Indiana Epidemiology Newsletter

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# Evaluation of Meningococcal Conjugate Vaccine and other High-Priority Vaccine Preventable Diseases

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*ISDH Invasive Epidemiologist*

The Indiana State Department of Health (ISDH) is one of 19 state and local health departments awarded funding under the American Reinvestment and Recovery Act (ARRA) to participate in an on-going evaluation of the tetravalent (A, C, Y, W-135) meningococcal conjugate vaccine (MCV4). The ISDH will participate with the Centers for Disease Control and Prevention (CDC) in this evaluation which is scheduled to begin November 1, 2009 and end October 31, 2011. The specific purposes of this study are:

- To enhance laboratory and epidemiologic surveillance for meningococcal disease
- To evaluate the effectiveness of one dose of meningococcal vaccine against disease caused by vaccine-preventable serogroups in persons 11-25 years of age

Meningococcal disease is rare but life-threatening, with case-fatality rates ranging from 10 – 14%; and up to 40% in cases of severe sepsis. Survivors often experience severe brain damage, loss of limb or hearing impairment. From 2004 – 2008 in Indiana, incidence rates of meningococcal disease were highest in infants <1 year of age, with rates declining with age; however, incidence increased again among late adolescents; young adults and adults over the age of 65. The FDA licensed the tetravalent meningococcal conjugate vaccine, Menactra (MCV4), in 2005 for use in individuals 11 – 55 years of age to protect against most serogroups which causes invasive disease. The vaccine has proven to be safe, demonstrates a longer duration of protection, and reduces asymptomatic carriage of *N. meningitidis*, when compared to the meningococcal polysaccharide vaccine, Menomune (MPSV4)[1].

Current recommendations from the Advisory Committee on Immunization Practices of the CDC (ACIP) include routine vaccination for adolescents aged 11-12 years as

well for other high-risk groups. Revaccination is also recommended for individuals previously vaccinated with either MCV4 or MPSV4, who are at prolonged, increased risk for meningococcal disease. In the state of Indiana, it is anticipated that one dose of the Menactra vaccine will be required for all students entering 6-12th grades beginning in the 2010 – 2011 year.

***Evaluation Design***

Cases of meningococcal disease will be identified through current passive surveillance activities. Indiana residents who are at least 11 years old and born after January 1, 1986, with meningococcal disease caused by a vaccine-preventable serogroup will be eligible for the study. Controls will be matched by age and geographic area. Important clinical and epidemiologic data will be gathered from the case-patients and from parents/guardians. Vaccine histories will also be verified for both cases and controls.

During 2006 - 2008 there were 15 cases in the 11-23 year old evaluation age group reported through passive surveillance activities. Of the 15 cases, 7 cases tested for serogroups for which currently licensed vaccines afford protection. The grant has also provided funding for ISDH to enhance active surveillance activities. ISDH will conduct reviews of hospital laboratory records to identify missed cases in areas of the state where incidence has been historically low. In addition, all isolates will be shipped to the CDC for susceptibility testing and other molecular typing.

***Additional Surveillance Activities for other Vaccine-Preventable Diseases***

ISDH has also received funding to strengthen investigations of varicella outbreaks among school-aged children. During the 2009-2010 and 2010 – 2011 school years, ISDH will be conducting time-limited evaluations of the two-dose varicella vaccine in school settings. Part of this evaluation will include gathering a case history for each case (using a standardized line listing) as well as laboratory confirmation for newly identified "break-through" cases of disease. Vaccine efficacy will be determined by comparing attack rates and disease severity among students who received 2 doses of the vaccine against those who receive 1 or no doses of the vaccine.

Our successful participation in this evaluation will be dependent upon cooperation at the local and state health department and closely working with school health officials. To assist us with this process, it is critical that all new cases of meningococcal disease and outbreaks of varicella be reported to ISDH as soon as possible. An outbreak of varicella is defined as 5 or more cases occurring within 1 incubation period (21 days) among children less than 13 years of age who attend the same school or daycare setting for the purposes of this evaluation. For children 13 years of age and over, an outbreak is defined as 3 or more cases occurring among students attending the same school within 1 incubation period.

