Public Health News for Veterinarians is a collaborative publication distributed by Local Departments of Health in Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties to inform and update veterinarians about public health and zoonotic diseases.

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Public Health News for Veterinarians

ANIMAL DISEASE REPORTING REQUIREMENTS:
A Multidrug Investigation of Swine Brucellosis in New York State

By Andie Newman DVM MPH, Angie Maxted DVM PhD, David Smith DVM

Swine brucellosis is caused by infection with Brucella suis. In swine, brucellosis causes economically important reproductive losses. A national eradication program exists. The organism is zoonotic and can be maintained in both domestic and feral swine. The disease has been eradicated in commercial swine in the United States, but is enzootic in feral swine in other regions of the country, especially Texas and southeastern states. In New York (NY), B. suis had not been detected in swine since the 1980’s. No feral swine sightings have been reported in NY since 2014.

In April 2016, the Wadsworth Center confirmed B. suis in a blood culture isolate from a woman aged 68 years. The woman had been ill with bronchitis and had recovered with antibiotic therapy. She reported contact with approximately 30 head of swine on her farm. The NY State Department of Agriculture and Markets was notified and conducted testing of swine on the woman’s farm; testing at the USDA NVSL revealed B. suis infection of the herd. The herd was depopulated. No feral swine sightings had been reported on this farm.

NYSVMD, with the assistance of USDA, conducted and traceback and traceforward of swine sourced into and out of the herd. Herd epidemiology linked herds were transitional (“pasture pork”) herds. NYSDAM, with the assistance of USDA, conducted and traceback and traceforward of swine sourced into and out of the herd. Herd epidemiology linked herds were transitional (“pasture pork”) herds.

In NY, NYSDAM and USDA coordinated management of infected herds. Six positive herds were depopulated, and the premises were cleaned and disinfected prior to the reintroduction of swine. Positive swine in NY were prohibited from being slaughtered for food.

Persons who had direct contact with infected herds (e.g., farmers, farmhands, and veterinarians) or the human isolate (i.e., laboratory staff) were educated about their potential risk of exposure. They were offered combinations of symptom monitoring, laboratory testing, and ocular discharge, and sneezing. The ASPCA oversaw a response effort involving the timing of suspected or confirmed exposure.

An extensive public health and agricultural response was conducted following the diagnosis of a human case of brucellosis. Laboratory testing suggested that B. suis had been circulating among NY transitional swine herds for at least the past several years. Current USDA surveillance for B. suis primarily targets mature boars and sows from commercial swine herds but is missing growing sector of at-risk swine in transitional herds.

Southern Shelter Animals Receive the Support They Need

Ahead of Hurricanes Harvey and Irma, animal advocates worked quickly to clear shelters in Texas and Florida to make room for anticipated lost or displaced pets. Organizations such as the Humane Society, Wings of Rescue and the ASPCA undertook efforts to transport the animals already populating shelters in affected areas to shelters in the Northeast, particularly here in the Hudson Valley. As of yet, there is no estimate of how many animals have been affected by the hurricanes. Lessons learned from Hurricane Katrina, and the resultant passage of the Pets Evacuation and Transportation Standard (PETS) Act of 2006, have been credited with increased State and local emergency preparedness to address the needs of households with pets and service animals in disaster or emergency events.

To learn more about the PETS Act, visit the AVMA’s website at: https://www.avma.org/KB/Resources/Reference/disaster/Pages/PETS-Act-FAQ.aspx

Avian Flu in Cats

In November and December of last year, there was an outbreak of avian influenza in cats in Animal Care Centers of New York City (ACC) shelters. Nearly 500 cats in shelters in Manhattan, Brooklyn, and Staten Island tested positive for low pathogenic avian influenza A, H7N2. Feline infections with avian influenza viruses are uncommon, and this was the first report of H7N2 in cats.1 Being a novel event, there was no prior knowledge of expected clinical course, duration of shedding, or transmissibility of the virus in cats.2 The virus spread quickly through the population, with most cats exhibiting mild to moderate symptoms including lethargy, anorexia, nasal and ocular discharge, and sneezing.3,4 The ASPCA oversaw a response effort involving the timing of suspected or confirmed exposure.

