

The Pump Handle



"I had an interview with the Board of Guardians of St. James's parish, on the evening of Thursday, 7th September, and represented the above circumstances to them. In consequence of what I said, the handle of the pump was removed on the following day."

John Snow, 1855

January 2012 Topics

- Unusual Number of Rabies Cases Reported in a North Dakota County
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Unusual Number of Rabies Cases Reported in a North Dakota County

In the past five years, an average of 25 cases per year of animals testing positive for rabies was reported to the North Dakota Department of Health (NDDoH). These cases are usually sporadic cases, occurring from different areas of the state at different times of the year. In the past five years, there has only been one animal that tested positive for rabies from Bowman County. That is what makes the recent increase in rabies near the city of Bowman so unusual.

On Nov. 28, 2011, a skunk testing positive for rabies was reported to the NDDoH. One month later on Dec. 29, 2011, an unvaccinated dog and another skunk tested positive for rabies. A third skunk was submitted and tested positive for rabies on Jan. 17, 2012. The three skunks were each submitted by different residents near the city of Bowman. The unvaccinated dog belonged to the individual who submitted the first skunk in November.

After the second rabid skunk and unvaccinated dog were reported, the NDDoH issued a news release alerting the public, and specifically the residents of Bowman County, to the increase of rabies being reported in the area. The news release stressed the importance of

avoiding contact with wild or unfamiliar animals and that they should not be fed, approached or touched. Wild animals should not be kept as pets. In North Dakota it is illegal to keep a skunk or raccoon as a pet.

The news release also advised the public to vaccinate their pets. The death of the unvaccinated dog could have been avoided if its rabies vaccination status was current. Most people receive the rabies vaccine because they were exposed to a pet dog, pet cat or a stray. The vaccination series can cost from \$2,000 to \$7,000 per person. Getting your pet vaccinated typically costs less than \$25. According to the Bowman Veterinary Clinic, the demand for rabies vaccination for dogs and cats were higher than normal following the news release.

Even though Bowman County has experienced an increase in the number of animals testing positive for rabies in the recent months, it is important to remember that rabies is seen throughout the state of North Dakota. All animal bites and other exposures to wild animals, pets and strays should be assessed by a health-care provider to determine the risk of rabies transmission.

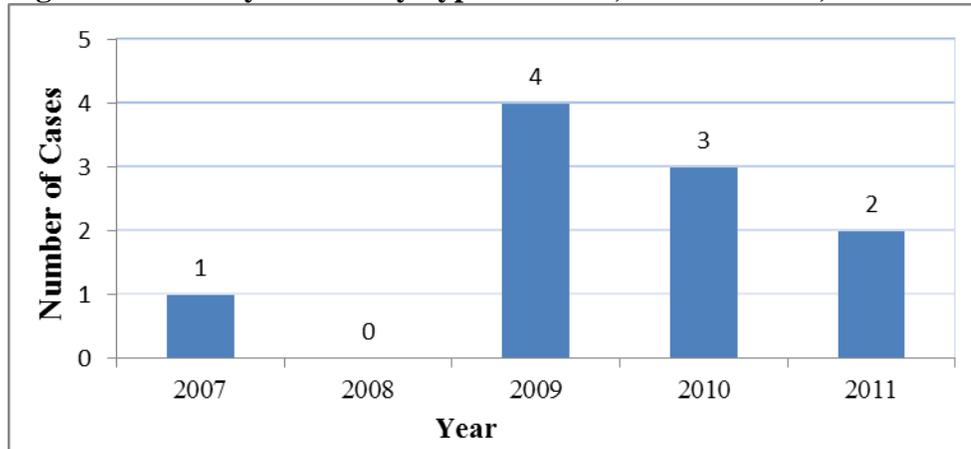
Additional information about rabies can be found on the North Dakota Department of Health website at www.ndhealth.gov/disease/Rabies/.



Et tu Syphilis

Two recently reported cases of primary/secondary syphilis, along with three latent syphilis infections in North Dakota, continue to remind us that syphilis and the medical challenges associated with it are still present. In the past five years, the incidence of infectious syphilis in North Dakota has remained low, which may cause providers not to consider it in their differential diagnosis (Figure 1).

Figure 1. Primary/Secondary Syphilis Cases, North Dakota, 2007-2011*



*2011 data is preliminary. Cases may be pending investigation.

Providers are encouraged to keep syphilis in the differential diagnoses in sexually active individuals presenting with genital lesions or signs and symptoms of secondary or tertiary syphilis.