Progress reports on the status of this project will be available on the federalreporting.gov website. Please contact Dana Hazen, invasive disease epidemiologist, at 317-234-2807 or at dhazen@isdh.in.gov for more information about this project. A 10-year meningococcal summary will be published in an upcoming issue of the Indiana Epidemiology Newsletter.

***References***

Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Atkinson, W, Wolfe, S, Hamborsky J, McIntyre L, eds. 11th ed. Washington DC: Public Health Foundation, 2009.

# Indiana State Department of Health (ISDH) Laboratory Validating New Test for Confirmation of Pertussis

Kristin Ryker, MPH
*ISDH Vaccine Preventable Epidemiologist*

The ISDH Microbiology Laboratory is pleased to announce the ongoing validation of a polymerase chain reaction (PCR) test for the confirmation of *Bordetella pertussis*. PCR is a rapid and highly sensitive molecular diagnostic technique that allows for faster confirmation of cases and will enhance the ability of the ISDH to initiate case investigations quickly.

The *B. pertussis* PCR test is not FDA-approved, and results must be verified with patient history or culture to confirm a case. All PCR+ cases are investigated by the ISDH Field Epidemiologists and control measures are implemented as necessary. PCR detects both live and dead organisms and can often be used for confirmation of pertussis diagnosis long after the viability of the organism has diminished for culture.

The ISDH Microbiology Laboratory will continue to perform culture on specimens from pertussis suspects, but direct fluorescent antibody (DFA) testing will be phased out. DFA is neither sensitive nor specific, and it cannot be used for confirmation of pertussis. The rapid and sensitive nature of the PCR test will provide a much improved substitute.

Providers interested in submitting specimens to the ISDH Laboratory for pertussis testing may request specimen collection kits by calling 317.921.5875 or e-mailing containers@isdh.in.gov. Submitters must use the specimen collection kits provided by the ISDH and follow the transport guidelines, as standardization is necessary for the validation process. Submitters must follow the specimen collection instructions closely, as each kit contains two swabs and two tubes (the plastic-shaft/flocked swab is submitted in the empty tube and the wire-shaft/Dacron swab is submitted in the tube containing transport medium). Submitters will obtain two swabs from each patient (one swab per nostril). Until the validation is complete, PCR results will be reported to submitters by the Surveillance and Investigation Division (SID). To meet the needs of submitters, the SID will send an unofficial notification of unvalidated PCR results to the submitter.

The clinical case definition for pertussis includes a cough lasting for 14 days or more, along with coughing spasms (paroxysms), inspiratory whoop, and/or posttussive vomiting. Infants, partially vaccinated children, adolescents, and adults may not experience the whoop or paroxysms. Infants are more likely to experience cyanosis and apnea. Pertussis should be considered as a diagnosis in anyone meeting the clinical case definition or in anyone with a cough lasting 7 days.

The validation status of the PCR test should not impact the treatment of pertussis suspects. As is the case for any pertussis suspect, providers should not wait until laboratory results are received to prescribe appropriate treatment. Pertussis suspects should be treated based on clinical symptoms to prevent further spread of illness. Household contacts of pertussis cases also should receive antibiotic prophylaxis if asymptomatic or be tested and treated if symptoms are present. Appropriate antibiotics and prescribing information can be found in the MMWR article: "Recommended Antimicrobial Agents for the Treatment and Postexposure Prophylaxis of Pertussis," available at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm.

Questions about laboratory testing for pertussis should be directed to the ISDH Laboratory at 317.921.5860 (culture) or 317-921-5856 (PCR).

All suspect cases of pertussis should be reported immediately to the local health department or the ISDH Surveillance and Investigation Division at 317.233.7125.
For additional information regarding pertussis, please visit the Centers for Disease Control and Prevention's (CDC) Web site on pertussis at http://www.cdc.gov/vaccines/vpd-vac/pertussis/default.htm.