The New York City Department of Health and Mental Hygiene screened ACC staff (employees and volunteers) and persons who adopted cats from the shelters in the weeks prior to the outbreak for illness. ACC staff and a subset of adopters were tested for the H7N2 virus, regardless of symptoms. One veterinarian, who cared for sick cats at the shelter and collected respiratory secretions without using respiratory personal protective equipment, tested positive for H7N2.5 This is the third reported human case of H7N2 in the United States and first associated with cat exposure. The infected individual recovered fully after a brief, mild illness. There was no evidence of human-to-human transmission.6 However, finding the virus in a new species is concerning because it means the virus has changed in a way that may pose a new health threat to animals and humans. The outbreak serves as a reminder to veterinarians and physicians to be vigilant for zoonotic viruses with pandemic potential such as H7N2.1

References:
2. Wiedmann S. 2016 Veterinary advisory #1: Influenza A, H7N2 Identified in Cats from Animal Care Centers of New York City Facility in Manhattan. NYC, NY. NYC Dept of Health and Mental Hygiene.
3. Wiedmann S. 2016 Veterinary advisory #1: Influenza A, H7N2 Identified in Cats from Animal Care Centers of New York City Facility in Manhattan. NYC, NY. NYC Dept of Health and Mental Hygiene.
4. ACC shelters were cleaned and sanitized prior to re-opening to resume normal operations.
5. ACC shelters were cleaned and sanitized prior to re-opening to resume normal operations.
6. ACC shelters were cleaned and sanitized prior to re-opening to resume normal operations.

Leptospirosis in Humans

In February of this year, the New York City Department of Health and Mental Hygiene reported its first ever cluster of leptospirosis infections in humans. Three cases were identified in a one block section in the Concourse area of the Bronx and linked to a single building with rodent infestations. All three individuals were hospitalized with acute renal and hepatic failure. Two developed pulmonary hemorrhages, and there was one fatality. These cases serve as a reminder that leptospirosis is a zoonotic disease that can cause severe illness in animals and people. Leptospirosis is spread mainly by contact of mucous membranes or open wounds with urine of infected animals (such as rats), contaminated water, soil or food.1

Exposure to infected wildlife, or environments contaminated by infected wildlife, can result in clinical cases of leptospirosis in species such as dogs, sheep, goats, pigs, horses and cattle. To reduce infections in domestic species, veterinarians are encouraged to utilize vaccines available for cattle, swine, and dogs.2 If a patient is diagnosed with leptospirosis, clients and staff should be advised of precautions to prevent transmission including, avoiding contact with urine, disinfection of contaminated areas, hand washing after contact with the patient, and use of personal protective equipment during patient care.3

For more information, please visit the Center for Food Security & Public Health’s website: www.cfsph.iastate.edu/DiseaseInfo/disease.php?name=leptospirosis&lang=en

References:

A Human Sentinel for an Animal Disease Problem: Southern Shelter Animals Receive the Support They Need

Avian Flu in Cats

Leptospirosis in Humans
### Animal Rabies Testing of Domestic Species, 2016

<table>
<thead>
<tr>
<th>County</th>
<th>Cats</th>
<th>Dogs</th>
<th>Other Domestic*</th>
<th>Total Domestic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Tested</td>
<td>Total Pos.</td>
<td>% Pos.</td>
<td>Total Tested</td>
</tr>
<tr>
<td>Dutchess</td>
<td>29</td>
<td>0</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>Orange</td>
<td>30</td>
<td>0</td>
<td>0%</td>
<td>28</td>
</tr>
<tr>
<td>Putnam</td>
<td>15</td>
<td>0</td>
<td>0%</td>
<td>5</td>
</tr>
<tr>
<td>Rockland</td>
<td>15</td>
<td>1</td>
<td>7%</td>
<td>1</td>
</tr>
<tr>
<td>Sullivan</td>
<td>11</td>
<td>1</td>
<td>9%</td>
<td>11</td>
</tr>
<tr>
<td>Ulster</td>
<td>27</td>
<td>1</td>
<td>4%</td>
<td>12</td>
</tr>
<tr>
<td>Westchester</td>
<td>70</td>
<td>1</td>
<td>1%</td>
<td>26</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>197</strong></td>
<td><strong>4</strong></td>
<td><strong>2%</strong></td>
<td><strong>95</strong></td>
</tr>
</tbody>
</table>

