

FORENSIC EPIDEMIOLOGY

JOINT TRAINING FOR LAW ENFORCEMENT AND PUBLIC HEALTH OFFICIALS ON INVESTIGATIVE RESPONSES TO BIOTERRORISM

FINAL REPORT

MAY 31, 2004

FORENSIC EPIDEMIOLOGY:

JOINT TRAINING FOR LAW ENFORCEMENT AND PUBLIC HEALTH OFFICIALS ON
CONCURRENT INVESTIGATIVE RESPONSES TO BIOTERRORISM THREATS AND ATTACKS

Events of Fall 2001, including the anthrax attacks and the thousands of biologic threats and hoaxes, required law enforcement, other public safety, and public health agencies to work together in ways without precedent. The concurrent responses to such threats affirmed the many similarities in the goals and investigative methods used by both law enforcement and public health officials, but also highlighted salient differences in the different disciplines' approaches. To foster improved understanding of the investigative goals and methods specific to each discipline and to strengthen interdisciplinary collaborative effectiveness in response to future attacks involving biological agents, in spring 2002, the Public Health Law Program (<http://www.phppo.cdc.gov/od/plhp>) of the U.S. Centers for Disease Control and Prevention (CDC), in partnership with other agencies and organizations, undertook development of a course for the joint training of law enforcement and public health officials. The course has been referred to frequently as the "Forensic Epidemiology" course.

Training goal: A primary goal for the training course is to **enhance the joint effectiveness of law enforcement and public health** when both disciplines conduct concurrent investigations in response to a threat or attack involving possible biological weapons.

Training strategies: The course's centerpiece is a set of **3 fact-based case scenarios** worked through by small groups; the small groups, which include equal numbers of law enforcement and public health officials, address key objectives by reviewing sets of facts from answer questions matched to the objectives. The objectives span a spectrum of issues, including for example: conducting epidemiological investigations and public health operations in the setting of a crime scene; **establishing critical investigative procedures with epidemiological, laboratory, and other scientific procedures** in such settings; and joint law enforcement and public health operations and communications. In addition to improving understanding of relevant laws, approaches, and procedures, the course's delivery is designed to **increase participants' familiarity with their law enforcement and public health counterparts** in their home jurisdictions. The module also employs a "role-the-hoaxer" strategy to emphasize peer teaching and to create a force-multipplier capacity for sustainable, additional training within a state or other jurisdictional level.

Course agenda: The course is designed to be given in three 1/2-day sessions:

First 1/2-day (morning)

- Participants convene for a series of three background presentations to establish a common understanding of discipline-specific goals, methods, and vocabulary:
 - Law Enforcement for Public Health Officials
 - Public Health for Law Enforcement Officials
 - Role of the Criminal and Public Health Laboratory

Second 1/2-day (afternoon)

- Participants break into smaller groups led by a pair of previously trained co-facilitators, and work through scenarios I and II:
 - Scenario I: "Suspicious Letter in DeKalb County"
 - Scenario II: "Anthrax in Florida"

Third 1/2-day (morning)

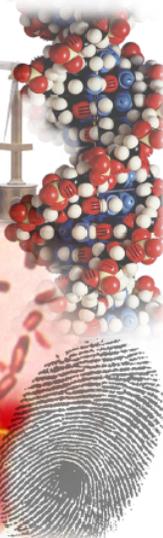
- Small groups work through scenario III then reconvene as a large group:
 - Scenario III: "Salmonellosis in Oregon"
 - Large group reports from small groups on issues for possible after-action plan

Course Pilot

The "Forensic Epidemiology" course has been successfully piloted four times:

- Chapel Hill, North Carolina (November 4-6, 2002)
- Jacksonville, Florida (December 3-4, 2002)
- Baltimore, Maryland (December 17-18, 2002)
- Los Angeles, California (January 15-16, 2003)

Each course pilot was customized for the locale but consisted of the same core groups: state and local public health, state and local law enforcement (police departments or sheriff's offices), state public health laboratories, the jurisdictional field offices of the Federal Bureau of Investigation, the jurisdictional U.S. Attorney's Office, and local schools of public health.





EXECUTIVE SUMMARY

The U.S. Centers for Disease Control and Prevention (CDC) *Forensic Epidemiology* course was developed in response to the ongoing threat of terrorist attacks made evident by the unprecedented events of September 11, 2001 and the anthrax attacks of October 2001. These events were a catalyst for the key role played by federal law enforcement (U.S. Department of Justice) in working with CDC to foster training aimed at strengthened preparedness for responses to biological threats and attacks.

In the spring of 2002, CDC's Public Health Law Program, in partnership with other agencies and organizations, responded to the training needs made further evident by the terrorist attacks by developing the *Forensic Epidemiology* course, a joint training module with the goal of enhancing the cooperative threat response efforts by law enforcement and public health officials on a national scale. The approach used for the development and implementation of this course is without precedent or parallel in terms of endeavoring to deliver national-level joint training on this complex subject.

CDC's other partners in *Forensic Epidemiology* include state and local public health departments, state and local law enforcement agencies, the United States Attorneys' Offices, and the Federal Bureau of Investigation. Additionally, details of the development and implementation of the *Forensic Epidemiology* course were shared widely with other national public health and law enforcement organizations, including the National Association of local Boards of Health, the Association of State and Territorial Health Officials, the National Association of County and City Health Officials, the Police Executive Research Forum, the Committee on Accreditation for Law Enforcement Agencies, the National Sheriff's Association, and the International Association of Chiefs of Police.

From November 2002 through May 2004, the *Forensic Epidemiology* course was delivered to more than 8,500 public health, law enforcement, and first response professionals in 103 sessions in 32 states and territories. Forty-three more courses in 12 additional states are scheduled for implementation by the end of September 2004. Appendix I details the courses held through May 2004, identifying the location, date, sponsors, and number of participants for each.

This report assesses the substantive impact and outcome of *Forensic Epidemiology* courses delivered through May 2004. The types of impacts and outcomes identified include implementation and other follow-up actions by public health, law enforcement, and the first responder communities in participating states. This information was collected in telephone interviews and emails immediately following each course and again within three to six months of course completion. The respondents were key personnel responsible for organizing the *Forensic Epidemiology* course in each jurisdiction. They typically included Anti-Terrorism Advisory Committee members from the United States Attorney's Offices, public health training managers



from local and state public health departments, and Weapons of Mass Destruction coordinators from the Federal Bureau of Investigation.

The interviews identified a significant number of important, concrete activities as outcomes of the *Forensic Epidemiology* training. A sample of these activities is included in the report. Examples include:

- Development of a standing *Forensic Epidemiology* Working Group in Buncombe County, North Carolina.
- Development of a bioterrorism preparedness field exercise by the U.S. Attorney's Office for the Eastern District of Pennsylvania and the Federal Bureau of Investigation field office in Philadelphia.
- Development of an online version of the *Forensic Epidemiology* course by the University of North Carolina School of Public Health for public health, law enforcement, and first responder professionals.
- Recommendations by several states for additional multi-agency training in such areas as Incident Command Structure, National Incident Management System, Decontamination Procedures, and School Preparedness.

Table 1 displays selected outcomes from participating states. The clear pattern is one of:

- Enhanced capacity to conduct joint public health/law enforcement responses to suspected or confirmed bioterrorism events;
- Ongoing improvements to joint investigative policy and procedure;
- Development of new, ongoing training programs; and
- Development of effective new communication protocols between agencies of public health and law enforcement.



Table 1. Selected *Forensic Epidemiology* Training Impacts

Outcomes	
Changes in Policies, Procedures, or Communications	Follow-on Exercises Initiated by Course Sponsors
<ul style="list-style-type: none">■ Updated current statewide paging system■ Created forum promoting communication between forensic and public health laboratories■ Public health now has a seat on previously law enforcement only committees■ Law enforcement now has a seat on previously public health only committees■ \$1,500 mini-grant made available to each region in Illinois to support course delivery■ <i>Forensic Epidemiology</i> principles tested by actual bioterrorism events (Seattle)■ White powder hoaxes dealt with in a more efficient manner■ <i>Forensic Epidemiology</i> workgroups created to discuss HIPAA, evidence collection, and Emergency Operations■ Mock interview script developed for joint interviews■ Quarantine and isolation policies investigated after a potential outbreak■ Draft protocols concerning actions during white powder incidents■ Development of a public health laboratory chain of custody form	<ul style="list-style-type: none">■ Simulated bioterrorism events (modified tabletops) including representatives from both law enforcement and public health■ Bioterrorism preparedness field exercises■ Incident Command System Training Program for Public Health■ Online versions of <i>Forensic Epidemiology</i> course■ Consequent Management exercises■ Advanced <i>Forensic Epidemiology</i> training■ Strategic National Stockpile exercises





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PURPOSE OF THIS REPORT

This report describes the steps taken to implement CDC's *Forensic Epidemiology* training and reports on impact and outcome of courses delivered through May 2004.

The report has four sections:

Section One: **Forensic Epidemiology**

This section covers the goal of the course, key events, partners, methods, and planning strategies to accomplish training implementation.

Section Two: **Evaluation**

This section outlines the purpose of and methods used in the evaluation and presents the questions that were asked of course sponsors.

Section Three: **Evaluation Findings**

This section identifies the training impacts and outcomes in selected states or jurisdictions. It highlights the penetration of training in those states and identifies performance outcomes that can be tied directly to the *Forensic Epidemiology* course.

Section Four: **Recommendations and Summary Conclusions**

Section Four summarizes the key points and highlights of the data collected, with a special focus on significant outcomes, and includes recommendations based upon information collected during and after training. Also included are SAIC's recommendations to CDC based on lessons learned about the training, as well as suggestions for improving training design, logistics, and delivery.



FORENSIC EPIDEMIOLOGY

The Goal of Forensic Epidemiology Training

CDC's goal in developing the *Forensic Epidemiology* training course is to enhance the joint preparedness and effectiveness of law enforcement and public health services when both disciplines conduct concurrent investigations in response to a threat or attack involving possible biological weapons. To accomplish this goal, a specially designed training methodology was developed to allow the law enforcement and public health professionals to train together through the use of fact-based scenarios involving biological weapons attacks. CDC's timeline proposed that a minimum of two-thirds of the states (34 states) would hold *Forensic Epidemiology* training by September 30, 2004. In fact, 32 had delivered the course by May 31, 2004. The total is projected to reach 44 by September 2004.



Background

The events of Fall 2001, including the anthrax attacks and the thousands of biologic threats and hoaxes, required law enforcement and other public safety and health agencies to collaborate in new and ongoing ways. The agencies' concurrent responses to these incidents and threats affirmed the important similarities and highlighted differences in each organization's goals and investigative methods.

The need for CDC to foster an improved interdisciplinary understanding of the investigative goals and methods used by each discipline became strikingly evident. As mentioned, the overarching goal of the CDC initiative was to strengthen the cooperative effectiveness of these disciplines in their responses to ongoing threats and future attacks involving biological agents. To this end, during the spring of 2002, CDC's Public Health Law Program, in partnership with a consortium of other agencies and organizations, made the decision to participate in the accomplishment of that goal.

The impetus for the *Forensic Epidemiology* joint training course was the initial CDC proposal to develop a course on epidemiologic investigation aimed primarily at law enforcement officials. Subsequently, public health agencies requested training for both public health and law enforcement staff to support the investigation of epidemiological outbreaks that might have resulted from deliberate or criminal actions. In mid-May 2002, CDC convened a meeting to discuss how to create such a course. CDC's strategic objective was to develop and provide the *Forensic Epidemiology* course as a self-contained instructional package that could be customized and used to meet the needs of any jurisdiction in the United States. Input from law enforcement and public health professionals resulted in a decision to develop a 1½-day course centered around case studies based on actual events. These case studies were created using the approach



applied in CDC's Epidemic Intelligence Service (EIS) courses. The case studies in the resulting *Forensic Epidemiology* course were developed with input from professionals who actually worked on the bioterrorism incidents.

The location of the first *Forensic Epidemiology* course was Chapel Hill, NC. This 'pre-pilot' course, held November 4-5, 2002, was coordinated through the collaboration of the CDC, the North Carolina Department of Public Health, the U.S. Attorney's Office for the Eastern District of North Carolina, the University of North Carolina School of Public Health, the North Carolina State Bureau of Investigation, the North Carolina State Bureau of Laboratories, the Charlotte field office of the FBI, and local health departments. The 'pre-pilot' had more than 150 participants from state law enforcement and public health organizations.

Partners

CDC's partners in this effort have included state and local public health departments, state and local law enforcement agencies, United States Attorneys' Offices (USAO), and the Federal Bureau of Investigation (FBI). The National Association of Local Boards of Health (NALBOH), the Association of State and Territorial Health Officials (ASTHO), and the National Association of County and City Health Officials (NACCHO) advertised *Forensic Epidemiology* in their national newsletters. The U.S. Department of Justice (DOJ), in partnership with CDC, played a key role in fostering this training. Availability of the course has been shared widely with several national law enforcement associations: the Police Executive Research Forum (PERF), the Committee on Accreditation for Law Enforcement Agencies (CALEA), the National Sheriff's Association (NSA), and the International Association of Chiefs of Police (IACP).

Course Development and Implementation

SAIC's association with the *Forensic Epidemiology* course began in September 2002. Although our services were engaged before the North Carolina course was held, SAIC's involvement in the 'pre-pilot' was observational. SAIC's major responsibilities in late 2002 and early 2003 were to enhance the course's structure, create the presentations used during delivery of the course, and schedule and coordinate three pilots at the following sites:

- Jacksonville, Florida (December 3-4, 2002)
- Baltimore, Maryland (December 17-18, 2002)
- Los Angeles, California (January 15-16, 2003)

These pilots enabled the course materials to be further refined on the basis of lessons learned and course evaluations. An instructional package was created in the form of a *Forensic Epidemiology* Course Manager's Guide. In Spring 2003, CDC made the Guide available to all participating agencies in United States jurisdictions at no cost. The Guide supplies detailed information on planning, course design and logistics, template presentations, case scenarios, and supplemental reference material. The *Forensic Epidemiology* Course Manager's Guide Table of Contents is



found in Appendix II. CDC provides the Guide to any law enforcement or public health official who requests one.

The Guide also presents 10 essential steps that must be taken before implementing the *Forensic Epidemiology* course:

1. Establish a local planning committee to prepare for and organize the course.
2. Select or customize the appropriate course design from options listed in the Guide.
3. Select a training facility.
4. Choose participants.
5. Select presenters.
6. Select facilitators from the participants.
7. Assemble binders.
8. Conduct facilitator training.
9. Determine breakout groups.
10. Conduct training.

To kick off national dissemination, in February 2003 the CDC Public Health Law Program convened a meeting attended by representatives from ASTHO, NACCHO, NALBOH, CALEA, PERF, NSA, DOJ, the U.S. Office of Domestic Preparedness (ODP), and other public health and law enforcement agencies and their national associations. The purpose of this meeting was to form partnerships among the organizations and a partnership with CDC for the successful nationwide delivery of the course.

As a result of the February 2003 meeting, DOJ sponsored a CDC-DOJ "Train-the-Course Managers Workshop" in April 2003, designed to provide attendees with the information, materials, and facilitation skills needed to organize and conduct the *Forensic Epidemiology* course in their respective districts and regions. The meeting was attended by 250 representatives from local and state public health agencies, the FBI, and the USAOs. All states (with the exception of Vermont) plus Puerto Rico were represented. Workshop participants were divided into state-specific groups and tasked to develop a *Forensic Epidemiology* course delivery plan for their state.

Following the "Train-the-Course Managers Workshop," CDC made available a contracted product support service for course organizers and course instructors requesting assistance in planning and holding state training. Typical requests for organizer assistance included help to accomplish the following tasks:

- Identify appropriate members for a local planning committee.
- Select the optimal course design for the jurisdiction.
- Locate effective presenters and facilitators.



- Define the target audience.
- Tailor the content to reflect local and cross-jurisdictional priorities.

The central curricular materials of the *Forensic Epidemiology* course are a set of three fact-based case scenarios. Small groups with equal numbers of law enforcement and public health officials are assigned to work through the selected case scenarios. These problem-solving groups meet key structured objectives by reviewing sets of facts and then answering criterion-referenced questions that are matched to the objectives. A full list of course objectives is located in Appendix III. The learning objectives include:

- Conducting epidemiological investigations and public health responses in the setting of a crime scene
- Meshing criminal investigative procedures with epidemiological, laboratory, and other scientific procedures
- Improving joint law enforcement and public health operations and communications.