# Attention: Yellow Fever Vaccine Certified Providers

Kristin Ryker, MPH
*ISDH Vaccine Preventable Epidemiologist*

In an effort to improve the information available to the public and to gain a better understanding of the distribution of travel medicine services provided throughout the state, the Indiana State Department of Health (ISDH) is requesting that all Certified Yellow Fever Vaccine Providers update their information by completing a new Yellow Fever Vaccine Certified Provider Application Form. The updated application form is available at http://www.in.gov/isdh/files/53885.doc. If a provider administers yellow fever vaccine at multiple practice locations, an application form must be on file for each location. Yellow fever vaccine is shipped directly from the manufacturer only to the address of practice listed on the application form.

If an address change occurs, please submit the Yellow Fever Vaccine Certified Provider Change of Address Form as quickly as possible to minimize delays in shipping to your new practice location. The Change of Address Form is available at http://www.in.gov/isdh/files/53886.doc.

If you have previously served as a Yellow Fever Vaccine Certified Provider but no longer participate or choose not to participate in the future, please complete a Yellow Fever Vaccine Certified Provider Withdrawal Form available at http://www.in.gov/isdh/files/53887.doc.

The current list of Yellow Fever Vaccine Certified Providers who are open to the public is available at http://www.in.gov/isdh/17199.htm. Please take a moment to review this list and verify your information. It is especially important that you take a few moments to provide us with updated information if you find that information on this list is incorrect. Completed forms should be faxed to the ISDH at 317.234.2812.

If you have questions about the Yellow Fever Certified Provider registry for Indiana, please contact Kristin Ryker at 317.233.7112 or kryker@isdh.in.gov.

## Epi Flashback (or is this now?)

**1957** – Report of a new Asian influenza type A strain that first appeared in Singapore in May of the year. Within weeks the type and strain were isolated and identified. Manufacturers immediately began to work on a vaccine. Indiana could expect 900,000 ill citizens based on a 10 to 20 percent attack rate. In September 1957, the Indiana State Board of Health established an Advisory Committee to "study the situation and make recommendations" on use of the Asian influenza vaccine. The vaccine was "in short supply, and …the allocation of available supplies of vaccine is being made under a system of geographic distribution…"

In the December Bulletin an update of the situation stated that "in checking the weekly morbidity reports, it seems …that the peak of influenza incidence was reached during the week ending November 2." "Authorities believe that it is possible that another wave of the disease may be experienced later this winter." Health officials are recommending that individuals … seek advice concerning immunization."

*Source: Monthly Bulletin, Indiana State Board of Health November & December 1957*

# JC Virus

Donna Allen, MS
*ISDH Field Epidemiologist, District 1*

An Indiana local health department recently received a laboratory report of a case testing positive for JC virus. The case was a seriously ill individual who was immunocompromised and experiencing neurological problems. The field epidemiologist was called to discuss if JC virus was reportable (JC virus infection is not reportable in Indiana) and what the initials JC meant. It was later learned JC virus is a *polyomavirus* that is named after the initials of an individual (John Cunningham) from whom it was first isolated in 1971.

JC virus is very common in the general population and is often acquired in childhood. Antibody titers persist for life, and most persons are seropositive by the age of ten years. The virus is found in high concentrations in urban sewage worldwide. Therefore, it is suspected that contaminated water is a typical route of infection. The tonsils or gastrointestinal tract are typically the initial site of infection. The virus remains latent in the gastrointestinal tract and can infect the epithelial cells in the kidneys, where it continues shedding virus particles in the urine.

JC virus can cause progressive multifocal leukoencephalopathy (PML), a demyelinating disease of the brain which is usually fatal. The process that causes this to happen is unknown. PML develops slowly, allowing impairment of mental function and disturbance of speech, vision, and movement.

