

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

