



# Foodborne Disease Outbreak Investigation

## Computer-based EPIDEMIOLOGIC CASE STUDIES

*These self-instructional, interactive exercises were developed to teach skills in outbreak investigation. Based on real-life investigations the case studies require students to apply and practice their epidemiologic and public health knowledge and skills.*

*In each case study, students work through an outbreak investigation from beginning to end. Information about the outbreak is slowly revealed. Students must answer questions for the case study to advance. Students can review basic epidemiologic and public health concepts and explore topics of interest through special lessons. Although designed to be self-instructional, the case studies can be used in the classroom setting as a group exercise, homework, or test to reinforce concepts covered in class.*

### **Target Audience**

These case studies were developed for public health practitioners with knowledge of basic epidemiologic and public health concepts including public health nurses, epidemiologists, infectious disease investigators, environmental health specialists, veterinarians, and MPH students.

### **Prerequisites**

Students should have successfully completed training in descriptive epidemiology, epidemic curves, study design, measures of association, and outbreak investigation.

### **Continuing Education**

Students can receive the following continuing education credits for completing each case study: CMEs, CNEs, CEUs, and CECHs. To receive credit, students must register for the course and complete the evaluation and exam online.

### **Developed By**

These case studies stem from a collaboration within the Centers for Disease Control and Prevention of the National Center for Infectious Diseases, the Epidemiology Program Office, and the Public Health Practice Program Office with the Public Health Training Network. The case studies were developed by Jeanette Stehr-Green, MD and Nancy Gathany, MEd.

### **Computer Requirements**

The case studies require Windows 95, Windows 98, Windows NT® 4.0, Windows 2000, or Windows XP. For a complete list of the requirements for each case study, go to the PHTN Case Studies website.

### **For More Information**

The case studies can be purchased from the Public Health Foundation or downloaded from the PHTN Case Studies website. Because the case studies are in the public domain, you can make copies and share them with others.

To Purchase on CD:  
Call toll free 877-252-1200  
or go to [bookstore.phf.org](http://bookstore.phf.org)



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## Case Study Series

The computer-based epidemiologic case study series currently consists of the products below. Development of a third case study is planned to complete the foodborne disease outbreak investigation curriculum. Each case study was designed to focus on different learning objectives. Because the learning objectives complement each other, students can benefit by completing all the case studies.

A template approach was used for the development of the “*E. coli* O157:H7 Infection in Michigan” case study which will facilitate the creation of additional case studies. This case study also incorporates the use of "text to speech" for students who are visually impaired and includes keyboard equivalents for activities to accommodate students who are unable to use a mouse.

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### Botulism in Argentina

(Course #CB3058, released 2002)

This case study was based on an investigation undertaken by Rodrigo Villar, et al., in 1998. The learning objectives include:

1. describe the major steps of an outbreak investigation
2. critique a press release about an outbreak
3. construct and interpret an epidemic curve
4. given the leading hypothesis in an outbreak, design a draft questionnaire
5. calculate and interpret the measure of association for a cohort study
6. list activities to include in an environmental health assessment of a food implicated in an outbreak investigation
7. given the details on the source of an outbreak, develop short- and long-term interventions
8. describe measures that can be used to monitor the success of an intervention
9. describe the occurrence, signs and symptoms, and control of foodborne botulism

### *E. coli* O157:H7 Infection in Michigan

(Course #CB3075, released 2004)

This case study was based on an investigation undertaken by Thomas Breuer, et al., in 1997. The learning objectives include:

1. determine whether an increase in reports of a disease represents an outbreak
2. write a case definition for an epidemiologic investigation
3. summarize the descriptive epidemiology of cases in an outbreak
4. list questions for in-depth interviews of cases to generate hypotheses about the source of an outbreak
5. outline key considerations in designing a case-control study
6. analyze the results of a case-control study
7. list detailed product information that will facilitate traceback of a food implicated in an outbreak
8. describe the unique role the laboratory can play in an outbreak investigation
9. describe infection with *E. coli* O157:H7

