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# IDAHO DISEASE Bulletin

IDAHO DEPARTMENT OF HEALTH & WELFARE

**Office of Epidemiology and Food Protection**
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## more inside



## H1N1 Infuenza (Swine Flu) 2009: Impact in Idaho

**A new influenza A (H1N1) virus has entered our midst.** It is formally labeled Influenza A/California/04/2009. The first identified case in the United States was in a 10-year-old boy in San Diego, California, who came down with the flu on March 30. The virus has a hemagglutinin (H) gene from an H1N2 virus circulating in North American swine herds, a neuraminidase (N) gene and matrix (M) gene from an H1N1 virus found mostly in pigs in Eurasia, and has avian- and human-origin influenza genes as well. The introduction of this virus is ongoing: it continues to circulate in Idaho and throughout the world. The impact is as yet unclear.

As of June 5, 2009, the CDC is reporting 13,217 laboratory-confirmed human infections with this novel H1N1 flu nationally. Twenty-seven deaths in the United States have been confirmed from this outbreak. In Idaho 21 confirmed cases have been identified, and all affected persons have recovered or are recovering. It is certain that other undetected cases have occurred. Was this introduction overblown by public health and the media?

Public health is walking a fine line between alerting, but not alarming, the healthcare community and the public. Previous influenza pandemics have "announced" themselves prior to causing pandemics: the first influenza outbreaks in the spring of 1918 were relatively mild. But ongoing circulation leads to mutation, and that virus, certainly underreported during the war, was able to mutate just enough to cause severe illness the following influenza season.

Currently we are asking clinicians to submit specimens from persons with influenza-like-illness, especially if the person is ill enough that antivirals are being prescribed, for influenza virus testing and subtyping. This will help us be aware of any severe illnesses and complications due to this novel virus, and any changes in the age or risk factors among persons with H1N1 swine influenza. For treatment, oseltamivir (Tamiflu®) or zanamivir (Relenza®) are recommended, as per the current treatment guidelines located at **www.cdc.gov/h1n1flu/recommendations.htm**

Since 1918, advances in medical care have occurred and there has been significant improvement in understanding how to prevent the disease. Although it will be challenging to implement, social distancing, vaccination, and treatment with antivirals (if this strain remains susceptible) will all help. As activity related to the initial wave settles, it will be important to prepare for the upcoming influenza season. In particular, physicians can advocate that their patients receive the vaccination for seasonal influenza, the pneumococcal vaccine if indicated, and consider the "swine flu" vaccine if one is available and deemed necessary. More information will be forthcoming in the next several weeks. We ask physicians to remain tuned in to this issue so that we can all be ready for an influenza season that will certainly have unique challenges.

For current information on the national situation and recommendations, see **www.cdc.gov**.

For current information on the Idaho situation, including information on laboratory testing, see **www.flu.idaho.gov**.

# It's That Time of Year Again—Time to Prevent Recreational Water Illness!

**Recreational water venues (*e.g.*, swimming pools, interactive splash parks, rivers)** provide Idahoans with endless hours of fun and relaxation during the hot summer months. Unfortunately, exposure to these venues can result in recreational water illness (RWI), most often presenting as diarrheal illness caused by swallowing contaminated water. Water can become contaminated when ill swimmers have diarrheal accidents or fecal material is rinsed off of their skin into the water. The most commonly recognized etiologies of RWI include *Cryptosporidium, Norovirus, Giardia, Escherichia coli* O157:H7, and *Shigella*. While RWI often results in mild gastrointestinal illness, infants, elderly, and immunocompromised persons have a higher likelihood of suffering severe illness. Since 2007, there has been a significant increase in the number of RWI outbreaks reported to the Idaho Department of Health and Welfare (IDHW) and the Centers for Disease Control and Prevention (CDC), in particular, outbreaks caused by *Cryptosporidium*, a highly infectious chlorine-resistant parasite that causes watery diarrhea.

Clinicians are encouraged to inquire about recreational water exposure in any patient that presents with gastrointestinal illness. Patients suffering from diarrheal illness should be instructed to stay out of recreational water until diarrhea resolves. Patients diagnosed with cryptosporidiosis should be instructed to stay out of recreational water for at least two weeks after diarrhea ends as patients can continue to shed oocysts after symptoms resolve. In addition, preventive health visits are a great time to talk with parents and children about preventing RWI. All swimmers should be reminded to wash their bottoms with soap and water before entering any recreational water and to wash their hands with soap after water play. Parents should also be instructed to change diapers in the bathroom and away from the waterside.

IDHW has created RWI prevention materials for use in your clinical practice. The materials include printable brochures and posters. Please visit **www.rwi.dhw.idaho.gov**, where you can find out more about RWI prevention, including a complete list of available RWI prevention materials under the link "Print Materials."

# Rabies Encounters Rise During the Summer: Options for Post-exposure Prophylaxis

**All mammals are susceptible to infection** with the rabies virus. In Idaho, bats are the only documented rabies reservoir species and only bat strains of rabies virus have been detected in infected bats and other mammals. Consequently, bites or scratches from bats and all other mammals should be considered a possible rabies risk. Rabid animals have been reported in Idaho between April and November (data from 2003–2008), but rabies is present in animals year-round. Most animals are tested only if there is an incident where a human is thought to have possibly been exposed to the animal in such as way as to present a rabies risk to the person.

