EPIDEMIOLOGY SURVEILLANCE REPORT
Northeast Region

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This report is for use by Public Health Officials only and not for public distribution.

All data are provisional and are subject to change.
Purpose/Objectives

Purpose
• To provide regional information and updates to public health partners on communicable disease activity and trends within their region

Objectives
• Provide an overview of communicable disease activity
• Describe quarterly trends in select communicable diseases
• Highlight interesting and/or notable outbreaks/clusters and/or investigations
State and Regional Highlights- Foodborne Illness

Salmonella Javiana Cluster

- 37 confirmed cases from 5 states: FL, KY, NJ (33), NYC, and PA.
- Majority of cases Monmouth and Ocean residents but six additional counties have at least one case associated with this cluster.
- Hudson county in the Northeast had at least one case.
- Onset dates range: July 9, 2015 to August 14, 2015.
- Age range: 1-72 years (median 24 years).
SELECT DISEASE TRENDS AND ACTIVITY
Enteric Diseases New Jersey

Figure 1: CDRSS Reports of Select Enteric Diseases, New Jersey
January 2014 - September, 2015

Seasonal Increases in all enteric diseases with Salmonellosis and Campylobacter peaking in July, 2015.

*Includes total number of reports entered into the Communicable Disease Reporting and Surveillance System (CDRSS) each month for select diseases. Excludes merged and deleted reports. Includes all case statuses (i.e. CONFIRMED, PROBABLE, POSSIBLE, REPORT UNDER INVESTIGATION (RUI), NOT A CASE). Data reflect the reporting burden of disease and does not reflect the number of cases that are confirmed.
Enteric Diseases Northeast Region

Reports for Campylobacteriosis continued to increase from the previous quarter. Reports for other enteric diseases in the Northeast region remained low.

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Vaccine Preventable Diseases New Jersey

General increase in reports for pertussis since June 2015 continuing into the 3rd quarter.

Figure 3. CDRSS Select Reports of Vaccine Preventable Diseases New Jersey
January 2014-September 2015

*Includes total number of reports entered into the Communicable Disease Reporting and Surveillance System (CDRSS) each month for select diseases. Excludes merged and deleted reports. Includes all case statuses (i.e. CONFIRMED, PROBABLE, POSSIBLE, REPORT UNDER INVESTIGATION (RUI), NOT A CASE). Data reflect the reporting burden of disease and does not reflect the number of cases that are confirmed.
Vaccine Preventable Diseases Northeast Region

Figure 2. CDRSS Select Reports of Vaccine Preventable Diseases, Northeast Region, January 2014-September 2015

*Includes total number of reports entered into the Communicable Disease Reporting and Surveillance System (CDRSS) each month for select diseases. Excludes merged and deleted reports. Includes all case statuses (i.e. CONFIRMED, PROBABLE, POSSIBLE, REPORT UNDER INVESTIGATION (RUI), NOT A CASE). Data reflect the reporting burden of disease and does not reflect the number of cases that are confirmed.
## Vectorborne and Zoonotic Diseases

Table 1: New Jersey Animal Rabies Cases in the Northeast Region by Species, January 1 – September 30, 2015

<table>
<thead>
<tr>
<th>Region</th>
<th>County</th>
<th>Bat</th>
<th>Cat</th>
<th>Raccoon</th>
<th>Skunk</th>
<th>Other*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>Bergen</td>
<td>5</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td></td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Essex</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Hudson</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Northeast Region</strong></td>
<td><strong>10</strong></td>
<td><strong>1</strong></td>
<td><strong>11</strong></td>
<td><strong>3</strong></td>
<td>Other*</td>
<td><strong>27</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Two coyotes tested positive for rabies in 2015

- Bergen County had the highest number of rabies cases in the Northeast region between January 1 and September 30, 2015.
- Compared to the same time period in 2014 in the Northeast region, there was an increase in overall rabies cases (27 vs. 16).
Vector borne and Zoonotic Diseases

Figure 5. New Jersey Animal Rabies Cases by Region and Species. January 1- September 30, 2015

- The Northeast region had the lowest number of animal rabies cases in New Jersey.
- The Southern region had the highest.
Arboviral activity – West Nile Virus

- West Nile virus activity (mosquito and/or avian) has been identified in all 21 counties.
- To date, there are 900 WNV positive mosquito pools.
- 26 WNV positive cases, including two (2) fatalities.
Legionellosis

- Increases in Legionella activity statewide during the months of July and August.
- Multiple ongoing investigations.

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OUTBREAK/CLUSTER REPORTING
5 outbreaks reported and investigated in the Northeast Region during the 3 quarter.
Legionella in Northeast New Jersey

Diana Theriault, MPH
Regional Epidemiologist
New Jersey Department of Health
Legionella Organisms

- *Legionella* are ubiquitous in natural and artificial fresh water environments
  - Hot tubs
  - Cooling towers
  - Hot water tanks
  - Large plumbing systems
  - Decorative fountains
- Grows best in warm temperatures, 77°-110°F
  - Dormant under 77°F and killed above 124°F
- *Legionella* multiplies inside free-living amoeba
- *Legionella pneumononphila* serogroup 1 causes majority of human illness, but other serogroups do cause disease
Transmission

- No person-to-person spread
- Not through ingestion
Case Definitions

• Confirmed Legionnaires’ Disease:
  – Clinical: fever, myalgia, cough and clinical or radiographic pneumonia (Pontiac Fever- no pneumonia)
  – Laboratory:
    • By culture: isolation of any *Legionella* from respiratory, lung tissue, other sterile site
    • By urinary antigen: detection of *L. pneumophila* serogroup 1 in urine
    • By seroconversion: fourfold or greater rise in antibody titer to *L. pneumophila* serogroup 1

• Suspect (no Probable Case)
Public Health Response

Positive lab results (cultures, urine antigen test, seroconversion) sent to CDRSS

Public Health (Local Health Dept.) conducts investigation

- Healthcare associated (long term care facility)?
- Suspected occupational exposure?
- Travel associated?
- More than one case associated with a single facility?

