



## Epidemiologic Notes & Reports

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### Rabies in Kentucky—2002

Michael Auslander, DVM, MSPH

The Kentucky Department for Public Health's Division of Laboratory Services and the Breathitt Veterinary Center received 1,359 animal specimens for rabies testing in 2002. There were 61 (4.5%) samples unsuitable for testing because of decomposition or extreme traumatic damage to the brain. There were 28 (2.1%) specimens that tested rabies positive; only 6 (21.4% of positives) cases were domestic animals and the remaining 22 cases were wildlife. (Table 1.)

Table 1.

Animals Submitted for Testing and Number of Positives by Species				
Species	Number Received	% of Total	Number Positive	% Positive
Canine (domestic)	356	26.2	2	0.6
Feline (domestic)	362	26.6	2	0.6
Bovine	50	3.7	1	2.0
Equine	121	8.9	0	0.0
Other Domestic	28	2.1	1*	3.6
Rodents/Rabbits	84	6.3	0	0.0
Bat	125	9.2	5	4.0
Skunk	43	3.2	17	39.5
Other Wildlife	190	14.0	0	0.0
TOTALS	1,359	100.2**	28	2.1

\*Goat imported from Texas

\*\* > 100.0% due to rounding

The total of 28 rabies cases is slightly lower than the preceding five-year mean of 29.4 animal rabies cases. There were two positive dogs compared to a mean of two positive dogs for the preceding five years and two positive cats compared to only one positive cat in the preceding five years. Both of the dogs were owned and unvaccinated adults. There should be no rabid dogs in Kentucky since there is a statewide law requiring rabies vaccination of all dogs. One positive adult cat was owned and unvaccinated and the other positive cat was a kitten in a litter that was abandoned in a public location. Domestic animals almost always result in multiple human exposures, necessitating expensive postexposure

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treatment. In the case of the found kitten, it was taken to "show and tell" at an elementary school and 79 children and adults received postexposure treatment.

The statewide distribution pattern of positive rabies cases shown in Figure 1 (back page) 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. 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 134 raccoons in 2002, and all were negative.

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.

### Reporting of 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

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## Rabies in Kentucky—2002

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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 also will 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.

For 2002, 161 PEP were reported on the required EPID 200 form, of which 79 (49%) were related to exposure from one rabid kitten. Sixty reports were from 13 health departments, 55 reports were from 11 hospitals, 43 reports were from four physicians' offices, one report was from a prison, and two reports were from unidentified senders (incomplete reporting form information). 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.

### 36 Patients: True Exposure Risk

For the 161 patients for which PEP was appropriately reported, 91 (56.5%) of the patients, including 79 patients exposed to the rabid kitten, claimed some form of physical contact with an animal that tested positive for rabies. However, only 36 (22.4%) patients claimed contact that would constitute a true exposure risk—a bite or lick exposure. Additionally, two people inappropriately received PEP as a result of a squirrel bite; there is no evidence that squirrels are a risk for human rabies in Kentucky. Slightly over half (54.7%) of persons receiving PEP were male and the age distribution ranged from less than one year to 97 years, with a median age of 19 years. Of the 79 persons receiving PEP as a result of exposure to the rabid kitten, the median age was 11 and nearly three quarters (73.4%) of the PEP were for children 17 years or younger.

Rabies PEP should not be administered without careful consideration of the exposure because it is expensive (\$1,000- \$6,000/patient), time consuming for the patient and provider, unpleasant, and not totally without adverse reactions. Additionally, since human rabies immune globulin is in short supply with occasional periods of unavailability, it should be reserved for those patients

for whom there is a true indication for administration. Failure to follow the mandated protocols of Kentucky Revised Statute 258 can result in unwarranted administration of PEP. The statute, K.R.S. 258.065, requires all medical providers, parents of children bitten, or adults bitten who 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.

