

**THE PUBLIC HEALTH RESPONSE  
TO BIOLOGICAL AND CHEMICAL TERRORISM**

***INTERIM PLANNING GUIDANCE FOR  
STATE PUBLIC HEALTH OFFICIALS***

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**Centers for Disease Control and Prevention**

**July 2001**

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# The Public Health Response to Biological and Chemical Terrorism: Interim Planning Guidance for State Public Health Officials

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# **The Public Health Response to Biological and Chemical Terrorism: Interim Planning Guidance for State Public Health Officials**

## **Executive Summary**

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Across the country, state health department officials are considering the capabilities of their departments to respond to a biological or chemical terrorism incident.

Traditionally, the responsibilities of the state health departments have been disease surveillance and management. Health departments now are defining their roles to respond effectively to an intentional release of biological organisms or hazardous chemicals into an unsuspecting population.

In federal fiscal year 1999, the Centers for Disease Control and Prevention (CDC) received congressionally-appropriated funds to enter into multi-year cooperative agreements aimed at upgrading state and local health department preparedness and response capabilities relative to bioterrorism. A portion of these funds was used to facilitate preparedness and readiness assessments. Grantees receiving the Focus Area A Funds must develop terrorism response plans. In return, CDC committed to developing planning guidance. The Public Health Response to Biological and Chemical Terrorism: Interim Planning Guidance for State Public Health Officials fulfills that commitment.

This Planning Guidance is designed to help state public health officials determine the roles of their departments in response to biological and chemical terrorism and to understand the emergency response roles of local health departments and the emergency management system. The Planning Guidance also can be used to help state health departments coordinate their efforts with the many agencies and organizations at all levels of government that ultimately would respond to a biological or chemical terrorism event.

Response efforts differ according to each state's size, population, risks, needs, and capabilities. Rather than establishing a one size fits all model, this document provides general guidance that can be tailored to meet the needs of individual jurisdictions.

### **Objectives of the Planning Guidance**

Many state and local health departments lack plans for responding to terrorism events. Moreover, public health activities may not be well integrated with those of other state agencies that are responsible for responding to emergencies of all types. To remedy this, the Planning Guidance seeks to accomplish the following:

- Help health departments integrate their terrorism response efforts into their

- states= overall emergency preparedness and response frameworks.
- Help states develop realistic terrorism response plans that are consistent with their resources, capabilities, and needs.
- Help states identify the capabilities necessary to meet the key elements of a public health preparedness program.
- Help health departments build communication links with other assets in the health-care community, e.g., hospitals, emergency departments, acute-care centers, and first response organizations, to assess local capacities and coordinate responses.
- Help states assist their local health departments in terrorism response planning efforts.
- Help states understand and access federal assets available during a biological or chemical terrorism release.

## Organization

The Planning Guidance has three distinct, yet interrelated components: chapters, annexes, and appendices. These parts build upon each other, ensuring that the resulting terrorism plan integrates into the state=s existing Emergency Operations Plan (EOP) and effectively coordinates the roles and responsibilities of all response agencies.

The five chapters of the Planning Guidance contain public health-specific programmatic guidance for terrorism response preparedness. The emergency response activities outlined throughout these chapters should be consistent regardless of the agent that triggers the response. Therefore, the core chapters cover preparedness and response activities without designating the agent.

Chapter 1 presents the objectives, organization, and development of the Planning Guidance. It also presents *Ten Essential Services for Public Health*, a list of capabilities developed by CDC in collaboration with the Association of State and Territorial Health Officials and the National Association of County and City Health Officials. Developing effective capabilities under each of these essential services will lay a dependable foundation upon which to build the key elements of the public health terrorism response system.

Chapter 2 outlines the five *Key Preparedness Elements for Terrorism Response*: Hazard Analysis, Emergency Response Planning, Health Surveillance and Epidemiologic Investigation, Laboratory Diagnosis and Characterization, and Consequence Management. The first two elements are covered in Appendix I. Preparedness planning to satisfy the requirements of Elements 3 through 5 is covered in Chapters 3, 4, and 5, respectively.

Some response activities must be tailored to the unique characteristics of the agent involved. Considerations for these agent-specific response activities are presented in the annexes. Biological-specific information is provided in Annex A, and chemical-specific information is contained in Annex B.

Each annex briefly outlines the agents of concern for planning purposes and provides information on the medical management of casualties. The annexes also provide agent-specific guidance for surveillance and epidemiology, laboratory analysis, and consequence management that builds upon the information contained in Chapters 3, 4, and 5.

Appendix I focuses on the development of a basic EOP. The EOP should form the foundation for the development of the terrorism response plan. It is impossible to include a comprehensive discussion on planning in this document; however, Appendix I contains sufficient general guidance to serve both as an introduction for those unfamiliar with basic emergency management planning concepts and as a refresher for seasoned planners.

Appendix II includes basic information regarding the National Pharmaceutical Stockpile (NPS)Ba national repository of antibiotics, chemical antidotes, antitoxins, life-support medications, IV administration and airway maintenance supplies, and medical/surgical items. NPS program staff established guidance for developing stockpile-related Standard Operating Procedures. The sensitive nature of some of the information precluded its inclusion in this document; however, state and local public health planners may obtain a copy by contacting the NPS Program as follows:

National Pharmaceutical Stockpile Program  
4770 Buford Highway  
Mailstop F-23  
Atlanta, GA 30341-3724  
(770) 488-7516



CDC welcomes suggestions to make *The Public Health Response to Biological and Chemical Terrorism: Interim Planning Guidance for State Public Health Officials* more useful to state and local agencies. To provide comments about this document or to receive public health planning technical assistance, please contact the following:

Centers for Disease Control and Prevention  
Emergency Preparedness and Response Branch  
4770 Buford Highway, Mailstop F-38  
Atlanta, GA 30341-3724

**The Public Health Response to Biological and Chemical Terrorism:  
Interim Planning Guidance for State Public Health Officials**

**ACRONYMS**

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APIC	Association for Professionals in Infection Control and Epidemiology
ASTHO	Association of State and Territorial Health Officials
ATSDR	Agency for Toxic Substances and Disease Registry
BSL	Biosafety Level
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
DOJ	Department of Justice
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
Epi-X	Emergency Preparedness Information Exchange
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
HAZMAT	Hazardous Materials
HHS	Department of Health and Human Services
ICS	Incident Command System
JIC	Joint Information Center
JIS	Joint Information System

## Acronyms

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JTTF	Joint Terrorism Task Force
LEPC	Local Emergency Planning Committee
LRN	Laboratory Response Network
MMRS	Metropolitan Medical Response Systems
NACCHO	National Association of County and City Health Officials
NPS	National Pharmaceutical Stockpile
OHS	Office of Health and Safety (CDC)
OJP	Office of Justice Programs
PCR	Polymerase Chain Reaction
RRAT	Rapid Response and Advanced Technology Laboratory
SARA	Superfund Amendments and Reauthorization Act of 1986
SERC	State Emergency Response Commission
SLG	State and Local Guide
SOP	Standard Operating Procedure
UC	Unified Command
VMI	Vendor Managed Inventory
WMD	Weapons of Mass Destruction

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## Chapter 1

# OVERVIEW

The Public Health Response to Biological and Chemical Terrorism: Interim Planning Guidance for State Public Health Officials (hereafter referred to as the Planning Guidance) outlines steps for strengthening the capacity of the public health system to respond to and protect the nation against the dangers of a terrorism incident. Although the Planning Guidance focuses on the biological and chemical terrorism preparedness efforts of state-level health department personnel, it can be used as a planning tool by anyone in the response community, regardless of his or her position within that community or level of government. The public health community at large also can use this document to improve its terrorism preparedness and develop terrorism response plans.<sup>a</sup> The preparedness program outlined in this Planning Guidance, once implemented, should improve the ability of all public health agencies to respond to emergency situations arising from all sources, not just terrorism.

The Planning Guidance focuses on the capabilities that state health departments are likely to need to respond effectively to a terrorism incident. Despite the public health focus of this document, the terrorism plan ultimately should not be agency-specific. Instead, the terrorism plan should be integrated, outlining the roles and responsibilities of all agencies that participate in a response. This coordinated terrorism plan should then be annexed to the state's all-hazard Emergency Operations Plan (EOP).<sup>b</sup>

## Background

The intentional release of sarin, an organophosphate nerve agent, into the Tokyo subway system helped to focus the United States on its need to prepare for what was once unthinkable. Aum Shinrikyo, the group responsible for the Tokyo incident, disbursed botulinum toxin and anthrax bacteria, and the group attempted to obtain Ebola (1).

The World Trade Center and Oklahoma City bombings confirm that terrorism is not an event that occurs only on foreign soil. Terrorism incidents or threats involving

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<sup>a</sup> Planners in health-care facilities can refer to "Bioterrorism Readiness Plan – A Template for Healthcare Facilities" prepared by the Association for Professionals in Infection Control and Epidemiology (APIC). This document is available on the APIC Web site at URL: [www.apic.org](http://www.apic.org).

<sup>b</sup> The Federal Emergency Management Agency (FEMA) recommends that terrorism-specific response protocols be annexed to the state's emergency plan. These terrorism protocols are referred to as the "terrorism plan" throughout this document.

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*Salmonella* (2) and ricin (3) amply demonstrate that the United States is vulnerable not only to bombs but to biological and chemical threats as well.<sup>c</sup>

These and other events caused health departments across the country to consider their ability to respond to a terrorism incident. In addition to their more traditional responsibilities in disease surveillance and management, health departments are defining their roles to respond effectively to an intentional release of biological organisms or hazardous chemicals into an unsuspecting population.

Because states differ in size, population, risks, needs, and capabilities, terrorism preparedness and response efforts inevitably must differ. This document does not establish a one-size-fits-all model; rather, it addresses important areas of preparedness and response that can be tailored to meet the needs of individual jurisdictions. Health department officials should consider the information contained in this guidance, identify the health and medical effects that an explosion or the intentional release or threatened release of a biological organism or hazardous chemical could have on the population, and prepare to address the public health consequences of those effects.

The Centers for Disease Control and Prevention (CDC) welcomes suggestions to make this Planning Guidance more useful to state and local agencies. To provide comments about this document or to receive public health planning technical assistance, please contact the following:

Centers for Disease Control and Prevention  
Emergency Preparedness and Response Branch  
4770 Buford Highway, Mailstop F-38  
Atlanta, GA 30341

The telephone number is also CDC's 24-hour emergency number. When an emergency call is received, a CDC emergency coordinator directs the caller to the appropriate subject-matter expert(s).

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<sup>c</sup> Whereas the Tokyo subway attack killed 12, the April 19, 1995, bombing of the Murrah Federal Building in Oklahoma City killed 168. In addition, the August 7, 1998, U.S. Embassy bombings in Dar es Salaam, Tanzania, and Nairobi, Kenya, killed 224. Thus, many experts believe that the use of conventional weapons (i.e., explosives) remains a more credible threat than that posed by other forms of terrorism. However, possible ramifications of the use of biological or chemical weapons compel us to prepare for their potential use as well.

## Objectives

Many state and local health departments lack plans for responding to biological or chemical terrorism events. Moreover, public health activities may not be well integrated with those of other state agencies that are responsible for responding to emergencies of all types. On the basis of these observations, the objectives of this Planning Guidance are as follows:

- Highlight the pivotal role of the public health system in terrorism preparedness and response.
- Help health departments integrate their terrorism response efforts into their states' overall emergency preparedness and response frameworks.
- Help states develop realistic terrorism response plans that are consistent with their resources, capabilities, and needs.
- Help states identify the capabilities necessary to meet the key elements of a public health preparedness program.
- Help health departments build communication links with other assets in the health-care community (e.g., hospitals, emergency departments, and acute-care centers) to assess local capacities and coordinate responses.
- Help states assist their local health departments in terrorism response planning efforts.
- Help states understand and access federal assets available during a biological or chemical terrorism release.

## Organization

The Planning Guidance focuses on emergency planning as the cornerstone of terrorism preparedness. For those not familiar with emergency planning, generic planning guidance is provided in Appendix I. Each chapter in this document is devoted to the planning requirements of a particular preparedness program element. This allows individual departments responsible for each of the key elements to focus on issues relevant to their planning efforts, while allowing the lead planner to review those efforts within the context of this document as a whole. These chapters include a planning checklist and detailed planning guidance.

Much of the material covered in the checklists is specific in nature and more appropriately could support Standard Operating Procedures (SOPs). The state should include these procedures in the appropriate document, either the plan or SOP, consistent with the level of detail contained in the state's existing EOP.

The checklists present questions that states should consider during the planning and preparedness process. The questions are not exhaustive (i.e., states are not constrained from including other sections or provisions not covered in the checklists) nor must all items referenced be included in the plan.

Filling out the checklists is not necessary. Their intent is to prompt discussions and aid the planner in designing and organizing the public health terrorism response plan.

A "No" response to a question should prompt health departments to consider whether the item is necessary to the state's terrorism preparedness. If it is a necessary component, actions should be taken to fill the identified need as rapidly as possible. If the component is not necessary or can be filled at a later date, planning should continue without it.

The core chapters of this Planning Guidance cover preparedness and response activities without delineating the agent because these activities should be consistent regardless of the agent that triggers the response. In some instances, the response activities may vary depending on the involved agent. For those instances, biological- and chemical-specific information is contained in Annexes A and B, respectively.

The Planning Guidance addresses preparedness issues related specifically to biological and chemical terrorism. This focus is necessitated by the unique challenges posed by these agents and the potential magnitude of the health and medical consequences that could result from their use. The Planning Guidance does not specifically address conventional weapons or radiological weapons; however, many of the planning recommendations in this Planning Guidance can be applied to conventional and radiological situations. States are advised to assess their trauma systems for their capacity to handle conventional mass casualties and to be reminded that an explosive may be used to disperse hazardous agents.

### **Development**

Previously, CDC developed *Ten Essential Services for Public Health* in collaboration with the Association of State and Territorial Health Officials (ASTHO) and the National Association of County and City Health Officials (NACCHO). These *Ten Essential Services for Public Health* appear in Exhibit 1. Many of the checklist questions relate

directly to the essential services. Developing effective capabilities under each of these essential services will lay a dependable foundation upon which to build the key elements of the public health terrorism response system.

In addition to the checklist questions, states should refer to *Fiscal Year 1999 State Domestic Preparedness Equipment Program Assessment and Strategy Development Tool Kit*, a document published by the Department of Justice (DOJ), Office of Justice Programs (OJP). Task C of that document contains the APublic Health Performance Assessment Instrument for Emergency Preparedness@ developed by CDC and OJP in conjunction with ASTHO and NACCHO.<sup>d</sup> The health assessment is a series of questions that relate the ten essential services to the terrorism setting.

This Planning Guidance is based on the premise that each state will use the information obtained from the completed OJP health assessment to establish its baseline public health capability. This capability assessment will then form the basis for terrorism emergency response planning.

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<sup>d</sup> The governor of each state designated a State Administrative Agency Director. These designees received the Tool Kit. A Web version of the instrument also is available for downloading at URL: [www.ojp.usdoj.gov/osldps](http://www.ojp.usdoj.gov/osldps).



**Exhibit 1: Ten Essential Services for Public Health**

To respond effectively to terrorism, states should have the capacity to:

1. Monitor health status to rapidly detect and identify an event due to hazardous biological, chemical, or radiological agents (e.g., community health profile before an event, vital statistics, and baseline health status of the community);
2. Diagnose and investigate infectious disease and environmental health problems and health hazards in the community specific to detecting and identifying an emergency event due to a hazardous biological, chemical, or radiological agent (e.g., effective epidemiologic surveillance systems, laboratory support necessary for determining a biological, chemical, or radiological event in a time-sensitive manner);
3. Inform, educate, and empower people about specific health issues pertaining to a threat or emergency event due to the release of a hazardous biological, chemical, or radiological agent (e.g., health communication effectiveness in implementing a rapid and effective response);
4. Mobilize state and local partnerships to rapidly identify and solve health problems before, during, and after an event due to a hazardous biological, chemical, or radiological agent, including issues related to the National Pharmaceutical Stockpile (e.g., demonstrate an effective knowledge of all key partners involved in effectively responding to an emergency event, including terrorism);
5. Develop policies and plans that support individual and community health efforts in preparing for and responding to emergencies due to hazardous biological, chemical, or radiological agents (e.g., demonstration of practical, realistic, and effective emergency response plans);
6. Enforce laws and regulations that protect health and ensure safety in case of an emergency or threat due to a hazardous biological, chemical, or radiological agent (e.g., enforcement of sanitary codes to ensure safety of the environment during a terrorism event);
7. Link people to needed personal health services in the course of a threat or event due to a hazardous biological, chemical, or radiological agent (e.g., services that increase access to health care in a timely and effective manner);
8. Assure a competent and trained public and personal health-care workforce for rapid response to a threat or event due to a hazardous biological, chemical, or radiological agent (e.g., education and training for all public health-care providers in effective response to an emergency event or threat);
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services available to respond to a threat or event due to a hazardous biological, chemical, or radiological agent (e.g., continuous evaluation of public health programs which respond effectively to a public health emergency); and
10. Participate in research for new insights and innovative solutions to health problems resulting from exposure to a hazardous biological or chemical agent (e.g., links with academic institutions and capacity for epidemiologic and economic analyses of a chemical or bioterrorism event).

## Chapter 2

# GENERAL PUBLIC HEALTH PREPAREDNESS

## General Preparedness<sup>e</sup>

[DOJ/CDC Public Health Performance Assessment: 4.1; 5.1]

The worst time to determine the appropriate actions in response to an emergency situation is during the emergency. Thus, it is critical that health department officials clarify the preparedness roles and responsibilities of their departments and identify likely response activities before they are needed.

