

Epidemiology Report



January-February-March 2006

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2005 HIV/AIDS Summary

North Dakota continues to have the lowest incidence of HIV/AIDS in the United States. According to the U.S. Centers for Disease Control and Prevention, state-specific AIDS incidence rates per 100,000 people ranged from 2.7 in North Dakota to 39.7 in New York state for 2004. Similar comparisons for HIV (non-AIDS) incidence rates are not possible because some states require only AIDS case reporting.

A total of 19 HIV/AIDS cases were reported to the North Dakota Department of Health in 2005. This total includes newly diagnosed (incident) cases and cases diagnosed previously in other states that moved to North Dakota during 2005.

Incident HIV (non-AIDS) case analysis provides a timelier description of the impact of HIV in North Dakota for prevention planning purposes. Incident cases reflect those individuals receiving their first HIV diagnosis during a given time period.

In 2005, six incident HIV (non-AIDS) cases were diagnosed in North Dakota residents and reported to the North Dakota Department of Health. One of the incident HIV cases was advanced enough to meet the diagnostic criteria for AIDS at the time of diagnosis. **Table 1** summarizes newly diagnosed HIV and AIDS cases for 2005 and compares data to the same time period in 2004.

HIV (non-AIDS) Incident Cases by Year, North Dakota, 2001-2005

From 2001 through 2005, 51 new HIV (non-AIDS) cases were diagnosed in North Dakota residents. During this period, nearly 40 percent (20/51) received their diagnosis of HIV infection and AIDS within the same 12-month period.

Unprotected sexual contact with an HIV-positive partner was the major source of infection (**Table 2**). Seventy-eight

percent of incident HIV infections in North Dakota from 2001 through 2005 occurred in males; male-to-male sexual contact was the most common source of exposure. Among newly diagnosed females, heterosexual contact with an infected partner continued as the predominant mode of exposure to HIV.

Among the incident HIV (non-AIDS) cases, injecting drug use as a risk for transmission of HIV remained steady at four cases reported between 2001 through 2005, the same number reported during the previous five-year period.

The majority of incident HIV (non-AIDS) diagnoses continue to be in those between the ages of 20 and 49 years. From 2001 through 2005, increases in incident HIV (non-AIDS) diagnoses were observed in those age 20 to 29 years and those aged 40 to 49 years (**Table 2**).

Whites continue to compose the greatest percentage of HIV diagnoses in North Dakota. The number of blacks residing in North Dakota and diagnosed with HIV increased over the previous five-year period. The increased number of diagnoses reported is the result of the resettlement of foreign-born individuals in North Dakota. These individuals arrive in North Dakota with previously diagnosed infections, but are classified as North Dakota incident HIV cases because they were never previously diagnosed or reported in the United States.

Cumulative (1984-2005) HIV/AIDS Cases, North Dakota

HIV and AIDS have been reportable conditions in North Dakota since 1984. The cumulative reported infections include cases newly diagnosed in the state, as well as cases diagnosed elsewhere who moved to North Dakota.

As of Dec. 31, 2005, a cumulative total of 362 HIV/AIDS cases had been reported in North Dakota, including 222 AIDS cases and 140 HIV (non-AIDS) cases. Of the cumulative total HIV/AIDS cases, 227 are known to be still living.

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Of the 362 reported HIV/AIDS cases:

- 85 percent were male; 15 percent female.
- 74 percent of reported cases were between the ages of 20 and 39 at diagnosis.
- 77 percent (277) were white, 11 percent (39) were American Indian, 10 percent (36) were black, 2 percent (9) were Hispanic and fewer than 1 percent were Asian/Pacific Islander.

- Most frequently indicated risk factors: male-to-male sexual contact, 52 percent; heterosexual contact, 15 percent; and injecting drug use, 10 percent.

The HIV/AIDS Surveillance Program estimates that there were about 150 people known to be living with HIV in North Dakota at the end of 2005, either diagnosed as residents of North Dakota or diagnosed out of state.

Table 1. New HIV and AIDS Diagnoses by Gender, Age at Diagnosis, Race/Ethnicity, and Exposure Risk
North Dakota, 2004 - 2005

