



Rabies Risk in an Indiana Resident

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ISDH Veterinary Epidemiologist

Disease Information

Rabies is an RNA virus that can be transmitted from animals to humans. Rabies is transmitted by the saliva of an infected animal, usually through a bite wound. All mammals may be susceptible to rabies virus (and possibly transmit it to other mammals) but it is only maintained in nature by a few reservoir species. In the United States those reservoirs are bats, raccoons, skunks, coyotes, and foxes. The canine variant was eradicated from the United States but it is still present in other areas of the world. The incubation period in humans is usually 3-8 weeks. The illness often begins as vague symptoms that progressively worsen to encephalomyelitis. Once the virus enters the central nervous system and causes clinical disease it is almost always fatal. For additional information on rabies and assessing human exposures in Indiana please visit <http://www.in.gov/isdh/20518.htm>. You may also view a short webinar on assessing animal bites at this same web address.

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Case Background

In May, 2010 a female Indiana resident awoke to find a bat in her bedroom. There was evidence that the bat had been on the bed in close proximity to the individual, possibly even on the individual. The bat was later observed flying into walls (which is unusual behavior for a normal healthy bat). The individual conducted internet research on bats and diseases they may transmit to humans. Five days after the exposure, the individual presented to a health care provider, explained the situation and requested to be treated for rabies exposure. The request was denied and the exposed individual was sent home. Three days later, after speaking to friends and co-workers about her concerns, she called both the local and state health departments. She was instructed to see a health care provider for rabies post-exposure prophylaxis, which she immediately did at a different facility. At this facility she was given partial treatment (one dose of vaccination) but was refused the full recommended treatment (vaccine plus rabies immunoglobulin). The following day, nine days after initial exposure, she visited a health care facility that did

administer rabies immunoglobulin and scheduled her for the remaining three doses of vaccine as recommended by the Advisory Committee on Immunization Practices (ACIP).

Recommendations of the ACIP for Rabies Exposure

The ACIP recently published new guidelines that reduce the number of vaccinations for postexposure treatment in previously non-immunized, immunocompetent individuals from five doses to four doses. Patients not previously vaccinated should also receive rabies immunoglobulin. The updated recommendations are located at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm>. Full recommendations for when and how to treat exposed patients are located at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5703a1.htm>.

Rabies in Indiana

Rabies is uncommon in terrestrial animals in Indiana; however, the incidence in bats has recently increased. In 2009, the Indiana State Department of Health (ISDH) Laboratory identified 40 bats positive for rabies, approximately 9% of all bat submissions to the laboratory last year. Thirty-nine of those bats were caught in various counties around the state. The remaining positive bat was originally found in Michigan. Other surrounding states also commonly find rabies in bats. So far in 2010, the ISDH Laboratory has identified seven bats to be positive for rabies; more are expected. Rabies is not a seasonal disease, and may be seen in any month of the year. Only bats that have exposed a human or domestic pet are tested for rabies; there may be many more positive bats in the environment that are never tested. Bats serve a vital function to the environment; however, they should never be touched or handled.

Unfortunately, there have been two confirmed cases of rabies in Indiana residents in recent years. These cases occurred in 2006 and 2009. Laboratory analysis of both of these patients revealed that they were infected with a bat variant of the disease. All bat exposures should be considered high risk for the development of rabies and should be treated appropriately. Exposures include a bite, any skin contact with a bat, or even finding a bat in the same room with a sleeping person, an unattended child, a mentally-disabled person, or an intoxicated person. Any bats that have exposed a human or domestic pet should be submitted to the ISDH Laboratory for rabies testing. If the bat is not available for testing then it should be presumed positive for rabies.

Conclusions

This patient did eventually receive the recommended course of treatment and has not developed rabies. Unfortunately, obtaining the initial treatment took over a week, was dependent on the patient's persistence, and involved numerous health care providers for a product that is both available and was covered by the patient's insurance plan. Fortunately the patient was persistent and eventually did get appropriate medical care; otherwise this case could have had a much different ending.

