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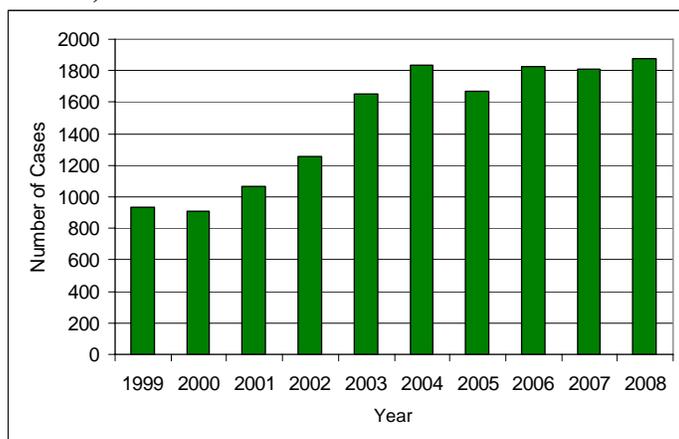
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Sexually Transmitted Disease (STD) 2008 Update

Chlamydia

In 2008, 1,879 cases of chlamydia were reported to the North Dakota Department of Health (NDDoH), a 3.8 percent increase from the 1,810 cases reported in 2007. **(Figure 1)** One thousand two hundred sixty-seven (67%) of the cases reported were females. As in 2007, people ages 20 to 24 had the most reported cases with 896 (46%), followed by 15- to 19-year-olds with 517 (28%) and 25- to 29-year-olds with 336 (18%). **(Figure 2)**

Figure 1. Reported Chlamydia Cases by Year, North Dakota, 1999-2008



More cases were reported among whites than any other race. Eight hundred fifty-one (45%) cases were reported among whites, followed by American Indians with 359 (19%), African Americans with 108 (6%) and Hispanics with 33 (2%). However, minority populations continue to be disproportionately affected by STDs in North Dakota. The chlamydia rate for African Americans for 2008 was 2,758 per 100,000. **(Figure 3)** Among American Indians, North Dakota's largest minority population, the rate was 1,146 per 100,000. In contrast, the rate among whites in 2008 was 144 per 100,000. The rate for all of North Dakota in 2008 was 293 per 100,000, compared to 282 per 100,000 in 2007.

Figure 2. Reported Chlamydia Cases by Age Group, North Dakota, 2008

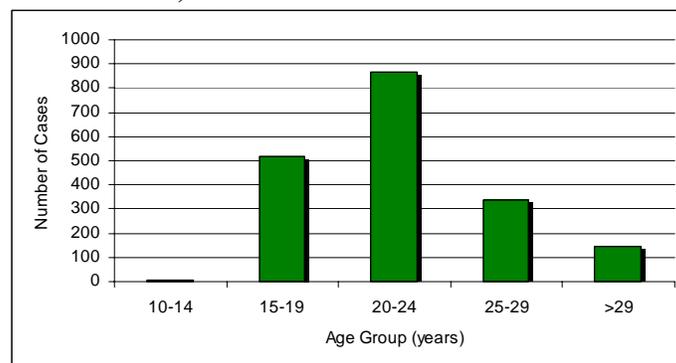
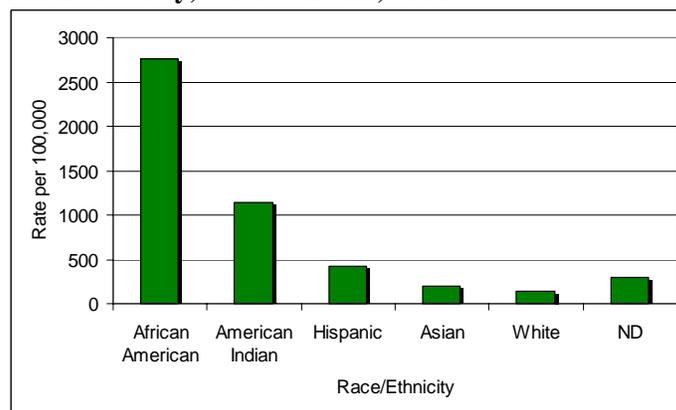