Immunodeficiency or immunosuppression may allow the JC virus to reactivate. The disease occurs rarely in organ transplant patients, people undergoing chronic corticosteroid or immunosuppressive therapy, individuals with cancer, such as Hodgkin's disease, lymphoma, and sarcoidosis. PML is most common among individuals with acquired immune deficiency syndrome (AIDS). It is very rare in healthy individuals. Children with congenial immunodeficiency have experienced PML, which suggests a primary JC infection (as opposed to latent) is responsible. Only rarely has PML been reported to occur spontaneously in a healthy person.

The best available therapy is reversal of the immune-deficient state. In the case of HIV associated PML, beginning anti-retroviral therapy benefits most individuals. Various antiviral drugs have been used but only one, cytarabine, has had positive effects. Research is ongoing by the National Institute of Health (NIH) and National Institute of Neurological Disorders and Stroke (NINDS).

**REFERENCES:**

1. Polyomaviruses, http://virology-online.com/viruses/polyomaviruses.htm

2. NINDS Progressive Multifocal Leukoencephalopathy Information Page, http://www.ninds.nih.gov/disorders/pml/pml.htm

# Vibrio Vulnificus

Robert Allen, MPA
*ISDH Field Epidemiologist, District 7*

*Vibrio vulnificus* is a gram-negative, lactose-fermenting, halophilic (salt water) bacterium that belongs to the same family of bacteria as those that cause cholera. It thrives in the warm coastal waters of the Pacific, Atlantic, and Gulf of Mexico but in rare instances, cases of illness have been associated with brackish lakes in New Mexico and Oklahoma. The bacterium can be found in plankton, finfish, and especially shellfish such as oysters, clams, and crabs. States that harvest shellfish regularly inspect sea water for fecal contamination, but *V. vulnificus* can still be present because the bacterium is naturally present in marine environment. It is more prevalent in the summer months.

Transmission occurs in those who eat raw or undercooked contaminated seafood, especially raw oysters, or through contamination of a wound with sea water. It does not transmit person-to-person. Among health people, infection with *V. vulnificus* can cause diarrhea, vomiting, chills, fever, and abdominal pain, and in those with wounds, it may lead to mild skin breakdown and ulceration to more severe conditions, such as cellulitis and myositis. However, in those who are immunocompromised, the bacteria can infect the bloodstream, causing a severe and life-threatening illness characterized by fever and chills, decreased blood pressure, blistering skin lesions, and disseminated intravascular coagulation. Those with wound are at higher risk for bloodstream infection and potentially fatal complications. Death can occur within two days.

The incubation period is usually 12-72 hours (average of 16 hours) after ingesting raw or undercooked seafood, but can range up to 96 hours. From 1981-1992, the average yearly incidence in those in Florida with liver disease who ate oysters was 7.2 per 100,000, verses 0.09 for healthy adults. The average incidence rate in the U.S. is about 0.5 cases per 100,000, with the highest rate coming from the Gulf of Mexico states at 1.0 cases per 100,000. In those individuals with pre-existing infections, it can be presumed that less than 100 organisms can cause infection. Also, these individuals were 80 times more likely to develop septicemia, and the infection is fatal over 50 percent of the time.

The Indiana Communicable Disease Reporting Rule (410 IAC 1-2.3) describes specific control measures and investigation procedures. The local health department shall conduct an investigation within 72 hours, which includes a food history and wound history for three weeks prior to the onset of symptoms. The case should be investigated for actual or probable sources to identify unreported cases, carriers, contamination such as food, water, milk, shellfish and recent travel history.

