

January-February-March 2014

In this Issue:

- ◆ 2013 HIV/AIDS Summary
- ◆ 2013 Tuberculosis Epidemiology Report
- ◆ Reportable Conditions Summary

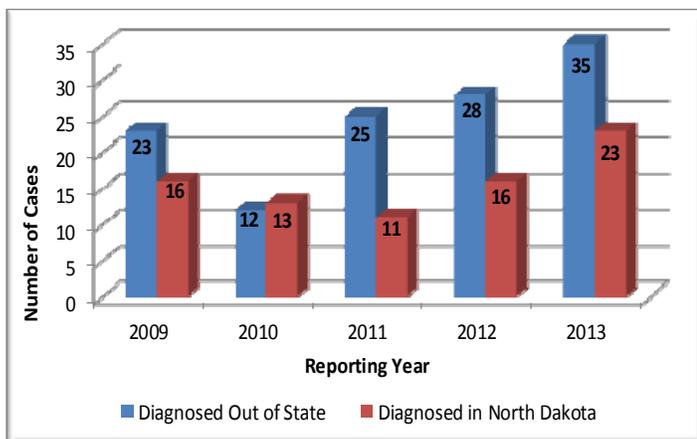
## 2013 HIV/AIDS Summary

North Dakota traditionally ranks near the bottom for incidence of HIV/AIDS in the United States with a case rate of 3.1 per 100,000 people in 2013.

In 2013, 58 HIV/AIDS cases were reported to the North Dakota Department of Health (NDDoH). This count includes cases being diagnosed for the first time and cases previously diagnosed elsewhere who moved to North Dakota during the year.

In 2013, 23 North Dakota residents were diagnosed with HIV/AIDS and reported to the NDDoH. Eight of the newly diagnosed HIV cases were advanced enough to meet the case definition for AIDS at the time of diagnosis.

**Figure 1. HIV/AIDS diagnosed in North Dakota and HIV/AIDS previously diagnosed in other states.**



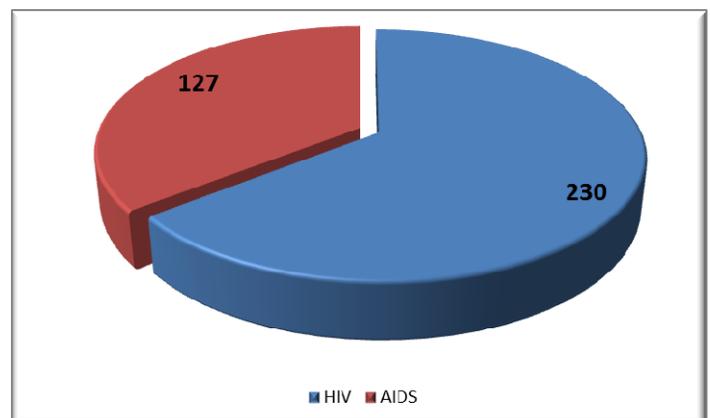
## Cumulative (1984-2013) HIV/AIDS Cases, North Dakota

HIV and AIDS have been reportable conditions in North Dakota since 1984. The cumulative reported infections as of Dec. 31, 2013, is 638 HIV/AIDS cases; 356 were reported with AIDS status and 282 as HIV (non-AIDS).

Of the 357 HIV/AIDS cases that were still living in North Dakota:

- 75 percent were male; 25 percent female.
- 81 percent were between 25 and 54 at diagnosis.
- 59 percent were white, 7 percent were American Indian, 25 percent were black and 6 percent were Hispanic (all races).
- The most frequently indicated risk factors were male-to-male sexual contact, 45 percent; heterosexual contact, 33 percent; and injection drug use, 7 percent.

**Figure 2. HIV/AIDS cases living in North Dakota.**



**Table 1. New HIV and AIDS Diagnoses by Race/Ethnicity, Gender, Exposure Risk, and Age at Diagnosis, North Dakota 2012-2013**

