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

August 2003 Topics

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North Dakota Case Linked to Class I Recall

On July 3rd, 2003 the North Dakota Department of Health (NDDoH) announced an *E. coli* O157:H7 case investigation linked to the June 29th class I recall of vacuum-packaged steaks produced by Stampede Meats, Inc. of Illinois. The recall was initiated after epidemiological case studies linked the recalled product to five *E. coli* O157:H7 illnesses in Minnesota, Kansas and Michigan. The steaks had been sold door-to-door in North Dakota by Farmers Pride Meat Company. The news release can be found on the NDDoH homepage by clicking here.

The patient was treated with ciprofloxacin and recovered after five days of acute symptoms, including diarrhea, abdominal cramps and nausea which progressed to bloody diarrhea and fever. Hospitalization was not required and the patient had no complications. The patient purchased two cases of meat from Farmers Pride Meat Co. in mid-April which matched the recalled lot code. The meat was shared with friends and neighbors, none of whom became ill.

Complications and Treatment of *E. coli* O157:H7

E. coli O157:H7 produces and releases Shiga toxin into the blood stream and is categorized as a Shiga toxin-producing *E. coli* (STEC). Shiga toxin is named so because it is identical to a toxin produced by *Shigella dysenteriae* type1.

Approximately 90 percent of all hemolytic uremic syndrome (HUS) cases, a leading cause of renal failure mostly affecting children under the age of five, are diarrhea-associated. Since *S. dysenteriae* type 1 infections are rare in the United States, STEC is the primary cause of diarrhea-associated HUS. About 5 to 10 percent of *E. coli* O157 infections lead to HUS.

No treatment has been shown to decrease the severity of *E. coli* O157:H7 illness or to prevent HUS complications. The role of antimicrobial therapy for *E. coli* O157:H7 and prevention of HUS is uncertain and selection of antimicrobials should be based on susceptibility testing of isolates. According to the American Academy of Pediatrics, antidiarrheal and antimotility agents are not recommended for routine use in young children with inflammatory or bloody diarrhea because insufficient data exists on their efficacy and may cause serious adverse effects in infants and children. All cases of hemorrhagic colitis should be monitored for HUS with complete blood cell counts, blood urea nitrogen levels and creatinine levels.

Treatment and exclusion guidelines for *E. coli* O157:H7 and other enteric infections are summarized in Table 1.

West Nile Virus Update

As of August 7, 2003, the North Dakota Department of Health reports the following:

- Eighty-two horses have been tested for arboviral encephalitis and eleven horses have tested positive for West Nile Virus (WNV).

- Mosquito trapping started June 1, 2003. This year, 67 sites around the state are designated as mosquito trapping sites with a total of 87 New Jersey Light traps. These sites include all 53 counties, the four American Indian reservations and all 13 state parks. Mosquitoes are collected weekly and sent to the North Dakota Division of Microbiology. The total number of mosquitoes is counted for each trap and identified according to their genera as *Anopheles, Aedes, Culex* or "other." The number of female mosquitoes per trap site also is determined, as well as the number of female *Culex tarsalis* trapped at each site.

- Live mosquito trapping was initiated on July 1, 2003, using eight CDC light traps in the eight regions throughout the state. As the *Culex* mosquito count increases for a region, there is an additional CDC light trap that will be deployed in that region. Arboviral testing is conducted on the mosquito pools collected in each region. To date, 42 *Culex tarsalis* pools have been tested with one positive pool and three preliminary positives. Fifteen of the 42 pools are still awaiting confirmation.

- Six hundred and thirty-six birds have been collected and sent to the NDSU Veterinary Diagnostic Laboratory, in Fargo, N.D. for WNV testing. Eighty-seven birds have tested positive for WNV.

- Ninety-six humans have met the testing criteria and samples have been sent to the Division of Microbiology for arboviral testing. As of August 7, 2003, six human case of WNV have been reported to the NDDoH. For more information see the press release posted on the NDDoH's WNV website by clicking here. All serum specimens were negative for WEE, EEE, SLE, and CA.

State and county-specific surveillance results, mosquito trap information, program partners, fact sheets and general information are posted on the NDWNV website.

Questions regarding WNV may be directed to Tracy Miller, Epidemiology and Surveillance Program Manager, at 701.328.2378 or click here for email.

Sentinel Provider Influenza Surveillance

Influenza surveillance is conducted with voluntary sentinel providers each influenza season. Beginning October 2003 and extending through May 2004, influenza sentinel providers will report influenza activity in their area to the NDDoH. Information about the influenza surveillance program and how to participate as a sentinel provider is listed below.

- An influenza sentinel provider conducts surveillance for influenza-like illness (ILI) in collaboration with the North Dakota Department of Health and the CDC.

- Most providers report that it takes them **less than 30 minutes a week** to compile and report their data.

- Sentinel providers can submit specimens from a subset of patients for virus isolation **free of charge**.

- Providers of any specialty in any type of practice are eligible to be influenza sentinel providers.

For more information, contact Melissa Casteel, Influenza Surveillance Coordinator, at 800.472.2180 or through email by clicking here.

Chlamydia Screening Recommendations

Chlamydia trachomatis is the most common sexually transmitted bacterial disease in the United States, with an estimated three million cases occurring each year. Reported chlamydia cases in North Dakota increased 18 percent in 2002 when compared to 2001. The 1,254 cases of chlamydia reported in 2002 is the highest number of cases reported in North Dakota in the past 10 years.

Several factors may be contributing to the increases in reported chlamydia cases in North Dakota. Possible explanations include increases in the number of people being screened, increased sensitivity of screening tests and actual increases in disease.

Initiation of screening programs and introduction of testing methods with increased sensitivity may result initially in an increase of reported cases. It has been well documented that screening programs have reduced chlamydia prevalence in areas where they have been in place for several years.

The challenge of maintaining an effective screening program is determining who should be screened while maintaining an efficient use of resources. North Dakota is included in the Region VIII Health and Human Service (HHS) Region which also includes Colorado, Montana, South Dakota, Utah and Wyoming. Region VIII chlamydia screening recommendations are summarized below.

Summary of Chlamydia Screening Recommendations (Region VIII)

All sexually active women under the age of 25

Women 25 and older with at least one of the following:

- New sex partner in the last 60 days
- Multiple sex partners in the last 60 days
- Mucopurulent cervicitis
- Pelvic inflammatory disease
- Positive for chlamydia in the last 12 months

There is little evidence that exists to justify screening males for chlamydia. The United States Preventive Services Task Force and the CDC make no recommendations for or against routinely screening asymptomatic men for chlamydial infection. However, the North Dakota Department of Health recommends providers consider screening high-risk young men for chlamydia. This practice has become more common since the introduction of urine-based screening tests.

Contributing authors of The Pump Handle include Amy Sanford, Melissa Casteel, Julie Goplin, Tracy Miller, Kirby Kruger and Larry Shireley. For questions, suggestions or inquiries, or to be removed from the mailing list, please contact Julie Goplin of the Division of Disease Control at 701.238.2375 or ***by email****.*

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

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