

Laboratory Biosafety & Infection Control

Michigan Special Pathogens Response Network

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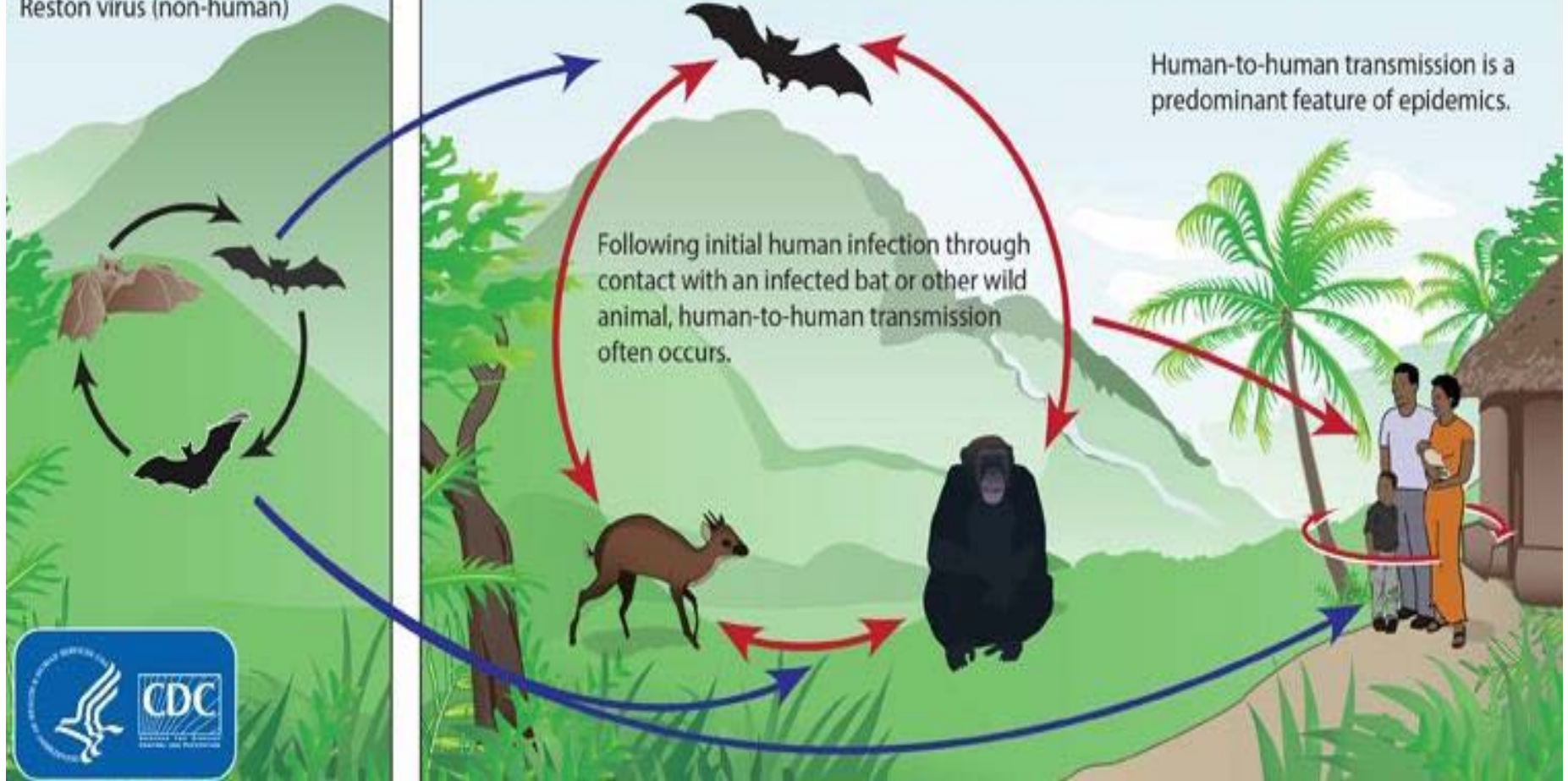
Symptoms & Presentation

