

Rabies

Agent: Rabies virus, a rhabdovirus of the genus *Lyssavirus*

Mode of Transmission: Most commonly transmitted through the bite of an infected animal, but may be transmitted through any method by which virus-infected saliva or central nervous system tissue enters the body.

Signs/Symptoms: Vary widely, but in people, symptoms often include an initial headache, fever and apprehension which progresses to paralysis, spasms of the muscles used for swallowing, delirium and convulsions. Once symptoms appear, rabies is almost invariably fatal.

Prevention: Important prevention methods include vaccinating cats, dogs, and ferrets; using animal control to remove stray animals; and avoiding handling wildlife. A pre-exposure vaccine should be given to people at high risk of exposure (e.g., veterinarians and laboratorians working with rabies virus). Post-exposure vaccine should be administered to anyone who meets the definition of exposure to rabies.

Other Important Information: The main reservoir of rabies in the United States is wildlife. In most other countries, the main reservoir is dogs.

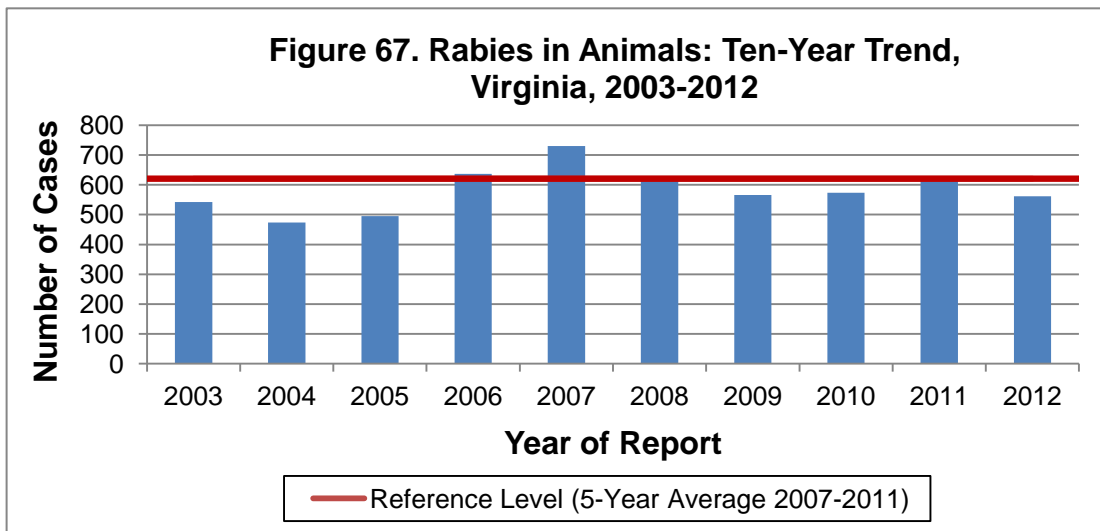
Human

No human rabies cases were reported in Virginia in 2012. The last case of human rabies in Virginia occurred in 2009 in an adult male who was infected with the Indian canine variant of the rabies virus and was thought to have been exposed during an encounter with a dog while traveling in India. The patient died as a result of this infection.

In 2012, 1,465 people were reported as having received rabies post-exposure prophylaxis (PEP) in Virginia. This represents a rate of 18.1 per 100,000 people receiving PEP and is a small increase from the previous year when 1,443 persons were reported to have received PEP. Fairfax County Health District had the highest number and rate of people receiving PEP (224 people, 39.9 per 100,000). The Central Virginia health district had the next highest rate (118 people, 21.0 per 100,000), followed by Prince William (97 people, 17.3 per 100,000). Rates in the remaining districts ranged from 0.7 to 13.7 per 100,000, with the Hampton Health District reporting the lowest rate. The number of people receiving PEP by region ranged from 165 (9.1 per 100,000) in the eastern region to 413 (18.0 per 100,000) in the northern region. Health districts that recorded exposures by species reported that more than one-third of people received PEP due to exposure to wildlife. Fewer people received PEP due to exposure to dogs (25%) or cats (22%).

Animal

In 2012, 15% of animals submitted for testing were laboratory confirmed as positive for rabies. This is within the range of 13-16% of animals testing positive that has been observed over the last 10 years. The 562 animals testing positive for rabies in 2012 was a 9% decrease from the 618 that tested positive in 2011 (Figure 67). The largest proportion of laboratory-confirmed rabid animals was reported from southwest region (187 animals, 33%), followed by the northwest region (145 animals, 26%). The remaining regions had 58 to 92 laboratory-



confirmed rabid animals. By district, the largest proportion of rabid animals was from the Fairfax Health District (47 animals, 8%), followed by New River (42 animals, 7%) and Central Shenandoah Health Districts (40 animals, 7%). Cats remain the domestic animal most commonly diagnosed with rabies, and raccoons remain the most common wild animal to test positive; these trends have been consistent for over 10 years.

Among all species tested for rabies, cats were the most commonly tested animal, with 956 cats tested, but only 3% were positive (Table 11). Skunks had the highest percentage of positive test results (61%), followed by bobcats (60%). Of the 562 animals positive for rabies in Virginia in 2012, raccoons accounted for almost half (46%) followed by skunks (30%). Of note, the four beavers that tested positive in 2012 are the most recent cases of rabid beavers since two were laboratory confirmed as positive in 2007. In 2012, Virginia recorded its first bear that was positive for rabies. With regard to livestock, bovines account for the largest proportion of animals testing positive for rabies (16%), followed by equines (13%). All small rodents submitted for testing were negative.

Table 11. Animals Testing Positive for Rabies by Species, Virginia, 2012

Animal Species	Number of Animals Tested	Positive	
		Number	Percent
Alpaca	6	0	0%
Bat	690	19	3%
Bear	2	1	50%
Beaver	8	4	50%
Bobcat	5	3	60%
Bovine	92	15	16%
Cat	956	28	3%
Chipmunk	10	0	0%
Coyote	9	0	0%
Deer	8	0	0%
Dog	557	3	1%
Equine	31	4	13%
Ferret	4	0	0%
Fox	146	54	37%

Table 11. Animals Testing Positive for Rabies by Species, Virginia, 2012 (cont.)

Animal Species	Number of Animals Tested	Positive	
		Number	Percent
Goat	29	2	7%
Groundhog	114	7	6%
Hamster	1	0	0%
Mole	3	0	0%
Mouse	19	0	0%
Mule	1	0	0%
Muskrat	5	0	0%
Opossum	168	0	0%
Otter	1	0	0%
Pig	2	0	0%
Rabbit	6	0	0%
Raccoon	620	258	42%
Rat	10	0	0%
Sheep	15	1	7%
Shrew	1	0	0%
Skunk	273	166	61%
Squirrel	62	0	0%
Vole	3	0	0%
Weasel	1	0	0%
TOTAL	3858	562	15%

The largest proportion of animals were submitted for rabies testing during the late spring and summer months, while the fewest animals were submitted for testing during the winter months (Figure 68). This seasonal pattern is likely a result of increased domestic animal and human interaction with wildlife during warmer months. No seasonal pattern was observed in the number of animals testing positive for rabies, but March had the highest number of any month, with 81 animals testing positive.

