NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE
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Acting Health Commissioner

2025 Veterinary Advisory #10
Summary of 2024 Canine Leptospirosis Surveillance in New York City

- **There were 33 dogs with leptospirosis in 2024, an increase of one from 2023.**
  - **Brooklyn and Queens had the highest number of dogs (10 each), followed by Manhattan (4), unknown borough (4), Staten Island (3), and the Bronx (2).**
  - **None of the 23 dogs for which a *Leptospira* vaccine history was available were currently vaccinated.**
- **The American Animal Hospital Association guidelines now includes the leptospirosis vaccine as core.**
- **Rats are the most common source of leptospirosis in dogs and people in NYC.**
- **Transmission of *Leptospira* from dogs to humans has not been reported in NYC.**
- **More information is available on the NYC Health Department's new canine leptospirosis webpage.**
- **Report animals with leptospirosis to the NYC Health Department.**

Please share with your colleagues in veterinary medicine and your staff.

December 3, 2025

Dear Colleagues,

This advisory summarizes the 2024 surveillance findings for canine leptospirosis in NYC. More information, including a map and historical trends, is available on the NYC Health Department's Canine Leptospirosis webpage.

The NYC Health Department conducts canine leptospirosis surveillance to complement human surveillance, and to monitor disease burden, characterize affected dogs, identify risk factors, and detect outbreaks and human-associated infections. Animal disease reports submitted by veterinarians and positive laboratory results from commercial veterinary diagnostic laboratories are investigated. Case definitions (see Appendix) created by the NYC Health Department for surveillance purposes only are used to identify and count cases.

Surveillance results
In 2024, 68 canine leptospirosis reports were received from a commercial diagnostic laboratory (n=57; 84%) or a veterinarian (n=6; 9%), including 5 reported from both (7%). A total of 33 dogs met the case definition (21 confirmed; 12 probable). Among the remaining 35 reports, 34 dogs did not meet the case definition, and 1 investigation was unresolved. For comparison, in 2023, 55 reports were received, and 32 dogs met the case definition.

Cases of canine leptospirosis in 2024 occurred year-round, peaking in August (n=8; 24%). Most were from Brooklyn and Queens (each, n=10; 30%) (see Table 1). The median age was 6 years (range 2 months to 16

years), and most were male (n=19; 58%) and neutered/spayed (n=18; 67%). None of the 23 dogs for which a *Leptospira* vaccine history was available were currently vaccinated. Vaccine history was not available for the remaining 10 dogs.

At the time of investigation, 9 dogs (27%) had died or were euthanized; 4 of these dogs had never been vaccinated, and 5 dogs had unknown vaccine history. Most dogs were not hospitalized (n=18; 52%) and the average length of hospital stay for survivors was 5 days (range 2 to 9 days).

Commonly reported signs of illness were lethargy and anorexia (each, n=25, 76%) followed by vomiting (n=21; 64%) Renal and liver failure were commonly reported clinical conditions (see Table 2).

Exposures

Dogs owners are interviewed by the NYC Health Department to ask about potential exposures and risk factors for leptospirosis during the 4 to 12 days, or exposure period, preceding illness onset. Of the 33 dogs that met the case definition, 19 (58%) owner interviews were completed. Among these 19 dogs, all were in NYC during their exposure period; 16 (84%) owners reported seeing rodents (15 rats, 1 mouse) and 3 (16%) reported seeing either a raccoon, an opossum, or a skunk in areas where the dog spent time (see Table 3). Four (21%) owners reported their dog having direct contact with rats. Eleven (58%) dogs were exposed to standing water, such as puddles. The location where dogs were likely exposed to animals or standing water was most often the home neighborhood (yard or within 0.5 miles of home; n=17) or a park (n=2).

Among the 8 dogs tested using the microagglutination test, none had titers to *Leptospira* Canicola, the serovar commonly associated with dogs as a reservoir.

Human leptospirosis surveillance

The number of people with leptospirosis reported to the NYC Health Department has been increasing, with 33 reported in 2024 (compared to 24 reported in 2023). Epidemiologic investigations find that most cases work in professions where they are exposed to rat urine, such as trash handling, or live or frequent spaces with active rat infestations. Routine MAT testing of human specimens corroborates these findings, indicating *Leptospira* Icterohaemorrhagiae as the likely serovar for most human infections.

Surveillance conclusions

Surveillance continues to show that zoonotic leptospirosis occurs in all boroughs of NYC and that most infections are associated with rats and likely due to contact with an area or water source recently contaminated by an animal actively shedding the bacteria. *Leptospira* bacteria are fragile and can die within minutes of exposure to dry heat or freezing temperatures. Excessive rain and unseasonably warm temperatures due to climate change are expected to support the persistence of *Leptospira* in the NYC environment, which may lead to an increase in cases in the future.

The number of canine leptospirosis cases does not reflect the increased rate of human leptospirosis cases. This may be due to improved *Leptospira* vaccination coverage or underdiagnosis in dogs, particularly when dog owners are unable to pursue veterinary care or diagnostic testing. ASPCA provides appointment-based low-cost veterinary care for eligible pet owners who are unable to afford 24-hour hospitalization.