Syphilis screening recommendations in North Dakota include the following:

- Pregnant females
- Partner(s) exposed to a positive syphilis case
- Blood donors
- Men who have sex with men (MSM)
 - Screen for chlamydia, gonorrhea and syphilis at three to six month intervals if reporting multiple and anonymous sex partners
- HIV-positive individuals should be tested once a year

Serologic testing often is used to aid in diagnosis of syphilis. A presumptive diagnosis of syphilis is possible with the use of two types of serologic tests: 1) nontreponemal tests (e.g., Venereal Disease Research Laboratory [VDRL] and rapid plasma reagin [RPR]), and 2) treponemal tests (e.g., fluorescent treponemal antibody absorbed [FTA-ABS] tests, *T. pallidum* passive particle agglutination [TP-PA] assay, various enzyme immunoassays [EIAs] and chemiluminescence immunoassays [CIAs]). Nontreponemal test antibody titers may correlate with disease activity and results should be reported quantitatively. The Centers for Disease Control and Prevention (CDC) recommends the following serology testing algorithm for the presumptive diagnosis of syphilis: nontreponemal screening test (VDRL or RPR) positive followed by a confirmatory treponemal test (FTA-ABS or TPPA) positive.

The availability of automatable EIAs and CIAs has led some laboratories to adopt a reverse sequence of screening for syphilis in which a treponemal EIA or CIA is performed first followed by testing of reactive sera with a nontreponemal. In February 2011, the CDC published a Morbidity and Mortality Weekly Report entitled *Discordant Results from Reverse Sequence Syphilis Screening – Five Laboratories, United States, 2006 to 2010* (February 11, 2011/60(05);133-137). This publication offers guidance to clinicians and public health officials on interpretation of syphilis serology results and appropriate confirmatory testing.

Early syphilis generally responds well to appropriate antibiotic therapy. Penicillin G, administered parenterally, is the preferred drug for treating all stages of syphilis. The preparation used, the dosage, and the length of treatment depends on the stage and clinical manifestations of the disease. The standard benzathine penicillin product widely used in the U.S. is Bicillin L-A®. The CDC treatment guidelines are available online at www.cdc.gov/std/default.htm.

INFECTION	RECOMMENDED Rx	DOSE / ROUTE	ALTERNATIVES / NOTES
Syphilis			
Primary, secondary, or early latent syphilis in adults	Benzathine penicillin G	2.4 million units IM in a single dose	Early latent syphilis is latent syphilis of less than one-year duration.
Primary, secondary, or early latent syphilis in children	Benzathine penicillin G	50,000 units/kg IM, up to the adult dose of 2.4 million units in a single dose	
Early syphilis in non-pregnant adults & adolescents allergic to penicillin	Doxycycline or Tetracycline	100 mg orally BID x 14 days 500 mg orally QID x 14 days	Limited studies suggest that ceftriaxone is effective for treating early syphilis, but the optimal dose and duration have not been defined. Some specialists recommend 1 g daily either IM or IV for 8-10 days. Azithromycin, single 2 g oral dose, is effective for treating early syphilis but should be used with caution due to association of resistance to <i>T. pallidum</i> . Close follow-up of persons receiving alternative therapies is essential.
Early syphilis in pregnancy	Pregnant women should be treated with the penicillin regimen appropriate for their stage of infection.		Pregnant women who are allergic to penicillin should be desensitized and treated with penicillin.
Late latent syphilis or latent syphilis of unknown duration in adults	Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals		For non-pregnant persons allergic to penicillin, doxycycline 100 mg orally BID may be administered for 28 days or tetracycline 500 mg orally QID x 28 days. Close follow-up of persons receiving alternative therapies is essential.
Late latent syphilis or latent syphilis of unknown duration in children	Benzathine penicillin G 50,000 units/kg IM, up to the adult dose of 2.4 million units, administered as 3 doses at 1-week intervals (total 150,000 units/kg up to the adult total dose of 7.2 million units)		
Neurosyphilis			Consult the 2010 STD Treatment Guidelines (MMWR Vol 59, No. RR-12).

Resource: 2010 STD Treatment Guidelines (MMWR Vol 59, No. RR-12).

Patients receiving treatment regimens not in accordance to the CDC's recommendations may be recognized by the Department of Health as inadequately treated. The Department of Health keeps a registry of syphilis cases and manages partners in a statewide database.

For information about how to report a case of syphilis, visit the North Dakota Department of Health website at www.ndhealth.gov/Disease/Disease%20Reporting/Report.htm or call the STD Program at 701.328.2378.



Influenza Update

As of Feb. 7, 2012, a total of 29 laboratory-identified influenza cases have been reported to the North Dakota Department of Health (NDDoH) from ten counties. Twenty-six cases were identified as Influenza A and three as Influenza B. Of the cases further subtyped at the Division of Laboratory Services, all have been confirmed as Influenza A H3N2 (three cases). Currently flu activity is low in North Dakota, but is rapidly increasing. This would be an opportune time for anyone not vaccinated for flu to do so. Flu vaccine is plentiful this season and more vaccine has been distributed in the United States than past influenza seasons.

In addition to an increase in cases of influenza, respiratory syncytial virus (RSV) activity continues to rise in North Dakota. While NDDoH does not quantify the number of RSV cases, there are sentinel laboratories in the state that are reporting near 40 percent positivity on rapid RSV tests. This is indicative that the virus is circulating in the community and should be a consideration in diagnosing respiratory illness at this time.