The general goal is to increase participants' familiarity with laws, approaches, and procedures used by law enforcement and public health professionals in their home jurisdictions. The course also employs an important "train-the-trainer" strategy, the focus of which is to emphasize peer coaching and to create a force-multiplier capacity for sustainable, additional training within participants' states and other jurisdictions.

In addition to the CDC-DOJ "Train-the-Course Managers Workshop" and product support service, CDC gives additional encouragement to states to implement the course, including mini-grants, conferences, a website, and documentation (including letters to public health officials and an article in the *Journal of Law, Medicine, & Ethics*, a professional journal).

Mini-grants

In September 2003, CDC provided \$5,000 to each state health department to help meet costs incurred in planning and implementing *Forensic Epidemiology* training sessions. The one-page information sheet on the mini-grant is found in Appendix IV.

Conferences

During the fall of 2003, the *Forensic Epidemiology* course was exhibited at two major national public health conferences. These were the Association of State and Territorial Health Officials (ASTHO) and National Association of County and City Health Officials (NACCHO) joint conference in Phoenix, AZ, in September 2003; and the American Public Health Association (APHA) annual conference in San Francisco, CA, in November 2003. At each conference, more than 150 fact sheets and electronic copies of the *Forensic Epidemiology* Course Manager's Guide on CD-ROM were distributed to attendees.



Website

During the winter of 2003, a website dedicated to the *Forensic Epidemiology* course was launched. This website, housed on the Public Health Law Program web page at CDC, includes information on the *Forensic Epidemiology* course, selected outcomes and impacts, funding and other resources, future training sites, frequently asked questions, and a list of modifications made to the course. This website, whose homepage is found in Appendix V, is located at:

<http://www.phppo.cdc.gov/od/phlp/ForensicEpi/Background.asp>.

Documentation

(i) Letter to State Public Health Officials

In February 2004, CDC mailed an informational letter to each state health officer with an update on the *Forensic Epidemiology* course and with contact information to assess technical assistance to plan training sessions. A copy of the letter is found in Appendix VI.

(ii) Forensic Epidemiology article

In December 2003, an article on the *Forensic Epidemiology* course and on related epidemiological and legal issues was published in the *Journal of Law, Medicine, & Ethics*. It was co-authored by staff from the CDC, the U.S. Attorney's Office of the Northern District of Georgia, the Division of Medical Humanities, Health Law and Ethics at the University of Connecticut School of Medicine, and the North Carolina Attorney's General Office. The first page appears in Appendix VII. In January 2004, the paper was distributed to course organizers around the country.

The approaches for organizing training sessions differ by jurisdiction. For example, in some jurisdictions, the district USAO took lead responsibility, while in others a planning team made up of diverse agencies and organizations, including local public health, the district USAO, the local FBI field office, and local law enforcement, organized courses characterized by a diverse cross section of participant agencies

The *Forensic Epidemiology* course is designed to be conducted in 12 hours, a 1-½ day block, or three ½-day sessions. A sample agenda can be found in Appendix VIII.



First ½-day (morning)
Participants convene for a series of four background presentations to establish a common understanding of discipline-specific goals, methods, and vocabulary: <ul style="list-style-type: none">■ Law Enforcement for Public Health Officials■ Public Health for Law Enforcement Officials■ Role of the Criminal and Public Health Laboratory■ Role of the FBI in Joint Public Health and Law Enforcement Investigations
Second ½-day (afternoon)
Participants break into smaller groups led by a pair of previously trained co-facilitators and work through scenarios I and II: <ul style="list-style-type: none">■ Scenario I: “Suspicious Letter in DeKalb County”■ Scenario II: “Anthrax in Florida”
Third ½-day (morning)
Small groups work through scenario III then reconvene as a large group: <ul style="list-style-type: none">■ Scenario III: “Salmonellosis in Oregon”■ Large Group: Reports from small groups on issues for possible after-action plan

Most sponsors, however, tailor the course to meet their jurisdiction’s own time requirements. Popular modifications include compressing the course to one day (by removing one of the case studies) and lengthening the course to two days (by adding additional presentations or panel sessions on topics such as HIPAA, public health law, agroterrorism, and the role of the media in bioterrorist events).

Overall Impact

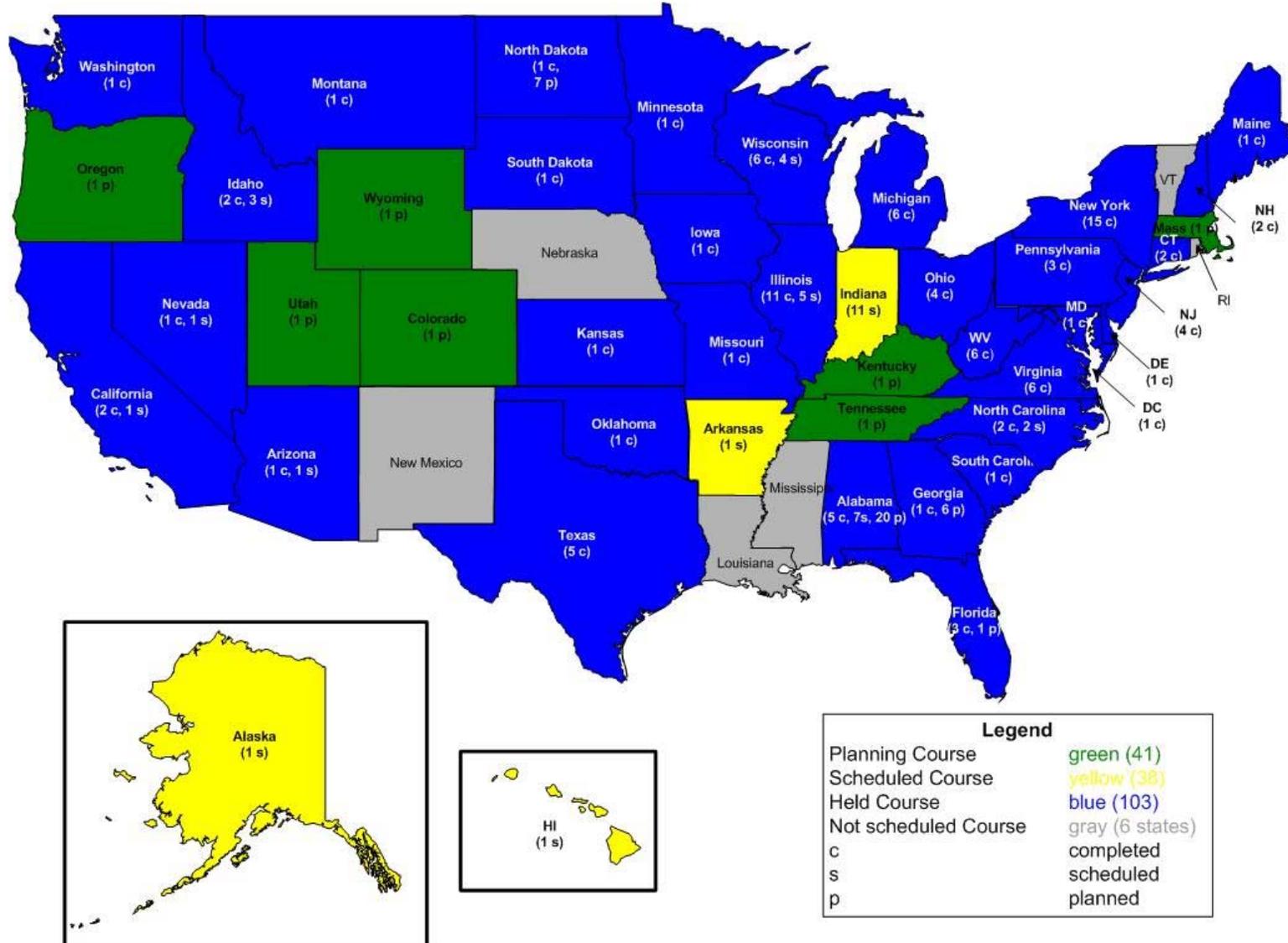
From the first pilot course in November 2002 through the end of May 2004, the *Forensic Epidemiology* course reached approximately 8,500 public health, law enforcement, and first response professionals. CDC’s initial goal was for 34 states to hold training by September 30, 2004. As of May 31, 2004, the *Forensic Epidemiology* course was held in 32 states or territories with 103 separate presentations. By September 30, 2004, more than 44 states will have held at least one *Forensic Epidemiology* course.

Appendix IX provides detailed information on the individual courses held through May 31, 2004. A list of courses planned through September 30, 2004 is provided in Appendix X.

Figure 1 presents a map of scheduled, planned, and completed courses. States shaded in blue have completed a course as of May 31, 2004; states in green or yellow have either planned or scheduled a course as of May 31, 2004; and states shaded in gray have not yet scheduled a course.



Figure 1: Map of Forensic Epidemiology Courses





EVALUATION

Evaluation Purpose

The areas of particular interest for evaluators of the delivery of the *Forensic Epidemiology* course project included:

- **Impact:** How many people have received training during either a train-the-trainer course or a non train-the-trainer course?
- **Outcomes:** How effective was the Forensic Epidemiology course?
 - Does the course influence organizational stages of readiness and preparedness?
 - Does the flexibility of the course in its current form meet the needs of organizations?
 - Does the course stimulate the institution of (or strengthen existing) cross-organizational relationships?
 - Does the course foster a greater and measurable understanding of general approaches to the investigation of bioterrorism threats and attacks?
 - Does the course lead to “after action” plans or implementation that contributes to cross-organizational participation in readiness and preparedness?
 - Does the course lead to a demand for the development of additional joint training?

Evaluation Methods

To measure the effects of the *Forensic Epidemiology* training, an evaluation of organizational impact and outcomes was performed via telephone and electronic mail. The purpose of the outcome evaluation was to answer whether a specific organization’s *operations* actually changed as a result of this training.

Course organizers were asked questions specifically on the processes used to develop any new task forces; development and use of work groups; changes in policy, procedures, or protocols; and any evidence of outcomes that were a direct or indirect result of participation in the *Forensic Epidemiology* course.



EVALUATION FINDINGS

Each state that held a *Forensic Epidemiology* course from November 2002 through May 2004 was contacted for the evaluation of impact and outcomes. The 21 states that reported significant, evident impacts and outcomes appear in the following pages. Impact information includes the date and location of each course, the number of participants, and other related information. Outcome in this context refers to the follow-on activities initiated by a local or state organization that relates directly or indirectly to the *Forensic Epidemiology* course. Twenty-nine states are not reported on for one or more of the following reasons:

- Less than five months have passed since completion of the course, making a measurable impact difficult to assess.
- Based on follow-up phone conversations, there were no measurable outcomes reported as a result of the training.
- The course sponsors have not implemented significant changes as a result of the training due to lack of time or fiscal resources.
- The course has not yet been held.

Impact and Outcome Findings

The general trend indicates:

- An enhanced capacity to conduct events for joint public health and law enforcement investigations of and responses to suspected or confirmed bioterrorism events
- Ongoing changes to policy and procedure
- The development of ongoing training programs
- The development of new communication protocols between public health and law enforcement agencies
- The development of documentation supporting the efficacy of future training efforts.

Table 2 displays selected impact and outcome findings from participating states by:

- Changes in policies, procedures, or communications;
- Follow-on exercises initiated by course organizers;
- Recommended changes to the course; and
- Recommended additional training.



Table 2: Summary of Selected Impacts, Outcomes, and Recommendations

Outcomes			
Changes in Policies, Procedures, or Communications	Follow-on Exercises Initiated by Course Organizers	Recommended Changes to the Course	Recommended Additional Training
<ul style="list-style-type: none"> ■ Updated current statewide paging system ■ Created forum promoting communication between the forensic and public health laboratories ■ CEUs offered to law enforcement officials for participating in course ■ Public health now has a seat on committees previously made up of law enforcement personnel only ■ Law enforcement now has a seat on committees previously made up of public health personnel only ■ \$1,500 mini-grant made available to each region in Illinois to support administrative costs ■ <i>Forensic Epidemiology</i> principles tested by actual bioterror events (Seattle) ■ White powder hoaxes dealt with knowledgeably ■ <i>Forensic Epidemiology</i> Work Groups formed to discuss HIPAA, evidence collection, and Emergency Operations ■ Mock interview script developed for joint interviews ■ Quarantine and isolation policies investigated after a potential outbreak ■ Draft protocols concerning actions during white powder incidents ■ Development of a public health laboratory chain of custody form 	<ul style="list-style-type: none"> ■ Simulated bioterrorism events (modified tabletops) including representatives from both law enforcement and public health ■ Bioterrorism preparedness field exercises ■ Incident Command System Training Program for Public Health ■ Online versions of <i>Forensic Epidemiology</i> course ■ Consequent Management exercises ■ Advanced <i>Forensic Epidemiology</i> training ■ Strategic National Stockpile exercises 	<ul style="list-style-type: none"> ■ Develop and include newer actual case studies in the Course Manager's Guide ■ Develop fictitious case studies involving isolation and quarantine ■ Provide more information on the term "<i>Forensic Epidemiology</i>" ■ Emphasize the response at the local level ■ Add a role-playing component ■ Include more specific education regarding potential bioterrorist agents (type of response needed for each agent) ■ Add chemical or radiological agents to the course 	<ul style="list-style-type: none"> ■ Communications ■ Evidence collection ■ Interview techniques ■ Decontamination procedures ■ Personal protective equipment ■ Mass casualty ■ Media relations ■ Sampling techniques ■ Field training exercises or tabletops ■ Public Health Law ■ HIPAA ■ First responder ■ School preparedness ■ State and federal response ■ Incident Command Structure ■ National Incident Management System ■ Strategic National Stockpile training ■ Responding to public concern ■ Agroterrorism



RESULTS BY STATE

NOTE: Appendix I presents an overview of all the *Forensic Epidemiology* courses held through May 2004, with information on locations, dates, sponsors, and the number of participants. Appendix IX presents the same information, plus information about modifications made to the original curriculum, in chronological order.

ALABAMA

Impact

In July 2003, the *Forensic Epidemiology* course was held at Anniston Army Base in Anniston, AL. This course, held mainly for CDC's Epidemic Intelligence Service (EIS) officers, included participants from local Anniston, AL police and fire departments. The EIS officer course was held in one day, and included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used two of the case studies represented earlier in this report. Alabama held 4 one-day courses in May 2004 throughout the state. Additionally, Alabama is continuing this series with 7 more *Forensic Epidemiology* courses during the summer of 2004 and is planning up to 20 added courses over the next year.

CALIFORNIA

Impact

California held two *Forensic Epidemiology* courses. The third pilot was held in Los Angeles in January 2003. More than 120 people attended this pilot. In September 2003, the Eastern District of California held a course in Sacramento with more than 150 attendees. Each course was 1-½ days in length and included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations.

Outcomes

Per communications with the Bioterrorism Preparedness Program in Los Angeles County, *Forensic Epidemiology* has created closer ties between the County Health Department and the FBI. Furthermore, as a direct result of the course in Los Angeles, the public health laboratory chain of custody protocols have been revised to reflect coordination among agencies.

CONNECTICUT

Impact

Connecticut held two *Forensic Epidemiology* courses in late 2003: September 24-25 in Avon, CT and December 4-5 in Westbrook, CT. The first course enrolled 110 attendees and the second course, 200 participants. Each course was 1-½ days in length and included the standard



Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations.

Outcomes

The United States Attorney's Office for the District of Connecticut, in partnership with the state public health department, drafted a protocol for handling white powder incidents in Connecticut. The protocol details what is done in case of an incident, who performs the action, how to handle the investigation and how to involve the media. Currently, this draft is undergoing refinement by federal law enforcement. Additionally, evidence collected in the summer of 2004 from the course organizers in Connecticut suggests that the course has been useful in dealing with the large number of white powder hoaxes that have occurred throughout Connecticut. The courses have helped the local area agencies respond more efficiently and cost-effectively to white powder hoaxes.

DELAWARE

Impact

Delaware held one *Forensic Epidemiology* course in December 2003. The course enrolled 50 attendees. The course was 1-½ days in length and included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations.

Outcomes

As a result of initial introductions made during Delaware's *Forensic Epidemiology* course, officials in Delaware have held one high-level preparedness meeting convening state public health, emergency management, and law enforcement. The purpose of the meeting was to create a forum for improving agency notifications and coordination issues. During the meeting, held in February 2004, tabletops and field exercises were planned for spring and summer 2004 and a Crime Scene Preservation course was developed. The Crime Scene Preservation session was presented to all paramedics in Delaware throughout the spring of 2004.

