

PROTECTING YOUR COMMUNITY FROM TERRORISM:

Strategies for Local Law Enforcement

Volume 3:
Preparing for and
Responding to Bioterrorism

COPS
COMMUNITY ORIENTED POLICING SERVICES
U.S. DEPARTMENT OF JUSTICE


POLICE EXECUTIVE
RESEARCH FORUM



PROTECTING YOUR COMMUNITY FROM TERRORISM: The Strategies for Local Law Enforcement Series

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VOL. 3: PREPARING FOR AND RESPONDING TO BIOTERRORISM

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with

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The opinions expressed are generally those based on the consensus of executive session attendees. However, not every view or statement presented in this report can necessarily be attributed to each individual participant.

Websites and sources listed provide useful information at the time of this writing, but the authors do not endorse any information of the sponsor organization or other information on the websites.

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commitment to developing solutions and strengthening partnerships.

In attendance at the executive session were several researchers who were tasked with identifying relevant research concerns. The National Institute of Justice (NIJ) funds their involvement in these sessions. Our NIJ grant monitor, Lois Mock, and these researchers—Jack Greene, David Klinger, Michael Mair, Steve Mastrofski, and Edward Richards—were an invaluable resource when transforming complex discussions into an informative discourse for law enforcement agencies. We are grateful for their sound observations.

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We also want to thank those who contributed to this paper by writing sidebar pieces: William J. Bratton, Jonathan E. Fielding, Richard A. Goodman, Jerome M. Hauer, Ronald L. Iden, Cathy L. Lanier, Phil T. Pulaski, Ruth A. Vogel, and Dani-Margot Zavasky.

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To those first responders—at every level of government—who work to make our nation safe from a biological attack, your efforts are truly valued. We hope this paper provides you with resources and information to further assist you in your efforts.

FOREWORD



WHILE FEDERAL, STATE, AND LOCAL POLICE AGENCIES WERE STILL REELING from the aftershocks of the September 11th attacks, they were faced with another form of terrorism that presented formidable challenges. That menace was bioterrorism. They were not alone in their struggle to assume new roles and responsibilities that would address this emerging threat. Emergency medical personnel, fire, public health workers, and other first responders were similarly trying to clarify their roles and learn how to begin work on a collaborative, multidisciplinary response.

While trained to deal with hazardous materials, law enforcement never had to face a seemingly imminent threat of bioterrorism. The pressing need for a coordinated response was revealed in early experiences with anthrax. Using the postal system as the method of delivery, perpetrator(s) sent letters filled with anthrax-laden powder to targets in Washington, D.C, New York, Florida, and Connecticut. The attacks left several victims, including fatalities, and sent a wave of fear through those communities and an already anxious nation. These events revealed to health care professionals, emergency first responders, and law enforcement the stark vulnerabilities their respective agencies faced in preparing for and responding to bioterrorism. The need for these emergency responders to work together to develop policies, procedures, and protocols for dealing with this new style of criminal and terrorist attack presents a constant and urgent challenge. Many community leaders in the United States are still grappling with

the risks and potential responses to such an act in their buildings, classrooms, or city streets.

Much like the demand for interagency cooperation when investigating and prosecuting other forms of domestic terrorism, preventing and responding to a chemical or biological attack requires open lines of communication and mutual aid agreements among police, fire, public health, and other government agencies. As local, county, tribal, and state police agencies train personnel to take on new antiterrorism responsibilities, they must include instruction on detecting and responding to certain medical conditions and be aware of containment procedures for a bioterrorist attack. Addressing the growing threat of these attacks places mounting pressure on these agencies, especially the first responders who must prepare for myriad potential scenarios. Recognizing the need to redefine law enforcement's roles and responsibilities, the Police Executive Research Forum (PERF) and the Office of Community

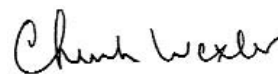
Oriented Policing Services (COPS) convened its third executive session to address the options and issues associated with bioterrorism. Like the previous sessions in this series on protecting communities from terrorism, the meeting yielded valuable recommendations that agencies can tailor to the unique needs of their jurisdictions.

This executive session was unprecedented in the range of expertise offered by its participants, who represented local and state police departments, the Federal Bureau of Investigation (FBI), the Department of Health and Human Services (HHS), the Federal Emergency Management Agency (FEMA), the Centers for Disease Control and Prevention (CDC), and health and science professionals and scholars. Participants shared their insights, experiences, and recommendations in a candid and productive discourse. This white

paper, based largely on the topics discussed at the session, examines the new roles law enforcement agencies must assume because of the numerous demands placed on them and the limited resources they can draw on if a biological attack occurs. PERF staff also conducted fieldwork to identify promising programs and approaches within the community policing context. The COPS Office and PERF are pleased to facilitate these forums and to provide the law enforcement profession with opportunities and products that encourage the sharing of effective strategies that address terrorism and advance community policing.



Carl R. Peed
Director, COPS



Chuck Wexler
Executive Director, PERF

CHAPTER ONE

INTRODUCTION

THE EMERGENCE OF BIOTERRORISM AS A MAJOR THREAT TO THE AMERICAN public demands that law enforcement redefine its responsibilities. Law enforcement officials must assess and prioritize steps for preventing, preparing for and responding to bioterrorism, while retaining the gains made through community policing. Working with other public officials, law enforcement agencies must begin by determining their community's risk of and vulnerabilities to potential bioterrorist attacks. This can be an overwhelming endeavor—exacerbated by competing demands for police service and limited resources.

Only a comprehensive and cooperative strategy among police, fire, public health, and other government agencies can ensure proper readiness and response in dealing with bioterrorism. Yet, the level of collaboration and coordination needed to address these challenges carries its own difficulties, as each agency struggles to identify and resolve overlapping roles and responsibilities. As each agency's authority is defined and gaps are addressed, it will become apparent that local law enforcement's role in the national effort to prevent or respond to a biological attack is critical.

Efforts to build bridges with the community have never been more pressing as law enforcement seeks to gain information on preventing a bioterrorist attack. Incidents in the United States involving anthrax and ricin have also underscored the need to enhance and redefine ongoing com-

munity policing efforts to help inform and educate the public of potential biohazards.

Community policing's emphasis on partnerships, trust, and problem solving is vital to preventing biological attacks and maintaining critical relationships with all stakeholders.

The Project: Community Policing in a Security-Conscious World

The Police Executive Research Forum (PERF),¹ with support from the U.S. Department of Justice Office of Community Oriented Policing Services (COPS), has convened a series of executive sessions for law enforcement chief executives, various government leaders, and community members. These forums allow participants to explore important issues, debate different approaches, and

¹ PERF is a nonprofit membership organization of progressive policing professionals dedicated to advancing law enforcement services to all communities through experimentation and national leadership. Its members serve more than half the nation's population and the organization provides training, technical assistance, research, publications and other services to its members and the profession. More information about PERF can be found at www.policeforum.org.

exchange information. These sessions are also structured to provide law enforcement practitioners with opportunities to share and develop effective strategies for addressing terrorism while enhancing community policing. The discussions are captured in subsequent white papers that are widely disseminated to law enforcement and decision makers at all levels of government. (Additional white papers are planned for such topics as *Intelligence and Information Sharing* and *Law Enforcement Partnerships with the Department of Homeland Security*.)

The first executive session, held on November 7–8, 2002, resulted in a white paper on *Local-Federal Partnerships*. The second session was held on June 5–6, 2003; it provided law enforcement with guidance on *Working with Diverse Communities*. These white papers are the first two in the series on *Protecting Your Community From Terrorism: Strategies for Local Law Enforcement*. (These reports are available as free downloads at www.policeforum.org and www.cops.usdoj.gov.)

The Executive Session

PERF convened the third executive session on July 24–25, 2003 at the Getty Center in Los Angeles. To facilitate a comprehensive discussion of the issues, the group was composed of local, state, and federal law enforcement executives; public health and fire officials; as well as other subject matter experts. (See Appendix A for a list of the participants and observers.) The session began with a presentation by Jerome M. Hauer, formerly the Acting Assistant Secretary with the Department of Health and Human Service's (HHS) Office of Public Health Emergency and Preparedness, on the readiness of public health agencies for a terrorist

event. Don Van Duyn from the Federal Bureau of Investigation (FBI) then gave an assessment of the threat of a bioterrorist attack. Moderated by PERF's Executive Director, the day-and-a-half session resulted in a thorough discussion that identified the myriad challenges to collaboration among all first responders, as well as the issues and strategies for preparing for and responding to bioterrorism. The session featured two tabletop exercises: a suspicious letter and a clandestine release. Participants discussed what types of policies, procedures, and protocols are being used, and most importantly, what is still needed. Other aspects of the session included a presentation by President of the Los Angeles Police Commission Rick Caruso, who provided a private sector perspective on Los Angeles' bioterrorism preparedness activities. The participants also had a chance to observe the LAPD Westchester Training Academy and learn about the resources used by the Los Angeles Police Department and the Los Angeles County Sheriff's Department. In the end, session participants proposed practical recommendations for law enforcement agencies when responding to a bioterrorist incident, determining jurisdictional responsibilities, and staffing incident command.

The White Paper

This white paper, the third in the series, summarizes participants' discussions at the PERF executive session as well as follow-up site visits made by PERF project staff to New York City; Washington, D.C.; and Baltimore, Maryland. It is meant to advance law enforcement's efforts to prepare for and respond to bioterrorism. The paper includes several sidebars to provide diverse viewpoints on topics that warrant additional attention. These sidebars were written either by executive session

participants or individuals interviewed during site visits.

The intent of this paper is to help local law enforcement agencies identify the opportunities and obstacles to effectively address bioterrorism threats as well as to build partnerships with other first responders. The paper begins with a discussion of the threat and describes the response challenges for first responders. Further, it details the biological agents that may possibly be used in an attack, the likelihood of each kind of threat, and the critical response issues law enforcement agencies must address. The remaining chapters discuss the five critical areas involved in planning for and responding to a bioterrorism event. These issues include detecting a biological attack; notifying the

proper first responders; intervening (in coordination with fire, EMS, and public health responses); managing health care surge demands; and maintaining communication with all agencies and the public. A number of proven strategies, tactics, and promising approaches are identified that agencies can tailor to the concerns of a particular jurisdiction. Other strategies are untested, but are based on participants' exchange of ideas and suggestions. The white paper reiterates the need for law enforcement professionals to strengthen their partnerships with other government agencies to make them more effective. The paper concludes with recommendations for local law enforcement agencies and other first responders as they navigate their new role in a counterterrorism context.

