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Rabies in Kentucky – 2004

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The Kentucky Department for Public Health Division of Laboratory Services and the Breathitt Veterinary Center received 1121 animal specimens from Kentucky counties for rabies testing in 2004. There were 64 (5.7%) samples unsuitable for testing because of decomposition or extreme traumatic damage to the brain. There were 23 (2.1%) specimens that tested rabies positive; only 2 (8.7% of positives) cases were domestic animals and the remaining 21 cases were wildlife. (Table 1).

The total of 23 rabies cases is 24.8% lower than the preceding 5-year mean of 30.6 animal rabies cases. There was only 1 positive dog compared to a mean of 3.2 positive dogs/year for the preceding 5 years. The dog was an owned, unvaccinated 8-year-old purebred. There should be no rabid adult dogs in Kentucky since there is a statewide law requiring rabies vaccination of all dogs by 4 months of age. (As of July 13, 2005, all dogs, cats, and ferrets are required to be vaccinated against rabies by 4 months of age.) Rabid domestic animals almost always result in multiple human exposures necessitating expensive postexposure treatment.

The statewide distribution pattern of positive rabies cases shown in Figure 1 may not be completely representative of rabies activity in the state; it may only reflect the distribution of samples submitted for testing. Almost all the samples submitted were due to some form of suspicious interaction between the animal tested and a human or domestic animal, and 88.6% of all submissions involved a bite or other physical contact with a human or other animal. For positive animals, 82.6% involved rabies exposure to a human or other animal. As expected, skunks accounted for the majority of rabies positive animals in Kentucky. Unlike the states east of the Appalachian Mountains, Ohio and Tennessee, Kentucky does not have a raccoon rabies strain epizootic. However, the Centers for Disease Control and Prevention consider Kentucky at risk for the introduction of the raccoon rabies variant from West Virginia or Tennessee. Multiple federal and state agencies are actively engaged in preventing the spread of raccoon rabies westward from states in which it is already epizootic.

Rabies Postexposure Prophylaxis

Beginning June 16, 1997, rabies postexposure prophylaxis (PEP) became a reportable treatment. This surveillance activity was mandated in order to estimate how many patients in Kentucky receive this expensive treatment. Surveillance of PEP allows the Department to follow trends in PEP administration which would reflect any changes in the number of human exposures due to an increase in rabid or suspected rabid animals. This may serve as an early warning of any rabies epizootics. It will also allow the Department to estimate the financial burden of this public health intervention. Both private and public reporters can use the PEP form (EPID 200PEP), which is designed to guide the user through questions that may be useful in determining if PEP is indicated.

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For 2004, 75 PEP were reported as required; 68 reports were from 20 health departments and 7 reports were from 6 hospitals. Unfortunately, there is no easy way to determine the actual number of PEP administered compared to those reported. It is known from Division of Epidemiology and Health Planning phone consultations that not all PEP administrations are properly reported.

For the 75 patients for which PEP was appropriately reported, exposure incidents were due to contact with 33 dogs (44.0%), 14 cats (18.7%), 14 bats (18.7%), 11 raccoons (14.7%), 1 skunk (1.3%), 1 opossum (1.3%) and 1 cow (1.3%). An animal was available for rabies testing for only 5 (6.7%) of the patients receiving PEP: 2 bats, 2 dogs; and 1 cow. Three of these patients suspended completion of PEP once the negative test result was known or the 10-day observation period was complete. Many of the other PEP could have been avoided if an animal had been captured for testing or quarantined for observation. Less than half (42.7%) of PEP patients were covered by private medical insurance. Slightly over half (56.0%) of persons receiving PEP were female, and the age distribution ranged from 2 years to 86 years old with a mean and median age of 32 years.

Failure to follow the mandated protocols of Kentucky Revised Statute 258 can result in unwarranted administration of PEP. K.R.S. 258.065 requires all medical providers, parents of children bitten, or adults bitten that don't require medical care to report animal bites to the **local health department** within 12 hours of the incident or the next working day if the local health department is closed. This provides an opportunity for local health department personnel to either quarantine the animal for observation or have it tested for rabies. If the incident is reported after a lengthy time delay, the chances of recovering the animal for testing or observation are remote. Victims of bites can adversely contribute to the outcome of the event by not capturing the animal or by improperly killing the biting animal. (The brain must remain intact for testing; gunshot to the head or clubbing are not acceptable euthanasia methods.) In most cases requiring PEP (89.3%), the animal was either killed and disposed of without testing, or allowed to escape and not captured for observation or testing

For more information on rabies, PEP, or reporting PEP, you may call the Division of Epidemiology and Health Planning at (502) 564-3418 or toll free at 1-888-9REPORT.

