



NCFH

National Center for Farmworker Health, Inc.



TUBERCULOSIS

Tuberculosis (TB) is an infectious disease that continues to be a significant global health problem, especially among migrant and seasonal farmworkers, who are at greater risk for becoming infected with TB than the general population.¹ Efforts to control TB have had some success, leading to a world-wide decline of new TB cases; however this decline has not been seen in the migrant farmworker population.

General Information

- In 2006, 9.2 million new tuberculosis cases were diagnosed world-wide, an increase of 100,000 cases from the previous year, which researchers attribute to population increases. The global prevalence of TB cases was 14.4 million and 1.7 million people died from the disease in 2006.² Tuberculosis was once the leading cause of death in the United States,³ and remains the leading cause of death from contagious disease in the world.⁴
- Tuberculosis disease is caused by the bacteria *Mycobacterium tuberculosis*, which spread through the air when persons with active tuberculosis disease of the lungs or throat sneeze, cough, speak, or sing. People with active TB disease are most likely to spread germs to people they spend time with every day, such as family, friends or coworkers.⁵ Current statistics indicate that every second someone in the world is infected with TB bacteria and one-third of the world's entire population, or more than 2 billion people, are infected with TB bacteria.⁶
- The bacteria can remain airborne for several hours, and anyone who breathes in the germ-laden air could become infected with *latent* tuberculosis, which means the bacteria is inactive and the person does not feel sick and cannot spread TB to others.⁷
- However, the bacteria can become active at a later time, leading the person to develop active TB disease. Though preventative medications can be taken, 5 to 10 percent of people infected with TB bacteria will develop the active disease at some point in their life.⁸ TB usually affects the lungs, but can also affect the brain, kidneys, spine and other areas. Symptoms include coughing, weakness, weight loss and fever. The disease can be fatal if the infected person does not receive treatment.⁹
- In 1953, the national reporting system established a TB infection rate of 53 per 100,000 population. By 1984, the incident rate was only 9.4 per 100,000 population, resulting in an average annual decline of 5.8 percent.¹⁰ However, due to several factors including the HIV epidemic, immigration from countries with high rates of TB, and inadequate funding for TB control, this trend reversed between 1985 and 1992, when the number of incidents rose. In 1985, the annual case total was 22,201 and by 1992, the total peaked at 26,673, with an incidence rate of 10.5 cases per 100,000. In response to this increase, funding and control efforts doubled, resulting in a case rate decline that reached an all-time low in 1999, with 6.4 cases per 100,000,¹¹ and a total annual decrease of 48 percent. United States TB case counts from 2006 totaled 13,779, a 2.1 percent decrease from 2005.¹²

- However, the decreasing trend in annual case rates has slowed from 6.6 percent in 1993 through 2002 to 3.1 percent for 2003 through 2006.
 - Twenty states reported increased case counts from 2005
 - California, New York, Texas and Florida accounted for 48 percent of the national total¹³

- Multi-Drug Resistant Tuberculosis, or MDR-TB, is a form of TB that is resistant to at least two of the best anti-TB drugs, isoniazid and rifampicin. TB that resists all major anti-TB drugs is called Extensively Drug Resistant Tuberculosis, or XDR-TB,¹⁴ Both are associated with inconsistent or partial treatment and compromised immune systems, especially in the case of HIV/AIDS. MDR-TB is generally treatable but requires extensive chemotherapy, up to two years of treatment and more costly, second line anti-TB drugs that produce more severe side effects.¹⁵ XDR-TB is extremely rare with only three cases reported in the U.S. in 2006.
 - The proportion of patients with MDR-TB in the United States has decreased from 2.4 percent in 1993 to 0.9 percent in 2006.
 - From 1998 to 2006, the percentage of U.S.-born patients with MDR-TB has remained stable.
 - However, of the total reported cases of MDR-TB, the representation of foreign-born persons increased from 25.5 percent in 1993 to 80 percent in 2006.¹⁶

- The World Health Organization calls the combination of HIV and TB a “lethal combination” because each speeds the other’s progress. HIV weakens the immune system and increases a person’s chances of developing active TB disease from a latent infection by 50 times.¹⁷
 - In 2006, 8 percent of all TB cases, or 700,000, were in HIV-positive patients.
 - In the same year, an estimated 200,000 HIV-positive people died from TB.¹⁸
 - As of 2008, an estimated 11 million people have TB and HIV.
 - 50 percent of people with AIDS die from TB. People with HIV/AIDS are at a much higher risk of dying from MDR-TB.¹⁹

