

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

February 2003 Topics

- The Pump Handle
- Norovirus Hits North Dakota
- "Foul" Turkeys
- Smallpox Vaccination Plan – Phase I
- New Therapy for Gonorrhea
- Flu or No Flu, that is the question!
- Legislative Update



The Pump Handle

The Division of Disease Control of the North Dakota Department of Health (NDDoH) proudly presents "The Pump Handle," a monthly electronic mail update of select topics on current and upcoming public health events.

The name "The Pump Handle" is derived from the historical event that coined the renowned scientist Dr. John Snow as "the pioneer of the science of epidemiology." In 1854, Asiatic Cholera had spread upon the residents of the West London district Soho with great severity. At this time, medical authorities believed that cholera became aerosolized and spread from person to person by breathing the same air. Through meticulous interviewing of patients, plotting cases on maps, and researching city water sources, Dr. Snow expressed to local authorities that the disease cholera was not infecting people through air, but instead, through the water and in particular, a specific well located in the center of the district where disease was most prevalent. Though still not entirely convinced, town authorities removed the pump handle of the

well so that residents could no longer draw water from it. When they did, the spread of cholera dramatically dropped and the epidemic soon subsided, proving Dr. Snow's theory to be correct. The techniques and logic portrayed by Dr. Snow while investigating the etiology of cholera during this epidemic is the foundation of skills that epidemiologists still use today. To read more about the history of Dr. John Snow, link to the following website: <http://www.ph.ucla.edu/epi/snow.html>

“The Pump Handle Award” of the Council of State and Territorial Epidemiologists is awarded annually for Outstanding Achievement in the Field of Applied Epidemiology.



Norovirus Hits North Dakota

Between December 1 and December 12, 2002, three outbreaks of gastrointestinal illness associated with a hotel were reported to the NDDoH. A total of 225 people were ill out of 465 people interviewed. The predominant symptoms included diarrhea abdominal discomfort, vomiting, headache and fever. Norovirus, of the family *Caliciviridae*, has been identified and confirmed in 6 out of 11 stool samples with 5 tests pending.

A gastrointestinal outbreak also was reported in early December from a public school in northeastern North Dakota. Five of the six stool samples were positive for Norovirus.

The department has received other reports of gastrointestinal illnesses in persons in long-term care facilities and hospitals with symptoms consistent with Norovirus infection. Consultation with these facilities stressed the importance of preventative measures such as hand washing practices, minimizing bare-hand contact with ready-to-eat foods, and excluding ill persons from work for at least 72 hours.

There has been a nation wide increase in reports of illness clinically and epidemiologically consistent with Norovirus infection during the period of June to December 2002. Cruise ships received most of the media's attention for the recent outbreaks. There were more reports of gastrointestinal outbreaks from cruise ships in 2002 than in the past 4 years combined. Minnesota reported that Norovirus was responsible for 64% of the state's foodborne outbreaks in 2002. Suggested web sites for more information on Norovirus are <http://www.cdc.gov/mmwr/> or <http://www.cdc.gov/ncidod/EID/vol9no1/02-0175.htm#>



Improper Food Preparation Results in “Foul” Turkeys

The NDDoH investigated an outbreak in western North Dakota in December 2002 involving employees who attended a company sponsored event. Approximately 300 employees were served 90 turkeys in a two-day period. Environmental investigations revealed numerous inadequate food handling procedures involving improper storage temperatures, possible cross contamination, hand washing, etc. A stool sample from one of the partygoers was positive for *Clostridium perfringens*.



Smallpox Vaccination Plan – Phase I

Phase I of the smallpox vaccination plan involves vaccination of state and local health authorities who would then be ready to provide care and vaccine in response to a smallpox outbreak. North Dakota recently received 1,600 doses of smallpox vaccine from the CDC. A related press release is at <http://www.health.state.nd.us/ndhd/press/n030131.htm>.

State bioterrorism (BT) coordinators will distribute the vaccine to the eight BT planning regions. It is expected that smallpox vaccinations for health care providers and smallpox response teams will begin during the week of February 24, 2003. North Dakota public health officials have attended train the trainer courses at the CDC in Atlanta, Georgia on topics such as vaccine administration, adverse effects, post-vaccination care, and surveillance. Smallpox information and training activities are available at: <http://www.health.state.nd.us/smallpox/> and <http://www.bt.cdc.gov/agent/smallpox>.



New Therapy for Gonorrhea

In October 2002 Wyeth Pharmaceuticals, the only manufacturer of cefixime (Suprax®) in the United States, discontinued manufacturing and marketing of this drug. The company's patent for cefixime expired in November 2002.

Fluoroquinolones such as ciprofloxacin, ofloxacin, or levofloxacin also are recommended for treatment of gonorrhea by the CDC. However, *Neisseria gonorrhoeae* is demonstrating resistance to fluoroquinolones, especially in south-east Asia, the Pacific Islands including Hawaii, and California. In these regions ceftriaxone remains the drug of choice. In areas where prevalence of resistance is <1 %, fluoroquinolones can still be used as therapy for gonorrhea. When the current inventory of cefixime tablets is depleted, the North Dakota STD Program will have ciprofloxacin available for distribution. More information can be found at the following CDC web site: <http://www.cdc.gov/std/treatment/Cefixime.htm>



Flu or No Flu, that is the question!

As of the week ending January 18, 2003, no culture confirmed cases of influenza in North Dakota have been reported to the NDDoH. To date, for the 2002-2003 influenza season, six influenza cases have been identified by DFA, IFA or other rapid test methods. The cases identified included three in the 10-19 year old age group, one in the 35-44 year old age group, one in the 45-54 year old age group, and one in the 65+ age group.

Influenza-like illnesses in long-term care facilities have been reported this season and school absenteeism (due to illness) ranged from 6-30 percent for the week ending January 18, 2003.

Sixteen private healthcare providers/clinics located throughout the state submit influenza-like illness data to the NDDoH as part of the sentinel provider program. Reports received during the week of January 18, 2003, indicated 0.79 percent of all persons seen by these providers met the case definition for influenza-like illness.

Eleven selected sentinel laboratories throughout the state submit influenza testing data to the NDDoH. For the week ending January 18, 2003, 1.52 percent of the specimens submitted to these laboratories have tested positive for influenza. Updated information regarding influenza in North Dakota can be found at:
<http://www.ndflu.com/Provider/Statistics2.htm>



Legislative Update

Bills that have been introduced which involve communicable/infectious disease issues include:

- HB 1221: Guidelines for follow-up of law enforcement and other first responders who experience a significant exposure that occurred when conducting their course of duty.
- HB 1414: Designating reporters for mandated reportable diseases, issuance of emergency reporting requirements by the state health officer and guidelines for quarantine and isolation.
- HB 1438: Changing language regarding informed consent and disclosure of test results for HIPAA compliance and guidelines for follow-up testing for persons who have experienced a significant exposure
- SB 2289: Mandating varicella vaccination for school entry and children enrolled in licensed day care centers

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