Outbreak Investigation: 10 Steps

1. **Prepare to investigate**
   - Identify outbreak investigation team
   - Review scientific literature
   - Determine if immediate control measures are needed

2. **Verify the diagnosis and confirm outbreak**
   - Get laboratory confirmation
   - Collect stool specimens from ill persons
   - Perform bacteriologic, virologic or parasitic testing at the Georgia Public Health Laboratory (GPHL)
   - Link patients and environmental specimens by DNA fingerprinting/Pulse Field Gel Electrophoresis (PFGE)

3. **Case definition**
   - Establish a set of standard criteria for deciding who are the ill persons related to the outbreak ("case-patients")
   - Narrow or broad (confirm, probable, suspect)
   - DYNAMIC: may change during investigation

4. **Case finding**
   - Conduct systematic search based on case definition
   - Create line list of possible cases (people exposed)

5. **Perform descriptive epidemiology**
   - Tabulate and orient data: PERSON, PLACE, TIME
   - Frequencies
   - Mapping
   - Epidemic Curve

6. **Hypothesis generation - the how and the why**
   - Compare with known sources or similar outbreaks
   - Design questionnaire

7. **Evaluate hypothesis through statistics**
   - Perform epidemiologic study: cohort, case-control
   - Compare risk factors among ill (cases) vs not ill (controls)

8. **Additional environmental studies**
   - Collect food, water, and/ or environmental samples
   - Determine what happened with the implicated source or food

9. **Implement control/prevention measure**
   - Coordinate with all stakeholders including regulatory partners
   - Develop strategies to prevent further or future illness

10. **Communicate findings**
    - Disseminate outbreak investigation report - internal and external audience
    - Educate community, ill persons, restaurant staff, and Public Health Staff