Indiana Epidemiology Newsletter

Volume 17, Issue 4 April/May/June 2009

# Pandemic Influenza 2009 H1N1 Special Edition

## Highlights of National and Local Events

**March 18, 2009 –** Surveillance in Mexico identifies what is believed to be the first H1N1 cases

**April 20, 2009 -** Symptom onset for first confirmed Indiana H1N1 case

**April 21, 2009 -** CDC confirms first U.S. H1N1 case

**April 24, 2009**

CDC announces human cases of novel influenza A (H1N1) virus infection have been identified in the U.S. California and Texas. Internationally, human cases of novel influenza A (H1N1) virus infection have been identified in Mexico.

ISDH distributes initial case definition for H1N1

ISDH confirms Indiana's first H1N1 case

ISDH encourages clinicians to collect nasopharyngeal swab specimens from patients presenting with influenza-like illness (ILI) for submission to the Indiana State Department of Health (ISDH) Laboratory for testing. ILI definition:

1) Fever greater than or equal to 37.8 degrees Celcius (100 degrees Fahrenheit) and a cough and/or sore throat without other apparent cause

2) Ask about recent travel to affected areas within seven days of illness onset.



**April 26, 2009**

CDC reports that human cases of novel influenza A (H1N1) virus infection have been identified in the United States. Human cases of novel influenza A (H1N1) virus infection also have been identified internationally. Investigations are ongoing to determine the source of the infection and whether additional people have been infected with swine influenza viruses.

CDC collaborates with public health officials in states where human cases of novel influenza A (H1N1) have been identified, as well as with health officials in Mexico, Canada, and the World

Health Organization (WHO). This includes deploying staff domestically and internationally to provide guidance and technical support.

**April 26, 2009**

The Secretary of the Department of Homeland Security, Janet Napolitano, announces a public health emergency in the United States.

**April 27, 2009**

CDC activates its Emergency Operations Center to coordinate the agency's response to this emerging health threat.

**April 28, 2009**

In response to the intensifying outbreak, the WHO raises the worldwide pandemic alert level to Phase 4. A Phase 4 alert is characterized by confirmed person-to-person spread of a new influenza virus able to cause "community-level" outbreaks." The increase in the pandemic alert phase indicates that the likelihood of a pandemic has increased.

**April 30, 2009**

The ISDH revises the H1N1 case definition as follows: Patients must present with signs and symptoms characteristic of influenza (fever ≥100 degrees Fahrenheit with cough or sore throat), AND

A) Have had a positive test result for influenza A, OR

B) Have traveled to another state or country with confirmed cases of A/H1N1/North America/Human influenza within 7 days of illness, OR

C) Have been in contact with someone ill with a suspected, probable, or confirmed case of the current outbreak strain within 7 days of illness.

**May 3, 2009 -** The ISDH confirms Indiana's first hospitalized H1N1 case.

**May 4, 2009--**The CDC continues to take aggressive action to respond to an expanding outbreak caused by novel H1N1 influenza.

CDC's response goals are to:

1. Reduce transmission and illness severity, and
2. Provide information to help health care providers, public health officials and the public address the challenges posed by this emergency.

CDC will issue updated interim guidance for clinicians on how to identify and care for people who are sick with novel H1N1 flu illness. The priority use for influenza antiviral drugs during this outbreak will be to treat people with severe illness.

CDC completes deployment of 25 percent of the supplies in the Strategic National Stockpile (SNS) to all states in the continental United States. These supplies and medicines will help states and U.S. territories respond to the outbreak. In addition, the Federal Government and manufacturers begin the process of developing a vaccine against the novel H1N1 flu virus.

**May 5, 2009 –** The ISDH Laboratory begins PCR confirmation testing for H1N1.

**May 6, 2009 –** In an effort to improve effeciency, the ISDH Laboratory begins performing a modified influenza panel that only surveys for influenza A and the confirms the presence of Pandemic (H1N1) 2009. They no longer report out results for influenza B.

**May 8, 2009 –** CDC validates the ISDH Laboratory's PCR testing for H1N1.

**May 14, 2009**

CDC continues to take aggressive action to respond to the expanding outbreak. CDC's response goals are to reduce spread and illness severity, and provide information to help health care providers, public health officials, and the public address the challenges posed by this emergency.

Beginning Thursday, May 14, viral specimen submission to the ISDH Laboratory to rule out infection with the novel influenza A (H1N1) virus strain is limited to sentinel influenza providers, high risk group patients, and deaths associated with ILI.

