



Epidemiologic Notes & Reports

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Rabies in Kentucky — 2003

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The Kentucky Department for Public Health Division of Laboratory Services and the Breathitt Veterinary Center received 1217 animal specimens from Kentucky counties for rabies testing in 2003. There were 52 (4.3%) samples unsuitable for testing because of decomposition or extreme traumatic damage to the brain. There were 39 (3.2%) specimens that tested rabies positive; only 7 (17.9% of positives) cases were domestic animals and the remaining 32 cases were wildlife (Table 1).

The total of 39 rabies cases is 34% higher than the preceding 5-year mean of 29.1 animal rabies cases. There were 5 positive dogs compared to a mean of 2 positive dogs/year for the preceding 5 years and 1 positive cat compared to a mean of <1 positive cat/year in the preceding 5 years. Two of the dogs were owned, unvaccinated adults and 3 were pups less than 12 weeks. 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. The puppy cases could have been prevented if they had been raised in a protected environment. The cat was an unvaccinated adult that died during quarantine after biting a person. 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 (page 5) 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 88.5% of all submissions involved a bite or other physical contact with a human or other animal. For positive animals, 69.2% 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, Kentucky does not have a raccoon rabies strain epizootic. The laboratories tested 128 raccoons in 2003, and only 1 was positive. This animal was not strain typed, but came from the far western part of the state and the rabies infection is most likely to be skunk or bat strain. However, the Centers for Disease Control and Prevention consider Kentucky at risk for the introduction of the raccoon rabies variant from West Virginia. 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

Table 1 Animals Submitted for Testing and Number of Positives by Species

Species	Number Received	% of Total	Number Positive	% Positive
Canine (domestic)	330	27.1	5	0.6
Feline (domestic)	343	28.2	1	0.6
Bovine	53	4.4	1	2.0
Equine	41	3.4	0	0.0
Other Domestic	25	2.1	0	3.6
Rodents/Rabbits	78	6.4	0	0.0
Bat	122	10.0	7	4.0
Fox	32	2.6	4	12.5
Skunk	47	3.9	20	39.5
Other Wildlife	146	12.0	1*	0.7
Totals	1217	100.1**	39	2.1

* 1 Raccoon (128 tested); ** > 100.0% due to rounding

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early warning of any rabies epizootics. It also allows 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.

For 2003, 80 PEP were reported as required. 50 reports were from 16 health departments, 28 reports were from 13 hospitals, 2 reports were from 1 physician's office. 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 80 patients for which PEP was appropriately reported, exposure incidents were due to contact with dogs (37), cats (16), bats (14), raccoons (9), skunk (1), opossum (1), bobcat (1), and unknown (1). An animal was available for rabies testing in only 17 (21.3%) of the exposures requiring PEP, and 15 of these PEP were due to 2 rabid dogs. Slightly over half (53.8%) of persons receiving PEP were male and the age distribution ranged from less than 1 year to 83 years old with a median age of 26 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. 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 methods.) In most cases requiring PEP (78.8%) 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 or reporting PEP, you may call the Division of Epidemiology and Health Planning at (502)564-3418 or toll free at (888)9REPORT.

Amended PCV7 Prevnar[®] Recommendations Suspension of Third and Fourth Doses

On February 13, 2004, the Centers for Disease Control and Prevention (CDC) recommended that health care providers temporarily suspend routine use of the fourth dose of 7-valent pneumococcal conjugate vaccine (PCV7, marketed as Prevnar[®] by Wyeth Vaccines) when vaccinating healthy children. Since that recommendation (published in the previous issue of EpiNotes), PCV7 production has been much less than expected because of continuing problems with the PCV7 vial-filling production line. Shipments have been delayed, resulting in spot shortages that might continue beyond summer 2004 and become widespread.

Effective immediately, to further conserve vaccine, CDC recommends that all health care providers **temporarily suspend routine administration of both the third and fourth doses to healthy children. For those children not at increased risk, the new recommendation is for the temporary suspension of the third dose given at 6 months of age and a fourth (booster) dose given at 12 to 15 months of age**, regardless of the amount of PCV7 vaccine in providers inventories. Health care providers should move to a two-dose series of one dose at two months and one dose at four months.

Providers should continue to administer the third and fourth doses to children at increased risk of severe disease. Children at high risk for pneumococcal infection are those who have sickle cell disease or asplenia; HIV or other immunocompromising conditions; or chronic illness that would increase their risk of pneumococcal infection (see chart at bottom of column).