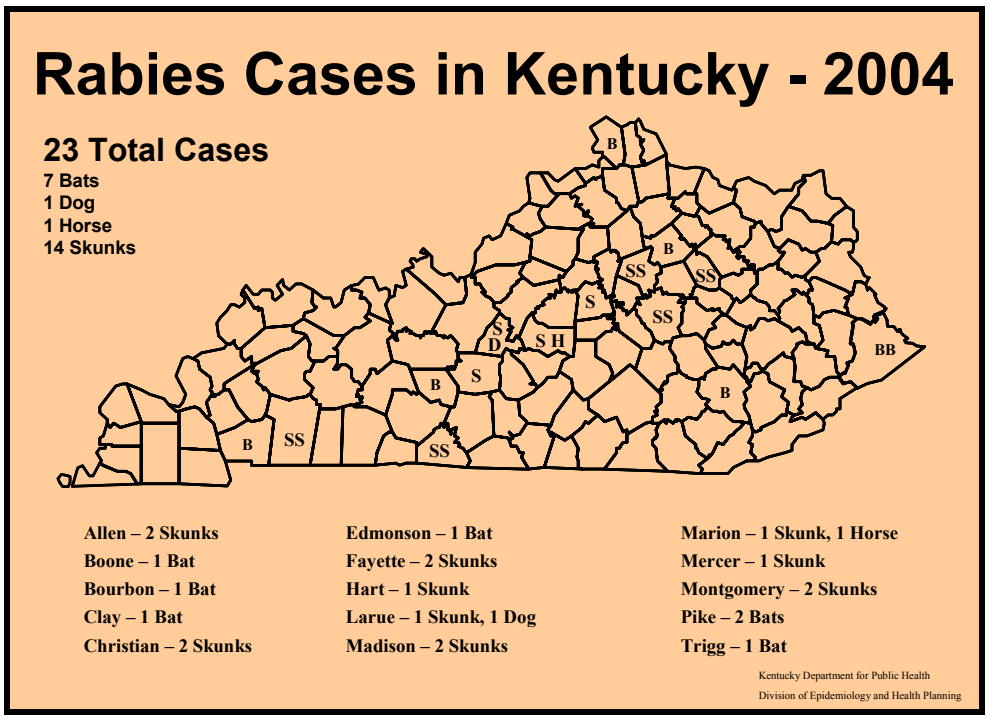
TABLE 1. Animals Submitted for Testing and Number of Positives by Species

Species	Number Received	% of Total	Number Positive	% Positive
Canine (domestic)	323	28.8	1	0.3
Feline (domestic)	340	30.3	0	0.0
Bovine	27	2.4	0	0.0
Equine	39	3.5	1	2.6
Other Domestic	20	1.8	0	0.0
Rodents/Rabbits	82	7.3	0	0.0
Bat	129	11.5	7	5.4
Fox	17	1.5	0	0.0
Raccoon	93	8.3	0	0.0
Skunk	34	3.0	14	41.2
Other Wildlife	17	1.5	0	0
Totals	1121	99.9**	23	2.1

** < 100.0% due to rounding

Continued on Page 3

FIGURE 1. Rabies cases in Kentucky—2004



National Infant Immunization Week, April 24-30, 2005

Jennifer L. O'Brien, MS, Assistant Program Manager & CDC Public Health Advisor, Kentucky

National Infant Immunization Week (NIIW) is being observed by over 500 communities throughout the United States on April 24-30, 2005 as a national effort to educate parents and health care providers on the importance of timely immunizations. Nearly 1 million children in the United States are not adequately immunized, and the importance of timely vaccinations results in increased immunization coverage rates. The Centers for Disease Control and Prevention's (CDC) National Immunization Survey (NIS) reports the state of Kentucky having a coverage level of 81% (+/- 6.6) for children 19-35 months of age for the year 2003. This coverage level includes 4:3:1:3:3 (4- DTaP, 3- Polio, 1- MMR, 3- Hib, 3- HBV). The CDC's NIS reports that the national coverage level for 2003 is 79.4% (+/- 0.9) for children 19-35 months of age. Congratulations Kentucky for exceeding the national immunization coverage rate for 2003!

Tips for change to improve timely vaccinations and ultimately increase immunization coverage rates include:

- Periodic chart review- to recall children who are overdue for vaccines.
- Implement a reminder/recall system- to recall children for overdue vaccinations, and remind parents when to return for additional vaccines.
- Use appointment cards or other written documentation to remind parents or guardians about return visits for subsequent immunizations.

An anonymous person quoted; "If you focus on the result, you will never change. If you focus on change, you will get results." I challenge each of you to increase timely vaccinations in your health care organization in recognition of National Infant Immunization Week.