In April 2004, a Strategic National Stockpile (SNS) tabletop was held to bring local partners together in order to review the SNS plan. The tabletop also went through the process of requesting SNS support and delivering the support. In May 2004, a second tabletop was conducted to review the smallpox response plan with stakeholders. State public health, state police, CDC, local hospitals, and the U.S. Marshals Service were involved. Four major areas were covered in this tabletop: enforcing quarantine, increasing laboratory capacity, communicating with the public, and ensuring that appropriate surge capacity was available.

In June 2004, Delaware held Operation Diamond Shield, a four-day functional exercise designed to test Delaware's bioterrorism preparedness. During the exercise, which used plague as the biological weapon, the emergency operations center was activated, SNS requests were made, and medications were delivered to the state and distributed to 800 patients. The exercise also



involved the role of the media in a bioterrorist incident. An after-action report based on the June functional exercise is expected to be released in late August 2004.

FLORIDA

Impact

Florida has held three *Forensic Epidemiology* courses. The first pilot was held in Jacksonville in December 2003 with more than 50 people attending. The pilot course was 1-½ days in length and included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations. In September 2003, Regional Domestic Security Task Force 6, seated in Ft. Myers, held a course with more than 40 participants. In March 2004, the University of South Florida, School of Public Health held a course with more than 40 attendees. Further courses are planned in Florida throughout summer and fall 2004. Both the September 2003 and March 2004 courses were held in one day and included the standard presentations and two out of the three case studies. Additional courses are planned in Florida throughout the summer of 2004.

Outcomes

Per communications with the Bioterrorism Coordinator in Regional Domestic Security Task Force (RDSTF) 6, *Forensic Epidemiology's* greatest accomplishment was the introduction of law enforcement and public health personnel in the region. This introduction allowed law enforcement and public health to work more efficiently through several white powder incidents that have occurred since the course. RDSTF 6 plans to provide follow-on training in the near future to build on principles learned during *Forensic Epidemiology*. Duval County Health Department (the site of the first pilot course), in conjunction with the local FBI office, developed a public health laboratory chain of custody form in response to needs identified during the *Forensic Epidemiology* course. Additionally, public health and the FBI now have regular meetings that have improved coordination between the two agencies.

IDAHO

Impact

Idaho held its first *Forensic Epidemiology* course on October 29, 2003. This train-the-trainer course enrolled approximately 40 attendees. The course was held in one day, included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used two of the case studies represented earlier in this report. Additional presentations given included a presentation by the Office of Homeland Security and a presentation regarding a rural state's response to anthrax.

Idaho has also completed one regional course (Boise – May 25, 2004) and scheduled three additional regional courses (Moscow – July 27, 2004, Pocatello – August 17, 2004, and Boise – August 30, 2004).



Outcomes

Per communications with Idaho's Deputy State Epidemiologist in June 2004, the *Forensic Epidemiology* course participation has benefited Idaho in the following ways:

- Although Idaho considers itself more prepared to respond to bioterrorism threats than many states, this course prompted state officials to update its current statewide paging system. Historically, the paging system was created for HAZMAT and law enforcement organizations only. After completing the course, the paging system protocol was updated to include public health agencies. Researchers tried to obtain hard copies of the protocols, but the state is hesitant to release the protocol before it is officially adopted and put into place by mid-summer, 2004.
- The Forensic Epidemiology course provided the first forum promoting communication between the forensic and public health laboratories. The end result is that the two laboratories now foster an open communication for the first time.

ILLINOIS

Impact

More than 160 people were trained at Illinois' statewide *Forensic Epidemiology* train-the-trainer course, which was held September 18-19, 2003 in Springfield, IL. The course, held in 1-1/2 days, included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used all three of the recommended case studies. The Illinois course also included a panel presentation of a current legal case that involved joint investigations by both local public health agencies and law enforcement and additional presentations on Homeland Security in Illinois and the history of Forensic Epidemiology.

This course had one of the more diverse planning groups, with members representing the FBI, the U.S. Attorney's Office, Central District of Illinois, the Springfield Department of Health, the Illinois Department of Public Health, the University of Illinois at Chicago School of Public Health, the Springfield Police Department, and the Illinois State Police.

One purpose of the course was to encourage participants to organize the same course in their own regions. As of May 31, 2004, ten county-based courses have been held throughout the state of Illinois. Additionally, the *Forensic Epidemiology* course will be featured at the Public Health Summer Institute, from June 28 to July 2, sponsored by the Mid-Atlantic Public Health Training Center. Four more county-based courses are planned for June through September 2004.

Outcomes

Participants and course organizers of the September *Forensic Epidemiology* train-the-trainer course believed that Continuing Education Units (CEUs) would help to promote participation in the course. In December 2003, the Illinois Department of Public Health presented the *Forensic Epidemiology* course to the Illinois Police Education and Training Board. As a motivational effort, the Board agreed to offer 12 credit hours and certificates of achievement/completion for



the course, as well as connect public health agencies to the “Mobile Training Coordinators” (regional law enforcement effort). The “Mobile Training Coordinators” worked with public health regional coordinators to help promote the *Forensic Epidemiology* course throughout the state.

As a result of the *Forensic Epidemiology* course in Springfield, IL, the Illinois Department of Public Health public health now has a seat on the Anti-Terrorism Advisory Committee (ATAC) in the U.S. Attorney’s Office – Central District of Illinois. Due to this change, public health now participates in meetings that are law enforcement sensitive (i.e., explosives and suicide bombings). Involvement with the intelligence community has given public health exposure to the State Terrorism Information Center, a powerful state-based law enforcement organization.

Based on the successful county-based *Forensic Epidemiology* course training that took place on May 19, 2004 in Freeport, IL, the Illinois Department of Public Health, Division of Emergency Preparedness and Response, set in motion a statewide training initiative, modeled after the Freeport course. Each Emergency Response Coordinator in the eleven other Public Health Regional Response Planning Areas in Illinois will be asked to coordinate the *Forensic Epidemiology* course. A \$1,500 mini-grant will be made available to each Region to support administrative costs for this training. The Illinois Law Enforcement Training and Standards Board had agreed to pay a \$20 registration fee for law enforcement participants because the *Forensic Epidemiology* course is a now a certified course.

IOWA

Impact

On October 16, 2003, the University of Iowa, College of Public Health, Center for Public Health Practice sponsored the *Forensic Epidemiology* course as part of its Ground Round Series. The presentation was broadcast over the Iowa Communications Network (ICN), a state agency enabling authorized users (such as hospitals, state and federal government, public defense armories, libraries, schools, and higher education) to communicate via high quality, full-motion video, high-speed Internet connections, and telephones. ICN allowed the *Forensic Epidemiology* course to be seen live at over 30 sites throughout the state of Iowa.

Iowa held a *Forensic Epidemiology* Train-the-Trainer course on October 28-29, 2003. This course trained approximately 60 people. The course, held in two days, included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used all three of the recommended case studies. Additional features of the Iowa Train-the-Trainer course included a Public Health Law presentation and a focus group considering homeland security training. This course had one of the more diverse planning groups, with members from the Iowa Department of Public Health, Des Moines Police Department, the U.S. Attorney's Office in the Southern District of Iowa, the University of Iowa College of Public Health & Iowa Center for Public Health Preparedness, and the State Public Policy Group.



Outcomes

The Iowa Department of Public Health is working with its regional epidemiologists to conduct *Forensic Epidemiology* courses in each of the six regions. The Educational Training Advisory Committee (EdTrAC), formed by The University of Iowa College of Public Health's Center for Public Health Preparedness in November of 2002, helps guide Iowa's training for the state. EdTrAC has put the *Forensic Epidemiology* course in the strategic plan for training in Iowa and considers it a priority topic.

As of June 15, 2004, no courses have been held in the regions due to a shifting of priorities. According to the Iowa Department of Public Health, the number of training opportunities in Iowa is extraordinarily high. Although regional epidemiologists feel that this course is important, they are struggling to get local law enforcement representation due to law enforcement's short staffing and financial burdens. As a result, the regional epidemiologists have shifted their priorities to other courses that do not include law enforcement participation.

MAINE

Impact

Maine held its *Forensic Epidemiology* course on November 6, 2003. More than 150 people were trained. The course was held in one day and included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used two of the recommended case studies. The Maine planning committee also added a panel discussion on arsenic poisoning.

Outcomes

Based on phone conversations with the Anti-Terrorism Advisory Committee member for the USAO – District of Maine, the most significant impact that the *Forensic Epidemiology* course made in Maine was the inclusion of the Bureau of Public Health into the Maine Homeland Security Council. This Council meets once a month to discuss Homeland Security issues in Maine. Its members include the Commissioner of Public Safety, the Commissioner of Defense, Veterans, and Emergency Management, the USAO, the Chief of the State Police, and the Chief of the Maine Emergency Management Agency.

MICHIGAN

Impact

After the April 2003 *Forensic Epidemiology* "Train-the-Trainer" course in Atlanta, the western District of Michigan worked with other Michigan representatives to organize and present six Workshops across the state during June – September 2003. Each Workshop corresponded to one of Michigan's six emergency management districts. In October 2003, after the Workshops were completed, the Workshop presenters met to plan future activities. At that time, it was felt that the U.S. Attorney's Office budget was too uncertain to permit detailed planning, but the general



consensus was to try and move forward without definite resources by connecting a legal component onto the programs of other entities.

Outcomes

According to the Anti-Terrorism Advisory Committee Coordinator for the USAO – Western District of Michigan, one of the most significant impacts of the *Forensic Epidemiology* course was to bring the state’s Attorney General’s office up to date on bioterrorism preparedness.

MISSOURI

Impact

After the April 2003 *Forensic Epidemiology* “Train-the-Trainer” course in Atlanta, the Eastern District of Missouri began planning a one-day train-the-trainer course. The training session, which trained 76 people, was held on August 28, 2003. As a follow-on to the summer train-the-trainer session, approximately 285 people participated in a two-day training session in St. Louis on December 2-3, 2003. The participants in this August session served as facilitators for the December course. Missouri’s *Forensic Epidemiology* course included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations.

Outcomes

As a result of feedback from the August train-the-trainer session, the course organizers created two new case studies for use in the December course. The first case study was an actual suspect bioterrorism case that occurred in St. Louis in 2003. The second case was a hypothetical scenario that incorporated the concepts of isolation and quarantine. The St. Louis *Forensic Epidemiology* course also included a presentation on Public Health Law and HIPAA. Additionally, a laminated note card on Privacy of Medical Information, Exceptions for Law Enforcement Access was provided by the USAO. A copy of this card is located in Appendix XI.

A telephone conversation with an Assistant U.S. Attorney in the Eastern District of Missouri highlighted two outcomes that were observed as a result of the *Forensic Epidemiology* course in December 2003. These outcomes are shown below.

1. While preparing for the course, the USAO realized the importance and need for public health agency involvement when responding to any terrorist incident or natural disaster. As a result, the Department of Public Health now has an added role with the Eastern District of Missouri’s Critical Incident Response Plan. This plan ensures that the U.S. Attorney’s Office is prepared to respond to a critical incident, including acts of terrorism or natural disasters.
2. The St. Louis Metropolitan Medical Response System (SLMMRS) attended the course. This organization sponsors regional planning for the organization of emergency medical care during a terrorist act, natural disaster, public health emergency, or mass casualty



event. The members realized the need for the U.S. Attorney's Office, Eastern District of Missouri to be included in this planning and made them a part of the planning team.

MONTANA

Impact

The state of Montana held one statewide *Forensic Epidemiology* course in October 2003. More than 200 people were trained at this course. Montana's *Forensic Epidemiology* course was two days in length and included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations. In addition, a presentation on the Incident Command System and media's role in an incident were included. Montana used all three of the case studies.

Outcomes

Based on communication with the Anti-Terrorism Advisory Committee member for the USAO – District of Montana, as a result of the awareness raised by the *Forensic Epidemiology* course the state's Local Emergency Planning Councils now have a public health component and have been able to identify the need for public health in the incident command system structure. Furthermore, law enforcement now has a greater understanding of public health issues.

NEW HAMPSHIRE

Impact

The state of New Hampshire held two *Forensic Epidemiology* courses, the first in December 2003 and the second in February 2003. Approximately 180 people were trained in New Hampshire. New Hampshire's *Forensic Epidemiology* courses were one day in length and included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations. They used two of the three case studies.

Outcomes

As a result of the *Forensic Epidemiology* course, during the May – September timeframe, New Hampshire is planning to develop future training exercises that are designed to provide follow-on information from the content in the initial course. These exercises will involve only case scenarios and will be more in-depth than those provided during the *Forensic Epidemiology* course. Participants will experience hands-on joint investigations and use role-playing to help with problem solving.



NEW JERSEY

Impact

By the end of May 2004, the state of New Jersey had held four *Forensic Epidemiology* courses, at three regional and one local location. A total of 300 people have been trained in New Jersey. New Jersey's courses, 1-1/2 days in length, included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used all three case studies.

Additional Information

During a phone conversation with our point-of-contact in New Jersey, she indicated that this course was not advanced enough to meet the law enforcement and public health needs in that state. Due to the events in Fall 2001, because of the state's proximity to the 9/11 attacks and anthrax terrorist activities, the state felt they were forced to become prepared earlier with the cooperative knowledge and skills necessary to conduct joint investigations and provide joint efforts for control of these kinds of emergencies. The organizer of the course commented that, if this course had been developed and implemented before 9/11, it would have been better received.

During an isolation and quarantine tabletop exercise conducted in Summer 2003 (before New Jersey's implementation of the *Forensic Epidemiology* course), a loophole on how to enforce quarantine was discovered in New Jersey's protocols. As a result, the Emergency Health Powers Act was drafted. This legislation features a resolution of the issue of how to enforce quarantine, making it the responsibility of the Attorney General of New Jersey. This legislation is expected to be passed by late Summer 2004.

NEW YORK

Impact

The state of New York has implemented the course in 15 separate locations statewide, training over 500 law enforcement and public health officials.

Outcomes

A major outcome of the New York courses was the development of mock interview scripts for joint law enforcement and public health interviews of persons suffering illnesses as the result of a biological or chemical attack. The mock interview occurs in a hospital setting at the patient's bedside and is centered on a suspicious anthrax investigation. The goal is to acquaint public health agencies and law enforcement investigators with the dynamics involved in a joint interview of an anthrax case. The script, currently in a draft form, can be found in Appendix XII.



NORTH CAROLINA

Impact

North Carolina was the site of the first *Forensic Epidemiology* course. This course, held in November 2002, was sponsored by the state of North Carolina Department of Public Health and was held before the pilots that refined and helped to mold the Course Manager's Guide. Approximately 200 people were trained. On May 25, 2004, Macon County, NC held a one-day *Forensic Epidemiology* course for approximately 15 people. Currently, an additional two courses are planned for Fall 2004.

Outcomes

As a result of the November 2002 course in Chapel Hill, Buncombe County (western North Carolina) organized a *Forensic Epidemiology* Working Group to address issues related to quarantine and isolation protocols, threat and credibility assessment, evidence collection and management, and HIPAA. According to communication with a North Carolina public health official, from November 2002 through June 2004, the Working Group meets quarterly and includes members from public health agencies, FBI, state Bureau of Investigation, local law enforcement, fire department, HAZMAT, and the state Emergency Management Agency. The Working Group has produced a quarantine and isolation draft protocol and resolved HIPAA issues between disciplines. Working Group members have given mutual presentations to members of their organizations on evidence collection techniques.

In Cherokee County, an "Emergency Operations Center (EOC) Leadership Group" was created approximately 18 months ago. The group participants consisted of hospital emergency departments, fire, emergency management, emergency medical services, city and county law enforcement, public health agencies, and county government personnel. According to the Cherokee County Health Director, this group meets monthly to discuss emergency operations in the region. Although Cherokee County did not sponsor the *Forensic Epidemiology* course, the EOC Leadership Group has incorporated *Forensic Epidemiology* concepts into its plans. On June 2, 2004, the group did a Sudden Acute Respiratory Syndrome (SARS) tabletop exercise designed to test the readiness of the EOC in Cherokee County. All EOC Leadership Group members were involved. An after-action report will be available for CDC information in late July 2004.

The Haywood County Working Group developed from an existing bioterrorism exercise involving a truck crash with a possible smallpox release. It was developed when the police chief questioned the need to vaccinate all associated professionals for smallpox, unaware of the controversy surrounding smallpox investigations. From this, a Forensic Epidemiology Working Group was created. The first meeting featured the *Forensic Epidemiology* course. Successive meetings have focused on directions for future preparedness.

