

IDAHO DISEASE Bulletin

West Nile Virus Snapshot

AS OF NOVEMBER 2, there have been 116 reports of West Nile virus (WNV) infection in 2007 received by the Office of Epidemiology and Food Protection, including one WNV-related death: 105 were classified as West Nile fever and 11 as West Nile neuroinvasive disease. The number of case reports received for 2007 is 11.6% of the number received by the same date in 2006 (n=994). Although this represents a significant reduction in total case reports, the seasonality of WNV infections appears similar between years, with cases consistently peaking at the end of July and early August (see figure). To see more information on WNV in Idaho, please visit www.westnile.idaho.gov

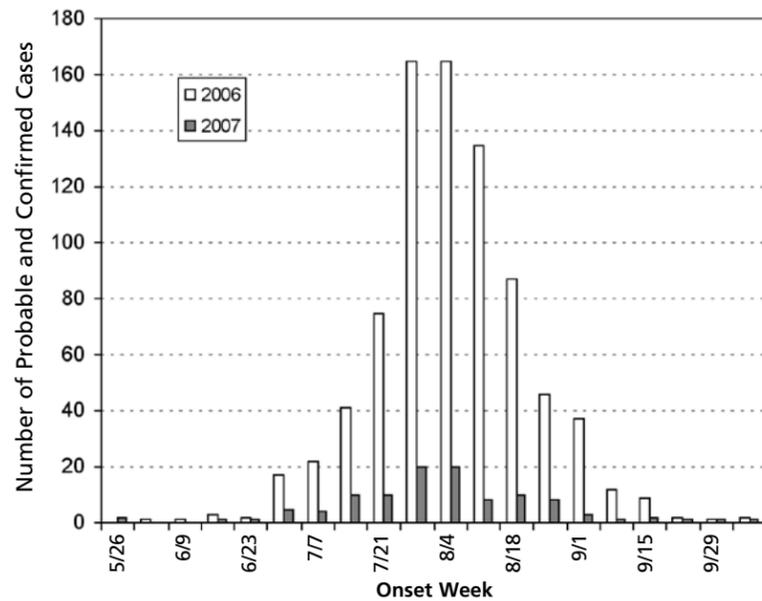


Figure: Human WNV Cases with known onset dates, by week, Idaho, 2006-2007

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EMERGENCY 24-Hour Reporting Line..... 1.800.632.8000

An electronic version of the Rules and Regulations Governing Idaho Reportable Diseases may be found at <http://adm.idaho.gov/adminrules/rules/idapa16/0210.pdf>
 Current and past issues are archived online at www.epi.idaho.gov.



Office of Epidemiology and Food Protection
 Idaho Department of Health and Welfare

P.O. Box 83720
 450 W. State Street
 4th Floor
 Boise, Idaho 83720-0036

www.epi.idaho.gov

Christine G. Hahn, MD
 State Epidemiologist

Leslie Tenglesen, PhD, DVM
 Deputy State Epidemiologist

Kris Carter, DVM, MPVM
 Career Epidemiology Field Officer

Jared Bartschi, MHE
 Health Program Specialist

Ellen Zager, MS
 Epidemiology Program Specialist

more inside

- ▶ **Food Recall 101**
- ▶ **Health e-cards**
- ▶ **West Nile Virus Snapshot**

Public Health and Emerging Infections: MRSA and Adenovirus 14

Methicillin-resistant *Staphylococcus aureus* (MRSA) infections hit the news in mid-October, due largely to two events: the publication of a provocative article with an accompanying editorial in the October 17th issue of the Journal of the American Medical Association (JAMA), and the death of a Virginia high-school student from MRSA infection, which prompted student protest when the school did not respond in a way which satisfied their concerns about spread of MRSA in the school.

Authors of the JAMA article estimated a higher rate of invasive MRSA infections than had previously been recognized. The accompanying editorial noted that the estimated death rate due to MRSA was higher than that due to HIV/AIDS, and that invasive MRSA infection rates were greater than many of the other invasive bacterial infections traditionally tracked by public health.

This information, combined with growing public concern about multidrug resistant organisms in general, and community-associated MRSA in particular, has prompted the Office of Epidemiology and Food Protection to propose changing the Idaho reportable disease rules. The proposed changes, if approved by the legislature, would make invasive MRSA infections reportable by clinical laboratories, and require restrictions on school and daycare attendance among persons with skin infections due to MRSA unless the lesion were adequately covered.