CHAPTER TWO

THE BIOTERRORIST THREAT²

THE EVENTS OF SEPTEMBER 11, 2001 FOREVER CHANGED THIS NATION'S VIEW of our security if faced with a large-scale terrorist attack. The anthrax-laden letters sent to New York City; Washington, D.C.; and Florida later that same year also demonstrated our vulnerability, particularly to a bioterrorist attack. With this new awareness of our susceptibility, law enforcement agencies have rushed to gain expertise in biology and medical science that would have been unthinkable just years before. With this knowledge, they have had to formulate potential responses to the worst possible scenarios.

The discussion that follows puts the bioterrorism threat in perspective for law enforcement and describes the unique response challenges for their agencies. It details which biological agents might be used in an attack and describes critical law enforcement response issues. It also examines bioterrorism in the context of other potential terrorist threats and presents the relative likelihood of each kind of threat.

The Potential "CBR" Threats

The term "CBR" is used by law enforcement agencies as shorthand to include all potential terrorist threats that can have consequences for the health of large numbers of people. These threats include chemical agents (C), biological agents (B), and radiation exposure (R).³ The health consequences of their release will demand unique law enforcement responses that require a close working rela-

² This chapter was completed with the help of Jerome M. Hauer, the Director of Response to Emergencies and Disasters Institute (READI), and Assistant Professor at The George Washington University. At the time of the executive session, Hauer was the Acting Assistant Secretary of the Office of Public Health Emergency Preparedness, Department of Health and Human Services.

³ Though some first responders refer to the threats as "CBRN " to include the potential use of nuclear weapons, that discussion topic is beyond the purview of this paper.

tionship with many professionals, including public health.

The following is a brief overview of the CBR threats and the potential consequences of each type of threat. More detailed information about these agents can be found in several guides for first responders listed in the references and resources sections of this white paper (see pp. 61–67). The summaries that follow simply offer a context within which to consider the recommendations made in later sections.

Chemical Threats

Law enforcement professionals should be concerned about chemical agents, which include toxic industrial chemicals and military weapon agents. Toxic industrial chemicals, such as hydrogen cyanide, arsine, chlorine, and ammonia, can be obtained easily and thus may pose a greater risk than military agents. Terrorists can gain access to these chemicals through legal purchases and illegal means, including black market sales and theft as chemicals are transported across the United States in large quantities by tanker trucks and rail cars.

In addition, harder-to-obtain military nerve agents—such as sarin and VX—are of concern because of the high mortality rates associated with contact and the speed with which people become ill once exposed. These agents act quickly by interfering with the nervous system's functioning and can be delivered as a vapor or liquid (Sidell, Patrick and Dashiell 2000). Treatment options are limited because antidotes are not always available.

Biological Agents

In contrast to chemical agents, biological agents

that spread disease are even more difficult to obtain and to release effectively. The mechanisms used for releasing chemical agents would be inadequate for disseminating biological agents. These agents are of particular concern, however, because some of them—such as smallpox and plague—can spread easily from person to person. If a biological attack takes place, there is likely to be significant public anxiety and almost certain disruption of the daily work that supports the nation's infrastructure that provides access to necessities. Accordingly, biological agents require special preparedness by law enforcement, fire, medical, and public health agencies.

The Centers for Disease Control and Prevention (CDC) has identified six "Category A" biological agents—smallpox, anthrax, plague, botulism, tularemia, and viral hemorrhagic fever (Rotz et al. 2002). The CDC defines these Category A agents as those that "the U.S. public health system and primary health care providers must be prepared to address [and] include pathogens that are rarely seen in the United States. High-priority agents include organisms that pose a risk to national security because they can be easily disseminated or transmitted from person to person; result in high mortality rates and have the potential for major public health impact; might cause public panic and social disruption; and require special action for public health preparedness."⁴

Several biological agents are of particular concern. For example, should there be a large-scale or simultaneous anthrax attack it would require sufficient vaccination. Antibiotics are used

⁴ At the time of this writing, the definition of "Category A" agents could be obtained from the CDC Emergency Preparedness and Response website www.bt.cdc.gov/agent/agentlist-category.asp#catdef.

to treat anthrax, but if treatment is not begun early, the fatality rate can range from 50 to 70 percent, depending on the type of anthrax (Inglesby et al. 2002). While anthrax has already been used to create fear, destabilize government operations, and to kill and injure citizens, the effects of a botulism⁵ attack could be of even greater concern. The impact of botulism could have a devastating effect on the public.⁶

Radiation Exposure

Though there are various scenarios in which terrorists can employ radiological agents, the most commonly discussed is the threat of a dirty bomb, although other covert releases of a radiological material are also possible. Dirty bombs are radiological dispersal devices that combine conventional explosives with radioactive materials. The necessary ingredients for such bombs are readily available. Exposure to radiation from such a bomb can cause tissue damage, such as skin burns, or bone marrow depression to those in the immediate vicinity. In addition, individuals that are contaminated with radioactive material either in or on their bodies can expose others to the effects of radiation.

A dirty bomb's detonation may cause immediate casualties, but the greater effect could be wide-spread, long-term illnesses resulting from radiation exposure. People do not need to come into direct contact with the source of the radiation to be affected (Maniscalco and Christen 2002). They need only to be under the plume of the radi-

ation or in contact with others who are contaminated. Terrorists could use a dirty bomb to fuel public fear and destabilize services. A dirty bomb can create panic and deep psychological damage, without causing much physical destruction.

Bioterrorist Attack: Low Likelihood, Great Impact

A critical question on the minds of all law enforcement professionals is, "How likely is a bioterrorist attack?" There is, of course, no way to predict with certainty the likelihood of a bioterrorist attack or any other type of terrorist action. However, the intelligence community has assessed the relative likelihood and impact of various terrorist threats.

Most Likely

- 
- Explosives
 - Toxic Industrial Chemicals
 - Radiological Dispersal Devices
 - Biological Agents/Weapons
 - Nuclear Weapons

Least Likely

Fig. 1 Terrorist Threats

As depicted in Figure 1, some experts believe that the most likely near-term terrorist events are those involving explosives, followed by events involving toxic industrial chemicals.⁷ The likelihood that terrorists will use radiological dispersal devices and biological agents or weapons is

⁵ The CDC defines botulism as a "rare but serious paralytic illness caused by a nerve toxin that is produced by the bacterium *Clostridium botulinum*." More information on botulism can be found at www.cdc.gov.

⁶ For more information on other agents, see the CDC's Emergency Preparedness and Response website at www.bt.cdc.gov.

⁷ The figures in this section are based on Jerome M. Hauer's assessment of the intelligence.

in the middle of the range. Nuclear weapons are the least likely type of terrorist event. Yet, the impact of these various events on the public is nearly the reverse, with biological agents having the greatest impact, followed by nuclear devices, toxic chemical release, radiological dispersal devices and explosives (see Figure 2).



This combination—a mid-range possibility of occurrence with the greatest potential impact—makes planning for biological weapons an essential effort. Following the release of a biological agent, the demands placed on law enforcement agencies may be overwhelming.

Presentation of Biological Agents

Terrorists could leverage or present biological agents in at least four ways:⁸

- through a credible threat;
- through delivery of a letter or package;

- through clandestine (covert) release in a building, subway, or outside environment; or
- through a purposefully public (overt) release.

A credible threat can be a communication made to law enforcement, another government authority, or the media that is a convincing declaration or evidence of a potential or actual attack.⁹ The second possible scenario is the release of an agent when a letter or package is opened. With this kind of dispersal mechanism, the presence of a biological agent might be immediately apparent to those affected, particularly given public awareness about powdered substances after the experiences with mailed anthrax letters in fall 2001 or the more recent detection of ricin in a congressional mailroom. In contrast, a clandestine release could take days to detect. For example, the release of anthrax in a ventilation system of a building or subway might not be detected until those exposed became symptomatic (1–4 days). In a purposefully public release (of liquid anthrax, for example) detection would likely be almost immediate.

The presentation mechanism used will often determine the law enforcement response, as will such other factors as the type or amount of an agent. For example, a letter or package containing a suspicious powder may be treated like any hazardous material and require a "lights and sirens response" from law enforcement. In contrast, a clandestine release of a communicable agent will first be a major public health emergency. The

⁸ There are other possible scenarios not covered by this list, including the combination of a physical attack with a cyber attack that would facilitate or enhance the impact of the biological attack.

⁹ The information in this section is based on Jerome M. Hauer's presentation at PERF's Executive Session in Los Angeles in July 2003.

attack would be detected when non-traditional first responders such as emergency room physicians, EMTs, or family practitioners recognize something out of the ordinary in their patients and report it to the local health department. Law enforcement will be notified by public health authorities rather than through traditional 911 calls. Consequently, it may be days or even weeks before law enforcement becomes aware that a bioterrorist event has occurred. The original site of the attack may be difficult, if not impossible, for law enforcement investigators to determine.

The type of biological agent used also determines the window of opportunity during which properly prepared public health, law enforcement, and fire agencies can save the most lives. In a chemical attack, that window is minutes; in a bioterrorist attack it can be days. While this may seem like an advantage in bioterrorism response planning, there are numerous issues that require careful attention and pre-incident preparation to minimize the spread and severity of illness and loss of life.

Critical Issues in Bioterrorism Response

There are five critical issues involved in planning for and responding to a bioterrorism event. These are

- detecting the event,
- notifying the proper authorities,
- intervening (in coordination with fire, EMS, and public health responses),
- managing the surge of demands placed on health care and other systems, and
- maintaining effective communication with all agencies involved as well as with the public.

These issues are reviewed briefly below to provide the reader with a concise overview of the areas in which planning must occur. Each of these issues is dealt with in more detail in Chapters 4 and 5.

Detection

The first challenge in any bioterrorist attack will be to detect its occurrence and assess the scope and severity of the incident. Because the key to effective responses and minimal community impact will be early detection—particularly for biological agents that cause communicable diseases—public health and law enforcement must collaborate to develop effective recognition strategies.

If a bioterrorist attack involves a clandestine release, primary care providers (family practitioners, emergency room doctors and nurses, and nurse practitioners) or the public health system will likely be the first to detect it. Consequently, as part of a community's preparedness, health care providers in clinical settings must be trained to recognize and communicate unusual happenings. Their ability to identify a pattern of illness or symptoms early on, and to convey their information and concerns to the public health department and law enforcement will be crucial.

To assist in identifying the "unusual," the public health community has designed several passive mechanisms to detect bioterrorist events. For example, several surveillance systems are in place across the country to track early indicators of a bioterrorist attack such as a spike in the sale of certain medications (e.g., over-the-counter diarrhea treatments) in a community, dramatic increases in calls to emergency medical services (EMS), or visits to emergency rooms. The BioWatch initiative

(of the Department of Homeland Security) consists of a network of air sample collectors, which is in place in many cities to detect airborne particles of certain biological agents. Because the detectors are spread widely apart, this system will only work if a city experiences a very large release or what is called a "line source," in which an aircraft or vehicle sprays a long line of material as it travels. In addition, the system could miss some subway releases because the detectors are not yet installed in all stations below ground. At this writing, the Washington, D.C., Metropolitan Area Transit Authority has been among those testing and using a subway detector system.

