

2002 Epidemiological Report on Tuberculosis

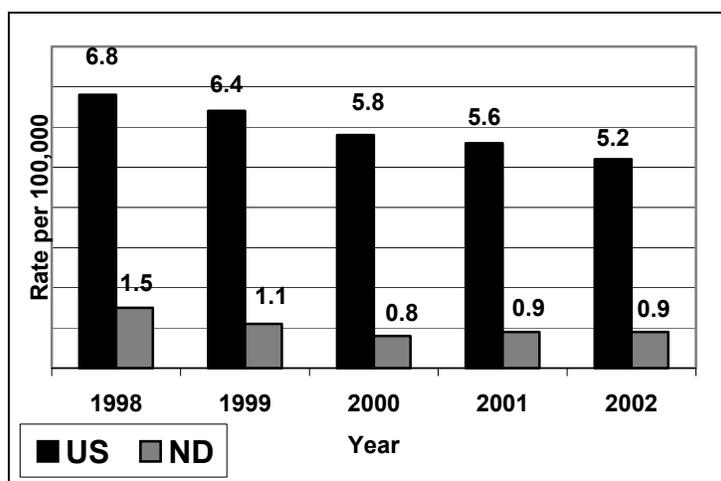


North Dakota Department of Health
Division of Disease Control
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TB in North Dakota – 2002

In 2002, six cases of tuberculosis (TB) were reported in North Dakota. With an incidence rate of 0.9 per 100,000, North Dakota continues to be considerably below the national rate (Figure 1).

Figure 1. United States and North Dakota Tuberculosis Disease Rates, 1998-2002



Four of the tuberculosis cases were pulmonary and two involved extra-pulmonary sites. Both of the extra-pulmonary cases involved a cervical lymph node.

The ages of the tuberculosis cases ranged from 21 to 82, with a median age of 25. Two cases were white, two were Asian and two were American Indian.

Risk factors associated with tuberculosis in 2002 included being a contact to active tuberculosis disease, belonging to a high-risk racial/ethnic group, being foreign-born, and having prior tuberculosis infection.

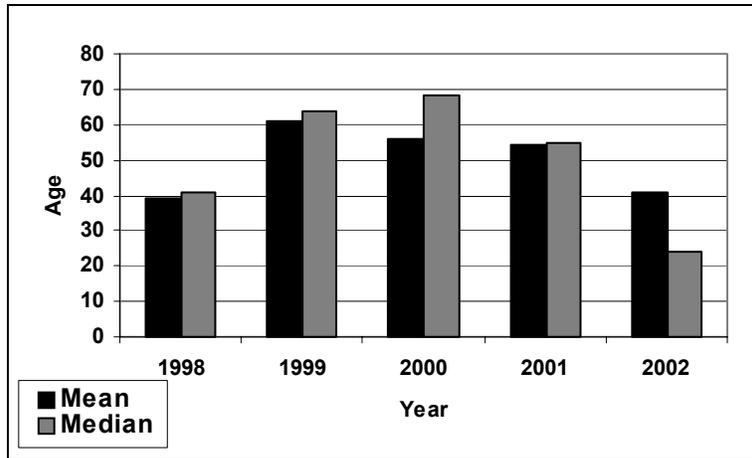
No tuberculosis-related deaths were reported in 2002.

TB in North Dakota – 1998-2002

From 1998 through 2002, 34 cases of tuberculosis were reported in North Dakota. The number of annual tuberculosis cases ranged from five to 10, resulting in an incidence rate of between 0.8 and 1.5 per 100,000.

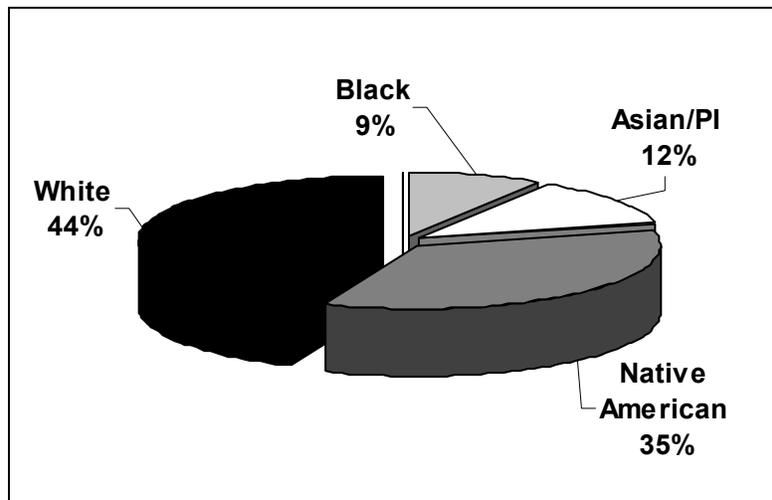
Of the 34 cases, 21 were pulmonary (62%), 12 were extra-pulmonary (35%) and one was pulmonary/extra-pulmonary (3%). Sixty-two percent of the tuberculosis cases were younger than 60. The mean and median ages of tuberculosis cases during the past five years were 49 and 56 respectively. As shown in Figure 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 21 to 25.

Figure 2. Tuberculosis by Age, North Dakota, 1998-2002



The race/ethnicity of tuberculosis cases during the past five years shows a disproportionately high number of the cases reported among minority populations, with more than one-third occurring in American Indians (Figure 3)

Figure 3. Percentage of Tuberculosis Cases by Race/Ethnicity, North Dakota, 1998-2002



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 populations, 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 two cases of single-drug resistance have been identified. One tuberculosis isolate in 1998 was resistant to ethambutol, while 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 showed a steady increase between 1998 and 2000, but decreased both in 2001 and 2002 (Table 3). The increase was related primarily to the increase in the foreign-born population entering the state. However, since 2002 there has been a decrease in foreign-born people moving to North Dakota, which is the primary reason for the decrease in the number of reported LTBI cases. Table 3 include only reported cases of LTBI who received medication. Many others with LTBI are not deemed candidates for treatment.

**Table 1. Reported Cases of LTBI¹
North Dakota, 1998-2002**

1998	1999	2000	2001	2002
426	450	567	370	248 ²

¹Includes only LTBI cases receiving treatment.

²Provisional data.