Rabies can be prevented in humans by avoiding animal bites and properly assessing and treating both bite and non-bite exposures. If an animal bite does occur, the bite should be immediately cleaned with soap, water, and a virucidal agent. If it is determined that the biting animal had rabies or may have had rabies at the time of the bite (or non-bite exposure in the case of a bat); then the patient should receive post-exposure prophylaxis according to the recommendations of the ACIP.

Resources

Webinar and additional Indiana rabies information is located at:
<http://www.in.gov/isdh/20518.htm>.

Rabies Information from the CDC: <http://www.cdc.gov/rabies/>.

Human Rabies Prevention -- United States, 2008:
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5703a1.htm>.

Use of a Reduced (4-Dose) Vaccine Schedule for Postexposure Prophylaxis to Prevent Human Rabies: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm>.

If you have questions concerning rabies exposure or the ACIP recommendations, please contact Jennifer House, ISDH Veterinary Epidemiologist at 317-233-7272.

Indiana Viral Hepatitis Summit **October 7, 2010**

Sara Sczesny, MPH, BS, MT(ASCP)
Hepatitis C Epidemiologist

Jean Svendsen, RN, BS
Chief Nurse Consultant

To improve knowledge and awareness of hepatitis B and C, the Indiana State Department of Health (ISDH) in conjunction with the Hepatitis Foundation International (HFI) is hosting a Viral Hepatitis Summit consisting of one full day of professional training at the Wyndham Indianapolis West, on October 7, 2010. The goals of this summit are to educate and empower health care professionals and others working with at-risk or individuals infected with viral hepatitis. Information regarding evaluation and effective management will be included as well.

In the United States, an estimated 1.2 million persons are living with chronic hepatitis B infection, and 3.2 million are living with chronic hepatitis C infection. Due to the asymptomatic nature of viral hepatitis, an overwhelming majority are unaware of their infection until they have symptoms of liver cancer or liver disease.

Viral hepatitis is the leading cause of liver cancer and the most common reason for liver transplantation in the U.S. Each year about 15,000 Americans will die from liver cancer and related complications caused by these preventable diseases.

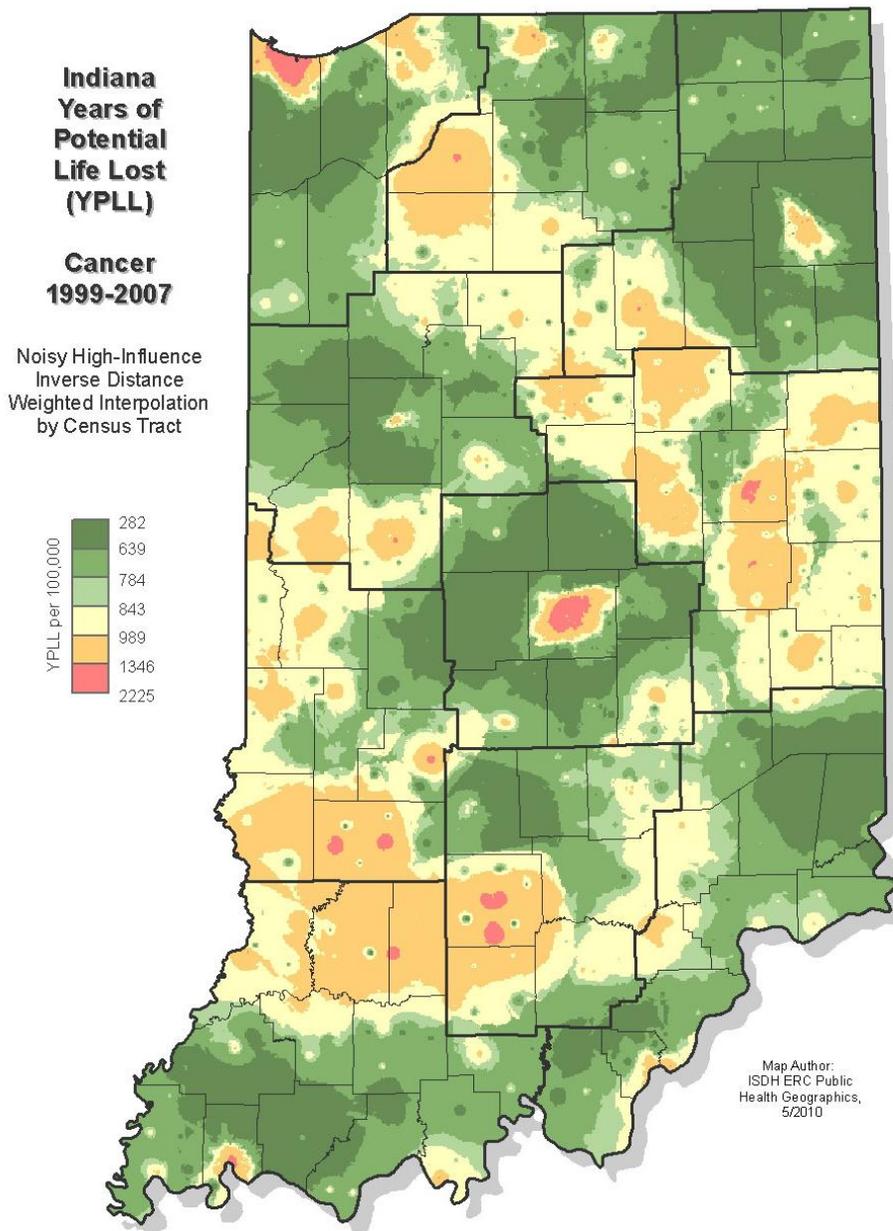
A recent Institute of Medicine (IOM) report *Hepatitis and Liver Cancer – A National Strategy for Prevention and Control of Hepatitis B and C* concluded that the present approach to the prevention and control of hepatitis B and C infection is ineffective. Increased knowledge and awareness about chronic viral hepatitis, improved surveillance for hepatitis B and C infection, and better integration of viral hepatitis services are needed to remedy this problem.