As first responders to the scene of a site or package release police officers, fire fighters, and EMS workers will need to be able to detect a potentially harmful substance.¹⁰ While some agencies use hand-held assays to accomplish this task, these devices are not reliable because they can give false positive (or even false negative) results. Accordingly, the federal government recommends that first responders not rely on these devices.¹¹ Line-level first responders must therefore be trained to recognize indicators of a bioterrorist attack and treat a letter or package as they would any unknown, potentially hazardous material. A sample should then be sent to a predesignated laboratory to test for the presence of a harmful biological agent.

Notification

Once someone suspects or detects that a bioterror-

ist event has occurred, timely notification of other government authorities is critical. Some health care providers may not know whom to call or may be reluctant to voice suspicions they fear could be premature. This can have significant consequences for the public health. For example, in an episode involving a monkey pox outbreak, the local health care practitioner did not call the CDC immediately because of inadequate training. If this agent had been smallpox, the disease could have spread to many more victims during the window of opportunity this provider missed.

Once local medical professionals (including those at public health laboratories responsible for identifying unknown substances) have found something unusual, they must immediately communicate their suspicions to their local public health department and the CDC. Local law enforcement should be notified as well. If the medical community is not already working closely with the police and public health departments, efforts to communicate during a crisis may be problematic, thus raising the threat to public health. (For information on notification to the public see the Communication section on page 49.)

Intervention

Responding to a bioterrorist attack will involve two immediate efforts: First, the public health and medical system will focus on controlling the spread and severity of the disease and treating those who are ill. Second, law enforcement will

¹⁰ See, the document published by the International Association of Fire Chiefs 2004 for an example of model procedures for responding to a package that may pose a biological threat.

¹¹ At the time of this writing, this information was obtained from the webcast transcript "Anthrax: What Every Clinician Should Know, Part 2," November 1, 2001. This document could be found at the following website: www.bt.cdc.gov/agent/anthrax/webcast/110101/anthrax-webcast-transcript110101.doc.

concentrate on criminal investigation, offender apprehension, and public safety issues. In a bioterrorist attack, trained public health investigators will need to interview patients to determine the origin of the disease at the same time law enforcement officers must interview them to investigate the crime. Before an incident occurs, communities must develop a process by which these agencies can conduct joint interviews. In several communities, including New York City, investigators have worked for a number of years to develop a process to conduct joint epidemiological and law enforcement investigations.¹² To this end, agency leaders must establish protocols to enable law enforcement and public health investigators to do their jobs and to effectively share information. These protocols must both safeguard the privacy of health information and maintain the confidentiality of sensitive case investigation information.¹³

Public health intervention strategies designed to limit the spread of the disease are two-pronged—they involve isolating sick victims and quarantining those individuals who have come in contact with victims. Experience has shown that the quarantine process works best if it is achieved voluntarily. Many logistical, ethical, and legal questions arise when imposing quarantine. Who has the authority to order quarantine? How does a community control even a voluntary quarantine of

a large area? What level of law enforcement should be used to ensure compliance with an imposed quarantine? That is, what will law enforcement do with people who refuse to be quarantined? Should they be incarcerated? Should police use force? If so, what level of force? What are the criteria for who should be quarantined and how will their needs be met? Law enforcement chief executives and other government leaders must look at a range of options for quarantine, and concentrate on those that minimize law enforcement's use of force while encouraging public involvement.

In the event of a bioterrorist attack, the federal government may recommend that individuals in the area stay home or inside as they would for a snow day, a strategy known as "sheltering in place."¹⁴ It is only after community leaders successfully restrict the movement of large numbers of people that they can reduce the spread of the disease. The key to this strategy will be the integral involvement of community members and the efficient coordination between public health and police.

Past experience with such public health crises as Severe Acute Respiratory Syndrome (SARS) demonstrates that if a community must decide to isolate and quarantine its citizens to reduce the spread of a deadly disease, the governing authority will first turn to the law enforcement chief executives and public health officials for help.

¹² See "Criminal and Epidemiological Investigation Report." U.S. Army Soldier and Biological Chemical Command (SBC-COM). Proceedings, 2000 NDPO/DoD Criminal and Epidemiological Investigation Workshop. January 19-21, 2000 for more information on joint investigations.

¹³ See www.hhs.gov/ocr/hipaa/ for more information on the Health Insurance Portability and Accountability Act (HIPPA) privacy regulations that regulate sharing of medical information.

¹⁴ For more advice on sheltering-in-place preparation, see www.ready.gov. For additional information on quarantine and police powers, see Richards et al., forthcoming.

Consequently, joint advance planning in this area is essential.

Health Care Surge Management

In any significant bioterrorism event, there will be an enormous demand placed on the health care system. Accordingly, the ability of a community to effectively treat and isolate people in a bioterrorist attack will depend on that community's "health care surge capacity." This capacity is expressed as the number of hospital beds, trained medical professionals, and medical equipment it will take to achieve this intervention. In large communities, it may involve converting armories, churches, and community centers into clinics.

A stumbling block to meeting demands for health care may be a paucity of local equipment stocks needed to treat large numbers of seriously ill people. Jurisdictions need to be informed about where they can draw additional apparatuses. The Department of Health and Human Services has large stockpiles of antibiotics and vaccines as well as medical equipment, such as ventilators, that they can transport to anywhere in the nation within 6 to 12 hours. Ventilators are particularly critical for treating certain biological agents (such as botulism and anthrax), but even federal sources may not be able to provide equipment for every jurisdiction in need. Planners in New York City, for example, have worked with supply vendors to supplement existing equipment by ensuring access to warehoused supplies.

Another critical concern for planners is how to provide adequate staffing for treatment. In the recent experience with SARS (for which there is no vaccine at this writing), a significant portion of the health care providers who were exposed

became ill. Given the risks to providers that will likely result from exposure to biological agents, there is a real concern about identifying and retaining the medical personnel necessary to carry out treatment and isolation. Concurrently, potentially overwhelming demands may be placed on law enforcement and EMS workers to provide security and support, such as monitoring clinics and transporting ill people to health care settings.

Community leaders must address these critical staffing issues. Every effort should be made to protect first responders and health care professionals, including providing appropriate equipment and planning for their treatment if exposure leads to illness. Also, if police officers and health care workers are concerned about their loved ones, they may not come to work until they take measures to protect them. Therefore, plans should include treatment strategies for first responders as well as their families.

Communication

Multi-pronged communication strategies for the hours and days immediately following a bioterrorist attack must be developed. Communication plans should include protocols for communications among service providers—including law enforcement, fire, EMS, and public health entities. These plans must address terminology issues, equipment interoperability, the need for redundant systems, and dispatch protocols. Communication strategies must also focus on notifying the public of the attack and treatment options. For instance, plans must address who will be the primary communicator and how that person will calm the community and release information about preventive care such as accessing antibiotics or vaccinations.

The Law Enforcement Role in Responding to Bioterrorism

Myriad important functions are involved in each of the five critical issue areas just discussed. Although law enforcement agencies do not directly provide all of these functions, among their many roles will be to support the public health response, to transport those in need to health care services, and to contribute to a coherent communication strategy. In addition, police must engage in such efforts as calming the community, preventing riots or violence around health care facilities, identifying and preserving the crime scene, conducting a criminal investigation, and responding to calls for service.

CHAPTER THREE

LAW ENFORCEMENT PREPAREDNESS

EXECUTIVE SESSION PARTICIPANTS WHO HAVE DEVELOPED DETAILED BIOTERRORISM response plans provided recommendations for how state and local law enforcement agencies can enhance bioterrorism preparedness in the five critical areas described in Chapter 2—detection, notification, intervention, health care surge management, and communications. These participants also stressed the importance of three overarching issues that must be considered in preparing for these critical areas: funding and resources, training, and intelligence.¹⁵

The importance of focusing on readiness is reflected in the recent findings from a GAO study of state and local jurisdiction bioterrorism preparedness and response planning (GAO 2003). The GAO staff visited seven cities and their associated state governments in 2001 and 2002 to assess their preparedness in three areas: health care infrastructure capacity (hospital isolation facilities, respirators, laboratories); workforce adequacy (in health care and essential emergency response services such as police and fire); and degree of coordination, cooperation and communication among various responders to ensure a comprehensive approach to bioterrorism. These responders include public health professionals, hospital workers and police, fire, and EMS personnel.

The GAO findings indicate a range of pre-

paredness, with the best preparations found in jurisdictions with prior experience responding to either natural disasters, such as earthquakes, or major public events, such as political conventions or protests. The GAO researchers noted a lack of coordination between different regions—both across state lines and national borders. The researchers cited the need for guidelines about what constitutes an adequate response plan. In addition, representatives from the study sites pointed out the need for shared best practices, derived from the experiences of jurisdictions with more expertise in bioterrorism planning and response. GAO analysis reinforces the importance of a standardized national incident management system (NIMS) and emphasizes the need for realistic drills and exercises that provide experience

¹⁵ The discussion of intelligence gathering and how to determine a credible threat is touched on only briefly in this white paper. Intelligence and information sharing is the focus of the subsequent white paper from Executive Session 4.

prior to a major public event or natural disaster.¹⁶

The following discussion presents the recommendations of executive session participants on funding and resources, training, and intelligence—as each of these issues is critical to bioterrorism preparedness.

Funding and Resource Issues

Executive session participants with significant expertise in planning for and responding to bioterrorism assert that law enforcement executives may not be fully prepared for the enormous demands that will be placed on their agency's resources during a bioterrorism incident, or the consequent impact on department budgets. In addition to incident management and investigation, law enforcement duties will include providing security at health care sites, keeping or restoring order, and assisting quarantine efforts. The budget shortfalls that result from planning and conducting these efforts could have serious consequences for routine law enforcement operations. Session participants stressed that local and state governments, as well as the federal government, must identify funding to augment already strained budgets and assess existing resources.

Identifying Funds

The limitation of resources—and the need to share and coordinate resources across regions—prompted session participants to question how the federal government should distribute antiterrorism funding. They suggested that federal agencies should consider requiring regional or statewide

cooperation to be eligible for federal grants. Further, participants noted that while direct funding to large cities may make sense for a variety of reasons, consideration must also be given to smaller cities and towns to access needed funds. While large cities may be at higher risk, session participants cautioned that much of America is rural and those areas need to prepare for a potential bioterrorism incident.¹⁷

The choice of whether to fund large or small communities (or both) is only one of many funding concerns. Some session participants were troubled that while federal funding has gone mostly to law enforcement and fire departments, hospitals need sufficient resources to become involved in advance planning and to be better prepared to respond to a bioterrorism incident (Waeckerle 2000). Session participants stressed that hospitals also need specialized equipment, supplies, and increased staffing.

