

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

July 2015 Topics

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August is National Immunization Awareness Month

In observance of National Immunization Awareness Month, the North Dakota Department of Health (NDDoH) reminds all North Dakotans to make sure they and their families are up-to-date with immunizations. Infants, young children, adolescents and adults should all receive the recommended vaccines.

Babies receive vaccinations that help protect them from 14 diseases by age 2. It is very important that babies receive all doses of each recommended vaccination, and that they receive each vaccination on time. Some childhood vaccines wear off over time, so adolescents and adults need additional shots to stay protected from serious diseases like tetanus, diphtheria and pertussis.

As people get older, they are at greater risk of getting certain diseases like meningitis, blood infection and infections that can lead to HPV cancers. Vaccines are recommended for adults to prevent serious diseases such as influenza, shingles, pneumonia caused by pneumococcal bacteria, hepatitis and whooping cough. An annual flu vaccine is also recommended for everyone six months and older. Unfortunately, far too few adults are receiving the recommended vaccines, leaving themselves and their loved ones vulnerable to serious diseases.

Vaccines are available at private doctors' offices, and at other convenient locations such as pharmacies, workplaces, community health clinics and local public health departments. Insurance plans usually cover the cost of vaccines. Free vaccine programs are available to assist people who don't have health insurance.



STEC Infections Associated with Attending the 2015 Red River Valley Fair

On July 19, 2015, a Fargo physician notified the NDDoH that he was caring for three patients with shiga-toxin producing *Escherichia coli* (STEC) gastroenteritis. All three patients reported attending the Red River Valley Fair in West Fargo. One of the patients was diagnosed with hemolytic uremic syndrome (HUS), a potentially life-threatening complication of E.coli infections that affects the kidneys and blood clotting system.

The NDDoH developed an online survey, questioning individuals about their attendance at the Red River Valley Fair and whether they went into any of the animal barns, saw or touched any of the animals, or ate any food served by food vendors at the fair, all of which could provide possible exposures to STEC. Of the 117 people that completed the online survey, 62 (52%) reported diarrheal illness after attending the fair. The most commonly reported symptoms were diarrhea (100%), nausea (88%), abdominal cramps (80%), and fatigue (62%). Duration of illness was reported to range from 1 to 18 days (median 5 days).

Five laboratory-confirmed E.coli O157:H7 isolates from five individuals who attended the fair matched by pulse field gel electrophoresis (PFGE). Epidemiological analysis of survey data did not yield any association with a specific exposure and becoming ill.

STEC is a bacterial infection that can cause nausea, vomiting, diarrhea (often bloody), and severe abdominal cramping. The incubation period for STEC can range from 2 to 10 days, but it is usually about 3 to 4 days. Most people recover within 5 to 7 days. However, the toxins produced by STEC can cause hemolysis, which may result in damage to the kidneys. About 5 to 10 percent of people who have an STEC infection will develop HUS. Symptoms of HUS include decreased frequency of urination, fatigue, and loss of pink color in the cheeks and inside the lower eyelids. Although most people with HUS will recover completely, the complication can result in permanent kidney damage or even death.

If you have additional questions about STEC, please visit <http://www.ndhealth.gov/disease/info/Ecoli.aspx> or contact the NDDoH at 800.472.2180 or 701.328.2378.



Increase in Tularemia Cases

During the month July, the North Dakota Game and Fish Department (NDGF) and the North Dakota Department of Agriculture, Animal Health Division (AHD) reported that one wild squirrel found at the Roosevelt Park Zoo in Minot and two monkeys from the Dakota Zoo in Bismarck tested positive for tularemia.

During this same time period, four confirmed human cases of tularemia were reported to the NDDoH, none of which were related to the reported animal cases. The cases ranged in age from younger than 10 to older than 60. Tularemia can be transmitted to humans via a number of

different routes, with each route resulting in a different type of illness. There are six different clinical syndromes associated with tularemia.

- **Ulceroglandular tularemia** is the most common clinical syndrome. It involves a skin ulcer at the location of the bacteria's entry into the body and swollen regional lymph nodes, and usually occurs after handling an infected animal or being bitten by an infected tick or deer fly.
- This route of infection can also result in **glandular tularemia**, which is similar to ulceroglandular, but does not include a skin ulcer.
- If *F. tularensis* enters the eye, **oculoglandular tularemia** will result. Symptoms may include eye pain, redness, swelling and discharge.
- Eating or drinking contaminated food or water will result in the **oropharyngeal tularemia**, symptoms of which may include sore throat, mouth ulcers, tonsillitis, and swollen lymph nodes in the neck.
- If patients have a systemic illness without localizing symptoms, they are said to have **typhoidal tularemia**.
- The most serious illness associated with tularemia is the pneumonic syndrome. **Pneumonic tularemia** is associated with breathing in dusts or aerosols containing *F. tularensis*, although any of the other clinical forms of tularemia can lead to the pneumonic syndrome if left untreated.

All forms of tularemia are accompanied by sudden high fever, chills, fatigue, general body aches, headache and nausea. Of the four human cases reported, two were ulceroglandular and two were pneumonic. The pneumonic cases likely resulted from inhaling bacteria that became aerosolized while the patients were mowing.

The NDDoH recommends the following precautions to avoid possible exposure to tularemia:

- Use insect repellents containing 20 to 30 percent DEET, picaridin, or IR3535 and be sure to follow the instructions on the label for maximum effectiveness and safety
- Wear long-sleeved shirts, long pants, and socks when outdoors
- Remove attached ticks as soon as possible
- Do not drink untreated surface water
- Do not mow over dead animals

Tularemia is a zoonotic disease caused by *Francisella tularensis*, a highly infectious bacteria. It occurs naturally in much of the United States, but it is most common in the central U.S., the Pacific Northwest, and parts of Massachusetts. The disease has been found in over one hundred mammalian species, the majority of which are wild animals. Outbreaks of tularemia have been documented in rabbits, hares, squirrels, prairie dogs and other small rodents, occasionally with subsequent human outbreaks

For more information about tularemia in humans, contact the NDDoH at 701.328.2378 or visit www.ndhealth.gov/disease/tickborne/Tularemia/Tularemia.htm. For more information about tularemia in animals, contact the North Dakota Department of Agriculture, Animal Health Division at 701.328.2655.



West Nile Virus (WNV) Update

In July 2015, the NDDoH received one report of West Nile virus (WNV) infection in McLean County. The case, a woman age 40 to 49 years, was not hospitalized for her illness and survived

the infection. Statewide, only Grand Forks, Cass, and Richland counties have reported mosquito pools testing positive for WNV.

No animals have tested positive so far this year. At the end of July 2014, four WNV cases from three counties had been reported to the NDDoH.

Nationwide, a total of 90 cases of WNV in humans have been reported to the CDC in 40 states as of August 4, 2015.



New Bismarck Field Epidemiologist

We are excited to announce that Gino Jose, the HIV Prevention Coordinator, recently accepted a full-time position as the Bismarck Field Epidemiologist! He has moved to the office at Bismarck Burleigh Public Health. He will be responsible for investigating reportable conditions for the south central region of North Dakota.

His new contact information is listed below:

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