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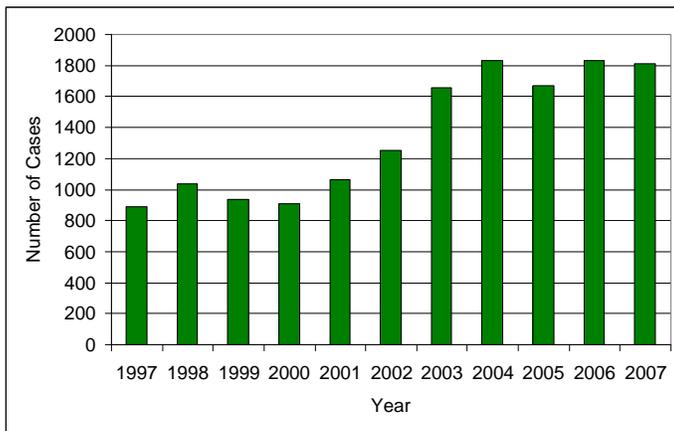
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Sexually Transmitted Disease (STD) 2007 Update

Chlamydia

In 2007, 1,810 cases of chlamydia were reported to the North Dakota Department of Health (NDDoH), a one percent decrease from the 1,830 cases reported in 2006. **(Figure 1)** One thousand two hundred nine (67%) of the cases reported were females. As in 2006, people ages 20 to 24 had the most reported cases with 832 (46%), followed by 15- to 19-year-olds with 493 (27%) and 25- to 29-year-olds with 315 (17%). **(Figure 2)**

Figure 1. Reported Chlamydia Cases by Year, North Dakota, 1997-2007



More cases were reported among whites than any other race. One thousand one hundred eighteen (62%) cases were reported among whites, followed by American Indians with 330 (18%), African Americans with 90 (5%) and Hispanics with 56 (3.1%). However, minority populations continue to be disproportionately affected by STDs in North Dakota. The chlamydia rate for African Americans for 2007 was 2,298 per 100,000. **(Figure 3)** Among American Indians, North Dakota's largest minority population, the rate was 1,053 per 100,000. In contrast, the rate among whites in 2007 was 188 per 100,000. The rate for all of North Dakota in 2007 was 282 per 100,000, compared to 285 per 100,000 in 2006.

Figure 2. Reported Chlamydia Cases by Age Group, North Dakota, 2007

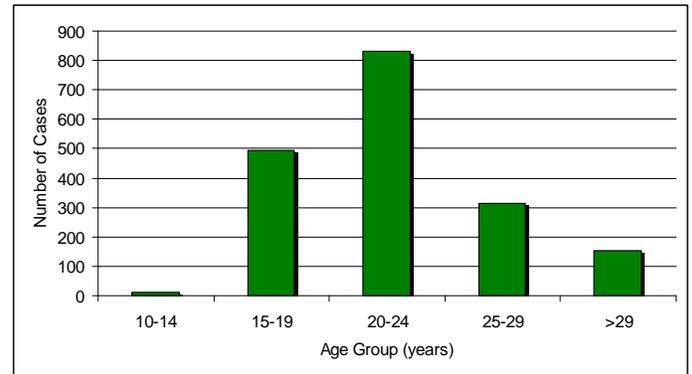
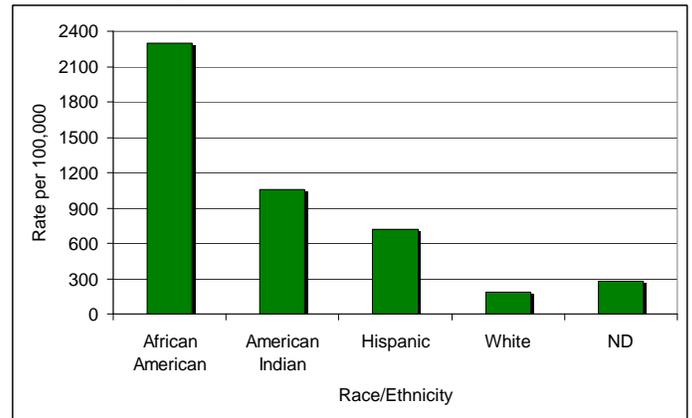