Waeckerle (2000) also noted that hospitals will need the federal government to provide protection from liability should their staff become contaminated, or unable to treat patients for other reasons related to a bioterrorism attack. The cities examined in the GAO report (2003) had similar concerns about funding streams and how funds would be shared among different response agencies (e.g., hospitals and government agencies).

Assessing Resources

In order to request appropriate funding, agencies should develop bioterrorism response plans and

¹⁶ At the time of this writing, more information on National Incident Management System (NIMS) can be found at www.fema.gov/preparedness/nims/nims.shtm.

¹⁷ Charlotte-Mecklenberg is an example of a well-known police-public health partnership that could be applied to smaller jurisdictions.

then assemble the necessary human and technological assets to implement these plans. These should include command and oversight capacity to manage them. As a critical first step in bioterrorism preparedness, therefore, session participants urged law enforcement agencies to assess their existing resources, in terms of both staffing and equipment.

A recommended mechanism for assessing such resources is a "gap analysis," which involves inventorying staffing and equipment capabilities from a wide variety of disciplines (e.g., the fire department) to identify redundancies and shortfalls. For example, many communities in the United States rely solely on volunteer fire departments for emergency response. Unfortunately, these departments do not typically have sufficient resources should they need to respond to a large bioterrorism event. In California, state planners addressed this gap by combining the volunteer fire department resources across several regions to enhance emergency response. A gap analysis can also be used to assess equipment needs and develop plans to purchase, maintain, and replace equipment. This assessment must be comprehensive and should be regional or even statewide.

Training Issues

Law enforcement training serves a variety of purposes—to enhance detection of a bioterrorism event, to reduce exposure to the agent, to ensure smooth coordination of on-scene hazardous materials responses, and to promote effective investigation and management of a contagious organism. Session participants stressed that all first respon-

ders at all levels must be trained initially and then given frequent in-service training.

In particular, session participants emphasized that to maintain first responder readiness, agencies must offer frequent and consistent training on precautions to reduce exposure. This training should cover signs and symptoms of contamination by a potential bioterrorism agent and critical immediate response procedures. Detection will be enhanced if officers are informed about possible indicators of bioterrorism. In addition, labor unions and police executives have expressed concerns about officers' safety and protecting their health. One session participant, for instance, recommended that agencies provide 8 to 16 hours of hazardous materials training for all recruits and in-service personnel.

Law enforcement, public health, and other first responders should educate the community and private sector agencies/entities, especially private security, on the critical issues in responding to a potential biohazard. Private security is crucial to assisting law enforcement with identifying and locating terrorists or disrupting terrorist attacks, and is the primary guardian of many critical infrastructures or dangerous materials. Community members and private security forces are also critical information sources essential to counterterrorism efforts. They can help act as the "eyes and ears" of a comprehensive intelligence-gathering strategy, but only if they know what to look for. The private sector agencies/companies, especially private security, should be included in training on protecting critical infrastructure from biological attacks, such as vulner-

ability assessments, strategic planning efforts, and exercises.¹⁸

Types of Training for Emergency Incidents

Numerous emergency services providers will converge at the scene of a suspected bioterrorism incident. Session participants suggested conducting multi-agency training so that clear strategies engage all agencies across government. They also encouraged authorities to develop communication and command plans related to incident management systems. This training should include specialists and all personnel involved in on-scene responses for a particular jurisdiction.

Executive session participants identified a range of training techniques to achieve their goals effectively and efficiently. These included tabletop exercises, field drills, classroom training, and computer simulations. For example, a growing number of communities are conducting field drills that involve officers, hospitals, private security, and community members who enact possible scenarios. These types of experiential learning methods are needed, in addition to standard classroom training, to help prepare first responders and to identify vulnerabilities and flaws in plans.

A tabletop drill can be a valuable learning experience. For example, the tabletop drills in Chicago, Illinois and Seattle, Washington conducted in the spring of 2003 helped assess critical agency communication capabilities and problems as well as information deficits (Shenon 2003). The need for determining those outcomes is the very

reason executive session participants support continued drills. They recognize, however, that these drills can be costly and are therefore not an option for all agencies or communities. For jurisdictions, after-action reports that identify lessons learned in completed drills can be quite valuable.

In fall 2003, PERF staff conducted site visits with individuals from cities that were represented at the executive session. Personnel provided the project team with more detailed information about their field training drills. In the Washington, D.C. area, for instance, first responder preparedness was tested with a field experiment involving an unknown substance in a warehouse. In this "red envelope" drill, a dispatch call went out to all patrol officers. Washington Metropolitan Police Chief Charles Ramsey handed a note to the first patrol unit that responded indicating that a drill was being conducted. The note described the signs and symptoms that had been observed—consistent with the release of a chemical substance—during a basketball game. (This same drill can be used for a biological attack. There would not necessarily be symptoms, but there could be signs of a substance (e.g., white powder) that would alert patrol officers of a potential agent.) If the first responders reacted in a way that would, in a real incident, have caused them serious harm or death, the police chief handed them a red card that read: "you're dead." If this situation actually had involved a deadly chemical, the first three patrol officers and two supervisors would have died as a result of their failure to follow protocol, despite the information they were

¹⁸ For more information on law enforcement partnerships with private security see IACP and COPS Office *National Policy Summit, Building Private Security/Public Law Enforcement Partnerships to Prevent and Respond to Terrorism and Public Disorder: Vital Issues and Policy Recommendations* (2004).

provided and the personal protective equipment (PPE) available in the trunk of all patrol cars.

This drill demonstrated—not just to the department commanders, but also to front-line officers—the need for more training on response protocols for a chemical or biological attack. The fact that the chief was on the scene, handing out the drill instructions, ensured that information about the drill would be carried throughout the agency. As a result of the drill, all patrol officers in the Washington, D.C. Metropolitan Police Department (MPD) at the time of this writing, are receiving 16 hours of terrorist response training, including the proper use of PPE and decision making for addressing chemical and biological agents and scenarios. In September 2003 a joint exercise was conducted in New York with the NYPD, the New York City Office of the Chief Medical Examiner, the New York City Department of Environmental Protection, the FBI, and New York City Department of Health. This exercise demonstrated the necessity for strong partnerships across disciplines before an event occurs.

The CDC has developed a basic classroom training course, "Forensic Epidemiology: Joint Training for Law Enforcement and Public Health Officials on Investigative Responses to Bioterrorism," which draws on the *Criminal and Epidemiological Investigation Handbook*. This course brings together public health and law enforcement officials from the same region to meet each other, learn what each agency would do in a bioterrorism investigation, and train collaboratively. To be effective, a significant number of front-line

police and public health personnel must attend the course to ensure all first responders from each agency are trained and able to work well together after this opportunity. The CDC course uses three scenarios based on actual incidents. Promoting a common language and knowledge base is at the core of the training. (A sidebar on page 21 provides more information on this training.)

Agent-specific simulation models prepared by social scientists using computer software programs also can provide jurisdictions with insight into how different response systems (public health, law enforcement, and EMS) work, or don't work, as they interact with each other.¹⁹ The benefit of these models is their ability to test the impact of a variety of assumptions about the response of each system and then evaluate the outcome. These assumptions can be based on a variety of information sources, including how various agencies in this area or other communities have responded to actual crises, such as natural (e.g., earthquakes and floods) or manmade disasters (hazardous material spills). The major benefits of testing assumptions through simulations are the lack of disruption to ongoing operations and lower costs.

Training for Contagious Organisms

In the hours and days after a community has detected the release of a contagious biological agent, law enforcement officers will be placed squarely at the intersection of concerned, frightened, or potentially ill citizens and the government efforts designed to assist them. Law enforcement has been and will continue to be the "face of gov-

¹⁹ The National Institute of Standards and Technology (NIST), Technology Administration, U.S. Department of Commerce, hosted two workshops on "Modeling & Simulation for Emergency Response" on March 4-6, 2003 and March 2-3, 2004. The summary report of the presentations and breakout working sessions as well as a list of standards and tools relevant to modeling and simulation for emergency response are available at www.nist.gov/simresponse.

ernment" for communities all across this country. It will be critical for the success of government plans to contain an outbreak that law enforcement officers remain calm and be well informed about the contagion, the health risks and benefits of vaccination, and available medical treatments. Law enforcement officers will need this information for two reasons: to pass it along to concerned citizens, and to reassure themselves, their coworkers, and their families that they can continue to work safely.

Given the significance of law enforcement roles in the event of an outbreak—including responding to calls for service, maintaining order and assisting with vaccination—personnel must be educated about contagious organisms. This education should include information about biological agents, their disease spread and manifestations, available vaccines and treatments, and the risks and benefits of those treatments. Law enforcement officers will also need to know how to interact safely with people who are potentially contagious. Session participants encouraged health department officials to be involved in first responder education (to include police, fire, EMS, and health care providers) about physical protection and mental health concerns. In addition, private security should be educated on contagious organisms and trained in the proper response protocols.

Participants recommended that agencies conduct this education in such a way as not to cause unnecessary anxiety. The law enforcement agency should reach out to other police chiefs and sheriffs in its region to design training. Agencies should also consider including medical ethicists, physicians, public health professionals, and scien-

tists expert in contagious diseases to develop staff training.

A community must also develop and conduct joint exercises that test local capabilities in carrying out quarantine and isolation plans. Session participants noted the value of conducting large tabletop and operational exercises focusing on quarantine and isolation issues that address both local and regional response plans.

In New York City, members of the police department and the FBI have conducted joint training to evaluate their involvement in effectively administering prophylactic anthrax treatments (such as antibiotics) or vaccines and conducting interviews to obtain information about the site of exposure (Rashbaum and Miller 2004). The New York City Department of Health and Mental Hygiene (DOHMH) administers preventative treatments, whereas the NYPD and FBI are responsible for conducting the criminal investigation.

During the anthrax event that affected NBC television in New York City, the NYPD and FBI interviewed every individual who was given a screening questionnaire by the DOHMH prior to obtaining medical treatment. The NYPD learned from that experience that it was not necessary to do an in-depth interview on everyone who was screened. In the future, the NYPD is considering using the health screening questionnaire to decide whom to interview. But, this procedure will only be feasible if a small number of individuals need to be screened. If the DOHMH must administer treatment or vaccines to a large segment of the population, it would be virtually impossible to interview everyone.