## Appropriate delays of rabies post-exposure prophylaxis

If a dog, cat, or ferret bites a person, the animal should be observed for 10 days for signs of rabies under the direct supervision of a veterinarian or at an approved location.[1] Use of human rabies post-exposure prophylaxis (rPEP) in exposed persons may be withheld during this observation period unless the suspicion of rabies is high (*e.g.*, unprovoked attack, animal in which rabies is endemic in that state). If the dog, cat, or ferret has no signs of rabies during the 10-day observation period, the animal is not considered a rabies risk and human rPEP is not warranted. If the animal exhibits signs of rabies during the observation period, it should be euthanized immediately and tested for rabies. Alternatively, any unwanted animal may be euthanized immediately and tested for rabies. There are no veterinary serologic tests available for confirmation of rabies: euthanasia of the animal and testing of the brain is the only approved method.

The 10-day observation period does not apply to other domestic or wild mammals. Rabies should be considered with most wild mammal exposures, particularly bat exposure. Rodents are considered a very low risk for rabies. All bats and any wild mammals that bite or otherwise expose a person and are suspected to be rabid should be captured carefully, euthanized humanely (ideally by a veterinarian), and tested for rabies by the Idaho Bureau of Laboratories. Note that bats have very small teeth and bat bites can go unrecognized. Use of rPEP in exposed persons may be withheld until test results are available, unless there will be a significant delay to animal testing (greater than 10 days from exposure) or suspicion for rabies is high. To discuss the epidemiology of rabies or testing of wild animals

involved in an attack, contact your local public health district epidemiologist.

## Availability of rabies vaccine for rabies post-exposure prophylaxis

Post-exposure prophylaxis should be administered in accordance with recommendations made by the Advisory Committee on Immunization Practices (ACIP).[2] Vaccine inventory is currently low nationwide. Vaccine is released on a per-patient basis by the manufacturers according to the following protocols:

- Novartis' RabAvert® vaccine is available for both pre- and post-exposure prophylaxis without prior approval from public health. Novartis Vaccines may be reached at 800-244-7668.
- sanofi pasteur's IMOVAX® rabies vaccine is available only for post-exposure prophylaxis. To obtain IMOVAX® rabies vaccine, contact your local public health district or the state health department to acquire a password and then contact sanofi pasteur at 1-800-VACCINE to obtain the required form.
- Rabies immune globulin remains available with no changes in supply and does not require approval from public health to acquire.

To learn more about the epidemiology of rabies in Idaho, visit **www.diseaseinfo.idaho.gov** and click on "Rabies."

REFERENCES

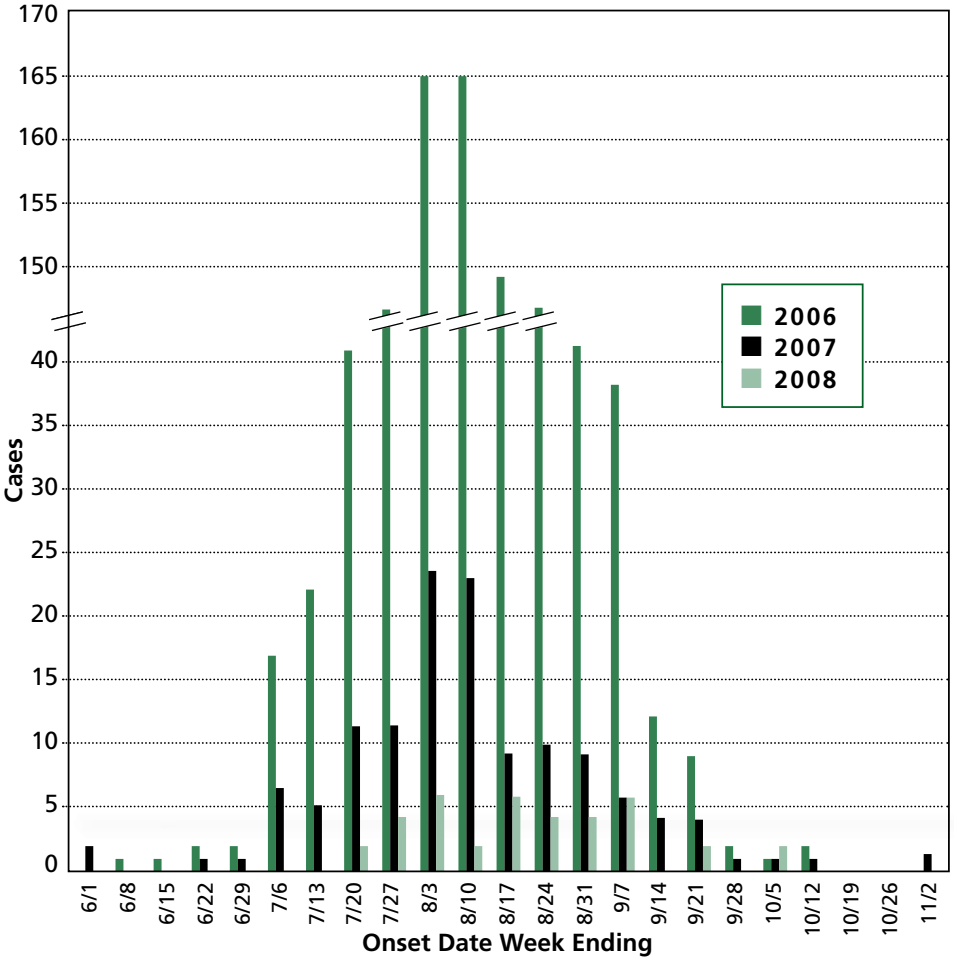
1 *Idaho Rabies Protocol.* Boise, ID: Idaho Dept of Health & Welfare, Idaho District Health Depts, Idaho State Dept of Ag, and Idaho Dept of Fish and Game; 2007. Can be accessed from: **www.diseaseinfo.idaho.gov** and click on "Rabies." Last accessed April 21, 2009.