Summit re-registration and agenda information can be found in the training section of this newsletter.

Indiana State Cancer Registry: For All Your Cancer Data Needs

Bridget Rans Strong
Director, Indiana State Cancer Registry

The Indiana State Cancer Registry (ISCR) is a vital, but often overlooked, component of several programs at the Indiana State Department of Health (ISDH). But what exactly is the Cancer Registry, and what does that program collect and do? This series on cancer collection and use within ISDH will shed light to those questions and hopefully inspire many to use more data as necessary.



The ISDH ERC uses cancer data to produce actionable information for programs throughout the state.

The ISCR is a central cancer registry funded both by the National Program of Cancer Registries (NPCR) and Indiana state funds. It was established in 1985 "for the purpose of recording all cases of malignant disease and other tumors and precancerous diseases required to be reported by federal law or federal regulation or the National Program of Cancer Registries that are diagnosed or treated in Indiana, and compiling necessary and appropriate information concerning those cases, as determined by the state department, in order to conduct epidemiologic surveys of cancer and to apply appropriate preventive and control measures." (IC 16-38-2-1). In Indiana, the following are among the required reporting facilities: hospitals, physicians' offices, dentists, clinics, medical and pathology

laboratories, ambulatory surgery centers, and other facilities that might diagnose, treat, or care for a patient with cancer.

So what is the purpose of the registry, and what is reportable? The purpose of the registry is to record all cases of malignant disease, except for certain skin and cervical cancers. In addition, in 2004 other tumors and precancerous cancers, such as benign brain and central nervous system tumors, were required to be reported. The cases are either diagnosed or treated in Indiana, and the ISCR compiles necessary and appropriate information concerning those cases in order to conduct epidemiological surveys of cancer. For every patient seen, there are approximately 466 total data fields to complete, and Indiana requires 116 data fields. Out of those, the NPCR requires 94 data fields to complete. These numbers are set to increase later this year. To code these data fields, each tumor requires a variety of coding manuals, each with its own unique set of rules and codes, to be used to correctly code each of the data items. For instance, to determine the histology (cell type) code and classification of a second tumor reported, (whether it should be counted as the same or different primary tumor), a specific manual must be consulted.

