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2009 HIV/AIDS Summary

North Dakota ranks near the bottom in 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 1.0 in Vermont to 24.9 in New York for 2007. North Dakota was ranked 49th with a rate of 1.3 per 100,000 people. Similar comparisons for HIV (non-AIDS) incidence rates are not possible because some states require only AIDS case reporting.

A total of 39 HIV/AIDS cases were reported to the North Dakota Department of Health (NDDoH) in 2009, which includes newly diagnosed cases and cases diagnosed previously in other states who moved to North Dakota during 2009. This is the highest number of cases reported to the NDDoH since HIV/AIDS surveillance began in 1984. This increase is most likely due to a 25 percent increase in testing since HIV rapid testing was initiated in North Dakota in April of 2009 and to an influx of people with HIV/AIDS because of the state's good economic situation compared with other states.

In 2009, 16 North Dakota residents were diagnosed with HIV/AIDS and reported to the NDDoH. Seven of the newly diagnosed HIV cases were advanced enough to meet the case definition for AIDS at the time of diagnosis. **Table 1** summarizes newly diagnosed HIV and AIDS cases for 2009 and compares data to the same time period in 2008.

Cumulative (1984 – 2009) 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, 2009, a cumulative total of 480 HIV/AIDS cases had been reported in North Dakota, 298 of which are

AIDS cases and 182 are HIV (non-AIDS) cases. Of the cumulative total HIV/AIDS cases, 222 are known to still be living in North Dakota.

Of the 222 HIV/AIDS cases still living in North Dakota:

- 79 percent were male; 21 percent female.
- 66 percent of reported cases were between the ages of 25 and 44 at diagnosis.
- 69 percent were white, 13 percent were American Indian, 17 percent were black, 4 percent were Hispanic (all races) and 1 percent were Asian/Pacific Islander.
- The most frequently indicated risk factors were male-to-male sexual contact, 48 percent; heterosexual contact, 34 percent; and injecting drug use, 6 percent.

Table 1 summarizes the cumulative HIV/AIDS cases still living in North Dakota.

HIV/AIDS Incidence 2005 – 2009

HIV/AIDS incidence refers to cases who were diagnosed in North Dakota within a given timeframe. The AIDS cases reported in this section met the criteria for AIDS at HIV diagnosis. From 2005 to 2009, 59 HIV/AIDS cases were diagnosed in North Dakota. Forty-four percent met the criteria for AIDS at HIV diagnosis, while 56 percent were diagnosed as HIV (non-AIDS). Eighty-one percent were male and 19 percent were female.

Figure 1 shows the age groups of HIV/AIDS cases diagnosed in North Dakota between 2005 and 2009. HIV/AIDS seems to infect young adults more frequently than any other age group; however, infections among older adults are increasing. The 35- to 44-year-old age group made up the largest proportion of the HIV/AIDS cases diagnosed during that time period. Seventy-eight percent of the cases were between the ages of 25 and 54.

Table 1. New HIV and AIDS Diagnoses by Race/Ethnicity, Gender, Exposure Risk, and Age at Diagnosis, North Dakota 2008 – 2009

	New HIV/AIDS cases ¹				Total HIV/AIDS Cases Living in ND ²	
	2009		2008		Number	Percent*
	Number	Percent*	Number	Percent*		
Diagnosis						
AIDS	7	44%	3	25%	112	50%
HIV	9	56%	9	75%	110	50%
Race/Ethnicity						
American Indian	2	13%	1	8%	29	13%
Black	4	25%	2	17%	38	17%
Hispanic (all races)	0	0%	0	0%	8	4%
Asian	0	0%	0	0%	1	1%
White	10	63%	9	75%	154	69%
Gender						
Male	15	94%	11	92%	175	79%
Female	1	6%	1	8%	47	21%
Risk						
Heterosexual contact	5	31%	4	33%	75	34%
Injecting drug use (IDU)	1	6%	0	0%	4	2%
Male-to-male sexual contact (MSM)	7	44%	6	50%	106	48%
MSM/IDU	1	6%	0	0%	9	4%
Sex with IDU	0	0%	0	0%	9	4%
Other	1	6%	1	8%	4	2%
Risk not specified	1	6%	1	8%	15	7%
Age Group						
≤15	0	0%	0	0%	9	4%
15-24	2	13%	0	0%	31	14%
25-34	4	25%	3	25%	87	39%
35-44	6	38%	7	58%	59	27%
45-54	3	19%	1	8%	29	13%
55-64	1	6%	1	8%	7	3%
65+	0	0%	0	0%	0	0%
Total	16		12		222	

*Due to rounding, totals may not equal 100%.