**References**
FDA. Raw Oysters Contaminated With Vibrio vulnificus Can Cause Illness and Death, April 2003. Retrieved July 2009 from http://www.fda.gov/Food/ResourcesForYou/healthEducators/ucm085365.htm

FDA. Foodborne Pathogenic Microorganisms and Natural Toxins Handbook *Vibrio vulnificus*, May 4, 2009. Retrieved July 2009 from http://www.fda.gov/Food/FoodSafety/FoodborneIllness/FoodborneIllness-FoodbornePathogensNaturalToxins/BadBugBook/ucm070473.htm

CDC. *Vibrio vulnificus*, Division of Foodborne, Bacterial and Mycotic Diseases, Retrieved July 2009 from http://www.cdc.gov/nczved/dfbmd/disease_listing/vibriov_gi.html

MMWR. Vibrio vulnificus Infections Associated with Eating Raw Oysters-Los Angeles, 1196, July 26, 1996. Retrieved July 2009 from http://www.cdc.gov.mmwr.preview/mmwrhtml/00043142.htm

Control of Communicable Diseases manual, 19th Edition 2008, Infection with *Vibrio Vulnificus*, page 133.

Indiana State Department of Health. Communicable Disease Reporting Rule for Physicians, Hospitals, and Laboratories, 410 IAC 1-2.3, December 12, 2008

# Vincennes Selected to Host One of Ten Public Engagement Meetings in Nation on H1N1 Vaccination

Karen S. Gordon, BA
*Field Epidemiologist, District 10*

Although all of public health is involved in addressing response measures to the novel H1N1 pandemic, the Knox County Health Department was asked to play a rather unique role. Bob Rees, Emergency Coordinator for the Knox County Health Department, agreed to take on this challenge after being contacted by the Keystone Group. The Keystone Group, acting as a neutral facilitator organization, had been contracted by the Centers for Disease Control and Prevention (CDC) to convene meetings at ten different sites during the month of August. The purpose of the project was to involve the citizenry in the decision-making process by collecting public opinion in regard to the policies associated with mass immunization programs of novel H1N1 influenza vaccine. Public engagement meetings were held in Denver, Colorado; Lincoln, Nebraska; Sacramento, California; Bucks County, Pennsylvania; El Paso, Texas; Spokane, Washington; Somerville, Massachusetts; New York, New York; Birmingham, Alabama; and Vincennes (Knox County), IN. One location was identified in each of the ten Department of Health and Human Services (HHS) regions.

The goal was to pre-register a minimum of 100 at-large participants for the public meeting. Staff from the Keystone Group worked with local and state health officials in recruiting a participant pool, securing group facilitators, setting the agenda, coordinating media releases, and working out other logistics through conference calls in the weeks prior to the community event. Most notably, Bob Rees was the key person at the local level to collaborate with the planners in arranging a venue and assembling all the principal players. Recruitment efforts for the participants were successful as the desired number was attained during the registration process.

The Vincennes H1N1 Community Engagement Meeting was held on Saturday, August 15 at the Indiana Center for Applied Technology on the campus of Vincennes University. Sixty-four of the registered participants were present. Dr. Ralph Jacqmain, Health Officer for the Knox County

Health Department, opened the meeting. Janet Archer, Chief Nurse Consultant, appeared on behalf of State Health Commissioner Dr. Judy Monroe to represent the Indiana State Department of Health. Roger Bernier, PhD, MPH, with CDC, and Raymond A. Strikas, M.D., FACP, with HHS, were national experts sent to participate from federal agencies.

The CDC produced a thirty-minute video explaining the influenza virus, the emergence of novel H1N1 influenza, and novel H1N1 influenza vaccine. This video was shown to serve as an educational presentation giving all participants an essential understanding of the complexities related to the vaccine program and the uncertainties remaining about this influenza pandemic. Dr. Bernier and Dr. Strikas conducted a question and answer session after the video's conclusion to address specific concerns of those in attendance.

