



NEW YORK CITY DEPARTMENT OF  
HEALTH AND MENTAL HYGIENE  
Dave A. Chokshi, MD, MSc  
*Commissioner*

## **2022 Veterinary Advisory # 1: 2021 Summary of Animal Rabies in New York City**

- **In 2021, 19 animals from New York City tested positive for rabies**
- **Oral rabies vaccination was used to vaccinate raccoons in all boroughs**
- **For current information on rabies and animals testing positive for rabies in NYC, visit [www.nyc.gov/health/rabies](http://www.nyc.gov/health/rabies)**

*Please share with your colleagues in Veterinary Medicine and your staff*

March 1, 2022

Dear Veterinary Colleagues,

This advisory is a summary of animal rabies testing data and raccoon vaccination activities in 2021. The most up-to-date rabies information is on our website at <https://www1.nyc.gov/site/doh/health/health-topics/rabies.page>.

In 2021, there were 19 animals in NYC that tested positive for rabies at the NYC Department of Health and Mental Hygiene (DOHMH) Public Health Laboratory or New York Wadsworth Center: 2 raccoons, 1 skunk and 1 cat in the Bronx, 1 raccoon in Manhattan, 3 raccoons in Queens, and 9 raccoons and 2 cats in Staten Island. Rabies post-exposure prophylaxis (PEP) was administered to 2 veterinary staff members bitten while treating a cat that tested positive for rabies, and 3 members of the public who were bitten by a raccoon that tested positive for rabies; both animals were from Staten Island.

The rabid raccoon from Manhattan was identified in early March 2021 in the same part of northern Manhattan as 2 raccoons in 2020 and a cluster of 9 raccoons and 1 skunk in 2019. [Oral rabies vaccine \(ORV\) baits were distributed in September-October 2021](#) in parts of Queens, Brooklyn, Staten Island, northern Manhattan and the southern border of the Bronx, through a continuing collaborative effort by NYC DOHMH, U.S. Department of Agriculture (USDA), Cornell University, and the NYC Department of Parks and Recreation which began in 2014.

Although all mammals are susceptible to rabies virus infection, there are multiple species-specific variants of the virus which have adapted to certain species that serve as rabies virus reservoirs. These species-specific variants are transmitted primarily between members of the same species and, with the exception of bats, occur in geographically distinct regions. Raccoons are the primary rabies reservoir species in NYC and along the Atlantic Coast. Occasionally, rabid raccoons transmit the virus to other mammals; in NYC skunks and stray cats are most often affected. Rabid raccoons pose the greatest risk of rabies for pets and other domestic animals. Rabid bats have also been found in all 5 boroughs but in much smaller numbers than terrestrial animals. Bats are the primary vector of human rabies infections in the US. In 2021, there were 4 rabies deaths due to bats. Three cases in Idaho, Illinois, and Texas were exposed in August but did not receive rabies PEP<sup>1</sup>; a case in Minnesota received rabies PEP but it was not effective due to an immunodeficiency. A fifth rabies death in New York was infected from a dog bite in the Philippines.

Dogs and cats are required to maintain vaccination against rabies. Indoor pets can be at risk for rabies if they escape outside or if a rabid bat enters the home. No rabid dogs have been reported in NYC since 1954, although

dogs infected with the raccoon variant have been reported in neighboring areas outside NYC. Since 1992, 26 cats have tested positive for rabies, including 3 in 2021; almost all were strays. In 2021, variant PCR testing on the 2 cats from Staten Island showed both were infected with raccoon variant rabies virus. Consider rabies for any animal presenting with a progressive neurologic illness, especially in a stray animal, an animal with a bite wound of unknown origin or exposure to a potentially rabid animal, or a dog from a country where the canine rabies variant is present.

### ***Management guidelines for dogs and cats with a known exposure to a rabies vector species or any rabid animal***

Upon consultation with the Veterinary Public Health Services' Animal Bite Unit, cases will be assessed on an individual basis and options may include:

- Never vaccinated against rabies
  - Isolate in veterinary facility for up to 6 months at owner's expense or euthanize
- Currently vaccinated against rabies
  - Immediately give booster vaccine. Confine and observe in owner's home for 45 days
- Not currently vaccinated
  - Managed on case by case basis

### ***Management guidelines for healthy dogs and cats that have bitten a person***

- Confine and observe dog or cat for 10 days
  - If animal not currently vaccinated, do not vaccinate until end of 10-day observation period
  - If remains healthy, rabies post-exposure prophylaxis (PEP) not indicated for bite victim
  - If becomes ill, must be evaluated by veterinarian and the Animal Bite Unit

### **What All Veterinarians Can Do**

- **Educate** clients to:
  - Avoid contact with wild animals and stray animals
  - Make sure their dog or cat is up-to-date on its rabies vaccinations
  - Avoid leaving their pets outdoors unattended and feed them indoors
  - Avoid trying to separate animals that are fighting
  - Contact their veterinarian if their pet has been in contact with a raccoon, skunk, bat or any animal that might be rabid
- **Report** animal bites and suspect animal rabies cases to the Health Department's Veterinary Public Health Services (VPHS):
  - **VPHS Animal Bite Unit (ABU)** during business hours      **646-364-1799**
  - **Poison Control Center** outside business hours      **212-POISONS (212-764-7667)**
- **Questions?** Contact the NYC Health Department:
  - For questions on rabies exposures in pets, animal bites, and other animal-related issues
    - Veterinary Public Health Services (VPHS)      646-364-1783
  - For questions on rabies exposures in people, PEP, and other human-related rabies issues
    - Bureau of Communicable Disease      347-396-2600
  - After hours: NYC Poison Control Center      212-764-7667

As always, we greatly appreciate your partnership and cooperation.