2 Centers for Disease Control and Prevention (CDC). Human Rabies Prevention- United States, 2008, Recommendations of the Advisory Committee on Immunization Practices. *MMWR Morb Mortal Wkly Rep.* May 7, 2008; 57:1-26,28. **www.cdc.gov/mmwr/preview/mmwrhtml/rr57e507a1.htm** Last accessed April 21, 2009.

# WNV Update for 2009

**West Nile virus (WNV) is now endemic in most states**, including Idaho. In Idaho, human case activity peaks between July and September (Figure), when vector mosquitoes are most active. Clinical illness occurs in approximately 20% of infections, varies widely in severity, and is classified as non-neurologic or neurologic. The non-neurologic febrile illness, West Nile fever, can lead to prolonged fatigue and cognitive problems.[1] Death has been documented in non-neurologic cases, especially in the elderly. Certain pre-existing conditions, such as diabetes mellitus or immunosuppression, may also be independent risk factors for death. Neurologic manifestations include meningitis, encephalitis, meningoencephalitis, poliomyelitis, and a parkinsonism-like illness. WNV-associated neurologic disorders can also lead to long-term cognitive problems, disability, or death. Sejvar, *et al* reported that one-third of documented WNV-poliomyelitis patients demonstrated little to no recovery 12 months post-onset.[2] Although described in all age groups, neuroinvasive disease tends to occur in individuals over 65 years of age. The main independent risk factors for development of encephalitis include immunosuppression, hypertension, and cardiovascular disease.[3] Diabetes and substance abuse may also play a role in the development of serious neuroinvasive disease; however, the evidence is less robust for these risk factors.

**Figure. West Nile virus human cases, by onset week—Idaho, 2006–2008**

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The Idaho Bureau of Laboratories will test neurologic human cases for the presence of WNV antigen (in CSF) or WNV-specific antibodies (in CSF or serum). Samples from individuals with a non-neurologic presentation should be evaluated by a commercial laboratory. Natural infection is thought to lead to long-lived, if not life-long, immunity.

This summer, the Idaho Department of Health and Welfare will again use the "Fight the Bite" print and radio public service campaign to alert the public of methods to reduce their chance for infection. Prevention methods include wearing repellant, repairing screens, and reducing standing water. Professional mosquito control by mosquito abatement districts is an important aspect of bite prevention. Currently there are approximately 24 partial-county or county-wide active abatement districts in Idaho. Active surveillance for WNV in the vector mosquito species *Culex tarsalis* and *Culex pipiens* will occur in selected communities across the state to evaluate the presence or emergence of the virus into ecosystems. Questions related to bird mortality should be directed to the Idaho Department of Fish and Game. The Idaho State Department of Agriculture will continue to support equine serologic testing.

If you have questions regarding WNV, disease reporting, or the "Fight the Bite" campaign, contact your local public health district or visit the Idaho Department of Health and Welfare WNV web site at **www.westnile.idaho.gov**.

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1 Sejvar JJ, Curns AT, Welburg L, Jones JF, Lundgren LM, Capuron L, Pape J, Reeves W, Campbell GL. *Neurocognitive and functional outcomes in persons recovering from West Nile virus illness.* J Neuropsychol: 2(2) Sept 2008, pp 477-499(23).

2 Sejvar JJ, Bode AV, Marfin AA, Campbell GL, Pape J, Biggerstaff BJ, et al. West Nile virus–associated flaccid paralysis outcome. Emerg Infect Dis Vol 12(3), March 2006.

3 Murray KO, Koers E, Baraniuk S, Herrington E, Carter H, Sierra M, Kilborn C, Arafat R Risk Factors for Encephalitis from West Nile Virus: A Matched Case-Control Study Using Hospitalized Controls. Zoonoses Public Health 2009 Jan 17.


**ROUTINE 24-Hour Disease Reporting Line ..... 1.800.632.5927**
**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.**


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