As can be imagined, that generates a lot of data. The ISCR receives over 75,000 cancer records per year. However, many of these can be consolidated into one record, such as getting information on a single patient from a hospital, a pathology lab, and a surgery center. Certified tumor registrars, or CTRs, work with all of this data. Four full-time and several part-time CTRs work at the ISCR. One of the state CTRs, a designated education trainer, receives specialized training from the Centers for Disease Control and Prevention, and then conducts workshops and meetings to train hospital CTRs around the state. The education trainer has been especially important this year, as there have been many changes in the rules of staging.²⁰¹⁰ Another CTR oversees quality control. Since the cancer registry is evaluated annually on a national level, the accuracy and completeness of data performed by this position is vital and necessary to ensure that the ISCR continues to meet standards and improve.

The next article will explore various ways the ISCR receives data and describe new advances in the field.



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>.



INDIANA VIRAL HEPATITIS SUMMIT

WHEN: Thursday, October 7, 2010 8:30 AM - 4:30 PM (registration and exhibits open at 7:30am)

WHERE: Wyndham Indianapolis West, 2544 Executive Drive, Indianapolis, IN 46241

WHAT: Hepatitis Foundation International announces a 1 day professional education and training Summit for health professionals and others working with people who are affected by or infected with viral hepatitis including:

- ✓ nurse practitioners
- ✓ nurses
- ✓ case managers
- ✓ physician assistants
- ✓ counselors
- ✓ others

PROGRAM OBJECTIVES:

- Describe viral hepatitis risk factors and recommend hepatitis testing for patients
- Discuss viral hepatitis transmission and prevention with patients using simple and clear language
- Explain viral hepatitis tests and their meanings
- Describe major functions of the liver and why the liver is a vital organ
- List counseling messages for newly diagnosed patients regarding treatment options and maintaining health
- Discuss the current treatment for hepatitis B and C including expectations for evaluation, duration, side effect management, and the need for support
- List patient support strategies to increase treatment completion

CONTINUING EDUCATION:

- ⇒ **6.5 contact hours for Nurses** -This continuing nursing education activity is pending approval by the Maryland Nurses Association, an accredited approver by the American Nurses' Credentialing Center's Commission on Accreditation.
- ⇒ **CEU credits for Addiction Professionals (6.5hrs)** -The Hepatitis Foundation International is an approved education provider with the NAADAC Provider Approval System, #693.

HOUSING: Wyndham Indianapolis West, 2544 Executive Drive, Indianapolis, IN 46241

Reservations - (317) 248-2481; To take advantage of the reduced room rate of \$99/night, mention group name "Hepatitis Foundation International" when calling.

Registration includes all sessions, meals, educational materials, CEUs, and exhibits

Full Name: _____ Title: _____
 Affiliation: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____
 Email: _____

I would like CEUs for: _____ Nurses _____ Addictions Professionals _____ None

Summit Registration Fee: \$75.00 Late Registration after Sept. 16, 2010: \$90.00

Payment Options: Check Visa MasterCard PO# _____
 Card #: _____ Exp. _____ CVV (on back of card) _____
 Name on Card: _____
 Signature: _____

Registration should be sent to:



Hepatitis Foundation International
 504 Blick Drive, Silver Spring, MD 20904
 Phone: 800-891-0707
 Fax: 301-622-4702
www.HepatitisFoundation.org



INDIANA VIRAL HEPATITIS SUMMIT

Thursday, October 7, 2010
Wyndham Indianapolis West, 2544 Executive Drive
Indianapolis, IN 46241

AGENDA

7:30 AM Registration & Exhibits Open / Breakfast

8:30 AM Liver Health- Firing Up Prevention **Thelma King Thiel, CEO**
Hepatitis Foundation International

9:00 AM Hepatitis B- Chronic? Carrier? When and How to Treat **Raymond Koff, MD**
University of Connecticut

10:00 AM Break

10:15 AM Diagnosis and Treatment of Hepatitis C **Raymond Koff, MD**
University of Connecticut

11:15 AM The Challenge of Addiction for Providers and Hepatitis Patients **Speaker TBD**

12:15 PM Lunch

1:00 PM Sorting Out the Diagnostics **Edward Marino, PA-C**
Porter Adventist Hospital, CO

2:00 PM Communicating Through Interpreters **Martin George, President**
Language Training Center, IN

3:00 PM Break

3:15 PM Depression, Mental Health and HCV Infection **Andrew Angelino, MD**
Johns Hopkins Medical Center