On November 16, adenovirus serotype 14 (Ad14) made news and was reported as a “cold virus superbug” and a “deadly cold virus” after publication of an article on Ad14 in the Morbidity and Mortality Weekly Report (MMWR). The MMWR authors reported 141 cases of Ad14, of which nine died. The initial case was reported in an infant from New York who died in May 2006, with the additional cases being detected subsequently in Oregon, Washington, and Texas during 2007.

Although Ad14 has been reported before, and caused outbreaks in the 1960s, the recent isolates were distinct from the Ad14 reference strain from 1955, suggesting the emergence and spread of a new Ad14 variant in the United States. Beyond the neonatal period, deaths

associated with community-acquired adenovirus infection in persons who are not immunodeficient are uncommon and usually sporadic. Information below on the 2007 Oregon and Washington cases is from the November 16th issue of MMWR.

In early April 2007, a clinician alerted the Oregon Public Health Division regarding multiple patients at a single hospital who had been admitted with a diagnosis of severe pneumonia during the previous two months. Several specimens from these patients yielded isolates that were identified by CDC as Ad14, and retrospective examination of laboratory reports identified other patients who tested positive for adenovirus during November 1, 2006–April 30, 2007. Of 50 available patient isolates positive for adenovirus, 31 (62%) were identified as

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 IDAHO DEPARTMENT OF HEALTH & WELFARE
 Division of Health
 P.O. Box 83720
 Boise, ID 83720-0036

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Ad14. Medical chart review of 30 of these cases revealed that twenty-two patients (73%) required hospitalization, sixteen (53%) required intensive care, and seven (23%) died, all from severe pneumonia. The median age of the patients who died was 63.6 years; five (71%) were male. One death occurred in an infant aged 1 month.

On May 16, 2007, the Tacoma-Pierce County Health Department notified the Washington State Department of Health of four residents of a residential-care facility who had been hospitalized recently for pneumonia of unknown etiology. The patients were aged 40–62 years. One patient had AIDS, the three others had chronic obstructive pulmonary disease, and all were smokers. The patients had initial symptoms of cough, fever, or shortness of breath during April 22–May 8, 2007. Three patients required intensive care and mechanical ventilation for severe pneumonia. After 8 days of hospitalization, the patient with AIDS died; the other patients recovered. Respiratory specimens from

all four patients tested positive for adenovirus by PCR; isolates were available from three patients, and all three isolates were identified as Ad14 by CDC.

This infection appears to be emerging as a cause of severe respiratory disease; it is likely that many adenovirus infections often go undetected, even if respiratory samples are obtained, because few laboratories routinely test for adenovirus and even fewer do serotyping. Management is largely supportive. A number of antiviral drugs have been used to treat adenoviral infections such as Ad14, but none have shown definitive efficacy.

Clinicians should be suspicious of Ad14 infection if clusters of unexplained respiratory disease occur, especially in a long-term residential or military setting, and notify the Office of Epidemiology and Food Protection. Clinicians with questions related to testing of patients for adenovirus infection should contact the Idaho Bureau of Laboratories at 208-334-2235.

Health e-cards

DEPARTMENT OF HEALTH AND WELFARE HEALTH PROGRAMS are offering electronic greeting cards (health e-cards) online at www.healthcardsidaho.org as a new, free way to spread the word to friends, family and neighbors about the importance of taking time to take care of their health. One set of health e-cards encourages women to get crucial breast and cervical cancer screenings. Another set encourages recipients to get tested for HIV and sexually-transmitted diseases. A third set will come in handy next May, reminding people to take precautions against West Nile virus as mosquitoes emerge. The pilot program runs through June 2008, with more cards under

consideration including a series aimed at tobacco use prevention and a set designed to encourage colorectal cancer screening. It's no different than sending an electronic birthday card. With a few easy clicks from www.healthcardsidaho.org, your patients can send messages to others about preventing devastating diseases. If you have patients who are concerned that their loved ones aren't getting tested or taking precautions, you may wish to suggest health e-cards as another way of encouraging others to take care of their health.

Food Recall 101

DURING THE PAST YEAR, NATIONWIDE RECALLS of spinach, peanut butter, pot pies, ground beef, canned chili, and other foods have taken place due to illness associated with these products. Consequently, there is a greater interest in understanding how food processors are regulated, the different regulatory agencies involved, agency roles in ensuring safe food, and how health-care professionals can help with detection of food-borne illnesses.