Preparedness encompasses the various activities that can be taken before an emergency. Such activities define and enhance the response system and range from expanding existing surveillance systems to developing and maintaining a viable EOP.

Routine procedures, which health departments follow in day-to-day operations, are likely to exist already whether or not they have been formalized into SOPs. On the other hand, EOPs establish roles, responsibilities, and protocols for responding to an emergency situation and are reserved for special or unique situations. The EOP should not be written until the planners have a consistent understanding of what constitutes emergency circumstances—those times when routine procedures must be augmented by the *emergency-unique* procedures or protocols in the emergency plan.

## Key Elements of a Public Health Preparedness Program

In the event of terrorism incident, in particular covert terrorist attacks, the public health community will have a special role in preventing illness and injury. As with emerging infectious diseases, early detection of a terrorist attack and control of its consequences depend on a strong and flexible public health system at the local, state, and federal levels and on the vigilance of health-care workers throughout the nation who may be first to observe and report unusual illnesses or injuries.

For public health department officials to effectively prepare their departments to respond to an actual or threatened terrorism event, the departments must be capable of the following:

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<sup>e</sup> References are made to the DOJ/CDC assessment tool throughout this document to link various aspects of this Planning Guidance with public health assessment indicators.

- Identifying the types of events that might occur in their communities.
- Planning emergency activities in advance to ensure a coordinated response to the consequences of credible events.
- Building capabilities necessary to respond effectively to the consequences of those events.
- Identifying the type or nature of an event when it happens.
- Implementing the planned response quickly and efficiently.
- Recovering from the incident.

To meet these capabilities, a health department should develop the following Key Preparedness Elements for Terrorism Response:

<b>Key Preparedness Elements</b>
1. Hazard Analysis
2. Emergency Response Planning
3. Health Surveillance and Epidemiologic Investigation
4. Laboratory Diagnosis and Characterization
5. Consequence Management

Elements 1 and 2 are covered in Appendix I. Elements 3, 4, and 5 encompass Chapters 3, 4, and 5, respectively.

To complement this Planning Guidance and to support state planning efforts, CDC maintains a public Web site on biological and chemical terrorism preparedness and response at URL: [www.bt.cdc.gov](http://www.bt.cdc.gov). This site provides specific disease/chemical information that state and local agencies need to ensure they are developing sound plans based upon the nature of the threat. Information pertaining to current events, training, state and local contacts, medical management of patients, hospital

preparedness guidance, legal issues, and a variety of public relations/media reference materials also are available on this Web site.

## **Managing the Incident Scene**

This section briefly explains the management structure used most often to direct on-scene emergency response activities. It is included to help health departments better coordinate their efforts with on-scene activities.

An incident is managed through the actions of Command and Control. Whether the incident is small or large, Command and Control Adirect and/or control resources by virtue of explicit legal, agency, or delegated authority.<sup>f</sup> The Command and Control structure most commonly used today in the United States is Incident Command System/Unified Command (ICS/UC). Incident Command manages the scene, whereas Unified Command describes the integration of federal, state, and private resources into a single response under the principles of the Incident Command System.

Portions of the at-large public health community, especially Emergency Medical Services (EMS), are familiar with and have played a role in the ICS. However, that familiarity does not apply necessarily to health departments and hospitals. State health department officials should gain a working knowledge of the ICS and UC for several reasons. Increasingly, traditional first responders are asking health departments to provide on-scene technical assistance for terrorism threats. Health department officials need to understand the roles and positions of their departments in the ICS structure to provide public health-related information through the appropriate functional group to the incident commander. Whether on-scene or not, health department officials should understand the management structure through which their departments will most likely coordinate the management of public health issues and track patients.

The ICS is built around the command function and four subordinate functions: planning, operations, logistics, and finance and administration. These functions are the foundation for the development of the ICS organization. The system is designed to expand from one person performing all tasks under the command function to several hundred people supporting each function. All personnel and resources involved in the response effort are assigned to one of these five functions.

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<sup>f</sup> Adapted from FEMA's Basic Incident Command Independent Study Course available at URL: [www.fema.gov/emi/is195lst.htm](http://www.fema.gov/emi/is195lst.htm).

Numerous ICS guidance documents exist.<sup>9</sup> Those not familiar with the system may refer to one of these documents or attend an ICS training course.

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<sup>9</sup> For more information, please refer to FEMA's Basic Incident Command Independent Study Course, the U.S. Fire Administration/National Fire Academy's Fire Command Operations course, (<http://www.usfa.fema.gov/nfa/tr6e5.htm>), and Emergency Response to Terrorism: Incident Management, (<http://www.usfa.fema.gov/nfa/tr6m1.htm>).

## Chapter 3

# GENERAL HEALTH SURVEILLANCE AND EPIDEMIOLOGIC INVESTIGATION CONSIDERATIONS

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### General Health Surveillance and Epidemiologic Investigation Planning

[DOJ/CDC Public Health Performance Assessment: 1.1; 2.2; 2.3.7; 5.1.1.16; 6.2.1.11; 10.1]

Well-developed surveillance and epidemiologic capacity is the foundation on which health departments will detect, evaluate, and design effective responses to terrorism events. Not only will this capacity facilitate the initial detection and response in a terrorism event, it will be essential to monitoring the impact of these events and the effectiveness of public health responses. Detection of acute or insidious terrorism attacks using biological (or certain chemical) agents also will require linking of data from a variety of sources. An effective public health response will depend on the timeliness and quality of communications among numerous partners—public health agencies at local, state, and federal levels; clinicians; laboratories; poison centers; medical examiners; and other health response partners.

Complementing the need for accurate and timely case reports is the need for expertise to analyze the information properly. Epidemiologic expertise is critical to judging whether the incident involves biological or chemical agents or is a consequence of a natural phenomenon, an accident, or terrorism. Expertise also is critical in determining the likely site and time of the exposure; size and location of the population exposed; prospect for delayed exposure or secondary transmission of an infectious agent; and whether any people should receive prophylaxis (either medications or vaccines) and, if so, which population groups.

Timely and accurate information and analysis must be coupled with effective and rapid dissemination of information to those who need to know (e.g., response partners and the public) to instill confidence in both the short- and long-term response of the affected community.

## Planning Requirements

### Personnel and Training

Effective epidemiologic and surveillance planning must begin with the designation of a bioterrorism coordinator who will lead or actively participate in the planning process for terrorism preparedness. This coordinator also can serve as liaison to response partners in other public health and non-public health agencies.

No matter how effective the designed system, it will falter unless a sufficient number of appropriate staff members are identified to conduct epidemiologic investigations in the event of a suspected or confirmed biological or chemical terrorism event. Adequate surge capacity is especially important to meet emergency needs.

To maximize effectiveness, the state should train state and local public health staff in issues related to possible terrorism events, including health surveillance, community medical needs assessments, epidemiology, outbreak investigation, and worker biosafety issues. This bioterrorism training should be coordinated with other federal, state, and local health programs to ensure integration of bioterrorism preparedness and response activities. These may include the Health Alert Network, the Emergency Preparedness Information Exchange (*Epi-X*), the Emerging Infections Program, the Epidemiology and Laboratory Capacity program, Information Network for Public Health Officials, Assessment Initiative, Hazardous Substances Emergency Events Surveillance, influenza surveillance, and other emergency response programs, including local Metropolitan Medical Response Systems (MMRS).

### Legal Authority for Surveillance of Biological or Chemical Incidents

Health departments generally possess the legal authority to receive reports and investigate unusual illness clusters. To the extent your state's disease reporting laws do not include a broad requirement to report unusual or exotic diseases or manifestations of illness, including such a requirement should speed recognition of an outbreak, whether naturally occurring or terrorism-related.

The reportable diseases list also should include cases of diseases suspected or confirmed to be caused by high priority bioterrorism agents.<sup>h</sup> To underscore that these diseases are of special interest and require immediate reporting, publicize and highlight them on the reportable diseases list or list them separately from other notifiable diseases.

### **Public Health Surveillance and Epidemiologic Response Plan**

As with the overall planning process, development of enhanced surveillance and epidemiologic protocols requires collaboration among appropriate public health partners. The partners include CDC and other federal response agencies, state and local public health agencies, hospitals, health-care providers, medical examiners, animal health providers, pharmaceutical suppliers, emergency management agencies, and law enforcement agencies.

The plan should include algorithms for identifying which events should be investigated (including case definitions for those events) and how to investigate them (including methods and data sources for rapid case ascertainment under emergency conditions). The plan should identify whom to contact through the compilation and distribution of a directory of emergency resources and contacts (including state and local public health contacts, health-care providers, MMRS, law enforcement officials, etc.) Finally, the plan should distinguish how and to whom to disseminate information for appropriate action.

### **Enhanced Capacity for Emergency Communications**

If not already in place, provide a well-publicized 24-hour/day system to facilitate disease reporting to the local and state health departments, especially for reporting diseases related to potential terrorism events. The system should include rapid notification of key people (e.g., state epidemiologist, state laboratory director, and state emergency management officials). The state also should develop a broadcast fax network or other rapid means for disseminating emergency information. This system should be tested regularly and updated, as necessary.

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<sup>h</sup> See CDC's critical biological agents list in Annex A.



### Enhanced Collaboration Among Public Health Partners

The first step toward information sharing is the effective collaboration among members of the public health community. To accomplish this task, it is necessary to identify which agencies and organizations must be integrated. For surveillance purposes, the public health system is much more than state and/or local health departments. At the very least, the following organizations should coordinate information and share public health-related data:

#### Surveillance Partners

State health department	County/health departments
Emergency Medical Services	Dispatch/911
Social service agencies	Volunteer organizations
Hospitals	Mental health professionals
Clinics and physicians	Poison centers
Epidemiologists	Pharmacists
Medical examiner/coroner	Veterinary services
Laboratories	

Coordination among these agencies and organizations can be enhanced through activities such as the following:

- Identify and distribute points of contact and communications information to critical response partners.
- Provide education about public health surveillance, disease reporting, epidemiology, and response activities related to bioterrorism to public health response partners.
- Collaborate on educational activities on topics related to bioterrorism preparedness for the general public or general medical community.
- Provide or promote in-service training or Grand rounds@ for the medical community.

- Develop and implement collaborative surveillance projects by utilizing traditional and non-traditional data sources.

### **Enhanced Surveillance with Non-traditional Health Partners**

Once the state's basic surveillance system is in place, the state may choose to implement enhanced surveillance systems. These systems establish frequency thresholds for disease and health-related syndromes, which allow epidemiologists to detect aberrations. These systems may utilize data such as 911 calls, ambulance activity, patient visits to urgent care or emergency departments, pharmaceutical inventories, calls to poison centers or nurse hotlines, school or work absenteeism, and detection of aberrations through rapid medical examiner reporting and veterinarian or animal health reporting.

For more information about these specialized surveillance systems, contact CDC's Bioterrorism Preparedness and Response Program at (404) 639-0385.

### **Preparedness**

Many terrorism events would not be identified in the high profile, sudden-impact manner that most emergencies are portrayed. Instead, the observant physician, veterinarian, laboratory technician, surveillance data entry clerk, etc., who recognizes an unusual illness or cluster of illnesses or increases in requests for medical services or a specific diagnosis, will most likely be the first to identify the event. For this reason, training of all personnel associated with public health surveillance should be a priority of terrorism response preparedness.

To aid public health surveillance preparedness, CDC recently developed a list of epidemiologic clues that may signal a bioterrorism event. (See Exhibit 2.)<sup>i</sup> By developing each aspect described in the Health Surveillance and Epidemiologic Capacity Checklist and in the Planning Guidance, the opportunity to recognize and respond to these early clues becomes a product of the improved public health infrastructure, rather than a chance discovery.<sup>j</sup>

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<sup>i</sup> Also see Wiener SL, Barrett J. Biological warfare defense. In: Trauma Management for Civilian and Military Physicians. Philadelphia, PA: WB Saunders; 1986: 508-509.

<sup>j</sup> While the epidemiologic clues were developed to identify a biological terrorism event, many of them may apply to a chemical attack, and all apply to an infectious disease outbreak.

Extraordinary measures are not necessary to develop a comprehensive terrorism health surveillance and epidemiologic network. Initiating partnerships and developing new or pre-existing data links always have been components of public health systems, although those links rarely have been with emergency management or law enforcement agencies. The potential risk for a terrorism event makes it imperative that any enhanced surveillance and epidemiologic system be integrated smoothly into routine public health activities. Developing partnerships between public and private health-care, emergency management, and law enforcement entities, while using current technology to promote timely disease identification and reporting, can improve the daily capacity of a community to respond to illness and disease regardless of magnitude.

**Exhibit 2**

**Epidemiologic Clues That May Signal a Covert Bioterrorism Attack**

- Large number of ill persons with similar disease or syndrome.
- Large number of unexplained disease, syndrome or deaths.
- Unusual illness in a population.
- Higher morbidity and mortality than expected with a common disease or syndrome.
- Failure of a common disease to respond to usual therapy.
- Single case of disease caused by an uncommon agent.
- Multiple unusual or unexplained disease entities coexisting in the same patient without other explanation.
- Disease with an unusual geographic or seasonal distribution.
- Multiple atypical presentations of disease agents.
- Similar genetic type among agents isolated from temporally or spatially distinct sources.
- Unusual, atypical, genetically engineered, or antiquated strain of agent.
- Endemic disease with unexplained increase in incidence.
- Simultaneous clusters of similar illness in non-contiguous areas, domestic or foreign.
- Atypical aerosol, food, or water transmission.
- Ill people presenting near the same time.
- Deaths or illness among animals that precedes or accompanies illness or death in humans.
- No illness in people not exposed to common ventilation systems, but illness among those people in proximity to the systems.

**Chapter 3: General Health Surveillance and Epidemiologic Investigation Considerations**

<b>Health Surveillance and Epidemiologic Investigation Checklist</b>		
<b>Core Surveillance and Epidemiologic Planning</b>	<b>Y e s</b>	<b>N o</b>
1. Have you designated a coordinator to health surveillance and epidemiology activities relative to a biological or chemical incident?	<input type="checkbox"/>	<input type="checkbox"/>
2. Can the coordinator be contacted 24 hours per day?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you designated appropriate staff to conduct epidemiologic investigations in the event of suspected or confirmed biological or chemical incidents? 1. Rapid-response epidemiologic team? 2. Rapid -response laboratory team? 3. Real-time health surveillance set-up team (emergency or specialized)?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4. Have designated staff been briefed on their mission, roles, responsibilities, and authorities?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you assured the legal authority for surveillance of biological or chemical incidents by the following: 1. Including cases of diseases suspected or confirmed to be caused by high-priority bioterrorism agents on the reportable diseases list (anthrax, botulism, brucellosis, plague, smallpox, tularemia)? b. Including Any unusual disease or manifestation of illness@ on the reportable diseases list? c. Including Any unusual cluster of disease or manifestation of illness@ whether or not on the reportable diseases list? d. Including the legal authority to conduct surveillance for any unusual cluster of diseases or manifestation of illness whether or not on the reportable diseases list?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6. Have you distributed or publicized bioterrorism-updated reportable diseases lists to appropriate health-care providers?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have you established communications with the Department of Health and Human Services (HHS) regional emergency coordinators to develop local surveillance and response plans?	<input type="checkbox"/>	<input type="checkbox"/>
8. Have you established communications with other health-care providers to develop local surveillance and response plans? <b>Check all that apply!</b> <input type="checkbox"/> Emergency departments at hospitals or urgent care centers <input type="checkbox"/> Hospitals (Infection Control, Infectious Diseases, Laboratories, Pharmacies) <input type="checkbox"/> Occupational health clinics <input type="checkbox"/> Mental health agencies <input type="checkbox"/> Pharmacies <input type="checkbox"/> Epidemiologists	<input type="checkbox"/>	<input type="checkbox"/>

### Chapter 3: General Health Surveillance and Epidemiologic Investigation Considerations

Health Surveillance and Epidemiologic Investigation Checklist		
Core Surveillance and Epidemiologic Planning	Y e s	N o
<input type="checkbox"/> Infectious disease specialists <input type="checkbox"/> Health Maintenance Organizations <input type="checkbox"/> Social services agencies <input type="checkbox"/> Poison Control Centers		
9. Have you established communications with law enforcement agencies to develop local surveillance and response plans? <b>Check all that apply!</b> <input type="checkbox"/> Local law enforcement <input type="checkbox"/> Local FBI office <input type="checkbox"/> Correctional facilities	<input type="checkbox"/>	<input type="checkbox"/>
10. Have you established communications with emergency responders to develop local surveillance and response plans? <b>Check all that apply!</b> <input type="checkbox"/> 911 dispatchers <input type="checkbox"/> EMS and ambulance workers <input type="checkbox"/> Police <input type="checkbox"/> Fire	<input type="checkbox"/>	<input type="checkbox"/>
11. Have you established communications with other agencies to develop local surveillance and response plans? <b>Check all that apply!</b> <input type="checkbox"/> Emergency management agencies (local and state) <input type="checkbox"/> Medical examiners, coroners, funeral directors <input type="checkbox"/> Veterans Administration <input type="checkbox"/> Department of Natural Resources or Environmental Protection Agency <input type="checkbox"/> Military bases (Department of Defense, National Guard) <input type="checkbox"/> Local food-safety inspectors (Food and Drug Administration, U.S. Department of Agriculture)	<input type="checkbox"/>	<input type="checkbox"/>
12. Have you established communications with other available resources to develop local surveillance and response plans? <b>Check all that apply!</b> <input type="checkbox"/> Laboratories (clinical, commercial, and veterinary) <input type="checkbox"/> Poison centers <input type="checkbox"/> Veterinarians	<input type="checkbox"/>	<input type="checkbox"/>
13. Have you developed an emergency or around-the-clock communications network to respond to biological and chemical incidents, including the following: a. Emergency or real-time reporting of biological or chemical-related diseases or illness? b. Immediate notification of surveillance/epidemiologic response personnel, such as state or local epidemiologist, laboratory director, and emergency management officials? c. Broadcast fax or e-mail capability or other means of emergency dissemination of information (e.g., Web site)? To health-care providers?	<input type="checkbox"/>           <input type="checkbox"/>           <input type="checkbox"/>	<input type="checkbox"/>           <input type="checkbox"/>           <input type="checkbox"/>