If you do not receive these alerts via email and would like to, please email [zivdu@health.nyc.gov](mailto:zivdu@health.nyc.gov) to be added to the distribution list.

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Reference 1. <https://www.cdc.gov/mmwr/volumes/71/wr/pdfs/mm7101a5-h.pdf>

**Table 1. 2021 NYC Animal Rabies Testing\***

SPECIES	BRONX		BROOKLYN		MANHATTAN		QUEENS		STATEN ISLAND		TOTAL NYC	
	# tested	# positive	# tested	# positive	# tested	# positive	# tested	# positive	# tested	# positive	# tested	# positive
<b>Bat</b>	0	0	4	0	9	0	3	0	2	0	18	0
<b>Cat</b>	10	1	14	0	19	0	12	0	15	2	70	3
<b>Dog</b>	3	0	8	0	11	0	8	0	0	0	30	0
<b>Groundhog</b>	0	0	0	0	2	0	1	0	4	0	7	0
<b>Opossum</b>	4	0	8	0	2	0	11	0	1	0	26	0
<b>Raccoon</b>	14	2	23	0	22	1	135	3	30	9	224	15
<b>Skunk</b>	3	1	0	0	1	0	1	0	1	0	6	1
<b>Other**</b>	11	0	3	0	2	0	9	0	2	0	27	0
<b>Total</b>	<b>45</b>	<b>4</b>	<b>60</b>	<b>0</b>	<b>68</b>	<b>1</b>	<b>180</b>	<b>3</b>	<b>55</b>	<b>11</b>	<b>408</b>	<b>19</b>

\*Tested at NYC DOHMH Public Health Lab (n=375), NYS Wadsworth Center (n=33)

\*\*Other includes 11 squirrels, 4 rats, 6 mice, and 1 each bear, beaver, deer, ferret, goat, and horse

**Table 2. NYC Laboratory-Confirmed Rabid Animals, 1992-2021**

SPECIES	BRONX	BROOKLYN	MANHATTAN	QUEENS	STATEN ISLAND	TOTAL POSITIVE	TOTAL TESTED	% POSITIVE
<b>Raccoon</b>	222	10	157	17	216	<b>622</b>	8520	7.3
<b>Skunk</b>	53	0	1	0	6	<b>60</b>	418	14.4
<b>Bat</b>	15	7	14	4	7	<b>47</b>	1275	3.7
<b>Cat</b>	9	1	2	1	13	<b>26</b>	3821	0.7
<b>Dog</b>	0	0	0	0	0	<b>0</b>	2184	0
<b>Opossum</b>	2	1	0	1	3	<b>7</b>	721	1.0
<b>Other*</b>	2	0	0	0	1	<b>3</b>	1872	0.2
<b>Total</b>	<b>303</b>	<b>19</b>	<b>174</b>	<b>23</b>	<b>246</b>	<b>765</b>	18811	4.1

\*Other includes 2 coyotes (1999 and 2010, Bronx) and 1 groundhog (2007, Staten Island).

**Table 3. NYC Animal Rabies Testing by Year and Species, 2017-2021**

ANIMAL	2017		2018		2019		2020		2021	
	# tested	# positive								
Bat	18	0	24	0	38	1	38	1	18	0
Cat	78	2	137	1	140	1	83	5	70	3
Dog	37	0	39	0	43	0	25	0	30	0
Deer	0	0	2	0	0	0	0	0	1	0
Groundhog	0	0	2	0	5	0	2	0	7	0
Muskrat	1	0	0	0	0	0	0	0	0	0
Opossum	4	0	19	1	23	0	19	0	26	0
Rabbit	3	0	0	0	1	0	1	0	0	0
Raccoon	104	12	333	10	424	21	252	28	224	15
Skunk	22	4	23	2	25	1	21	4	6	1
Squirrel	11	0	7	0	13	0	7	0	11	0
Other**	15	0	11	0	5	0	6	0	15	0
<b>Total</b>	<b>293</b>	<b>18</b>	<b>597</b>	<b>14</b>	<b>717</b>	<b>24</b>	<b>454</b>	<b>38</b>	<b>408</b>	<b>19</b>

\*\*Other includes 19 rats, 16 mice, 5 chipmunks, 3 shrews, 2 ferrets, 1 each bear, beaver, fox, goat, gopher, horse, and lesser kudu

**Table 4. NYC Animal Rabies Testing by Year and County, 2017-2021**

COUNTY	2017		2018		2019		2020		2021	
	# tested	# positive								
BRONX	94	18	107	9	83	3	76	14	45	4
BROOKLYN	46	0	126	0	167	0	69	1	60	0
MANHATTAN	77	0	164	0	122	11	61	2	68	1
QUEENS	51	0	147	1	233	0	153	3	180	3
STATEN ISLAND	25	0	53	4	112	10	95	18	55	11
<b>Total</b>	<b>293</b>	<b>18</b>	<b>597</b>	<b>14</b>	<b>717</b>	<b>24</b>	<b>454</b>	<b>38</b>	<b>408</b>	<b>19</b>

Numbers differ slightly from previous tables due to further review of historical data.