

# A PERFECT STORM: LRN LABORATORY RESPONSE to SIMULTANEOUS PLAQUE & TULAREMIA CASES DURING CHALLENGING CIRCUMSTANCES

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**COLORADO**  
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Analysis. Answers. Action.

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# THE SUMMER of 2014: STORM CLOUDS GATHER

- Neighboring state LRN BSL-3 laboratories are flooded
- CDPHE Laboratory Services Division (LSD) laboratory performs the TB testing for that laboratory, serves as backup for select agent testing
- Biosafety cabinet in the LSD Tuberculosis Lab goes down, BSL-3 testing duties added to the BT Lab
- One of three biosafety cabinets in the BT Lab goes down
- Specimens start arriving for suspected human cases of plague & tularemia



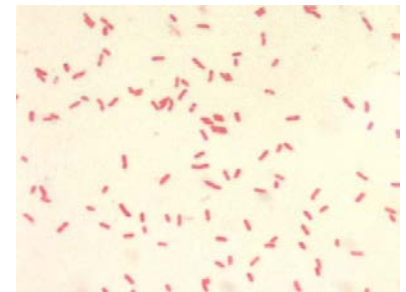
# WHEN it RAINS, it POURS

- Environmental conditions began to change during September 2013 floods in Colorado
- Increased snow pack and rains in 2014 & 2015
- Increased growth of vegetation
- Increased numbers of small wildlife



# TESTING WORKLOAD INCREASES

- Hospital patient tests positive for pneumonic plague
- Additional specimens arrive for spouse, veterinarian & assistant
- That Friday pm, pediatric specimen is PCR (+) for tularemia, confirmed on Saturday am



# ADDITIONAL TESTING & REPORTING

- Specimens for the pneumonic plague cluster coming from different clinics from the same patient.
- Completing Form 4A's for several plague and a tularemia case at the same time.
- Contacting submitting laboratories, one hospital alone had over 100 exposures of staff, patients & visitors as the pneumonic plague index case was not in isolation until *Yersinia pestis* was identified.
- Forwarded Form 3 & Form 4A's to submitting laboratories
- Another specimen confirms for tularemia



# ANOTHER WILD CARD

- During this time, the Select Agent Program inspection team arrives for the 3-year certificate renewal inspection.
- Interviewing with inspectors as calls are coming in for test results and guidance from submitters—sometimes desk and cell phone going at the same time.
- Adding completed Form 4A's for *F. tularensis* & *Y. pestis* identifications as the inspectors are reviewing those records.
- Inspectors noted that they seldom saw LRN responses during their inspections.

# INCREASED TESTING 2014–2015

- 8 confirmed (LRN testing & serology testing) human cases of plague in Colorado during 2014—average yearly total for the U.S. 5 confirmed in 2015 including a Michigan tourist
- 4 suspected pneumonic, 4 bubonic, 5 septicemic
- Last confirmed human case in Colorado was 3 years prior.
- 68 confirmed (LRN testing & serology testing) human cases of tularemia—yearly average for Colorado is 3-4.
- Most human cases in Colorado since 1983.



# WHY LABORATORY TESTING RESPONSE WAS SUCCESSFUL:

- Cross-trained staff
- Experience
- Facility & equipment redundancy
- Assistance from the CDC, Ft. Collins, CSU Veterinary School & clinical labs
- Support from Select Agent Program inspection team





# QUESTIONS?



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