4:15 PM Closing Remarks

4:30 PM Program Adjourned



HEPATITIS FOUNDATION INTERNATIONAL
504 Blick Drive, Silver Spring, MD 20904
Phone: 1-800-891-0707 Fax: 301-622-4702

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 (1999-2007)
Indiana Cancer Report: Incidence; Mortality; Facts & Figures	Indiana Infant Mortality Report (1999, 2002, 1990-2003)
Indiana Health Behavior Risk Factors (1999-2008)	Indiana Natality Report (1998-2007)
Indiana Health Behavior Risk Factors (BRFSS) Newsletter (2003-2010)	Indiana Induced Termination of Pregnancy Report (1998-2007)
Indiana Hospital Consumer Guide (1996)	Indiana Marriage Report (1995, 1997, & 2000-2004)
Public Hospital Discharge Data (1999-2008)	Indiana Infectious Disease Report (1997-2008)
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 April 30, 2010 based on 2000 population of 6,080,485)

HIV - without AIDS to date:

351	New HIV cases May 2009 thru April 30, 2010	12-month incidence	6.10 cases/100,000
3,953	Total HIV-positive, alive and without AIDS on April 30, 2010	Point prevalence	68.72 cases/100,000

AIDS cases to date:

355	New AIDS cases from May 2009 thru April 30, 2010	12-month incidence	6.17 cases/100,000
4,472	Total AIDS cases, alive on April 30, 2010	Point prevalence	77.75 cases/100,000
9,290	Total AIDS cases, cumulative (alive and dead) on April 30, 2010		

REPORTED CASES of selected notifiable diseases

Disease	Cases Reported in March - April MMWR Weeks 9-16		Cases Reported in January -April MMWR Weeks 1-16	
	2009	2010	2009	2010
Campylobacteriosis	67	58	133	133
Chlamydia	3791	1555*	7306	5032*
Cryptococcus	4	3	6	6
Cryptosporidiosis	48	34	81	63
<i>E. coli</i> , shiga toxin-producing	6	1	9	3
Giardiasis	33	39	65	91
Gonorrhea	1171	384*	2379	1324*
<i>Haemophilus influenzae</i> , invasive	15	19	28	34
Hemolytic Uremic Syndrome (HUS)	0	0	0	0
Hepatitis A	4	6	8	7
Hepatitis B	9	11	25	23
Hepatitis C Acute	3	5	5	8
Histoplasmosis	25	16	48	30
Influenza Deaths (all ages)	0	0	1	1
Legionellosis	6	5	14	10
Listeriosis	2	1	2	2
Lyme Disease	2	3	3	8
Measles	0	0	0	0
Meningococcal, invasive	4	4	10	11
Mumps	1	0	1	2
Pertussis	34	54	102	93
Rocky Mountain Spotted Fever	0	0	0	0
Salmonellosis	55	2	107	35
Shigellosis	8	8	28	13

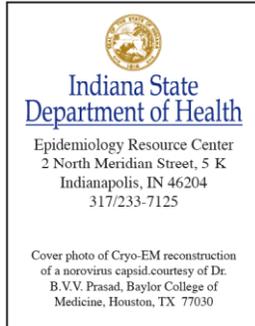
REPORTED CASES

 of selected notifiable diseases

Disease	Cases Reported in March - April MMWR Weeks 9-16		Cases Reported in January –April MMWR Weeks 1-16	
	2009	2010	2009	2010
Severe <i>Staphylococcus aureus</i> in Previously Healthy Person	3	5	8	8
Group A Streptococcus, invasive	60	18	96	44
Group B, Streptococcus, Invasive (All ages)	41	35	92	86
<i>Streptococcus pneumoniae</i> (invasive, all ages)	107	147	194	270
<i>Streptococcus pneumoniae</i> (invasive, drug resistant)	63	2	112	4
<i>Streptococcus pneumoniae</i> (invasive, <5 years of age)	8	13	16	0
Syphilis (Primary and Secondary)	27	23*	55	49*
Tuberculosis	20	16	32	32
Vibriosis	1	0	2	0
Varicella	25	43	53	111
Yersiniosis	2	2	5	3
Animal Rabies	3 (3 Bats)	0	4 (4 Bats)	0

***Note: data is provisional only due to migration to a new reporting system**

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



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

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