**FORENSIC EPIDEMIOLOGY:
JOINT TRAINING FOR LAW ENFORCEMENT AND PUBLIC HEALTH
OFFICIALS ON INVESTIGATIVE RESPONSES TO BIOTERRORISM**

***by Richard A. Goodman, Co-Director, Public Health Law Program,
Centers for Disease Control and Prevention***

Since at least the mid-1970s, public health and law enforcement officials have conducted joint or parallel investigations of health problems possibly associated with criminal intent, or of crimes having particular health dimensions. However, the anthrax and other terrorist attacks of fall 2001 have dramatically underscored the needs that public health, law enforcement, and other public safety officials have for a clearer understanding of the goals and methods each discipline uses in investigating such problems. To foster improved understanding of the investigative goals and methods specific to each discipline, and to strengthen interdisciplinary collaborative effectiveness in response to future attacks involving biological and chemical agents, the Centers for Disease Control and Prevention (CDC), in partnership with other agencies, undertook development of a "Forensic Epidemiology" course for the joint training of law enforcement and public health officials.

A primary goal of the Forensic Epidemiology training course is to enhance the combined effectiveness of law enforcement and public health when both disciplines conduct concurrent criminal and epidemiological investigations, respectively, in response to a threat or attack involving possible biological or chemical agents. The course objectives cover key topics in the basic areas of (1) criminal and epidemiological investigative methods; (2) operations and procedures; and (3) communication. These three areas, in turn, encompass a spectrum of specific operational and legal issues.

The course addresses its primary goal and objectives by bringing together equal numbers of law enforcement and public health officials who sit side-by-side for one-and-a-half-days to interact directly while working through three fact-based scenarios involving threats and attacks with potential biological agents. As preparation for working through three scenarios, all participants in forensic epidemiology training are given background information on each professional discipline's approaches to investigative responses. The domains essential to working through the scenarios are principles of public health and epidemiology (geared to the law enforcement and public safety participants), principles of law enforcement and criminal investigations (geared to the public health participants), the roles of the public health and crime laboratories, and coordination of joint investigations from the federal perspective of the FBI.

The fact-based case scenarios used for this training are based on real events to ensure that the operational and legal issues that surface during the training are grounded in reality. In addition, the scenarios were selected because they represent a range of categories of bioterrorism- and chemical-related threats and problems likely to confront law enforcement and public health officials. The specific incidents are (1) an overt (announced) scenario—the receipt of a "white powder" letter; (2) a covert/overt scenario—the initial recognition in Florida of the anthrax attacks of October 2001 in which the problem first presented as one of possible naturally-occurring origin, but soon thereafter was recognized as

having intentional and criminal origins; and (3) a covert scenario—the 1984 outbreak of *Salmonella Typhimurium* gastroenteritis, which presented and was investigated as a naturally occurring outbreak, but for which criminal intention was suspected only at a later stage in the investigation.

In addition to the course's defined objectives, this training approach enables participants to consider a host of related legal and operational questions. Foremost is the issue of defining and clarifying the implications of the laws of entry into premises and workplaces during concurrent public health and criminal investigations. Another example relates to the now lowered threshold for considering the causal contribution of deliberate criminal behavior to the origin of a public health problem and related implications for the "covert/overt" scenario—that is, an event initially considered to be naturally occurring (or at least of deliberate but non-criminal origin), but which subsequently is re-classified as having potential criminal origins. Under these circumstances, critical questions that arise include, At what point during an investigation would roles shift in terms of which discipline is in the lead?, What are the implications of a shift in lead?, and What are the specific relevant constitutional, statutory, and other laws that apply to the problem?

The Forensic Epidemiology course was designed by CDC to stand as a self-contained instructional template for use in any U.S. jurisdiction. The course initially was implemented in November 2002 in North Carolina, where planning and cosponsorship involved a model partnership of state and federal law enforcement and public health organizations, including the state health department, the state bureau of investigation, the state's field office of the FBI, a U.S. Attorney's office, and a school of public health. Participants represented the cosponsoring organizations, as well as local and state law enforcement, public health, other governmental and professional organizations, and the judiciary. The course was further piloted in other jurisdictions before being released for use nationally at a U.S. Department of Justice-sponsored meeting in spring 2003. Additional information regarding the availability and implementation of this training resource is available at www.phppo.cdc.gov/od/phlp.

Intelligence Issues and Bioterrorism

Many executive session participants believed that a central law enforcement task in bioterrorism preparedness is to collect information and translate it into useful intelligence—intelligence that would permit authorities to intervene before biological agents could be released. Prevention of bioterrorism events arguably includes gathering information, analyzing it to identify threats, and sharing information with relevant partners. Unfortunately, participants see a lack of actionable intelligence that can be used both to prevent bio-

logical attacks and focus limited resources for preparedness efforts. So the question remains, how can law enforcement develop such intelligence? The remainder of this chapter provides a brief overview of tasks involved in generating intelligence on bioterrorism. A detailed examination of intelligence to prevent all types of terrorist attacks is the focus of a forthcoming white paper on the fourth executive session in this series.

Information Gathering

To enhance the overall intelligence capabilities needed to combat terrorism in the United States,

local law enforcement agencies must make the most of information that officers can garner from members of the community. Agencies should reevaluate their intelligence-gathering techniques, and community reaction to those techniques, particularly among diverse communities.²⁰

Law enforcement agencies should pay particular attention to developing intelligence-gathering techniques for line-level officers, as they constitute the single largest resource at the street level for collecting this information. Session participants called for further discussion, however, about what officers should be looking for. Agencies can also actively encourage community members to provide information. This can be achieved through public education campaigns (or other techniques that solicit public input) that convey the need for various types of information and what protections would be offered to community members who come forward.

Intelligence Sharing

Efficient and effective information gathering and analysis is dependant on agencies working together. Once state and local law enforcement agencies enhance their efforts, they must work to share raw information and any resulting intelligence. Because information comes from a variety of sources and may come from many different agencies (fire, police, public health), it is imperative that agencies be able to quickly and effectively

share information and analyses with others. Several participants at the executive session expressed concern about timely information sharing among agencies. Of concern was how bioterrorism information would be shared across functional responsibilities and disciplines (e.g., law enforcement, fire, and health); across local jurisdictions; and among local, state, and federal levels of government.

Session participants also cautioned against information sharing related to bioterrorism that would lead to additional "stove-piping" of intelligence systems that are already poorly integrated. Session participants suggested building on existing intelligence systems (e.g., those designed to deal with illegal drugs), which would produce a single, seamless intelligence system useful for a wide range of threats (e.g., gangs, international terrorists, and others). The Los Angeles City/County Community Law Enforcement and Recovery (CLEAR) Program uses some of these systems now.²¹

To address some of these concerns, the Terrorist Threat Integration Center (TTIC) was created, which is meant to be a resource for identifying terrorism threats and sharing intelligence.²² The TTIC fuses information and the analytic capabilities of different government organizations. It enables full integration of U.S. Government terrorist threat-related information and analysis and is structured to ensure rapid and

²⁰ More information on the impact of intelligence gathering on diverse communities can be found in the white paper resulting from the second executive session. It can be downloaded for free at www.policeforum.org.

²¹ At the time of this writing, more information on CLEAR can be found online at www.lapdonline.org/general_information/dept_pub_program/clear.htm.

²² For information regarding TTIC, visit the CIA website at www.cia.gov or DHS website at www.dhs.gov.

unfettered sharing of relevant information across departmental lines. TTIC collects intelligence from the Department of Homeland Security, the FBI's Counterterrorism Division, the CIA's Counterterrorist Center, the Department of Defense, and other federal agencies. It then provides threat analyses to state and local law enforcement through the Joint Terrorism Task Forces (JTTFs).

Intelligence Analysis and Threat Assessment

Executive session participants commented on local law enforcement's challenge to be considered a "full partner" in the intelligence arena. They agreed that local law enforcement agencies presently have little intelligence analysis capability and stressed the need

to improve or access that capacity. They also noted that obtaining an accurate threat assessment for bioterrorism is difficult because of limited information about how terrorists and their network might obtain, store, transport, and release biological agents in the United States.

Session participants expressed the need for a better mechanism to determine if a threat is credible and when information should be released to local first responders. Typically, a federal entity identifies a threat and then local law enforcement is called on to protect targets. Local law enforcement wants a process that gives it a greater voice in decision making and information sharing—beyond that provided by the JTTFs.

VALUABLE PARTNERS ADDRESS THE THREAT

***by Assistant Director Ronald L. Iden, Federal Bureau of Investigation,
Los Angeles Field Office²³***

Los Angeles-area law enforcement, fire, safety, and health service agencies have for many years enjoyed a strong and productive working relationship in preparing for the threat of terrorism in general, and bioterrorism in particular. The FBI has been a full partner in those crucial preparedness efforts. We have found over the course of time that each agency brings unique knowledge and capabilities to bear, which are critical in dealing with that threat. In the Los Angeles area, three valuable partnerships address the threat of bioterrorism, the Joint Terrorism Task Force (JTTF), the Los Angeles County Terrorism Early Warning Group (TEWG), and the FBI's liaison with the UCLA Medical Center.

The Los Angeles JTTF, which is staffed by area federal, state, and local law enforcement and intelligence agencies, is one of the oldest in the nation, having been formed in 1984. The JTTF facilitates terrorism-related information sharing among member agencies. Worldwide intelligence pertaining to bioterrorism-related capabilities, attacks, arrests, and more is shared through the JTTF with all member agencies. Bioterrorism threats and incidents are jointly investigated by participating agencies.

²³ As this paper goes to print, Iden has accepted the position of Senior Vice President of Security for the Walt Disney Company.

Bioterrorism-related training, including tabletop and field training exercises, are conducted jointly as well. Operation Westwind, a bioterrorism field training exercise coordinated by the Los Angeles JTTF and TEWG, involved 2,000 participants.

The TEWG, which is composed of representatives from law enforcement, intelligence, fire, safety, and health service agencies, assesses and analyzes all terrorism-related information and develops protocols for response. It provides a forum that allows members the opportunity to fully discuss issues regarding preparedness and response, and to resolve any conflicts that arise in investigations and in the information-sharing process. Because the TEWG includes non-law enforcement members, information can be swiftly distributed to other agencies and businesses that have a need to know that information.

Another partnership that has been of great value to the FBI and the TEWG has been with the UCLA Medical Center. UCLA has provided training on bioterrorism issues to the FBI and other local agencies. That partnership and training has allowed the participating agencies to receive in-depth information regarding bioterrorism issues that would otherwise not be available to them. It also provides another opportunity for agencies to interact with each other and strengthen relationships that are critical to bioterrorism preparedness.

