Champaign Urbana Public Health District

Champaign County Public Health Department

EPIDEMIOLOGY BULLETIN

Spring 2005

Rabies

Almost always fatal after the onset of symptoms, rabies is a preventable disease found mostly in mammals. It is transmitted to humans through the bite of an infected animal. 90% of the infected animals are wild animals like bats, raccoons and skunks, while domestic animals such as cats, dogs and cattle account for only 10% of the cases. According to the World Health Organization estimates, the annual number of deaths worldwide caused by rabies is between 40,000 to 70,000. In the United States, number of deaths have gone down from 100 or more each year to only about 1 or two deaths in current years.

Rabies has been present throughout recorded history and literature and probably predates the evolution of humanity. It is described in Sanskrit as "rabhas" means " to do violence". Since the 1880's, there have been several significant advances in the diagnosis, treatment, and laboratory study of rabies. Louis Pasteur, a French scientist performed several experiments which showed that the disease was caused by a viral agent, and that this agent multiplied primarily in the tissues of the central nervous system. This lead to the development and testing of the first human rabies vaccine in 1885.

Although rabies deaths are rare in the US, the estimated public health costs associated with the disease detection, prevention and treatment exceeds $300 million annually. These costs include the vaccination of domestic animals, animal control programs, maintenance of rabies laboratories, and medical costs.

Humans usually get rabies from the bite of a rabid animal. It is also possible, though rare, that people may get rabies if infectious material from a rabid animal, such as saliva, gets directly into their eyes, nose, mouth, or a wound. The incubation period(period between bite and appearance of symptoms) ranges from a few days to over two years.

Medical assistance should be obtained as soon as possible after an exposure. One of the most effective methods to decrease the chances for infection involves thorough washing of the wound with soap and water. Specific medical attention for someone exposed to rabies is called postexposure prophylaxis or PEP. In the United States, postexposure prophylaxis consists of a regimen of one dose of immune globulin and five doses of rabies vaccine over a 28-day period. Pre- exposure vaccination is recommended to all those working in high risk occupations involving close contact with animals.

Several tests are necessary to diagnose rabies ante-mortem (before death) in humans; no single test is sufficient. Tests are performed on samples of saliva, serum, spinal fluid, and skin biopsies of hair follicles at the nape of the neck. Saliva can be tested by virus isolation or reverse transcription followed by polymerase chain reaction (RT-PCR). Direct fluorescent antibody test (dFA) is the test most frequently used to diagnose rabies in animals. This test requires brain tissue from animals suspected of being rabid. The test can only be performed post-mortem (after the animal is dead). Within a few hours, a diagnostic laboratory can determine whether or not an animal is rabid and inform the responsible medical personnel.

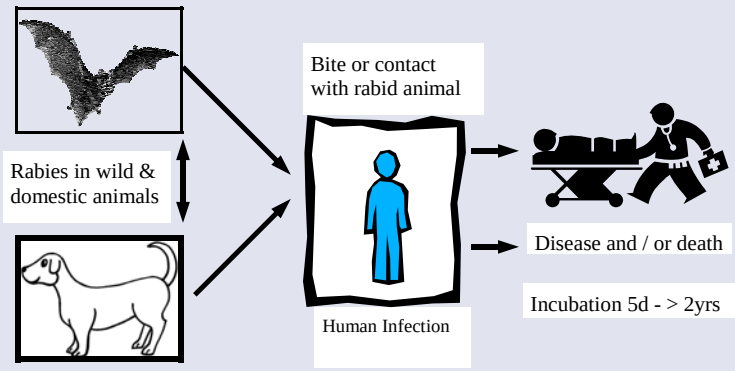
Rabies in Champaign County

In 2004, Champaign County residents had three potential cases of exposure to animal bites that were recommended for post exposure prophylaxis and in the last few months there has been some concerns with positive testing of bats to rabies. Illinois Department of Public Health has a list of recommendations for protection against rabies. These are as follows:

- *Vaccinate pets and valuable livestock or horses after consultation with their animal's veterinarian.*
- *Stay away from wild, unfamiliar or stray animals to avoid bites that may transmit rabies.*
- *Report sightings of skunks, which are acting abnormally, seen during daylight hours, having trouble walking, being aggressive or approaching humans.*
- *Contact your physician and local health department if you or someone in your family is bitten by an animal or exposed to a bat.*

For more information visit www.idph.state.il or www.cdc.gov

Life Cycle of Rabies



The purpose of this Bulletin is to serve as an information outlet for the residents and professional health providers of Champaign County. We welcome any questions or comments. Contact : Awais Vaid, MBBS,MPH, Epidemiologist at (217)-531-2926 or email: avaid@cuphd.org. Visit our website at http://www.cuphd.org