Yes
Further investigation

No
Case is closed
Complete CDC case report form

Collected info:
- Illness onset
- Incubation period
- Potential exposures
- Long-term care resident
- Overnight travel
- Hospital stay
Legionella Case Report Form

- **Case Report Form-**

- **Hypothesis Generating Questionnaire-**
Case Investigations

TAKE HOME POINTS:

• Thoroughly investigate each and every case
• Complete a Legionellosis Case Report Form
• Report as soon as you suspect a healthcare or travel exposure has occurred.
• We are all in this together- Reach out to your Regional Epi for assistance.
Northeast Region Data

Bergen, Essex, Hudson
Annual Rate of Legionellosis in New Jersey, 2006-2014

![Graph showing annual rate of Legionellosis in New Jersey, 2006-2014](chart.png)

- **Legionellosis Rate (per 100,000)**
- **New Jersey Rate**
- **United States Rate**
## Top 3 Municipalities by County and Case Count 2006-2014

<table>
<thead>
<tr>
<th>County</th>
<th>Case number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bergen</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bergen</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Fort Lee</td>
<td>8</td>
<td>6.8%</td>
</tr>
<tr>
<td>Hackensack</td>
<td>8</td>
<td>6.8%</td>
</tr>
<tr>
<td>Teaneck / Englewood</td>
<td>7</td>
<td>6.0%</td>
</tr>
<tr>
<td><strong>Essex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Essex</td>
<td>295</td>
<td></td>
</tr>
<tr>
<td>Newark</td>
<td>118</td>
<td>40%</td>
</tr>
<tr>
<td>Irvington</td>
<td>28</td>
<td>9.5%</td>
</tr>
<tr>
<td>East Orange</td>
<td>27</td>
<td>9.2%</td>
</tr>
<tr>
<td><strong>Hudson</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hudson</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>Jersey City</td>
<td>30</td>
<td>33.7%</td>
</tr>
<tr>
<td>Bayonne</td>
<td>18</td>
<td>20.2%</td>
</tr>
<tr>
<td>North Bergen / West New York</td>
<td>8</td>
<td>9.0%</td>
</tr>
</tbody>
</table>
Cases of Legionnaires Disease by Municipality, 2010-2014

Northeast Region

Rate per 100,000 pop

- North East Region
- 0.0
- 0.1 - 19.3
- 19.4 - 47.3
- 47.4 - 124.4
- 124.5 - 371.7
Cases of Legionnaires Disease by Municipality, 2010-2014
Essex County

Density of Cases
Essex Cases
1 Dot = 1
YR2010_2014

Essex County Case Map
2010-2014
What’s Happening Now?

• Case investigations for 2015 are still ongoing.
  – Cases reported this year: 55
    • Bergen- 13
    • Essex- 33
    • Hudson- 9

• Outbreaks reported in 2015: 4 (all Essex)
• The cause of the increase in cases in Essex County is unknown.
• Focused Trainings
• Continuing to monitor the situation
Thank You

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PUBLIC HEALTH INVESTIGATIONS
Healthcare-Associated Cases

• Notification from Infection Preventionist in healthcare setting (patients usually very ill)
  – Long term care facility, assisted living, nursing home
  – Acute care hospital
• Public health response differs depending on patient’s exposures, extent of outbreak, capability of facility
• One case of healthcare-associated legionellosis leads to a full epidemiologic and environmental investigation if the case spend their entire incubation period in the facility
Who is at risk for legionellosis?

• Most healthy individuals do not become infected with Legionella bacteria after exposure. People at higher risk of getting sick are:
  – Older people (usually 50 years of age or older)
  – Current or former smokers
  – Those with a chronic lung disease (like COPD or emphysema)
  – Those with a weak immune system from diseases like cancer, diabetes, kidney failure, or HIV/AIDS
  – People who take drugs that suppress (weaken) the immune system (like after a transplant operation or chemotherapy)
Travel-Associated Cases

- Outbreaks of travel-associated legionellosis are infrequently identified, even though 20% of cases are associated with travel
- Public health ascertains if case patient spent at least one night away from home in 14 days before onset
- Report of all cases of legionellosis go to CDC
- CDC notifies states of travel-associated cases, location, dates of stay, illness onset date
LHD and facilities

• NJDOH is notified by CDC of NJ hotels and facilities with travel-associated case(s)
• LHD (Health Officer) is notified by NJDOH of specific hotel in their jurisdiction
• If only one travel-associated case, HO to reach out to hotel, using CDC sample letter to hotel
• If more than one case associated with same hotel within 12 months, full investigation

Essex County Legionellosis Rate, 2006-2014