**Epi Flashback**

**1887** - An article described an outbreak in New York harbor from cholera-infected Italian immigrants. The article includes instructions from the State Board "for the purpose of placing the State in the best possible hygienic condition" in hopes of avoiding any cases in Indiana. The following statement stresses compliance with the instructions for minimizing the risk of cholera : "Anyone failing to comply with the foregoing should be prosecuted as provided in sections 2065 to 2075 of the Revised Statutes of 1811, inclusive."

*Source: Sixth Annual Report of the State Board of Health of Indiana 1887*

**June 3, 2009 –** Since the transmission and severity of the virus are well documented, the ISDH no longer conducts case investigations on all confirmed cases in an effort to conserve resources.

**June 11, 2009**

WHO signals that a global pandemic of novel influenza A (H1N1) is underway by raising the worldwide pandemic alert level to Phase 6. This action is a reflection of the spread of the new H1N1 virus, not the severity of illness caused by the virus. At the time, more than 70 countries have reported cases of novel influenza A (H1N1) infection, and there are ongoing community level outbreaks of novel H1N1 in multiple parts of the world.

**July 10, 2009**

The ISDH resumes routine sentinel surveillance and only accepts specimens from sentinel providers and deaths attributable to ILI.

# Frequently Asked Questions:

# Pandemic Influenza 2009 H1N1

Shawn M. Richards
*Respiratory Epidemiologist*

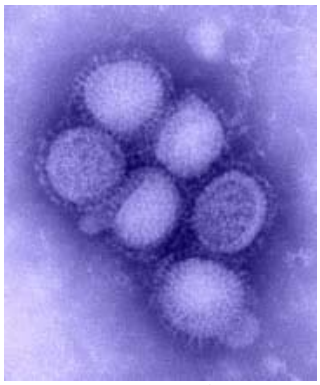

Photo courtesy of CDC

**Q:** What influenza surveillance activities are currently underway in Indiana?

**A:** Influenza surveillance in Indiana is now being conducted in over 40 medical clinics comprising Indiana's Sentinel Influenza Surveillance System and the 76 emergency departments enrolled in Indiana's Public Health Emergency Syndromic System. Utilizing these two systems, ISDH is able to characterize the percentage of influenza-like illness and the types of circulating viral strains present in the community.

**Q:** People die from influenza and related symptoms every year in the U.S. How many in Indiana die from flu and related complications?

**A:** The Centers for Disease Control and Prevention (CDC) estimates that 36,000 people die from influenza and its complications every year. It is difficult to say how many people actually die from influenza. ISDH death certificate data from the past 10 years document that approximately 1,500 Indiana residents die from influenza and its complications in any given year. The ISDH gathers information from death certificates if the physician documents influenza as the primary or secondary cause of death.

**Q:** What's so different about this strain of flu than others?

**A:** This new H1N1 strain is different than the other seasonal influenza strain because it is a new human influenza virus. The new H1N1 virus is a combination of bird, swine, and human viruses and has adapted well to transmission in the human population. Because this is a new virus, the human population has no immunity to the virus. In addition, there is currently no vaccine available. Seasonal influenza vaccines do not protect people from this particular strain.

**Epi Flashback**

**1937** – Announcement of the amended Sale of Milk Law includes: "You will note that this law requires that all milk be pasteurized unless it has been produced by cows or herds which have been both tuberculin tested and blood tested for Bang's disease, annually…and are shown by such tests to be free from both tuberculosis and Bang's disease."

*Source: Monthly Bulletin, Indiana Division of Public Health June 1937*

**Q:** How can I protect myself from getting sick?

**A:** Novel influenza A (H1N1) virus is thought to be spreading in the same way that seasonal flu spreads. Flu viruses are spread mainly from person to person through coughing or sneezing by people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their eyes, mouth or nose. Although there is no vaccine available

right now to protect against this novel H1N1 influenza virus, there are everyday actions that can help prevent the spread of germs that cause respiratory illnesses like influenza:

- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
- Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hand cleaners are also effective.
- Avoid touching your eyes, nose or mouth. Germs spread this way.
- Try to avoid close contact with sick people.
- Stay home if you are sick for 7 days after your symptoms begin or until you have been symptom-free for 24 hours, whichever is longer. This is to keep from infecting others and spreading the virus further.

Other important actions that you can take are following public health advice regarding school closures, avoiding crowds, and other social distancing measures. Be prepared in case you get sick. Having a supply of over-the-counter medicines, alcohol-based hand rubs, tissues, and other related items might be useful to help avoid the need to make trips out in public while you are sick and contagious.