**Chapter 3: General Health Surveillance and Epidemiologic Investigation Considerations**

<b>Health Surveillance and Epidemiologic Investigation Checklist</b>		
<b>Core Surveillance and Epidemiologic Planning</b>	<b>Y e s</b>	<b>N O</b>
To the public?		
14. Have you enhanced collaboration between public health and surveillance partners by the following:		
a. Using broadcast fax or e-mail capability or other means of emergency dissemination of information (i.e., Web site)?	<input type="checkbox"/>	<input type="checkbox"/>
b. Identifying points of contact and communications?	<input type="checkbox"/>	<input type="checkbox"/>
c. Providing educational seminars about public health surveillance and what diseases to report and where, when, and how to report them?	<input type="checkbox"/>	<input type="checkbox"/>
d. Partnering on educational activities for the general public and general medical community about relevant conditions and syndromes and the role of public health in terrorism preparedness?	<input type="checkbox"/>	<input type="checkbox"/>
e. Providing in-service training or Agrand rounds@ on terrorism preparedness?	<input type="checkbox"/>	<input type="checkbox"/>
f. Partnering on collaborative surveillance projects?	<input type="checkbox"/>	<input type="checkbox"/>
15. Have you trained public health staff on issues related to possible terrorism events, including surveillance, epidemiology, and infectious disease outbreak investigations?	<input type="checkbox"/>	<input type="checkbox"/>
16. Have you developed training manuals for public health staff and terrorism response partners?	<input type="checkbox"/>	<input type="checkbox"/>
17. Have you conducted or participated in exercises to test the adequacy of the public health surveillance system and epidemiologic response?	<input type="checkbox"/>	<input type="checkbox"/>

**Chapter 3: General Health Surveillance and Epidemiologic Investigation Considerations**

<b>Health Surveillance and Epidemiologic Investigation Checklist</b>		
<b>Advanced Surveillance and Epidemiologic Investigation Checklist</b>	<b>Yes</b>	<b>No</b>
<p>1. Have you initiated a surveillance system for the early detection of terrorism events by the following:</p> <p style="padding-left: 20px;">a. Identifying influenza-like illnesses, rashes, or other syndromes of interest for inclusion in disease reporting?</p> <p style="padding-left: 20px;">b. Establishing reporting mechanisms with any of the following systems?</p> <p style="text-align: center;"><b>Check all that apply!</b></p> <p><input type="checkbox"/> EMS/911 dispatch</p> <p><input type="checkbox"/> Poison centers</p> <p><input type="checkbox"/> Health system patient hotlines</p> <p><input type="checkbox"/> Unusual deaths or medical examiner reports</p> <p><input type="checkbox"/> Veterinarians and animal clinics</p> <p><input type="checkbox"/> Emergency department or intensive-care unit admissions</p> <p><input type="checkbox"/> Other</p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p>
<p>2. Have you improved timeliness of developed electronic reporting from any of the following:</p> <p style="text-align: center;"><b>Check all that apply!</b></p> <p><input type="checkbox"/> Clinical laboratories                      <input type="checkbox"/> Hospital information systems</p> <p><input type="checkbox"/> Emergency departments                      <input type="checkbox"/> Vital records</p> <p><input type="checkbox"/> Other</p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>3. Have you developed links with new data sources and systems, such as those listed below, to enhance biological and chemical incident detection and response?</p> <p style="text-align: center;"><b>Check all that apply!</b></p> <p><input type="checkbox"/> HHS regional emergency coordinators                      <input type="checkbox"/> Pharmacies</p> <p><input type="checkbox"/> Health maintenance organizations                      <input type="checkbox"/> Emergency responders</p> <p><input type="checkbox"/> Hospital discharge records                      <input type="checkbox"/> FBI</p> <p><input type="checkbox"/> Veterinarians and animal clinics                      <input type="checkbox"/> Other</p> <p><input type="checkbox"/> Poison centers</p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>4. Have you developed written protocols for epidemiologists and disease practitioners to use in collecting and storing laboratory samples?</p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p>5. Have you identified a point of contact at local and state levels to answer questions about laboratory samples?</p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>



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## Chapter 4

# LABORATORY IDENTIFICATION AND CHARACTERIZATION OF BIOLOGICAL THREAT AGENTS

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## General Laboratory Identification and Characterization Planning

[DOJ/CDC Public Health Performance Assessment: 2.3]

This portion of the Planning Guidance focuses primarily on establishing and enhancing the core capacity of public health laboratories to respond to biological terrorism. In addition, this planning process can serve to establish an enhanced system involving hospital laboratories, commercial reference laboratories, public health laboratories, and highly specialized federal laboratories to strengthen diagnostic capability for all infectious diseases in general.

### Integration of Laboratories into the Response

In cooperation with the Association of Public Health Laboratories and the Federal Bureau of Investigation (FBI) and through the CDC Bioterrorism Cooperative agreement, CDC established a multi-level Laboratory Response Network (LRN) for bioterrorism. The LRN comprises local, state, and federal laboratories and facilitates sample collection, transport, testing, surge capacity, and training for laboratory readiness to identify critical biological agents. Clinical and public health laboratories in the network are identified by increasing levels of proficiency from Level A to Level D. Currently, all 50 state public health laboratories are registered members of the LRN. Level B/C designation is agent-specific, which necessitates participation in a wider laboratory network. State Public Health Laboratory Directors arrange for access to the LRN.<sup>k</sup>

### Laboratory Capabilities/Capacities

Identifying the capability and capacity of each laboratory in your jurisdiction is the first step in the laboratory planning process. Each public health laboratory and clinical laboratory in your health jurisdiction should be assessed to determine its appropriate level of capability within the LRN.

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<sup>k</sup> See Annex A for a description of the expected capabilities of laboratories at each classification level.

Most laboratories in the United States have only Level A capabilities. The capability of those laboratories to identify most bioterrorism agents is limited; the ability to identify an event rests on their knowledge of and rapid access to the nearest Level B/C laboratory.

Through CDC's Web site URL: [www.cdc.gov](http://www.cdc.gov), all laboratories have access to Level A protocols for ruling out certain agents and forwarding those samples to more advanced laboratories. Additionally, Level B/C laboratories registered as members of the LRN have access to a password-protected Web site that provides protocols for confirmatory testing, susceptibility testing, molecular typing, toxicity testing, and transport to the next highest level laboratory. For laboratories concerned with responses to bioterrorism events, the chief benefit of belonging to the network is access to approved protocols that satisfy both public health and law enforcement requirements. Adhering to these protocols will be critical to the rapid identification of a public health emergency and will help law enforcement apprehend the perpetrators.

A laboratory's capacity to detect, isolate, and identify specific agents rapidly and accurately is critical to the overall response to a bioterrorism event. Quality control and assurance protocols, approved specimen-handling procedures, and approved training and techniques, using qualified staff, are necessary for each laboratory to fulfill the investigative needs of its surveillance, epidemiologic, and law enforcement partners.

### **Points of Contact**

Response plans should include a list consisting of each laboratory participating in the state network, its capability level, and the appropriate contact person. Higher-level (B/C) laboratories in the network must be capable of receiving and testing samples on a 24/7 basis.

### **Surge Capacity**

The LRN anticipated the need for laboratory surge capacity in the event of a large-scale event. Each LRN laboratory should identify the closest laboratory of equal or higher level capability to provide surge capacity, if needed. LRN members can conduct an on-line search for the closest equal or higher-level laboratory to their location through the password protected LRN Web site.

### **Obtaining Reagents**

All reagents required for performing Level B/C testing can be ordered on-line through the password protected LRN Web site by members who are registered and approved at the corresponding levels. Plans should include having adequate supplies on hand to permit routine proficiency testing and preparedness for a potential bioterrorism event.

### **Use of State Laboratories vs. CDC Laboratories**

The LRN was established to facilitate as rapidly as possible the identification, confirmation, and characterization of bioterrorism threat agents. The state public health laboratory most often will be the appropriate laboratory to submit samples for higher level testing.

If a public health laboratory needs additional assistance in identifying or characterizing a biological threat agent, specimens may be sent to CDC's Rapid Response and Advanced Technology (RRAT) Laboratory. The RRAT Laboratory serves as the point of entry for all suspected or confirmed biological threat agents. CDC also will provide surge capacity, if needed. All specimens suspected of smallpox or viral hemorrhagic fever should be sent directly to the RRAT laboratory through the local FBI Weapons of Mass Destruction (WMD) Coordinator.

**Chapter 4: Laboratory Identification and Characterization of Biological Threat Agents**

<b>Laboratory Identification and Characterization Checklist</b>		
<b>General</b>	<b>Yes</b>	<b>No</b>
1. Is the state public health laboratory represented in the emergency planning process?	<input type="checkbox"/>	<input type="checkbox"/>
2. Does your plan include a listing of all the member laboratories in your state Laboratory Response Network, including the following: a. Each laboratory=s capability (Level A-C)? b. Contact information for each laboratory lead person (available on a 24/7 basis)?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3. Have you identified the laboratories in your state that have the capacity to begin testing within 4 hours and maintain testing 24hrs/day for a minimum of 3 days?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have you worked with the WMD Coordinator of your local FBI field office to establish guidelines for chain of custody procedures?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you established and distributed guidelines on specimen collection, packaging, labeling, and shipping to state network and federal laboratories?	<input type="checkbox"/>	<input type="checkbox"/>
6. Do you have a system in place to safely and efficiently transport samples between laboratories in your state laboratory network?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have you established and distributed to all network laboratories in your state guidelines for the rapid reporting of suspected bioterrorism-related threat agents to the following response partners: a. Local health department epidemiologist? b. State health department epidemiologist? c. Local law enforcement? d. State law enforcement? e. Federal law enforcement?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8. Can the state health department receive electronic laboratory reports from diagnostic service providers? If yes, are reports received from the following? a. Private laboratories? b. Commercial laboratories? c. Hospital laboratories? d. Local health department laboratories? e. State health department laboratories?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

## Chapter 5

# CONSEQUENCE MANAGEMENT OF A PUBLIC HEALTH EVENT

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## Consequence Management Planning

Consequence Management includes measures to protect public health and safety; restore essential government services; and provide emergency relief to governments, businesses, and people adversely affected by the terrorism event (4). Presidential Decision Directive 39<sup>1</sup> assigned states the primary authority to respond to the consequences of terrorism and authorized the federal government to provide assistance to states. Consequence Management activities can be separated into two distinct yet overlapping phases: the response phase and the recovery phase.

Public health departments should perform a variety of consequence management functions to protect public health and safety. Some of these functions are listed below. Roles and responsibilities for each of these activities should be identified in the terrorism response plan with response procedures detailed in supporting SOPs.

## Response Phase Activities

The response phase of a terrorism event covers the initial actions taken as the result of an actual or potential release of an agent. This phase includes the actions taken to eliminate the source of the agent (if known), provision of medical treatment to those affected, and any measures taken to preclude the exposure of additional people, either through secondary exposure from contagious biological agents or, for chemical events, from environmental contamination (5). A variety of the response activities required during the response phase fall directly within the health department=s jurisdiction.

### Command and Control

[DOJ/CDC Public Health Performance Assessment: 2.1; 4.1; 5.1; 8.2.9]

Command and Control were described briefly in Chapter 2. The following sections outline specific activities that should be planned to manage the event effectively.

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<sup>1</sup> Presidential Decision Directive 39, United States Policy on Counterterrorism (Classified), 1995 June.

### ***Emergency Operations***

The plan should identify the location from which the health department would conduct its emergency operations. This site should be secure and capable of 24-hour operations with sufficient equipment, backup power, and a communications system. Among other activities, health department personnel could coordinate the triage of patients and use of resources (e.g., bed space, staffing) among various health-care facilities.

In moderate to large-scale situations, the state may manage the response operations from a central Emergency Operations Center (EOC). Representatives from all responding agencies can work at the EOC to coordinate policy decisions and manage necessary resources. In general, the EOC is activated when one or more of the following occur:

- Outside resources are needed to accomplish the work required by the incident.
- The incident requires the coordination of multiple agencies.
- The event covers a large geographic area or involves multiple jurisdictions (5).

The plan should designate, by title, the public health personnel (and alternates) responsible for staffing the centralized, activated EOC.

### ***Conditions for Activation***

Once public health activities are integrated into the state emergency plan, the state should identify the official authorized to activate the public health provisions of the EOP and designate a chain of command for activation. The state also should identify the criteria, if any, that health departments can use to activate their emergency procedures independently of activating the state=s entire EOP and designate a chain of command for such activation.

The plan should specify events that trigger plan activation. Specific scenarios are not needed, but the plan should include generic guidance on the types or magnitude of events that trigger activation.

***Interagency Coordination***

[DOJ/CDC Public Health Performance Assessment: 4.1]

The plan should describe the relationship between state and local response efforts. It also should describe when federal assets would be requested. The plan should describe procedures for coordinating the efforts of the various agencies and levels of government that are likely to respond to a terrorism threat or event.

***Communications***

[DOJ/CDC Public Health Performance Assessment: 2.1.2; 2.1.3; 2.2.8; 3.2; 3.3]

The plan should include measures to ensure that public health agencies are capable of reliable communications with their own response personnel as well as with all other agencies involved in the emergency response.

The communications system should

- Disseminate accurate information to first responders, health-care providers, and decision-makers;
- Include protocols for notifying EOCs in the affected area to facilitate communication and coordination in the event of a terrorism event;
- Include a sufficient number of radios and radio frequencies to facilitate communication between necessary organizations;
- Require that a contact list for all critical local and state public health, medical, law enforcement, and emergency management personnel be developed, distributed as necessary, and verified at least monthly; and
- Include provisions to disseminate information rapidly about diagnosis and patient management for high-risk terrorism threat agents to local and state health-care providers, hospitals, clinics, laboratories, and pharmacies.



Emergency communications must cover internal and external communications. Thus, the plan should accomplish the following:

- Describe the health department's capability to alert and communicate with its emergency personnel including those in the health department, in the state EOC, and any field response units.
- Identify, by title, the person and alternates authorized to communicate and receive emergency information between the health department and other members of the public health community.
- Identify, by title, the person authorized to communicate and receive emergency information between the health department, emergency response agencies, and emergency response personnel.

### **Communications Testing**

The plan should contain procedures for periodic (e.g., monthly) testing of primary and back-up emergency communications links within the public health community and between the state health department and response agencies.

### ***Event Notification***

[DOJ/CDC Public Health Performance Assessment: 2.1.3; 2.2.8]

### **Incident Assessment**

The plan should identify, by title, the person and alternates responsible for assessing the threat to public health and consequences of the incident. Also, it should describe how event-related data will be received and how the assessment information will be distributed and used.

### **Notification Authority**

The plan should identify, by title, the person and alternates responsible for the following:

- Interagency notification.
- Notification of the news media.
- Notification of the public.

These people and their 24-hour contact numbers (e.g., telephone, pager) should be identified in the public health plan, even if those responsible for public notification or media coordination are not public health officials.

### **Notification Procedures**

The plan should specify when and how key public health officials would be notified about the terrorism threat or event. It also should describe the notification and coordination procedures when multiple agencies or jurisdictions must be notified.

The plan should include a list of contacts and 24-hour access numbers for all key officials and agencies in the state. Local contacts also should be included, where appropriate. At a minimum, the list should include the following:

- A 24-hour notification point of contact, with telephone and pager numbers, for each county and municipal health department in the state.
- A 24-hour notification point of contact, with telephone and pager numbers, for the state health departments of each bordering state.

Ensuring that only up-to-date copies of contact lists are maintained within the response system is often difficult. The following actions can minimize reliance on out-of-date contact lists:

- Require that all emergency contact lists be reviewed at least monthly and updated whenever changes in personnel occur.
- Limit distribution of emergency contact list to those responsible for contacting emergency employees.
- Maintain a record of personnel who receive copies of the emergency contact list and directly provide updated copies of the contact list, when they are developed, to those people.

CDC developed recommended notification procedures for public health department leaders in the event of a bioterrorism incident.<sup>m</sup> These procedures focus on activities at the local level; however, they contain procedures for state-level notifications as well. States should consider these procedures in developing protocols for notifying the FBI, CDC, and other agencies. If adopted, these same notification procedures also should be used in a chemical event.

### ***Public Alert***

[DOJ/CDC Public Health Performance Assessment: 3.1]

The plan should describe the procedures and means by which the public will be notified about a public health emergency. These notification procedures should

- Describe the means by which the public will be notified about a public health emergency;
- Describe how the notifications will be coordinated with other response agencies;
- Provide for notification of non-English speaking residents;
- Describe how the protective action messages will provide the details necessary for the public to implement the recommended protective actions; and

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<sup>m</sup> CDC's notification procedures are available at URL: [www.bt.cdc.gov/protocols.asp](http://www.bt.cdc.gov/protocols.asp).

- Describe how the notification procedures will be tested at least annually.

### ***Public Education and Emergency Public Information***

If not already in place, the health department should develop a comprehensive public education program that covers public health matters of interest to the population. The program should include readily available information about reasonable risks associated with biological or chemical agents.

The public education program should be capable of providing health-related educational materials to a state's non-English speaking residents. It also should ensure that published public education materials are regularly reviewed and revised, when necessary.

States must have established procedures for providing the news media with timely and accurate public information to expedite the release of emergency information in the event of a terrorism incident. To prevent the dissemination of inconsistent or conflicting data, one organization or person should be designated to coordinate all public information and speak to the news media.