	New HIV/AIDS cases <sup>1</sup>				Total HIV/AIDS Cases Living in ND <sup>2</sup>	
	2013		2012		Number	Percent*
	Number	Percent*	Number	Percent*		
<b>Diagnosis</b>						
HIV	14	61%	10	63%	230	64%
AIDS	9	39%	6	37%	127	36%
<b>Race/Ethnicity</b>						
American Indian	1	4%	1	6%	25	7%
Black	9	39%	7	44%	90	25%
Hispanic (all races)	3	13%	1	6%	23	6%
Asian/Pacific Islander	2	9%	0	0%	5	1%
White	8	35%	7	44%	210	59%
Multi-race (non-Hispanic)	0	0%	0	0%	2	1%
Unknown	0	0%	0	0%	2	1%
<b>Gender</b>						
Male	17	74%	9	56%	268	75%
Female	6	26%	7	44%	89	25%
<b>Risk</b>						
Heterosexual contact	7	30%	8	50%	119	33%
Injecting drug use (IDU)	0	0%	0	0%	24	7%
Male-to-male sexual contact (MSM)	13	57%	6	38%	159	45%
MSM/IDU	1	4%	1	6%	19	5%
Perinatal transmission	0	0%	0	0%	1	0%
Other	2	9%	1	6%	8	2%
Risk not specified/not reported	0	0%	0	0%	27	8%
<b>Age Group</b>						
≤15	1	4%	0	0%	6	2%
15-24	4	17%	4	25%	37	10%
25-34	11	48%	3	19%	102	29%
35-44	5	22%	5	31%	125	35%
45-54	1	4%	3	19%	62	17%
55-64	1	4%	1	6%	23	6%
65+	0	0%	0	0%	2	1%
<b>Total</b>	<b>23</b>		<b>16</b>		<b>357</b>	

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

<sup>1</sup>New HIV/AIDS cases reflect diagnosed for the first time cases in North Dakota during the listed time period.

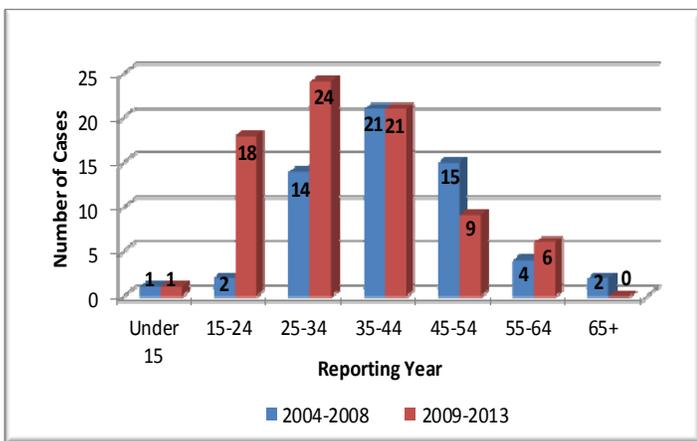
<sup>2</sup>Total HIV/AIDS cases living in N.D. reflect HIV/AIDS cases that were alive and residing in North Dakota as of December 31, 2013.

**HIV/AIDS Incidence 2009-2013**

HIV/AIDS incidence refers to cases that were diagnosed for the first time in North Dakota within a given time frame. The AIDS cases reported in this section met the criteria for AIDS at HIV diagnosis. From 2009 to 2013, 79 HIV/AIDS cases were diagnosed in North Dakota. Thirty-three percent met the criteria for AIDS at time of diagnosis, while 67 percent were diagnosed as HIV (non-AIDS); 76 percent were male and 24 percent were female.

**Figure 3** shows the age groups of HIV/AIDS cases diagnosed for the first time in North Dakota between 2009 and 2013. HIV/AIDS is being diagnosed at an earlier age; the 25 to 34 age group made up the largest proportion of the HIV/AIDS cases diagnosed during that time period.

**Figure 3. Age of incident HIV/AIDS cases diagnosed in N.D. 2009 – 2013**

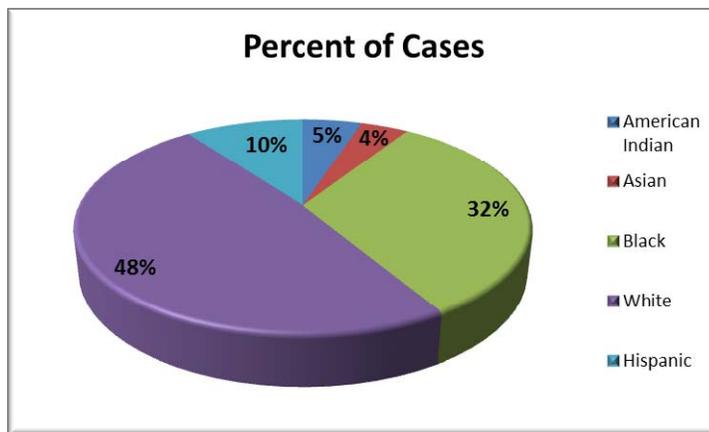


**Race/Ethnicity of Incident HIV/AIDS: 2009-2013**

Racial and ethnic minorities disproportionately continue to be affected by HIV in the United States and North Dakota. Thirty-two percent of HIV/AIDS cases diagnosed in North Dakota between 2009 and 2013 were Black/African American, 5 percent were American Indian and 49 percent were White.