**Q:** Who is more susceptible to contracting the H1N1 virus?

**A:** Preliminary data from confirmed cases in Indiana show that children are more susceptible to becoming ill from the H1N1. Children and young adults appear most susceptible for contracting the H1N1 virus and having to be hospitalized due to the infection, as, from April 20 to June 3, 84% and 63% of reported cases, respectively, were under the age of 25. In addition, having a prior chronic medical condition (e.g., asthma, chronic heart disease) appeared to place people at greater risk for hospitalization, as, from April 20 to June 3, 38% of hospitalized cases had a chronic co-morbidity compared to only 19% of non-hospitalized cases.

**Epi Flashback**

**1917** – "The Baltimore and Ohio Railroad has established a Welfare Department and has taken hold of sanitary matters with energy. This railroad company is now placing in every seat of their train, yellow slips having upon them the following:
*Spitting is DANGEROUS AND ILLEGAL! TUBERCULOSIS is transmitted in this way and kills more people than any other disease. The Baltimore and Ohio Railroad Co."*

*Source: Monthly Bulletin, Indiana State Board of Health May 1917*

**Q:** How do you expect the H1N1 virus to behave this fall? How is ISDH preparing?

**A:** The virus may evolve in several ways between now and this fall. The virus may act the same as this spring, it may die out, or it may be worse. The ISDH is preparing for the fall by maintaining surveillance of the virus while revising the pan flu plan and coordinating with partners. This fall the ISDH will attend conference calls related to the virus, heed federal guidance, and exercise the agency continuity of operations plan.

**Q:** Is there anything else we should know about H1N1?

**A:** For further information, go to www.cdc.gov. The ISDH will report any new confirmed cases of H1N1 once per week after noon every Thursday. The public can visit the **www.IN.gov/flu** for more information about the novel H1N1 outbreak.

# Training Room

## INDIANA STATE DEPARTMENT OF HEALTH IMMUNIZATION PROGRAM PRESENTS:

### *Immunizations from A to Z*

Immunization Health Educators offer this FREE, one-day educational course that includes:

- Principles of Vaccination
- Childhood and Adolescent Vaccine-Preventable Diseases
- Adult Immunizations
    - Pandemic Influenza
- General Recommendations on Immunization
    - Timing and Spacing
    - Indiana Immunization Requirements
    - Administration Recommendations
    - Contraindications and Precautions to Vaccination
- Safe and Effective Vaccine Administration
- Vaccine Storage and Handling
- Vaccine Misconceptions
- Reliable Resources

This course is designed for all immunization providers and staff. Training manual, materials, and certificate of attendance are provided to all attendees. Please see the Training Calendar for presentations throughout Indiana. Registration is required. To attend, schedule/host a course in your area or for more information, please reference http://www.in.gov/isdh/17193.htm.

# ISDH Data Reports Available

**The following data reports and the *Indiana Epidemiology Newsletter* are available on the ISDH Web Page:**

http://www.IN.gov/isdh/

| | |
|---|---|
| HIV/STD Spotlight Reports (June 2007, December 2007, June 2008, January 2009) | Indiana Mortality Report (1999-2006) |
| Indiana Cancer Report: Incidence; Mortality; Facts & Figures | Indiana Infant Mortality Report (1999, 2002, 1990-2003) |
| Indiana Health Behavior Risk Factors (1999-2006) | Indiana Natality Report (1998-2006) |
| Indiana Health Behavior Risk Factors (BRFSS) Newsletter (2003-2008) | Indiana Induced Termination of Pregnancy Report (1998-2005) |
| Indiana Hospital Consumer Guide (1996) | Indiana Marriage Report (1995, 1997, & 2000-2004) |
| Public Hospital Discharge Data (1999-2006) | Indiana Infectious Disease Report (1997-2006) |
| Assessment of Statewide Health Needs – 2007 | Indiana Maternal & Child Health Outcomes & Performance Measures (1989-1998, 1990-1999, 1991-2000, 1992-2001, 1993-2002, 1994-2003, 1995-2004, 1996-2005) |

## HIV Disease Summary

**Information as of** June 30, 2009 **based on 2000 population of 6,080,485)**

***HIV - without AIDS to date:***

| | | | |
|---|---|---|---|
| 320 | New HIV cases June 2008 thru May 31, 2009 | 12-month incidence | 5.56 cases/100,000 |
| 3,867 | Total HIV-positive, alive and without AIDS on May 31, 2009 | Point prevalence | 67.22 cases/100,000 |