In Fall 2003, the School of Public Health at the University of North Carolina in Chapel Hill created a website for Forensic Epidemiology (homepage found in Appendix XIII). Two *Forensic Epidemiology* course modules are available online. The modules review the background of the



course using an audio tutorial. At the end of each module is an interactive quiz. Continuing Education Units (CEUs) are available to people who complete the online course.

PENNSYLVANIA

Impact

The U.S. Attorney's Office in the Eastern District of Pennsylvania sponsored two *Forensic Epidemiology* courses in the fall of 2003. Each course was 1-1/2 days long, included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used all three case studies. Additionally, at both courses, a presentation on isolation and quarantine was added. Altogether, approximately 300 people were trained. On June 10-11, 2004, an additional 80 people will be trained at a third Pennsylvania *Forensic Epidemiology* course held in Harrisburg, PA. More courses are planned for three additional regions in Pennsylvania in fall 2004.

Outcomes

As a direct result of the fall 2003 courses, the Eastern District of Pennsylvania, in conjunction with the FBI, the Emergency Management Services, local hospitals, and the Pennsylvania Department of Health, organized a bioterrorism preparedness tabletop and field exercise. The cover sheets and exercise goals to each exercise are found in Appendix XIV

The tabletop exercise, completed on October 24, 2003, provided an opportunity for each of the players to gain a better understanding of the roles and capabilities of the other participants. While many issues were discussed during the exercise, few straightforward answers were determined. One of the more valuable pieces of the tabletop was the involvement of actual media representatives. During the tabletop, media representatives were kept in an adjacent room. As the scenario unfolded, the media was provided with key pieces of information from which they formulated questions, which were brought back into the larger room and presented to either key individuals or the group.

Based upon the outcome of the tabletop, the FBI and the USAO developed a field training exercise that incorporated joint interviews, collection and analysis of information, and a more traditional response to identify, render safe, and collect multiple biological dissemination devices. This field exercise was conducted on May 10-11, 2004. It was 40 hours in length and tested the concept and process of joint interviews at 13 hospitals in five counties in southeastern Pennsylvania.

The exercise began at approximately 6:00 am with the release of a health alert from the Pennsylvania Department of Health (DOH) describing the exercise, including the case definition and instructions for participating hospitals. At 8:00 am on May 10, the Joint Operations Center (JOC) was activated. Forty-eight hospitals participated, with 13 serving as "host hospitals," where the botulism victims were staged. Only the public health representatives knew which of



the 48 hospitals had victim role players staged to be interviewed. Joint interviews were given to 77 victim volunteers. Data from the interviews were collected at the JOC and the DOH operations center. No common food source was identified, but common locations were developed within hours, with three fairly specific locations emerging by early afternoon. The interviews led field response teams to one of three sites where they responded to different scenarios. Two of the scenarios involved identifying and rendering safe actively disseminating devices.

More than 1,000 people and 100 pieces of equipment were involved. A brief after-action report based on the May field exercises is expected to be released in summer 2004. The report will be very brief and general due to security concerns. The following changes occurred as a result of the May field exercises:

- A consequence management exercise is planned for September 27, 2004 and will focus on managing consequences that result from bioterrorist activities (e.g., contamination of facilities).
- A Major Incident Response Team (MIRT) was created. The MIRT will consist of 100 officers in each city trained in personal protective equipment (PPE). During the May field exercise, several people dressed in full PPE passed out due to the extreme temperatures that day. The MIRT will address this issue so future exercises will be safer for the participants.

Pennsylvania is in the planning stages of their final exercise in this series, a tabletop exercise covering the many consequence management type issues raised but not fully addressed by the covert botulinum toxin release scenario. This final tabletop will be held on September 27, 2004.

TEXAS

Impact

Approximately 500 people have been trained at the six *Forensic Epidemiology* courses held throughout the state of Texas. Each course was held in one day, included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used all three case studies.

Outcomes

Although no protocol changes have occurred and no working groups were developed, evidence collected in June 2004 from the course organizers in Texas suggests that the course has been useful in dealing with the large number of white powder hoaxes that have occurred throughout Texas. The courses have helped the local area agencies respond more efficiently and cost-effectively to white powder hoaxes. Attempts have been made to obtain documentation or hard-copy evidence of this, but no documentation was available. However, the evidence suggests that the agencies are working together to resolve issues related to white powder hoaxes.



WASHINGTON

Impact

Washington held its first *Forensic Epidemiology* course on January 21-22, 2004. This course, structured as a train-the-trainer, included approximately 60 attendees. The course was held in 1-1/2 days, included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used three of the case studies.

As a result of the January train-the-trainer session, Washington completed two regional courses (Everett, WA – June 15, 2004 and Vancouver, WA – June 16, 2004) and one local course at a terrorism summit in Mt. Vernon on June 3, 2004. Courses are planned in additional regions, but have not been scheduled.

Outcomes

According to the Weapons of Mass Destruction coordinator for the Seattle field office of the FBI, the goals of the *Forensic Epidemiology* course were tested in Washington State in April 2004 during an actual bioterrorism case involving ricin. As a direct result of the *Forensic Epidemiology* course, the course planners (a diverse group consisting of the two U.S. Attorney's Office districts, the FBI, and state public health agencies) were able to work together during the ricin incident and smoothly proceed through all needed activities.

WEST VIRGINIA

Impact

By the end of May 2004, the state of West Virginia had held one *Forensic Epidemiology* train-the-trainer course throughout each of its six public regions. A total of 443 people have been trained in West Virginia. West Virginia's *Forensic Epidemiology* courses, which are 1-1/2 days in length, included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used all three case studies. Two public health regions in West Virginia have scheduled or planned additional *Forensic Epidemiology* courses in their areas: Morgantown (July 20, 2004) and Raleigh County (August 2004).

Outcomes

There are several outcomes as a result of participation in *Forensic Epidemiology* courses in West Virginia.

1. According to communication in June 2004 with the Director of the Virtual Medical Campus at West Virginia University (WVU), WVU is in the first stages of developing an online version of the *Forensic Epidemiology* course through the Office of Domestic Preparedness (ODP). Currently, course developers are scheduled to attend a live *Forensic*



Epidemiology course and will use information gained from their participation to help develop the online version for ODP.

2. Information gathered from the six regional courses indicated that the concept of incident command is difficult for public health agencies to grasp, possibly due to its response structure. As a result, staff from the Mid-Ohio Valley Health Department has begun creating an Incident Command System Training Program for Public Health. When the course is completed, a copy will be sent to SAIC and CDC.
3. As part of their local Health Department Regional Group, made up of 12 counties, the Mid-Ohio Valley Health Department is preparing a simulated bioterrorism event (modified tabletop exercise) as part of the continuing effort to prepare for such an event. This modified tabletop exercise, titled “Operation Black Dragon,” is scheduled for June 25, 2004. Participants in the exercise will include county and federal prosecuting attorneys, hospitals, laboratories (both local and state), physicians, coroners, nurses, infection control specialists, primary care centers, physicians, nurses, county commissions, city officials, OES/EMA, 911 Centers, law-enforcement (local, county, state and federal), EMS, fire service, military, American Red Cross, school administration, media, and industry. A copy of the invitation letter for Operation Black Dragon is found in Appendix XV.

WISCONSIN

Impact

In early December 2003, the state of Wisconsin held a *Forensic Epidemiology* train-the-trainer course. Since December, five courses have been held throughout the state. A total of 200 people have been trained in Wisconsin. Wisconsin’s *Forensic Epidemiology* courses, one day in length, included the standard Epidemiology 101, Law Enforcement 101, Public Health and Forensic Laboratory, and FBI presentations, and used all three case studies. Additionally, five more courses are scheduled throughout the state from June through the end of September.

Outcomes

In July, an article about Forensic Epidemiology will be published in a publication for the U.S Attorney’s Office. This article will describe numerous anti-terrorism efforts, including the *Forensic Epidemiology* course.



INTERNATIONAL IMPACT

EUROPE

The European Union (EU) Health Security Committee and EUROPOL decided to follow the CDC-led example for *Forensic Epidemiology* training. In the development of this course, the EU tried to remain close to the planning by aiming to bring law enforcement and public health players together in a joint training session.

The EU course, “Interaction of Criminal and Epidemiological Investigations,” began on March 31, 2004, lasted two days, and aimed at developing the appropriate material and providing training to future trainers and facilitators in an effort to establish national EU courses. To this end, three case studies were added to their course:

- A postal threat in Belgium
- *E. coli* (a fictitious case-study)
- Anthrax in Florida

The incident investigation protocol varies widely between different EU countries. As a result, the case studies and lectures had to be remodeled towards the EU setting.



RECOMMENDATIONS AND CONCLUSIONS

This section presents recommendations and summary conclusions based on interviews conducted for this report and on lessons learned during the implementation phase of both the training and the evaluation components.

Recommendations from the Field

Our evaluation efforts elicited numerous recommendations from course organizers and course participants. They are summarized below, according to the population providing the recommendation:

Recommendations for possible outcomes from *Forensic Epidemiology* course participants:

- Yearly competencies and drills should be conducted to make sure all departments involved in this process are current, educated, and trained.
- Notification protocols for all counties should be uniform.
- Interaction between disciplines can be strengthened by conducting ride-alongs and tours of the workplace.
- The Office of Domestic Preparedness should approve the course in order to receive federal money for local law enforcement participation.

Recommended changes to the *Forensic Epidemiology* course content by participants:

- Develop and include current case studies in the Course Manager's Guide based on actual bioterrorism events.
- Develop fictitious case studies involving isolation and quarantine.
- Include more specific education regarding potential bioterrorist agents (type of response needed for each agent).
- Add chemical or radiological agents to the course.

Overall recommendations and lessons learned from course organizers:

- Compress the course to one day if representation from law enforcement will be problematic. Law enforcement (i.e., police) is more able to attend a one-day training session.
- Provide financial incentives to local law enforcement to ensure participation.
 - One important recommendation received from a course organizer in Pennsylvania is to have the *Forensic Epidemiology* course approved by Office of Domestic Preparedness (ODP), to make it eligible for ODP funding, and potentially provide overtime pay to local law enforcement that might allow them to attend training.



There were also numerous suggestions for additional training content. The recommended content additions are:

- Communications
- Evidence collection
- Interview techniques
- Decontamination procedures
- Personal protective equipment
- Mass casualty
- Media relations
- Sampling techniques
- Field training exercises or tabletops
- Public Health Law
- HIPAA
- First responder
- School preparedness
- State and federal response
- Incident Command Structure
- National Incident Management System
- Strategic National Stockpile training
- Responding to public concern
- Agroterrorism

SAIC Recommendations

An evaluation should provide an accurate picture of “what actually happened.” In terms of this project, the background and procedure for the training project, the steps taken, the measures employed to conduct the training, and the evaluation components, have been documented in this report. Also documented are concrete examples of impact and outcome.

It was recommended that a more diverse planning group led to an equally diverse attendance of the target organizations. This is a key point in terms of recommendations for ongoing *Forensic Epidemiology* course implementation and planning. Having a broad range of agencies represented in the planning group seemed to have a similar representative effect on the level, scope, and type of diverse attendance for training. Typically, even though heavily involved in planning stages at the federal level, the least represented group in specific course attendance at the state and local levels was law enforcement. With this in mind, the recommendation would be to ensure involvement of local, state, or federal law enforcement (both police and attorneys) early in the state course planning process to ensure participation by their peers.



One plan would be to establish a web-based network of participating public health agencies and law enforcement agencies creating the possibility of online collaboration visible on a national scale. Further, providing fiscal incentives along with certification and merits could enable the participating agencies to share knowledge and planned actions. There is the potential to provide lessons learned and mentoring for those agencies still in the planning stages for new protocol and cooperative efforts. The reach of the existing core network of participating partners could be greatly enhanced by following this recommendation. Further, this type of networking visibility and recognition could attract the participation of pivotal organizations like ODP.

In order to help states continue the implementation of the *Forensic Epidemiology* course, SAIC recommends:

- Working with the Office of Domestic Preparedness (ODP) to approve the Forensic Epidemiology course. With ODP support, the course could receive wider use and thus have greater impact. More funding could potentially be provided, reducing potential financial constraints for some organizations (e.g., law enforcement).
- Including two to three additional case studies, either actual or fictitious, in the Forensic Epidemiology course content. This will give course organizers a choice of case studies. Organizers of the St. Louis Forensic Epidemiology course created two new case studies for their participants. With their permission, these studies could be refined and included in the Course Manager's Guide. Additionally, new case studies could be created based on actual events (such as the Michigan nicotine poisoning case) or fictitious events (smallpox or plague). Course organizers also requested that one of the cases include an isolation and quarantine component.
- At least six months pass between delivery of the course and a comprehensive report on actual impact and outcomes. CDC could either wait for all training to be completed or use a phased or staggered approach on a case-by-case level.
- Updating and expanding the Course Manager's Guide by adding a section on additional funding opportunities, elaborating on the importance of law enforcement participation, and expanding the educational section on bioterrorist agents. To make the case studies available to all states, CDC may want to consider the development of an online database of case studies, from which states can select on the basis of unique local issues.

Conclusions

Overall, the reaction of law enforcement and public health agencies to threats of biochemical terrorism, both historical and ongoing, has sparked the attention and proactive response of the CDC and its partner organizations. A seed was planted with the cooperative actions taken and these have resulted in the creation and implementation of the *Forensic Epidemiology* course, which has begun and is planned to continue beyond the borders of this training.

There is no requirement or timeline for states to implement the training. State participation is based on their willingness and ability to involve the key agencies. The constraints to proactive participation in course implementation mostly involve priorities, time and fiscal considerations.



With that in mind, these initial findings are favorable and show a willingness by the states to participate whenever possible, given the absence of fiscal and schedule constraints. Providing further incentives and organizing a national network of participants will help to further CDC's goal for joint effectiveness in the development and implementation of bioterrorism preparedness policies and protocols.

The *Forensic Epidemiology* course and resulting communication efforts have moved forward because of the proactive efforts by the CDC and its partners. As shown in this report, the course has had nationwide impact and has resulted in the significant results:

- Ongoing changes to policy and procedure
- Development of ongoing training programs
- Development of new communication protocols between agencies of public health and law enforcement

Overall, SAIC recommends ongoing investigations of the *Forensic Epidemiology* impact and outcomes to states with provisions for a review and change process to manage further implementation and evaluation strategies appropriately. CDC may find that lessons learned will provide important information for the planning of these types of follow-on activities that will enhance states' preparedness.



