jurisdictions have successfully used DOT contracts or agreements as a method of ensuring adherence to therapy
- How it works:
 - The DOT worker and the patient negotiate dates, places, and times for DOT services to be provided; both sign a document stating such agreements
 - Included in the agreement is language that specifies what consequences may result in the event that the client violates the terms of the contract

Review Questions

1. Name three populations at risk for TB in the U.S.
2. Name a population that is at particular risk in your local jurisdiction.
3. What is TB case management?
4. What are two negative consequences that can occur if a patient is nonadherent?
5. What is DOT?
6. What are the four main tasks involved in DOT?
7. What are three high-risk groups of patients that must receive DOT?