

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

June 2011 Topics

- Tularemia in North Dakota
- Measles Update
- To Report or Not to Report: Is that the Question?
- July 28, 2011, is World Hepatitis Day
- West Nile Virus Update



Tularemia in North Dakota

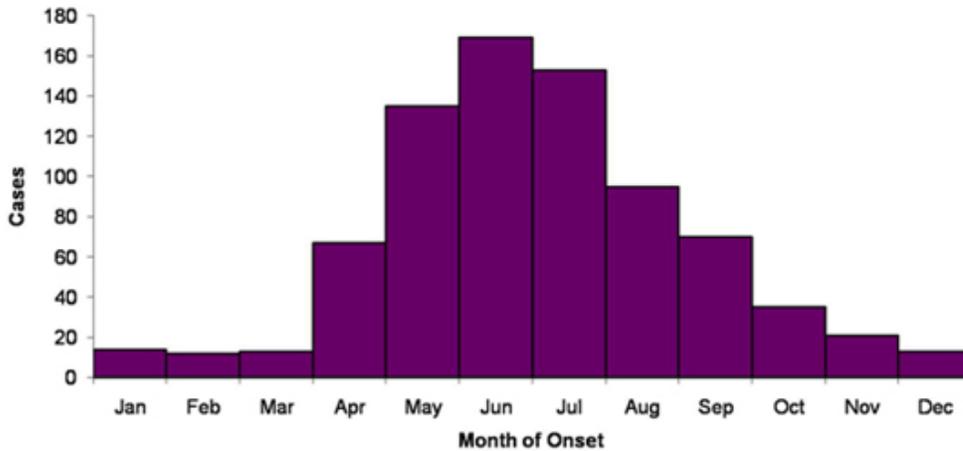
Tularemia, a disease that can affect both animals and humans, is caused by a bacterium, *Francisella tularensis*. Wild animals such as hares, rabbits, muskrats, prairie dogs and other rodents have been known to be infected with tularemia. Some domestic animals like horses, sheep and cats also can be infected.

Several tularemia infections in domestic animals recently have been reported to the North Dakota Department of Health (NDDoH). In late May, a horse from Stutsman County became ill and died. Numerous ticks were found on the horse's body and subsequent testing confirmed tularemia infection in the horse. A few weeks later, a sick horse from the same location in Stutsman County tested positive for tularemia as well. The third animal reported to the NDDoH was from Adams County. The cat tested positive for tularemia after it became sick and died in June.

Tularemia transmission to humans is most common during the spring and summer months (Figure 1). People can become infected through bites from infected ticks or deer flies; handling infected animals; inhaling contaminated dust or aerosols; or ingesting insufficiently cooked infected meat or contaminated water. Bites from infected ticks or deer flies occur during the spring and summer, but illness due to animal handling and

hunting can occur at any time of the year. From 2000 to 2010, ten human tularemia cases have been identified in North Dakota.

Figure 1. Reported human cases of Tularemia by month, United States, 2000-2008.



<http://www.cdc.gov/tularemia/statistics/month.html>

The signs and symptoms of tularemia include fever accompanied by varying symptoms depending on the route of entry into the body. These symptoms can include ulcers on the skin or mouth, swollen and painful lymph glands, swollen and painful eyes and a sore throat. Pneumonia also can develop which is the most serious form of the disease. This form develops when people breathe in dust or aerosols that contain the bacteria that causes tularemia.

For more information about tularemia, visit the NDDoH website at www.ndhealth.gov/disease/Tickborne.



Measles Update

In June, the North Dakota Department of Health (NDDoH) reported the first case of measles in the state since 1987. The case occurred in an unvaccinated adult male in his 50s from Cass County. The case most likely contracted measles on an airline flight. He was not in North Dakota while contagious.

Measles is a virus that causes rash, cough, runny nose, eye irritation and fever. It can lead to ear infection, pneumonia, seizures, brain damage and death. All children are recommended to be vaccinated against measles at ages 12 to 15 months and 4 to 6 years. Measles is included in a combination vaccine with mumps and rubella (known as MMR vaccine). All adults born in 1957 or later should have at least one dose of MMR vaccine. All health-care workers should have two doses of MMR vaccine.