Emergency public information can be coordinated through the use of a Joint Information Center (JIC) a central location where representatives of all responding agencies gather to coordinate the dissemination of information to the public and news media. The JIC should be a vital component of a coordinated Joint Information System (JIS). The JIS should establish protocols for maintaining effective two-way information flow between the Public Information Officers staffing the JIC and the responding agencies' operations personnel and decision-makers.

Social stigmatism occurs when people outside an affected community ostracize those residing in a potentially contaminated area (6). Social stigmatism has occurred after some large-scale accidental chemical events and must be considered as a possible consequence of a chemical or biological terrorism incident. Because social stigmatism could hamper recovery efforts and profoundly affect the long-term well being of the affected community, public education aimed at minimizing an event's societal impact should be developed.

### ***Special Populations***

[DOJ/CDC Public Health Performance Assessment: 7.1]

The plan should identify the locations of special population groups. These groups include people in jails, prisons, and other detention facilities, as well as people in intermediate- and long-term care nursing facilities. Care must be taken to ensure that the emergency public health needs of these and other identified special populations are considered and protected through provisions contained in the plan.

### ***Mental Health<sup>n</sup>***

[DOJ/CDC Public Health Performance Assessment: 5.1.1.19]

Emergency situations place significant stress on both responders and victims. The plan should include provisions for identifying and obtaining mental health resources for those affected by an emergency situation. Special care should be taken to ensure that emergency personnel receive the mental health support they may need, especially when the response personnel or any of their family members are victims of the terrorism.

The acts of terrorists are deliberate. The knowledge that the deaths, illnesses, and injuries were intentional can intensify the mental health consequences of the event. Research indicates that children and the elderly react differently to disaster-related stress than do average adults (7, 8). These differences should be considered and planned for in the provision of emergency-related mental health services.

### ***Mass Fatalities<sup>o</sup>***

[DOJ/CDC Public Health Performance Assessment: 5.1.1.28; 7.2.11]

Emergencies generating a significant number of fatalities can pose special challenges. Health departments should work with medical examiners or

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<sup>n</sup> Information pertaining to community mental health issues can be obtained from the Substance Abuse and Mental Health Services Administration at URL: [www.samhsa.gov](http://www.samhsa.gov) or by calling (301) 443-2817.

<sup>o</sup> Assistance with emergency mortuary management and dealing with a large number of decedents can be obtained from the Department of Health and Human Services, Office of Emergency Preparedness, at (800)-USA-NDMS.

coroners to develop protocols for dealing safely with a large number of casualties.

***National Pharmaceutical Stockpile (NPS)***

[DOJ/CDC Public Health Performance Assessment: 5.1.1.27; 7.2]

A release of selected biological or chemical agents will necessitate rapid access to large quantities of pharmaceuticals or vaccines and, possibly, other medical supplies. Unless special stockpiles are created, such quantities may not be readily available in the locations where they would be needed.

CDC=s fiscal year 1999 budget included funds to establish a NPS. To ensure the effective distribution of stockpile assets, the state must develop SOPs for their receipt, security, and distribution. Appendix II includes background information on this subject. Detailed guidance for developing these SOPs can be obtained by contacting NPS:

National Pharmaceutical Stockpile Program  
4770 Buford Highway  
Mailstop F-23  
Atlanta, GA 30341  
(770) 488-7516

***Worker Protection***

[DOJ/CDC Public Health Performance Assessment: 5.1.1.11; 7.2.10]

Once an event has been identified, it is imperative that responders do not become victims. Those responding to the incident and dealing with patients must be protected appropriately.

An employer is ultimately responsible for the safety of his or her employees. Employers accomplish this duty by enforcing worker protection standards that have been established by the federal Occupational Safety and Health Administration or its state-level counterpart. Health departments should provide post-event technical assistance to ensure that those responding to an incident scene, dealing with potentially contaminated casualties, or performing any necessary decontamination do so safely and in a manner that protects the public. In order for this technical assistance to be effective, the health department

should liaise with responder organizations for planning a terrorism event response as part of its pre-event planning.

***Patient Decontamination***

[DOJ/CDC Public Health Performance Assessment: 5.1.1.20; 5.1.1.21; 5.1.1.22; 5.1.1.23; 8.2.5.5]

Emergency plans should incorporate provisions for performing effective decontamination, when necessary, after a terrorism event. Although it is unlikely that health department personnel will participate actively in decontamination, effective public health planning and public health consultation during the threat or incident could limit unnecessary decontamination substantially and ensure that needed decontamination actions are timely, sufficient, and effective.

***Mass Care***

[DOJ/CDC Public Health Performance Assessment: 5.1.1.17; 7.1.3]

Although it is doubtful that health departments would establish or manage mass care facilities directly, they should play a role in protecting the health and well being of displaced people. Health departments also should work with the organizations responsible for mass care to prevent injury to and illness among displaced persons.

**Recovery Phase Activities**

The recovery phase is the period from the end of the response phase until

- The affected area has been reoccupied without the need for protective equipment, and there is no short- or long-term health risk to humans; and
- Other typical operations have resumed without any restrictions stemming from the event (5).

Although defined as activities separate from and following the response phase, recovery phase activities often will begin before the response phase ends. In addition, actions taken during the response phase can benefit or hinder recovery efforts. Health departments= primary recovery responsibilities include the following:

- Studying morbidity and mortality associated with the event and documenting exposure.
- Conducting long-term medical follow-up of exposed people.
- Determining when it is safe to return to a contaminated area.

### **Long-Term Medical Follow-Up**

Depending on the agent used and the method of dispersal, exposure to agents could cause severe illness and deaths. Some affected people could suffer long-term health and medical difficulties involving a wide range of organ systems. Health departments should play an integral role in identifying people with exposure-related illnesses and in working with their physicians to track their long-term care. Tracking the health of people exposed to biological or chemical agents could significantly improve our ability to provide early detection and intervention, thus improving treatment effectiveness.

### **Morbidity and Mortality Study**

During and after many natural disasters, public health personnel canvas an affected community and document the health and medical effects of the event on the population. These investigations include identifying disaster-related injuries and tracking endemic diseases to ensure that there is no outbreak.<sup>P</sup> Health departments should conduct similar morbidity and mortality studies after a terrorism event.

Post-terrorism investigations could evaluate the effect of the agent released, the dose, and the selected delivery system on the number and severity of casualties. Health departments also could investigate the effectiveness of pre-hospital and hospital responses and outcome effectiveness, and they could examine such secondary issues as evacuation-related traffic accidents.

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<sup>P</sup> “If an organism is not present in the area and has not been introduced after the disaster, the disease poses no threat regardless of environmental conditions.” From, *Public Health Consequences of Disasters*, Noji E. ed. Oxford University Press, New York, 1997, p. 93 .



## **Environmental Issues**

[DOJ/CDC Public Health Performance Assessment: 5.1.1.10; 5.1.1.11.]

Health departments are unlikely to be the agencies directly responsible for dealing with the environmental consequences of a biological or chemical-related terrorism event; however, public health officials have an important role to play in responding to post-incident environmental issues. Site characterization, environmental decontamination, and reentry levels have public health ramifications in which health departments should play an active advisory role.

### ***Site Characterization***

The health department=s role in site characterization stems from its responsibility to monitor the public=s long-term health and safety. Specifically, health departments should work with their state=s environmental protection agency to determine the source or location of the illness or outbreak and develop a sampling plan to characterize the site so that necessary follow-up of public health dose investigations can be accomplished.

### ***Environmental Decontamination***

As with patient decontamination, the type, form, and amount of agent affect the decision of whether or not to decontaminate the environment. The health department=s participation in discussions about this matter will ensure that, when necessary, the decontamination is sufficient to ensure safe reentry into the contaminated area and that, during the procedure, personnel protect themselves and the environment.

### ***Clean-up/Reentry Levels***

Health departments should help determine whether an area needs to be cleaned up before reentry. When clean-up is necessary, the health department must ensure that reentry standards are in place to protect those returning to their homes. Health departments also should determine any limitations on future land use or potential health concerns stemming from the event.

**Chapter 5: Consequence Management of a Public Health Event**

<b>Consequence Management Planning Checklist</b>		
<b>Command and Control</b>	<b>Yes</b>	<b>No</b>
6. Have you designated a location for health department emergency operations?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have you designated the public health employees responsible for staffing the state=s Emergency Operations Center (EOC)?	<input type="checkbox"/>	<input type="checkbox"/>
8. Have you described the relationship between state and local response efforts and the federal response efforts and described procedures to coordinate the efforts of the different levels of government during an emergency?	<input type="checkbox"/>	<input type="checkbox"/>
9. Have you determined under what conditions the plan would be activated?	<input type="checkbox"/>	<input type="checkbox"/>
10. Have you identified local health-care resources (e.g., beds, staffing, ventilators, vacant hospital buildings)?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Communications</b>	<b>Yes</b>	<b>No</b>
1. Have you explained how information will be disseminated accurately to first responders, the public, health-care providers, and decision-makers?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you included the protocol for notifying EOCs in the affected area to facilitate communication and coordination in the event of a terrorism event?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you identified sufficient radio frequencies at the state level to facilitate communication between necessary organizations?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have you developed, distributed, as necessary, and maintained a list of contact information for all critical local or state public health, medical, law enforcement, and emergency management personnel? a. Is the list updated at least monthly?	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
5. Have you described the state=s capability to disseminate information within 2 hours to local and state health-care providers, hospitals, clinics, laboratories, and pharmacies about diagnosis and patient management for high-risk terrorism threat agents?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have you described the health department=s capability to alert and communicate with its field response units?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have you identified, by title, the person and alternates authorized to communicate necessary public health information among the health department and emergency response agencies?.	<input type="checkbox"/>	<input type="checkbox"/>
8. Have you identified, by title, the person and alternates authorized to communicate necessary public health information between the health department and other health agencies and organizations?	<input type="checkbox"/>	<input type="checkbox"/>
9. Have you communicated in advance with emergency department directors and hospital administrators in the community to facilitate coordination of emergency activities?	<input type="checkbox"/>	<input type="checkbox"/>

**Chapter 5: Consequence Management of a Public Health Event**

Consequence Management Planning Checklist		
<b>Event Notification</b>	<b>Yes</b>	<b>No</b>
1. Have you identified, by title, the person and alternates responsible for the following: <ul style="list-style-type: none"> <li>a. Assessing the public health consequences of the emergency incident?</li> <li>b. Accomplishing interagency notification?</li> <li>c. Notifying the news media or the public? (These people should be identified and contact telephone numbers included, even if those responsible for public notification or news media coordination are not public health officials.)</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you specified the notification process for key public health officials?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you identified the ability to receive emergency notification and public health information on a 24-hour basis?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Public Alert</b>	<b>Yes</b>	<b>No</b>
1. Have you described the procedures by which the public will be notified of a public health emergency?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you provided for notification of non-English speaking residents?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you described how the public notification procedures will be tested at least annually?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have you described how the public protective action messages will provide the detail necessary to implement the recommended protective actions?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Public Education and Emergency Public Information</b>	<b>Yes</b>	<b>No</b>
1. Has the state established a comprehensive public education program on public health matters of interest to the population as well as the risks associated with biological or chemical agents? If yes-- <ul style="list-style-type: none"> <li>a. Does the public education program provide for the education of non-English speaking residents?</li> <li>b. Have procedures been established for revising the public education materials annually or whenever significant changes warrant revision?</li> <li>c. Have procedures been established for providing the new media with ongoing information about public health initiatives and public health-related emergency preparedness efforts?</li> <li>d. Have criteria been established for releasing information to the public about possible terrorism threats?</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>
2. Does a protocol exist for notifying or warning the community of potential hazards resulting from a biological or chemical release? If yes-- <ul style="list-style-type: none"> <li>a. Does this protocol have provisions for informing the public of what hazards to expect, what precautions to take, and whether evacuation or shelter-in-place is required?</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>

**Chapter 5: Consequence Management of a Public Health Event**

<b>Public Education and Emergency Public Information</b>	<b>Yes</b>	<b>No</b>
b. Has the protocol been reviewed with members of the new media?	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the public information program include procedures for releasing emergency information to non-English speaking residents in a timely and effective manner?	<input type="checkbox"/>	<input type="checkbox"/>
d. In the event of a possible terrorism incident, has one organization or person been designated to coordinate or speak to the news media?	<input type="checkbox"/>	<input type="checkbox"/>
Consequence Management Planning Checklist		
<b>Special Populations</b>	<b>Yes</b>	<b>No</b>
1. Does the plan identify the locations of special population groups including jails, prisons, and other detention facilities as well as intermediate- and long-term care nursing facilities?	<input type="checkbox"/>	<input type="checkbox"/>
Consequence Management Planning Checklist		
<b>Mental Health</b>	<b>Yes</b>	<b>No</b>
1. Have you developed the capability to identify and obtain mental health resources rapidly in an emergency situation?	<input type="checkbox"/>	<input type="checkbox"/>
2. Are procedures in place for notifying both disaster victims and emergency workers of the availability of mental health services?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you tailored the mental health counseling to the age of the person seeking mental health services?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Mass Fatalities</b>	<b>Yes</b>	<b>No</b>
1. Have you developed protocols for dealing with a large number of casualties?	<input type="checkbox"/>	<input type="checkbox"/>
<b>National Pharmaceutical Stockpile (NPS)</b>	<b>Yes</b>	<b>No</b>
1. Have you developed a plan for the receipt, security, and distribution of stockpile assets?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the NPS plan integrated into the terrorism plan?	<input type="checkbox"/>	<input type="checkbox"/>

**Chapter 5: Consequence Management of a Public Health Event**

<b>Patient Decontamination</b>	<b>Yes</b>	<b>No</b>
1. Have you identified the agencies responsible for patient decontamination?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you established protocols for identifying when decontamination will and will not be required?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you specified the public health community=s role in ensuring that decontamination of potentially contaminated people is both timely and thorough?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have you identified the public health community=s role in training medical personnel to decontaminate ill or injured people safely before their entry into a hospital setting?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you established procedures for educating and informing the public of decontamination procedures in the event of a biological or chemical incident?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have you worked with your medical examiner or coroner to develop protocols for balancing the competing interests of evidence preservation and decontamination of bodies for the immediate fatalities of a biological or chemical incident?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Consequence Management Planning Checklist</b>		
<b>Mass Care</b>	<b>Yes</b>	<b>No</b>
1. Are you aware of the location(s) of identified mass care centers in your state?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you worked with mass care providers to ensure proper documentation of all emergency and nonemergency medical care occurring at mass care centers?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Consequence Management Planning Checklist</b>		
<b>Environmental Issues</b>	<b>Yes</b>	<b>No</b>
1. Do you have an agreement in place with the state environmental protection agency to develop a joint post-incident environmental sampling plan?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you developed procedures for ensuring that environmental samples will meet public health study needs?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you established protocols for identifying when environmental decontamination will and will not be required?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have you specified the role of the public health community in ensuring that environmental decontamination is done in a manner that protects worker and public safety?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you identified criteria for reentry into potentially contaminated areas?	<input type="checkbox"/>	<input type="checkbox"/>

## Annex A

### BIOTERRORISM-SPECIFIC PLANNING GUIDANCE

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A biological agent in an aerosolized state presents the agent's greatest potential for mass dissemination and large-scale impact. In some countries, biological agents have been engineered for optimal dispersal and dissemination as small-particle aerosols. In the former Soviet Union in 1979 in Sverdlosk (now known by its pre-Soviet name Ekaterinburg), 66 people were killed when a small amount of weaponized *Bacillus anthracis* was released accidentally from a bioweapons factory (9).

In the event of a bioterrorism attack, an effective response will require focusing necessary public health resources on managing the outbreak of an infectious disease. These resources include surveillance and epidemiologic expertise; use of specialized drugs, vaccines, and other medical supplies; laboratory diagnosis skills; and medical recommendations, such as prophylaxis guidelines and various quarantine-related issues.

#### Definition

CDC defines biological terrorism as an intentional release of viruses, bacteria, or their toxins for the purpose of harming or killing American citizens. In addition to aerosolization, food, water, or insects must be considered as potential vehicles of transmission for biological weapons. Public health officials must be prepared to address varied biological agents, including pathogens that are rarely seen in the United States.

The highest-priority agents, Category A Agents, include organisms that pose a risk to national security because they

- Can be easily disseminated or transmitted person-to-person;
- Cause high mortality and subsequently have a major public health impact;
- Might cause public panic and social disruption; and
- Require special action for public health preparedness.

CDC=s list of critical biological agents includes the following Category A Agents:

<b>Category A Agents</b>
Variola major (smallpox)
<i>Bacillus anthracis</i> (anthrax)
<i>Yersinia pestis</i> (plague)
<i>Clostridium botulinum</i> toxin (botulism)
<i>Francisella tularensis</i> (tularemia)
Hemorrhagic fever (e.g., Ebola, Marburg, Lassa viruses)

CDC recommends that other less critical agents (Category B and C Agents) also receive attention for bioterrorism preparedness. These categories include new or Aemerging@ pathogens. A subset of Category B agents includes pathogens that are foodborne or waterborne. Category B agents include those that

- Are moderately easy to disseminate;
- Cause moderate morbidity and low mortality; and
- Require specific enhancements of CDC=s diagnostic capacity and enhanced disease surveillance.

<b>Category B Agents</b>	<b>Category B Agents Foodborne or Waterborne</b>
<i>Coxiella burnetti</i> (Q fever)	<i>Salmonella</i> species
<i>Brucella</i> species (brucellosis)	<i>Shigella dysenteriae</i>
<i>Burkholderia mallei</i> (glanders)	<i>Escherichia coli</i> O157:H7
Alphaviruses	<i>Vibrio cholerae</i>
Venezuelan encephalomyelitis	<i>Cryptosporidium parvum</i>
eastern and western equine encephalomyelitis	
Ricin toxin from <i>Ricinus communis</i> (castor beans)	
Epsilon toxin of <i>Clostridium perfringens</i>	
<i>Staphylococcus</i> enterotoxin B	

Category C agents include emerging pathogens that could be engineered for mass dissemination in the future because of their

- Availability;
- Ease of production and dissemination; and
- Potential for high morbidity and mortality and major health impact.