*Other domestic includes cattle, ferrets, horses, domestic rabbits, and goats

Data Source: NYS Department of Health Rabies Laboratory

### Animal Rabies Testing of Wild Species, 2016

<table>
<thead>
<tr>
<th>County</th>
<th>Bats</th>
<th>Raccoons</th>
<th>Skunks</th>
<th>Other Wild*</th>
<th>Total Wild</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Tested</td>
<td>Total Pos.</td>
<td>% Pos.</td>
<td>Total Tested</td>
<td>Total Pos.</td>
</tr>
<tr>
<td>Dutchess</td>
<td>37</td>
<td>2</td>
<td>5%</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Orange</td>
<td>45</td>
<td>2</td>
<td>4%</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Putnam</td>
<td>61</td>
<td>2</td>
<td>3%</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Rockland</td>
<td>31</td>
<td>1</td>
<td>3%</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Sullivan</td>
<td>9</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ulster</td>
<td>42</td>
<td>2</td>
<td>5%</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Westchester</td>
<td>286</td>
<td>8</td>
<td>3%</td>
<td>32</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>521</strong></td>
<td><strong>17</strong></td>
<td><strong>3%</strong></td>
<td><strong>66</strong></td>
<td><strong>26</strong></td>
</tr>
</tbody>
</table>

*Other wild includes foxes, woodchucks, coyotes, moose, opossums, bears, deer, and rodents

Data Source: NYS Department of Health Rabies Laboratory

### Individuals (Humans) Receiving Rabies Post-Exposure Prophylaxis by County and Year, 2010-2016

<table>
<thead>
<tr>
<th>County</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Annual Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutchess</td>
<td>54</td>
<td>39</td>
<td>49</td>
<td>45</td>
<td>65</td>
<td>43</td>
<td>54</td>
<td>50</td>
</tr>
<tr>
<td>Orange</td>
<td>79</td>
<td>84</td>
<td>106</td>
<td>71</td>
<td>119</td>
<td>109</td>
<td>111</td>
<td>97</td>
</tr>
<tr>
<td>Putnam</td>
<td>44</td>
<td>35</td>
<td>32</td>
<td>25</td>
<td>29</td>
<td>22</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>Rockland</td>
<td>35</td>
<td>25</td>
<td>17</td>
<td>27</td>
<td>29</td>
<td>24</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>Sullivan</td>
<td>16</td>
<td>46</td>
<td>30</td>
<td>31</td>
<td>28</td>
<td>20</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Ulster</td>
<td>72</td>
<td>45</td>
<td>66</td>
<td>48</td>
<td>167</td>
<td>76</td>
<td>42</td>
<td>74</td>
</tr>
<tr>
<td>Westchester</td>
<td>288</td>
<td>247</td>
<td>228</td>
<td>194</td>
<td>276</td>
<td>287</td>
<td>176</td>
<td>242</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>588</strong></td>
<td><strong>521</strong></td>
<td><strong>528</strong></td>
<td><strong>441</strong></td>
<td><strong>713</strong></td>
<td><strong>581</strong></td>
<td><strong>470</strong></td>
<td><strong>549</strong></td>
</tr>
</tbody>
</table>

