



2006 Tuberculosis Epidemiology Report

TB in North Dakota – 2006

In 2006, nine cases of tuberculosis (TB) were reported in North Dakota. With an incidence rate of 1.4 per 100,000, the North Dakota rate continues to be below the national rate (**Figure 1**).

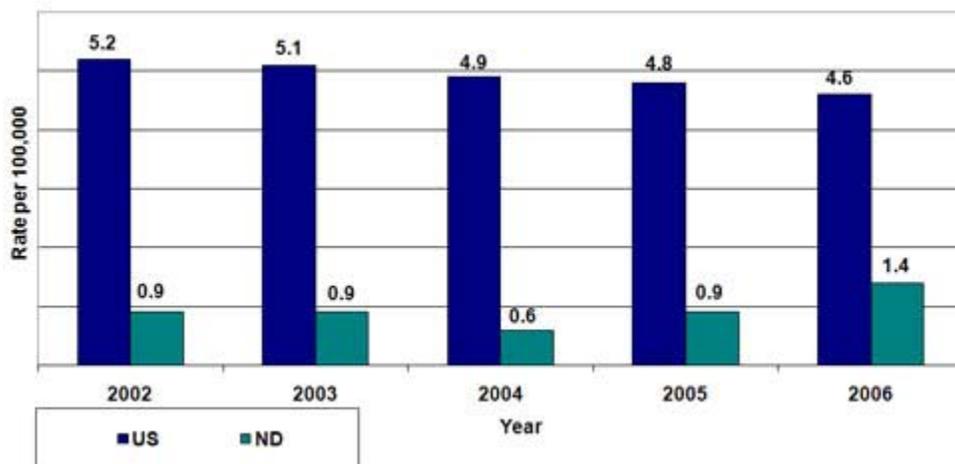
Six of the tuberculosis cases were pulmonary and three were extra-pulmonary. Extra-pulmonary cases involved the lymphatic (cervical) and bone (ankle).

The ages of the tuberculosis cases ranged from 21 to 84, with a median age of 40. Three cases were Asian, three cases were white, one was black and one Native American.

Risk factors associated with tuberculosis in 2006 included belonging to a high-risk racial/ethnic group, being foreign-born, history of being a resident of a high-risk congregate setting and having prior tuberculosis infection.

Two tuberculosis-related deaths were reported in 2005.

Figure 1. United States and North Dakota Tuberculosis Disease Rates, 2002-2006.

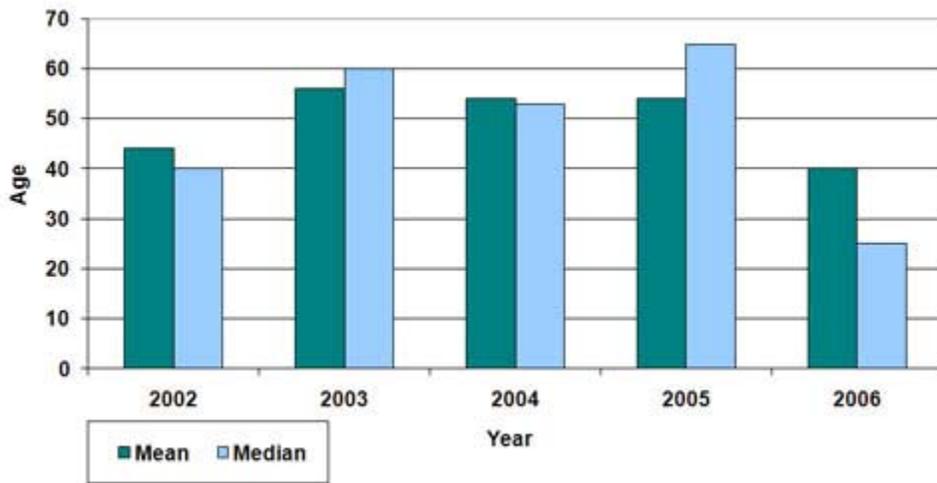


TB in North Dakota - 2002-2006

From 2002 through 2006, 31 cases of tuberculosis were reported in North Dakota. The number of annual tuberculosis cases ranged from four to nine, resulting in an incidence rate of between 0.6 and 1.4 per 100,000.

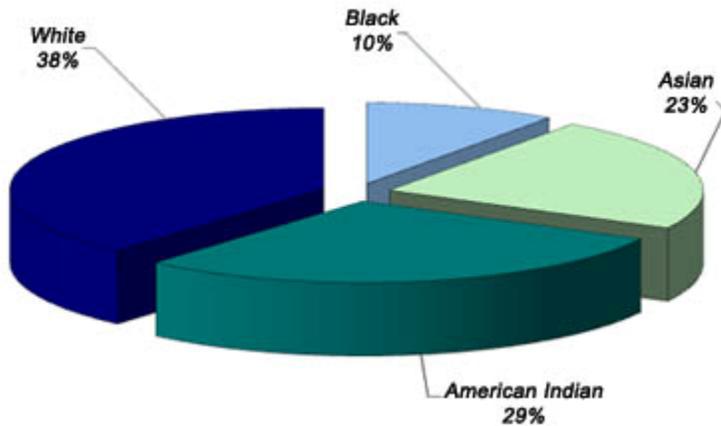
Of the 31 cases, 19 were pulmonary (61%), 11 were extra-pulmonary (35%) and one was pulmonary/extra-pulmonary (3%). Fifty-two percent of the tuberculosis cases were age 50 and older. The mean and median ages of tuberculosis cases during the past five years were 50 and 53 respectively. As shown in **Figure 2**, the median age in 2002 was lower than in previous years. This is due to the diagnosis of disease in four adults between the ages of 21 and 25 years.

Figure 2. Tuberculosis by Age, North Dakota, 2002-2006.



The race/ethnicity of tuberculosis cases during the past five years shows a disproportionately high number of the cases reported among minority populations. Cumulatively, American Indians, blacks and Asians account for only 6 percent of North Dakota's population but more than half of the states' reported TB cases (**Figure 3**).

Figure 3. Percentage of Tuberculosis Cases by Race/Ethnicity, North Dakota, 2002-2006.



An increase in the state's racial/ethnic populations during the past few years has contributed to the increased number of tuberculosis cases reported in these racial/ethnic groups. While the number of foreign-born people in the state represents less than 2 percent of the state's total population, it increased 29 percent between 1990 and 2000.

Drug Resistant Tuberculosis

Drug resistant tuberculosis (DR-TB) and multi-drug resistant tuberculosis (MDR-TB) present difficult problems for tuberculosis control. This is due to the complicated treatment regimen for the index case and the treatment of latent tuberculosis infection in contacts to the index case. The contact's treatment regimen must be individualized based on the index case's medication history and drug susceptibility studies.

With the increase in foreign-born populations entering the United States and North Dakota, the potential exists for an increase of DR-TB. During the past five years, however, there have been no cases of multidrug-resistant tuberculosis identified in North Dakota. Furthermore, only one case of single-drug resistance has been identified; an isolate in 2002 was resistant to streptomycin.

Latent Tuberculosis Infection

Latent TB infection (LTBI) occurs when individuals are infected with *M. tuberculosis* bacteria through direct exposure to active tuberculosis disease.

People with infection do not have active disease and are not infectious. Clinical findings of LTBI normally include a positive tuberculin skin test, absence of symptoms and a normal chest x-ray.

The number of tuberculosis infections reported in North Dakota over the past five years is shown in **Table 1**.

Table 1. Reported Cases of LTBI in North Dakota, 2002-2006.

2002	2003	2004	2005	2006
304	321	384	315	367

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