



2021 Advisory #35: Increase in Leptospirosis Cases in New York City

- **Human cases of leptospirosis, while rarely reported in New York City, have been increasing over time**
- **Fourteen cases of human leptospirosis have been identified in 2021**
- **Human infection is largely associated with exposure to rats**

Please Distribute to All Clinical Staff in Internal Medicine, Primary Care, Infectious Diseases, Emergency Medicine, Hepatology, Nephrology, Intensive Care, Family Medicine, Laboratory Medicine, and Infection Control

September 22, 2021

Dear Colleagues,

Fourteen people diagnosed with leptospirosis have been reported to date in 2021, more than the total number reported to the New York City Health Department in any prior year. Cases have been identified in all boroughs except Staten Island, with no obvious clustering. Thirteen of the fourteen people were hospitalized with acute renal and hepatic failure, two of whom also had severe pulmonary involvement. One person died as a result of infection. All other hospitalized patients were treated and discharged.

One person acquired their infection while traveling. Among the thirteen locally acquired cases, most cases had a clear history or risk factor which exposed them to an environment with a severe rat infestation. Three cases reported homelessness. The Health Department has been conducting inspections and where indicated, working with property owners to conduct rat remediation.

Leptospirosis is a worldwide zoonotic disease caused by the spirochete bacteria of the genus and species *Leptospira interrogans*. Warm, moist environments are associated with higher rates of disease, with cases occurring in both rural and urban settings. Clinically, there is a wide spectrum of illness. Symptoms may include fever, headache, chills, muscle aches, vomiting, diarrhea, cough, conjunctival suffusion, jaundice, and sometimes a rash. The incubation period is usually 5–14 days, with a range of 2–30 days. If not treated, kidney failure, meningitis, liver damage, and respiratory distress can occur. In NYC, most human cases are associated with exposure to rats, or environments where rats live. Infected animals may excrete the bacteria into the environment. Humans can become infected through contact with urine from infected animals, or from water, soil, or food that has been contaminated with the urine of infected animals. The bacteria can enter the body through open wounds or mucous membranes. Drinking contaminated water can also cause infection. Person-to-person transmission is rare.

Between 2006 and 2020 in New York City, 57 cases of leptospirosis were identified by the Health Department, of which 13 were associated with international travel (see graph below). Among the 44

locally acquired cases, a range of one to seven cases was reported each year; the median age was 46 years (range 20 to 80 years). All but four of the cases were male (90%). Cases were reported from all five NYC boroughs: Brooklyn (9), Bronx (18), Manhattan (10), Queens (4) and Staten Island (3).

Providers are reminded to consider leptospirosis in any patient presenting with compatible illness, especially when there is evidence of acute renal and hepatic failure. Diagnostic testing is available through most commercial laboratories and includes serologic testing, and PCR on blood, urine, and CSF (preferably collected prior to the start of antibiotics). Call the Provider Access Line at (1-866-692-3641) for questions about testing or for assistance with additional diagnostic options including immunohistochemical testing and culture at NYS Wadsworth Center or CDC. Leptospirosis is treated with antibiotics, such as doxycycline or penicillin, which should be given early in the course of the disease. As per CDC guidance, for patients with mild symptoms, doxycycline is the drug of choice (100 mg orally, twice daily for 7 days), if not contraindicated. Other options include azithromycin (500 mg orally, once daily), ampicillin (500-750 mg orally, every 6 hours), or amoxicillin (500 mg orally, every 6 hours). For patients with severe disease, IV penicillin is the drug of choice (1.5 MU IV, every 6 hours), doxycycline (100 mg IV twice daily), ceftriaxone (1 to 2 g IV once daily), or cefotaxime (1 g IV every six hours). The duration of treatment in severe disease is usually seven days.^{1,2}

Cases can be reported to the health department by logging into **Reporting Central** via [NYCMED](#), by mail, by faxing to 347-396-2632 the paper [Universal Reporting Form](#), or by calling the Provider Access Line at (1-866-692-3641). If a provider does not already have a NYCMED account, he or she will need to register at the NYCMED link above. Once logged in, Reporting Central can be found in the 'My Applications' section. See the [Reporting Central New User Guide](#) (PDF).

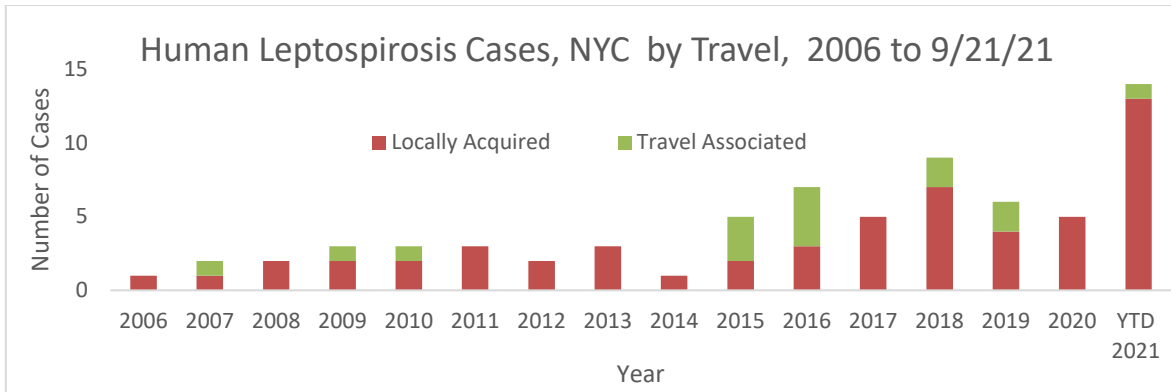
For more information about leptospirosis, visit the [NYC DOHMH](#) and [CDC](#) websites.

As always, we appreciate your continued collaboration with our efforts to identify cases and monitor trends to help inform and direct remediation efforts in New York City.

Sincerely,



Celia Quinn, MD, MPH
Deputy Commissioner
Division of Disease Control



1. CDC Leptospirosis Fact Sheet for Clinicians <https://www.cdc.gov/leptospirosis/pdf/fs-leptospirosis-clinicians-eng-508.pdf>
2. Up to Date <https://www.uptodate.com/contents/leptospirosis-treatment-and-prevention>