Figure 3. Reported Chlamydia Rates by Race/Ethnicity, North Dakota, 2008



One thousand seven hundred forty-one (93%) cases were reported from 15 counties. The four counties with American Indian reservations-Benson, Sioux, Mountrail and Rolette- reported the highest incidence rates of 1,178, 1014, 633 and 622 per 100,000 population respectively. These rates are significantly higher than the rate of 293 per 100,000 for all of North Dakota. Overall, 10 counties (Burleigh, Cass, Grand Forks, Barnes, Hettinger, Ward, Rolette, Mountrail, Sioux and Benson) reported rates higher than the North Dakota rate.

Infertility Prevention and Chlamydia Screening

The Centers for Disease Control and Prevention (CDC) supports a national Infertility Prevention Program (IPP) that funds chlamydia screening and treatment services for low-income, sexually active women attending family planning, STD and other women's health-care clinics. The primary mission of IPP is to assess and reduce the prevalence of chlamydia and associated complications in family planning and STD clinic populations and other community-based provider populations through outreach, education, screening, treatment and follow-up. North Dakota belongs to the Region VIII IPP, along with South Dakota, Montana, Wyoming, Colorado and Utah. Nine family planning clinics in North Dakota submit data to the Region VIII IPP.

The nine family planning clinics submitted 8,860 specimens in 2008, and 591 (6.7%) were positive. Of the family planning specimens, 7,793 were from females, and 409 (5.2%) were positive. One thousand sixty-seven male specimens were submitted, and 182 (17%) were positive.

In 2008, a total of 20,702 chlamydia tests were performed at the NDDoH's Division of Laboratory Services, with 1,386 positive results for a positivity rate (percentage of positive test results) of 6.7 percent. In comparison, 20,893 chlamydia tests were performed in 2007, of which 1,281 were reported positive for a positivity rate of 6.5 percent.

Gonorrhea

In 2008, 142 cases of gonorrhea were reported to the NDDoH, a 25 percent increase from the 114 cases reported during 2007. **(Figure 4)** Ninety-two (65%) of the cases occurred among females, a 42 percent increase compared to 65 cases for the previous year. The total number of females tested in 2008 was slightly higher (3.6%) than the number of females tested in 2007; however, the difference is most likely not significant enough to account for the increase of gonorrhea rates in females. Several factors may attribute to the increased number of females with gonorrhea identified in 2008, such as improvements in screening females for gonorrhea and contact tracing by health-care providers.

Thirty-five (25%) cases occurred among 15- to 19-year-olds, a 106 percent increase compared to the 17 cases reported in this age group in 2007. The age group 20- to 24-year-olds had the most reported cases, fifty-seven (40%), an increased of 43 percent in 2008 compared to 40 cases reported in 2007. The increase in these age groups is mostly attributed to more females testing positive. Due to North Dakota's low incidence of gonorrhea, it is difficult to determine why rates increase, especially given that laboratory test data indicate similar test numbers for females overall in 2007 and 2008. Diligence in contact tracing and referral and improved screening practices for testing may account for more females testing positive in these age groups. **(Figure 5)**

The majority of gonorrhea cases are reported among whites (44 cases), followed by American Indians (30 cases) and African Americans (19 cases). Gonorrhea rates continue to reflect disparity among North Dakota racial and ethnic groups. The gonorrhea rate for African Americans in 2008 was 485 per 100,000, and 96 per 100,000 for American Indians. In contrast, the rate among whites in 2008 was 7 per 100,000, and the rate for all of North Dakota was 22 per 100,000. **(Figure 6)**

In 2008, gonorrhea cases were reported from 19 counties. One hundred eight (76%) of the cases were reported from four counties: Burleigh, Cass, Ward and Grand Forks. Sioux County reported the highest gonorrhea rate, followed by Burleigh and Grand Forks counties, with rates of 124, 50 and 38 per 100,000 population respectively. These rates are significantly higher than the rate of 22 per 100,000 for all of North Dakota. Overall, 12 counties (Benson, Burleigh, Cass, Grand Forks, Griggs, Hettinger, Morton, Pembina, Sargent, Traill, Ward, and Sioux) reported rates higher than the North Dakota rate.