<b>Category C Agents</b>
Nipah virus
Hantaviruses
Tickborne hemorrhagic fever viruses
Tickborne encephalitis viruses
Yellow fever virus
Multidrug-resistant <i>Mycobacterium tuberculosis</i>

Preparedness for Category C agents requires ongoing research to improve disease detection, diagnosis, treatment, and prevention. Knowing in advance which newly emergent pathogens terrorists might employ is not possible; therefore, it is imperative to link bioterrorism preparedness efforts with ongoing disease surveillance and outbreak response activities as defined in CDC's emerging infectious disease strategy (10).

### **Surveillance and Epidemiologic Investigation**

[DOJ/CDC Public Health Performance Assessment: 1.1, 2.2]

To prepare fully, health department officials should remember that a bioterrorism event most likely would cause unusual cases of illness or death. An observant physician, veterinarian, laboratory technician, or surveillance data-entry clerk may be critical to early detection.

The two broad goals of surveillance related to bioterrorism preparedness and response are early detection of an event and enhanced disease tracking in the population during an emergency response. Surveillance data must be linked to the appropriate authorities who will investigate unusual instances of health service utilization and unusual clusters of illness or deaths. Surveillance planning should detail how surveillance information



will be investigated and how this information will be linked to other emergency response officials at the community and state levels.

After an event, a proper emergency response to an epidemic will require enhanced surveillance activity to manage the outbreak and to monitor progress. Planning may involve contingencies for augmenting existing surveillance activities and the surveillance workforce, active reporting, and enhanced information management capacity. The state's terrorism response plan should include considerations for utilizing other surveillance systems, such as *Epi-X* and the National Electronic Disease Surveillance System.

### **Laboratory Diagnosis**

[DOJ/CDC Public Health Performance Assessment: 2.3.1.1; 2.3.2; 8.2.5]

Laboratory confirmation of a specimen will be extremely important during a bioterrorism response. Plans should be in place to facilitate testing of the critical agents for biological preparedness. The Laboratory Response Network exists to facilitate sample collection, transport, testing, and training for laboratory readiness for bioterrorism. Clinical and public health laboratories in the network are identified by increasing levels of sophistication ranging from Level A through Level D.

### **Laboratory Capacity for Biological Agents**

#### **Level A Laboratory**

Level A laboratories are public health and hospital laboratories with a certified biological safety cabinet as a minimum. These laboratories have the ability to rule out specific agents and to forward organisms or specimens to higher-level laboratories for further testing.

#### **Level B Laboratory (Core Capacity)**

Level B laboratories are state and local public health laboratories with Biosafety Level (BSL) 2 facilities that incorporate BSL-3 practices and maintain the proficiency to adequately process environmental samples, rule in specific agents, and perform confirmatory and antibiotic susceptibility testing. These laboratories can identify

appropriate higher-level laboratories and can forward samples to them for further testing.

### **Level C Laboratory (Advanced Capacity)**

Level C Laboratories are BSL-3 facilities with the capability to perform nucleic acid amplification, molecular typing, and toxicity testing. Level C laboratories can conduct all tests performed in Level B laboratories and can provide surge capacity, when needed. Additionally, these laboratories will evaluate reagents and tests to facilitate their transfer for use in Level B laboratories.

### **Level D Laboratory**

Level D Laboratories can conduct all tests performed in Levels A, B, and C laboratories. They can validate new assays, detect genetic recombinants, provide specialized reagents, securely bank isolates, and possess BSL-3 and BSL-4 biocontainment facilities. For bioterrorism events affecting civilian populations, CDC is the Level D laboratory.

### **Shipping**

All suspected or confirmed biological threat agents should be shipped in accordance with the procedures for general packaging requirements for transport of biological agents and clinical specimens as set forth in CDC's Office of Health and Safety (OHS) publication, *Biosafety in Microbiological and Biomedical Laboratories*, 4<sup>th</sup> Edition, Appendix C. This information may be accessed through the OHS Web site at URL: [www.cdc.gov/od/ohs](http://www.cdc.gov/od/ohs).

Before sending samples or if you have questions about or problems with samples or sample shipment, call Dr. Meyer at (404) 639-0075/Pager (800) 314-1092.

Ship samples to CDC at this address:

CDC DASH  
ATTN: Dr. Richard Meyer  
1600 Clifton Road  
Atlanta, GA 30333

## **Medical Management**

[DOJ/CDC Public Health Performance Assessment: 7.2]

The key issues associated with medical management of bioterrorism victims will be the provision of preventive services and the medical treatment of patients. Preventive services involve the provision of antibiotics, vaccines, or other medications to prevent disease and death in exposed victims.

Plans will need to predict supplementary staffing needs and identify auxiliary staff, determine equipment and resource requirements, and identify technical assistance that may be required. In addition, provisions for properly documenting the treatment of victims should be specified. The proper application of mass prophylaxis or immunization will involve complex coordination with other emergency response authorities and a vigorous campaign to inform the public.

Policy should be developed to address priority emergency prophylaxis for Aessential@ emergency personnel (11). A specific list of the emergency personnel should be developed in advance. If medication shortages develop during the early phases of the incident, the medication issuance may need to be limited to a 1- or 2-day course of treatment, pending identification of the agent.

For the at-risk population, mass immunization may be needed. Currently, this option primarily relates to smallpox planning. Recommendations for immunization balance scientific evidence of benefits, costs, and risks against the risk posed by the biological agent. Personnel administering the immunizations would require proper training. Staging sites should be planned in advance for distribution and delivery of vaccines. Planning for mass immunization should involve linkage with public health departments at the state and local levels.

## **Restriction of Movement**

[DOJ/CDC Public Health Performance Assessment: 6.2]

### **State and Local Quarantine**

Current planning for responding to a bioterrorism-initiated outbreak should include an evaluation of the legal authorities that form the basis of traditional emergency

public health measures, such as quarantine and the mandatory administration of medications or vaccines. Although such measures were a necessary and common component of infectious disease control in the United States at the turn of the 20th century, their use all but vanished 50 years later because the incidence of infectious disease declined due to better hygiene, antibiotics, and vaccines.

Surveys of the laws that authorize state use of emergency public health measures, including one conducted in 1988 by the Institute of Medicine, suggest that they are antiquated and vary significantly from state to state (12). With limited exceptions, public health officers have not been called upon to utilize emergency public health measures in an infectious disease setting since combating polio in the 1950s.

Therefore, most laws that authorize such measures have not been tested against modern legal concerns. Couple this with a recent worldwide resurgence in the incidence of infectious disease, and the need for appropriate emergency public health measures becomes obvious.

Responding to a bioterrorism incident or large-scale infectious disease outbreak may require the use of a variety of emergency public health measures. These may include quarantine, isolation, closing public places, seizing property, mandatory vaccination, travel restrictions, and disposal of the dead. Because the most critical public health responses probably will be those taken immediately at the state and local levels, health officials and their lawyers should review the statutes, regulations, and ordinances that authorize these emergency public health measures and develop legally sound procedures for executing them.

### **Federal Quarantine**

The Secretary of the Department of Health and Human Services was granted the authority to issue regulations necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the United States and from one state or possession into another (13). These regulations, which are administered by CDC, are promulgated separately according to their geographic applicability; one set governs matters of interstate commerce, and the other governs arrivals into the United States.

#### ***Restriction of People Moving Interstate***

The regulations that authorize the restriction of people moving interstate are found in 42 CFR Part 70. These regulations contain a number of permitting and reporting requirements for people who travel from one state or possession to another, and they authorize the apprehension, detention, or conditional release

of such people to prevent the spread of specified communicable diseases. In addition, these regulations authorize federal action in the event that measures taken by health authorities of any state or possession are insufficient to prevent the interstate spread of communicable diseases. CDC's regulatory authority is limited to restricting the movement of people. The U.S. Food and Drug Administration retains similar interstate regulatory authority with respect to animals and other products that may transmit or spread human disease.

### ***Foreign Quarantine of Persons, Carriers, Animals, and Articles***

CDC's regulatory authority with respect to foreign arrivals is found in 42 CFR Part 71. These regulations authorize CDC to detain, isolate, or place under surveillance, people arriving in the United States who are reasonably believed to be infected with or to have been exposed to certain communicable diseases, provided that such action is considered necessary to prevent the introduction, transmission, or spread of those diseases. The current list of diseases for which such actions are authorized includes cholera or suspected cholera, diphtheria, infectious tuberculosis, plague, suspected smallpox, yellow fever, and suspected viral hemorrhagic fevers--Lassa, Marburg, Ebola, Congo-Crimean [sic], and others not yet isolated or named (14).

The provisions of 42 CFR Part 71 also authorize certain measures with respect to carriers, animals, and articles arriving in the United States to the extent they transmit or spread human disease. For example, carriers arriving in U.S. ports must report certain occurrences of illness or death aboard the carrier and are subject to inspection; dogs, cats, turtles, and nonhuman primates are subject to inspection and quarantine requirements; and imported etiologic agents, hosts, and vectors of human disease must be accompanied by a CDC-issued import permit.

### **Federal Quarantine Administration**

The authority for carrying out the provisions of 42 CFR Parts 70 and 71 rests with the Director of CDC. The Division of Quarantine, National Center for Infectious Diseases, administers both sets of CDC regulations on behalf of the agency. CDC is reviewing the regulations currently and intends to update them to reflect present-day concerns, including potential bioterrorism.

## Consequence Management

Response activities that should be consistent irrespective of the agent used are covered in Chapter 5. The following supplementary guidance pertains specifically to a biological incident.

### Worker Protection

Worker protection in response to biological terrorism should be determined by the type of hazard. CDC anticipates that worker exposures to biological terrorism will likely fall into two scenarios: an occupational contact with an infected patient during a bioterrorism-related outbreak; or a potential occupational exposure involving recovery of a biological dissemination device.

#### ***Occupational contact with an infected patient during a bioterrorism-related outbreak:***

Prior to recognition and during a recognized disease outbreak caused by an act of biological terrorism, workers may have contact with patients who are infected by the biological agent. Most agents of bioterrorism are not transmitted from person-to-person, however, for agents such as smallpox or pneumonic plague, a worker is at risk of acquiring infection from the patient. Workers potentially at risk due to occupational exposure include:

- traditional first responders (police, fire, and EMS) who transport ill patients to medical facilities;
- health care workers who care for patients in hospitals, residential facilities, out-patient settings, at home, or elsewhere;
- laboratory personnel handling clinical specimens; and
- health department staff who visit patients in or out of health care facilities while conducting outbreak assessment or control measures.
- 

To protect workers when the presence or nature of a bioterrorism agent is not known, all workers should adhere to Standard Precautions (15) whenever they have contact with broken or moist skin, blood, or body fluids. This includes the

use of disposable non-sterile gloves with hand-washing immediately after removal; and the use of a disposable gown or apron, and a face shield if any splashing is anticipated. Protective gear is changed between patients to prevent the worker from transmitting infection from patient-to-patient. Once identified, additional precautions based on the agent=s specific mode of transmission are applied, e.g., airborne, droplet or contact transmission. (15, 16) Supervisors should contact the local health department for additional instructions for worker vaccination, prophylactic antibiotic therapy, or other measures that may be appropriate for a given disease. use of disposable non-sterile gloves with and washing immediately after remoaval; and athe use of a disposable gown or apron, and a face shield if any splashing is anticipated.

First responders and others involved in out-of-hospital patient transport will be in closer proximity to the patient during transport. They should comply with the infection control guidelines described above and can take the following additional precautions:

- Run the ambulance ventilation system on its highest setting using outside air circulation, which will maximize air changes in the vehicle (17);
- For diseases which are transmitted by respiratory transmission (droplet or aerosol), the patient should wear a surgical mask (15), disposable respirator (one without an exhalation valve) or, if needed for respiratory support, an oxygen mask that does not exhaust to ambient air;
- Responders transport patients with different diseases requiring different levels of worker respiratory protection. It may simplify inventory selection to standardize on the more protective N95-class respirator.

***Potential occupational exposure involving recovery of a biological dissemination device:***

A determined biological terrorist probably will try to avoid discovery while disseminating the infectious agent. This will maximize the disease impact of the act. Nonetheless, it is possible that a suspected dissemination device may be discovered before or after it releases its contents. The worker risk involved in recovering this device and, if possible, mitigating its threat will determine the appropriate safety measures and personal protective strategies. For incidents of relatively low potential hazard, such as envelopes claimed to be filled with Anthrax spores,@ guidelines for containment and identification exist (18).

Other incidents may need to be approached with additional concern for exposure to the contents and for other hazards. These other hazards include a possible "secondary device" explosive, timed to detonate during the response to the first event and injure responders (19). On-scene commanders must evaluate the potential threat in consultation with local health and law enforcement resources and select appropriate strategies for worker protection, including personal protective equipment.

### **Patient Decontamination**

When determining the need for decontamination in a biological setting, balance the risk that decontamination poses to the patient against the benefits it could provide. Unless gross contamination is evident, decontamination is unwarranted. Instead, begin by removing clothes and placing them in a plastic bag pending agent identification.<sup>9</sup> Taking a shower with soap and water should suffice to prevent illness (18). Where gross contamination is found, only those areas of the skin that have been grossly contaminated should be decontaminated. When the involved agent is unknown and could be either a chemical agent or biological agent, follow patient decontamination procedures for chemical agents.

### **Mass Care**

Where a contagious biological agent has been dispersed, special care must be taken to prevent the mass care facility from becoming a focal point for further spread of the disease. Effective medical screening of incoming people, rapid identification of ill people and their prompt removal from the mass care facility, and provision of antibiotics to others in the facility (if appropriate) will minimize the spread of any communicable disease.

### **Environmental Issues**

Many biological agents live for only a short time outside the human body. These agents are sensitive to environmental conditions, including heat and light, which makes biodecontamination unnecessary as a rule. Sporeforming agents (e.g., anthrax) are more persistent; however, these biological agents occur naturally throughout much of the United States without causing outbreaks. Where these

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<sup>9</sup> For most biological agents, simple laundering will be sufficient to remove any biological contamination.



## **Annex A: Bioterrorism-Specific Planning Guidance**

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agents occur naturally, background levels are rarely known; thus, sampling is of little value. In general, environmental issues are not critical in a biological event.

**Annex A: Bioterrorism-Specific Planning Guidance**

Bioterrorism-Specific Planning Checklist		
<b>Restriction of Movement</b>	<b>Yes</b>	<b>No</b>
1. Have you identified state or local public health statutes, ordinances, or regulations that restrict movements of people who may have been exposed to a communicable disease?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you determined the legal sufficiency of such statute, ordinances, or regulations? a. If no authority exists, have you developed plans for identifying and enacting necessary quarantine provisions?	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
3. Have you developed plans to implement existing provisions that restrict movements of people who may have been exposed to a communicable disease? a. Do these plans include provisions for credentialing people approved for movement within the quarantine area?	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
4. Have you developed a mechanism to review the effectiveness of these provisions and revise them in a timely manner to meet changing needs?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you prepared a plan to utilize the federal regulations if state or local public health statutes, ordinances, or regulations that restrict movements of people are inadequate or absent?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have you developed a partnership with bordering states to enforce quarantine regulations if an outbreak of a communicable disease threatens to spread across state borders?	<input type="checkbox"/>	<input type="checkbox"/>

## Annex B

### CHEMICAL-SPECIFIC PLANNING GUIDANCE

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This section of the Planning Guidance discusses incidents involving chemical terrorism. Hazardous chemical releases and site exposure are two important issues discussed as well as surveillance, laboratory diagnosis, medical management, and Consequence Management.

During the 1995 sarin nerve agent attack on the Tokyo subway system, roughly 3,800 people sought treatment, nearly 1,000 were hospitalized for a few hours to a few days, and 12 died (20). In 1984, the accidental release of 40 tons of methyl isocyanate from a pesticide factory in Bhopal, India, injured hundreds of thousands of people and killed about 4,000.<sup>†</sup> Thus, respiratory inhalation of volatile chemicals can present a major danger of mass casualties.

Many of the chemicals of concern for terrorism preparedness can be arranged under the following categories:

- Military agents
- Pulmonary (lung damaging) agents
- Irritants
- Vomiting agents
- Incapacitating agents

Due to the number of chemicals of possible concern, it is impossible to provide a comprehensive list in a document of this size.

The main differences between industrial chemical accidents and chemical terrorism may be intent and magnitude. Efforts to enhance hazardous materials (HAZMAT) preparedness and response activities for chemical spills will better prepare communities to respond to terrorism events. Likewise, chemical terrorism preparedness activities should collaterally benefit a community's ability to effectively respond to HAZMAT emergencies (21).

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<sup>†</sup> Bhopal Disaster. Trade and Environment Database (TED) Projects, Case Study #233, available at URL: <http://www.american.edu/projects/mandala/TED/BHOPAL.HTM>.

## Surveillance and Epidemiologic Investigation

[DOJ/CDC Public Health Performance Assessment: 1.1; 2.2]

A chemical terrorism event is likely to be discovered in one of two ways: the local discovery of the environmental release or exposure incident or the diagnosis of the resultant patient cases. Emergency responders may provide critical on-scene assessments and patient examinations that constitute an informal passive surveillance system. These nationwide monitors could report potential events in a fashion timely enough to allow for rapid intervention (21).