Appendix I: Overview of Forensic Epidemiology Courses Held through May 2004

State	Location	Date	Sponsors	Number of Participants
Alabama				
	Anniston	July 31, 2003	■ CDC	143
	Gadsden	May 13, 2004	■ University of Alabama School of Medicine and Public Health	50
	Tuscaloosa	May 18, 2004	■ University of Alabama School of Medicine and Public Health	50
	Decatur	May 25, 2004	■ University of Alabama School of Medicine and Public Health	50
	Birmingham	May 26, 2004	■ University of Alabama School of Medicine and Public Health	50
Arizona				
	Phoenix	April 1-2, 2004	■ Arizona Department of Health Services ■ Federal Bureau of Investigation ■ Arizona Department of Public Safety ■ Phoenix Police Department	74
California				
	Los Angeles	January 15-16, 2003	■ CDC ■ State of California Department of Health Services ■ County of Los Angeles Department of Health Services – Public Health Bioterrorism Preparedness Program	122
	Sacramento	September 29-30, 2003	■ U.S. Attorney's Office – Eastern District of California	150



State	Location	Date	Sponsors	Number of Participants
Connecticut				
	Avon	September 24-25, 2003	<ul style="list-style-type: none">■ U.S. Attorney's Office – District of Connecticut■ Connecticut Department of Public Health■ Yale New Haven Health■ Federal Bureau of Investigation■ Connecticut Fire Academy■ Department of Public Safety, Division of Homeland Security■ Connecticut Association of Directors of Health	110
	Westbrook	December 3-4, 2003	<ul style="list-style-type: none">■ U.S. Attorney's Office – District of Connecticut■ Connecticut Department of Public Health■ Yale New Haven Health■ Federal Bureau of Investigation■ Connecticut Fire Academy■ Department of Public Safety, Division of Homeland Security■ CT Association of Directors of Health	200
Delaware				
	Dover	December 11-12, 2003	<ul style="list-style-type: none">■ Delaware Department of Health and Social Services	50
Florida				
	Jacksonville	December 3-4, 2002	<ul style="list-style-type: none">■ CDC■ FL Department of Health■ FL Department of Law Enforcement■ Jacksonville Sheriff's Office■ Duval County Health Department	63
	Ft. Myers	September 9, 2003	<ul style="list-style-type: none">■ Regional Domestic Security Task Force 6	40
	Tampa	March 11, 2004	<ul style="list-style-type: none">■ University of South Florida School of Public Health	50
Georgia				
	Marietta	March 4-5, 2004	<ul style="list-style-type: none">■ U.S. Attorney's Office – Northern District of Georgia■ Georgia Department of Human Resources	120



State	Location	Date	Sponsors	Number of Participants
Idaho				
	Boise	October 29, 2003	<ul style="list-style-type: none"> ■ Idaho Department of Health and Welfare ■ U.S. Attorney's Office – District of Idaho 	40
	Boise	May 25, 2004	<ul style="list-style-type: none"> ■ Idaho Department of Health and Welfare ■ U.S. Attorney's Office – District of Idaho 	60
Illinois				
	Springfield	September 18-19, 2003	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Central District of Illinois ■ University of Illinois at Chicago School of Public Health ■ Mid-America Regional Public Health Leadership Institute ■ Illinois Department of Public Health ■ Illinois State Police ■ Illinois Association of Public Health Administrators 	168
	Oak Park	October 28, 2003	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	Champaign County	October 30, 2003	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	DeWitt County	January 15, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	Cook County	March 31, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	Adams County	April 1, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	Effingham County	April 1, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	Kane County	May 1, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	McDonough County	May 15, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	Freeport	May 19, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	60
	Steffanson County	May 20, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	Whiteside County	May 20, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50
	Souk County	May 20, 2004	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	35



State	Location	Date	Sponsors	Number of Participants
Indiana				
	Indianapolis	April 9, 2003	<ul style="list-style-type: none">■ University of Illinois at Chicago School of Public Health■ Mid-America Regional Public Health Leadership Institute■ Illinois Department of Public Health	54
Iowa				
	Ames	October 28-29, 2003	<ul style="list-style-type: none">■ U.S. Attorney's Office – Southern District of Iowa■ State Public Policy Group■ University of Iowa College of Public Health■ Iowa Homeland Security and Emergency Management Division■ Federal Bureau of Investigation■ Des Moines Police Department■ Des Moines Fire Department■ Iowa Nurses Association	80
Kansas				
	Wichita	May 4-5, 2004	<ul style="list-style-type: none">■ Kansas Department of Health and Environment■ Kansas Association of Local Health Departments	150
Maine				
	Augusta	November 6, 2003	<ul style="list-style-type: none">■ U.S. Attorney's Office – District of Maine■ Maine Department of Health and Human Services	150
Maryland				
	Baltimore	December 17-18, 2002	<ul style="list-style-type: none">■ CDC■ Federal Bureau of Investigation – Baltimore Field Office■ Maryland Department of Health and Mental Hygiene■ Maryland Emergency Management Agency■ Maryland State Police■ Baltimore County Health Department■ Baltimore County Police Department■ Baltimore County Fire Department■ Baltimore City Health Department■ Baltimore City Police Department■ Baltimore City Fire Department	49



State	Location	Date	Sponsors	Number of Participants
Michigan				
	Lansing	June 17, 2003	<ul style="list-style-type: none">U.S. Attorney's Office – Western District of MichiganMichigan Department of Community Health	75
	Marquette	August 5, 2003	<ul style="list-style-type: none">U.S. Attorney's Office – Eastern District of MichiganMichigan Department of Community Health	47
	Frankenmuth	August 26, 2003	<ul style="list-style-type: none">U.S. Attorney's Office – Eastern District of MichiganMichigan Department of Community Health	107
	Gaylord	September 9, 2003	<ul style="list-style-type: none">U.S. Attorney's Office – Western and Eastern Districts of MichiganMichigan Department of Community Health	49
	Romulus	September 16, 2003	<ul style="list-style-type: none">U.S. Attorney's Office – Eastern District of MichiganMichigan Department of Community Health	87
	Grand Rapids	September 29, 2003	<ul style="list-style-type: none">U.S. Attorney's Office – Western District of MichiganMichigan Department of Community Health	107
Minnesota				
	Minneapolis	April 5, 2004	<ul style="list-style-type: none">Minnesota Department of Health	100
Missouri				
	St. Louis	August 28, 2003	<ul style="list-style-type: none">U.S. Attorney's Office – Eastern District of MissouriSt. Louis County Health Department	76
	St. Louis	December 2-3, 2003	<ul style="list-style-type: none">U.S. Attorney's Office – Eastern District of MissouriSt. Louis County Public Health	285
Montana				
	Missoula	October 20-21, 2003	<ul style="list-style-type: none">U.S. Attorney's Office – District of Montana	200
Nevada				
	Reno	March 30-31, 2004	<ul style="list-style-type: none">Clark County Health DistrictU.S. Attorney's Office – District of NevadaFederal Bureau of InvestigationNevada State Health Division	100



State	Location	Date	Sponsors	Number of Participants
New Hampshire				
	Concord	December 4, 2003	<ul style="list-style-type: none">■ U.S. Attorney's Office – District of New Hampshire■ New Hampshire Department of Health and Human Services■ Manchester Health Department	80
	Concord	February 5, 2004	<ul style="list-style-type: none">■ U.S. Attorney's Office – District of New Hampshire■ New Hampshire Department of Health and Human Services■ Manchester Health Department	100
New Jersey				
	Mahwah	November 13-14, 2003	<ul style="list-style-type: none">■ New Jersey Department of Health and Senior Services■ Federal Bureau of Investigation■ New Jersey State Police	100
	Bergen County	December 2-3, 2003	<ul style="list-style-type: none">■ New Jersey Department of Health and Senior Services■ New Jersey State Police■ Bergen County Health Department	100
	Sayreville	December 11-12, 2003	<ul style="list-style-type: none">■ New Jersey Department of Health and Senior Services■ Federal Bureau of Investigation■ New Jersey State Police	100
	Egg Harbor Township	January 14-15, 2004	<ul style="list-style-type: none">■ New Jersey Department of Health and Senior Services■ Federal Bureau of Investigation■ New Jersey State Police	100



State	Location	Date	Sponsors	Number of Participants
New York				
	Westchester County	October 7, 2003	■ New York State Department of Health ■ New York State Police	50
	Rockland	October 8, 2003	■ New York State Department of Health ■ New York State Police	50
	Ulster	October 14, 2003	■ New York State Department of Health ■ New York State Police	50
	Albany	October 16, 2003	■ New York State Department of Health ■ New York State Police	50
	Broome	October 27, 2003	■ New York State Department of Health ■ New York State Police	50
	Allegheny	October 28, 2003	■ New York State Department of Health ■ New York State Police	50
	Monroe	October 29, 2003	■ New York State Department of Health ■ New York State Police	50
	Erie	November 5, 2003	■ New York State Department of Health ■ New York State Police	50
	Suffolk	November 13, 2003	■ New York State Department of Health ■ New York State Police	50
	Oneida	November 18, 2003	■ New York State Department of Health ■ New York State Police	50
	Jefferson	November 19, 2003	■ New York State Department of Health ■ New York State Police	50
	Essex	November 20, 2003	■ New York State Department of Health ■ New York State Police	50
	Albany	February 17, 2004	■ New York State Department of Health ■ New York State Police	50
	Albany	February 19, 2004	■ New York State Department of Health ■ New York State Police	50



State	Location	Date	Sponsors	Number of Participants
North Carolina				
	Chapel Hill	November 4-5, 2002	<ul style="list-style-type: none">■ CDC■ NC Department of Public Health■ U.S. Attorney's Office for the Eastern District of North Carolina■ University of North Carolina School of Public Health■ NC State Bureau of Investigation■ NC State Bureau of Laboratories■ Charlotte field office of the FBI■ Local health departments	127
	Franklin	May 25, 2004	<ul style="list-style-type: none">■ Franklin County Health Department	15
North Dakota				
	Bismarck	October 15-16, 2003	<ul style="list-style-type: none">■ North Dakota Department of Health■ U.S. Attorney's Office – District of North Dakota	48
	Fargo	January 22, 2004	<ul style="list-style-type: none">■ North Dakota Department of Health■ U.S. Attorney's Office – District of North Dakota	48
Ohio				
	Elyria	February 24, 2004	<ul style="list-style-type: none">■ U.S. Attorney's Office – Northern District of Ohio■ Lorain County Community College Criminal Justice Program■ Ohio Department of Health	200
	Kent	March 25, 2004	<ul style="list-style-type: none">■ U.S. Attorney's Office – Northern District of Ohio■ Ohio Department of Health	200
	Toledo	April 1, 2004	<ul style="list-style-type: none">■ U.S. Attorney's Office – Northern District of Ohio■ Ohio Department of Health	200
	Cleveland	April 20, 2004	<ul style="list-style-type: none">■ U.S. Attorney's Office – Northern District of Ohio■ Ohio Department of Health	200
Oklahoma				
	Oklahoma City	May 20, 2004	<ul style="list-style-type: none">■ University of Oklahoma Health Sciences Center Southwest Center for Public Health Preparedness■ U.S. Attorney's Office – Western District of Oklahoma■ Oklahoma State Department of Health■ Federal Bureau of Investigation	100



State	Location	Date	Sponsors	Number of Participants
Pennsylvania				
	Philadelphia	September 16-17, 2003	■ U.S. Attorney's Office – Eastern District of Pennsylvania	185
	Bethlehem	October 9-10, 2003	■ U.S. Attorney's Office – Eastern District of Pennsylvania	115
South Carolina				
	Columbia	February 24-25, 2004	■ U.S. Attorney's Office – District of South Carolina ■ University of South Carolina Center for Public Health Preparedness ■ South Carolina Department of Health and Environmental Control	40
South Dakota				
	Chamberlain	September 16, 2003	■ U.S. Attorney's Office – District of South Dakota ■ Sioux Falls Health Department	34
Texas				
	Beaumont	July 31, 2003	■ U.S. Attorney's Office – Eastern District of Texas ■ Texas Department of Health	65
	Dallas	September 4, 2003	■ U.S. Attorney's Office – Northern District of Texas ■ Texas Department of Health	100
	Forth Worth	September 18, 2003	■ U.S. Attorney's Office – Northern District of Texas ■ Texas Department of Health	100
	Austin	December 2, 2003	■ U.S. Attorney's Office – Western District of Texas ■ Texas Department of Health	100
	Lufkin	December 12, 2003	■ U.S. Attorney's Office – Eastern District of Texas ■ Texas Department of Health	60
	Houston	April 13, 2004	■ U.S. Attorney's Office – Southern District of Texas ■ Texas Department of Health	80



State	Location	Date	Sponsors	Number of Participants
Virginia				
	Arlington	February 24-25, 2004	■ Virginia Department of Health	80
	Newport News	April 6-7, 2004	■ Virginia Department of Health	60
	Chesterfield County	April 13-14, 2004	■ Virginia Department of Health	140
	Charlottesville	April 22-23, 2004	■ Virginia Department of Health	100
	Roanoke	April 26-27, 2004	■ Virginia Department of Health	100
	Abingdon	April 28-29, 2004	■ Virginia Department of Health	60
Washington				
	Seattle	January 21-22, 2004	■ U.S. Attorney's Office – Eastern District of Washington ■ U.S. Attorney's Office – Western District of Washington ■ Federal Bureau of Investigation ■ Washington State Department of Health	60
Washington, DC				
	Washington, DC	December 11-12, 2003	■ Johns Hopkins School of Public Health	100



State	Location	Date	Sponsors	Number of Participants
West Virginia				
	Parkersburg	January 13-14, 2004	<ul style="list-style-type: none">West Virginia Department of Military Affairs and Public Safety, Office of Emergency ServicesWest Virginia Department of Health and Human Services, Bureau for Public HealthFederal Bureau of Investigation	59
	Pipestem	January 20-21, 2004	<ul style="list-style-type: none">West Virginia Department of Military Affairs and Public Safety, Office of Emergency ServicesWest Virginia Department of Health and Human Services, Bureau for Public HealthFederal Bureau of Investigation	126
	Martinsburg	January 26-27, 2004	<ul style="list-style-type: none">West Virginia Department of Military Affairs and Public Safety, Office of Emergency ServicesWest Virginia Department of Health and Human Services, Bureau for Public HealthFederal Bureau of Investigation	75
	Roanoke	January 29-30, 2004	<ul style="list-style-type: none">West Virginia Department of Military Affairs and Public Safety, Office of Emergency ServicesWest Virginia Department of Health and Human Services, Bureau for Public HealthFederal Bureau of Investigation	69
	Huntington	February 4-5, 2004	<ul style="list-style-type: none">West Virginia Department of Military Affairs and Public Safety, Office of Emergency ServicesWest Virginia Department of Health and Human Services, Bureau for Public HealthFederal Bureau of Investigation	74
	Morgantown	February 9-10, 2004	<ul style="list-style-type: none">West Virginia Department of Military Affairs and Public Safety, Office of Emergency ServicesWest Virginia Department of Health and Human Services, Bureau for Public HealthFederal Bureau of Investigation	80



State	Location	Date	Sponsors	Number of Participants
Wisconsin				
	Milwaukee	December 2, 2003	■ U.S. Attorney's Office – Eastern District of Wisconsin	70
	Mosinee	April 28, 2004	■ U.S. Attorney's Office – Eastern District of Wisconsin	35
	Green Bay	April 30, 2004	■ U.S. Attorney's Office – Eastern District of Wisconsin	60
	Fort McCoy	May 5, 2004	■ U.S. Attorney's Office – Western District of Wisconsin	35
	Appleton	May 28, 2004	■ U.S. Attorney's Office – Western District of Wisconsin	60
Total number trained				8,561



Appendix II: Course Manager's Guide Table of Contents

Forensic Epidemiology	Course Manager's Guide
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Appendix III: Course Objectives

By the end of the course, participants will be able to:

Criminal and Epidemiological Investigative Methods

- Demonstrate an understanding of the similarities and differences in public health agencies and law enforcement investigative goals and methods
- Show an understanding of crime scene procedures
- Describe specimen collection and establishment of chain of custody of evidence
- Demonstrate an understanding of environmental testing
- Understand the inclusion of “intentionality” in the epidemiologic differential diagnosis and investigation

Operations and Procedures

- Demonstrate an understanding of controlling laws and sources of authorities for actions
- Demonstrate an understanding of legal issues surrounding the issue of bioterrorism
- Determine jurisdictional lead responsibilities
- Identify additional resources to call and when to call
- Recognize when to involve the other discipline after the problem is acknowledged
- Coordinate public health and law enforcement activities during responses and investigations
- Coordinate of local, state, and federal resources
- Describe on-scene control measures and interventions

Communications

- Communicate and share information between law enforcement and public health agencies
- Differentiate between treatment of information (e.g., privacy, confidentiality, public disclosure)
- Describe media relations and risk communication



Appendix IV: Supplemental Grant Information

NOTICE OF COOPERATIVE AGREEMENT (Continuation Sheet)	PAGE 2 OF 5	DATE ISSUED
	AWARD NO. U90/CCU116972-04	

Terms and Conditions

- INCORPORATION:** Program Announcement Number 99051, entitled Public Health Preparedness and Response for Bioterrorism and the application dated July 1, 2003, are made a part of this award by reference.
- INDIRECT COST RATES:** Award indirect costs were based on the rate agreement dated January 3, 2003:

TYPE	FROM	TO	RATE(%)	LOCATIONS	APPLICABLE TO
Prov.	07/01/00	Until Amended	5.2%	Health	All Programs

Base: total direct costs excluding capital expenditures (buildings, individual items of equipment; alterations and renovations), subawards and flow-through funds.
- FUNDING:** Attached is a spreadsheet that reflects total funding (financial assistance and any direct assistance) by Focus Area.

Forensic Epidemiology - Funds in the amount of \$5,000 are awarded by the CDC Public Health Law Program to support your delivery of "Forensic Epidemiology", a joint training course for law enforcement and public health officials on concurrent investigative responses to bioterrorism threats and attacks. This course was developed by CDC for implementation by state and local public health departments in collaboration with state and local law enforcement counterparts, their professional associations, and the FBI. The U.S. Department of Justice has assisted in initial stages of national dissemination. CDC is providing technical assistance to states and localities as they implement the training. (Please contact Ms. Carey Mitchell, MSPH, Science Applications International Corp., at (770) 936-3620 or elizabeth.c.mitchell@saic.com for technical assistance). These funds complement the technical assistance and are intended to offset a portion of the modest cost the training may entail. The funds are provided in the travel category of the grant budget in anticipation that course participants may need assistance in traveling to the location of the training. Please report on your delivery of the "Forensic Epidemiology" training course as part of your standard progress reports for Budget Period Four. This activity is included in Focus Area A of the Budget Year Four Continuation Guidance. Additional information on the "Forensic Epidemiology" course is available at <http://www.phppo.cdc.gov/od/phlp/> or from the CDC Public Health Law Program at (770) 488-2852.

