



The Pump Handle

March 2019

"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

Topics

- Upcoming Tick Season – Alicia Torfin
- 2018-19 Influenza Season Update – Jenny Galbraith
- Canine Brucellosis – Kirby Kruger
- Farewell to Our Faithful Staff Member – Kirby Kruger



Upcoming Tick Season

The arrival of warmer weather also brings the arrival of ticks. Through tick collection and speciation, the NDDoH monitors the risk of infection from tickborne pathogens known to exist in the region. For the fourth year, the North Dakota Department of Health (NDDoH) Divisions of Disease Control and Microbiology will be conducting tick surveillance with the assistance of veterinary clinics and zoos across the state. Ticks will be collected from animals and pets seen at the participating clinics and zoos and submitted to the NDDoH for identification and tickborne pathogen analysis.

During the 2018 tick surveillance season, most ticks collected were identified as American dog ticks (*Dermacentor variabilis*). Deer ticks (*Ixodes scapularis*) were submitted from 22 ND counties. One tick was identified as a Lone Star tick (*Amblyomma americanum*). Submitted ticks were separated by species and pooled together by region. Of the 176 *Dermacentor* pools tested, 106 tested positive for *Rickettsia* spp., which are known to cause Rocky Mountain Spotted Fever, and nine tested positive for *Francisella tularensis*, the bacteria that causes tularemia. Of the 12 *Ixodes* pools tested, six tested

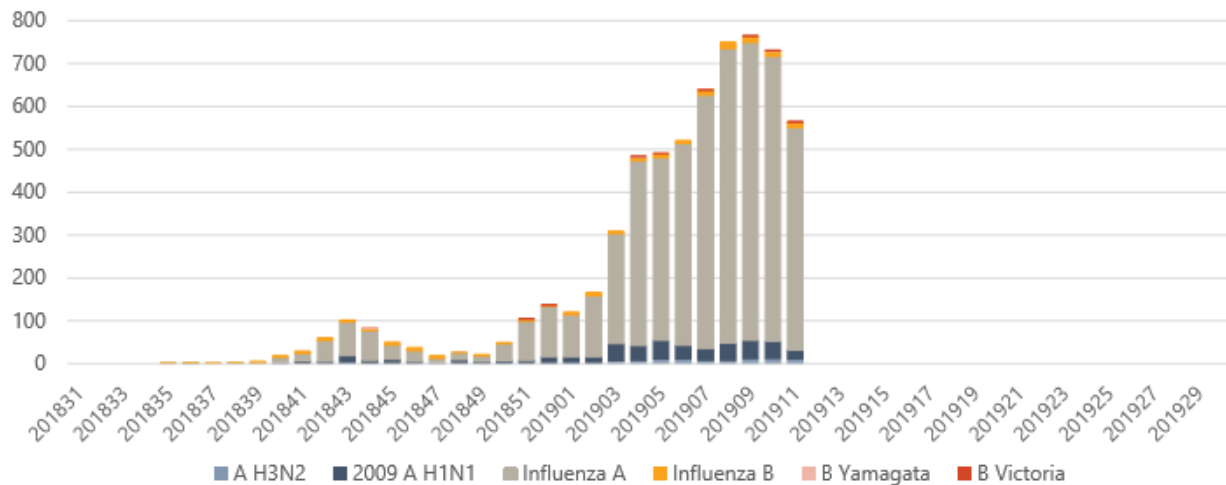
positive for *Rickettsia* spp., and one tested positive for *Borrelia burgdorferi*, the bacteria that causes Lyme disease. Please see the [2018 North Dakota Tick Surveillance Program Report](#) for more detailed information about the tick surveillance program.



2018-19 Influenza Season Update

As of March 16, 2019, influenza cases for the 2018-19 season continued to increase, with 6,291 laboratory confirmed influenza cases reported to the NDDoH. Most subtyped cases have been identified as influenza A H1N1. As of February 23, 2019, the Centers for Disease Control and Prevention (CDC) estimates between 20.4 and 23.6 million people have been sick with influenza in the United States this flu season.

Number of Reported Laboratory-Identified **Influenza Cases** by Week



The CDC recently published interim estimates for vaccine effectiveness for the 2018-19 seasonal influenza vaccine. The overall adjusted vaccine effectiveness against all influenza virus infection was 47% (95% CI: 34-57%). For children aged six months to 17 years, overall vaccine effectiveness was 61% (44%–73%).

Flu vaccine is still the best defense against flu infection, and it is not too late to be vaccinated for this flu season. Everyone six months of age and older should receive the flu vaccine. It is especially important for young children, older adults, pregnant women, people with chronic illness or compromised immune systems, and Alaskan Natives or American Indians.



Canine Brucellosis

Brucella canis is a zoonotic infection in dogs that can result in severe health consequences including spontaneous abortion and multiple organ system problems. The bacteria are shed in reproductive fluids and tissues, and other body fluids, including blood, saliva and urine. Infections need to be considered life-long, as it is unknown if antibiotic therapy can lead to complete clearance of the bacteria, even in the presence of clinical improvement. Laboratory testing available for dogs is limited to antibody testing and is a poor predictor for treatment success and bacterial shedding. Dogs with a history of being in shelter may be at higher risk for this infection.

Since 2015, three dogs diagnosed with *Brucella canis* infections have been reported to the North Dakota State Veterinarian. In all three cases, a joint investigation and follow-up occurred to manage both animal and human exposures to these infected animals. Two owners elected to quarantine their dogs for the rest of the dogs' lives and the third owner opted to euthanize their dog.

Human infections are rare, but likely underdiagnosed. The incubation period is poorly understood and is likely highly variable ranging from five days to several months. Symptoms in humans are often non-specific and can include fever, body aches, joint pain, nausea, vomiting, diarrhea, jaundice or unusual bruising or bleeding. Post-exposure recommendations for people include a daily symptom watch for 24 weeks and possible antibiotic prophylaxis for high risk exposures. There is no non-culture diagnostic test available to detect *Brucella canis* infections in people. Blood cultures are indicated for people with compatible signs or symptoms and with a history of exposure.



Farewell to Our Faithful Staff Member

Gerald Haag, the field epidemiologist supervisor for the NDDoH, has retired effective March 30, 2019. Gerry has been with the department for more than 41 years. He has worked out of the Southwest District Health Unit in Dickinson his entire career. He was responsible for infectious disease investigations in the western part of North Dakota from the South Dakota border to the Canadian border until funding opportunities allowed for a field epidemiologist to be placed in the Williston area.

Gerry has witnessed and responded to new, emerging and re-emerging threats such as HIV, Hepatitis C, Ebola virus, West Nile virus, hantavirus pulmonary syndrome, chlamydia, gonorrhea, syphilis and TB. He investigated a cluster of invasive meningococcal disease among children in Williston in 1999. Nearly 150 people received

antibiotic chemoprophylaxis and more than 4,500 children and young adults in the community received meningococcal vaccine. Gerry was named field supervisor for the Department in 2012. We wish Gerry and his family the very best as he enters this new phase in his life.

Lacy Oyloe, field epidemiologist stationed with Upper Missouri District Health Unit in Williston, has been temporarily assigned the counties of southwestern North Dakota. Lacy will be covering the western counties from the South Dakota border to the Canadian border. To reach Lacy you can call her at 701.774.6405 or email her at loyloe@nd.gov. Look for more information on field assignments in the near future.



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