Figure 3. Reported Chlamydia Rates by Race/Ethnicity, North Dakota, 2007



One thousand six hundred eighty-nine (93%) of the cases were reported from 14 counties. The four counties with the highest chlamydia rates are counties with American Indian reservations. Sioux, Benson, Mountrail and Rolette counties reported incidence rates of 1,236, 739, 689 and 622 per 100,000 population respectively. These rates are significantly higher than the rate of 285 per 100,000 for all of North Dakota. Overall, 10 counties (Sioux, Benson, Mountrail, Rolette, Ward, Hettinger, Grand Forks, Williams, Burleigh and Cass) 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 8,671 specimens in 2007, of which 578 (6.7%) were positive. Of the family planning specimens, 7,572 were from females, of which 399 (5.3%) were positive. One thousand ninety-nine male specimens were submitted, of which 179 (16%) were positive.

In 2007, a total of 19,802 chlamydia tests were performed at the NDDoH's Division of Laboratory Services, with 1,281 positive results for a positivity rate (percentage of positive test results) of 6.5 percent. In comparison, 20,893 chlamydia tests were performed in 2006, of which 1,404 were reported positive for a positivity rate of 6.7 percent. Overall, when comparing 2007 test data with 2006 data, the number of positive tests and the positivity rate have remained constant.

Gonorrhea

In 2007, 114 cases of gonorrhea were reported to the NDDoH, a 26 percent decrease from the 154 cases reported during 2006. (Figure 4) Sixty-five (57%) of the cases occurred among females, a 25 percent decrease compared to the 87 cases for the previous year. Forty (35%) cases occurred among 20- to 24-year-olds, a 32 percent decrease compared to the 59 cases reported in this age group in 2006. Thirty-two (28%) cases occurred among 25- to 29-year-olds. (Figure 5)

Fifty cases were reported among whites, 18 cases among African Americans and 24 cases among American Indians. However, the rates continue to reflect disparity among North Dakota racial and ethnic groups. The gonorrhea rate for African Americans in 2007 was 460 per 100,000, a 53 percent decrease compared to 2006. (Figure 6) Among American Indians, the rate was 76 per 100,000. In contrast, the rate among whites in 2007 was 8 per 100,000, and the rate for all of North Dakota was 18 per 100,000.

In 2007, gonorrhea cases were reported from 15 counties. Seventy-five (66%) of the cases were reported from four counties: Burleigh, Cass, Ward and Grand Forks. Sioux County reported the highest gonorrhea rate, followed by Mountrail with rates of 99 and 75 per 100,000 population

respectively. These rates are significantly higher than the rate of 18 per 100,000 for all of North Dakota. Overall, 11 counties (Sioux, Cass, Dunn, Richland, Rolette, Stark, Williams, Ward, Grand Forks, Mountrail and Benson) reported rates higher than the North Dakota rate.