### Testing Biting Animals

Victims of bites can adversely contribute to the outcome of the event by not capturing the biting animal or by improperly killing it. (The brain must remain intact for testing; gunshot to the head or clubbing are not acceptable methods.) In most cases the animal is either killed and disposed of before testing is available, or allowed to escape and not captured for observation or testing. Domestic animals can be quarantined and observed for signs of rabies; 133 (82.6%) of the 161 PEP incidents involved domestic animals. Excluding the incident involving a rabid kitten in which 79 people received PEP, in only 10 (18.5%) of the other 54 reported PEP incidents involving domestic animals was an animal available for observation or testing (one dog, one cat, one cow). Only one (3.6%) wild animal, a skunk, was captured and tested out of the 28 wildlife species PEP incidents.

The incident in which 79 people received PEP as the result of contact with a rabid kitten in an abandoned litter is a result of irresponsible pet ownership and a lack of understanding the principles of rabies and animal control. Pets should be sterilized to prevent the birth of unwanted offspring. Unwanted animals should be placed with appropriate animal control or humane agencies and not merely abandoned or allowed to run free. Animals should not be allowed in schools unless there is a legitimate assistance, scientific, or educational purpose. Anyone adopting a stray animal should have it examined by a veterinarian immediately and vaccinated appropriately.

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.

## School and Day Care Immunization Requirements Changed

Victor M. Negron, Manager, Kentucky Immunization Program

The Kentucky Department for Public Health recently revised the immunization requirements for children who attend day care centers, certified family child care homes, other licensed facilities which care for children, pre-school programs, and public and private schools (902 KAR 2:060). Revisions were made primarily to correct discrepancies between Kentucky's school requirements and recent recommendations of the CDC's Advisory Committee on Immunization Practices (ACIP). Following are some of the significant changes and highlights:

- The revisions became effective on December 18, 2002. However, the requirements are not retroactive, i.e., children who received school physicals and immunizations prior to the effective date for the 2002-2003 school year do not have to be recalled to comply with the new requirements.
- A dose of Hep B is now required for children who are at least three and less than five months of age.
- Two doses of Hep B are now required for children who are at least five months and less than 12 months of age.
- Three doses of Hep B are now required for all children who are at least 12 months. (See exception below.)
- Adolescents 11-15 years of age now have the option of receiving an alternative two dose hepatitis B series (two 10mcg doses, separated by 4-6 months, completed by age 16). The only vaccine currently licensed for the alternative two dose series for adolescents is RecombivaxHB manufactured by Merck Vaccine Division.
- By the time a child is seven years of age, he or she should have received five doses of DTP or DTaP or a combination of the two vaccines and four doses of OPV or IV or combinations of the two vaccines. If the fourth dose of DTP/DTaP was given on or after the child's fourth birthday, the fifth dose is not required. If the third dose of OPV/IPV was given on or after the child's fourth birthday, the fourth dose is not required.
- If a child is 11-12 years of age and if it has been at least five years since the child received the last dose of DTaP, DTP, or DT, then a booster dose of Td should be administered. However, in the

event a child received this booster dose of Td at less than 11-12 years of age, but at least five years have elapsed since the last dose of DTaP, DTP, or DT, the dose is considered valid and will not have to be repeated at 11-12 years of age. Subsequent booster doses of Td should be administered every 10 years thereafter.

- The "written sworn statement" for a religious exemption to the immunization requirements does not have to be notarized.

- Provisional immunization certificates should expire 14 days after the date the next dose is required, and should not be issued for longer than one year.

- Vaccination date should include month, day, and year. If a child presents with a certificate for a past immunization that does not include the full date (month, day, year) the vaccine was given, common sense would have to prevail to determine if the doses were valid. For example, if a child born on 1/7/03 received his or her first dose of DTaP on 3/9/03, the second dose of DTaP on 5/03, and the third dose of DTaP on 6/13/03, the second dose would be valid because more than four weeks had elapsed since the first dose. But, one could not be certain that four weeks had elapsed between the second dose and the third dose. Therefore, the third dose would have to be repeated at the appropriate interval.

- A physician may designate any staff member to sign the immunization certificates.