In a chemical event, surveillance is most useful for tracking exposed individuals for long-term physiologic difficulties, chronic illnesses, cancers, etc. Effective post-event surveillance will require the establishment of a registry or database that includes the names and contact information for exposed people. To be most effective, this registry should include at least the following information:

- Name
- Address and telephone number
- Age
- Where registrant was located during the event<sup>s</sup>
- Where registrant can be contacted (if other than home)
- Symptoms (if any) and time of onset
- Medical treatment received (if information is available)

Many presume that an explosion, used to disperse the chemical, will precipitate a chemical terrorism event. Between the resulting fire and the rapid onset of symptoms, chemical incidents also are assumed to be overt, easily identifiable events. In conducting surveillance activities, however, it is important not to discount immediately chemicals as the source of an unexplained syndrome. Contaminating a water or food supply with a hazardous chemical could sicken many people, and prematurely eliminating chemicals as a potential causative agent could delay effective treatment.

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<sup>s</sup> Location at time of incident is important to separate exposed individuals from those suffering psychogenic illness and the “worried well.”

## Laboratory Diagnosis

[DOJ/CDC Public Health Performance Assessment: 2.3.1.2; 2.3.2; 8.2.5]

CDC does not conduct tests of environmental samples for chemicals. The state must establish linkages to appropriate authorities at the local, state, and federal levels to ensure its ability to take and test environmental samples when required to characterize the site. CDC does analyze blood, serum, and urine specimens for breakdown products to quantify human exposure to selected chemicals.

As with the biological agents, CDC focuses its preparedness efforts on prioritized hazardous chemicals. These priority agents include the following:

- Military nerve agents
- Sulfur and nitrogen mustards
- Lewisites
- Ricin
- Saxitoxin
- BZ
- Hydrogen cyanide
- Cyanogen chloride

Whereas CDC is helping states develop their own biological laboratory capacities, CDC retains the capacity to conduct biomonitoring for chemicals mainly at the federal level. Moreover, CDC does not advocate that state laboratories test potential chemical terrorism samples before shipping them to CDC.

Most state public health chemical laboratories do not possess necessary equipment or expertise to rule out the presence of a Level 4 biological agent that potentially could be present in a human sample collected from a suspected victim of a chemical attack. State laboratories also do not have the irradiators necessary to neutralize the hardest of the biological agents, if they were present. Thus, safety dictates that biological samples from chemically contaminated victims be sent directly to CDC for analysis.

The initial samples sent to CDC for analysis from a known or suspected chemical event are automatically irradiated to neutralize any offending biological agent. After the initial samples are irradiated, selected follow-up samples are tested by Polymerase Chain Reaction (PCR) and immunoassay to rule out the presence of a Level 4 biological

agent. After samples are irradiated or cleared by PCR/immunoassay, then and only then, they are sent to CDC's chemical laboratory for further testing.

To cover the possibility that surge capacity is needed, CDC funded five partner state public health laboratories to buy the necessary equipment to conduct the sample analyses consistent with CDC's safety protocols. With the instruments, the states can identify exposures in the range of parts per trillion to parts per quintillion, depending upon what chemical is suspected.

### Specimen Collection

It is important that the first 30 samples from the most contaminated (exposed) people be sent to CDC as rapidly as possible. Expedient shipment of the first samples will allow CDC laboratory personnel to help identify the causative agent and also will speed the determination of whether or not a second chemical agent is involved in the exposure. After the first 30 samples are collected and shipped, CDC's objective is that as many samples as possible be collected (either directly by CDC laboratory personnel who have been deployed to the site or by state or local medical personnel).

Samples sent to CDC must not contain personal identifiers, but they must have unique identifiers. Samples collected for CDC chemical analysis should conform to the following:

- For urine samples: at least 20 mL. Use screw-capped plastic container.
- For serum samples: the yield from two 10-mL no-anticoagulant (U.S. color code red-top) tubes in plastic screw-capped vials. **Do not use SST tubes.**
- For whole blood: one 5-mL or 7-mL NaOxalate/NaF anticoagulated tube (U.S. color code gray-top) or one 5-mL or 7-mL heparinized tube (U.S. color code green-top) **unopened**, plus an empty tube to check as a blank.

## Shipping

Secure specimens in cardboard vial storage boxes or Styrofoam-molded tube holders and enclose in large, zipper locking, plastic bags. Place in a Styrofoam-insulated shipper, and surround with absorbent material for cushioning. Ship **refrigerated** using Acool-packs, @ not dry ice. Enclose a shipping list with pertinent information about specimens and the name and telephone number of the appropriate contact person. Each sample container top must be wrapped with waterproof, tamper-proof security tape (available from FBI/Police supply stores).

All samples sent to CDC for chemical analysis should be shipped to this address:

CDC DASH  
ATTN: Dr. Richard Meyer  
1600 Clifton Road  
Atlanta, GA 30333

If you have questions about or problems with samples or sample shipment, contact the following CDC personnel:

Charles Buxton  
Chemical Terrorism Rapid Response  
Team Leader  
Division of Laboratory Sciences  
(770) 488-4160

Elaine Gunter, Chief  
NHANES Laboratory  
(770) 488-7938

Division of Laboratory Sciences  
National Center for Environmental Health  
CDC  
(770) 488-7950

## Medical Management

[DOJ/CDC Public Health Performance Assessment: 7.2]

The treatment of exposed people by clinical syndrome rather than specific chemical is more useful for public health and emergency medical response planning. Public health agencies and first responders may render the most aggressive, timely, and clinically relevant treatment possible by using treatment modalities based on syndromic categories (e.g., burns and trauma, respiratory failure, cardiovascular shock, and neurological toxicity). Exhibit 3 contains a list of emergency medical conditions and needs associated with chemical exposures.

CDC has developed Emergency Room Procedures in Chemical Hazard Emergencies: A Job Aid, which provides information on various chemicals pertaining to terrorism. This Job Aid is available on the CDC Web site at URL: [www.cdc.gov/nceh/demil/articles/initialtreat.htm](http://www.cdc.gov/nceh/demil/articles/initialtreat.htm).

In addition, the Agency for Toxic Substances and Disease Registry (ATSDR) developed Managing Hazardous Materials Incidents, Volume III : Medical Management Guidelines for Acute Chemical Exposures.<sup>†</sup> ATSDR developed these guidelines to aid emergency department physicians and other emergency health-care professionals who manage acute exposures resulting from chemical incidents. The guidelines are intended to aid health-care professionals involved in emergency response to decontaminate patients effectively, protect themselves and others from contamination, communicate with other involved personnel, efficiently transport patients to a medical facility, and provide competent medical evaluation and treatment to exposed persons.

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<sup>†</sup> See also, Managing Hazardous Materials Incidents, Volume I - Emergency Medical Services: A Planning Guide for the Management of Contaminated Patients and Managing Hazardous Materials Incidents, Volume II - Hospital Emergency Departments : A Planning Guide for the Management of Contaminated Patients. All three volumes are available on the Web at URL: <http://www.atsdr.cdc.gov>.



**Exhibit 3**

**Emergency Medical Conditions and Needs  
Associated With Chemical Exposures (21)**

<b>Syndrome and Causative Agents</b>	<b>Medical Therapeutic Needs</b>
<p>Burns and Trauma Corrosives, vesicants, explosives, oxidants, incendiaries, radiologicals</p>	<p>Intravenous fluid and supplies Pain medications Pulmonary products Splints and bandages</p>
<p>Respiratory Failure Corrosives, military agents, explosives, oxidants, incendiaries, asphyxiants, irritants, pharmaceuticals, metals</p>	<p>Pulmonary products Ventilators and supplies Antidotes (when available) Tranquilizing medications</p>
<p>Cardiovascular Shock Military agents, pesticides, asphyxiants, pharmaceuticals</p>	<p>Intravenous fluid and supplies Cardiovascular products Antidotes (when available)</p>
<p>Neurological Toxicity Military agents, pesticides, pharmaceuticals, radiologicals</p>	<p>Antidotes (when available)</p>

## Consequence Management

Response activities that should be consistent irrespective of the agent used are covered in Chapter 5. The following is supplementary guidance that pertains specifically to a chemical incident.

### Worker Protection

Worker Protection standards for chemicals are contained in 29 CFR 1910.120(q) and 29 CFR 1910.134. When responders deal with a known or suspect chemically contaminated area, they should rely on personal protective equipment and respiratory protection standards described in the code to help ensure their safety. Health departments should work with responders to ensure that they are properly protected in the field.

Recent events also have demonstrated the risk posed to emergency department personnel when treating chemically contaminated patients (22). Thus, health department personnel should help ensure that their health-care counterparts are adequately prepared to treat chemically contaminated people and avoid becoming victims due to toxicity from secondary contamination. Strategies include having appropriate resources to decontaminate patients, and utilizing appropriate personal protective equipment while decontaminating patients or treating patients who require care before decontamination (22).

### Patient Decontamination

Liquid or aerosolized chemicals can pose a dermal threat and must be removed as rapidly as possible. For these exposures, it is essential to remove the exposed person's clothing and rapidly decontaminate by using copious amounts of soap and water. Decontamination solution may be used, if available and appropriate.

### Mass Care

Secondary contamination from chemicals may be possible but is unlikely when gross contamination is absent. Effective screening of those arriving at the mass care facility to ensure that contaminated people are identified and effectively decontaminated before entering should be sufficient to prevent contamination of the facility or those temporarily residing in it. Care must be taken to isolate bodily fluids

(including vomitus) to prevent secondary illness from off gassing after the ingestion of some chemicals.

### **Mental Health**

The exposure to hazardous chemicals can lead to psychosocial responses different from, and in some instances greater than, other emergency situations.<sup>u</sup> The inability to quantify exposure along with concerns about developing illnesses well into the future result in special feelings of vulnerability and loss of control. The unique mental health concerns caused by a chemical event must be considered during the planning process.

### **Environmental Decontamination**

The need to perform environmental decontamination for chemicals depends on the chemical involved. Persistent chemicals can remain in the environment for long periods and must (if found in unsafe levels) be actively removed through decontamination. Other chemicals are more volatile and will evaporate without outside intervention, thus eliminating the need for decontamination.

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<sup>u</sup> Agency for Toxic Substances and Disease Registry. Report of the Expert Panel Workshop on the Psychological Responses to Hazardous Substances. Available on the Web at URL: <http://www.atsdr.cdc.gov/HEC/PRHS>.

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## Appendix I

# BASIC EMERGENCY PREPAREDNESS PLANNING

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### The Emergency Operations Planning Process<sup>v</sup>

[DOJ/CDC Public Health Performance Assessment: 5.1]

Normally, a state's emergency management agency is responsible for leading the overall effort to develop an all-hazard EOP. This appendix offers suggestions to health departments for developing a health-related EOP, which should be incorporated into or annexed to the state's all-hazard EOP.

Basic emergency preparedness planning guidance is provided first because development of a health-related EOP will be the conceptual framework upon which the terrorism plan is built. Exhibit 4 contains a flow chart, which lists questions to help health departments determine the best place to begin their planning efforts.

Obviously, the plans can be developed in any order. In fact, where the health department has no emergency response plan, it may be best to develop a terrorism response plan while undertaking the overall emergency planning effort. Regardless of the order in which the plans are written, the health department must ensure that its terrorism preparedness and response initiatives are well integrated into the state's overall emergency management and response systems.

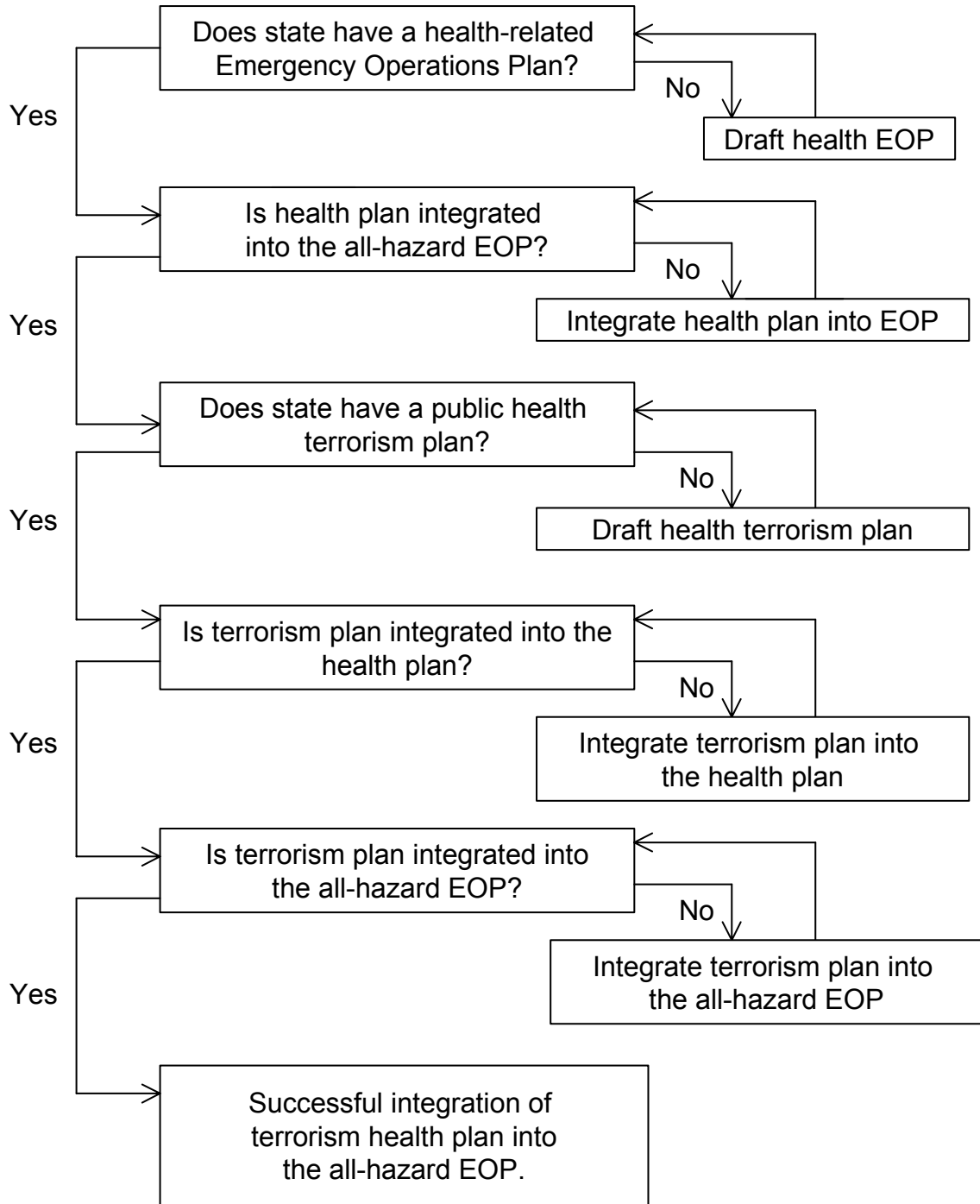
### Principles

Developing a plan for protecting the lives of a state's citizens may seem a daunting task, but it need not be if the following principles are applied.

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<sup>v</sup> Much of the information contained in Appendix I has been adapted from FEMA's State and Local Guide (SLG) 101: Guide for All-Hazard Emergency Operations Planning, September 1996. SLG 101 provides extensive guidance on developing general EOPs, as well as guidance on developing hazard-specific attachments or annexes to the EOP. Information adapted from SLG 101 has been included here to help ensure that the health department's emergency plans will be consistent with existing state emergency plans, easing incorporation and integration of the health response into the state's all-hazards response capability. To obtain a copy of SLG 101, contact FEMA's publications warehouse at (800) 480-2520 or by mail at P.O. Box 2012, Jessup, MD 20794-2012. An electronic copy of SLG 101 can be found at URL: <http://www.fema.gov/pte/gaheop.htm>.

**Exhibit 4**  
**Planning Flow Chart for Health Departments**



### ***Use Available Guidance and Training Materials***

The state emergency management community is a valuable resource for health department planners. States typically publish their own emergency planning guides, conduct workshops and training courses, and assign their planners to work with other planners. In addition, FEMA supports state training efforts through its Emergency Management Institute and offers planning courses. FEMA also publishes a variety of planning-related documents. Please refer to the Bibliography at the end of this Planning Guidance for a list of some of the reference materials that may be of use in health-related emergency planning.<sup>w</sup>

In states with EOPs or other contingency plans, health departments can use these plans to begin organizing their own planning activities. Existing plans direct planning coordinators to applicable authorities, indicate perceptions of localized or statewide risk, identify members of the state=s emergency response organizations, and identify mutual aid agreements with other jurisdictions. Planning coordinators should review existing EOPs for questionable assumptions, inaccuracies, inconsistencies, omissions, and vagueness, especially in those areas under which health departments are assigned response duties.

In addition, the planning coordinator should determine where the health response fits into the overall emergency preparedness and response efforts. This assessment will minimize gaps and overlaps and lead to the desired seamless integration of public health into the overall emergency response effort. Critiques of recent emergency operations and exercises in the state will help the planning coordinator develop a sense of what needs to be done.

### ***Build the Plan from Existing Public Health Expertise***

Traditionally, health departments have the legal responsibility to identify public health concerns and control disease outbreaks. Although potentially expanded, these duties will form the foundation for a health department=s role in emergency preparedness and response.

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<sup>w</sup> Independent study planning courses are available on FEMA's Web site ([www.fema.gov](http://www.fema.gov)) under "Preparedness."

The expertise used daily by health departments will prove pivotal in making decisions about public health and safety during a natural or technologic (man-made) emergency with public health ramifications. Thus, it is important that the health department's EOP build on these established capabilities.