The NDDoH influenza website is updated weekly with the latest influenza data. For more information about influenza, the surveillance program or to order free educational materials, visit the NDDoH influenza website at www.ndflu.com.



Save the Date! HIV/STD/TB/Hepatitis Symposium and Hepatitis C Training Workshop: April 10-12, 2012

Save the Date! The 2012 HIV/STD/TB/Hepatitis Symposium will be held April 11 and 12, 2012, at the Radisson Inn in Bismarck, N.D. A preconference hepatitis C training workshop will be held at the Radisson on April 10, 2012.

The symposium will include both plenary and breakout sessions, and the following topics will be presented:

- HIV/STDs/TB/Viral hepatitis in North Dakota
- Support group development
- New Hepatitis C treatment available
- Sex, drugs and HIV
- Racial makeup of TB clients
- Aging of HIV patients
- Rapid hepatitis C testing
- MSM partner services
- Advances in TB
- Expedited partner therapy in North Dakota
- Men's Sexual Health

The audience for the symposium includes all health-care and substance abuse professionals who provide services to individuals with HIV, sexually transmitted diseases, tuberculosis or viral hepatitis. The symposium will provide an opportunity to receive education and resources to improve the capacity to provide these services.

Prior to the symposium, there will be a hepatitis C training workshop on April 10, 2012, at the Radisson Inn in Bismarck, N.D. This training is targeted to health educators, HIV/STD counselors and testers, medical providers, substance abuse counselors, case managers, support group leaders, patients and other health professionals who will provide education, support and advocacy for people and populations affected by hepatitis C.

The topics presented at the Hepatitis C Advocate training will include:

- The liver.
- Hepatitis C transmission and prevention.

- Diagnostic tools.
- Symptoms and disease progression.
- Disease management.
- Treatments.
- Complementary medicine.

Continuing education credits are being requested for the HIV/STD/TB/Hepatitis Symposium and the hepatitis C training workshop from the North Dakota Board of Nursing, North Dakota Board of Addiction Counseling Examiners and the North Dakota Board of Social Workers. The registration form, conference brochure and nomination form for awards of excellence can be found at www.ndhealth.gov/disease/Hepatitis/Training/HepC.htm.

For more information, please contact the North Dakota Department of Health at 701.328.2378 or 800.472.2180.



Acute Viral Gastroenteritis Update

Since Oct. 1, 2011, six institutions have reported outbreaks of acute viral gastroenteritis to the North Dakota Department of Health (NDDoH). Two assisted living, one educational institution and three long-term care facilities in Cass, McLean, Stark, Walsh and Ward counties have reported gastrointestinal illness outbreaks. One outbreak was a confirmed norovirus outbreak.

From the six reported outbreaks, more than 160 residents/students and 60 staff were reported to be ill with vomiting and/or diarrhea. The duration of each outbreak ranged from two days to 24 days. Control measures taken by affected facilities included visitor restrictions, limited number of admissions, kept residents in rooms and increased the frequency of cleaning. The Centers for Disease Control and Prevention (CDC) has created a toolkit for health-care professionals to serve as a complementary resource for the prevention and control of norovirus gastroenteritis outbreaks in health-care settings. The toolkit is available at www.cdc.gov/HAI/organisms/norovirus.html.

In addition to viral gastroenteritis outbreaks reported in institutional settings, one confirmed norovirus foodborne outbreak was reported to the NDDoH. Twelve (71%) of 17 individuals who ate a restaurant in Stark County on September 25, 2011, became ill with vomiting and/or diarrhea. One individual was hospitalized due to his or her illness and has recovered. Two stool samples were submitted to the Division of Laboratory Services and were confirmed to be norovirus.

Norovirus is the most common cause of viral gastroenteritis outbreaks and is often called the “stomach flu.” Norovirus outbreaks occur most often in the winter and early spring. Although it is commonly referred to as the stomach flu, it has no relationship to the influenza virus that causes respiratory infections. The CDC estimates noroviruses cause 20 million cases of acute gastroenteritis each year and more than 50 percent of all foodborne outbreaks.

To report a norovirus or an acute viral gastroenteritis outbreak, please contact the NDDoH at 800.472.2180 or 701.328.2378. Institutions, such as long-term care facilities, assisted living facilities and hospitals, are encouraged submit an online report form at www.ndhealth.gov/disease/GI/.

Contributing authors of The Pump Handle include Alicia Lepp, Lindsey VanderBusch, Sarah Weninger, Julie Wagendorf, Tracy Miller and Kirby Kruger. For questions, suggestions or inquiries, or to be removed from the mailing list, please contact Sarah Weninger of the Division of Disease Control, at 701.328.2366 or by e-mail at sweninger@nd.gov.

The pump handle picture in the title was obtained from the website www.ph.ucla.edu/epi/snow.html.



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