The Pump Handle

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

March 2017 Topics

- 2017 Disease Control Legislative Update – Molly Howell
- Increase in Reported Mumps Cases Across the Country – Lexie Barber
- First reported New Delhi Metallo-beta-lactamase case in North Dakota – Faye Salzer
- NDDoH Launches Tick Surveillance Program – Jenny Galbraith

2017 Disease Control Legislative Update

The North Dakota Department of Health (NDDoH) Division of Disease Control has been tracking and testifying on a number of infectious disease related bills during the 65th North Dakota Legislative Assembly Regular Session. Below are a few bills that may be of interest.

Senate Bill (SB) 2320:
This bill authorizes a new program in North Dakota that would allow for syringes or needles to be exchanged to aid in the prevention of bloodborne diseases. Pursuant to criteria that will be developed by the NDDoH, exchange programs will be established in locations that are deemed at risk or in locations that have already seen increases in prevalence of viral hepatitis or HIV. Senate Bill 2320 states that state agencies cannot provide general funds for the purchase of syringes or needles under this program. The bill also requires semiannual reporting of the number of individuals served, number of syringes and needles collected and distributed and any other necessary information requested by the NDDoH. The NDDoH testified in support of SB2320. Minor amendments were made to the bill in the Senate. SB2320 passed both houses and has been signed by the Governor. Syringe exchange programs in North Dakota may begin as early as August 2017.

SB2099:
SB2099 was proposed by the NDDoH. Due to the required reduction in the general fund budget, the Department of Health requested changes to North Dakota Century Code 23-01-29 to reflect the discontinuation of the universal vaccination program at local public health units (LPHUs). The universal vaccination program provided vaccines to LPHUs for administration to children who have health insurance. SB 2099 passed the Senate in its original form, but was amended in the House. The House version kept permissive universal vaccination language in NDCC 23-01-29 in case funding became available for this program in the future. The Senate concurred with the amended bill. SB2099 has been signed by Governor Burgum. LPHUs are currently purchasing private vaccine and billing insurance for the cost of the vaccine and administration fees.

House Bill (HB) 1433:
In its original form, HB1433 allowed for raw milk or raw milk products to be sold directly from producers to consumers. It also allowed for the sale of other foods direct from the producer to the consumer without any inspection, labeling or packaging requirements. Producers were also exempted from any liability if consumers became ill from these products. The NDDoH testified against HB1433 in the House due to concerns about illnesses related to raw milk consumption and the lack of requirements, including labeling, for other products. The House Agriculture Committee amended the bill by removing the language that allowed for the direct sale of raw milk products from producers to consumers* and clarified language related to interstate sale of products. The committee also removed the language that exempted producers from liability. The Senate Agriculture Committee made additional amendments to HB1433 by clarifying and adding language regarding direct producer to consumer sales of cottage food products. New language included requiring labeling for products that require refrigeration and consumer advisory signs stating "This product is made in a home kitchen that is not inspected by the state or local health department." The Senate passed the amended version of HB1433. The House concurred. HB1433 was signed by the Governor.
**Raw milk may still be obtained through cow-share agreements*
For more information on these or other bills, please visit www.legis.nd.gov/assembly/65-2017/regular.

Increase in Reported Mumps Cases Across the Country
Mumps is a highly contagious, vaccine preventable disease that was once common in the United States, with more than 186,000 cases each year. Although sporadic cases and outbreaks of mumps have been seen in recent years, there has been a more than 99% decrease in mumps cases in the United States since before the vaccine was introduced.

Last year, there were 5,311 cases of mumps reported to the Centers for Disease Control and Prevention (CDC). This was the result of multiple outbreaks across the country, many of which are still occurring. This is the largest number of mumps cases in the United States since 2006, when 6,500 cases were reported. As of February 25, 2017, CDC has reported 1,077 cases of mumps throughout the country. Arkansas has had an ongoing mumps outbreak since last year and, as of March 30 of this year, has reported 2,918 cases. In Washington, the case count for probable and confirmed cases has reached 694. Iowa also reported an outbreak of mumps beginning last year, and has reported 194 cases. An additional 34 states have reported mumps cases in 2017.

In North Dakota, two probable and four confirmed mumps cases have been reported this year. These cases have been reported out of Grand Forks County and Cass County. Suspect cases have also been reported throughout the state, but these cases are not confirmed by a laboratory test or an epidemiological linkage.

The mumps virus is found in fluids of the mouth and nose, and may be spread by coughing, sneezing or talking. It may also be spread by sharing objects such as eating utensils. Outbreaks are more likely to occur in settings where people are in close contact such as classrooms, sports teams or dorm rooms. The most recognizable symptom of mumps is parotitis (swelling under the ears or jaw on one or both sides of the face). Other symptoms include fever, headache, earache, muscle or joint pain, painful swelling of the testicles in men and swelling of the ovaries in women, causing abdominal pain.