Border Health: This award includes \$74,220 to foster collaboration with states on both sides of the U.S./Canada border to enhance early warning infectious disease surveillance. In particular, these funds are intended to enable public health officials representing border counties and tribes to participate in intra-US and cross-border collaborative activities. These funds are awarded in Focus Area B - "Other" category and restricted pending receipt and approval of a proposal for their allocation. The plan should include a brief description of other current and planned border-related activities and the funds allocated for them. The plan is due 90 days after the effective date of this modification. CDC, under separate cover, will provide guidance for preparation of the proposals.
- DISAPPROVALS:** None
- RESTRICTIONS:** None



Appendix V: Forensic Epidemiology Website Homepage



Department of Health and Human Services
Centers for Disease Control and Prevention

CDC en Español

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Forensic Epidemiology - Overview

Background

The events of fall 2001, including the anthrax attacks and the thousands of biologic threats and hoaxes, required law enforcement, other public safety, and public health agencies to work together in ways without precedent. The concurrent responses to such threats affirmed the many similarities in the goals and investigative methods used by both law enforcement and public health officials but also highlighted salient differences in the different disciplines' approaches. To foster improved understanding of the investigative goals and methods specific to each discipline and to strengthen interdisciplinary collaborative effectiveness in response to future attacks involving biological agents, in the spring of 2002 the Public Health Law Program of the U.S. Centers for Disease Control and Prevention (CDC) in partnership with other agencies and organizations undertook the development of a module for the joint training of law enforcement and public health officials. This module has been referred to frequently as the "Forensic Epidemiology" course.

The CDC's goal was to develop this training module as a self-contained instructional package that can be used in any jurisdiction in the United States. The instructional module was piloted in three sites (Jacksonville, Florida [December 3-4, 2002], Baltimore [December 17-18, 2002], and Los Angeles [January 15-16, 2003]). Through these pilots, the materials were refined and an instructional package in the form of a Course Manager's Guide was made available for national use in spring 2003. The Course Manager's Guide is free for all United States jurisdictions.

Currently, Forensic Epidemiology is in a national dissemination mode. By the end of September 2003, the course had been implemented in more than 22 jurisdictions. Technical assistance for national dissemination and delivery of Forensic Epidemiology is available to all jurisdictions.

For an article by Richard A. Goodman and others, describing the concept of forensic epidemiology, published in the winter 2003 issue of *The Journal of Law, Medicine & Ethics*, click below:
[Forensic Epidemiology: Law at the Intersection of Public Health and Criminal Investigation](#) 
(PDF file)

For more information on training, the Course Manager's Guide, and technical assistance, please click on the link below.

[Program Content](#)



Appendix VI: Letter to State Public Health Officials

Dear ____:

This letter provides an update about the status of the “Forensic Epidemiology” course for joint training of law enforcement and public health officials on investigative responses to bioterrorism. The Forensic Epidemiology course was developed by CDC’s Public Health Law Program and piloted through early 2003 as a tool to assist local, state, and federal public health agencies and law enforcement and other first-responder organizations in strengthening their preparedness for bioterrorism and other public health emergencies. In April 2003, the U.S. Department of Justice sponsored a national train-the-course organizers workshop in Atlanta. This meeting brought together approximately 250 persons from U.S. Attorneys offices, the FBI, and state and local health departments for the purpose of becoming familiarized with the course and to begin planning for national implementation of joint training for public health agencies and law enforcement officials.

To date, a total of 37 states have conducted, scheduled or entered planning phases for the course and already an estimated 4,500 members of public health agencies, law enforcement, and first response organizations have been trained. The complete training course is available as a *Course Manager’s Guide*, a self-contained instructional template that can be used in any state. The *Course Manager’s Guide* can be obtained from CDC’s contractor, Scientific Applications International Corporation (SAIC) (contact: Ms. Carey Mitchell at 770/936-3620). In addition, CDC has provided funding through the bioterrorism cooperative agreement to each state health department to assist in planning and conducting this training (see award number U90/CCU116972-04). Through a contract with SAIC, state and local public health agencies can obtain consultation on issues regarding the planning for and conducting of this training (contact: Ms. Mitchell).

We encourage your program to consider this training if it has not already done so, and will appreciate your comments regarding the value of this approach to interdisciplinary training for strengthened emergency preparedness. Thank you.

Richard A. Goodman, M.D., J.D., M.P.H.

Co-Director
Public Health Law Program, PHPPO

cc: Dr. George E. Hardy, Jr.



Appendix VII: First Page of the Forensic Epidemiology Article

Forensic Epidemiology: Law at the Intersection of Public Health and Criminal Investigations

**Richard A. Goodman, Judith W. Munson,
Kim Dammers, Zita Lazzarini, and
John P. Barkley**

Since at least the mid-1970s, public health and law enforcement officials have conducted joint or parallel investigations of both health problems possibly associated with criminal intent and crimes having particular health dimensions.¹ However, the anthrax and other terrorist attacks of fall 2001 have dramatically underscored the needs that public health and law enforcement officials have for a clear understanding of the goals and methods each discipline uses in investigating such problems, including and especially the potential use of biologic agents as weapons of mass destruction.² Recognition of these needs has prompted some experts to call for the application of “forensic epidemiology” to such problems.³ Even before the attacks of fall 2001, other problems, such as the detection of the West Nile Virus in the United States and concerns that the emergence of this infectious agent was the consequence of a deliberate act, raised novel challenges to the combined interests of public health and criminal investigators.⁴

In addition to demonstrating both similarities and divergences in the investigative goals and methods used by the disciplines of public health and law enforcement, the events of 2001 highlighted fundamental legal issues related to the conduct of such investigations, including both statutory bases for legal action and safeguards to individual rights and liberties.⁵ This paper explores the concept of “forensic epidemiology” in relation to the recent accelerated evolution of the relationships between public health and law enforcement officials during concurrent investigations, as well as selected legal issues arising or implicated in such investigations. We first consider proposed definitions for “forensic epidemiology” and then apply the

definitions to past problems potentially illustrative of the definition. We next describe in-progress examples of the application of forensic epidemiology in public health and law enforcement program settings. We conclude by examining selected important legal issues that were identified in the context of a joint training program for law enforcement and public health officials — and have not been well described in the literature — which are important for the future cooperation of these disciplines.

DEFINING FORENSIC EPIDEMIOLOGY

The term “forensic epidemiology” was used in 1999 in the context of presenting the epidemiologist as an expert witness.⁶ However, the term’s connotations relative to threats to public health were realized by at least October 1999 as part of testimony given before the Research and Development Subcommittee of the House Armed Services Committee by Dr. Ken Alibek, former first deputy chief of Biopreparat, the Soviet Union’s bioweapons program⁷, when Dr. Alibek referred to the then recent detection of the West Nile Virus:

I cannot say it was a manmade outbreak, but ... we need to study this case very thoroughly ... I would call the signs (sic) an investigative epidemiology or *forensic epidemiology* to study epidemic developments, and because natural epidemics and manmade epidemics in many cases have differences. But, unfortunately, even now we cannot distinguish in many cases, because, for example, mosquitoes are perfect delivery system for some biological weapons.⁸ (italics added)

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Appendix VIII: Forensic Epidemiology Sample Agenda

FORENSIC EPIDEMIOLOGY

Dates

Location

AGENDA

Day One

8:00am	Registration	
8:30am	Call to Order Welcome:	Course Manager or other Person(s) to give welcome
9:00am	<i>“Public Health Epidemiology for Law Enforcement”</i>	Presenter
10:00am	BREAK	
10:15am	<i>“Criminal Investigation for Public Health Professionals”</i>	Presenter(s) – local, state, and Federal
11:15am	BREAK	
11:30am	<i>“The Role of the Laboratory – Public Health and Forensic”</i>	Presenter(s)
12:00pm	Lunch	
1:00pm	Small Group Instructions	Course Manager or other
1:15pm	Small Groups: Case Study I – Suspicious Letter	
3:00pm	BREAK	
3:15pm	Small Groups: Case Study II – Anthrax in Florida	
5:00pm	Adjourn	



Day Two

8:00am	Debrief	
8:30am	Large Group: Case Study III – Salmonellosis in Oregon	
10:15am	BREAK	
10:30am	Plenary Session: Group Reports	Wrap-up Facilitator
12:00pm	Concluding Remarks	Course Manager or other
12:15pm	Adjourn	



Appendix IX: Detailed Information for Forensic Epidemiology Courses Held through May 2004

Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
November 4-5, 2002	Chapel Hill, NC	<ul style="list-style-type: none">■ CDC■ NC Department of Public Health■ U.S. Attorney's Office for the Eastern District of North Carolina■ University of North Carolina School of Public Health■ NC State Bureau of Investigation■ NC State Bureau of Laboratories■ Charlotte field office of the FBI■ Local health departments	127	<ul style="list-style-type: none">■ Pilot course■ Added a panel presentation on quarantine■ Included a variety of participants■ 2-day course■ Added a panel presentation on quarantine
December 3-4, 2002	Jacksonville, FL	<ul style="list-style-type: none">■ CDC■ FL Department of Health■ FL Department of Law Enforcement■ Jacksonville Sheriff's Office■ Duval County Health Department	63	<ul style="list-style-type: none">■ Pilot■ Standard course
December 17-18, 2002	Baltimore, MD	<ul style="list-style-type: none">■ CDC■ Federal Bureau of Investigation – Baltimore Field Office■ Maryland Department of Health and Mental Hygiene■ Maryland Emergency Management Agency■ Maryland State Police■ Baltimore County Health Department■ Baltimore County Police Department■ Baltimore County Fire Department■ Baltimore City Health Department■ Baltimore City Police Department	49	<ul style="list-style-type: none">■ Pilot■ Standard course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
		<ul style="list-style-type: none"> Baltimore City Fire Department 		
January 15-16, 2003	Los Angeles, CA	<ul style="list-style-type: none"> CDC State of California Department of Health Services County of Los Angeles Department of Health Services – Public Health Bioterrorism Preparedness Program 	122	<ul style="list-style-type: none"> Pilot Standard course Terrorism Early Warning Workgroup at end of second day
April 9, 2003	Indianapolis, IN	<ul style="list-style-type: none"> University of Illinois at Chicago School of Public Health Mid-America Regional Public Health Leadership Institute Illinois Department of Public Health 	54	<ul style="list-style-type: none"> One-day course
June 17, 2003	Lansing, MI	<ul style="list-style-type: none"> U.S. Attorney's Office – Western District of Michigan Michigan Department of Community Health 	75	<ul style="list-style-type: none"> One-day course
July 31, 2003	Anniston, AL	<ul style="list-style-type: none"> CDC 	143	<ul style="list-style-type: none"> EIS Officer course One-day course
July 31, 2003	Beaumont, TX	<ul style="list-style-type: none"> U.S. Attorney's Office – Eastern District of Texas Texas Department of Health 	65	<ul style="list-style-type: none"> One-day course
August 5, 2003	Marquette, MI	<ul style="list-style-type: none"> U.S. Attorney's Office – Eastern District of Michigan Michigan Department of Community Health 	47	<ul style="list-style-type: none"> One-day course
August 26, 2003	Frankenmuth, MI	<ul style="list-style-type: none"> U.S. Attorney's Office – Eastern District of Michigan Michigan Department of Community Health 	107	<ul style="list-style-type: none"> One-day course
August 28, 2003	St. Louis, MO	<ul style="list-style-type: none"> U.S. Attorney's Office – Eastern District of Missouri St. Louis County Health Department 	76	<ul style="list-style-type: none"> Train-the-trainer course One-day course
September 4, 2003	Dallas, TX	<ul style="list-style-type: none"> U.S. Attorney's Office – Northern District of Texas Texas Department of Health 	100	<ul style="list-style-type: none"> One-day course
September 9, 2003	Ft. Myers, FL	<ul style="list-style-type: none"> Regional Domestic Security Task Force 6 	40	<ul style="list-style-type: none"> One-day course
September 9, 2003	Gaylord, MI	<ul style="list-style-type: none"> U.S. Attorney's Office – Western and Eastern Districts of Michigan Michigan Department of Community Health 	49	<ul style="list-style-type: none"> One-day course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
September 16-17, 2003	Philadelphia, PA	<ul style="list-style-type: none"> U.S. Attorney's Office – Eastern District of Pennsylvania 	185	<ul style="list-style-type: none"> Added a HIPAA component
September 16, 2003	Romulus, MI	<ul style="list-style-type: none"> U.S. Attorney's Office – Eastern District of Michigan Michigan Department of Community Health 	87	<ul style="list-style-type: none"> One-day course
September 16, 2003	Chamberlain, SD	<ul style="list-style-type: none"> U.S. Attorney's Office – District of South Dakota Sioux Falls Health Department 	34	<ul style="list-style-type: none"> Train-the-trainer course One-day course
September 18, 2003	Forth Worth, TX	<ul style="list-style-type: none"> U.S. Attorney's Office – Northern District of Texas Texas Department of Health 	100	<ul style="list-style-type: none"> One-day course
September 18-19, 2003	Springfield, IL	<ul style="list-style-type: none"> U.S. Attorney's Office – Central District of Illinois University of Illinois at Chicago School of Public Health Mid-America Regional Public Health Leadership Institute Illinois Department of Public Health Illinois State Police Illinois Association of Public Health Administrators 	168	<ul style="list-style-type: none"> Train-the-trainer course Standard course
September 24-25, 2003	Avon, CT	<ul style="list-style-type: none"> U.S. Attorney's Office – District of Connecticut Connecticut Department of Public Health Yale New Haven Health Federal Bureau of Investigation Connecticut Fire Academy Department of Public Safety, Division of Homeland Security Connecticut Association of Directors of Health 	110	<ul style="list-style-type: none"> Standard course
September 29, 2003	Grand Rapids, MI	<ul style="list-style-type: none"> U.S. Attorney's Office – Western District of Michigan Michigan Department of Community Health 	107	<ul style="list-style-type: none"> One-day course
September 29-30, 2003	Sacramento, CA	<ul style="list-style-type: none"> U.S. Attorney's Office – Eastern District of California 	150	<ul style="list-style-type: none"> Standard course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
October 7, 2003	Westchester County, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
October 8, 2003	Rockland, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
October 9-10, 2003	Bethlehem, PA	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Eastern District of Pennsylvania 	115	<ul style="list-style-type: none"> ■ Standard course
October 14, 2003	Ulster, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
October 15-16, 2003	Bismarck, ND	<ul style="list-style-type: none"> ■ North Dakota Department of Health ■ U.S. Attorney's Office – District of North Dakota 	48	<ul style="list-style-type: none"> ■ Train-the-trainer ■ Standard course
October 16, 2003	Albany, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
October 20-21, 2003	Missoula, MT	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – District of Montana 	200	<ul style="list-style-type: none"> ■ Two-day course ■ Added presentations on Incident Command and media relations during a bioterror event
October 27, 2003	Broome, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
October 28, 2003	Oak Park, IL	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50	<ul style="list-style-type: none"> ■ One-day course
October 28, 2003	Allegheny, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
October 28-29, 2003	Ames, IA	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Southern District of Iowa ■ State Public Policy Group ■ University of Iowa College of Public Health ■ Iowa Homeland Security and Emergency Management Division ■ Federal Bureau of Investigation ■ Des Moines Police Department ■ Des Moines Fire Department ■ Iowa Nurses Association 	80	<ul style="list-style-type: none"> ■ Standard course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
October 29, 2003	Monroe, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
October 29, 2003	Boise, ID	<ul style="list-style-type: none"> ■ Idaho Department of Health and Welfare ■ U.S. Attorney's Office – District of Idaho 	40	<ul style="list-style-type: none"> ■ One-day course
October 30, 2003	Champaign County, IL	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50	<ul style="list-style-type: none"> ■ One-day course
November 5, 2003	Erie, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
November 6, 2003	Augusta, ME	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – District of Maine ■ Maine Department of Health and Human Services 	150	<ul style="list-style-type: none"> ■ One-day course
November 13, 2003	Suffolk, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
November 13-14, 2003	Mahwah, NJ	<ul style="list-style-type: none"> ■ New Jersey Department of Health and Senior Services ■ Federal Bureau of Investigation ■ New Jersey State Police 	100	<ul style="list-style-type: none"> ■ Standard course
November 18, 2003	Oneida, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
November 19, 2003	Jefferson, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
November 20, 2003	Essex, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
December 2, 2003	Austin, TX	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Western District of Texas ■ Texas Department of Health 	100	<ul style="list-style-type: none"> ■ One-day course
December 2, 2003	Milwaukee, WI	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Eastern District of Wisconsin 	70	<ul style="list-style-type: none"> ■ Train-the-trainer course ■ One-day course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
December 2-3, 2003	St. Louis, MO	<ul style="list-style-type: none">U.S. Attorney's Office – Eastern District of MissouriSt. Louis County Public Health	285	<ul style="list-style-type: none">Two-day courseAdded presentations on Public Health Law, HIPAA, agroterrorismCreated own case studies
December 2-3, 2003	Bergen County, NJ	<ul style="list-style-type: none">New Jersey Department of Health and Senior ServicesNew Jersey State PoliceBergen County Health Department	100	<ul style="list-style-type: none">Standard course
December 3-4, 2003	Westbrook, CT	<ul style="list-style-type: none">U.S. Attorney's Office – District of ConnecticutConnecticut Department of Public HealthYale New Haven HealthFederal Bureau of InvestigationConnecticut Fire AcademyDepartment of Public Safety, Division of Homeland SecurityConnecticut Association of Directors of Health	200	<ul style="list-style-type: none">Standard course
December 4, 2003	Concord, NH	<ul style="list-style-type: none">U.S. Attorney's Office – District of New HampshireNew Hampshire Department of Health and Human ServicesManchester Health Department	80	<ul style="list-style-type: none">One-day course
December 11-12, 2003	Washington, DC	<ul style="list-style-type: none">Johns Hopkins School of Public Health	100	<ul style="list-style-type: none">Standard course
December 11-12, 2003	Sayreville, NJ	<ul style="list-style-type: none">New Jersey Department of Health and Senior ServicesFederal Bureau of InvestigationNew Jersey State Police	100	<ul style="list-style-type: none">Standard course
December 11-12, 2003	Dover, DE	<ul style="list-style-type: none">Delaware Department of Health and Social Services	50	<ul style="list-style-type: none">Standard course
December 12, 2003	Lufkin, TX	<ul style="list-style-type: none">U.S. Attorney's Office – Eastern District of TexasTexas Department of Health	60	<ul style="list-style-type: none">One-day course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
January 13-14, 2004	Parkersburg, WV	<ul style="list-style-type: none"> ■ West Virginia Department of Military Affairs and Public Safety, Office of Emergency Services ■ West Virginia Department of Health and Human Services, Bureau for Public Health ■ Federal Bureau of Investigation 	59	<ul style="list-style-type: none"> ■ Standard course
January 14-15, 2004	Egg Harbor Township, NJ	<ul style="list-style-type: none"> ■ New Jersey Department of Health and Senior Services ■ Federal Bureau of Investigation ■ New Jersey State Police 	100	<ul style="list-style-type: none"> ■ Standard course
January 15, 2004	DeWitt County, IL	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50	<ul style="list-style-type: none"> ■ One-day course
January 20-21, 2004	Pipestem, WV	<ul style="list-style-type: none"> ■ West Virginia Department of Military Affairs and Public Safety, Office of Emergency Services ■ West Virginia Department of Health and Human Services, Bureau for Public Health ■ Federal Bureau of Investigation 	126	<ul style="list-style-type: none"> ■ Standard course
January 21-22, 2004	Seattle, WA	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Eastern District of Washington ■ U.S. Attorney's Office – Western District of Washington ■ Federal Bureau of Investigation ■ Washington State Department of Health 	60	<ul style="list-style-type: none"> ■ Train-the-trainer course ■ Standard course
January 22, 2004	Fargo, ND	<ul style="list-style-type: none"> ■ North Dakota Department of Health ■ U.S. Attorney's Office – District of North Dakota 	48	<ul style="list-style-type: none"> ■ One-day course
January 26-27, 2004	Martinsburg, WV	<ul style="list-style-type: none"> ■ West Virginia Department of Military Affairs and Public Safety, Office of Emergency Services ■ West Virginia Department of Health and Human Services, Bureau for Public Health ■ Federal Bureau of Investigation 	75	<ul style="list-style-type: none"> ■ Standard course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
January 29-30, 2004	Roanoke, WV	<ul style="list-style-type: none"> ■ West Virginia Department of Military Affairs and Public Safety, Office of Emergency Services ■ West Virginia Department of Health and Human Services, Bureau for Public Health ■ Federal Bureau of Investigation 	69	<ul style="list-style-type: none"> ■ Standard course
February 4-5, 2004	Huntington, WV	<ul style="list-style-type: none"> ■ West Virginia Department of Military Affairs and Public Safety, Office of Emergency Services ■ West Virginia Department of Health and Human Services, Bureau for Public Health ■ Federal Bureau of Investigation 	74	<ul style="list-style-type: none"> ■ Standard course
February 5, 2004	Concord, NH	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – District of New Hampshire ■ New Hampshire Department of Health and Human Services ■ Manchester Health Department 	100	<ul style="list-style-type: none"> ■ One-day course
February 9-10, 2004	Morgantown, WV	<ul style="list-style-type: none"> ■ West Virginia Department of Military Affairs and Public Safety, Office of Emergency Services ■ West Virginia Department of Health and Human Services, Bureau for Public Health ■ Federal Bureau of Investigation 	80	<ul style="list-style-type: none"> ■ Standard course
February 17, 2004	Albany, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
February 19, 2004	Albany, NY	<ul style="list-style-type: none"> ■ New York State Department of Health ■ New York State Police 	50	<ul style="list-style-type: none"> ■ One-day course
February 24-25, 2004	Columbia, SC	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – District of South Carolina ■ University of South Carolina Center for Public Health Preparedness ■ South Carolina Department of Health and Environmental Control 	40	<ul style="list-style-type: none"> ■ Train-the-trainer ■ Standard course
February 24-25, 2004	Arlington, VA	<ul style="list-style-type: none"> ■ Virginia Department of Health 	80	<ul style="list-style-type: none"> ■ Standard course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
February 24, 2004	Elyria, OH	<ul style="list-style-type: none">U.S. Attorney's Office – Northern District of OhioLorain County Community College Criminal Justice ProgramOhio Department of Health	200	<ul style="list-style-type: none">One-day course
March 4-5, 2004	Marietta, GA	<ul style="list-style-type: none">U.S. Attorney's Office – Northern District of GeorgiaGeorgia Department of Human Resources	120	<ul style="list-style-type: none">Standard course
March 11, 2004	Tampa, FL	<ul style="list-style-type: none">University of South Florida School of Public Health	50	<ul style="list-style-type: none">One-day course
March 25, 2004	Kent, OH	<ul style="list-style-type: none">U.S. Attorney's Office – Northern District of OhioOhio Department of Health	200	<ul style="list-style-type: none">One-day course
March 30-31, 2004	Reno, NV	<ul style="list-style-type: none">Clark County Health DistrictU.S. Attorney's Office – District of NevadaFederal Bureau of InvestigationNevada State Health Division	100	<ul style="list-style-type: none">Standard course
March 31, 2004	Cook County, IL	<ul style="list-style-type: none">Illinois Department of Public Health	50	<ul style="list-style-type: none">One-day course
April 1, 2004	Adams County, IL	<ul style="list-style-type: none">Illinois Department of Public Health	50	<ul style="list-style-type: none">One-day course
April 1, 2004	Effingham County, IL	<ul style="list-style-type: none">Illinois Department of Public Health	50	<ul style="list-style-type: none">One-day course
April 1, 2004	Toledo, OH	<ul style="list-style-type: none">U.S. Attorney's Office – Northern District of OhioOhio Department of Health	200	<ul style="list-style-type: none">One-day course
April 1-2, 2004	Phoenix, AZ	<ul style="list-style-type: none">Arizona Department of Health ServicesFederal Bureau of InvestigationArizona Department of Public SafetyPhoenix Police Department	74	<ul style="list-style-type: none">Standard course
April 5, 2004	Minneapolis, MN	<ul style="list-style-type: none">Minnesota Department of Health	100	<ul style="list-style-type: none">One-day course
April 6-7, 2004	Newport News, VA	<ul style="list-style-type: none">Virginia Department of Health	60	<ul style="list-style-type: none">Standard course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
April 13, 2004	Houston, TX	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Southern District of Texas ■ Texas Department of Health 	80	■ One-day course
April 13-14, 2004	Chesterfield County, VA	<ul style="list-style-type: none"> ■ Virginia Department of Health 	140	■ Standard course
April 20, 2004	Cleveland, OH	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Northern District of Ohio ■ Ohio Department of Health 	200	■ One-day course
April 22-23, 2004	Charlottesville, VA	<ul style="list-style-type: none"> ■ Virginia Department of Health 	100	■ Standard course
April 26-27, 2004	Roanoke, VA	<ul style="list-style-type: none"> ■ Virginia Department of Health 	100	■ Standard course
April 28-29, 2004	Abingdon, VA	<ul style="list-style-type: none"> ■ Virginia Department of Health 	60	■ Standard course
April 28, 2004	Mosiene, WI	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Eastern District of Wisconsin 	35	■ One-day course
April 30, 2004	Green Bay, WI	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Eastern District of Wisconsin 	60	■ One-day course
May 1, 2004	Kane County, IL	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50	■ One-day course
May 4-5, 2004	Wichita, KS	<ul style="list-style-type: none"> ■ Kansas Department of Health and Environment ■ Kansas Association of Local Health Departments 	150	■ Standard course
May 5, 2004	Fort McCoy, WI	<ul style="list-style-type: none"> ■ U.S. Attorney's Office – Western District of Wisconsin 	35	■ One-day course
May 13, 2004	Gadsden, AL	<ul style="list-style-type: none"> ■ University of Alabama School of Medicine and Public Health 	50	■ One-day course
May 15, 2004	McDonough County, IL	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50	■ One-day course
May 18, 2004	Tuscaloosa, AL	<ul style="list-style-type: none"> ■ University of Alabama School of Medicine and Public Health 	50	■ One-day course
May 19, 2004	Freeport, IL	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	60	■ One-day course
May 20, 2004	Steffanson County, IL	<ul style="list-style-type: none"> ■ Illinois Department of Public Health 	50	■ One-day course



Date	Location	Sponsors	Number of Participants	Modifications to the original course module and Notable Features
May 20, 2004	Whiteside County, IL	<ul style="list-style-type: none">■ Illinois Department of Public Health	50	<ul style="list-style-type: none">■ One-day course
May 20, 2004	Souk County, IL	<ul style="list-style-type: none">■ Illinois Department of Public Health	35	<ul style="list-style-type: none">■ One-day course
May 20, 2004	Oklahoma City, OK	<ul style="list-style-type: none">■ University of Oklahoma Health Sciences Center Southwest Center for Public Health Preparedness■ U.S. Attorney's Office – Western District of Oklahoma■ Oklahoma State Department of Health■ Federal Bureau of Investigation	100	<ul style="list-style-type: none">■ One-day course
May 25, 2004	Decatur, AL	<ul style="list-style-type: none">■ University of Alabama School of Medicine and Public Health	50	<ul style="list-style-type: none">■ One-day course
May 25, 2004	Franklin, NC	<ul style="list-style-type: none">■ Franklin County Health Department	15	<ul style="list-style-type: none">■ One-day course
May 25, 2004	Boise, ID	<ul style="list-style-type: none">■ Idaho Department of Health and Welfare■ U.S. Attorney's Office – District of Idaho	60	<ul style="list-style-type: none">■ One-day course
May 26, 2004	Birmingham, AL	<ul style="list-style-type: none">■ University of Alabama School of Medicine and Public Health	50	<ul style="list-style-type: none">■ One-day course
May 28, 2004	Appleton, WI	<ul style="list-style-type: none">■ U.S. Attorney's Office – Western District of Wisconsin	60	<ul style="list-style-type: none">■ One-day course



Appendix X: Scheduled Courses

June 2004

- June 1 – Champaign County, IL
- June 3 – Mt. Vernon, WA (31 trained)
- June 4 – Fond du Lac, WI (45 trained) – Eastern District of Wisconsin
- June 10-11 – Harrisburg, PA (84 trained)
- June 15 – Everett, WA (30 trained)
- June 16 – Vancouver, WA (20 trained)
- June 21-22 – Las Vegas, NV
- June 22 – Muncie, IN
- June 23 – Crawfordsville, IN
- June 25 – San Diego, CA
- June 29 – Chicago, IL
- June 29 – Sangamon County, IL
- June 30 – Meomonie, WI (planning for 35) – Western District of Wisconsin

July 2004

- July 12 – South Bend, IN
- July 13 – Burnett County, WI (planning for 35) – Western District of Wisconsin
- July 16 – Crownpoint, IN
- July 20 – Dane County, WI (planning for 35) – Western District of Wisconsin
- July 20 – Madison, IN
- July 20 – Morgantown, WV
- July 21 – Jasper, IN
- July 27 – Moscow, ID
- July 29 – Fort Wayne, IN
- July 30 – Orlando, FL



August 2004

- August 1 – Lake County, IL
- August 5 – Greenfield, IN
- August 6 – Greencastle, IN
- August 10 – Nashville, IN
- August 17 – Pocatello, ID
- August 18 – Indianapolis, IN
- August 25 – Conway, AR
- August 30 – Boise, ID
- TBD – Glendale, AZ
- TBD – Raleigh County, WV
- TBD – Utah

September 2004

- September 1 – Rock Island County, IL
- September 8 – Grant County, WI (planning for 35) – Western District of Wisconsin
- September 9 – Kenosha, WI (planning for 60) – Eastern District of Wisconsin
- September 15-16 – Asheville, NC
- September 20-21 – Atlantic Beach, NC
- September 28-30 – Anchorage, AK
- TBD – Colorado

October 2004

- October 7 – Honolulu, HI



Appendix XI: Missouri USAO Privacy of Medical Information Card

Front of Card

PRIVACY OF MEDICAL INFORMATION

Exceptions for Law Enforcement Access - (45 C.F.R. 164.512(f))

- #1: "Required by law" - mandatory reporting laws (164.512(f)(1)(i))
- #2: Court Order, or warrant or subpoena or summons issued by a judicial officer (164.512(f)(1)(ii)(A))
- #3: Grand jury subpoena (164.512(f)(1)(ii)(B))
- #4: Administrative subpoena, but only if they meet 3 very specific requirements! (164.512(f)(1)(ii)(C))
 1. "information sought is relevant and material to a legitimate law enforcement inquiry." [Translate that: only ask for information that you need for a real investigation.] AND
 2. "The request is specific and limited in scope to the extent reasonably practicable in light of the purpose for which the information is sought." [Translate that: do not ask for the kitchen sink.] AND
 3. "De-identified information could not reasonably be used." [Translate that: if you took the person's name, SSN, etc off of the record, the record would be useless to me in the investigation.]
- #5: Locate and Identify (164.512(f)(2)); you can only request and obtain 8 types of information: name/address; date/place of birth; SSN; blood type/Rh factor; type of injury; date/time of treatment; date/time of death
- #6: Crime on premises (164.512(f)(5))
- #7: Information about victim of a crime (164.512(f)(3))

I will not use the information against the victim; law enforcement activity will be adversely and materially affected by waiting until the victim is able to agree... AND giving me the information is in the best interest of the victim, (PERSON IS INCAPACITATED OR DUE TO SOME OTHER EMERGENCY CIRCUMSTANCE)

Back of Card

- #8: Emergency health care worker can report crimes/victims/perpetrators (164.512(6))
- #9: Victims of abuse, neglect, domestic violence (164.512(c))
 - disclosure is required by law
 - or the individual has agreed to the disclosure
 - or expressly authorized by law and the disclosure is necessary to prevent serious harm to someone
 - or authorized by law and the law enforcement agency represents that the information will not be used against the individual and law enforcement activity depends on the disclosure and would be materially and adversely affected by waiting until the individual is able to agree
- #10: Disclosure (to) coroners (164.512(g))
- #11: To avert serious threat to health/safety (164.512(j))
- #12: National security and intelligence
- #13: Protective services for the President and others
- #14: Jails, prisons, law enforcement custody.

Want to stop provider from telling patients that you have their medical information? 1) make an oral request that the provider not disclose; 2) follow up with a written request within 30 days.

Remember to show your badge, and if possible, make your requests in writing, on official letterhead.