Data Source: NYS Department of Health Bureau of Communicable Disease

### Tick-borne Disease Rates (Humans) by County 2013-2015

<table>
<thead>
<tr>
<th>Disease Type</th>
<th>Dutchess</th>
<th>Orange</th>
<th>Putnam</th>
<th>Rockland</th>
<th>Sullivan</th>
<th>Ulster</th>
<th>Westchester</th>
<th>NYS excl NYC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaplasmosis</td>
<td>22.6</td>
<td>7.9</td>
<td>16.4</td>
<td>1.3</td>
<td>2.2</td>
<td>17.9</td>
<td>1.5</td>
<td>4.7</td>
</tr>
<tr>
<td>Babesiosis</td>
<td>22.4</td>
<td>8.9</td>
<td>21.5</td>
<td>3.9</td>
<td>0.9</td>
<td>6.7</td>
<td>4.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Ehrlichiosis</td>
<td>2.5</td>
<td>2.7</td>
<td>5.0</td>
<td>1.0</td>
<td>1.3</td>
<td>1.3</td>
<td>0.5</td>
<td>0.9</td>
</tr>
<tr>
<td>Rocky Mountain Spotted Fever</td>
<td>0.3</td>
<td>0.4</td>
<td>0.0</td>
<td>0.6</td>
<td>0.0</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Lyme Disease</td>
<td>179.4</td>
<td>172.1</td>
<td>314.9</td>
<td>83.6</td>
<td>124.4</td>
<td>249.1</td>
<td>28.3</td>
<td>59.3</td>
</tr>
</tbody>
</table>

Data Source: NYS Department of Health Division of Epidemiology
Positive Rabies Results, Hudson Valley Region 2011-2016

Data Source: NYS Department of Health Rabies Laboratory

Rate of Individuals Receiving Rabies Post-Exposure Prophylaxis (RPEP) per 10,000 Residents, 2012-2016*

*As of the date of analysis, 2016 population estimates are not available from the US Census American Community Survey. 2016 rates are based on 2015 population estimates.
** Ulster County reports a high number of human/bat contact in 2014.
Data Source: NYS Department of Health Bureau of Communicable Disease Control
Swine brucellosis is caused by infection with Brucella suis. In swine, brucellosis causes economically important reproductive losses. A national eradication program exists. The organism is zoonotic and can be maintained in both domestic and feral swine. The disease has been eradicated in commercial swine in the United States, but is enzootic in feral swine in other regions of the country, especially Texas and southeastern states. In New York (NY), B. suis had not been detected in swine since the 1980’s. No feral swine sightings have been reported in NY since 2014.

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NYSADM, with the assistance of USDA, conducted and traceback and traceback of swine sourced into and out of the herd. Herd tracing revealed that a number of other small farms had exchanged animals with the index farm. The agricultural investigation unfolded over the following 6 months and involved herds in other states. These herds were quarantined and tested. All the epidemiologically linked herds were transitional (“pasture pork”) herds.

In NY, NYSADM and USDA coordinated management of infected herds. Six positive herds were depopulated, and the premises were cleaned and disinfected prior to the reintroduction of swine. Positive swine in NY were prohibited from being slaughtered for food.

Persons who had direct contact with infected herds (e.g., farmers, farmhands, and veterinarians) or the human isolate (i.e., laboratory staff) were educated about their potential risk of exposure. They were offered combinations of symptom monitoring, cleaning and disinfection, and personal protective equipment as needed.

In NY, the New York City Department of Health and Mental Hygiene reported a single case of leptospirosis in a human. Leptospirosis is a zoonotic disease that can cause severe illness in animals and people. Leptospirosis is spread mainly by contact of mucous membranes or open wounds with urine of infected animals (such as rats), contaminated water, soil or food.

Exposure to infected wildlife, or environments contaminated by infected wildlife, can result in clinical cases of leptospirosis in humans. Three cases were identified in a one block section in the Concourse area of the Bronx and linked to a single building with rodent infestations. All three individuals were hospitalized with acute renal and hepatic failure. Two developed pulmonary hemorrhages, and there was one fatality. These cases serve as a reminder that leptospirosis is a zoonotic disease that can cause severe illness in animals and people. Leptospirosis is spread mainly by contact of mucous membranes or open wounds with urine of infected animals (such as rats), contaminated water, soil or food.

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Thanks to Allison Smith, MPH for data analysis and research; Veronica Salvas, MPH for collaboration; and Aisha Phillips, MPH for design and layout.

References:
5. To report a Suspicious Algal Bloom to the DEC: www.dec.ny.gov/docs/water_pdf/suspalgformedit.pdf
6. In the spirit of One Health, we encourage veterinarians to stay informed and support the reporting of any possible HABs in the area to limit both human and animal exposures. For more information, please check out the CDC’s Veterinarian Reference Card at: www.cdc.gov/nceh/hsb/hab/habsveterinarian_card.pdf.

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