

Canine Leptospirosis Investigation in Southeast Michigan, 2011

A joint effort by
Centers for Disease Control and Prevention
Michigan Department of Agriculture and Rural Development
Michigan Department of Community Health
Michigan State University Diagnostic Center for Population Animal Health



All data presented are preliminary.

Leptospirosis Background

- Leptospirosis is a reportable animal and human disease in Michigan
- In Fall 2011, MDARD began receiving an increased number of reports of dogs with leptospirosis (suspect and diagnosed cases)
- Some of the cases involved dogs presenting with sudden severe illness (e.g., kidney failure), sometimes resulting in death
- There is an approved vaccine available for dogs

Leptospirosis Background

- Many of the cases seemed to be from the Detroit area
- History of leptospirosis investigation in Detroit in the 1970's and 1980's
- Given the severity of illness in animals and the possible concentration of cases in Detroit, MDARD was concerned about a potential disease outbreak
- Good opportunity for a One Health approach
 - Concept that animal health, human health, and the environment are closely intertwined

Leptospirosis Background

- Meeting with MDCH, MSU DCPAH, AID, PPPM
- Developed next steps including a plan to contact CDC for possible consultation
- CDC agreed to assist; 2 weeks in December

Investigation Objectives

1. Define scope of the outbreak
2. Collect risk factor data and environmental information
3. Assess knowledge, attitudes, and practices (KAP) about canine leptospirosis among Michigan veterinarians

Reported Leptospirosis Cases

- Number of reported canine leptospirosis cases increased from 26 in 2010 to 61 in 2011
- Among cases from 2010–2011, there were 39 canine deaths (combined euthanasias and death due to disease)
- Data from Dr. Carol Bolin of MSU DCPAH showed an overall increase in canine leptospirosis cases and specifically the serovar *Icterohaemorrhagiae* in 2011 compared to the previous five years of data
- Canine cases reported in 2011 had SE Michigan geographic concentration

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Risk Factor Collection and Environmental Sampling Results

- Contacted 59 / 85 (69%) owners of affected dogs statewide from 2010–2011 by phone
- 16 / 59 (27%) reported seeing rats near or around their home
- Environmental sampling of rats near homes with evidence of rat activity preliminarily indicated presence of leptospirosis in the rats
 - Awaiting results of strain typing from Centers for Disease Control and Prevention

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Image courtesy of Detroit Public Works, Environmental Division, Rodent Control

Survey of Michigan Veterinarians

- 30 question, Web-based survey developed by Centers for Disease Control and Prevention
- Addressed knowledge, attitudes, and practices regarding canine leptospirosis
- Distributed through the Michigan Veterinary Medical Association
- Results are expected in Spring 2012 and will be shared with all involved parties

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Acknowledgements

- Michigan Veterinary Medical Association
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 - Environmental Division, Rodent Control
- City of Detroit Animal Control
- Michigan Humane Society of Detroit
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- Centers for Disease Control and Prevention
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 - NCEZID, Office of Informatics (online survey developers)
 - SEPDPO, EIS Program