

Tuberculosis

Tuberculosis is a bacterial disease caused by Mycobacterium tuberculosis. This bacteria primarily infects the lungs and is transmitted from person-to-person by inhalation of droplet nuclei containing the bacteria. Patients with pulmonary or laryngeal tuberculosis generate nuclei when they talk, cough, or sneeze. A majority of patients experience pulmonary tuberculosis characterized by fever, night sweats, weight loss, difficulty breathing, and cough.

The initial treatment of tuberculosis involves administration of 4 drugs—isoniazid, rifampin, pyrazinamide, and either ethambutol or streptomycin—until drug susceptibility test results are obtained. These test results determine the choice of drugs and duration of therapy. For patients with drug resistance, therapy may continue for 2 years or longer. In the United States, tuberculosis incidence rates are higher in males, minority populations, and in older age groups. Areas in the United States reporting the highest incidence rates include New York City and the states of California, Florida, New Jersey, and Texas.

From 1987 through 1996, 22,257 tuberculosis cases were reported in Texas. The number reported annually ranged from 1,757 cases in 1987 to 2,542 cases in 1994. The total for 1997 was 1,992, which represented a 5.3% decline from the number of cases reported in 1996 and 550 fewer than the number for 1994. The incidence rate in 1997 was 10.3 cases per 100,000 population.

In 1997, most patients were male (66.1%), and a majority (69.8%) were Hispanic or African American. Incidence rates (cases per 100,000 population) for Whites, Hispanics, and African Americans were 3.7, 15.0, and 24.4, respectively. Figure 1 shows annual incidence rates by race for 1988 through 1997. For each year, Whites had the lowest rates, and African Americans had the highest rates. Rates for Hispanics and African American showed a trend of increasing then decreasing rates. From 1988 to 1997, incidence rates for Whites have decreased 31%. Rates for African Americans have decreased only 4%.

The 1,992 patients in 1997 ranged in age from younger than 1 year to 106 years (median=42); 85 patients were 4 years of age or younger. A majority (94.2%) of patients 4 years of age or younger were Hispanic or African American.

Almost one-third of the patients (32.0%) were born outside the United States. Only 5.2% of Whites were foreign born. A higher percentage of Hispanics (48.1%) and Asians (88.9%) were foreign born. The most frequent countries of birth for patients born outside the United States were Mexico (56.7%), Vietnam (12.0%), India (4.5%), and the Philippines (4.1%). Over 40% of the foreign-born patients arrived in the United States within the last 5 years; 12% arrived in 1997.

A total of 214 tuberculosis patients were coinfecting with human immunodeficiency virus (HIV). Compared with Hispanics (6.2%), a higher percentage (21.0%) of African Americans were coinfecting with HIV. Similarly, a higher percentage of males (13.0%) were coinfecting with HIV than were females (6.4%).

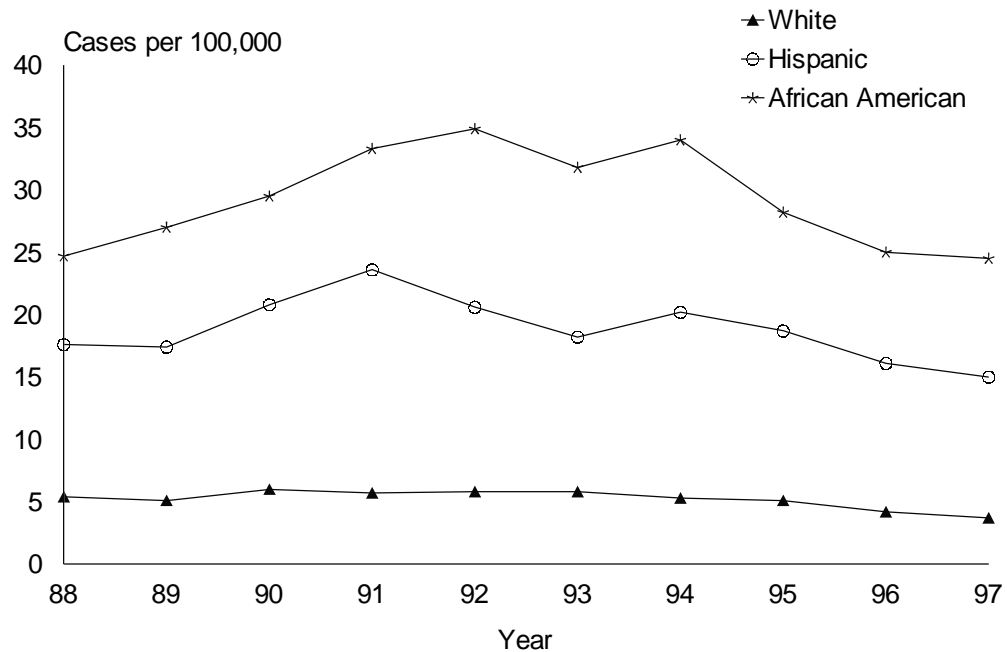
A history of incarceration was reported for 12.0% of the patients, substance abuse for 17.1%, and homelessness for 6.8%. A previous history of tuberculosis was reported for 74 patients.