Figure 4. Reported Gonorrhea Cases by Year, North Dakota, 1999-2008

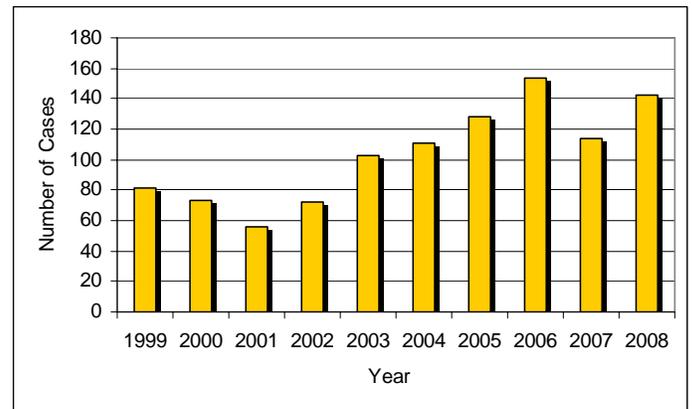


Figure 5. Reported Gonorrhea Cases by Age Group, North Dakota, 2008

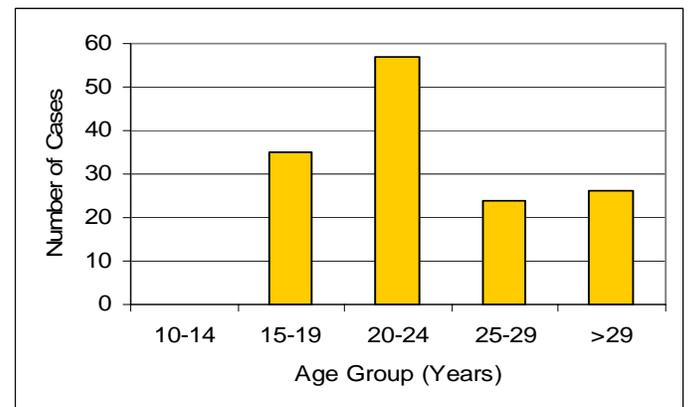
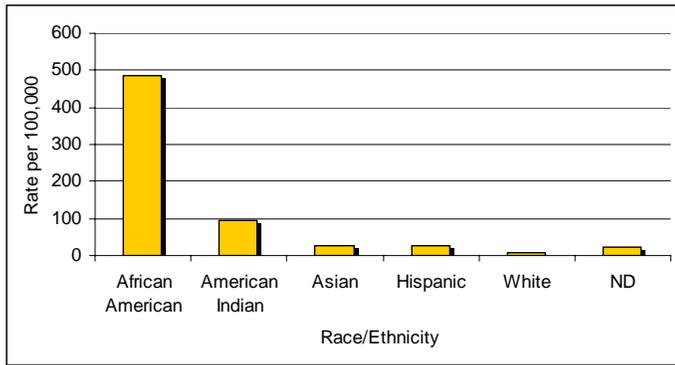


Figure 6. Reported Gonorrhea Rates by Race Ethnicity, North Dakota, 2008



Syphilis

In 2008, no cases of primary or secondary (P/S) syphilis were reported. Two cases of early latent syphilis (patients who acquired syphilis within the preceding year) were reported in 2008. Since 2004, three cases of P/S have been reported to the North Dakota Department of Health.

For more information about STDs in your region, contact Julie Wagendorf, STD program manager, at 701.328.2375 or jwagendorf@nd.gov.

HIV Biannual Update

Table 1 summarizes newly diagnosed HIV/AIDS cases reported from Jan. 1 through June 30, 2009, and compares the data to the same period in 2008. The table also

provides a summary about residents of North Dakota diagnosed with HIV or AIDS and known to be living as of June 30, 2009.