- Prototype Viral Hemorrhagic Fever Pathogen
 - *Filovirus: enveloped, non-segmented, negative-stranded RNA virus*
 - *Severe disease with high case fatality*
- >20 previous Ebola and Marburg virus outbreaks
- Guinea, Sierra Leone, Liberia
- Reservoir: suspect bats and primates
- Symptoms 2-21 (8-10 average) days after exposure
- H/A, muscle pain, weakness, fatigue, diarrhea, abdominal pain, hemorrhage
- Supportive care; vaccine trials
- Long term: joint, vision problems



Ebolaviruses:

- Ebola virus (formerly Zaire virus)
- Sudan virus
- Tai Forest virus
- Bundibugyo virus
- Reston virus (non-human)



Case Definitions

Person Under Investigation (PUI)

- A person who has both consistent signs or symptoms and risk factors as follows should be considered a PUI
- Elevated body temperature or subjective fever or symptoms, including severe headache, fatigue, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage

AND

- An epidemiologic risk factor within the 21 days before the onset of symptoms

Confirmed Case

- Laboratory-confirmed diagnostic evidence of Ebola virus infection

<http://www.cdc.gov/vhf/ebola/hcp/case-definition.html>

<http://www.cdc.gov/vhf/ebola/hcp/international/case-definitions.html>

Diagnosis Laboratory Safety and Capacity

- Complete a site specific lab risk assessment
- Develop phlebotomy protocol
- Testing for Malaria, flu, CBC, lytes, liver enzymes, coags
- Defined transport plan for lab specimen
 - In building
 - To state
- Use Biosafety cabinet

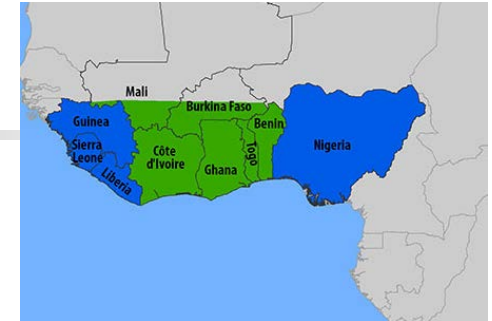


Marburg



- Hemorrhagic fever (Filovirus)
- Sporadic outbreaks in Africa
- Reservoir: African Green Monkeys, fruit bat
- Symptoms: fever, chills, h/a, myalgia; rash on trunk, nausea, vomiting, chest pain, sore throat, abdominal pain, diarrhea
- Supportive therapy only.
- Long term sequela: orchitis, hepatitis, transverse myelitis, uveitis, parotitis

Lassa Fever



- Hemorrhagic fever (Arenaviridae)
- Endemic to West Africa
- Reservoir: *Mastomys natalensis* rodent feces
- Symptoms: range from none to organ failure
- No vaccine; Ribavirin
- Long term sequela: deafness

Special Pathogens Response Network

- Provide technical assistance for Ebola Virus Disease and other special pathogens
- Schedule site visits to all hospitals with Emergency Departments
- Review 12 domains in CDC assessment guide
- Facility is able to access grant funds after site visit
- Continue technical assistance to assure CONOPS development, assure hospital protocols are maintained/updated, facility exercise completion
- Provide support to exercise planning, educational conferences

Summary

- Screening for any disease/illness is the new norm
- Contact Local Public Health early
- Website updated:
 - Notification algorithm
 - Hospital Tiers by Region
 - EMS transport agencies
 - Exercise toolkit
 - Category A waste for residential locations

References

- www.michigan.gov/ebola
- www.cdc.gov/ebola
- www.who.int/ebola
- <https://asprtracie.hhs.gov>
- <http://netec.org>

THANK YOU!

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