**Figure 4** shows the race/ethnicity for cases diagnosed in 2009-2013.

**Figure 4. Race/Ethnicity of HIV/AIDS cases diagnosed in N.D. 2009-2013**

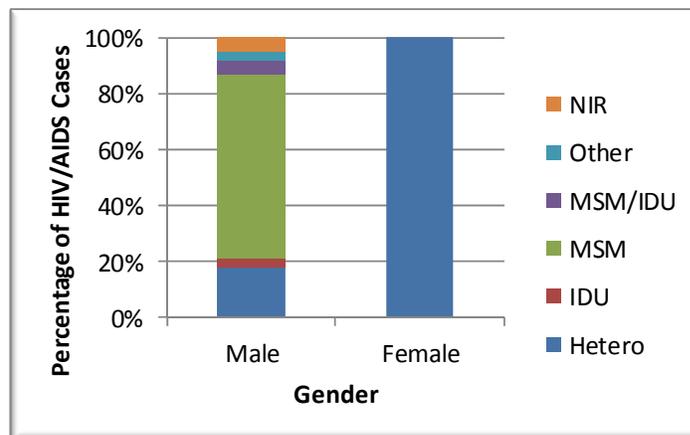


**Risk Factors of Incident HIV/AIDS Cases: 2009-2013**

Male-to-male sex continues to be the most frequently reported risk factor. Fifty-one percent of the cases diagnosed between 2009 and 2013 claimed to have male-to-male sexual relations. Thirty-five percent of the cases diagnosed during this time period reported having heterosexual relations. Three percent of the cases claimed to have used intravenous drugs, and four percent claimed to have used intravenous drugs and had male-to-male sexual relations.

**Figure 5** shows risk factors of HIV/AIDS cases diagnosed in N.D. for 2009-2013 stratified by gender.

**Figure 5. Risk factors of HIV/AIDS cases diagnosed in N.D. 2009-2013 by Gender**

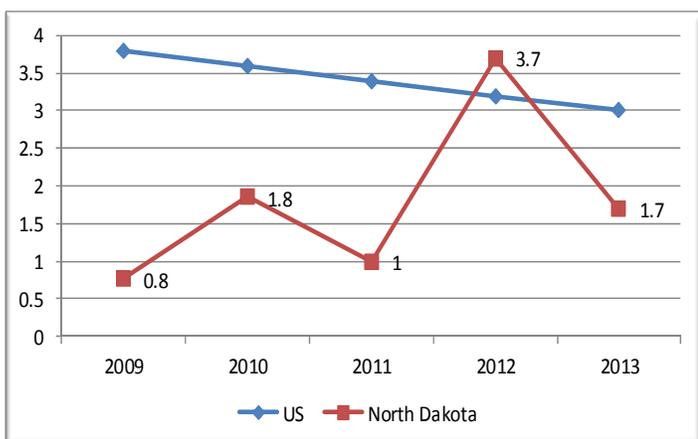


### Tuberculosis in North Dakota - 2013

In 2013, a total of 9,588 new tuberculosis (TB) cases were reported in the United States, an incidence of 3.0 cases per 100,000 population. This is lower than the case rate of 3.2 reported for 2012.

North Dakota's incidence rate historically has been lower than the national rate, but an outbreak in Grand Forks county increased the incidence rate to 3.7 per 100,000 in 2012. In 2013, twelve cases were reported; five of the twelve cases were related to the Grand Forks outbreak. The incidence rate for TB dropped back below the national baseline to 1.7 cases/100,000 in 2013 for North Dakota. (Figure 6).