¹New HIV/AIDS cases reflects HIV cases that were newly diagnosed in North Dakota during the listed time period. These cases include those which are classified as AIDS cases at initial diagnosis.

²Total HIV/AIDS cases living in ND reflect HIV/AIDS cases which were alive and residing in North Dakota as of December 31, 2009.

Race/Ethnicity of HIV/AIDS Cases Diagnosed in North Dakota 2005–2009

Racial and ethnic minorities continue to be disproportionately affected by HIV in the United States. Twenty-four percent of HIV/AIDS cases diagnosed in North Dakota between 2005 and 2009 are black. It is important to note that 80 percent of the black cases were not born in the United States. This means that U.S.-born black cases make up 3 percent of all cases diagnosed in North Dakota between 2005 and 2009. Nine percent of

HIV/AIDS cases diagnosed in North Dakota between 2005 and 2009 are American Indian. (Figure 2)

Risk Factors of HIV/AIDS Cases Diagnosed in North Dakota 2005–2009

Male-to-male sex continues to be the most frequently reported risk factor among HIV/AIDS cases diagnosed in North Dakota. Forty-four percent of the cases diagnosed between 2005 and 2009 claimed to have had male-to-male sexual relations. Forty-one percent of the cases diagnosed

during this time period reported having heterosexual relations. Two percent of the cases claimed to have used intravenous drugs, and 2 percent claimed to have used intravenous drugs and had male-to-male sexual relations. (Figure 3)

Figure 1. Age of HIV/AIDS cases diagnosed in ND 2005 – 2009

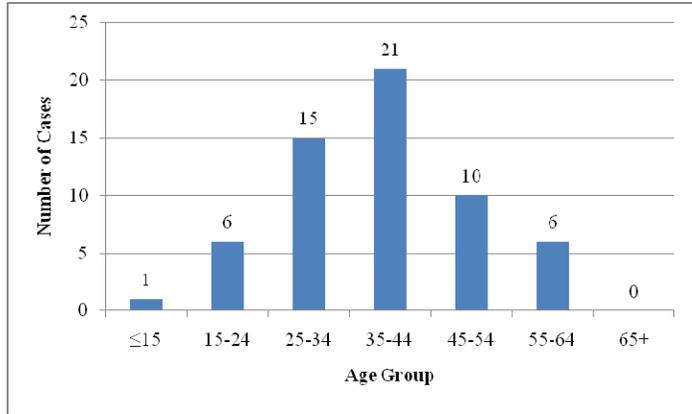


Figure 2. Race/Ethnicity of HIV/AIDS cases diagnosed in ND 2005 – 2009

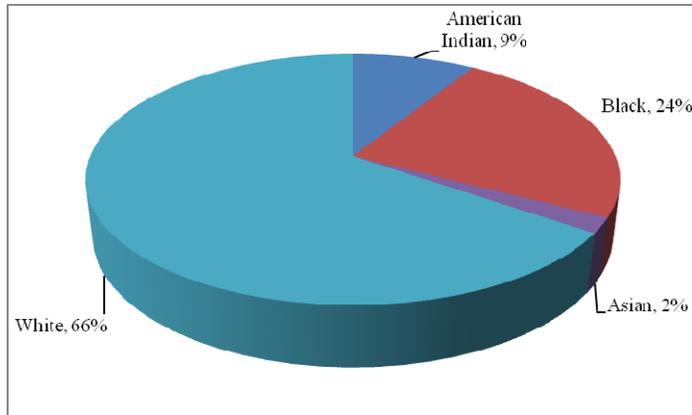
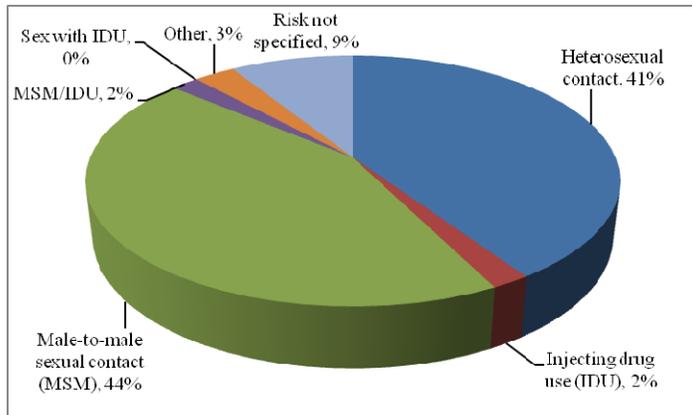