Figure 4. Reported Gonorrhea Cases by Year, North Dakota, 1997-2007

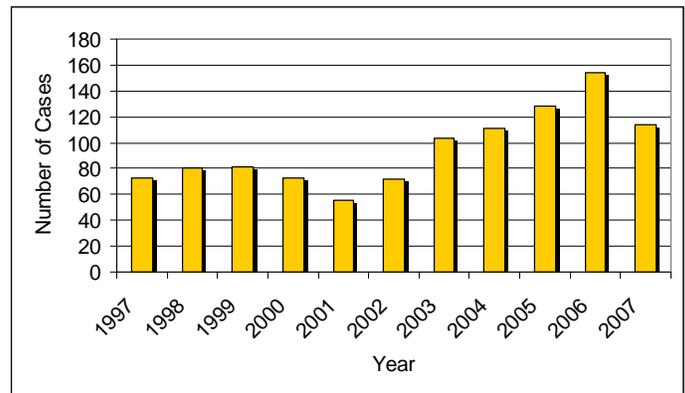


Figure 5. Reported Gonorrhea Cases by Age Group, North Dakota, 2007

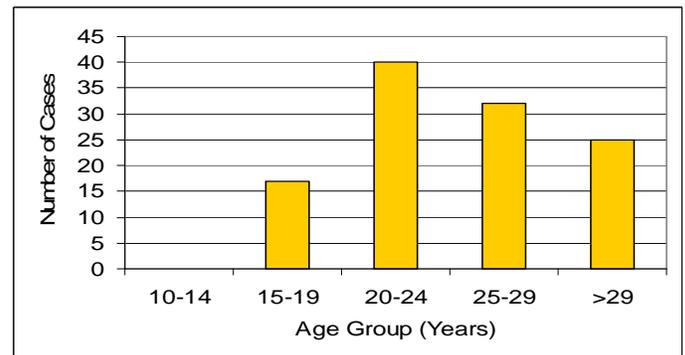
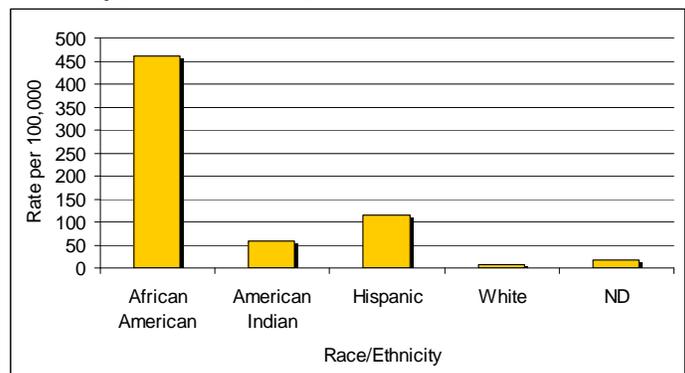


Figure 6. Reported Gonorrhea Rates by Race Ethnicity, North Dakota, 2007



Syphilis

Since 2003, five cases of early syphilis have been reported to the North Dakota Department of Health (NDDoH). In 2007, one case of primary syphilis was reported. The case was a white male who reported his male sex partner had been treated for syphilis nine months earlier.

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, 2008, and compares the data to the same period in 2007. 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, 2008.

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 2008		Jan - June 2007		Number	Percentage*
	Number	Percentage*	Number	Percentage*		
AIDS	3	50%	2	33%	80	52%
HIV	3	50%	4	67%	74	48%
Race/Ethnicity						
American Indian	0	0%	0	0%	13	8%
Black	0	0%	2	33%	21	14%
Hispanic	0	0%	0	0%	2	1%
Pacific Islander	0	0%	0	0%	2	1%
White	6	100%	4	67%	115	75%
More than one race	0	0%	0	0%	1	1%
Gender						
Male	6	100%	2	33%	119	77%
Female	0	0%	4	37%	35	23%
Risk						
Heterosexual contact	1	17%	3	50%	39	25%
Injecting drug use (IDU)	0	0%	1	17%	27	18%
Male-to-male sexual contact (MSM)	2	33%	1	17%	69	45%
MSM/IDU	2	33%	0	0%	9	6%
Perinatal transmission	0	0%	1	17%	3	2%
Adult Hemophilia/coagulation disorder	1	17%	0	0%	1	1%
Receipt of blood or tissue	0	0%	0	0%	1	1%
Risk not specified	0	0%	0	0%	5	3%
Age Group						
≤12	0	0%	1	17%	2	1%
13-19	0	0%	0	0%	0	0%
20-29	1	17%	1	17%	37	24%
30-39	3	50%	2	33%	66	43%
40-49	0	0%	0	0%	33	21%
50-59	1	17%	0	0%	13	8%
60+	1	17%	2	33%	3	2%
Total		6		6		154

*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 are alive and residing in North Dakota as of June 30, 2008.

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, 2008, 425 cumulative HIV/AIDS cases have been reported to the North Dakota Department of Health (NDDoH) since HIV/AIDS surveillance began in 1984. Of these, 154 are known to still be living in North Dakota.

Most frequently reported risk factors are unprotected male-to-male sexual contact (52%), unprotected heterosexual contact (17%) and injecting drug use (13%).

Of the 425 reported cases:

- 84 percent were male; 16 percent female.
- 68 percent were between the ages of 20 and 39 at time of diagnosis.
- 77 percent (327) were white; 10 percent (41) were American Indian; 10 percent (44) were black; two percent (9) were Hispanic – any race; and less than one percent were 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.

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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.

By Oct. 31, 2007, 10 HIV Counseling, Testing and Referral (CTR) sites signed contracts with the NDDoH and implemented 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
Richland County Health Dept.
Southwestern District Health Unit
Upper Missouri District Health

The HCV screening program at the state penitentiary was also 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, 2007 and May 30, 2008, 83 individuals were screened at nine CTR sites, and 44 (53%) tested positive. Between Nov. 1, 2007 and May 30, 2008, 896 inmates were screened at the North Dakota Department of Corrections and Rehabilitation (NDDOCR), including the state penitentiary and three subsidiary correctional facilities, and 343 (38%) tested positive.