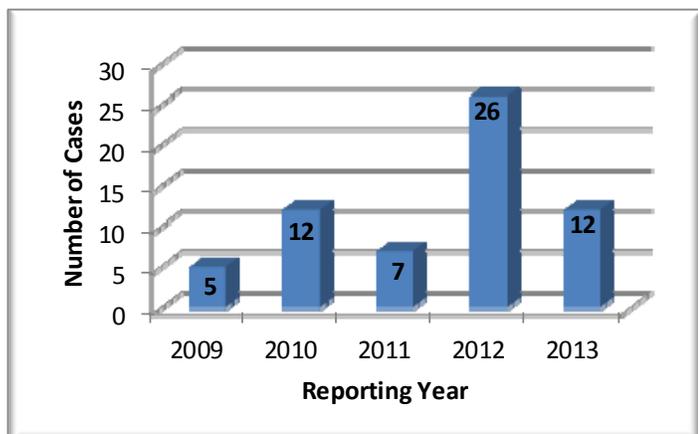
**Figure 6. United States and North Dakota Tuberculosis Disease Rates, 2009–2013**



### 5-Year Trends

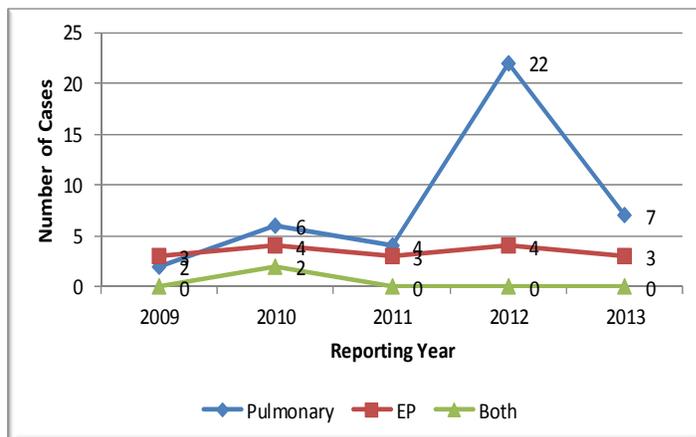
Between 2009 to 2013, 62 cases of active TB were reported to North Dakota. (Figure 7).

**Figure 7. Number of active cases reported 2009-2013**



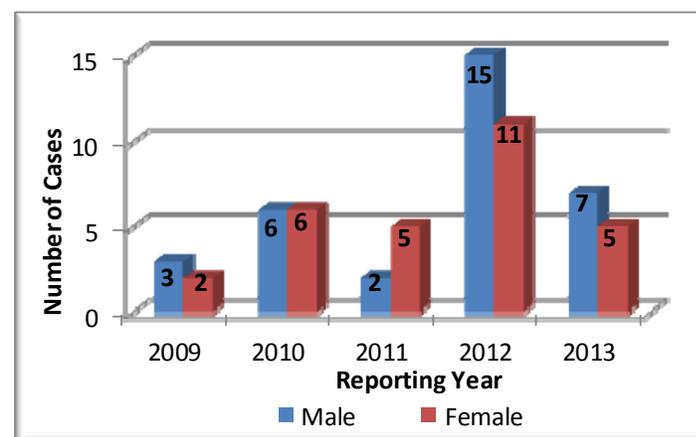
In the last five years, 41 of the 62 cases were pulmonary (66%) and 19 were extra-pulmonary (31%). (Figure 8).

**Figure 8. North Dakota pulmonary and extra-pulmonary cases reported 2009-2013**



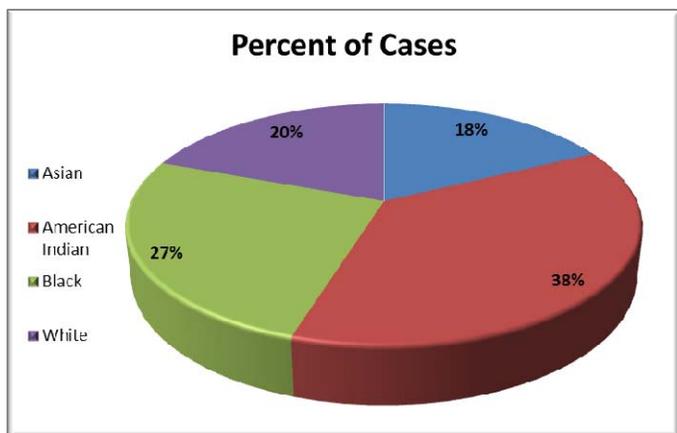
Men and women were affected equally by TB in North Dakota during the last five years. There were 31 male cases and 31 female cases. (Figure 9).

**Figure 9. North Dakota cases by Gender 2009-2013**



In 2013, 90.1 percent of the population of North Dakota identified as white. TB data from the previous five years shows that individuals of racial and ethnic minorities were disproportionately affected by TB. (Figure 10).