### ***Use the Team Approach to Planning***

The planning coordinator brings only one point of view to the plan. If a coordinated emergency response depends on teamwork, planning the health-related portion of that effort should involve the state's emergency team. The team approach to planning works best for these reasons:

- The EOP is more likely to be used and followed if the responsible organizations have a sense of ownership (i.e., their views were considered and incorporated).
- More knowledge and expertise are brought to the planning effort.
- Closer professional relationships between response and recovery organizations in the planning process should translate into better coordination and teamwork in emergencies.

### **Choosing Team Members**

The planning team should be drawn from various groups that have a role or stake in emergency response. The list below is neither mandatory nor all-inclusive. The important thing is that health departments ensure that members on the planning team represent a cross-section of organizations involved in a state's emergency preparedness and response efforts.



**Potential Planning Team Members**

Health Director	Emergency Management Director
Governor=s representative	Mayors= representatives
Law enforcement agencies	Fire/rescue/EMS
Local health departments	MMRS personnel
Dispatch/911	Hazardous materials teams
Public Information Officer	Legal counsel
Hospital staff	Managed care representatives
Clinics and physicians	Mental health professionals
Medical examiner/Coroner	Social service agency representatives
Department of Agriculture staff	Environmental Protection Agency staff
Pharmacist	Volunteer organization representatives
Veterinary services	Others

Potential planning team members have many day-to-day responsibilities. For the team to work together, members must be convinced that emergency planning has a higher priority than daily issues, and the people to make that argument are agency directors. These key officials also determine which staff members will attend planning meetings and what priority the planning effort will be given, so it is important to secure their commitment early in the planning process.

**Planning Steps**

[DOJ/CDC Public Health Performance Assessment: 1.2; 6.1; 6.2; 8.2.6; 8.2.7; 8.2.8)

The following are basic steps for developing and continually refining an emergency response plan.

1. Conduct Research: Review the state laws, rules, regulations, executive orders, and other documents that may be considered enabling legislation as well as any applicable federal regulatory requirements. Review guidance, existing state plans, and the plans of jurisdictions within the state. Review Mutual Aid Agreements with neighboring states, military installations, and private sector organizations. Finally, become familiar with the relevant federal plans that may be used as a basis for providing assistance.

11. Conduct a Hazard Analysis:<sup>x</sup> Hazard analysis is the basis for effective and realistic emergency planning and helps a planning team decide what hazards merit special attention, what actions must be planned for, and what resources are likely to be needed. Comprehensive hazard analysis merits its own document-length discussion; however, basic considerations of process, methods, and sources include the following:

- Identify hazards to know what kinds of emergencies have occurred or could occur in your state. Sources of hazard information would include CDC, FEMA, the National Response Center, the U.S. Department of Transportation, the state and local health departments, and poison centers. For more localized hazards, information about the 10- and 50-mile Emergency Planning Zones around nuclear power plants is available from state emergency management agencies, and hazardous materials information can be obtained from the Local Emergency Planning Committees.

Many potential sources of hazard information exist for historical investigation. Consult federal or state hazard analyses to see whether the historical occurrence of the hazard is tabulated by jurisdiction. In addition, interview representatives from organizations on the planning team about their experience. Check disaster records from the local chapter of the American Red Cross, police and fire departments, and other responder records. Research both statewide and local newspapers at the library and check with the state historical society and perhaps area universities (e.g., departments of history, medicine, sociology).

- Profile the hazards and their potential consequences. The categories of information and the precision of the data depend on several factors. One factor is the types of decisions the analysis is meant to support. For example, to decide that one hazard poses more of a threat than another may require only a qualitative estimate (e.g., "high," "medium," "low"), whereas other issues may require a more quantitative assessment. Another factor is the availability of information and time. It may be necessary to take a long-term view of hazard analysis with each version building on the preceding analysis as part of a "research agenda" for the public health response.

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<sup>x</sup> Because the Hazard Analysis may contain sensitive information, states should consider whether their open records statutes authorize withholding the Analysis from public disclosure.

- Develop information on each of the hazards identified for the state and its jurisdictional subdivisions. Of particular interest are the hazard's frequency of occurrence; magnitude and intensity; location, if the hazard is associated with a facility or landscape feature; spatial extent; duration; seasonal pattern; speed of onset; and availability of warning.
- Develop information on the potential consequences of the hazard. Several types of consequences can be investigated; however, for health planning purposes, the investigation can be limited mainly to the effects on people (e.g., total affected, number displaced, probable deaths, and illnesses or injuries). The planning team can use both historical information and computer modeling to arrive at planning estimates.
- Compare and prioritize risks to determine which hazards merit special attention. The planning team must consider the frequency of the hazard and the likely or potential severity of its consequences to develop a single indicator of the threat. This consideration allows comparison and priority setting. Although a mathematical approach is possible, it is easier to manipulate qualitative ratings for different categories of information used in the ranking scheme.
- There is significant debate about the type of terrorism event on which planning and response communities should focus their preparedness efforts (e.g., low-probability events with potentially catastrophic results vs. higher probability, localized events). CDC recommends focusing, at least initially, on more localized terrorism events because a state is more likely to encounter a localized event, and initially planning for a noncatastrophic event allows the response communities to coordinate efforts without overwhelming the response system.<sup>y</sup>
- On the basis of the hazard assessment, create credible scenarios and estimate resource requirements. Because the plan should focus on non-routine situations, only scenarios that result in consequences above a certain threshold need be considered.

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<sup>y</sup> The Department of Health and Human Services suggested that cities plan to respond to a terrorist attack that potentially affects 10% of their population. Coping with this level of casualties would tax all aspects of an emergency response system and would require planning for the rapid augmentation of a community's assets by state, regional, and federal assets without collapsing the local and state health-care systems. States may consider using this 10% figure as well, unless the resulting casualties will overwhelm the state's ability to respond effectively.

- Creating scenarios allows planners to group response actions according to the consequences of the event, irrespective of the initiating event. For example, through scenarios, the consequences of a chemical terrorism event can be compared with those of a hazardous materials incident, or biological terrorism can be compared with a natural disease outbreak. Through this process, planners can group required response actions into categories based on the types and numbers of casualties. Thus, the emergency response should not be hazard-specific unless the hazard response requires demonstrated special activities or capabilities. In that case, you can place hazard-specific information in an annex or appendix to the overall EOP.<sup>z</sup>
3. Determine the Resource Base: Agency heads and other potential members of the planning team should know what kinds of resources they bring to emergency response and recovery. Available resources should be listed and compared with the resources needed to respond effectively to the emergency. Determining the resource base also should include a consideration of which facilities are vital to emergency operations and how they might be affected by identified hazards. Problems that cannot be mitigated should be addressed in the plan.

Ultimately, identified shortages in resources mean that health departments may have to negotiate agreements with private suppliers or other jurisdictions. However, unless those agreements can be negotiated concurrently with the planning process, planning should proceed on the basis of existing resources.

4. Note Special Facets of the Planning Environment: The planning team should note geographic and topographic features that may affect operations, for example, dependence on a single main transportation artery into and out of a heavily populated portion of the state. Planners also should identify special needs groups (non-English speakers, the aged, and the disabled) and where

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<sup>z</sup> Chapter 6 of SLG 101 contains guidance regarding hazard-unique planning considerations. SLG 101 also contains eight attachments; each is dedicated to a specific hazard. (Attachment G covers terrorism.)

they are concentrated. Finally, the planning team should be alert to demographic and other trends in the state that affect planning assumptions.

## **Plan Development**

Research leads to a written plan through steps similar to the following:

- Develop a rough draft of the basic plan and any necessary hazard-specific appendices for consideration by the planning team.
- Develop agendas and invitation lists for the first cycle of planning meetings; perhaps, deliver invitations in person and conduct preliminary interviews with key officials.
- Brief the state health officer; perhaps, invite him or her to the initial meeting as a keynote speaker.
- Conduct a presentation meeting, establish committees for developing parts of the plan, appoint committee chairs, and schedule a follow-up meeting.
- Work with committees on successive drafts.
- Prepare necessary graphics (e.g., maps and organizational charts).
- Produce a final draft and circulate the draft to the planning team for review and comment.
- Hold a meeting to incorporate final changes, discuss an implementation strategy and necessary distribution, and obtain informal commitments to provide information that could necessitate revision of the plan.
- Obtain concurrence from organizations with identified responsibilities for implementing the plan.

- Present the plan to elected officials and obtain official concurrence.<sup>aa</sup>
- Print and distribute the plan.
- Maintain a record of the organizations and people who receive a copy of the plan.

### **Ongoing Efforts**

Completing a response plan is not an end in itself. Numerous activities should follow development of the plan to ensure that it remains current, useful, and appropriate.

#### ***Validation and Evaluation***

Check the written plan for its conformity to applicable regulatory requirements and the standards of federal or state agencies, as appropriate. Use tabletop, functional, and full-scale emergency management exercises to evaluate new or revised response plans. Exercises offer the best way, short of emergencies, to determine whether the plan is understood, that it "works," and that it would actually be used in an emergency.

#### ***Annual Assessment and Review***

[DOJ/CDC Public Health Performance Assessment: 9.2]

An assessment process can help a planning team identify, illuminate, and correct problems with the health plan because the process captures information from exercises, post-response critiques, self-evaluation, audits, and administrative reviews that may indicate where deficiencies exist. The process involves at least annual reviews by the planning team to discuss problems and to consider and assign responsibility for remedies to correct noted deficiencies. The assessment may involve revising planning assumptions and operational concepts, changing organizational tasks, or modifying organizational implementing instructions (e.g., SOPs). It also may involve refresher training by an organization=s personnel on carrying out their responsibilities.

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<sup>aa</sup> It is imperative that the planning team members keep all represented organizations, as well as elected officials, fully informed regarding planning progress throughout the process. Continually updating key representatives of each responsible organization will minimize difficulties when final concurrence is sought.

### ***Implementing Documents***

The assessment and review phase is an opportune time to ensure that each responsible organization has developed the SOPs necessary to accomplish assigned responsibilities. The EOP does not anticipate every detail of the tasks it describes, but the details are important to implementation.

### ***Maintenance***

Plans should be flexible because problems emerge, situations change, gaps become apparent, and federal or state requirements are altered. Thus, the EOP must be modified, as necessary, to remain useful and current.

### ***Training and Exercises***

[DOJ/CDC Public Health Performance Assessment: 8.1; 8.2; 9.1]

Developing the best possible emergency plan will not guarantee an effective response unless those responding know what is in the plan and act accordingly. Initial and follow-up training and exercises are necessary to ensure that the plan will be implemented as expected.

Conducting effective training and exercises can identify where deficiencies exist in the plan. In addition, review and evaluation of actual responses, large- or small-scale, help demonstrate whether the response to a major terrorism incident is consistent with the plan. Demonstrated inconsistencies between the plan and a response will require revisions either to the plan or to future responses. Systematic plan review should occur even when deficiencies are not apparent.

### ***Filling Identified Resource Gaps***

Although the plan must be based on existing assets, planners most likely will identify supplemental needs through the planning process. Some of these needs may be funded by federal agencies that have been granted congressional responsibility for providing assets to states and local communities to improve their ability to respond to terrorism. In addition to CDC, some of the agencies providing terrorism preparedness grants include FEMA, HHS, OJP, and EPA.

Much of the assessment information required by these agencies for obtaining terrorism preparedness grants is similar. Thus, rather than treating grants from these agencies separately, integrate all federal grant sources available to the state into the planning process and focus on the most critical identified gaps. Integrating all federal assets into the planning process will help prioritize identified needs; maximize the efficient use of available funds; ease integration of the new asset into the existing plan, if revision of the plan is not necessary; and promote revision of the plan, where necessary, to support integrating the new asset into the emergency response framework.

### **Coordination With Other Agencies**

[DOJ/CDC Public Health Performance Assessment: 4.1]

A variety of federal, state, and local agencies and organizations have information or expertise that will assist the health department in developing its terrorism response plan. Moreover, many of these agencies will participate in the response effort. Thus, coordination among these agencies will undoubtedly improve the overall preparedness and response efforts.

### **State Emergency Response Commission/Local Emergency Planning Committees**

The previous section discussed the importance of reviewing available guidance and existing plans. A good place to start that search is with your State Emergency Response Commission (SERC) and its Local Emergency Planning Committees (LEPCs). The concept for these entities was established by Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), also known as the Emergency Planning and Community Right-to-Know Act (23, 24).

SARA Title III requires the governor of each state to establish a SERC. Among other responsibilities, this commission establishes planning districts within the state and appoints LEPCs within those districts. The LEPCs develop hazardous chemical-related emergency plans in coordination with a state's chemical facilities, which are subject to Right-to-Know requirements (i.e., the facilities possess chemicals listed on the EPA's list of extremely hazardous substances in amounts that exceed identified threshold quantities).

Activities undertaken by LEPCs should be fully integrated, along with the public health plan, into the community's overall emergency response plan. Moreover,



because the chemical plans were developed pursuant to guidance similar to that contained in this document, the LEPCs already may have completed some of the work required for developing the health EOP/terrorism response plan.<sup>bb</sup>

### **The Federal Bureau of Investigation and Local Law Enforcement**

Throughout this document, the planner has been instructed to focus on the similarities between a response to a terrorism incident and the day-to-day or emergency activities of the public health system, instituting unique response actions only when necessary. However, one area that clearly is unique in a terrorism event is the incident scene, which is also a crime scene.

The FBI's first priority is the same as the public health system's: protecting lives. Therefore, the actions and responsibilities of law enforcement and the public health system should not conflict. However, law enforcement must secure the crime scene and preserve evidence. Therefore, the entire emergency response community must understand the role of law enforcement agencies and coordinate response activities, such as search and rescue, so that the scene is not disturbed, thereby making evidence collection and protection more difficult.

### **Joint Terrorism Task Force**

The first Joint Terrorism Task Force (JTTF) was developed in New York City in 1980. Goals of the JTTF include increasing the effectiveness and productivity of scarce human and logistical resources, avoiding duplication of effort, and expanding cooperation and coordination among federal, state, and local law enforcement agencies.

Currently, JTTFs exist in these 30 U.S. cities: Albuquerque, Atlanta; Boston; Charlotte; Chicago; Dallas; Denver; Detroit; El Paso; Houston; Indianapolis; Los Angeles; Miami; Minneapolis; New Orleans; New York City; Newark; Oklahoma City; Philadelphia; Phoenix; Pittsburgh; Portland, Oregon; Sacramento; Salt Lake City; San Antonio; San Diego; San Francisco; Seattle; Tampa; and Washington, DC. Task Forces also have been proposed for the following cities: Baltimore; Cleveland; Jacksonville; Las Vegas; Milwaukee; and San Juan. Depending on its location, the

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<sup>bb</sup> Guidance for developing Local Emergency Planning Committee Plans is contained in U.S. Environmental Protection Agency's Hazardous Materials Emergency Planning Guide, Washington, DC: NRT, 1987;NRT-1.

JTTF may focus on domestic terrorism, international terrorism, or both.

The JTTF comprises representatives of the FBI, other federal agencies (U.S. Marshals Service, the Department of State, the Immigration and Naturalization Service, the Secret Service, and the Bureau of Alcohol, Tobacco, and Firearms), and state and local law enforcement. Members gather intelligence about domestic or international terrorist organizations and conduct investigations into planned terrorism acts; prevent such acts, if possible; or investigate the facts and collect evidence if a terrorism incident occurs within their jurisdiction. In light of its intelligence gathering responsibilities, your state JTTF, if one exists, is a good starting point for developing a realistic threat assessment.

## **The Plan**

Chapters 3 through 5 of this Planning Guidance provide checklists and guidance for developing technical provisions within the terrorism response plan. This section and the checklist at the end of this appendix refer to generic or Aboilerplate@ plan provisions. Many of these provisions should be contained already in a state=s EOP. If the plan includes these provisions, they should be reviewed to ensure that they include appropriate public health-related information. If not included, the state should consider including them.

### **Statement of Purpose**

Each plan should include a section outlining the purpose of the plan to aid in interpreting the rest of the document. The Statement of Purpose can be succinct, expressing the purpose in broad terms. Care should be taken, however, to ensure that there is no conflict between the Statement of Purpose and the body of the plan.

### **Legal Authorities**

The plan should cite all appropriate federal, state, or local public health statutes, ordinances, and regulations authorizing the preparation of medical and health services disaster plans. The plan should also cite the legal authorities for the following:

- Undertaking any actions necessary to protect public health and safety.
- Designating the name of the agency or titles of officials responsible for managing medical or health services during emergency operations.

- Enforcing quarantine of infected individuals, when necessary.
- Waiving the legal liability of, or providing immunity to, emergency workers.
- Providing disaster services by coroners, medical examiners, or mortuary workers.
- Providing for emergency procurement procedures and for access to, use of, and reimbursement for private-sector resources in an emergency.

### **Planning Assumptions**

The plan should contain a section outlining any assumptions that are the basis for the plan. It also may include limitations that could degrade health and medical operations. Assumptions addressed might include the following:

- The state health plan applies primarily to large-scale emergency and disaster events that would cause casualties or fatalities sufficient to overwhelm local medical, health, and mortuary services capabilities, thus requiring maximum coordination and efficient use of these resources.
- Public and private health and medical resources located in the affected jurisdiction will be available for use during disaster situations. Many of these resources, including human resources, could be affected by the event.
- It may be necessary to relocate hospital facilities under austere conditions to contingency field hospitals or to permanent or temporary buildings that can adequately protect patients and medical staff from the effects of the event.
- Volunteers will help perform some essential tasks; their efforts must be anticipated and coordinated.

## **Key Public Health Functions**

The plan should assign responsibility for all ten essential services as well as for other identified key emergency public health functions. The descriptions of each key function should include a clear, concise list of all agencies that have primary and support responsibilities.

## **Emergency Public Health Manager**

The plan should identify, by title, the specific person and alternates authorized to manage the public health emergency response. It also should include the criteria by which the alternates will assume the duties of the person primarily responsible for managing the response. The plan should include 24-hour contact numbers for each authorized emergency response manager.