The most significant issue faced by the many agencies that have partnered in the bioterrorism effort has been the lack of understanding of one another's missions, capabilities, and resources. That barrier has been overcome in Los Angeles by the unwavering commitment of all agency participants to effectively address this significant issue through joint training exercises and through collaborative real-life responses to bioterrorism threats and suspected acts. Training opportunities and actual events are non-stop in a metropolitan area as large as Los Angeles—and every agency that has any role to play has been a vital partner in that essential collaboration.

The lesson that the FBI and all Los Angeles-area emergency and health agencies have learned in their many years of terrorism preparedness is that trust is essential to an effective working relationship, and that trust develops through commitment to full collaboration. By working with our local partners, we have learned how best to pool our resources and make the most effective use of our collective capabilities.

Summary

Bioterrorism preparedness planning involves careful consideration of the issues related to resources and funding, training, and intelligence. Many participants recognized that additional funds—as disbursed by local, state, and federal governments—are essential for adequate preparedness. These funds support resource acquisition as well as training of all staff, both initially and through frequent

in-service opportunities. Session participants also highlighted the critical need for training, using a range of techniques, to better prepare first responders for potential bioterrorism events and to safeguard their health. It is also imperative that public health, law enforcement, fire, and EMS agencies be able to quickly and effectively share information to enhance responses to bioterrorism.

CHAPTER FOUR

DETECTION AND NOTIFICATION OF BIOTERRORIST ATTACKS

DEPENDING ON THE NATURE OF A BIOLOGICAL AGENT AND ITS RELEASE mechanism, actions taken in the five critical areas—detection, notification, intervention, health care surge, and communication—may happen almost simultaneously and all are affected by issues related to resources, funding, training, and intelligence.²⁴ For clarity, however, these five steps will be addressed separately in the remainder of this white paper. To assist in bioterrorism planning efforts, this chapter details executive session participants' issues and concerns with the first two—detection and notification. Detection focuses on collaboration, scene management, and the assessment of substances. Notification relates to communication between local, state, and tribal law enforcement and federal agencies as well as notification strategies between health care providers and law enforcement.

Executive session participants noted repeatedly that because bioterrorism requires not only law enforcement, fire, and EMS responses, but public health and hospital responses as well, agencies must determine in advance the roles of all involved systems and actors. Overlapping and sometimes competing organizational missions need to be addressed. Session participants reinforced the need for interagency and interdisciplinary cooperation.

Another concern raised by participants at the session was the need for pre-event on-scene response protocols that would define agency roles and responsibilities and survive personality conflicts and turnover. Participants also noted that because there is no single model protocol for every jurisdiction, they encouraged agencies to allow for flexibility within protocols and to make room for needed revisions. For example, new infections may emerge that dictate changes to protocols.

²⁴ For example, in a package release of anthrax, when law enforcement contains the package and calls for health laboratory analysis, this represents detection, notification, and intervention all at the same time.

WORKING TOGETHER TO PROTECT PUBLIC HEALTH

by Assistant Chief Phil T. Pulaski and Medical Director Dani-Margot Zavasky, Counterterrorism Bureau, New York City Police Department

The NYPD and the NYC Department of Health and Mental Hygiene (DOHMH) have always shared the goal of protecting the public health. The two agencies, however, have different perspectives and paradigms to address common problems.

The 2001 anthrax terrorist attacks placed the NYPD, DOHMH and FBI Joint Terrorism Task Force investigators, doctors, and laboratory scientists in an unprecedented situation. This was a serious nationwide terrorist attack; in New York City we suffered one inhalation anthrax homicide victim and seven non-fatal cutaneous anthrax victims. Key personnel from each agency, working long hours under enormous stress during a dynamic and rapidly unfolding crisis, were able to conduct a joint investigation that addressed the needs of both law enforcement and public health. This was the result of an extraordinary effort not simply to learn each other's procedures and techniques, but also to understand them and respect the differences. It was only through mutual respect for each other's dissimilarities that misunderstandings were reconciled, conflicts avoided and, ultimately, an atmosphere was created in which law enforcement and public health personnel learned from one another. Consequently, the best methods and techniques used by both law enforcement and public health were applied to the task of attempting to solve these horrific crimes and prevent any additional individuals from being infected.

As the process of mutual understanding and respect progressed, exceptionally collegial professional relationships developed. Our DOHMH associates are no longer vaguely familiar names and phone numbers in a palm pilot with whom we are required to interact only after an emergency arises. Instead, they are well-known colleagues with whom we maintain frequent contact. We enjoy a rapport with our DOHMH partners and automatically keep each other informed of developing situations of mutual concern. Now when a crisis arises, we are not contacting virtual strangers. Instead, we are conferring with trusted partners with whom we have previously trained, planned, and worked to solve joint public health and law enforcement-related problems.

The benefits of this outstanding relationship have been invaluable and not limited to bioterrorism. Where, other than New York City, could the Assistant Commissioner for Communicable Diseases phone the Chief of Counter Terrorism at 11:00 A.M. on a Saturday morning asking for assistance and receive this kind of response: 30 minutes later, the Chief of Bronx Detectives assigned several teams of experienced NYPD detectives the task of locating an unidentified individual in the Bronx who unknowingly possessed several kittens that might have had rabies.

The investigation of the 2001 anthrax terrorist attacks created a very special relationship between the NYPD and the DOHMH. This relationship was further enhanced when the NYPD created the permanent full-time position of Counter Terrorism Medical Director and hired an experienced infectious disease physician. Today, executives, managers, supervisors, and staff from both agencies remain fully committed to ensuring that this extraordinary partnership continues to develop and grow even stronger.

Detection

Three important issues were raised at the executive session related to detection: collaborating to detect bioterrorism (issues related to working with hospitals and public health departments), managing the on-scene responses (concerns about incident command structure), and assessing potentially lethal substances (using appropriate personal protective devices and other technologies).

Collaborating to Detect Bioterrorism

Detection of bioterrorism will likely come either from the medical community or emergency first responders, such as law enforcement. If the conduit is the medical community, the key to detection will be effective surveillance mechanisms. Executive session participants highlighted the need for means to detect a significant increase in public health indicators that are symptomatic of high-risk biological agents (such as anthrax or smallpox). Because treatment for exposure to certain biological agents must be started quickly, day-to-day monitoring of indicators is essential.

A wide range of health care providers should be able to provide information that could alert authorities to potential bioterrorist attacks. These providers include nurses or doctors in hospitals or health care clinics, pharmacists, and emergency medical technicians. Information about the nature and extent of EMS responses for certain health conditions can be critical to identifying spikes in illness. In Los Angeles, for instance, EMS calls are reviewed daily to identify such spikes.

To facilitate information exchange among such a large number of health care providers, executive session participants stressed that data from these sources should be reported through electronic channels to a centralized health data-gathering

facility (e.g., local health department). Officials could then analyze any suspicious shifts in the pattern of relevant symptoms. When health care providers identify an illness that is outside the normal range, it is crucial that they report their suspicions to their local health department. The information should also be conveyed to law enforcement. Several executive session participants indicated that their partnerships with health care providers and the health department are only in their infancy.

If instead a law enforcement officer—or some other emergency first responder such as a fire fighter—recognizes that the incident is related to bioterrorism, his or her agency will need to initiate a close collaboration between the medical community, public health officials, and other emergency first responders. The need for effective interagency partnerships is apparent at the first point of detection. This type of collaboration is no longer unusual. Law enforcement agencies have formed partnerships with various members of their communities through ongoing community policing activities. They can easily build on those relationships to include the medical and public health communities. Close collaboration will enhance information sharing between these agencies and increase their ability to quickly detect possible bioterrorism.

There is an impressive array of people and resources to support first responders that must not be overlooked in planning bioterrorism responses, especially in detection. The executive session participants detailed experiences that demonstrated the abilities of multiple agencies to work closely together and to navigate the complexities of combined responses. Many jurisdictions have effectively integrated multi-agency responses by clearly articulating and documenting each agency's role in

PARTNERSHIPS BETWEEN POLICE AND PUBLIC HEALTH

***by Jonathan E. Fielding, Director of Public Health and Health Officer,
Los Angeles County Department of Health Services***

Not very long ago, law enforcement and public health inhabited very different and very distinct worlds. While the police were in pursuit of criminals, health staff were in pursuit of disease organisms. The separate worlds of criminals and contagion collided with the anthrax attacks of 2001. Suddenly, law enforcement officers needed to understand about infectious agents and what threats they might pose to their forces. And just as suddenly, public health staff needed to learn among other things about 911 response times and chain of evidence rules. We were thrust into a new partnership. While still in their early stages, many communities in the nation are starting to explore and learn the mutual advantages of such a partnership.

In Los Angeles, the health department is their full partner in the Terrorism Early Warning Group, in which law enforcement, fire, EMS, and health professionals convene to assess threats and plan coordinated responses. In many other areas, law enforcement's only exposure to health departments is through EMS, and we've heard what traditional first responders say about EMS: "We thought you *were* the health department!" Alongside EMS, public health in Los Angeles has worked to understand and respond to the needs of law enforcement in preparing for bioterrorism, emerging infectious diseases and other public health emergencies. As we understand them, our new partners' needs include rapid identification of biological agents to which they might have been exposed, determination of who has been exposed and who remains at risk, prompt and consistent guidance for proper protections from the agent, rapid treatment for or vaccination against the threat agent or quarantine, and follow up with all those who might have been exposed.

While these are all issues that public health has followed since its origins, new to public health are the time pressures for response under which law enforcement operates and chain-of-custody issues in handling specimens. Communications have sometimes been hindered by the different ways in which police and health personnel use the same terms, such as surveillance, suspect, and case. To address some of these barriers, Los Angeles sponsored a Forensics Epidemiology conference to present through a case study method the similarities and differences involved in criminal investigations and disease investigations. Involving all three levels of government in law enforcement and in health, more than one hundred participants learned the uniqueness and commonalities of each others' work. With understanding comes respect for the skills of professionals on each side; and from respect grows a willingness to trust the other—with information, contact data, and a new commitment to remain involved in future planning and problem solving.

To respond to law enforcement's needs, the Los Angeles Public Health Authority is also working to significantly enhance public health laboratories' ability for rapid disease identification. Also, communications improvements have been made by including law enforcement in our alert systems, and by exchanging emergency contact information. Public health is providing the Terrorism Early Warning Group with a public health professional to provide epidemiological data and analysis as well. Joint planning, exercises, and drills cement these connections. The new partnership between police and public health in Los Angeles continues to grow stronger, and all the residents of our county are the beneficiaries.

advance of a terrorist incident. These roles are detailed in written agreements among multiple jurisdictions within regions as part of their planning efforts. Agreements must be explicit and comprehensive. For example, at this writing, California has area-wide plans for disaster management and preparedness that specifies roles and decision-making authority for police, fire, public health, politicians, community members, and businesses.