- In the United States:
 - Patients with both TB and HIV are five times more likely to die during anti-TB treatment.
 - Of TB patients with a known HIV status, 13 percent were HIV positive.
 - Groups of patients with HIV infection rates higher than the national average of 9 percent include:
 - Injecting drug users (IDUs) at 35 percent
 - Homeless persons at 22 percent
 - Correctional facility inmates at 16 percent²⁰

Farmworker Data

- Farmworkers have a significantly higher risk of dying from the disease, likely because of poor access to medical care. A 2001 study of more than 26,000 farmworkers found significant excesses of tuberculosis-caused deaths,²¹ and a 2002 government report showed agricultural workers and farmworkers to have the second and third highest rates of respiratory TB deaths out of all industries and occupations.²²
- The crowded living and working conditions, as well as the lifestyle common for migrant farmworkers, lead them to have increased chances of developing tuberculosis during their lifetime. Farmworkers are six times more likely to develop tuberculosis when compared with other workers, and rates of positive TB results between 17 percent and 50 percent have been reported throughout the United States.²³

- People at a high risk for TB infection include those with compromised immune systems, which cannot stop TB bacteria from growing and spreading. This includes people with HIV/AIDS, those who are malnourished and injection drug-users.²⁴
 - Farmworkers have an increased HIV/AIDS rate, which could be as much as 10 times the national average.²⁵
 - Food insecurity and hunger reported by farmworker families are substantially higher than the U.S. population average. A 2007 study of farmworkers in Texas and New Mexico found 82 percent to have experienced food insecurity, of which 49 percent experienced hunger.²⁶
 - Sharing needles to inject vitamins and antibiotics is a common practice among many farmworkers.²⁷
- An important factor contributing to farmworkers' increased TB risk is their country of origin. According to research by the U.S. Department of Health and Human Services, the TB burden in foreign-born persons continued to increase since 1993 and was at 57 percent in 2006, or 7,799 cases out of 13,779 total cases. This is nine times higher than the rate of persons born in the United States and foreign-born persons have made up the majority of TB cases in the U.S. for the sixth consecutive year.²⁸
 - In 2006, 27 states reported foreign-born persons as 50 percent of the total TB cases
 - 11 states reported foreign-born persons as 70 percent of the total TB cases
 - Out of all MDR-TB cases, the proportion of foreign-born persons with MDR-TB increased from 25.5 percent in 2003 to 80 percent in 2006, compared with 0.7 percent of U.S.-born persons.²⁹
 - From 2001 to 2006, the top five countries of origin for foreign-born persons with TB were:
 - Mexico at 25 percent
 - Philippines at 11 percent
 - Vietnam at 8 percent
 - India at 7 percent
 - China at 5 percent
- Many farmworkers enter this country from areas of the world where tuberculosis rates are much higher than the U.S., such as Southeast Asia, Latin America, and Haiti.³⁰
 - Mexico for instance, which is the country of origin of 75 percent of all foreign-born farmworkers³¹, had a rate of 21 cases of Tuberculosis per 100,000 people in 2006 compared to a rate of 4.6 cases of Tuberculosis per 100,000 people in the U.S.^{29a}
 - The five global regions with the highest TB rates were Africa, Latin America, Eastern-Mediterranean, Europe and South-East Asia.³²
- Similar to country of origin, ethnicity is also an indicator of higher rates of tuberculosis. In 2006, 83 percent of all TB cases in the United States were among racial and ethnic minorities, with Hispanics having the largest percentage of total cases for the third consecutive year at 30 percent.³³ This is especially pertinent as 83 percent of all farmworkers were Hispanic according to the latest National Agricultural Workers Survey.³⁴
- A 1996 report by the CDC stated that single drug resistant tuberculosis rates are 1.7 – 5 times higher among foreign-born Hispanic patients compared to Hispanics born in the United States. Similarly, prevalence of multi-drug resistant strains of tuberculosis was 6.8 times higher among foreign-born Hispanics.³⁵

- Tuberculosis in migrant farmworkers presents special problems because of the need for long-term treatment or preventive efforts, contact examinations, population mobility, fear of deportation, cost of treatment, and other barriers to health care.^{33a}
- A mobile lifestyle characterized by constant residential change makes knowledge of health services difficult. This mobility also makes follow-up care, which is very necessary in treating TB, more difficult to provide.³⁶ It can take six months to one year to kill all TB bacteria. When treatment is interrupted, patients are more likely to develop MDR-TB.³⁷
- Language barriers and limitation in knowledge about tuberculosis among farmworkers may contribute to misunderstandings about the importance of screenings and if identified, completing the treatment regimen.^{37a}
- Low incomes and lack of health insurance hinder farmworkers from receiving proper medical care. As much as 75 percent of farmworkers do not have health insurance.³⁸

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