Table 1. New HIV/AIDS Diagnoses and Total HIV/AIDS Cases Living in North Dakota

Diagnosis	New HIV/AIDS cases ¹				Total HIV/AIDS Cases Living in ND ²	
	Jan - June 2009		Jan - June 2008		Number	Percent*
	Number	Percent*	Number	Percent*		
AIDS	4	50%	3	50%	122	63%
HIV	4	50%	3	50%	72	37%
Race/Ethnicity						
American Indian	1	13%	0	0%	20	10%
Black	3	38%	0	0%	31	16%
Hispanic	0	0%	0	0%	5	3%
Pacific Islander	0	0%	0	0%	2	1%
White	4	50%	6	100%	136	70%
Gender						
Male	7	88%	6	100%	156	80%
Female	1	13%	0	0%	38	20%
Risk						
Heterosexual contact	3	38%	1	17%	50	26%
Injecting drug use (IDU)	1	13%	0	0%	26	13%
Male-to-male sexual contact (MSM)	2	25%	2	33%	92	47%
MSM/IDU	1	13%	2	33%	9	5%
Perinatal transmission	0	0%	0	0%	4	2%
Adult Hemophilia/coagulation disorder	0	0%	1	17%	1	1%
Receipt of blood or tissue	0	0%	0	0%	2	1%
Risk not specified	1	13%	0	0%	10	5%
Age Group						
≤12	0	0%	0	0%	3	2%
13-19	0	0%	0	0%	1	1%
20-29	1	13%	1	17%	46	24%
30-39	1	13%	3	50%	81	42%
40-49	3	38%	0	0%	40	21%
50-59	2	25%	1	17%	19	10%
60+	1	13%	1	17%	4	2%
Total	8		6		194	

*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 June 30, 2009.

Cumulative HIV/AIDS Reported Cases

Cumulative reported cases include newly diagnosed cases of HIV infection and AIDS in North Dakota residents and cases previously diagnosed in other states who resided in North Dakota during the reporting period.

As of June 30, 2009, 457 cumulative HIV/AIDS cases have been reported to the North Dakota Department of Health (NDDoH) since HIV/AIDS surveillance began in 1984. Of these, 194 are known still to be living in North Dakota.

Most frequently reported risk factors are unprotected male-to-male sexual contact (51%), unprotected heterosexual contact (18%) and injecting drug use (13%).

Of the 457 reported cases:

- 84 percent are male; 16 percent, female.
- 67 percent were between the ages of 20 and 39 at time of diagnosis.
- 76 percent (347) are white; 10 percent (45) are American Indian; 11 percent (51) are black; 3 percent (13) are Hispanic – any race; and less than 1 percent are Asian/Pacific Islander.

All HIV/AIDS data are based on the best information available but are subject to change as more complete information is received. Please note that a slight change in the number of reported HIV cases will result in significant changes in rates because of the relatively low numbers.

Reporting HIV/AIDS Diagnoses

North Dakota health-care and service providers are required to report to the NDDoH anyone with HIV for whom they are providing care or services.

The following indicators of HIV infection are mandated as reportable to the NDDoH: a confirmed positive HIV antibody screen, detectable and non-detectable viral load test results, and any CD4 T-lymphocyte test result.

Accurately counting newly diagnosed HIV and AIDS cases impacts federal resources allocated to North Dakota for HIV/AIDS prevention, care and supportive services and surveillance activities.

NDDoH HIV/AIDS/TB Program Contact Information

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Adult Viral Hepatitis Program Update

During the 2007 North Dakota Legislative Assembly, legislation that called for the creation of a viral hepatitis program was introduced and approved. Funding provided by this legislation was to be used for the following activities: (1) test approximately 200 people per year for hepatitis C; (2) vaccinate (with complete series) approximately 250 people per year for hepatitis A (HAV)/Hepatitis B (HBV); (3) purchase and/or print educational materials for the general public and for health-care providers; (4) organize and host an HIV/hepatitis conference for health-care providers; (5) develop and implement a statewide media campaign to increase awareness of viral hepatitis; and (6) contract with 10 to 12 local public health units (LPHUs) to provide the above-mentioned viral hepatitis services.

As of Sept 30, 2009, there are 11 HIV counseling, testing and referral (CTR) sites with signed contracts with the NDDoH to implement HCV testing and HBV/HAV vaccination primarily using state funds. CTR sites offering HCV testing and HBV/HAV vaccination are included in Box 1. In addition, one drug treatment center in Fargo participates in the program, offering HBV/HAV vaccine to individuals at risk for hepatitis and not previously vaccinated or deficient on completing vaccine series.