The most critical partners for law enforcement in the medical community include public health laboratories, hospitals, and public health departments. Public health laboratories are responsible for screening samples of suspicious substances and determining their nature. As such, executive session participants recommend that personnel in these facilities nationwide receive training to increase their capacity to screen samples for law enforcement and identify their components (Chyba 1998). Members of the JTTF in New York City, for instance, help train public health laboratory personnel on the evidence chain of custody.

Executive session participants said it is vital that hospitals work closely with law enforcement as well. To strengthen that relationship, participants recommended inviting hospital CEOs and medical directors to meetings on identifying effective collaboration strategies. A solid relationship facilitates more active involvement in preparedness planning for bioterrorism. Participants also stressed the value of active partnerships with experts in the public health community, including epidemiologists and microbiologists who work in universities and hospitals around the country.

The public health department is another

critical partner in bioterrorism planning and response because it is charged with ensuring the welfare of the community, and has a staff of public health investigators (public health officers) who have unique authority to investigate infectious diseases and control their spread. Hospitals are required to report potentially infectious diseases they diagnose to the health department, which in turn is authorized to conduct contact tracing and even declare a quarantine if warranted (for more information on public health authority, consult Richards 2002 and Richards et al. forthcoming).

In Baltimore, Maryland, area hospitals and the public health department have been working with law enforcement to plan for bioterrorism, including participating in tabletop exercises and drills. The Maryland Hospital Association became engaged in these efforts from the start. The association's signature on the invitation letter for area hospitals facilitated hospital cooperation. One of the exercises relied heavily on the involvement of key staff at each hospital—including an infection control practitioner (ICP) and the security personnel. Lessons learned during this drill spawned training by hospital staff for law enforcement on types of and effective use of personal protective equipment and on contagion of infectious diseases.

Law enforcement agencies must be aware of the roles and responsibilities of hospitals' infection control practitioners. These practitioners, usually nurses, are responsible for notifying the department of public health if someone with an infectious disease is treated by their hospital. In addition, bioterrorism preparedness planners should be aware that many hospitals are accredited by the Joint Commission for the Accreditation

of Healthcare Organizations (JCAHO), which offers a "seal of approval that indicates a hospital meets high performance standards."²⁵ JCAHO added a standard for hospital emergency management in January 2002 that requires hospitals to be involved in community-wide emergency response drills and to work with other emergency response agencies.²⁶ In the case of bioterrorism responses, the collaboration should include local law enforcement.

Several executive session participants indicated that the role of private security in detection activities also requires greater discussion and consideration. Given that the ratio of public to private police is approximately one to three,²⁷ executive session participants stressed that private security has significant potential to detect a bioterrorist event. Law enforcement agencies should determine how to involve private security forces in planning and prevention efforts. According to participants, private security firms would welcome the collaboration with local law enforcement and resulting protocols on detection, notification, and response activities should they become aware of suspicious substances.

Managing On-Scene Responses

Executive session participants raised several questions regarding how best to manage on-scene responses. Jurisdictions represented at the executive session differed on which agency should respond first, the roles and responsibilities of each

responder, and how these multiple agencies should handle redundancies and gaps in services. Although some participants believed first responders will work well together on a bioterrorism crime scene, others felt on-scene roles and responsibilities need to be better defined, particularly when communication is compromised. Some participants even expressed considerable cynicism that multi-agency efforts could work in actual practice.

Roles of First Responders. In many jurisdictions represented at the executive session, a 911 call would initiate both a police and fire response. In some localities, medical expertise is then brought to the scene—in the form of emergency medical technicians and public health officials—to assist on potential bioterrorist scenes. Several executive session participants use teams of police, fire, ambulance, and public health personnel to respond to a scene. They stress that these teams must be regionalized—to address concerns about responding adequately both to large metropolitan areas as well as small towns—and member agencies must focus on having compatible rather than competing plans.

An important consideration in developing multi-agency response plans is to determine activities that first responders from each discipline should complete when they arrive, and then coordinate them. Executive session participants expressed conflicting views about which agency should have primary responsibility for activities at

²⁵ For more information on JCAHO, visit www.jcaho.org.

²⁶ For more information please see www.jcrinc.com/subscribers/perspectives.asp?durki=2914#ref3link.

²⁷ The following link provides statistics for public law enforcement/deputies and for private security officers: www.bls.gov/oes/2002/oes333051.htm and www.bls.gov/oes/2002/oes339032.htm.

the scene of a potential bioterrorist event. For some participants, hazmat calls are traditionally classified as an accident and are appropriately managed as such by the fire department. These participants see bioterrorism (such as a package release of anthrax or a dirty bomb) as a deliberate act requiring a law enforcement response. Because these situations represent crime scenes, they contend that law enforcement must "own" these scenes initially. Even though the ownership of the scene may change later, law enforcement has the primary role of investigating the crime. If one accepts that law enforcement should take the lead, there is still debate about how local and federal law enforcement should cooperate to handle the investigation. Some agencies believe the fire department should have control of the scene of a bioterrorist event instead of police precisely because of the fire fighters expertise in hazmat. These decisions should be made at the regional level among all stakeholders before an event occurs.

Most agencies represented at the executive session agreed that the fire department's role generally is to manage rescue operations, treat patients and provide hazmat management, whereas law enforcement's role is to investigate the crime, manage the crime scene, and safeguard evidence and witnesses. This separation of responsibility would likely be blurred at a large bioterrorist event that involves a crime scene. For example, additional hazmat support may be needed and could be supplied in some jurisdictions either by a FBI hazmat team or by hazmat-trained personnel within the police department. This redundancy in

capability signals the need for advance planning and communication. Some participants reiterated that a clearly delineated role for each agency in particular situations is critical to overcoming "turf" issues.

Incident Command System. Many participants discussed the importance of establishing a unified command to coordinate multi-agency responses at the scene.²⁸ California, for instance, mandates the use of the Incident Command System (ICS) at any critical incident or natural disaster for which reimbursement will be sought from the state. An investigation of the 1993 Oakland/Berkeley fires response led to passage of the California Standardized Emergency Management System (SEMS) law in 1996.²⁹ The law helps to ensure that valuable time is not lost responding to large, complex incidents by mutual aid agencies that use different methods of command organization, reducing confusion among agencies. SEMS outlines the principles of the ICS. Unified command includes all of the major players in an incident that need to share information, resources, and responsibility for the delivery of effective services.

In the ICS, there must be one individual who makes the final decision in directing the focus of the entire group. The task of this Incident Commander during a terrorist incident is to coordinate a cooperative effort between the commanders of all the agencies (e.g., local fire department, local law enforcement, and the FBI). In an organizational chart in the shape of a triangle, the Incident Commander is at the top; however, mul-

²⁸ More information on incident command can be found in Kane 2001.

²⁹ At the time of this writing, more information on SEMS can be found at the California Governor's Office of Emergency Services website at www.oes.ca.gov/.

DESIGNATE ROLES AND RESPONSIBILITIES

***by Commander Cathy L. Lanier, Special Operations Division,
D.C. Metropolitan Police Department***

When it comes to acts of terrorism, attacks that are biological in nature are by far the most disconcerting for first responders. For a variety of reasons the release of a biological agent is clearly one of the most difficult for police officers and fire fighters to respond to. While most law enforcement and fire agencies have had some experience with chemical incidents (usually in the form of a hazmat *accident*), they have little or no experience with harmful biological agents. To complicate matters further, it is challenging to train and adequately prepare for a biological attack, simply because of the nature of the weapon.

Despite the challenges, first responders must prepare for the possibility that they may have to respond to and deal with a biological agent used as a weapon. In any case, event recognition will dictate the roles and responses of the various agencies that will be called on to deal with that event. Realistically, there are only three scenarios that police and fire fighters will encounter when it comes to biological terrorism.

The first and most likely event will call for a response to a suspicious package containing an unknown substance. In this scenario in Washington, D.C., although law enforcement may be called to the scene first, it is up to the fire department to do preliminary testing to determine if the substance may in fact be a biological agent. This is a fairly simple test that indicates the presence of proteins and measures the pH level. These preliminary indicators will determine if further testing is necessary.

The second scenario would involve an "announced event" where a claim of a biological release is received prior to the detection of an actual agent. Again, both the police and fire departments may respond to assess the validity of the alleged act; however, whether or not a harmful agent is found, a crime has occurred and the FBI would be responsible for the follow up. In this same scenario, if the substance does turn out to be a biological agent, the D.C. Department of Health would take the lead with regard to mitigation.

The final, and most likely with regards to a genuine terrorist act, would be the response to an unannounced event, where the confirmation of the biological release is identified through individuals showing up at hospitals or physicians' offices with signs and symptoms. In this case, the D.C. Department of Health would essentially lead other agencies for response and mitigation.

Obviously, for each scenario the roles and responsibilities of law enforcement, fire, EMS, and the Department of Health will be different. The key is in ensuring that these roles and responsibilities are designated and agreed upon in advance in order to minimize confusion if a biological attack does become a reality.

multiple agency bosses can reside in the top triangle. The premise of "who's in command" and the Unified Command system only work if all agencies are aware of each other's primary needs.

The progression of incident command responsibility for a terrorist act may pass from one group to another, depending on the stage of the incident. The fire department may assume the lead as the Incident Commander and set the goals for the operation during the initial fire, rescue, and medical response. Local law enforcement may assume command after fire-rescue-medical resources have neutralized the situation and while a preliminary criminal investigation is conducted, and before the FBI is prepared or able to assume control. Under the federal authority of the Presidential Decision Directive 39, the FBI is the lead investigative agency in any act of foreign or domestic terrorism and will lead the subsequent criminal investigation if it is determined or suspected that the incident is terrorism-related.

When determining the Incident Command, the key players come together on the scene and form a Unified Command Group. The unified command is the strategy preferred by session participants to ensure that personnel from multiple agencies do not overlook an important response or duplicate efforts. In a unified command, the ranking on-scene representatives from each of the responding agencies work together to coordinate response activities. Ideally, each agency would also set up its own operations command. The agency representative on the unified command would then communicate with his or her operations commander to execute activities decided by the joint command leaders.

The executive session participants believe it is critical to set command and control correctly. Ultimately, they said a command center may need to be activated. The FBI coordinates the federal response to an act of terrorism by establishing a Joint Operations Center (JOC), corresponding to the local government's Emergency Operations Center (EOC). The JOC is the location where all federal agency first responders first report and work for the duration of the incident, whereas the EOC is where all local first responders report and work during the incident. If at all possible, the EOC should be co-located with the JOC. At a minimum, a federal command officer should stay at the local EOC to facilitate effective communication between the groups involved in the Unified Command and to facilitate the sharing of resources, personnel, and information. Health care professionals may lack knowledge about Incident Command and Unified Command structures used by local and federal law enforcement and fire departments. Law enforcement may be unaware that hospitals also operate their own incident command system, called the Hospital Emergency Incident Command System (HEICS),³⁰ which should be integrated into the unified command structures.