If health care providers are suspecting mumps, a buccal swab should be collected for RT-PCR testing as soon as possible, ideally within 3 days and not more than 8 days after parotitis onset. Tests for IgM are not reliable and tend to provide both false positives and false negatives. A nasopharyngeal swab should also be collected for influenza testing. The NDDoH should be notified, and the patient should be excluded from activities for five days after parotitis onset.

The mumps vaccine can range in effectiveness from 66-95% for two doses, and 49-92% for one dose. Although not 100% effective, the vaccine can limit mumps outbreaks, and offer some amount of protection. This is why we do not see a large number of severe cases. Ensuring they are up to date with the Measles, Mumps, and Rubella (MMR) vaccine is the most important way for individuals to protect themselves against the disease.

For more information on mumps cases in North Dakota, visit http://www.ndhealth.gov/Immunize/Disease/Mumps.aspx.

First reported New Delhi Metallo-beta-lactamase (NDM-1) case in North Dakota

On March 8, 2017, the NDDoH was notified by an acute care hospital of a patient in their care testing positive for NDM-1. The patient's history included travel to southeastern Asia in late 2016. During travel, the patient was hospitalized for about 2 months. The patient returned to North Dakota and was hospitalized in January for two and a half weeks. At this time, the patient was not screened for carbapenem resistant organisms. The patient was placed on contact isolation precautions due to a positive extended spectrum beta-lactamase (ESBL) *Acinetobacter* infection isolated from a wound repair a week after being hospitalized. ESBLs are enzymes that mediate resistance to extended-spectrum (third generation) cephalosporins and monobactams. This patient was then discharged to a long term care facility for transitional care.

The patient was re-admitted to the same floor of the hospital as their January stay during the beginning of March. Escherichia coli was isolated from a culture of the same wound and was found to be harboring the NDM-1 gene. A rectal swab was collected and sent to the state public health lab that confirmed presence of the NDM-1 gene. The culture grew *Klebsiella pneumoniae*. As a precaution, a point prevalence screening was conducted at the hospital for 20 patients who were on the same floor receiving care. All screenings were negative. Additionally, contact was made with the infection preventionist at the long term care facility where the patient had been admitted from. The patient had been independent with the exception of wound care, and also had a private room and bathroom. A screening was done of residents who were still present at the

long term care facility from the time the patient had resided there, as well as a resident who occupied the room the patient had been in prior to his discharge. This was an additional thirteen screens that were all negative. The patient was discharged with home care providing wound care at the end of March.

The NDM-1 gene was first discovered in 2008. The gene for NDM-1 is found on plasmids (DNA strands), which can easily spread from one strain of bacteria to another, and this gene makes bacteria resistant to last-resort antibiotics called beta-lactams or carbapenems. NDM-1 is actually just one type of Carbapenem resistant Enterobacteriaceae (CRE) and represents a larger antibiotic resistance issue. Enterobacteriaceae are gram-negative bacteria that normally live in human intestines. When not held in check by the body's normal defenses, these same bacteria can cause serious infections, especially in hospitalized patients with medical devices such as catheters or ventilators. These infections are typically treated with beta-lactams, but when a resistance gene such as NDM-1 get into the bacteria, the result is a multi-drug resistant organism (MDRO) that can be very difficult to treat.

CDC has been working with partners to collect, confirm and characterize Carbapenem resistant organisms in order to gain a better understanding of the spread of this multi-drug resistant bacteria. The ability to screen for and detect North Dakota's first case of NDM-1 was made possible because of these collaborative efforts.

NDDoH Launches Tick Surveillance Program

In an effort to more accurately survey ticks across North Dakota, the NDDoH Divisions of Disease Control and Laboratory Services have revised their tick surveillance program. With the help of over 20 veterinary clinics and three zoos across the state, ticks will be submitted each week throughout the summer to the NDDoH for identification and tick-borne pathogen analysis.

Recent studies have shown shifts in tick migration patterns in the United States. The NDDoH tick surveillance program was started to help health officials across the state better understand how these shifts are affecting tick populations in North Dakota. The data collected will provide information on the distribution of disease transmitting ticks in North Dakota and help to guide further public health actions.

Forty-eight veterinary clinics across the state agreed to participate in the NDDoH's 2016 tick surveillance program. Fourteen clinics submitted a total of 31 ticks from 24 different animals to the NDDoH. Twenty-three of the ticks were identified by the NDDoH Division of Laboratory Services as *Dermacentor* species. Results are pending on the remaining ticks.

For more information, contact Laura Cronquist at lcronquist@nd.gov or 701.328.2378.

NORTH DAKOTA DEPARTMENT *of* HEALTH

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