	New HIV Diagnoses ¹				New AIDS Diagnoses ²				Living HIV and AIDS Cases ³	
	January - December				January - December					
	2005		2004		2005		2004			
	No.	(%)*	No.	(%)*	No.	(%)*	No.	(%)*	No.	(%)*
Gender										
Male	4	(67)	12	(80)	5	(83)	8	(89)	100	(78)
Female	2	(33)	3	(20)	1	(17)	1	(11)	28	(22)
Race/Ethnicity										
White	3	(50)	8	(53)	3	(50)	5	(56)	90	(70)
American Indian	1	(17)	0	--	1	(17)	1	(11)	11	(9)
Black	2	(33)	6	(40)	2	(33)	3	(33)	21	(16)
Hispanic	0	--	1	(7)	0	--	0	--	6	(5)
Age at Diagnosis										
≤12	0	--	0	--	0	--	0	--	2	(1)
13-19	0	--	0	--	0	--	0	--	4	(3)
20-29	2	(33)	4	(27)	1	(17)	0	--	35	(27)
30-39	1	(17)	8	(53)	2	(33)	4	(44)	49	(38)
40-49	2	(33)	2	(13)	2	(33)	2	(22)	27	(21)
>49	1	(17)	1	(7)	1	(17)	3	(33)	11	(9)
Risk										
Male-to-male sexual contact (MMS)	2	(33)	7	(47)	3	(50)	4	(44)	62	(48)
Injecting drug use (IDU)	0	--	2	(13)	0	--	1	(11)	11	(8)
MMS/IDU	0	--	0	--	0	--	0	--	2	(2)
Heterosexual contact	2	(33)	4	(27)	1	(17)	3	(33)	29	(23)
Receipt of blood or tissue	0	--	0	--	0	--	0	--	3	(2)
Adult hemophilia/coagulation disorder	0	--	0	--	0	--	0	--	2	(2)
Mother w/or risk for HIV infection	0	--	0	--	0	--	0	--	2	(2)
Risk not specified	2	(33)	2	(13)	2	(33)	1	(11)	17	(13)
Total	6		15		6		9		128	

*Due to rounding, values may not equal 100 percent.

¹ New HIV Diagnoses reflects all residents of North Dakota diagnosed with HIV infection for the first time during the time period, regardless of AIDS status. Some also may be counted as AIDS cases if they received an AIDS diagnosis during the same period.

² New AIDS Diagnoses reflects all residents of North Dakota who first met the criteria for AIDS during the time period, regardless of when their HIV infection was reported to the state.

³ Living HIV and AIDS cases reflects people diagnosed with HIV or AIDS as a resident of North Dakota and were known to be living on December 31, 2005. All deaths may not have been reported.

Table 2. Characteristics of Individuals Diagnosed With HIV (Non-AIDS), North Dakota

New HIV (non-AIDS) cases diagnosed:	2001-2005		1996-2000	
	No.	%	No.	%
Total	51	100	34	100
Sex				
Male	40	78	22	65
Female	11	22	12	35
Race/Ethnicity				
White	31	61	26	76
American Indian	5	10	3	9
Black	14	27	5	15
Hispanic	1	2	0	0
Age at Diagnosis by age group				
≥12 years	0	0	1	3
13-19 years	1	2	0	0
20-29 years	16	31	5	15
30-39 years	15	29	17	50
40-49 years	12	24	9	26
over 49	7	14	2	6
Risk				
Male-to-male sexual contact (MMS)	25	49	11	32
Injecting drug use (IDU)	4	8	4	12
MMS/IDU	0	0	1	3
Heterosexual contact	13	25	12	35
Blood transfusion, disorder	1	2	0	0
Mother w/HIV	0	0	1	3
Other/Risk not specified	8	16	5	15

*Due to rounding, may not equal 100 percent.

2005 Tuberculosis Epidemiology Report

TB in North Dakota – 2005

In 2005, six cases of tuberculosis (TB) were reported in North Dakota. With an incidence rate of 0.9 per 100,000, the North Dakota rate continues to be below the national rate (Figure 1).

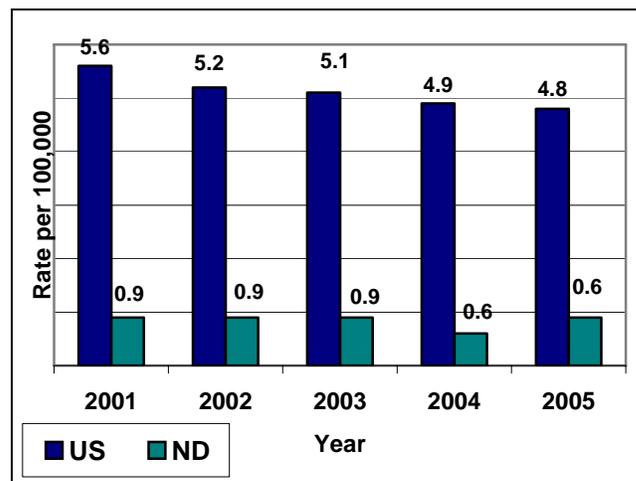
Three of the tuberculosis cases were pulmonary, two were pulmonary/extra-pulmonary and one was extra-pulmonary. Pulmonary/extra-pulmonary and extra-pulmonary cases involved the liver, bone and spleen.

The ages of the tuberculosis cases ranged from 34 to 63, with a median age of 57. Three were American Indian, two cases were white, and one was black.

Risk factors associated with tuberculosis in 2005 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, 2001-2005.