In Feb. 2008, seven CTR sites ordered and received a total of 190 doses of HAV/HBV vaccine from the NDDoH. Through May 30, 2008, a total of 29 doses were administered at the CTRs. The state penitentiary ordered and received a total of 1,250 doses of HAV/HBV vaccine in February 2008. Through May 30, 2008, a total of 85 doses were administered at the state penitentiary. A drug treatment center in Fargo ordered and received a total of 150 doses of HAV/HBV vaccine in February 2008. Through May 30, 2008, a total of 88 doses were administered at the drug treatment center.

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 2003 to 2007, 12 cases of HAV infection were reported to the NDDoH.

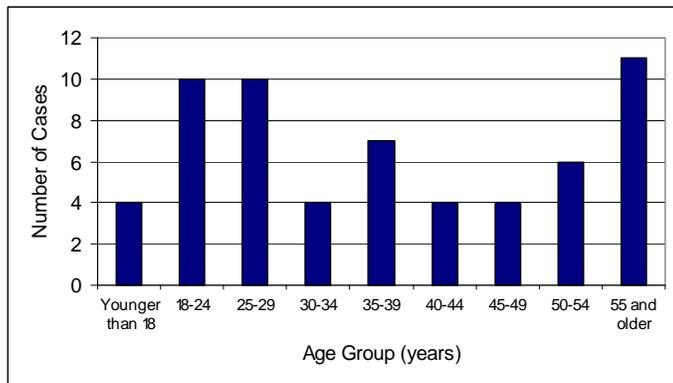
Hepatitis B Virus (HBV)

In 2007, 58 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 60 HBV-positive people reported to the NDDoH, 57 percent were male. Fifty-two percent of reported cases occurred among people older than 35, and the median age was 36 years (range: 2 to 78 years). **(Figure 7)** Race information was reported as follows: 3% Asian; 5% black or African American; 35% white; 2% Hawaiian or other Pacific Islander; and 52% unreported race.

Due to under-reporting, asymptomatic or unrecognized HBV infection, the 60 reported infections, including the one acute infection, are likely an under-representation of actual disease burden in North Dakota.

Figure 7. Reported HBV Cases by Age Group, North Dakota, 2007



Perinatal Hepatitis B

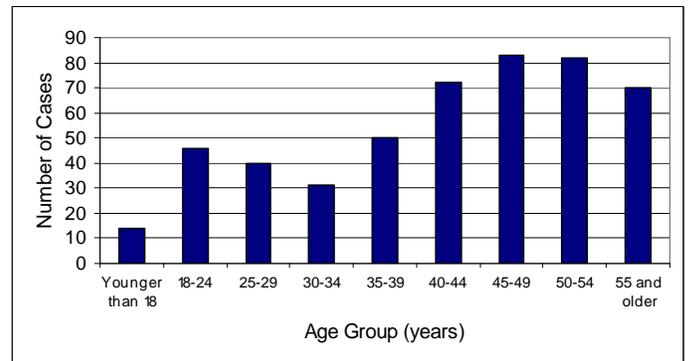
Perinatal hepatitis B surveillance and reporting are vital to the health of North Dakota infants. Screening all pregnant women for the presence of hepatitis B surface antigen (HBsAg) is a crucial step in controlling and preventing the spread of hepatitis B from mother to infant. However, documented HBsAg-positive 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.

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. As of Nov. 30, 2008, 14 HBsAg-positive pregnant women were reported to the NDDoH.

Hepatitis C Virus (HCV)

In 2007, the NDDoH received 488 reports of people newly identified as testing positive for hepatitis C virus (HCV) infection. HCV morbidity is primarily 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 488 HCV-positive reports, 61 percent were male. Seventeen percent of reported cases occurred among people ages 45 to 49, and the median age was 44 years (range: 1 month to 88 years). **(Figure 8)** Race information was reported as follows: 15% American Indian or Alaska Native; 0.2% Asian; 1% Black or African American; 37% white; 2% other; and 45% unreported race.

Figure 8. Reported HCV by Age Group, North Dakota, 2007



Due to under-reporting of cases and asymptomatic or unrecognized HCV infection, the 488 reported cases are likely an under-representation of actual disease burden in North Dakota.