Providers should maintain lists of children who have had PCV7 deferred so that they can recall and vaccinate when supplies of PCV7 are adequate, unless they have reached their second birthday during the interim. **This recommendation reflects CDC's assessment of the existing national PCV7 supply and may be changed if the supply changes.** Updated information about vaccine supplies is available from CDC at <http://www.cdc.gov/nip/news/shortages>. The CDC recommendations appear as a Notice to Readers in the March 5, 2004, *Morbidity and Mortality Weekly Report*.

Amended Temporary Recommendation for Use of PCV7, Prevnar [®]				
RISK OF CHILD	2 MONTHS	4 MONTHS	6 MONTHS	12-15 MONTHS
Not increased	Provide	Provide	Defer	Defer
Increased	Provide	Provide	Provide	Provide

A Community Approach to Mosquito Control
Connie Willis, R.S., Mosquito Control Program Coordinator, Louisville Metro Health Department

In 2003, the Louisville Metro Health Department's Mosquito Control Program, coordinated a multi-agency effort to reduce the area's mosquito population. This expanded approach not only included eight departments within the newly merged government but also included community partnerships. The following is a list of organizations that worked towards reducing the mosquito population in Louisville by eliminating standing water on their property or service area, treating breeding sites, issuing orders for correction, and/or helping to educate the public.

Animal Services
Facilities Management
Health Department
Inspections, Licenses & Permits (IPL)
Jefferson County Public Schools (JCPS)
Louisville Zoo
Louisville Water Company
Metro Parks
Metropolitan Sewer District (MSD)
Public Works
Solid Waste Management and Services (SWMS)

Many of these agencies either own or are responsible for large parcels of property; areas the Health Department had historically treated for the control of mosquitoes. By training them on proper application of mosquito larvacides, Health Department staff were able to concentrate on other areas. Employees from MSD, IPL, Facilities Management, SWMS, Public Works and Louisville Water Company became State certified pesticide applicators. Several agencies (including Metro Parks, JCPS, and the Louisville Zoo) having staff previously certified to apply pesticides, began mosquito larvae treatment activities. There are currently over 227 Louisville Metro employees certified by the KY Department of Agriculture to apply pesticides.

In addition to applying larvacides the Health Department increased adulticide operations, spraying pesticides in the evening to reduce the adult mosquito population. A total of 267 gallons of pesticide was sprayed during 193 hours covering 560 street miles of the Louisville Metro area. Adulticide treated areas were chosen based on surveillance done in the area prior to adulticiding activities. This consists of overnight light trap collections of 100+ mosquitoes, gravid trap collections 50+ mosquitoes, substantial number of mosquitoes swarming and landing on humans per minute (observed by program staff), the number of complaints and the pres-

ence of vector borne disease in the area (mosquito, human, and horse surveillance).

Mosquito Control service requests were integrated into the government "Metro Call/MIDAS" system to better coordinate our efforts with the other agencies. Notebook computers were utilized to access the MIDAS system and ArcView® / LOJIC™ maps by field staff to more efficiently respond to requests. This also helped address mosquito control as a community, everyone doing their part, including homeowners. A record number of 3775 mosquito related service requests were received, 2128 taken by Metro Call and an additional 1647 requests received by the Health Department.

New educational material was created and distributed in person, by mail, Internet and at local home, garden and hardware stores. The new pamphlets included information for the homeowner on how to properly eliminate standing water on their property and how to properly treat mosquito-breeding sites. These pamphlets also described the various types of larvacides available to the homeowner and where to purchase them. Health Department staff regularly attended and presented programs at public meetings and events such as, Earth Day at the Louisville Zoo, lawn and garden shows, neighborhood association meetings, Metro Council meetings, and KY State Fair exhibit area. Various agencies assisted the Health Department with distributing this educational material to residents.

West Nile virus (WNV) activity in Metro Louisville was significantly lower for 2003 compared to 2002 (Table 1).

Table 1 WNV Activity in Jefferson County, KY

WNV Positives	2003	2002	2001
Humans	0	28*	0
Horses	3	10	0
Birds	5	63	28
Mosquito Pools	1	19	1

*There were 2 deaths related to West Nile virus in 2002.