U.S. Department of Justice (May 2003)





Appendix XII: Mock Joint Interview Script from New York

Public Health Response Team Training

Draft 1 - January 23, 2004

Module 2: Mock Interview – Anthrax Case Investigation

Target Audience:

Public Health and Law Enforcement Personnel

Purpose:

This mock interview is intended to acquaint public and health and law enforcement investigators with the dynamics involved in a joint interview of an anthrax case.

Setting:

This particular interview takes place in a hospital setting at the patient's bedside.

Background:

The patient is a 56-year-old lab instructor at RPI in Troy, NY. He is in otherwise good health and resides at home with his wife. On January 1, 2004 he noticed an itchy reddish papule on his forearm. There was no tenderness at the site. By January 7, 2004, he developed a temperature of 103° F. The papule enlarged, was beginning to ulcerate, and had become black in color. He saw his doctor later that day and was subsequently admitted to Albany Med Center for a septic workup. On Jan 8, a specimen from the skin papule site revealed Gram-positive bacilli on smear and the blood culture suggested *Bacillus* species. Confirmatory tests were pending. The skin lesion and preliminary lab data caused the attending physician to consider cutaneous anthrax in the diagnosis. Based on existing lab and hospital reporting protocols, the infection control nurse reported the information by phone as a suspect cutaneous anthrax to the Rensselaer Co. Health Dept later that day. Upon receipt of the report, the epidemiologist for the county notified the NYSP Counter Terrorism Unit at which time it was agreed that a joint interview be conducted in the early evening.

Cast/Characters:

Patient: Stan Kondracki (Pt SK)

Rensselaer Co Health Dept Epidemiologist: Peter Drabkin (Epi PD)

NYSP Rep: Investigator Joe Huber (Inv JH)



Scene 1 – Inv Joe Huber and Epi PD meet in the hallway outside the patient’s room to discuss interview plans.

Epi PD: Hi, I am Epi PD and will be doing the joint interview with you. Here is a copy of the suspect Anthrax Interview Form that I will be using to collect public health info. It is best that we look at the patient’s chart and also try to phone the attending physician for additional details before starting the interview.

Inv JH: Okay, I will need to obtain a copy of your interview form and would like to look over your shoulder at the patient’s chart and listen to your phone conversation with the attending physician.

[Question: 1. What confidentiality issues arise at this point?
2. What rules govern record access for LE and PH in this scenario?]

Epi PD: Will you let the physician know you are participating in the call?

Inv JH: Yes, we will let the physician know we are both on the call. I will also introduce/identify myself to the charge nurse on the floor and display my ID badge. She may want to make an entry into the patient’s chart indicating that PH and LE reps reviewed the chart this evening as part of their official duties to conduct an investigation. When we enter the patient’s room, we will both identify ourselves. I prefer that you begin the interview.

[Patient’s Chart reveals 56 y/o otherwise healthy male admitted with skin infection on left forearm and possible sepsis. Fever 103°, other vitals normal. Lab shows Gram-positive bacilli on smear of skin lesion and preliminary culture showing Bacillus species. Differential diagnosis includes staph or strep abscess with sepsis or cutaneous anthrax. Infectious disease consult requested. Patient placed on IV antibiotics]

[Phone interview with attending physician confirms same as above. Physician indicates patient is a lab instructor; spouse is nurse and does not have current symptoms. Epi PD and Inv JH agree to leave calling cards in patient’s chart to facilitate further communication. Confidentiality issues are discussed and physician reassured that the information and follow-up is within the scope of the official investigation by PH and LE]



- [Question: 1. Should the investigation-interview proceed if the physician is not immediately available?
2. What approach should be taken if the charge nurse does not allow chart access?
 3. Should the hospital's ICP be called at home to ask if she is aware of other similar cases?
 4. What about other hospitals in the area?]

Scene 2 – The patient's room. The interview begins. Patient is sitting up in bed and is not in acute distress.

Epi PD: Hi, I am PD from the Rens. Co HD. Although your diagnosis has not yet been confirmed, your doctor feels that cutaneous anthrax is a possibility. Therefore it is necessary for public health agencies and law enforcement to conduct a preliminary follow-up.

Pt SK: Okay, but who is that with you?

Inv JH: I am investigator Joe Huber from the NYSP. For certain diseases, it is appropriate that PH and LE conduct joint follow-up. The information is solely for the purposes of our investigation and confidentiality will be respected as much as possible.

- [Question: 1. What are the advantages and disadvantages of the joint investigation?
2. If the spouse was present in the hospital room, would you ask her to stay or leave?]

Epi PD: I have some questions for you, after which you will have an opportunity to ask questions of us. Some questions may be best answered by your doctor?

[Epi PD goes through anthrax interview form including personal info, clinical history, travel history, occupation (including RPI lab instructor role), social, religious and cultural activities.]

Pt SK: Can you tell me a bit about anthrax?

Epi PD: Reads highlights from anthrax fact sheet

Inv JH: Tell me more about your lab work at RPI.

Pt SK: I work full-time days teaching general and advanced microbiology to undergraduates. The lab contains microscopes, material for conducting basic cultures media, smears, incubators and stock cultures obtained from commercial lab supply companies.



-
- Inv JH: Do you handle anthrax in your lab?
- Pt SK: Definitely not. We handle stock cultures such as Staph epidemidis, Enterbacter species, and other non-pathogenic organisms.
- Epi PD: Have there been any lab accidents? What PPE do you and students utilize?
- Pt SK: No accidents. Students and instructors wear lab coats, disposable gloves, and eye protection.
- Inv JH: Would students have an opportunity to bring in their own materials?
- Pt SK: No.
- Inv JH: Do others use your lab?
- Pt SK: In the evening, several graduate students are permitted to use our lab for their independent studies. I met them briefly. They are foreign exchange students with a study visa from Syria.
- Inv JH: What organizations, clubs, or groups do you belong to?
- Pt SK: American Society for Microbiology and NYS College Instructors Association.
- Inv JH: Have you donated or loaned money or resources to any person or group?
- Pt SK: Only donate to my local church.
- Inv JH: Where does your wife work?
- Pt SK: My wife works as a diabetes nurse educator at Seton Health in Troy.
- Inv JH: Do you have any lab materials of any kind in your home?
- Pt SK: No lab materials. Just some textbooks and a laptop computer.
- Inv JH: Can we have your permission to search your home and look at your computer?
- Pt SK: At this point, I want to think about that.



Scene 3 – back in the hallway, Epi PD and Inv JH have a debriefing.

Epi PD: The travel, social, cultural, and religious histories have not revealed anything interesting. The potential for a lab exposure however needs a closer look. I will need to discreetly expand surveillance to other area hospitals and contact students in SK's class to see if any are sick. Let's talk tomorrow to update one another.

Inv JH: I will visit RPI's security office and obtain addition info on the graduate students. I will discuss a search warrant with my supervisors. Please understand that I may not be able to share certain aspects of our investigation with you. However, I must ask you to share all follow-up information that you believe is pertinent with me.

[Question: 1. What other agencies should LE and PH notify at this point?
2. Who does the notification?
3. Does PH need to participate in the home visit if LE decides to execute a search warrant?
4. What about UNIRICS?
5. What would you do differently in this investigation?]



Appendix XIII: UNC Forensic Epidemiology Website

Preparedness Center Training Site



- Home
- Trainings
 - NCCPHP Trainings
 - NCCPHP Training Packages
 - All Trainings by Topic
- Materials For Trainers
- Focus Periodicals
- Technical Requirements
- Contact Us

UNC
SCHOOL OF PUBLIC HEALTH

NCCPHP Trainings in the Topic of:

Forensic Epidemiology

Forensic Epidemiology Part 1
Format: **Audio Tutorial with interactive quiz**
CE Credit: **Online Certificate**

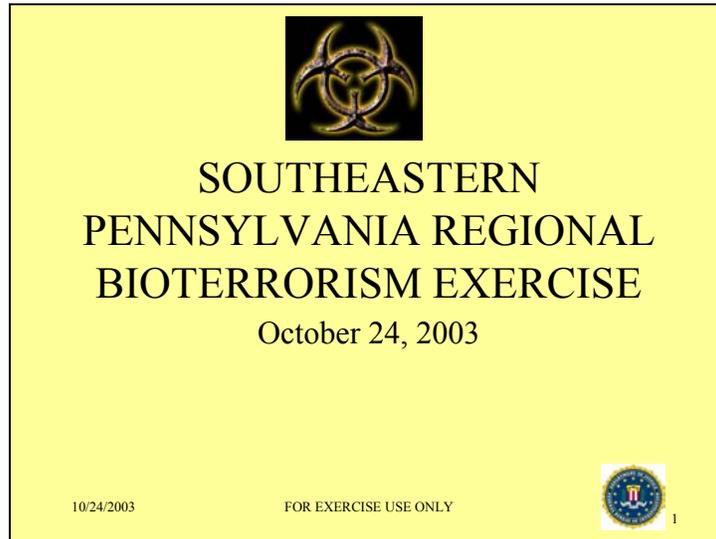
Forensic Epidemiology Part 2
Format: **Audio Tutorial with interactive quiz**
CE Credit: **Online Certificate**

[VIEW LIST OF ALL TOPICS](#)

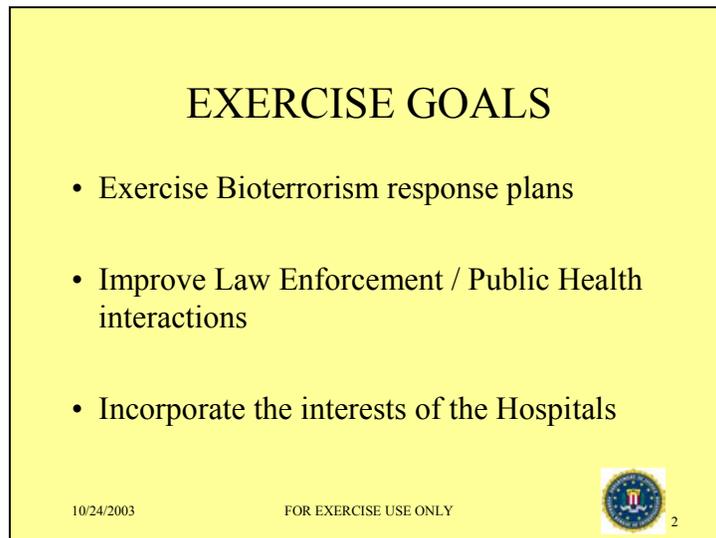


Appendix XIV: Cover Pages and Exercise Goals from Pennsylvania's Tabletop and Field Exercises

Cover Page from the Regional Tabletop



Exercise Goals from the Regional Tabletop





Cover Page from the Regional Exercise



**SOUTHEASTERN
PENNSYLVANIA REGIONAL
BIOTERRORISM FIELD
TRAINING EXERCISE**

May 10-11, 2004

02/09/2004 FOR EXERCISE USE ONLY  1

Exercise Goals from the Regional Exercise

EXERCISE GOALS

- Conduct and coordinate joint Law Enforcement / Public Health interviews
- Collect and assess resulting information in a timely and meaningful manner
- Respond to multiple biological dissemination devices

02/09/2004 FOR EXERCISE USE ONLY  2



Appendix XV: Invitation to West Virginia's "Operation Black Dragon"



Operation Black Dragon

May I have your attention please!

Over the last several weeks I have talked to many of you, and for the ones that I have not gotten a chance to talk to, I hope that you can spare a few minutes.

As part of our Local Health Department Regional Group, which is made up of Jackson, Wetzel/Tyler, and Mid Ohio Valley Health Department (Calhoun, Pleasants, Ritchie, Roane, Wirt, and Wood Counties) on the West Virginia side of the river), and Washington and Athens Counties, as well as Marietta City Health Department on the Ohio side, a simulated bio-terrorism event (modified table-top) has been scheduled as part of the continuing effort to prepare for such an event.

This simulated event should be quite "unique", and we would like to extend an invitation for your organization to join with us in making this event valuable to all who attend. We have already gotten commitments from local, state, and federal agencies to take part in this timely event. If you represent a local or state health department (Administration, Threat Preparedness, Environmental, Clinical, Epidemiological, or Public Information), this event is for you! Additionally, the participation of County and Federal Prosecuting Attorneys, hospitals, laboratories (both local and state), physicians, coroners, nurses, infection control specialists, primary care centers, physicians, nurses, county



commissions, city officials, OES/EMA, 911 Centers, law-enforcement (local, county, state and federal), EMS, fire service, military, American Red Cross, school administration, industry, is critical to this event!

On June 25th, registration will begin at 7:45AM, and the simulation at 8:30AM. This event will be held at the **Cold Water Creek Distribution Center (with many thanks for their support), which is located in South Parkersburg and just North of the Mineralwells/I-77 exit on Rt. 14.**

Throughout the day, all participants will have the opportunity to be challenged, participate, and most of all be exposed to an educational process that will be invaluable in the event of such an event or other community disaster was to occur. After a very full day, the simulation will terminate at 4:00PM.

While we all face the challenge of full calendars, it is hoped that each one of you can take this opportunity to join together in one cohesive event to address issues that will face all of us during acts of terrorism or the outbreak of a new and deadly disease.

If you have questions, please feel free to contact me directly. Advance notice of participation would be appreciated, but not required.

Thank you very much,

**James A. Rose
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FORENSIC EPIDEMIOLOGY:

JOINT TRAINING FOR LAW ENFORCEMENT AND PUBLIC HEALTH OFFICIALS ON CONCURRENT INVESTIGATIVE RESPONSES TO BIOTERRORISM THREATS AND ATTACKS

Events of Fall 2001, including the anthrax attacks and the thousands of biologic threats and hoaxes, required law enforcement, other public safety, and public health agencies to work together in ways without precedent. The concurrent responses to such threats affirmed the many similarities in the goals and investigative methods used by both law enforcement and public health officials, but also highlighted salient differences in the different disciplines' approaches. To foster improved understanding of the investigative goals and methods specific to each discipline and to strengthen interdisciplinary collaborative effectiveness in response to future attacks involving biological agents, in spring 2002, the Public Health Law Program (<http://www.phppo.cdc.gov/od/phi/>) of the U.S. Centers for Disease Control and Prevention (CDC), in partnership with other agencies and organizations, undertook development of a course for the joint training of law enforcement and public health officials. The course has been referred to frequently as the "Forensic Epidemiology" course.

Training goal: A primary goal for the training course is to **enhance the joint effectiveness of law enforcement and public health** when both disciplines conduct concurrent investigations in response to a threat or attack involving possible biological weapons.

Training strategies: The course's centerpiece is a set of **3 fact-based case scenarios** worked through by small groups, the small groups, which include equal numbers of law enforcement and public health officials, address key objectives by reviewing sets of facts from answer questions matched to the objectives. The objectives span a spectrum of issues, including for example: conducting epidemiological investigations and public health registries in the setting of a crime scene; **matching criminal investigative procedures with epidemiological laboratory and other scientific procedures in such settings**; and joint law enforcement and public health operations and communications. In addition to improving understanding of relevant laws, approaches, and procedures, the course's delivery is designed to **increase participants' familiarity with their law enforcement and public health counterparts** in their home jurisdictions. The module also employs a "train-the-trainers" strategy to emphasize peer teaching and to create a force-multipplier capacity for sustainable, additional training within a state or other jurisdictional level.

Course agenda: The course is designed to be given in three 1/2-day sessions.

First 1/2-day (morning)

- Participants convene for a series of three background presentations to establish a common understanding of discipline-specific goals, methods, and vocabulary.
- Law Enforcement for Public Health Officials
- Public Health for Law Enforcement Officials
- Role of the Criminal and Public Health Laboratory

Second 1/2-day (afternoon)

- Participants break into smaller groups led by a pair of previously trained co-facilitators and work through scenarios I and II:
- Scenario I: "Suspicious Letter in DeKalb County"
- Scenario II: "Anthrax in Florida"

Third 1/2-day (morning)

- Small groups work through scenario III then reconvene as a large group.
- Scenario III: "Salmonellosis in Oregon"
- Large group reports from small groups on issues for possible after-action plan

Course Pilot

The "Forensic Epidemiology" course has been successfully piloted four times:

- Chapel Hill, North Carolina (November 4-6, 2002)
- Jacksonville, Florida (December 3-4, 2002)
- Baltimore, Maryland (December 17-18, 2002)
- Los Angeles, California (January 15-16, 2003)

Each course pilot was customized for the locale but consisted of the same core groups: state and local public health, state and local law enforcement (police departments or sheriff's offices), state public health laboratories, the jurisdictional field offices of the Federal Bureau of Investigation, the jurisdictional U.S. Attorney's Office, and local schools of public health.