The following assumptions were given to the audience to set a backdrop for their discussion:

- severity of illness and risk for infection remains similar to that already observed
- vaccination is completely voluntary
- vaccine supplies would become available in October, 2009 with enough for the general population in February, 2010
- cost of vaccine will be assumed by the federal government
- initial target populations are the five subgroups deemed to be most at risk

Participants were presented with three options as to which approach the U.S. take toward mass vaccination. They were:

1. Option 1---Go Easy Approach
   The "go slow" strategy follows the usual vaccination infrastructure utilized for seasonal flu and any additional resources or efforts are held to a minimum.
2. Option 2---Moderate Effort Approach
   The intermediate approach would include planning for some additional vaccination sites and a distinctive step-up from usual and customary procedures.
3. Option 3—Full Throttle Approach
   The aim of this approach is to respond fully and rapidly through greater education, outreach, and volunteer activities as well as creating numerous vaccination sites in both the public and private sectors.

Small group discussions allowed for examination of the advantages and disadvantages of planning for these three different target levels of preparedness using a discussion guide and led by a group facilitator. Following the dialogue and deliberation in the breakout sessions, each group was given opportunity to report to the entire gathering what major issues resulted during their interaction.

The participants then completed an electronic poll by voting their preference among the three options. A few further questions asked them to indicate the reasons which factored into their choice and were followed by two polling questions with different assumptions about the severity of the H1N1 outbreak.

**Results**

***Which vaccination program option do you prefer?***

| | | |
|---|---|---|
| GO EASY | 8 | 14.04% |
| MODERATE | 40 | 70.18% |
| FULL THROTTLE | 9 | 15.79% |
| TOTALS | 57 | 100% |

An overwhelming majority, 70% of the Vincennes participants, chose the moderate approach. The predominant reason for their choice was to protect the maximum number from the risk of getting the novel H1N1 virus. The majority of public meeting participants in all ten locations

favored a moderate target level of preparedness for a mass vaccination program by a figure of 52%. The Vincennes vote ranked as the single highest outcome for a preference. In comparison, nine other sites gave a majority vote to the moderate option with one site preferring the "go easy" choice.

Vincennes and Knox County made their voice heard by accepting this opportunity for participatory policymaking regarding the scope of America's vaccine program against the novel H1N1 pandemic influenza virus. For a more detailed account of the entire project including all polling questions and breakdowns of the polling results, please see the final report dated September 30, 2009 at http://keystone.org/files/file/about/publications/Final-H1N1-Report-Sept-30-2009.pdf .

# District 3 Preparedness Update

Brad Beard, BS
*Field Epidemiologist, District 3*

Tammy McMaken, RN
*Public Health Nurse – DeKalb County Health Department*

On April 27, District 3 conducted a tabletop exercise on a biological event involving aerosolized anthrax. It was noted that most counties participating had mass prophylaxis plans in place and were prepared to take on this challenge should a real event occur.

On April 29, the district conducted a functional throughput, Point of Dispensing (POD) exercise which again involved aerosolized anthrax. Middle school students, nursing students, and others participated as volunteer victims at the Wabash Middle School. Nine of the 11 counties participated in this drill for the current grant period. Over one hundred public health workers from these local health departments and the Indiana State Department of Health, were present to run the drill. The drill encompassed use of the Incident Command System, and stations were set up to simulate a mass prophylaxis clinic. Stations included triage, registration, assessment, medical evaluation, dispensing of medications and record collection, as well as a pharmacy and mental health area.

Prior to the start of the drill, staff were briefed and given assignments to stations. Each station had job action sheets that were reviewed b y staff and team leaders of that station. Over 170 people
completed Head of Household forms, which resulted in 611 "dose packs" being distributed. Over 28,000 courses of antibiotics were distributed, which exceeded the goal of 25,000 doses per 48-hour period.

In summary, the mass prophylaxis throughput drill indicated that counties had plans in place that would succeed in delivery of medications to the public in the event of a biological incident. A few areas for improvement were identified and will be addressed in the future.

