



# NCFH

National Center for Farmworker Health, Inc.

## TUBERCULOSIS

*Tuberculosis is an infectious disease that continues to be a significant health problem among migrant and seasonal farmworkers. Farmworkers are at greater risk for becoming infected with TB than the general population.<sup>1</sup> Efforts to control TB have been successful in many cases world wide leading to overall declines in those infected with the disease, however this decline has not been seen in the migrant farmworker population.*

### General Information

- Currently, 1.9 billion people are infected with tuberculosis world wide each year, while 1.9 million people annually die from the disease<sup>1</sup>
- The tuberculosis organism is transmitted primarily through the air on small airborne droplets which are produced when persons with tuberculosis of the lung or larynx sneeze, cough, speak, or sing. These droplets can linger in the air for extended periods of time, and anyone who inhales them may become infected<sup>2</sup>. Caused by *Mycobacterium tuberculosis*, tuberculosis is usually not as infectious as some other communicable diseases such as measles, but infectiousness varies considerably from case to case. When persons repeatedly share the same air with an infectious patient, they can be infected.<sup>3</sup>
- TB sometimes affects parts of the body other than the lungs. This is called extra-pulmonary TB, and it may affect bones, joints, the nervous system, urinary tract, and other areas. This happens more frequently in persons with HIV infection.<sup>4</sup>
- Although infection lasts for years, those with strong immune systems will not typically exhibit symptoms. While in this asymptomatic state, also known as latent tuberculosis infection, those infected are not contagious. In such a case, a positive skin test is the only indication of infection. However, anti-tuberculosis medicine is still needed to eliminate the infection, and if left untreated, as many as 10% will develop active TB disease.<sup>5</sup> Fever, weight loss and cough usually accompany active tuberculosis.<sup>6</sup>
- Based on information from local reporting systems, tuberculosis infection rates steadily declined through much of the 20<sup>th</sup> century. In 1953, when the national reporting system was established, the infection rate was 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%. However, between 1985 and 1992 this trend reversed, and incidents of infection rose. In 1985, the annual case total was 22,201. By 1992, the total was 26,673. Since then however, the annual total has declined—7.3% annually between 1992 and 2001.<sup>7</sup> In 2000, 16,377 cases of tuberculosis were reported, representing a 7% decrease from 1999<sup>8</sup>.
- Multi-Drug Resistant Tuberculosis, or MDR-TB, is commonly associated with compromised immune systems, inconsistent treatment, and multiple infections. In a 1992 survey conducted in New York City, 33% of all cases of tuberculosis were resistant to at least one anti-tuberculosis drug. 19% were resistant to two or more. From 1990 to early 1992, the CDC investigated outbreaks in institutional settings in New York and Florida (such as prisons and homeless shelters). Over 200 cases were reported, mostly in HIV patients. MDR-TB extends treatment from 6 to up to 24 months, with a mortality rate up to 89%<sup>9</sup>. On average, foreign-born persons are more likely to develop MDR-TB than the rest of the population. Of the

141 MDR-TB cases reported in 2000, 72% occurred in foreign-born persons<sup>10</sup>.

- HIV infection appears to have increased the incidence of tuberculosis. Because HIV-infected people have weakened immune systems, they have much greater chances of developing active TB disease, either by activation of latent infection or by being newly infected. It has been estimated that an individual who is infected with both HIV and TB has a seven to ten percent chance per year of developing active TB, as opposed to the 10 percent lifetime chance of someone who is infected with tuberculosis but not HIV. An estimated 11 million people worldwide are infected with both HIV and TB. Estimates of the proportions of individuals similarly infected in the United States have varied greatly. Worldwide, TB is the leading cause of death among people who are HIV positive, accounting for 15% of AIDS deaths, 50% in Africa alone. However, this is not the case in the US. TB is a much less common cause of death in HIV infected individuals. However, unlike other diseases associated with AIDS, tuberculosis is especially serious because it can be spread by airborne transmission to adults and children in the community who are not at risk for AIDS.<sup>11</sup>

### **Farmworker Data**

- Migrant Farmworkers have especially high rates of Tuberculosis infection, and studies of screening tests among migrant farmworkers have revealed that 37% of farmworkers tested positive for TB in the Delmarva Peninsula,<sup>12</sup> 41% were positive in North Carolina,<sup>13</sup> 44% in Florida,<sup>14</sup> and 48% in Virginia.<sup>15</sup>
- Farmworkers are at an increased risk for tuberculosis for a variety of reasons. An important factor to consider is the place of origin of many farmworkers. While the total number of cases in the United States has declined, the rate at which minorities and the foreign-born are infected has increased.<sup>16</sup> This stable morbidity rate amongst foreign-born persons, relative to decline rates amongst the U.S.-born population, indicates that most are infected in their country of origin.<sup>17</sup> In 1986, 4,925 foreign-born persons were infected, representing 22% of the total.<sup>18</sup> In 1992, they represented 27% of the total, while by 2000 they constituted 46% with 7,554 of the total 16,377. Of these, 41% were from Central and South America and the Caribbean.<sup>19</sup> 81% of all farmworkers are foreign-born, and 77% of the total coming from Mexico. An additional 2% are from various points in Latin American. 88% of all farmworkers are Hispanic.<sup>20</sup>
- Many farmworkers enter this country from areas of the world where tuberculosis rates are much higher than in the U.S., such as Southeast Asia, Latin America, and Haiti. Mexico for instance, which is the point of origin of many farmworkers, has a rate of 27 cases of Tuberculosis per 100,000 people.<sup>21</sup>
- By 2000, 77% of all TB cases in the United States were among racial and ethnic minorities.<sup>22</sup> Rates for Asians//Pacific Islanders (32.9 per 100,000), African Americans (15.2 per 100,000), Hispanic (10.8 per 100,000) and Native Americans (11.4 per 100,000) are several times higher than that of Caucasians (1.9 per 100,000).<sup>23</sup> Haitian and Caribbean farmworkers are at the greatest risk overall (up to 85%).<sup>24</sup>
- In 1996, a 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.<sup>25</sup>
- In part, the increased risk of tuberculosis can also be considered an occupational hazard of migrant farmworkers with malnutrition and poor, crowded housing conditions among these hazards.<sup>26</sup> An examination of pulmonary tuberculosis deaths from 1979 to 1990 indicated that farmworkers were twice as likely to contract tuberculosis as any other employed group. According to one CDC survey, farmworkers represented 5% of all employed TB cases.<sup>27</sup>
- 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.<sup>28</sup> The transient nature of farm work and the long duration required for tuberculosis treatment make it difficult to assure patient compliance with screening programs, preventive therapy, and chemotherapy for farmworkers.<sup>29</sup> Language barriers and limitations in knowledge about tuberculosis may contribute to misunderstandings about the importance of screenings and if identified, completing the treatment regimen.<sup>30</sup>
- Complete eradication of the tuberculosis infection requires 6 months of consistent treatment, which is often very difficult to accomplish with the transient nature of migrant farmwork and the economic conditions faced by many migrant farmworkers. When treatment is interrupted, patients are more likely to develop MDR-TB.<sup>31</sup>

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