

ANIMAL AND HUMAN HEALTH PREVENTION OPPORTUNITIES

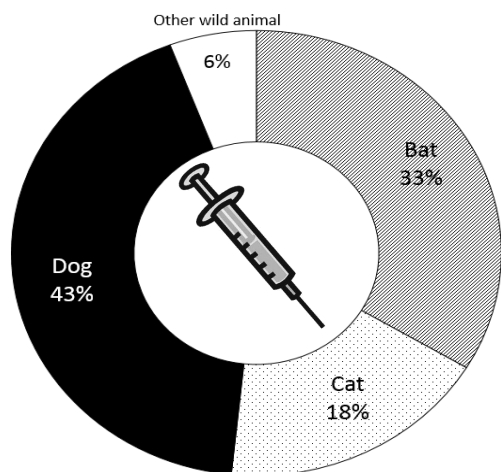
Rabies in Montana — Infection Can Be Just a Bite Away

Rabies is a zoonotic disease of significant public health concern. All mammals are susceptible to rabies infection. In Montana, rabies is enzootic among bats and skunks east of the Continental Divide, and bats west of the Divide. Domestic animals are at-risk of acquiring rabies through contact with wildlife. Human exposure to animals infected with rabies is a serious public health risk. In 1996 and 1997, two persons died of rabies in Montana after exposure to bats. To minimize the potential for human exposure to rabies, the Centers for Disease Control and Prevention (CDC) recommends all domestic dogs, cats, and ferrets receive rabies vaccinations. Through effective rabies vaccination programs in the United States, the number of rabies-infected dogs has decreased from nearly 7000 in 1941 to 69 in 2010. Over the past ten years, an average of 470 animals have been tested for rabies annually in Montana, and about 4% of them are found to be positive. Most of these are bats and skunks and few dogs or cats (Table 1).

Persons exposed to animals not known to be protected against rabies have the potential for acquiring rabies, but are also associated with substantial public health costs, including activities related to animal control, public health investigation, laboratory testing, and administration of costly rabies post-exposure prophylaxis (rPEP) (avg. cost were \$4653 based on MT Medicaid data from 2010-2014). In 2014, there were 122 persons to whom PEP was administered, most of the bites (57%) occurred between June and August. Dog bites were the most common reason for administering PEP, followed by bat exposure (Figure 1).

In this issue of *Montana One Health*, we describe the importance of animal rabies control and describe ways to minimize the potential for human rabies.

Figure 1. Animal exposure by species for PEP recommendations, Montana, 2014



Animal Health

All dogs, cats, and ferrets should be vaccinated against rabies and re-vaccinated at appropriate intervals per the Compendium of Animals Rabies Prevention and Control (<http://www.nasphv.org/DocumentsRabiesCompendium.pdf>). Despite this recommendation, no state law requiring rabies vaccination exists and in 2013 only 20 (36%) Montana counties were known to require vaccination for dogs and only 16 (29%) for cats. Among counties with rabies vaccination ordinances, enforcement varies widely.

Since June 2013, of the 185 reported human exposures to animals bites, only 54 (29%) were attributed to pets and 25 (14%) to strays. Most of the exposures were due to wild animals (40%) or unknown status (17%). This highlights the importance of removing strays and unwanted animals, as well as education about safe behavior around domestic and wild animals.

During 2013–2014, 52 cases of animal rabies have been reported in Montana. Suspected cases of animal rabies should be reported immediately to the Montana Department of Livestock (DOL) at (406) 444-2043 (Administrative Rules of Montana [ARM] 32.3.1201). Animals suspected of having rabies, including domestic animals or wildlife associated with human exposures, should be tested for rabies. Animals should be euthanized in a way that prevents damage to the brain, and submitted to the Montana Veterinary Diagnostic Laboratory for rabies testing. Testing is typically performed using the direct fluorescent antibody (DFA) test. DOL will coordinate appropriate specimen collection, shipment, and prompt reporting of results to the treating veterinarian, public health officials, and healthcare providers, as applicable.