# 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** September 30, 2009 **based on 2000 population of 6,080,485)**

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

| | | | |
|---|---|---|---|
| 320 | New HIV cases October 2008 thru September 30, 2009 | 12-month incidence | 5.56 cases/100,000 |
| 3,895 | Total HIV-positive, alive and without AIDS on September 30, 2009 | Point prevalence | 67.72 cases/100,000 |

***AIDS cases to date:***

| | | | |
|---|---|---|---|
| 342 | New AIDS cases from October 2008 thru September 30, 2009 | 12-month incidence | 5.94 cases/100,000 |
| 4,368 | Total AIDS cases, alive on September 30, 2009 | Point prevalence | 75.94 cases/100,000 |
| 9,107 | Total AIDS cases, cumulative (alive and dead) on September 30, 2009 | | |

## REPORTED CASES of selected notifiable diseases

| Disease | Cases Reported in August - September *MMWR* Weeks 31-39 | | Cases Reported in January – September *MMWR* Weeks 1-39 | |
|---|---|---|---|---|
| | 2008 | 2009 | 2008 | 2009 |
| Campylobacteriosis | 168 | 22 | 512 | 298 |
| Chlamydia | 3,682 | 3,438 | 16,193 | 17,137 |
| Cryptococcus | 2 | 2 | 17 | 20 |
| Cryptosporidiosis | 50 | 13 | 145 | 140 |
| *E. coli*, shiga toxin-producing | 32 | 0 | 73 | 18 |
| Giardiasis | Not Reportable | 11 | Not Reportable | 113 |
| *Haemophilus influenzae*, invasive | 5 | 7 | 57 | 57 |
| Hemolytic Uremic Syndrome (HUS) | 0 | 0 | 1 | 0 |
| Hepatitis A | 4 | 1 | 16 | 14 |
| Hepatitis B | 5 | 5 | 28 | 50 |
| Hepatitis C Acute | 1 | 1 | 1 | 14 |
| Histoplasmosis | 16 | 1 | 64 | 79 |
| Influenza Deaths (all ages) | 2 | 2 | 15 | 7 |
| Gonorrhea | 1,461 | 1,131 | 6,499 | 5,601 |
| Legionellosis | 8 | 6 | 40 | 32 |
| Listeriosis | 3 | 0 | 6 | 5 |
| Lyme Disease | 17 | 9 | 36 | 39 |
| Measles | 0 | 0 | 0 | 0 |
| Meningococcal, invasive | 5 | 5 | 22 | 29 |
| Mumps | 1 | 0 | 1 | 1 |
| Pertussis | 19 | 53 | 47 | 249 |
| Rocky Mountain Spotted Fever | 4 | 0 | 6 | 3 |
| Salmonellosis | 147 | 18 | 464 | 249 |
| Shigellosis | 80 | 0 | 525 | 40 |

## REPORTED CASES of selected notifiable diseases

| Disease | Cases Reported in August - September *MMWR* Weeks 31-39 | | Cases Reported in January – September *MMWR* Weeks 1-39 | |
|---|---|---|---|---|
| | 2008 | 2009 | 2008 | 2009 |
| Severe *Staphylococcous aureus* in Previously Healthy Person | Not Reportable | 2 | Not Reportable | 13 |
| Group A Streptococcus, invasive | 14 | 6 | 108 | 124 |
| Group B, Streptococcus, Invasive (All ages) | 9 | 34 | 23 | 181 |
| *Streptococcus pneumoniae* (invasive, all ages) | 48 | 30 | 609 | 299 |
| *Streptococcus pneumoniae* (invasive, drug resistant) | 8 | 11 | 165 | 181 |
| *Streptococcus pneumoniae* (invasive, <5 years of age) | 7 | 6 | 50 | 32 |
| Syphilis (Primary and Secondary) | 29 | 32 | 108 | 119 |
| Tuberculosis | 20 | 19 | 93 | 84 |
| Vibriosis | Not Reportable | 0 | Not Reportable | 0 |
| Varicella | Not Reportable | 1 | Nor Reportable | 7 |
| Yersiniosis | 2 | 0 | 7 | 6 |
| Animal Rabies | 4 (bats) | 7 (bats) | 7 (bats) | 17 (bats) |

**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.