Jurisdiction in regulation and inspection of food processing firms is dependent on the type of food product and the distribution of the products produced by the firm. Regardless of the type of food, a food processor that distributes the finished product only within Idaho is regulated by the local public health district. Inspections of these firms, by the local public health districts are conducted at least annually and during that inspection, information related to the distribution of the product is collected. If the finished product is distributed via interstate commerce, the health district will refer the firm to a federal agency.

The two most visible federal regulatory agencies for food safety are the US Food and Drug Administration (FDA), and the US Department of Agriculture's Food Safety and Inspection Service (USDA FSIS). These two agencies regulate different food items: FSIS generally regulates meat products including beef, poultry, pork, and lamb; FDA generally regulates other products including seafood, produce, and canned or packaged goods. The Centers for Disease Control and Prevention (CDC) plays an important role in detecting multi-state food-borne outbreaks and identifying the source of an outbreak, but does not have regulatory authority.

FSIS and FDA inspect food processing firms regularly, but if an outbreak of illness is linked to the producer, FSIS or FDA will make a non-routine investigation. During a regular inspection, processor activity logs containing information related to production and sanitation practices are reviewed and observations are made of the entire process. If a food item is implicated in an outbreak, production logs and prior inspection

observations become key pieces of information to help determine how the product might have been contaminated. Products are accounted for using coded information typically found in bar codes or print on food packaging. The coded information can indicate the exact time of day and the exact product line where the food item was processed. This helps epidemiologists and regulators determine what might have taken place in the process and what products ought to be sampled for the presence of pathogens. The federal agency with jurisdiction over the product will request that the firm consider recalling the product if findings indicate that some part of the process was not controlled and likely resulted in a situation that could have contributed to the outbreak. If the processing firm agrees to a recall, the firm then generally requests the assistance of the federal agency to quickly broadcast the information about the recalled product to public health agencies and the public to prevent consumption of the product.

Most recalled food products are collected and accounted for while

still in the initial distribution of the product, before it has reached store shelves. Identification of pathogenic bacteria such as *E. coli* O157:H7, *Salmonella* species, and *Listeria monocytogenes* and detection of certain viral agents through routine testing of food products by processors may cause a recall to occur to avoid illness in consumers. This is especially true of shellfish such as clams and oysters because of their implication in hepatitis A outbreaks. Undeclared allergens are also of concern. Federal legislation requires food processors to clearly indicate in the packaging if the product contains any of the eight major food allergens: tree nuts, peanuts, wheat, milk, eggs, soybeans, fish, and crustacean shellfish.

Neither USDA FSIS nor FDA has the authority to mandate a recall of food items. When a food recall is announced, it is always a voluntary action by the food processor. Once a recall is officially announced by the processor or the federal agency involved, the Idaho Food Protection Program will send the recall notice plus any additional distribution infor-

mation to the local public health districts and other interested parties. If it becomes apparent that the food item is likely in consumer's homes or readily available to consumers, the Idaho Department of Health and Welfare will send out a press release to further broadcast the warning to consumers.

Occasionally, prior to requesting that a firm consider issuing a recall, the federal regulatory agency might request an alert or a "market hold". An alert warns consumers that there might be reason to avoid consuming particular foods. Alerts are generally aimed at a particular segment of the population. A market hold warns retailers that an investigation is taking place into a link between the product and an outbreak. Until the investigation is complete, a market hold will prompt a message at the grocery checkout station that the processor of the item has requested that the product not be purchased. Recently, an outbreak of *Salmonella* linked to consumption of pot pies containing poultry meat initially resulted in a market hold while a full investigation was being conducted.

If a patient presents with symptoms consistent with a foodborne illness or allergic reaction, it is helpful to collect food history information from the previous three days. Depending on the specific symptoms, a longer food history might be warranted. For example, due to the extended incubation time of hepatitis A, a patient should be asked if he or she has consumed undercooked oysters, clams, or mussels within the past month. Indications for stool cultures and recommendations for pathogen testing in cases of suspected foodborne illness, as well as information on non-infectious foodborne illness are described in "Diagnosis and management of foodborne illnesses: A primer for physicians and other health care professionals," a publication available in both .pdf and PDA format on the American Medical Association website, <http://www.ama-assn.org/ama/pub/category/3629.html>. Continuing medical education credit can be obtained.

For more information on food recalls or food safety practices, please contact the IDHW OEFPP Food Protection Program at (208) 334-5938.