Table 1. Animals tested and found positive for rabies, Montana, 2005-2014

	2013		2014		10-YR TOTAL	
	Tested	Positive	Tested	Positive	Tested	Positive
Cats	94	1	95	0	1225	2
Dogs	108	2	111	0	1239	6
Bats	176	20	116	11	1250	125
Skunks	32	13	16	5	219	64
Other*	73	0	65	0	773	7
TOTAL	410	36	338	16	4706	204

* Includes livestock, other wildlife and other pets not listed above

Human Health

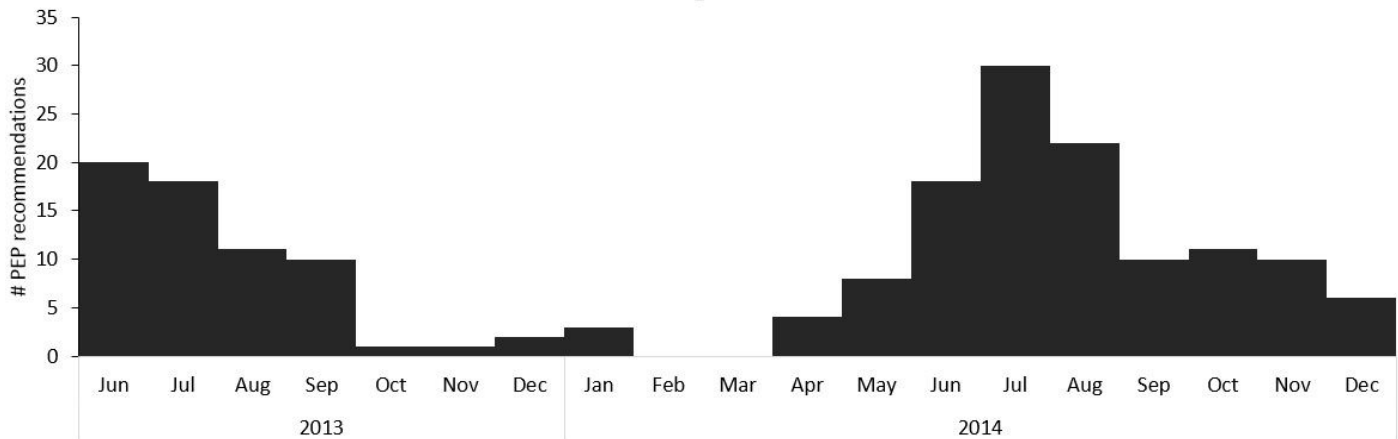
Humans typically acquire rabies through a bite or scratch from an animal infected with rabies virus. In humans, rabies is nearly always fatal. The majority of potential human exposures to rabies in Montana involved bats and dogs (**Figure 1**).

Prompt administration of rPEP according to the Advisory Committee on Immunization Practices can prevent human death from rabies (<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm>). Clinicians are required to report cases of human exposure to animals susceptible of

carrying rabies immediately to their local health department (ARM 37.114.583). Public health consultation following animal bites is important to ensuring appropriate decisions are made regarding the use of rPEP.

Since June 2013, local health officers have also been required to report to the Department of Public Health and Human Services (DPHHS) any human exposure to animals susceptible to rabies that resulted in a recommendation for, or administration of, rPEP. In Montana, human exposures to animals susceptible to rabies most often occurs in the Spring–Summer months (**Figure 2**).

Figure 2. Reported human exposures to animals susceptible to rabies by month, Montana, June 2013–Dec 2014



Rabies Key Points

Animal Health

- Dogs, cats, and ferrets should be vaccinated against rabies to prevent transmission to humans or other animals
- All counties should require rabies vaccination for cats; existing rabies vaccination ordinances should be enforced
- Cases of animal rabies should be reported immediately to the Montana Department of Livestock at (406) 444-2043

Human Health

- Human exposure to animals susceptible to rabies should be reported immediately to the local health department
- When indicated, rabies post-exposure prophylaxis (rPEP) should be administered promptly per the Advisory Committee on Immunization Practices recommendations as described at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm>
- Clinicians and public health practitioners should work to ensure the rPEP series is completed and documented

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References available on web version. Visit <http://www.dphhs.mt.gov/publichealth/publications.shtml>

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