**Figure 10. Tuberculosis Cases by Race/Ethnicity, North Dakota, 2009-2013**



**Grand Forks Outbreak**

Twenty-five cases of active TB were identified in Grand Forks County in 2012-2013. Testing, contact investigation and treatment are ongoing.

Risk factors associated with the outbreak include being part of a racial minority, being homeless and reporting issues with substance abuse.

**Mycobacterium bovis (M. bovis)**

In July 2013, the North Dakota Department of Health (NDDoH) was notified of a patient presumptively diagnosed with active tuberculosis (TB) disease. The investigation revealed the patient was from Mexico and employed at a local dairy, with primary duties requiring extensive direct contact with cattle. The North Dakota Department of Health worked in collaboration with the North Dakota Board of Animal Health (BOAH) on this case.

Whole herd testing was performed by the BOAH; 319 dairy cattle were tested with 11 caudal fold responders. One of the eleven was comparative cervical tuberculin positive and a quarantine was issued in November 2013. A lymph node from the suspect cow was PCR positive and culture was positive for *M.bovis*. Subsequent testing yielded two additional reactors; one PCR positive for *M.bovis* and the other cow was culture positive for *M.bovis*. Genotype results for the second cow were different than the genotype results from the initial cow tested. Both strains identified are similar or identical to TB strains also identified in Mexico, none of the cows tested had been to Mexico.

To determine if zoonotic exposure occurred, an isolate of the human specimen was sent to the National Veterinary Services Laboratory for whole genome sequencing (WGS). From the results, it was determined WGS for the human was an exact match to the animal WGS results.

**Drug-Resistant Tuberculosis**

TB has the ability to develop resistance to certain anti-TB medications. Being infected with a drug resistant TB (DR-TB) can be much more complicated and costly to treat than drug-susceptible TB, especially if it is a form of multi-drug resistant TB (MDR-TB). MDR-TB is resistant to the two most commonly used anti-TB drugs: isoniazid and rifampicin.

Susceptibilities performed on isolates collected from cases associated with the TB outbreak cases in Grand Forks County all showed low-level INH resistance at 0.2 ug/ml. There were no instances of MDR-TB.

**Latent Tuberculosis Infection**

Latent Tuberculosis Infection (LTBI) is an infection of TB in which the disease is in a dormant state. An estimated one-third of the global population is currently infected with TB, most of these being LTBI. Individuals with LTBI are not infectious and do not have symptoms of TB disease. Certain methods (such as skin testing) are available to determine if an individual has LTBI. The number of latent tuberculosis infections reported in North Dakota over the past five years is shown in Table 2.

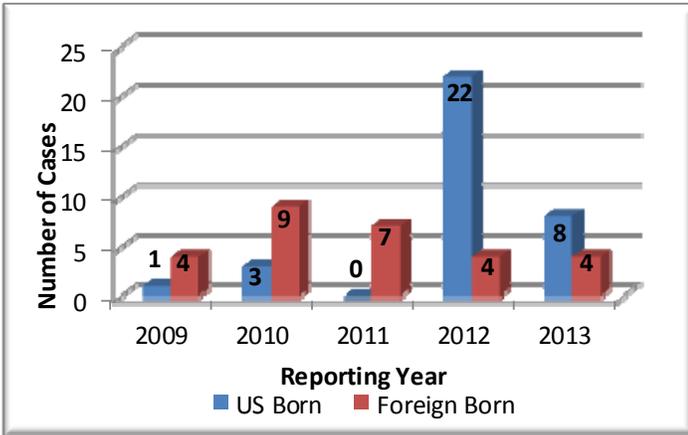
**Table 2. Reported Cases of LTBI North Dakota, 2009-2013**

