LASSA FEVER IN NEW JERSEY, 2015

Shereen Semple, MS
Lindsay Hamilton, MPH

Background on Lassa Fever (LF)
- Acute viral illness caused by Lassa virus (arenavirus) with very limited endemic transmission
  - 4 West African countries
  - Annual number of cases ranges from 100,000-300,000
  - Mild or asymptomatic illness in 80% of cases
  - Case fatality low, around 1%

Transmission of LF
- Host is the multimammate rat (*Mastomys natalensis*)
- Usually transmitted through inhalation or ingestion of rodent excreta
- Secondary transmission occurs through direct contact with infected body fluids
- Symptoms usually occur in 1-3 weeks

Signs and Symptoms of LF
- Signs and symptoms include:
  - Fever
  - Malaise and/or weakness
  - Headache
  - Sore throat and/or cough
  - Bleeding in gums, eyes, or nose
  - Respiratory distress
  - Vomiting
  - Facial swelling
  - Pain in chest, back, and abdomen
  - Encephalitis or other neurological problems
Lassa Fever in New Jersey (NJ)

- Previously, 5 cases of LF have been reported in the United States

- On May 25, 2015, the Centers for Disease Control and Prevention (CDC) confirmed the presence of Lassa virus in a NJ resident with recent travel to Liberia

- A large-scale investigation was conducted with coordination among New Jersey Department of Health (NJDOH), CDC, several local health departments (LHDs), and two hospitals

Contact Tracing

- 217 potential contacts identified from all involved facilities and the community
- 214 contacted and interviewed

  - 33 (15.4%) no risk
  - 166 (77.6%) low risk
  - 15 (7.0%) high risk

NJ Lassa Fever Case Timeline

- Case-patient arrives in US from Liberia and does not report any symptoms
- Case-patient seen at Hospital A for fever and sore throat and does not report travel
- Case-patient admitted to Hospital A for fever and sore throat and does not report travel
- Case-patient admitted to Hospital A for fever and sore throat and does not report travel
- Case-patient contacts LHD to report hospitalization
- Conference call with NJDOH, CDC and Hospital A, Lassa Fever is suspected
- Sample sent to CDC and case transferred to Hospital B
- Sample confirmed for Lassa virus

Types of Exposure

- Laboratory Workers: 68
- Healthcare Workers: 63
- Family Members: 26
- Environmental and Dietary: 13
- Transports: 11
Facility Tours

- CDC’s Ebola Response Team and NJDOH conducted walk-through’s of Hospital A and B
- Subject matter experts met with staff from Hospital A and B to provide education/counseling and infection control expertise
- CDC, NJDOH, LHD and Hospital B implemented safe burial practices in accordance with the family’s customs
- Technical expertise provided at community forum sponsored by the LHD and at PEP clinic at Hospital B

Active Monitoring

- By June 19, 2015 all contacts had completed their 21 days of active or direct active monitoring
- Total, there were 3 incidents where person was evaluated for Lassa fever during monitoring
  - 1 was tested at CDC on two separate occasions
  - Lassa fever ruled out
  - No secondary cases

Active Monitoring of Contacts

- “Low Risk” contacts=active monitoring (reporting once per day to report twice daily temperatures)
  - No travel restrictions
  - Symptomatic individuals assessed at frontline hospitals if need arose
- “High Risk” contacts=direct active monitoring (reported twice per day with at least one visual observation)
  - DNB and travel restrictions applied
  - Symptomatic individuals assessed at Ebola assessment facilities if need arose
Discussion

- Active monitoring of all contacts concluded by June 19th
- No secondary cases resulted from LF case
- Case may not have reported symptoms and travel due to fear of stigma
- Reduced learning curve and easier implementation for contact tracing of nearly 200 persons due to tools already in place for Ebola active monitoring

Recommendations

- Healthcare providers should always consider other travel associated infectious diseases beyond Ebola in order to remain vigilant
- Stakeholders should address stigma associated with being traveler or citizen from Ebola-effected countries
- Health departments should consider using Ebola monitoring systems and protocols for investigations requiring large-scale contact tracing

Acknowledgements

- “Thank You!” to the following people who were crucial to investigation and response:
  - NJDOH Lassa Fever Team
  - CDC Team
  - Newark Department of Health and Human Services
  - Essex Regional Health Commission
  - Irvington and Livingston Health Departments
  - Partners at Hospitals A and B
  - And many more!!!

Questions?

Shereen Semple, MS
Vectorborne Disease Coordinator and Ebola Team Lead
Email: shereen.semple@doh.state.nj.us
Phone: 609-826-5964

Lindsay Hamilton, MPH
CDC/CSTE Applied Epidemiology Fellow
Email: Lindsay.hamilton@doh.state.nj.us
Phone: 609-826-5964