Zoonotic risk and prevention and control
Direct transmission of leptospirosis from dogs to humans has been infrequently documented in literature; no dog to human transmission of leptospirosis has been identified during 19 years of surveillance in NYC. Rats are the most common source of canine and human leptospirosis in NYC. The best way to prevent leptospirosis is to avoid contact with rats and places where rats may have urinated. For more information about rats in NYC, visit the NYC Health Department Rats webpage (or visit nyc.gov/health and search "Rats").

The American Animal Hospital Association guidelines now designate leptospirosis vaccine as core. Veterinarians should encourage pet owners to vaccinate their dogs against leptospirosis. While leptospirosis vaccines do not protect against all serovars of *Leptospira* bacteria, it can reduce the risk of infection.

Veterinarians and animal handlers are at increased risk of infection. To help prevent transmission of zoonotic diseases in clinical settings, the NYC Health Department has launched a new veterinary infection prevention and control (IPC) modules on *Firstline*, a free online clinical decision support tool.

If you are treating an animal with suspected leptospirosis:

- Isolate infected animals in areas separate from non-infected animals.
- Limit the number of staff members who have direct contact with the animal, its urine, or its bedding.
- Use personal protective equipment, such as gloves, masks, and face shields, and minimize contact with animal urine, vomit, blood, and contaminated materials.
- Post visible infection control signs for staff.
- Clean contaminated porous and non-porous surfaces with routine disinfectants or sanitizing agents.
- Remind owners to use caution when handling animal urine, vomit, or blood, and to wash their hands after doing so.

As always, we appreciate your continued collaboration with our efforts to monitor public health issues in New York City.

Sincerely,

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Zoonotic and Vector-borne Disease Unit
Bureau of Communicable Disease
ZIVDU@health.nyc.gov
347-396-2600

Visit our webpage for information and resources for veterinarians: Zoonotic and Vector-borne Diseases: Information for Providers
If you do not receive these alerts via email and would like to be added to the distribution list, email zivdu@health.nyc.gov

Report animal diseases to the NYC Health Department:

- Online through a secure web-based reporting platform
- Call 347-396-2600
- Fax the Animal Disease Case Report form to 347-396-2753

Report upon suspicion: Anthrax, brucellosis, glanders, influenza (novel with pandemic potential), mpox, plague, Q fever, SARS, tularemia

For rabies, call the Animal Bite Unit at 646-364-1799 to report suspect rabid animals or for assistance with pets exposed to rabies.

Report upon laboratory diagnosis: Arboviral encephalitides, carbapenem-resistant organism (CRO), leptospirosis, psittacosis, Rocky Mountain spotted fever, salmonellosis, tuberculosis

Report within 24 hours any outbreak or suspected outbreak of any disease, condition, or syndrome, of known or unknown etiology, which may pose a danger to public health.

Appendix

Laboratory reports of *Leptospira* titers ≥ 1:800 by microscopic agglutination test (MAT), positive polymerase chain reaction (PCR), positive enzyme-linked immunosorbent assay (ELISA), and all reports from veterinarians (regardless of titers) are investigated by the NYC Health Department by interviewing the veterinarian and dog owner. All antibody tests are evaluated in context of recent vaccine history (within a year prior to testing). The NYC Health Department canine leptospirosis case definition includes:

- **Confirmed**: Clinically compatible presentation and positive urine or blood PCR or fourfold change between acute and convalescent titers, taken at least 2 weeks apart.
- **Probable**: Clinically compatible presentation and single elevated agglutination titer or positive antibody test (ELISA).

Table 1. Summary of surveillance findings

2024 Canine Leptospirosis Cases (N=33) (21 Confirmed and 12 Probable)	
Borough	
Bronx	2 (6%)
Brooklyn	10 (30%)
Manhattan	4 (12%)
Queens	10 (30%)
Staten Island	3 (9%)
NYC Unknown Borough	4 (12%)
History of vaccination	
Yes	0 (0%)
No	23 (70%)
Unknown	10 (30%)
Hospitalized at least 1 night	
Yes	16 (48%)
No	17 (52%)
Median length of hospital stay among survivors (n=15):	
Time	3.5 days
Final disposition	
Alive	24 (73%)
Dead	9 (27%)

Table 2. Summary of affected organs and clinical presentations

Organ Conditions	**Percent** (N=28)	**Clinical Presentation**	**Percent** (N=33)
Hepatic disease	79%	Lethargy	76%
Renal disease	70%	Anorexia	76%
Pulmonary disease, petechial rashes, DIC, coagulopathy, or uveitis	0-3%	Vomiting	64%
		Icterus	55%
		Diarrhea	15%
		Polyuria/Polydipsia	27%
		Dehydration	24%
		Weakness	18%
		Fever, chills, weight loss, dyspnea, coughing, or bloody stool/vomiting	0-10%

Table 3. Exposures in areas where dogs spent time, reported by dog owners

Exposures	**Home/Neighborhood**	**Park**	**Dog Run**	**Unknown**
Rodent	14	2	0	0
Raccoon/Opossum/Skunk	3	0	0	0
Symptomatic dog	0	0	0	0
Standing water	7	2	0	0