During 2001 to 2008, the United States had about 58 cases of measles reported annually. Between January 1 and May 20, 2011, 118 cases of measles already were reported in the United States. Almost 90 percent of cases have occurred in people who have not been vaccinated. Forty percent of cases have required hospitalization.



To Report or Not to Report: Is that the Question?

Newly identified diseases such as 2009 H1N1 and West Nile virus, remind us of all the reasons we continue to report infectious diseases to the North Dakota Department of Health. Additionally, re-emerging diseases such as measles, recently identified in N.D. for the first time in almost 25 years, highlight the need for prompt reporting. However, the state health department cannot act quickly unless physicians take the time to report diseases.

The North Dakota Administrative Code 33-06-01 requires that physicians report diseases, outbreaks, and unexplained events outlined on the mandatory list of reportable conditions (www.ndhealth.gov/Disease/Documents/ReportableConditions.pdf) to the state health department. The importance of disease reporting lies in the health department's ability to identify trends and outbreaks, and provide prevention methods to reduce transmission. The key is to manage the problem before it becomes too widespread.

Although required by law, the Division of Disease Control receives very few physician reports, with the majority of cases being reported via laboratories. If physicians are not reporting, what is the reason? Is it because they do not know which diseases to report? Are they unfamiliar with the method of reporting? Or are they relying on their laboratories and infection control nurses to report for them?

Maybe it is because Disease Control has not outlined the importance of physician reporting. Yes, it is important to have laboratory evidence, but in many cases, laboratory evidence is not enough. For cases to be classified as confirmed, they must meet a certain case definition, meaning the patient must have: 1) positive lab results and 2) clinical symptoms indicative of the disease.

Equally important is the need for physicians to report suspect cases of certain high-risk diseases. Diseases such as measles or meningococcal meningitis must be reported to the state health department as soon as the doctor suspects the disease. Waiting for laboratory confirmation of the disease often times puts additional people at risk, as well as reducing prevention efforts to almost nothing.

If you have questions about reporting or want to submit a report, visit www.ndhealth.gov/Disease/Disease%20Reporting/Report.htm or call 800.472.2180.



July 28, 2011, is World Hepatitis Day

July 28, 2011, is World Hepatitis Day. One in 12 people worldwide are infected with either hepatitis B virus or hepatitis C virus. Because most of the 500 million infected with hepatitis B or hepatitis C are asymptomatic and are unaware of their infection, they may spread the virus to others without knowing. Viral hepatitis is the leading cause of liver cancer and the most common reason for liver transplantation in the United States.

The most common types of viral hepatitis in the United States are hepatitis A, B and C. These three viruses are very different, but all cause liver disease. Hepatitis A is an infection lasting no more than six months, while hepatitis B and C can develop into lifelong chronic illness.

Hepatitis A is a virus that is spread by the fecal-oral route. A person becomes infected with the virus by ingesting fecal matter from contaminated objects, food or drinks. People at greater risk of hepatitis A infections include those traveling to countries where hepatitis A is common, having sexual contact with someone who has hepatitis A, or living in the same household as a person infected with hepatitis A.

Hepatitis B is a virus that is spread from person to person through infected blood or sexual secretions. Those at increased risk for infection include anyone who has sex with an infected individual and those who share needles, syringes or other drug injection equipment. Hepatitis B also can be passed from an infected mother to her baby at birth.

Hepatitis C is spread from person to person through infected blood. Those at increased risk for hepatitis C infections include those who share needles or other equipment to inject drugs, who received a blood donation before 1992, or who has received tattoos or piercings in unsterile environments.

Eleven public health units across North Dakota offer free-of-charge hepatitis C screening and hepatitis A and B vaccinations to those at risk. These sites include:

- Bismarck Burleigh Public Health.
- Custer Health.
- Central Valley Health District.
- Fargo Cass Public Health.
- First District Health Unit.
- Grand Forks Public Health Department.
- Lake Region District Health Unit.
- MinneTohe Health Center.
- Richland County Health Department.
- Southwestern District Health Unit.
- Upper Missouri District Health Unit.