Box 1. Hepatitis C Testing Sites, North Dakota

Bismarck/Burleigh Public Health
Central Valley Health Unit
Custer Health
Fargo Cass Public Health
First District Health Unit
Grand Forks Public Health Dept.
Lake Region District Health
Minne Tohe Health Center
Richland County Health Dept.
Southwestern District Health Unit
Upper Missouri District Health

The HCV screening program at the state penitentiary also was expanded to include offering services to all inmates at in-take, where previously only inmates sentenced for five or more years were offered HBV and HAV vaccine. All inmates at in-take are screened for HCV.

Between Nov. 1, 2008, and May 30, 2009, 102 individuals were screened at eight CTR sites and nine (9%) tested positive, compared to 83 individuals screened at nine CTR sites and 11 (22%) testing positive during the same time period last year. Between Nov. 1, 2008, and May 30, 2009, 594 inmates were screened at the North Dakota Department of Corrections and Rehabilitation (NDDOCR), including the state penitentiary and three subsidiary correctional facilities, and 94 (16%) tested

positive, compared to the 896 inmates screened and 125 (14%) testing positive during the same time period last year.

In Feb. 2008, seven CTR sites ordered and received a total of 190 doses of HAV/HBV vaccine from the NDDoH. Between Nov. 1, 2008, and May 30, 2009, a total of 21 doses were administered at the CTRs, compared to 29 doses administered during the same time period last year. The state penitentiary ordered and received a total of 1,250 doses of HAV/HBV vaccine in February 2008, and an additional 370 doses were received in March 2009. From Nov. 1, 2008, to May 30, 2009, 249 doses were administered at the NDDOCR, compared to 85 doses administered during the same time last year. A drug treatment center in Fargo ordered and received a total of 150 doses of HAV/HBV vaccine in February 2008. From Nov. 1, 2009, through May 30, 2009, 26 doses of HAV/HBV vaccine were administered compared to 46 doses administered during the same time period last year.

Hepatitis A Virus (HAV)

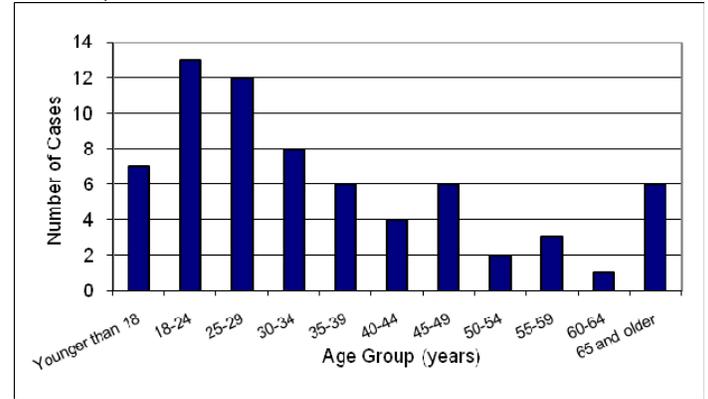
Historically, North Dakota has had relatively low rates of HAV infection when compared with other parts of the United States. From 2004 to 2008, 12 cases of HAV infection were reported to the NDDoH.

Hepatitis B Virus (HBV)

In 2008, 68 cases of chronic HBV infection and two cases of acute infection were reported to the NDDoH. Morbidity is based on reported positive lab results meeting the Centers for Disease Control and Prevention (CDC) case definition of “hepatitis B virus infection, chronic.” Numbers include both confirmed and probable cases. Of the 70 HBV-positive people reported to the NDDoH, 53 percent were male. Fifty-one percent of reported cases occurred among people between the ages of 18 and 34, and the median age was 31 years (range: 1 to 86 years). **(Figure 7)** Race information was reported for only 36 percent of cases. Among those reporting race, 40 percent were black, 32 percent were white and 8 percent were Asian.

Due to under-reporting, asymptomatic or unrecognized HBV infection, the 70 reported infections, including the two acute infections, are likely an under-representation of actual disease burden in North Dakota.