***AIDS cases to date:***

| | | | |
|---|---|---|---|
| 366 | New AIDS cases from June 2008 thru May 31, 2009 | 12-month incidence | 6.36 cases/100,000 |
| 4,349 | Total AIDS cases, alive on May 31, 2009 | Point prevalence | 75.60 cases/100,000 |
| 9,022 | Total AIDS cases, cumulative (alive and dead) on May 31, 2009 | | |

## REPORTED CASES of selected notifiable diseases

| Disease | Cases Reported in May *MMWR* Weeks 18-21 | | Cases Reported in January – May *MMWR* Weeks 1-21 | |
|---|---|---|---|---|
| | 2008 | 2009 | 2008 | 2009 |
| Campylobacteriosis | 42 | 42 | 145 | 160 |
| Chlamydia | 1,786 | 1,822 | 9,039 | 9,536 |
| Cryptococcus | 1 | 2 | 10 | 12 |
| Cryptosporidiosis | 21 | 25 | 55 | 98 |
| *E. coli*, shiga toxin-producing | 4 | 4 | 10 | 9 |
| Giardiasis | Not Reportable | 10 | Not Reportable | 68 |
| *Haemophilus influenzae*, invasive | 4 | 11 | 39 | 40 |
| Hemolytic Uremic Syndrome (HUS) | 0 | 0 | 0 | 0 |
| Hepatitis A | 4 | 2 | 10 | 9 |
| Hepatitis B | 1 | 6 | 10 | 36 |
| Hepatitis C Acute | 0 | 1 | 0 | 4 |
| Histoplasmosis | 9 | 12 | 33 | 59 |
| Influenza Deaths (all ages) | 2 | 0 | 15 | 3 |
| Gonorrhea | 717 | 590 | 3,590 | 3,143 |
| Legionellosis | 2 | 2 | 11 | 15 |
| Listeriosis | 0 | 0 | 2 | 1 |
| Lyme Disease | 0 | 4 | 1 | 6 |
| Measles | 0 | 0 | 0 | 0 |
| Meningococcal, invasive | 1 | 8 | 13 | 18 |
| Mumps | 0 | 0 | 0 | 1 |
| Pertussis | 5 | 17 | 20 | 111 |
| Rocky Mountain Spotted Fever | 0 | 2 | 0 | 2 |
| Salmonellosis | 39 | 45 | 129 | 136 |
| Shigellosis | 71 | 4 | 324 | 30 |

## REPORTED CASES of selected notifiable diseases

| Disease | Cases Reported in May *MMWR* Weeks 18-21 | | Cases Reported in January – May *MMWR* Weeks 1-21 | |
|---|---|---|---|---|
| | 2008 | 2009 | 2008 | 2009 |
| Severe *Staphylococcous aureus* in Previously Healthy Person | Not Reportable | 0 | Not Reportable | 8 |
| Group A Streptococcus, invasive | 13 | 18 | 72 | 106 |
| Group B, Streptococcus, Invasive (All ages) | 18 | 23 | 102 | 103 |
| *Streptococcus pneumoniae* (invasive, all ages) | 57 | 37 | 467 | 194 |
| *Streptococcus pneumoniae* (invasive, drug resistant) | 16 | 32 | 130 | 131 |
| *Streptococcus pneumoniae* (invasive, <5 years of age) | 2 | 4 | 35 | 33 |
| Syphilis (Primary and Secondary) | 9 | 13 | 62 | 69 |
| Tuberculosis | 7 | 13 | 55 | 59 |
| Vibriosis | Not Reportable | 0 | Not Reportable | 0 |
| Varicella | Not Reportable | 4 | Nor Reportable | 49 |
| Yersiniosis | 0 | 2 | 5 | 6 |
| Animal Rabies | 0 | 0 | 1 (bat) | 0 |

**For information on reporting of communicable diseases in Indiana, call the *Surveillance and Investigation Division* at 317.233.7125.**

Indiana State Department of Health
Epidemiology Resource Center
2 North Meridian Street, 5-K
Indianapolis, IN 46204
317/233-7125

Cover photo of Cryo-EM reconstruction of a norovirus capsid.courtesy of Dr. B.V.V. Prasad, Baylor College of Medicine, Houston, TX 77030

The *Indiana Epidemiology Newsletter* is published monthly by the Indiana State Department of Health to provide epidemiologic information to Indiana health care professionals, public health officials, and communities.