The NDDoH is encouraging individuals to **Get Tested!** Visit www.ndhealth.gov/knowyourrisk to find out if you are at risk for viral hepatitis. If you are at risk for hepatitis, knowing your status can help save your life. There are treatment options available for people with hepatitis, but keeping your liver healthy is very important. Avoiding alcohol and drug consumption, eating a healthy diet, and exercising are all ways a person can promote a healthy liver.

For information on hepatitis, please contact the NDDoH hepatitis program at 800.472.2180 or 701.328.2378, or visit our website at www.ndhealth.gov/disease/hepatitis.

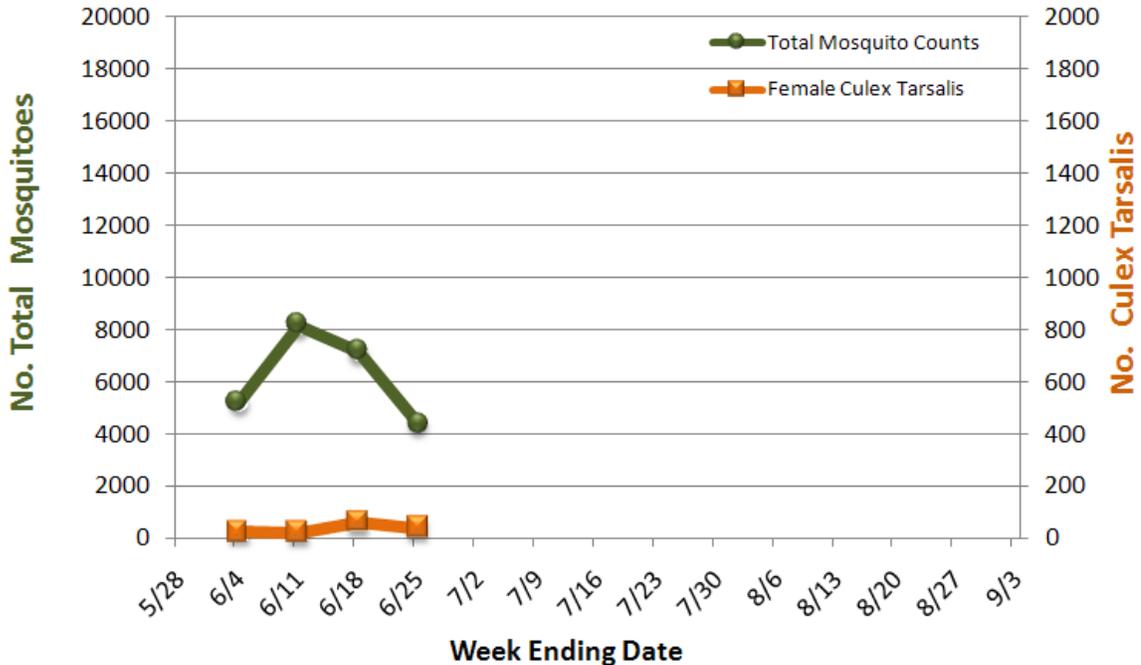


West Nile Virus Update

As of July 8, 2011, three dogs have tested positive for West Nile virus (WNV). Although no human infections have been reported to the state health department, the mosquito that transmits WNV, *Culex tarsalis*, typically reaches peak numbers the end of July or the beginning of August. State mosquito surveillance traps currently are indicating low

numbers of female *Culex tarsalis* counts across the state (**Figure 2**). The peak WNV transmission season is approaching and people should be watchful of the signs and symptoms of WNV illness. Symptoms range in severity from fever, rash and headaches to more severe neurological disease such as high fever, severe headache, stiff neck, altered mental state and death.

Figure 2. Total number of mosquitoes and female *Culex tarsalis* mosquitoes from surveillance traps, North Dakota, 2011



Nation-wide there have been a total of two human infections reported to the Centers for Disease Control and Prevention as of July 5, 2011. A map showing the distribution of human, avian, animal and mosquito infection by state can be viewed at www.cdc.gov/ncidod/dybid/westnile/index.htm.

West Nile virus activity is updated Wednesday mornings each week on the North Dakota Department of Health website at www.ndhealth.gov/wnv.

Contributing authors of The Pump Handle include, Michelle Feist, Abbi Pierce, 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.



Terry Dwelle, MD, MPHTM, State Health Officer
Kirby Kruger, Director of the Division of Disease Control and Chief of the Medical Services
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