Figure 7. Reported HBV Cases by Age Group, North Dakota, 2008



Perinatal Hepatitis B

Perinatal hepatitis B surveillance and reporting are vital to the health of North Dakota infants. Screening all pregnant women for the presence of hepatitis B surface antigen (HBsAg) is a crucial step in controlling and preventing the spread of hepatitis B from mother to infant. However, documented HBsAg-positive mothers often are not screened, especially during later pregnancies, and are therefore not reported to the NDDoH. As a result, many at-risk infants may be missed. Prior to birth, the NDDoH ensures that the delivery hospital has both vaccine and hepatitis B immune globulin (HBIG) on hand, as both should be administered within 12 hours of birth. Infants born to HBsAg-positive mothers are provided both vaccine and HBIG at no charge. In 2008, the North Dakota Department of Health added pregnancy in women with HBV infection to the mandatory reportable conditions list, in order to ensure that all HBV positive pregnant women are reported to the NDDoH regardless if they were tested during current pregnancy.

Follow-up of HBsAg-positive mothers, infants and other susceptible sexual or household contacts is done to ensure that the infant and contacts receive three doses of the vaccine, that the vaccine is administered appropriately and that the infant receives follow-up testing for hepatitis B antibody levels. Susceptible contacts are screened and offered vaccine at no charge. Between Jan. 1, 2009, and Sept. 30, 2009, seven HBsAg-positive pregnant women were reported to the NDDoH.

Hepatitis C Virus (HCV)

In 2008, the NDDoH received 444 reports of people newly identified as testing positive for hepatitis C virus (HCV) infection. HCV morbidity primarily is based on positive lab results received from laboratories that meet the CDC case definition of “hepatitis C virus infection, past or present.” Numbers do not distinguish between resolved versus active infections. Of the 444 HCV-positive reports, 61 percent were male. Fifty-two percent of reported cases occurred among people ages 35 to 54, and the median age

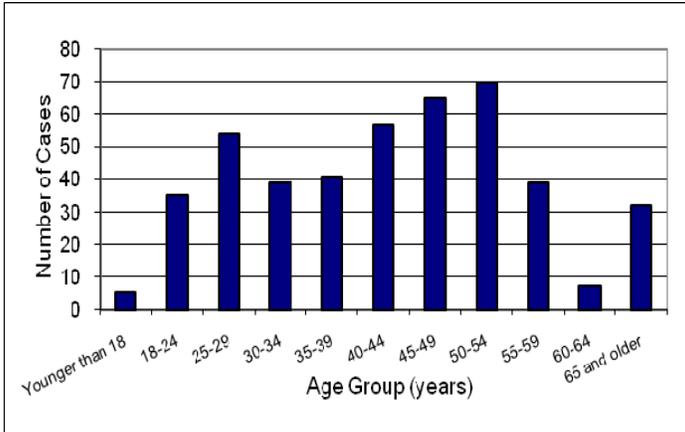
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was 44 years (range: 2 years to 93 years). (Figure 8) Race data was available for 38 percent of cases. Among those reporting race, 65 percent were white, 29 percent were American Indian, 4 percent reported other race and 3 percent were black.

Figure 8. Reported HCV by Age Group, North Dakota, 2008



Due to under-reporting of cases and asymptomatic or unrecognized HCV infection, the 444 reported cases are likely an under-representation of actual disease burden in North Dakota.

Hepatitis B, Hepatitis C, STD and HIV/AIDS Co-Infection

An estimated one-quarter of HIV-infected people in the U.S. also are infected with HCV. HIV-infected injection drug users are commonly (50% to 90%) co-infected with HCV. HCV causes a rapid progression to liver damage in an HIV-infected person. Hepatitis B is also a common co-infection with HIV since transmission is primarily through sexual contact and injection drug use. As with HCV, people who are co-infected with HIV and HBV have an increased risk for liver-related morbidity and mortality.

An HIV-infected individual who is also infected with another STD is more likely to transmit HIV through sexual contact than other HIV-infected people. Co-infection of HIV and STDs increases the concentration of HIV in genital secretions, causing increased infectiousness. If exposed to HIV infection through sexual contact, individuals who are infected with STDs are at least two to five times more likely than uninfected individuals to acquire HIV infection.