Questions? Call the Immunization Program at (502) 564-4478.

West Nile Virus Surveillance in Kentucky for 2005

Mike Schardein, MS, Environmental Biologist, KY Department for Public Health

Kentucky is now into its fifth West Nile Virus (WNV) surveillance season. The Kentucky Department for Public Health (KDPH) will continue to work with local health departments (LHDs) and Kentucky Department of Agriculture (KDA) to document sentinel events involving WNV and other arboviruses. Early awareness of viral activity in an area is critical for personal protection and control measures. Surveillance for WNV positive birds, horses and mosquito pools will continue, as well as surveillance for human cases of West Nile Neuroinvasive and West Nile Non-Neuroinvasive Disease. Additional surveillance testing for other arboviruses will also continue.

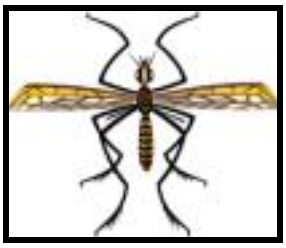
Kentucky is a full participant in the Federal Arbonet Surveillance System of recording arbovirus information. The KDPH encourages hospitals and physicians to submit specimens on patients with suspected arboviral neurological illness to the Division of Laboratory Services. For specific information on specimen submission contact the Virology Section at (502) 564-4446, extension 4484. In addition, LHDs, hospitals, and physicians are encouraged to contact the KDPH at (502) 564-3418 if a patient with suspected arborviral neurological illness is pregnant at time of symptoms, as CDC is partnering a study on the WNV effects on newborns.

Dead bird submission should begin in May. Remember, birds have been proven to be the earliest sentinel species for WNV, especially birds of the corvid family. Birds should be submitted for testing through LHDs, where environmentalists will determine whether a bird should be sent for testing.

Mosquito surveillance will be ongoing in 13 Kentucky counties, with additional surveillance being done by the Tennessee Valley Authority and military personnel at Fort Campbell. Trapping will begin in May and continue until October. Participating counties have trained personnel to speciate the mosquitoes before they submit them to the laboratories for viral testing. All mosquito pools will be tested for multiple arboviruses. Equine testing will again be available to veterinarians through both of Kentucky's animal disease laboratories.

Points to reduce the risk of exposure include:

- Reducing mosquito habitat---clean up and report standing water sources (unmaintained pools).
- Protecting yourself when outdoors, especially during evening hours--- clothing and repellent products (DEET).
- Wearing repellent products. The lack of observable mosquitoes (either individual or bites) does not mean that there is a deceased risk of virus activity.
- Mosquitoes are mobile organisms. Work within your community to remove and control mosquito populations.



Cases of Selected Reportable Diseases, Influenza, and Motor Vehicle Injury Deaths in Kentucky YTD Through DECEMBER for Each Year*

Disease	2004	2003	5-yr Median
AIDS	258	204	258
Chlamydia	6470	7981	8063
Gonorrhea	2758	3578	3578
Syphilis (Primary & Secondary)	47	33	49
Group A Streptococcus	61	45	39
Meningococcal Infections	18	20	20
Haemophilus influenzae, invasive	16	6	10
Hepatitis A	31	32	46
Hepatitis B	82	76	76
E.coli O157H7	31	29	33
Salmonella	362	400	400
Shigella	75	132	210
Tuberculosis	127	138	146
Animal Rabies	23	39	28
Motor Vehicle Injury Deaths	957	920	901

Vaccine Preventable	2004 YTD	Total in 2003
Diphtheria	0	0
Measles	0	0
Mumps	0	0
Pertussis	98	53
Polio	0	0
Rubella	0	0
Streptococcus pneumoniae	31	31
Tetanus	2	0

Vector-Borne	2004 YTD	Total in 2003
Rocky Mountain Spotted Fever	3	3
Lyme Disease	15	17
Ehrlichiosis	2	5
Tularemia	5	2
Arboviral Encephalitis	1	14
Malaria	5	11

INFLUENZA STATISTICS FOR CONFIRMED ISOLATES
Influenza Season = Oct-May

TYPE	2004-2005 THRU FEBRUARY	2003-2004 TOTAL
A	286	563
B	36	1
Unknown	0	1
TOTAL	**322**	565

INFLUENZA STATISTICS FOR PROBABLE CASES
Influenza Season = Oct-May

TYPE	2004-2005 THRU FEBRUARY	2003-2004 TOTAL
Rapid Antigen Tests	**1751**	**2904**

*NOTE: Numbers for the disease table (with the exception of AIDS, STD, and TB) are not year-end totals. They are the totals through December for each year.

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