Figure 3. Risk factors of HIV/AIDS cases diagnosed in ND 2005 – 2009



2009 Tuberculosis Epidemiology Report

TB in North Dakota – 2009

In 2009, five cases of tuberculosis (TB) were reported in North Dakota. With an incidence rate of 0.8 per 100,000, the North Dakota rate continues to be below the national rate. (Figure 4)

Two of the tuberculosis cases were pulmonary disease, while the other three were extra-pulmonary. The ages of the tuberculosis cases ranged from 21 to 71, with a median age of 32. Three of the cases were Asian, one was black, and one was American Indian.

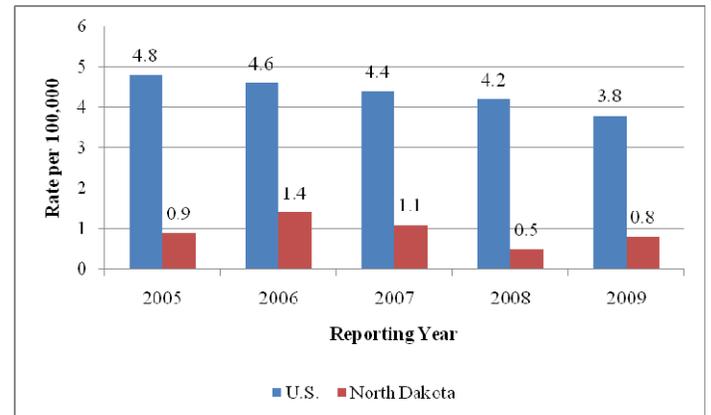
Risk factors associated with tuberculosis in 2009 included belonging to a high-risk racial/ethnic group, being foreign-born and having prior tuberculosis infection.

No tuberculosis-related deaths were reported in 2009.

TB in North Dakota – 2005–2009

From 2005 through 2009, 31 cases of tuberculosis were reported in North Dakota. The number of annual tuberculosis cases ranged from three to 10, resulting in an incidence rate between 0.5 and 1.4 per 100,000.

Figure 4. United States and North Dakota tuberculosis disease rates, 2005 – 2009.



Of the 31 cases, 17 were pulmonary (55%), 11 were extra-pulmonary (35%) and three were pulmonary/extra-pulmonary (10%). The mean and median ages of tuberculosis cases during the past five years were 44 and 43, respectively. (Figure 5)

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 7 percent of North Dakota's population but 71 percent of the state's reported TB cases. (Figure 6)

Figure 5. Tuberculosis by age, North Dakota, 2005 – 2009.

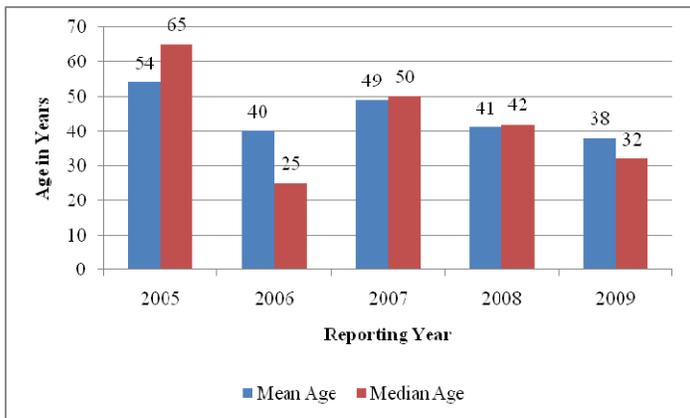
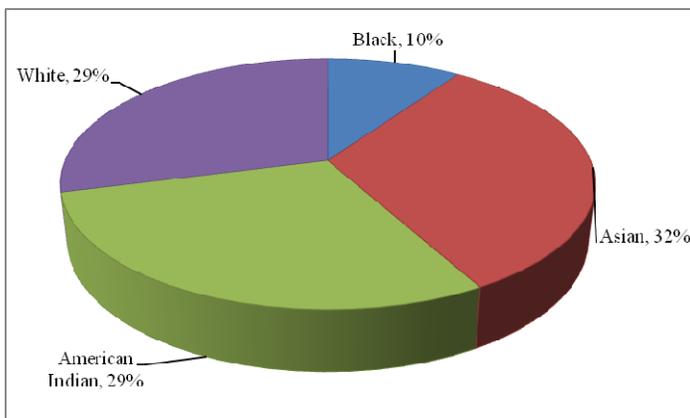