NDDoH Viral Hepatitis Program

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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 more 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. Although the percentage of infected HIV/AIDS persons with co-infections is low, it is very important to know the health implications associated with co-infections.

Table 2. HIV/AIDS Diagnosis with Co-Infections

Risk	North Dakota, 2003-2007 (n=111 HIV/AIDS cases)				
	Chlamydia	Gonorrhea	Syphilis	Hepatitis C	Hepatitis B
Heterosexual contact	2	2			2
Injecting drug use (IDU)				2	1
Male-to-male sexual contact (MSM)			1	1	1
MSM/IDU					
Perinatal transmission					
Adult Hemophilia/coagulation disorder					
Receipt of blood or tissue					
Risk not specified				2	
Total	2 (2%)	2 (2%)	1 (1%)	5 (5%)	4 (4%)



Program collaboration and service integration (PCSI) is a major strategic priority for the CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. PCSI is focused on improving collaboration between programs in order to enhance integrated service delivery at the client level, or point-of-service delivery. The goal of PCSI is to provide prevention services that are holistic, evidence-based, comprehensive, and high quality to appropriate populations at every interaction with the health-care system.

The NDDoH also is working to achieve collaboration and optimization of services in North Dakota as a strategic planning initiative. Some examples of current projects include:

- Integrating screening for STDs and Hepatitis at HIV counseling, testing and referral sites (CTRs) by developing a combined risk assessment form.
- Integrating hepatitis testing and vaccination at CTRs.
- Publishing co-morbidity data in the quarterly Epidemiology Report.
- Collaborating to host an HIV/AIDS/ STD/Hepatitis Symposium.

For more information, call the HIV/AIDS/TB or the STD/Hepatitis Programs at 800.472.2180 or 701.328.2378 or visit www.cdc.gov/nchhstp/programintegration/Default.htm.

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Summary of Selected Reportable Conditions

North Dakota, 2007-2008

Reportable Condition	July-Sept 2008*	January-Sept 2008*	July-Sept 2007	January-Sept 2007
Campylobacteriosis	29	79	23	79
Chlamydia	496	1473	407	1246
Cryptosporidiosis	11	14	57	70
<i>E. coli</i> , shiga toxin positive (non-O157)	9	19	9	16
<i>E. coli</i> O157:H7	3	6	5	11
Enterococcus, Vancomycin-resistant (VRE)	58	199	80	212
Giardiasis	5	20	22	41
Gonorrhea	36	96	28	85
Haemophilus influenzae (invasive)	3	11	1	3
Hantavirus	1	1	0	0
Acute Hepatitis A	0	1	1	2
Acute Hepatitis B	1	1	1	1
Acute Hepatitis C	0	0	0	0
HIV/AIDS ¹	11	23	5	17
Legionellosis	2	3	1	2
Listeria	0	0	0	0
Lyme Disease	63	68	12	12
Malaria	0	0	1	1
Meningitis, bacterial ² (non meningococcal)	0	4	0	1
Meningococcal disease ³	1	4	0	2
Mumps	0	2	0	3
Pertussis	6	7	1	13
Q fever	0	0	0	0
Rabies (animal)	8	19	7	16
Salmonellosis	32	64	31	62
Shigellosis	6	41	1	8
Staphylococcus aureus, Methicillin-resisitant (MRSA)	24	64	151	385
Streptococcal disease, Group A ⁴ (invasive)	0	14	6	20
Streptococcal disease, Group B ⁴ (infant < 3 months of age)	1	3	0	3
Streptococcal disease, Group B ⁴ (invasive ⁵)	37	63	21	39
Streptococcal pneumoniae ⁴ , (invasive, children < 5 years of age)	4	8	0	1
Streptococcal pneumoniae ⁴ (invasive ⁶)	13	66	15	59
Streptococcus pneumoniae ⁴ , drug-resistant	0	1	0	0
Tuberculosis	0	1	1	2
Tularemia	3	3	0	0
West Nile Virus Infection	39	43	346	364

*Provisional data

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

² Meningitis caused by *Staphylococcus aureus* and *Streptococcus pneumoniae*.

³ Includes confirmed, probable and suspect meningococcal meningitis cases.

⁴ Includes invasive infections caused by streptococcal disease not including those classified as meningitis.

⁵ Includes invasive infections of streptococcal, Group B, disease in persons \geq 3 months of age.

⁶ Includes invasive infections caused by *Streptococcus pneumoniae* in persons \geq 5 years of age.