2009	2010	2011	2012	2013
564	574	562	654	969

**Foreign-Born**

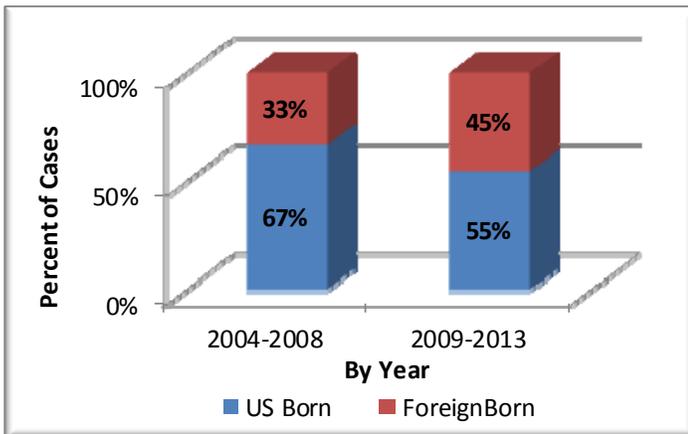
Nationwide the number of people diagnosed with active TB who are foreign-born exceeds the number of cases in U.S.-born persons. In North Dakota the opposite was true from 2009-2012. (Figure 11). No foreign-born cases were connected to the Grand Forks outbreak, resulting in more U.S.-born cases in 2012. Homeless and ethnic minorities represent a higher proportion of cases among the U.S.-born. (Figure 12).

**Figure 11. Number of U.S.-Born and Foreign-Born TB cases in North Dakota**



However, overall the number of foreign-born cases in 2009-2013 (45%) in North Dakota increased from 2003-2008 (33%).

**Figure 12. Percentage of U.S.-Born and Foreign-Born TB in North Dakota**

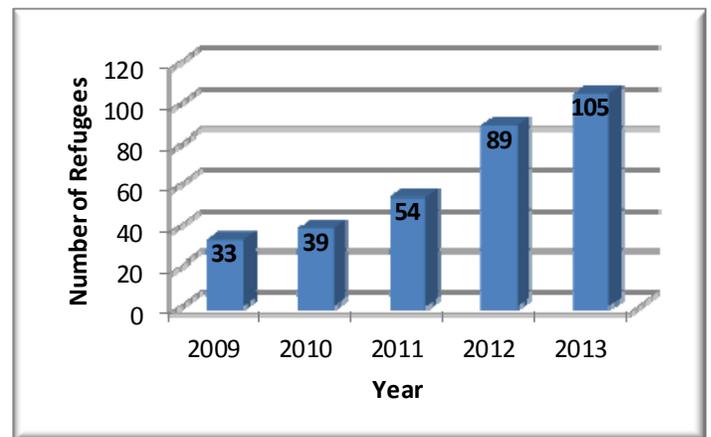


**Class B TB Designation**

The U.S. Department of State requires all refugees and immigrants coming to the United States to have a pre-immigration medical exam to rule out diseases of public health significance, one of which is active pulmonary TB.

The number of Class B refugees and immigrants requiring a medical examination has increased 318 percent since 2008. (Figure 13).

**Figure 13. Number of Foreign-Born Class B Refugees and Immigrants requiring TB medical examination, 2009-2013**



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**Summary of Selected Reportable Conditions**

**North Dakota, January – March, 2013-2014**

<b>Reportable Condition</b>	<b>January-March 2014*</b>	<b>January-March 2013*</b>
Campylobacteriosis	24	18
Chickenpox	5	9
Chlamydia	855	685
Cryptosporidiosis	6	5
<i>E. coli</i> , shiga toxin positive (non-O157)	2	1
<i>E. coli</i> O157:H7	2	1
Enterococcus, Vancomycin-resistant (VRE)	35	103
Giardiasis	6	9
Gonorrhea	176	103
Haemophilus influenzae (invasive)	3	3
Acute Hepatitis A	3	2
Acute Hepatitis B	0	0
Acute Hepatitis C	0	2
HIV/AIDS <sup>1</sup>	25	14
Influenza	1995	3066
Legionellosis	2	0
Listeria	0	0
Lyme Disease	0	0
Malaria	0	1
Meningococcal disease <sup>2</sup>	1	0
Mumps	0	1
Pertussis	3	4
Q fever	0	0
Rabies (animal)	5	10
Rocky Mountain spotted fever	0	0
Salmonellosis	16	20
Shigellosis	6	3
<i>Staphylococcus aureus</i> , Methicillin-resistant (MRSA)	30	23
Streptococcal pneumoniae <sup>3</sup> , (invasive, children < 5 years of age)	23	36
Syphilis, Primary and Secondary	1	1
Trichinosis	0	0
Tuberculosis	2	3
Tularemia	0	0
Typhoid fever	0	0
West Nile Virus Infection	0	0

\*Provisional data

<sup>1</sup> Includes newly diagnosed cases and cases diagnosed previously in other states that moved to North Dakota

<sup>2</sup> Includes confirmed, probable and suspect meningococcal meningitis cases.

<sup>3</sup> Includes invasive infections caused by streptococcal disease not including those classified as meningitis.