

# 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 2005 Topics

- Influenza Update
- VRSA
- Legionellosis



### **Influenza Update**

As of March 26, 3,312 cases of influenza had been reported to the North Dakota Department of Health (NDDoH). The number of cases reported to the NDDoH has decreased in recent weeks, as have the number of laboratory tests being performed each week by the Division of Microbiology.

The influenza season peaked this year during the week ending February 5, with 520 positive cases reported during that week. Of the 3,312 cases reported, the majority of positive laboratory results have been influenza type A (66%). Seventeen percent of positive laboratory results have been influenza type B, and 17 percent were not differentiated. Seventeen percent of the positive influenza cases so far this year were in young children age 5 and younger, 28 percent in children ages 6 to 19, 39 percent in adults from ages 20 to 64 and 17 percent in adults 65 and older.

As of March 31, the Division of Microbiology has tested 52 influenza cultures and identified 36 (69%) influenza A/H3N2 strains and 16 (31%) influenza B strains. Six influenza isolates have been submitted to the U.S. Centers for Disease Control and Prevention for further subtyping. At this time, results on four of the isolates have been reported to the NDDoH. The cultures identified in North Dakota were the A/Korea strain, A/California strain and the B/Shanghai strain.

The A/Korea and B/Shanghai are antigenically similar to the vaccine strains, while the A/California is not. However, because the A/California is a drift variant to the vaccine strain, the vaccine should provide some protection against A/California.

Nationally, since Oct. 3, 2004, 18,983 influenza specimens have tested positive by the U.S. World Health Organization and National Respiratory and Enteric Virus Surveillance System collaborating laboratories. Of these, 80 percent were influenza A viruses and 20 percent were influenza B viruses.

The CDC has characterized 618 influenza viruses collected by U.S. laboratories since Oct. 1, 2004: the influenza A(H1) viruses were similar antigenically to the vaccine strain as were 38 percent of influenza A(H3N2). Sixty-two percent of the influenza A(H3N2) isolates were closely related to a recent reference strain, A/California/7/2004. One hundred thirty-nine of the influenza B viruses isolated this season were characterized as the component in the 2004-2005 influenza vaccine. Twenty-four influenza B isolates were similar to, but not antigenically the same as, the vaccine strain and 50 influenza B viruses belong to the B/Victoria lineage.

For more information regarding influenza, contact the NDDoH Influenza Surveillance coordinator at 701.328.2378 or toll-free at 800.472.2180. Educational materials also are available on the NDDoH influenza website ([www.ndflu.com](http://www.ndflu.com)) at [www.ndflu.com/Education/ReferenceEducationMain.htm](http://www.ndflu.com/Education/ReferenceEducationMain.htm).



### **VRSA**

A case of vancomycin-resistant *Staphylococcus aureus* (VRSA) occurred in a 78-year-old man in Michigan in February 2005. The patient had received vancomycin following surgery for almost nine weeks during October through December 2004. In February 2005, the patient returned to the hospital to seek treatment for an infected toe wound. Cultures taken from the wound tested positive for VRSA and other organisms.

Family members, health-care workers, laboratory technicians and patients who were determined to have extensive interaction with the VRSA case were cultured and tested for VRSA. No additional VRSA was found. The U.S. Centers for Disease Control and Prevention (CDC) guidance for health departments and infection control personnel regarding investigation and control of *S. aureus* with reduced susceptibility to vancomycin can be found at [www.cdc.gov/ncidod/hip/ARESIST/visa\\_vrsa\\_guide.pdf](http://www.cdc.gov/ncidod/hip/ARESIST/visa_vrsa_guide.pdf).

VRSA infection is rare in the United States; only two cases have been reported since 2002 ([Michigan 2002](#) and [Pennsylvania 2002](#)). Eight cases of *S. aureus* demonstrating *intermediate* resistance to vancomycin (VISA) have been reported since 1997 ([Michigan 1997](#), [New Jersey 1997](#), [New York 1998](#), [Illinois 1999](#), Minnesota 2000, [Nevada 2000](#), Maryland 2000 and Ohio 2001). Frequency of *S. aureus* infections demonstrating intermediate or complete resistance to vancomycin are likely to increase, particularly among patients who receive prolonged courses of vancomycin or have risk factors for acquiring methicillin-resistant *S. aureus* (MRSA). **Box 1**

### Box 1. Risk Factors Associated with MRSA

- Diabetes mellitus
- IV drug use
- Hemodialysis
- Major surgical procedures
- Immunocompromised conditions
- History of long-term or frequent antibiotic use
- Invasive lines or tube (IV, urinary catheters)
- Increased age (elderly)
- History of multiple hospitalizations or procedures
- Infections/colonization at other sites
- Morbid obesity
- Orthopedic implant surgery
- Long-term inpatient stay

There have been no VISA or VRSA cases reported in North Dakota since it became a reportable condition in 2000. In March 2005, a suspected case of VISA was reported to the North Dakota Department of Health. The isolate was sent to the Division of Microbiology and to the CDC for confirmatory testing. Results are pending.

For more information about VRSA and VISA, visit [www.cdc.gov/ncidod/hip/vanco/VANCO.HTM](http://www.cdc.gov/ncidod/hip/vanco/VANCO.HTM).



### **Legionellosis**

Two cases of Legionnaires' disease, a severe form of legionellosis, were reported to the North Dakota Department of Health (NDDoH) from the same facility in North Dakota approximately one month apart. The cases have not been determined to have a common exposure. Nosocomial infection is not suspected at this time. Both patients reported travel to Texas within the two weeks prior to onset of symptoms, but did not travel to the same cities in Texas nor stay at the same hotels.

A total of three cases of Legionnaires' disease have been reported to the NDDoH since February 2005. The five-year-median in North Dakota is one case per year. About 8,000 to 18,000 people get Legionnaires' disease in the United States each year.

Legionellosis is caused by the bacterium *Legionella pneumophila* and presents in two forms of illness: Legionnaires' disease, the more severe form of infection including fever and pneumonia; and Pontiac Fever, a milder infection including fever and muscle aches with no pneumonia and a shorter incubation period. People at risk of Legionnaires' disease include those who are middle-aged and older, smoke cigarettes, have chronic lung disease or are immunosuppressed by diseases such as cancer, diabetes or AIDS. Legionellosis is not spread from person to person but from inhaling mists from contaminated water sources such as air conditioning cooling towers, whirlpool spas or showers in the home, workplace, hospital or public setting. Improved design and maintenance of such water systems are important in legionellosis prevention.

To find out more about legionellosis, visit [www.cdc.gov/ncidod/dbmd/diseaseinfo/legionellosis\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/legionellosis_g.htm).

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



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