In North Dakota, HIV/AIDS patients have low rates of co-infection with STDs, hepatitis C, and hepatitis B. Table 2 demonstrates the risk factors associated with HIV/AIDS and co-infections in North Dakota. Figure 9 demonstrates that the most common co-morbidity in North Dakota is HIV and Hepatitis C. Although the percentage of infected HIV/AIDS individuals with co-infections is low, it is very important to know the health implications associated with co-infections.

Figure 9. Percentage of Co-morbidities with HIV Reported 2004-2009

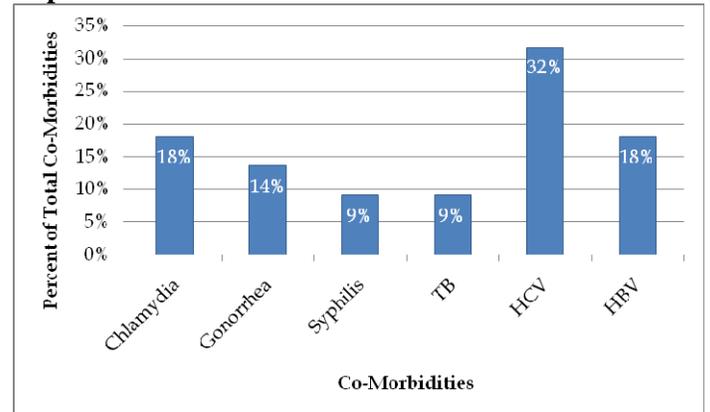


Table 2—Risk Factors of HIV/AIDS Cases with Co-Morbidities 2004 - 2008

Risk Factors	Co-Morbidities					
	Chlamydia	Gonorrhea	Syphilis	TB	HCV	HBV
Male-to-male sexual contact (MSM)	0	2	2	0	2	0
Injecting drug use (IDU)	1	0	0	0	0	0
MSM/IDU	0	0	0	0	2	1
Heterosexual contact	3	1	0	2	0	2
Hemophilia/coagulation disorder	0	0	0	0	1	0
Risk not specified	0	0	0	0	2	1

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Summary of Selected Reportable Conditions

North Dakota, 2008-2009

Reportable Condition	July- Sept 2009*	January -Sept 2009*	July- June 2008	January -Sept 2008
Campylobacteriosis	51	108	37	77
Chickenpox	2	57	13	73
Chlamydia	416	1232	438	1313
Cryptosporidiosis	15	25	10	14
<i>E. coli</i> , shiga toxin positive (non-O157)	4	11	9	19
<i>E. coli</i> O157:H7	2	5	4	6
Enterococcus, Vancomycin-resistant (VRE)	58	232	59	182
Giardiasis	14	27	6	22
Gonorrhea	26	77	34	89
Haemophilus influenzae (invasive)	0	6	5	12
Acute Hepatitis A	2	3	0	1
Acute Hepatitis B	0	0	1	1
Acute Hepatitis C	1	1	0	0
HIV/AIDS ¹	10	26	11	23
Influenza	382	2020	0	3778
Legionellosis	0	1	3	3
Listeria	3	3	0	0
Lyme Disease	0	0	8	8
Malaria	0	0	0	0
Meningococcal disease ²	1	1	2	5
Mumps	0	0	0	2
Pertussis	1	17	4	7
Q fever	0	0	0	0
Rabies (animal)	0	4	12	26
Rocky Mountain spotted fever	0	0	0	1
Salmonellosis	35	121	22	57
Shigellosis	2	10	5	41
Staphylococcus aureus, Methicillin-resisitant (MRSA)	16	81	16	59
Streptococcal pneumoniae ³ , (invasive, children < 5 years of age)	1	5	3	7
Syphilis, Primary and Secondary	1	3	0	0
Trichinosis	0	0	1	1
Tuberculosis	2	3	0	1
Tularemia	0	0	3	3
Typhoid fever	0	0	0	3
West Nile Virus Infection	1	1	33	37

*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.