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Figure 1. Tuberculosis Incidence Rates by Race/Ethnicity, 1988-1997



A total of 1,610 cases were culture confirmed; 116 patients (7.2%) were infected with a drug resistant strain of *Mycobacterium tuberculosis*. By comparison, 8.6% of patients reported in 1996 had drug resistant strains. Isoniazid resistance was noted, whether alone or in combination with other drugs, in 3.9%. Rifampin resistance was noted in 1.8%. Any *M. tuberculosis* strain that is resistant to both isoniazid and rifampin is classified as multidrug-resistant tuberculosis (MDR-TB). Ten patients in 1997 were identified as having MDR-TB. Two of these 10 patients had tuberculosis resistant to all 4 first-line antibiotics—isoniazid, rifampin, pyrazinamide, and ethambutol. Multidrug resistance, was more common in recurrent cases (4.0%) than in new cases (0.6%) and more common in foreign-born patients (1.6%) than in those born in the United States (0.3%). Resistance to rifampin was more common in tuberculosis patients with HIV

infection (4.2%), compared with tuberculosis patients without HIV infection (1.6%).

Patients with tuberculosis resided in 130 counties throughout the state. A majority (74.9%) resided in only 10 of the 254 counties in Texas. Harris County was the county of residence for 623 patients; 289 patients resided in Dallas County. Eleven counties had an annual incidence rate at least twice the state rate. Four of the 11 counties with the highest incidence rates were located along the Mexico-Texas border. Annual incidence rate for Harris County and Dallas County were 19.7 and 13.8, respectively.



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TDH Tuberculosis Elimination Division.
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For further information call (512) 458-7447.

Perspectives in Public Health: Texas Department of Health (TDH) Quarterly CME Conference

On Friday, March 5, 1999, from 8:00 AM to 4:00 PM, the Texas Department of Health (TDH) will present its Perspectives in Public Health: TDH Quarterly CME Conference. Designed for public health and primary care physicians, the conference will be held at the North Austin Medical Center, in the Decherd Auditorium, 12221 Mopac Expressway N. in Austin, Texas. The program will consist of lectures supplemented by audiovisual slide presentations.

After attending this conference, the participants will be able to

- ♦ prevent, detect at an early stage, treat, control, or take remedial action against specific medical conditions that may adversely affect the health of individuals and populations in Texas;
- ♦ identify policies, processes, and products that promote and protect the health of people and preserve environmental quality; and
- ♦ establish relationships with other physicians concerned with public health and preventive medicine issues through dialogue with presenters and other participants.

Topics covered at the upcoming conference include

- ♦ Part I: Birth Defects, Genetics and Public Health
Margaret Drummond-Borg, MD, Director, Genetic Screening & Case Management Division, Bureau of Children's Health, Texas Department of Health, Austin, Texas
- ♦ Part II: Birth Defects, Genetics and Public Health
Mark A. Canfield, PhD, Director, Texas Birth Defects Monitoring Division, Bureau of Epidemiology, Texas Department of Health, Austin, Texas
- ♦ Putting Prevention Into Practice: Gestational Diabetes
Steven R. Allen, MD, Assistant Professor, Texas A&M University Health Science Center, Director, Division of Obstetrics, Scott and White Hospital & Clinic, Temple, Texas
- ♦ Medical Newsdesk
W. S. Riggins, Jr., MD, MPH, Regional Director, Public Health Region 8, Texas Department of Health, San Antonio, Texas
- ♦ Ethics: Antibiotics: To Prescribe or Not*
Sarmistha B. Hauger, MD, Pediatric Infectious Disease, Children's Hospital of Austin and Austin Diagnostic Clinic, Austin, Texas
- ♦ Commissioner's Hour: 76th Legislative Agenda Items: Part II
William R. Archer, III, MD, Commissioner of Health, Texas Department of Health, Austin, Texas

The Texas Department of Health designates this educational activity for a maximum of 6 hours in Category 1 credit towards the AMA Physician's Recognition Award. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

This program has been reviewed and is acceptable for 5.75 prescribed hours by the American Academy of Family Physicians.

The Texas Department of Health is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

For further information and to register, call Public Health Professional Education at (800) 252-8239, Press 4, or (512) 458-7677. You may pay the registration fee at that time by credit card or you may send a check with the completed form located on the back page of this issue.

* This session will provide one hour of ethics and/or professional responsibility as required by the Texas State Board of Medical Examiners.



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To register for the Texas Department of Health Quarterly CME Conference, call the TDH Public Health Professional Education Program at **(800) 252-8239, press 4, or (512) 458-7677**. You may pay the registration fee at that time by credit card or you may send a check with this completed form to the **Texas Department of Health 4C423-001, P.O. Box 149200, Austin, Texas 78714-9200**.

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Registration Form

Perspectives in Public Health: Texas Department of Health Quarterly CME Conference
 Friday, March 5, 1999 8:00 AM - 4:00 PM

Registration Fee: \$50 Regular \$25 Residents/Fellows (with verification letter) Please call me regarding special needs 

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To pay by check, include payment with this registration form and mail to
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Space Is Limited - Reservations Must Be Received By February 26, 1999

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