## **Threat Scenarios**

The plan should describe briefly the major scenarios that form the basis of the threat assessment and public health planning. In the event that the scenarios predict similar casualties, these scenarios should be grouped into categories, and a uniform response strategy should be developed.

## **Memoranda of Agreement**

This section of the plan should reference all existing interagency or interjurisdictional agreements concerning the public health emergency response. It also should describe the mechanisms for activating the provisions of the agreements and briefly explain the types of events that will trigger activation of any agreements. Finally, if limitations on activation exist, identify these limitations as well.<sup>cc</sup>

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<sup>cc</sup> For example, a typical activation limitation authorizes a party to a Mutual Aid Agreement to abstain from providing agreed upon assets in an emergency, if providing the assets would jeopardize the party's ability to protect its own community.

### **Abbreviations and Definitions**

Keep abbreviations to a minimum. When used, they should be explained in the body of the plan or in an appendix. The document also should define key or unfamiliar terms. A definition section especially is important when parties with responsibility under the plan use terms that have different meanings in their respective day-to-day operations.

### **Plan Distribution, Record-of-Receipt, and Updates**

The plan should include procedures for maintaining a record of distribution that shows the name and address of each recipient agency, the number of copies provided, and the date of transmittal. The plan also can include a record-of-receipt form that can be signed and returned by each party receiving a copy of the plan.

Maintaining an accurate record of receipt is imperative to ensuring that each version of the plan in circulation is the most recent. Thus, the distribution tracking system should be tied to a system for distributing changes to the plan. This latter system also can include record-of-receipt forms that are mailed with the change pages and returned to the agency distributing the revisions once the plan is revised.

The plan also should include a page for recording all changes made to the plan over time. This record should include a place for the appropriate signatories to confirm adoption of the changes.

The plan should require routine annual review and procedures for determining when the plan should be reviewed more frequently as a result of changing circumstances. This section of the plan also should describe the methods that will be used to update the plan and detail the criteria that will be used to change the plan.

### **Signature Block**

The plan should include a section for approval signatures. Determine whether any signing jurisdiction requires a notary seal or other attestation to validate the document.

Appendix I: Basic Emergency Preparedness Planning

Basic Emergency Preparedness Planning Checklist	Yes	No
1. Have you outlined the purpose of the plan?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you cited appropriate federal, state, and local public health authorizing legislation, ordinances, and regulations?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you outlined any assumptions on which the plan is based?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have you assigned responsibility for the ten essential services and other identified key emergency public health functions?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you identified specific individuals and alternates authorized to direct the public health emergency response?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have you referenced the major scenarios or scenario categories?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have you referenced existing interagency or inter-jurisdictional agreements?	<input type="checkbox"/>	<input type="checkbox"/>
8. Have you explained all abbreviations and defined key or unfamiliar terms?	<input type="checkbox"/>	<input type="checkbox"/>
9. Have you included procedures for maintaining a record of plan distribution and a record-of-receipt form?	<input type="checkbox"/>	<input type="checkbox"/>
10. Have you provided update guidance and a record-of-change page?	<input type="checkbox"/>	<input type="checkbox"/>
11. Have you included a signature block?	<input type="checkbox"/>	<input type="checkbox"/>
12. Does the plan contain the following protocols?	<input type="checkbox"/>	<input type="checkbox"/>
a. Protocols for convening police, fire, EMS, local hospitals, public health officials, members of the local emergency planning committee, EOCs, and other relevant parties on a periodic basis to review the content of the plan.	<input type="checkbox"/>	<input type="checkbox"/>
b. Protocol for designating, by title, the public health personnel (and alternates) responsible for staffing the centralized EOC when activated	<input type="checkbox"/>	<input type="checkbox"/>
c. Protocol for coordinating public health responsibilities with law enforcement responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>
d. Protocols for notifying interagency, media, and public of an emergency.	<input type="checkbox"/>	<input type="checkbox"/>
e. Protocol for informing the public of population prevention measures which include: hazards to expect, precautions to take, requirements for evacuation or shelter-in-place.	<input type="checkbox"/>	<input type="checkbox"/>
f. Protocol for credibility threat assessment process (in coordination with the FBI).	<input type="checkbox"/>	<input type="checkbox"/>
g. Protocol for mutual aid agreements and interagency coordination.	<input type="checkbox"/>	<input type="checkbox"/>
h. Protocol for implementing an emergency epidemiologic investigation for human and animal exposures.	<input type="checkbox"/>	<input type="checkbox"/>
i. Protocol for implementing evacuation and mass casualty transportation.	<input type="checkbox"/>	<input type="checkbox"/>
j. Protocol for initiating the public health response when a device is found that may contain a biological or chemical agent.	<input type="checkbox"/>	<input type="checkbox"/>
k. Protocol for methods for collecting, handling, decontaminating, transporting, preserving, and storing biological and chemical evidence, including maintaining the chain of custody, referral to state public health laboratory, and referral to federal laboratory.	<input type="checkbox"/>	<input type="checkbox"/>
k. Protocol for interviewing potentially contaminated or infectious victims.	<input type="checkbox"/>	<input type="checkbox"/>
m. Protocol for critical incident stress counseling for victims or response personnel, including public health and medical professionals.	<input type="checkbox"/>	<input type="checkbox"/>
n. Protocol for protecting care-providers and victims from secondary exposures.	<input type="checkbox"/>	<input type="checkbox"/>

**Appendix I: Basic Emergency Preparedness Planning**

<b>Basic Emergency Preparedness Planning Checklist</b>	<b>Yes</b>	<b>No</b>
o. Protocol for decontaminating mass casualties (pre-hospital) and patients upon their arrival at the treatment facility.	<input type="checkbox"/>	<input type="checkbox"/>
p. Protocol for ensuring that contamination of treatment facilities does not occur when patients are evaluated or treated.	<input type="checkbox"/>	<input type="checkbox"/>
q. Protocol for instituting mass isolation within a health facility.	<input type="checkbox"/>	<input type="checkbox"/>
r. Protocol for incorporating state and federal assets into the local response efforts.	<input type="checkbox"/>	<input type="checkbox"/>
s. Protocols for requesting state or federal (civilian or military) pharmaceutical stockpiles.	<input type="checkbox"/>	<input type="checkbox"/>
t. Protocol for the receipt, security, and distribution of stockpile assets.	<input type="checkbox"/>	<input type="checkbox"/>
u. Protocol for instituting mass vaccinations or medication distribution to first responders and to medical/health care providers.	<input type="checkbox"/>	<input type="checkbox"/>
v. Protocol for responding to mass mortuary needs.	<input type="checkbox"/>	<input type="checkbox"/>
w. Protocol for identifying and obtaining mental health resources that will treat both responders and victims.	<input type="checkbox"/>	<input type="checkbox"/>
x. Protocol for baseline and post-incident medical screening for all personnel involved.	<input type="checkbox"/>	<input type="checkbox"/>

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## Appendix II

### NATIONAL PHARMACEUTICAL STOCKPILE PROGRAM

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A release of selected biological or chemical agents targeting the U.S. civilian population will require rapid access to large quantities of pharmaceuticals and medical supplies. Such quantities may not be readily available unless special stockpiles are created. No one can anticipate exactly where a terrorist will strike, and few state or local governments have the resources to create sufficient stockpiles on their own. Therefore, a national stockpile was created as a resource for all.

The NPS is a national repository of antibiotics, chemical antidotes, antitoxins, life-support medications, IV administration and airway maintenance supplies, and medical/surgical items. The NPS Program is designed to supplement and re-supply state and local public health agencies in the event of a biological or chemical terrorism incident anywhere, at anytime within the United States or its territories.

The decision to deploy NPS assets may be based on evidence showing the overt release of an agent or credible intelligence information. However, it is more likely that subtle indicators, such as unusual morbidity and mortality identified through the U.S. disease outbreak surveillance and epidemiology network, will alert health officials to the possibility (and confirmation) of a biological or chemical terrorism incident. To receive NPS assets, the affected state can request the deployment of the NPS directly from the Director of CDC. Once requested, the Director of CDC has the authority, in consultation with the Surgeon General, the Secretary of the Department of Health and Human Services, the Federal Emergency Management Agency, and the Federal Bureau of Investigation, to deploy the NPS. The NPS is segregated into several packages. First, there are immediate response APush Packages, @ which are caches of pharmaceuticals, antidotes, and medical supplies designed to address a variety of biological or chemical agents. These Push Packages are positioned in secure regional warehouses ready for delivery anywhere in the continental United States within 12 hours after a federal decision to deploy. CDC also plans to reach sites beyond the continental U.S. in 12 hours, although delivery may take longer in some circumstances.

If the incident requires additional pharmaceuticals or medical supplies, follow-up Vendor Managed Inventory (VMI) supplies will be shipped to arrive within 24 to 36-hours. The follow-on VMI packages can be tailored to provide pharmaceuticals, supplies, and/or products specific to the suspected or confirmed agent or combination of agents.

Due to the delays between the onset of the event and receipt of NPS assets, the NPS is not a first response tool. However, state and local first responders and health officials can use the NPS to bolster their response to a biological or chemical terrorism

## **Appendix II: National Pharmaceutical Stockpile Program**

attack, thereby increasing their capacity to more rapidly mitigate the results of this type of terrorism.

### **Determining and Maintaining NPS Assets**

CDC partners with intelligence experts who evaluate chemical and biological terrorism to ensure that the composition of the NPS reflects current biological and chemical threats. CDC and its federal partners use this information to prioritize the potential biological and chemical agents and to determine NPS contents. CDC ensures that all medical materiel used in normal hospital operations will be rotated and kept within potency shelf life limits.

### **Transfer of NPS Assets to State and/or Local Authorities**

The Push Packages are configured to allow their immediate loading onto either trucks or commercial cargo aircraft for the most rapid transportation possible. CDC will coordinate with state and local officials while the NPS is en route, so that stockpile assets can be efficiently received and distributed upon arrival at the site.

CDC will transfer responsibility for NPS materiel to the appropriate state or local authorities once it arrives at the airfield. State and local authorities must be prepared to repackage and label bulk medicines and other NPS materiel according to established SOPs. CDC's technical advisors will accompany the NPS to assist and advise state or local officials in putting the NPS assets to prompt, effective use.

### **Training and Education**

The NPS Program is charged with leading a nationwide preparedness training and education program for state and local health-care providers, first responders, and state and local governments. This training not only explains the NPS mission and operations but it alerts state and local emergency response officials to the important issues they must plan for to receive, secure, and distribute NPS assets. To conduct this outreach and training, NPS Program staff is working currently with HHS agencies, Regional Emergency Response Coordinators at all ten U.S. Public Health Service regional offices, as well as state departments of health, state emergency management agencies, the Metropolitan Medical Response System, regional offices of the FBI and other agencies within the Department of Justice, FEMA, the Department of Veterans Affairs, and the Department of Defense.

## **Appendix II: National Pharmaceutical Stockpile Program**

NPS Program staff has established guidance for developing stockpile-related SOPs. This guidance includes information on how states should identify procedures for accepting, securing, repackaging, and distributing NPS assets. The NPS guidance was not included in this Planning Guidance due to the sensitive nature of some of the information in that document. However, state and local public health planners may obtain a copy by contacting the NPS Program as follows:

National Pharmaceutical Stockpile Program  
4770 Buford Highway NE  
Mailstop F-23  
Atlanta, GA 30341-3724  
(770) 488-7516

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## REFERENCES

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1. Okumura T, Suzuki K, Fukuda A, et al. The Tokyo subway sarin attack: disaster management, Part 1: community emergency response. *Acad Emerg Med* 1998;5:613-7.
2. Török TJ, Tauxe RV, Wise, RP, et al. Large community outbreak of salmonellosis caused by intentional contamination of restaurant salad bars. *JAMA* 1997;278:389-95.
3. Tucker JB. Chemical/biological terrorism: coping with a new threat. *Politics and the Life Sciences*, 1996;15:167-84.
4. Federal Emergency Management Agency. The Federal Response Plan. Washington, DC: FEMA; FEMA-229; 1999. p. TI-1.
5. Federal Emergency Management Agency, U.S. Department of the Army. Planning guidance for the Chemical Stockpile Emergency Preparedness Program. Washington, DC: FEMA; 1996.
6. Kasperson RE, Kasperson JX. The social amplification and attenuation of risk. *An Acad Pol Soc Sci* 1996;545:95-105.
7. Friedman S, Alderman E, Pantell R, Saylor C, Sugar M. Psychosocial issues for children and families in disasters. Washington DC: Department of Health and Human Services (U.S.);1995 May. Publication No. (SMA) 95-3022.
8. Oriol W. Psychosocial issues for older adults in disasters. Washington, DC: Department of Health and Human Services (U.S.);1999. Publication No. ESDRB SMA 99-3323.
9. Meselson M, Guillemin J, Hugh-Jones M, et al. The Sverdlovsk anthrax outbreak of 1979. *Science* 1994; 266:1202-1208.
10. Centers for Disease Control and Prevention. Preventing emerging infectious diseases: a strategy for the 21st century. Atlanta, Georgia: U.S. Department of Health and Human Services, 1998.
11. Pesik N, Keim ME, Iverson KV. Terrorism and the ethics of emergency medical

- care. *Ann Emerg Med.* June 2001;37:642-646.
12. Institute of Medicine, Committee for the Study of the Future of Public Health. *The Future of Public Health.* Washington: National Academy of Science; 1988.
  13. Public Health Services Act ' 361, 42 U.S.C. ' 264 (2000).
  14. 42 CFR ' 71.32 (2000).
  15. Garner JS. Hospital Infection Control Practices Advisory Committee. Guideline for isolation precautions in hospitals. *Infect Control Hosp Epidemiol* 1996;17:53-80, and *Am J Infect Control* 1996;24:24-52.
  16. Centers for Disease Control and Prevention. Bioterrorism readiness plan: a template for healthcare facilities. Atlanta: Centers for Disease Control and Prevention, 1999. Available at URL:  
<http://www.cdc.gov/ncidod/hip/Bio/13apr99APIC-CDCBioterrorism.PDF>
  17. Seitz T, Decker J, Jensen P. NIOSH Health Hazard Evaluation Report 95-0031-2601, University of Medicine and Dentistry of New Jersey, University Hospital. Cincinnati OH: DHHS, CDC, National Institute for Occupational Safety and Health, October 1996.
  18. Keim M, Kaufmann AF. Principles for emergency response to bioterrorism. *Ann Emerg Med* 1999;34:177-82.
  19. Secondary explosions. In: Counterterrorism Threat Assessment and Warning Unit, National Security Division. *Terrorism in the United States*, 1997. Washington DC: U.S. Department of Justice, Federal Bureau of Investigation. Page 16-17.
  20. Olsen KB. Aum Shinrikyo: Once and future threat? *Emerg Infect Dis* 1999;5(4):513-516.
  21. Keim M. Intentional chemical disasters, in D. Hogan and J. Burstein (eds.), *Disaster medicine.* New York, NY; Lippincott, Williams, and Wilkins, publication pending.
  22. Centers for Disease Control and Prevention. Nosocomial poisoning associated with emergency department treatment of organophosphate toxicity—Georgia, 2000. *MMWR* 2001;49(51):1156-8.

23. Superfund Amendments and Reauthorization Act of 1986. Title III, Pub.L. 99-499, 100 Stat. 1613 (1986).

24. Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. ' 11001 et seq. (2000).

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## SELECTED BIBLIOGRAPHY

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In addition to the referenced materials, the publications and documents listed below may be of interest to a planning team. Note that the inclusion of an item in the bibliography does not imply an endorsement of the materials contained therein.

Macintyre A, Eitzen E, Gum R, et al. Weapons of mass destruction events with contaminated casualties: effective planning for health care facilities. *JAMA* 2000;283:242-9.

Department of Health and Human Services, Agency for Toxic Substances and Disease Registry. Registering and assisting victims of terrorism involving weapons of mass destruction. Washington, DC: HHS; 1999 June.

Federal Emergency Management Agency. Emergency operating centers handbook. Washington, DC: FEMA; 1984. CPG 1-20.

Federal Emergency Management Agency. Emergency teams in federal disaster operations handbook. Washington, DC: FEMA; 1999 July.

Federal Emergency Management Agency. Guide for all-hazard emergency operations planning. Washington, DC: FEMA; 1996 September. SLG 101.

Federal Emergency Management Agency, U.S. Department of the Army. Planning guidance for the Chemical Stockpile Emergency Preparedness Program. Washington, DC: FEMA; 1996 May.

National Emergency Training Center, National Fire Academy. The Incident Command System. Emmitsburg, MD: NETC/NFA; 1989. NFA-ICS-SM.

National Fire Protection Association. Recommended practice for disaster management, NFPA 1600. Quincy, MA: NFPA; 1995.

Sidell F, Patrick W, Dashiell T. Jane=s chem-bio handbook. Alexandria, VA: Jane=s Information Group; 1998.

Robert T. Stafford Disaster Relief and Emergency Assistance Act, Pub.L. 93-288, 42 U.S.C. ' 5121 et seq. (1974).

U.S. Environmental Protection Agency. Hazardous materials emergency planning guide. Washington, DC: EPA; 1987. NRT-1.

U.S. Environmental Protection Agency. Criteria for review of hazardous materials emergency plans. Washington, DC: EPA; 1988 May. NRT-1A.

U.S. Army Medical Research Institute of Chemical Defense. Medical management of chemical casualties handbook, 3rd ed., Aberdeen Proving Ground, MD: U.S. Army; August 1999.

U.S. Army Medical Research Institute of Infectious Diseases. Medical management of biological casualties handbook, 3rd ed. Fort Detrick MD: U.S. Army; July 1998.

Wade C, editor. Handbook of forensic services. Washington, DC: FBI; 1999.