**Cases of Selected Reportable Diseases and Motor Vehicle Injury Deaths In Kentucky
YTD Through February for Each Year**

Disease	2004	2003	5 yr Median
AIDS	44	25	36
Chlamydia	911	1530	1449
Gonorrhea	414	649	608
Syphilis (Prim. & Sec)	10	12	9
Group A Streptococcus	19	5	5
Meningococcal Infections	2	0	3
<i>Haemophilus influenzae</i> , invasive	0	2	1
Hepatitis A	1	5	5
Hepatitis B	5	7	7
E.coli O157H7	1	1	1
Salmonella	23	41	29
Shigella	7	22	22
Tuberculosis	5	13	11
Animal Rabies	2	3	2
Motor Vehicle Injury Deaths	96	100	101

Vaccine Preventable	2004 YTD	Total in 2003
Diphtheria	0	0
Measles	0	0
Mumps	0	0
Pertussis	1	53
Polio	0	0
Rubella	0	0
<i>Streptococcus pneumoniae</i>	6	27
Tetanus	0	0

Influenza Surveillance = October –May		
Influenza Activity	2003-04 Season	2002-03 Season
Viral Isolates	571	242
Type A	570	38
Type B	1	204
Positive Rapid Antigen	2900	Results NA

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Mosquito Surveillance for Arboviruses in Kentucky

They are container breeders and opportunistic day biters. Vector competency of this non-native species has yet to be determined for West Nile virus or other arboviruses, but it's existence in the state and evident spreading warrants further investigation.

KDPH, in cooperation with several health departments across the state, will continue to do mosquito surveillance in 2004.

For more information:

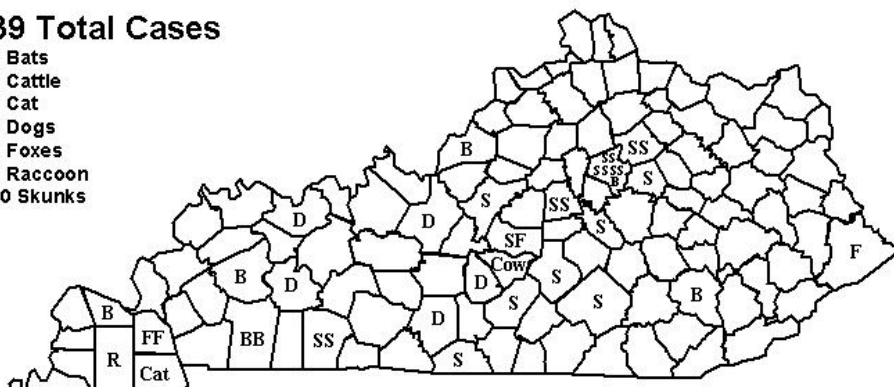
http://chs.ky.gov/publichealth/west_nile_virus.htm

Figure 1

Rabies Cases in Kentucky - 2003

39 Total Cases

- 7 Bats
- 1 Cattle
- 1 Cat
- 5 Dogs
- 4 Foxes
- 1 Raccoon
- 20 Skunks



- Adair – 1 Skunk
- Barren – 1 Dog
- Bourbon – 2 Skunks
- Calloway – 1 Cat
- Casey – 1 Skunk
- Christian – 2 Bats
- Clay – 1 Bat
- Clark – 1 Skunk
- Daviess – 1 Dog

- Fayette – 1 Bat, 6 Skunks
- Garrard – 1 Skunk
- Graves – 1 Raccoon
- Green – 1 Dog
- Hardin – 1 Dog
- Hopkins – 1 Bat
- Jefferson – 1 Bat
- Logan – 2 Skunks
- Marion – 1 Skunk, 1 Fox

- Marshall – 2 Foxes
- Nelson – 1 Skunk
- Mercer – 2 Skunks
- McCracken – 1 Bat
- Monroe – 1 Skunk
- Muhlenberg – 1 Dog
- Pike – Fox
- Pulaski – 1 Skunk
- Taylor – 1 Cow

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Division of Epidemiology and Health Planning

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RETURN SERVICE REQUESTED

Farewell to Dr. Steven J. Englender

The Division of Epidemiology and Health Planning is once again saying good-bye to a talented State Epidemiologist. Dr. Englender arrived in September 2001, just in time to lead our Division through the many trials and challenges of bioterrorism, and the new opportunities for expansion and growth in Public Health infrastructure. We will miss his expertise in the many facets of epidemiology and public health and his support through the renovation process of the Health Services Building.

Beginning on April 1, 2004, he will serve as the Director of Epidemiology and Public Health Preparedness for the City of Cincinnati Health Department, allowing him to be closer to his home and family in Cincinnati.

A reception in his honor was held on March 22, 2004 in the Board Room at the Kentucky Department for Public Health.

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State Epidemiologist-open position 502-564-7243	Communicable Disease Immunization Program STD Program TB Program	502-564-3261 502-564-4478 5 02-564-4804 502-564-4276	AIDS Information HIV/AIDS Reporting (Toll Free) HIV/AIDS Branch	1-800-420-7431 1-866-510-0008 502-564-6539
State Public Health Veterinarian— Michael Auslander, DVM, MSPH 502-564-3418	Division of Epidemiology/Health Planning 502-564-3418; 24HR/7Day Emergency—1-888-973-7678			