- Most computer-generated certificates are on white paper. For the last several years, the official certificates provided by the state immunization program have been color-coded for the convenience of private providers. However, in order to decrease printing costs, all certificates printed at the state office will now be on white paper.

- According to the MMWR 2/8/02/Vol.51/No.RR-2, page 4, "ACIP recommends that vaccine doses administered  $\leq$  four days before the minimum interval or age be counted as valid." An exception to this rule is when administering two live vaccines not given on the same clinic day, e.g., MMR and varicella not given on the same clinic day must be separated by at



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## Kentucky Studies Feasibility of Population-Based Immunization Registry

Victor M. Negron, Manager, Kentucky Immunization Program

The Kentucky Department for Public Health, in collaboration with the Kentucky Pediatrics Society, the Kentucky Academy of Family Physicians, and the Kentucky Medical Association, is working to improve immunization coverage levels of the Commonwealth's children. The development of a population-based immunization registry is a key tool for increasing and sustaining high vaccination coverage. Immunization registries are confidential, computerized systems for maintaining information regarding children's vaccinations. A population-based immunization registry can provide practitioners easy access to immunizations patients have received from other providers; can print a computer-generated copy of a patient's immunization records without having to copy them each time documentation is needed for child care, school, or camp; and can create computer-generated lists of children due or past due for immunizations—information that's helpful for patient reminders.

"Times have changed and so have the immunizations. In order to determine which shot is due next for a child, one must consider the age, date of last immunization, and shot type (three dose, combination, etc.). And that is for a child who has kept up-to-date. If a child falls behind schedule, that is, has a lapse in the regular schedule, a provider must consider many factors in determining the number and timing of the next doses."<sup>1</sup>

An immunization registry can help sort all that information out and provide recommendations on vaccinations that should be given. One of the national health objectives for 2010 is to increase to 95% the proportion of children less than six years of age who participate in a fully operational, population-based registry.

To help determine Kentucky's need and capabilities for implementing a population-based immunization registry, the Centers for Disease Control and Prevention (CDC), on behalf of the Kentucky Department for Public Health, has contracted with a public health systems consulting firm (HLN Consulting) to conduct an immunization registry feasibility study and needs assessment. This study, which is scheduled to be completed by August 31, 2003, will take an exhaustive look at Kentucky's existing health care system as it relates to providing immunizations in hospitals and in public and private medical practices.

As part of the study, most family practitioners and pediatricians in Kentucky are being asked to participate in a short survey to identify interest in a population-based registry. The survey also will assess practice involvement with computer hardware, software and web-based technology, and identify concerns about patient participation and privacy.

In addition to the survey, a statewide advisory group is being formed to obtain input and support from local and statewide stakeholders. Persons interested in participating on the advisory panel are encouraged to contact the Kentucky Immunization Program.

Questions concerning the registry study, the survey, or the advisory group should be directed to the Kentucky Department for Public Health, Division of Epidemiology and Health Planning, Immunization Program, 275 East Main Street, Frankfort, Kentucky 40621. Phone (502) 564-4478. E-mail Gary.Bevill@mail.state.ky.us or VictorM.Negron@mail.state.ky.us.

1. Snapshots, Special Edition, from the American Immunization Registry Association.

## Immunization Requirements Changed

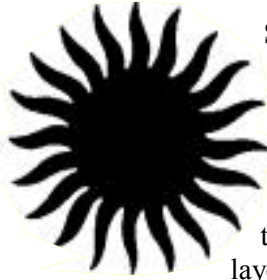
*(Continued from Page 3)*

least 28 days and the four-day grace period does not apply. Since this should be the exception and not the rule, Kentucky chose not to specifically identify a four-day leeway in the school/day care requirements. Instead, the Kentucky school/day care requirements specify that in order for a vaccine dose to be valid, it must be administered no sooner than at the minimum age and at the minimum interval between doses, as recommended by the ACIP. This may, in some instances, include a dose that was administered four days early.