Figure 6. Percentage of tuberculosis cases by race/ethnicity, North Dakota, 2005 – 2009.



A notable change in the nativity of the tuberculosis cases occurred in 2009. Between 2004 and 2008, 33 percent of the cases were foreign-born. This increased to 80 percent in 2009. Seventy-five percent of the foreign-born cases during 2009 were recent (within the last two years) arrivals to the United States. This shift in the proportion of foreign-born cases most likely reflects a decrease in tuberculosis among U.S.-born individuals due to successful prevention and control efforts.

Drug-Resistant Tuberculosis

Drug-resistant tuberculosis (DR-TB), multi-drug-resistant tuberculosis (MDR-TB) and extensively drug-resistant tuberculosis (XDR-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, no cases of MDR or XDR tuberculosis have been identified in North Dakota.

One case of isoniazid resistant tuberculosis was diagnosed in 2009. This case was further complicated by co-infection with a non-tuberculous mycobacterium, which interfered with drug susceptibility testing. This case is currently receiving an appropriate drug regimen and is expected to make a full recovery. Infected contacts to this case are receiving rifampin for preventative therapy.

The only other case of single-drug resistance that has ever been identified in the state was an isolate in 2002 that 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 latent 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.

There has been a marked increase in the number of LTBI cases identified in the last two years. This is most likely due to increasing numbers of foreign students studying at North Dakota universities and migrant workers coming to work on the oil fields. The number of latent tuberculosis infections reported in North Dakota over the past five years is shown in **Table 2**.

Table 2. Reported Cases of LTBI North Dakota, 2005 – 2009.

2005	2006	2007	2008	2009
315	367	322	415	593

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For more information about tuberculosis, to find a TB controller in your area, or to utilize case studies for training purposes, visit www.ndhealth.gov/disease/tb.

Summary of Selected Reportable Conditions

North Dakota, January – March 2009-2010

Reportable Condition	January-March 2010*	January-March 2009*
Campylobacteriosis	8	5
Chickenpox	18	48
Chlamydia	424	391
Cryptosporidiosis	2	2
<i>E. coli</i> , shiga toxin positive (non-O157)	3	2
<i>E. coli</i> O157:H7	0	1
Enterococcus, Vancomycin-resistant (VRE)	68	104
Giardiasis	7	8
Gonorrhea	32	18
Haemophilus influenzae (invasive)	5	4
Acute Hepatitis A	1	0
Acute Hepatitis B	0	0
Acute Hepatitis C	0	0
HIV/AIDS ¹	7	6
Influenza	23	1318
Legionellosis	2	1
Listeria	0	0
Lyme Disease	0	1
Malaria	0	0
Meningococcal disease ²	0	0
Mumps	0	2
Pertussis	3	12
Q fever	0	0
Rabies (animal)	2	3
Rocky Mountain spotted fever	0	0
Salmonellosis	11	11
Shigellosis	0	1
<i>Staphylococcus aureus</i> , Methicillin-resistant (MRSA)	16	31
Streptococcal pneumoniae ³ , (invasive, children < 5 years of age)	1	3
Syphilis, Primary and Secondary	0	1
Trichinosis	0	0
Tuberculosis	3	1
Tularemia	0	0
Typhoid fever	0	0
West Nile Virus Infection	0	0

*Provisional data

¹ Includes newly diagnosed cases and cases diagnosed previously in other states that moved to North Dakota

² Includes confirmed, probable and suspect meningococcal meningitis cases.

³ Includes invasive infections caused by streptococcal disease not including those classified as meningitis.