Communicable Disease: Fact Sheet for Champaign County

January– March 2005

Selected Reportable Disease	Champaign County Excluding Champaign Urbana	Champaign County January-March Average (2002-2004)	Champaign Urbana Excluding Champaign County	Champaign Urbana January-March Average (2002-2004)
Enteric E. coli	0	0	0	0
Foodborne illness	5	9	0	7
Pertussis	1	0	4	1
Streptococcal infections	0	2	3	1
Blastomycosis	0	0	0	1
Campylobacteriosis	4	1	3	4
Chickenpox	0	2	1	7
Chlamydia	61	71	216	215
Cryptosporidiosis	0	1	0	0
Active Tuberculosis	0	0	1	2
Giardiasis	0	4	2	3
Gonorrhea	16	23	64	88
Hepatitis B	0	2	0	7
Hepatitis C	0	8	8	11
Histoplasmosis	0	4	0	2
Meningitis, aseptic	0	1	1	1
Salmonellosis	1	1	1	3
Shigellosis	0	0	0	0
Strep Pneumoniae	0	2	5	3
HIV	1	0	5	5
Rabies, potential human exposure	0	0	0	1
Mumps	0	0	1	1

Population : Champaign Urbana: 103,913 & Champaign County: 75,756

Rate Adjusted per 100,000 population

Please report all suspected communicable disease to Rachella Thompson, Communicable Disease Investigator at 217-531-2927 or email rthompson@cuphd.org

Champaign County Community Profile

Total Population: 179,669

Champaign Urbana: 103,913

County (Excluding CU): 75,756

Male: 50.3%

Female: 49.7%

Median Household Income:

Illinois: $46,590

Champaign: $37,780

Median Household value:

Illinois: $130,800

Champaign: $94,700

Unemployment Rate

Unites States: 6.0

Illinois: 6.7

Champaign: 3.3

Ethnicity

White: 78.7%

Hispanic: 2.8%

African American: 11.1%

American Indian or Alaska Native: 0.2%

Asian: 6.4%

Top Five Industries

Retail: 20%

Accommodation & Food Services: 12.3%

Professional, scientific & Technical: 11.9%

Healthcare: 8.6%

Finance & Insurance: 8%

Health & Lifestyle Statistics

Tobacco Use

Current Smokers: 16.6%
Former Smokers: 21.2%
Non-smokers: 62.2%

Alcohol Consumption

At risk for Acute Drinking: 22.5%
Not at risk: 77.5%
At risk for Chronic Drinking: 9.8%
Not at risk 90.2%

Uninsured

Champaign: 11.6%
Illinois: 15%

Overweight

Obese: 18.5%
Overweight: 29.1%
Underweight/ Normal: 52.4%

Leading Cause of Death (2003)

Disease of Heart: 26.5%
Malignant Neoplasm: 17%
Pneumonia: 4.4%
Renal Failure: 4.3%
Cerebrovascular Disease: 3.6%

Infant Mortality Rate

Illinois: 7.2
Champaign: 9.9

Sources : 2004 Champaign County Statistical Abstract; Illinois Dept of Public Health, 2001; U.S. Census Bureau, 2000; CUPHD Vital Stats, 2003

Bioterrorism: Hollywood, Facts, and a little History

By John Dwyer, Emergency Response Planner, CUPHD

Whether it's NBC's *Third Watch, Medical Investigations, ER,* or FX's TV movie *Smallpox,* Hollywood is showing their version of how terrorism may occur and their responses to the incident. Is it true? Should we believe everything we see through the eyes of the media?

Each show brings up some good points, but not everything is factual. Remember they only have a limited time to go through the whole scenario.

In reality, we may not be able to prevent every Bioterrorism attack, but we can mitigate the consequences. Bioterrorism and combating terrorism is not a new concept to us. Even our founding father, George Washington, had a Bioterrorism Strategy. He secretly inoculated troops at Valley Forge to combat smallpox because the virus had proven so deadly, "the British may even have used the virus as a weapon" in the early years of the War for Independence. Inoculation of the troops was one of the most important decisions made in our quest for independence and the birth as a nation. We won then and we are continuing to press forward to victory against those who want to harm us.

Find out the facts yourself!

"CDC's Strategic National Stockpile (SNS) has large quantities of medicine and medical supplies to protect American people in a public health emergency (terrorist attack, flu outbreak, earthquake)." The receipt and distribution of the SNS is one of many responsibilities of the Local Health Department in the event of a terrorist attack.
Check on www.bt.cdc.gov and www.idph.state.il.us/bioterrorism for more information on Bioterrorism and other Emergencies or contact John Dwyer at 217-531-2932 email jdwyer@cuphd.org

Champaign Urbana Public Health District

Champaign County Public Health Department

Serving Champaign County

Mission: To Improve the health of the Champaign County Community