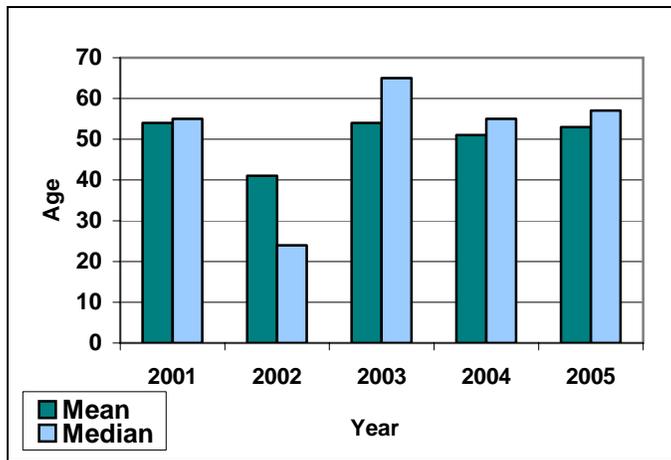


TB in North Dakota – 2001-2005

From 2001 through 2005, 28 cases of tuberculosis were reported in North Dakota. The number of annual tuberculosis cases ranged from four to six, resulting in an incidence rate of between 0.6 and 0.9 per 100,000.

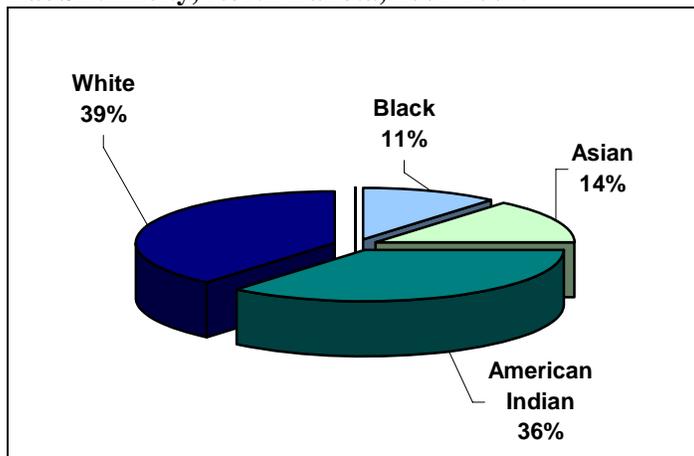
Of the 28 cases, 15 were pulmonary (53%), 10 were extra-pulmonary (36%) and three were pulmonary/extra-pulmonary (11%). Sixty-four percent of the tuberculosis cases were age 50 and older. The mean and median ages of tuberculosis cases during the past five years were 51 and 55 respectively. As shown in **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, 2001-2005.



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, 2001-2005.



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 3**.

Table 3. Reported Cases of LTBI North Dakota, 2001-2005.

2001	2001	2002	2003	2005
368	304	321	384	315

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Summary of Selected Reportable Conditions

North Dakota, January – March 2005-2006

Reportable Condition	January - March 2006*	January - March 2005
Campylobacteriosis	10	9
Chlamydia	414	403
Cryptosporidiosis	1	0
<i>E. coli</i> , shiga toxin positive (non-O157)	0	0
<i>E. coli</i> O157:H7	0	2
Enterococcus, Vancomycin-resistant (VRE)	9	7
Giardiasis	7	2
Gonorrhea	30	20
Haemophilus influenzae (invasive)	1	1
Acute Hepatitis A	0	0
Acute Hepatitis B	1	0
Acute Hepatitis C	1	0
HIV/AIDS	1	3
Legionellosis	0	3
Lyme Disease	0	0
Malaria	1	0
Meningitis, bacterial ¹ (non meningococcal)	0	2
Meningococcal disease	1	2
Mumps	1	1
Pertussis	12	50
Q fever	0	1
Rabies (animal)	2	7
Salmonellosis	13	17
Shigellosis	1	2
<i>Staphylococcus aureus</i> , Methicillin-resistant (MRSA)	257	274
Streptococcal disease, Group A ² (invasive)	6	4
Streptococcal disease, Group B ² (infant < 3 months of age)	1	0
Streptococcal disease, Group B ² (invasive ³)	5	9
Streptococcal disease, other ² (invasive)	1	6
Streptococcal pneumoniae ² , (invasive, children < 5 years of age)	2	2
Streptococcal pneumoniae ² (invasive ⁴)	21	18
Streptococcus pneumoniae ² , drug-resistant	0	0
Tuberculosis	3	1
West Nile Virus Infection	0	0

*Provisional data

¹ Meningitis caused by *Staphylococcus aureus* and *Streptococcus pneumoniae*.

² Includes invasive infections caused by streptococcal disease not including those classified as meningitis.

³ Includes invasive infections of streptococcal, Group B, disease in persons \geq 3 months of age.

⁴ Includes invasive infections caused by *Streptococcus pneumoniae* in persons \geq 5 years of age.