Questions concerning immunization requirements should be directed to the Kentucky Department for Public Health, Division of Epidemiology and Health Planning, Immunization Program, 275 East Main Street, Frankfort, Kentucky 40621. Phone (502) 564-4478. 902 KAR 2:060 may be accessed at <http://www.lrc.state.ky.us/kar/902/002/060.htm>.

## Skin Cancer: Growing Problem in United States

Mickey Jo Smith, RN, NCI, Division of Adult & Child Health



Skin cancer is the most common form of cancer in the United States. The American Academy of Dermatology (AAD) points to three main factors for the growing prevalence of the disease: the thinning of the atmosphere's ozone layer, allowing for more damaging ultraviolet radiation; the population's increased time engaged in outdoor activity; and wider use of tanning beds and lamps. The greatest overall factor may be Americans' continuous search for the perfect tan.

According to the AAD, there is no safe way to get a suntan. A suntan is the skin's reaction to sun damage. The skin attempts to protect itself by creating a darker pigment to fight off ultraviolet rays.

It is estimated that 1.3 million Americans will develop some form of skin cancer each year. The American Cancer Society (ACS), reports there were an estimated 9,600 deaths last year from skin cancer—7,700 from melanoma and 1,900 from all other skin cancers

Melanoma, the deadliest skin cancer, is increasing at frightening rates. The rates are growing faster than those for any other type of cancer. The ACS estimates there will be 54,200 cases of melanoma in 2003 and that 1,000 of these will occur in Kentucky.

Melanoma strikes people of all ages, all races, all economic levels, and both sexes. It is the most common cancer for women ages 25-29 and the second most common cancer for women ages 30-34. Although it is rare in young children, melanoma occurs in every age group after puberty and is the most common cancer in young adults between the ages of 25 and 29. Overall melanoma is the sixth most common cancer in males and seventh most common in females. An American's lifetime risk of developing melanoma is about one in 75.

The incidence has more than doubled in less than 30 years, rising from about six new cases per 100,000 population annually in 1973 to roughly 14 new cases per 100,000 today. Incidence is currently increasing at an epidemic rate of more than 4% annually, higher than any other cancer. Most new melanoma patients have no family history of the disease.

### Prevention

While sunburn doesn't automatically mean skin cancer, it has been confirmed that sunlight can trigger melanoma. Repeated sunburns, especially in youth, increase the risk. Before the age of 18 years, 80% of a person's lifetime sun damage has already occurred

Since early detection of melanoma is an important part of prevention, regular skin screening is essential. All moles or skin markings should be examined for changes in number, size, shape, and color. Everyday protection is afforded by wearing wide-brimmed hats, long-sleeved shirts, and sunscreen with an SPF of 15 or higher, particularly between 10 a.m. and 3 p.m.— even in winter.

### Skin Types

There are six general categories of skin types, based on how skin reacts to sun exposure. The following chart\* lists those categories.

Chart 1

Skin Type	Sun History	Example
<b>I</b>	Always burns easily, never tans. Extremely sensitive skin.	Red-headed, freckles, (Irish, Scots, Welsh).
<b>II</b>	Always burns easily, tans minimally, very sensitive skin.	Fair-skinned, fair-haired, blue-eyed Caucasians.
<b>III</b>	Sometimes burns, tans gradually to light brown, minimally sensitive skin.	Mediterranean-type Caucasians.
<b>IV</b>	Burns minimally, always tans to moderate brown, minimally sensitive skin.	Mediterranean-type Caucasians.
<b>V</b>	Rarely burns, tans well, sun insensitive skin.	Middle Eastern, some Hispanics, some African-Americans.
<b>VI</b>	Never burns, deeply pigmented, sun insensitive skin.	African-Americans.

\*Source: American Academy of Dermatology



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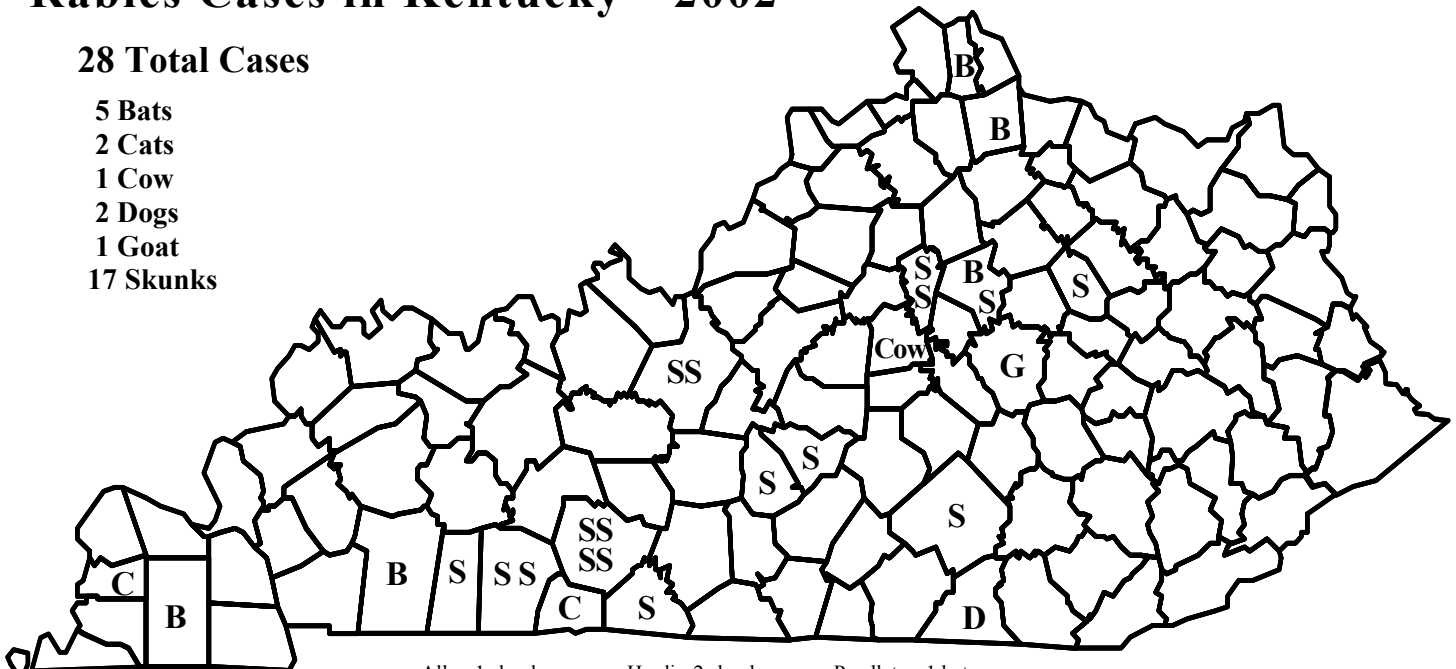
**Rice C. Leach, MD,**  
 Commissioner, Department for Public Health  
**Steven J. Englander, MD, MPH,**  
 State Epidemiologist and Director,  
 Division of Epidemiology and Health Planning  
**Molly M. Cone, Editor**

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## Rabies Cases in Kentucky—2002

### 28 Total Cases

- 5 Bats
- 2 Cats
- 1 Cow
- 2 Dogs
- 1 Goat
- 17 Skunks



Allen-1 skunk	Hardin-2 skunks	Pendleton-1 bat
Bourbon-1 dog	Kenton-1 bat	Pulaski-1 skunk
Carlisle-1 cat	Logan-2 skunks	Simpson-1 cat (kitten)
Christian-1 bat	Madison-1 goat	Taylor-1 skunk
Fayette-1 bat, 1 skunk	McCreary-1 dog	Todd-1 skunk
Graves-1 bat	Mercer-1 cow	Warren-4 skunks
Green-1 skunk	Montgomery-1 skunk	Woodford-2 skunks