Assessing the Substance

Executive session participants—particularly those from large jurisdictions—emphasized that agencies must train police and fire responders to conduct initial substance assessments. Once word of a potential attack spreads, responding agencies risk being overwhelmed by the heavy volume of calls that may occur when a community fears a bioterrorist attack. Hoaxes or a panicked public can bring

³⁰ To learn more about HEICS, go to www.emsa.ca.gov/Dms2/heics3.htm.

agency responses to a standstill if the front line is not well trained to distinguish between real or imagined concerns. First responders must reduce the likelihood that agencies will become overwhelmed with call volume by conducting careful analyses, making quick determinations and promptly reassuring or directing the public.

One of the most critical considerations associated with on-scene substance assessment and management is the level of personnel protective equipment that should be supplied to on-scene responders. Some participants stated that in some jurisdictions line-level personnel, labor unions, and chief executives have voiced concerns that agencies do not provide adequate officer protection. Law enforcement agencies have many choic-

es in deciding how to budget bioterrorism preparedness funds appropriated by Congress. Informed decisions need to be made in the selection, maintenance, and use of appropriate personal protective equipment for front-line personnel. At the same time, law enforcement personnel must have a thorough understanding of the limitations and hazards associated with all levels of protective equipment. Table 1 illustrates the level of protection, description, type of protection afforded, and circumstance for use of each level of equipment. Session participants recommended that agencies carefully review their protective equipment and upgrade it if necessary to enhance officer safety at the scene. As an example, in one department, officers have level C personal protection equipment in

TABLE 1
PERSONAL PROTECTIVE EQUIPMENT³¹

LEVEL	DESCRIPTION	PROTECTION	CIRCUMSTANCE
D	Work uniform	Provides no respiratory protection and minimal skin protection.	Should not be worn on any site where respiratory or skin hazards exist.
C	Full facepiece, air purifying, canister-equipped respirator and chemical-resistant clothing.	Same skin protection as level B, but a lower level respirator.	Worn when airborne substance is known, concentration is measured, criteria for using air-purifying respirators are met, and skin and eye exposures are unlikely.
B	Chemical-resistant clothing (overalls and long sleeves) and self-contained breathing apparatus (SCBA).	Provides splash protection.	When the highest level of respiratory protection is needed but a lesser level of skin and eye protection is sufficient.
A	Fully encapsulating chemical-resistant suit and self-contained breathing apparatus (SCBA). Can only be worn for 15 to 30 minutes due to overheating. Special training is required.	Provides full protection.	When the highest level of respiratory, skin, eye, and mucous membrane protection is needed.

³¹ This table was constructed from information obtained from the University of Nebraska's Medical Center. For more information on personal protective equipment see www.unmc.edu/bioterrorism/equipment.htm.

The Department of Homeland Security developed standards on protective gear for first responders. At this writing, more information on these standards can be found at www.dhs.gov.

their trunks to protect against exposure to biological agents. More protection is provided to special teams who work on-scene.

Session participants' experiences have also demonstrated that simply providing personal protective equipment for officers does not constitute adequate preparedness. Additional measures are needed because much of the effectiveness of this protective equipment expires after a period of months or years and therefore must be replaced, and some of it requires special ongoing storage and maintenance. In addition, during stressful "red envelope" drills, even officers who had appropriate protective equipment in their patrol cars did not always remember when or how to use it. Agencies must repeatedly train officers to ensure proper use.

Appropriately protected officers can use a variety of methods for assaying the nature of suspicious substances they encounter in the field. In some jurisdictions, either the patrol officer or the fire department performs that initial assessment at the scene. This initial analysis is often preliminary in that it provides only an early indication of the nature of the substance. After the initial analysis, samples are usually immediately sent for more complete analysis to the local public health laboratory.

In Los Angeles, because of the volume of calls, the department developed a field test procedure that relies on microscopic identification at the scene. In this protocol, which takes approximately 30 minutes, specially trained LAPD hazmat technicians use a microscope at the scene of a suspicious substance. Subsequently, they examine the substance under the microscope and make an initial assessment of its nature. At the same time, the team may send microscope images to public

health laboratory authorities for consultation. They also have the ability to conduct additional field tests, such as a Polymerase Chain Reaction (PCR) to further enhance their capabilities. Other agencies use field tests such as protein tests, pH tests and basic magnifying glass, as well as more sophisticated analytic equipment. Many agencies are working to develop more sophisticated technological mechanisms to detect agents in the field.

For those agencies that do not have the capability to conduct field-testing, the fire department or a specialized unit of the police department may be responsible for removing specimens for off-site analysis. For example, in one major city there is no field analysis done. The department of health is less than 30 minutes from any location in the city and is notified immediately if it is determined that analysis is required. An emergency services unit transports the specimens, possibly with help from the FBI. Team members can expect a preliminary determination of the nature of the substance within one hour and a final determination within 24 hours. In other jurisdictions in the nation, the fire department works with public health officers who respond to the scene to conduct basic tests. The public health official would then carry the substance to the state public health laboratory for further analysis. In this situation, results could take four hours.

One difficulty agencies may encounter is what to do at the scene while waiting for laboratory analysis results. Those jurisdictions that have addressed this issue determined that police and fire couldn't legally prohibit residents from occupying the scene during the analysis period (Richards 2002). Typically health departments alone have the authority to prevent occupation

RAPID THREAT ASSESSMENT KIT: LOS ANGELES POLICE DEPARTMENT'S HAZMAT UNIT

by Chief William Bratton, Los Angeles Police Department

Following the anthrax incidents and the potential for other biological threats, the Los Angeles Police Department's Hazmat Unit, Hazardous Devices Section, Emergency Services Division, was equipped with technologies similar to those of other responders. Primarily, this consisted of bioassay tickets designed to confirm the presence of particular biological agents. Bioassay tickets had some critics and skeptics. While useful, this technology was insufficient for making critical field decisions.

During the height of the bioterrorism threat responses, a member of the Hazmat Unit was an undergraduate student at the University of California, Irvine. With access to scientists and laboratories at this university specializing in the field of epidemiology and environmental sciences, the concept of using a field microscope for screening potential biological threats was born.

The Rapid Threat Assessment Kit (RTAK) was designed to assist specialized responders in quickly assessing suspicious, unknown powder threats, using simple analytical instruments (portable phase microscope) and chemical indicator tests. The RTAK is based on scientific principles with a step-wise procedure to categorize the substance as either harmless or as a potential threat. The RTAK does not replace laboratory analysis. Instead, the RTAK quickly distinguishes potentially dangerous substances from harmless ones, allowing first responders to quickly address biological threats.

The RTAK is an improvement in the set of tools available to technical responders. Existing tools typically focus on a specific biological agent. The RTAK considers a broader range of potential threats. Because the RTAK algorithm assesses the basic chemical and physical properties of substances, its strength is in sorting threats from non-threats. The entire procedure can be completed in 30 to 45 minutes. The assessment process reduces downtime at critical facilities and the number of samples transported to a laboratory. This ability also reduces economic impacts to city services.

The RTAK is packaged in a ruggedized pelican case with a handle and wheels for mobility. The RTAK is intended to be transportable in any vehicle. In addition, the RTAK's case is waterproof for decontamination purposes, enabling it to be brought in and out of a warm or hot zone.

The RTAK requires specialized training and field-testing. Local universities and laboratory professionals assisted with developing skills, such as sampling, slide preparation, and phase microscopy techniques. The training provided proficiency to deploy the technology in the field. Overall, the strength of the field microscope is its simplicity and solid scientific basis. The weakness is the required training and proficiency. The skills are highly perishable, which can be overcome by continuous training.

Since development, the kit was incorporated into the Haztech Systems line of Technical WMD Responder tools. Haztech systems combined certain aspects of their technology with the RTAK to develop a Weapons of Mass Destruction field analysis kit and training program. The RTAK is now

offered by Haztech Systems as the MicroCat WMD system. In addition, they have developed a five-day certification course at this writing.

The Hazmat Unit also maintains additional technologies such as the Tetracore Bioassay Tickets, Guardian Readers, and Air Sampling Devices. These technologies are based solely on bioassay reliability. The Hazmat Unit uses all of these items as integral "pieces of the puzzle" to formulate response decisions. In addition, the Hazmat Unit is in the process of acquiring a portable Polymerase Chain Reaction (PCR) tool to further enhance decision-making capabilities.

At the time of the executive session, the complete MicroCat WMD system cost \$16,750. This has included the phased microscope and the materials to identify potential biological threats and chemical warfare agents. The kit has also included a basic radiological screening instrument. The five-day certification course, which provides training on the use of the microscope and the system, was \$900. Beyond the initial equipment costs, additional maintenance and expendables (slides, reagents) are minimal.

This creative application of technological resources will position the LAPD to respond effectively to a potential terrorist attack.

based on a biological threat. In those cases where the health department is not involved, first responders must leave it up to the property owner to determine what to do with the building or other property where the suspicious package was found.

Notification

Some have argued that the "terror" in bioterrorism comes from the contagion factor and the fear of exposure (Chyba 1998). Because incubation periods may distance the initial point of exposure from the point of detection, vigilance against bioterrorism requires efficient, coordinated public health surveillance mechanisms. One aspect of this surveillance is its "sensitivity," or how likely the system in place is able to detect an attack. The second aspect of surveillance is "connectivity," or how efficiently information is conveyed to state and federal officials, and communicated to relevant personnel throughout each level. This is a notification

function and was the concern of many executive session participants.

Executive session participants suggested that written interagency agreements specify a decision tree and optimal information-sharing paths to facilitate notification of suspected bioterrorism. The decision tree would specify who is responsible for making determinations as well as ensuring actions are then performed by the appropriate partners. The document should specify, for instance, the threshold criteria for different levels of police intervention and how many personnel the agency should deploy for each level.

During an event, once the initial assessment is made that a bioterrorist attack has occurred, agencies must set protocols to evaluate whether the incident is isolated or part of a pattern. Part of the process for determining the extent of the attack involves an investigation function, in which, for example, law enforcement first responders gather information from those who opened or

handled a letter containing an agent. Another aspect is related to notification of the federal government so as to facilitate communication. If there were positive readings in multiple locations, session participants were concerned about how they would communicate and learn about these episodes. Communication from the local officials to the federal government and then back to local personnel would be improved through decision trees and contact flow diagrams.

There are multiple notification routes, including traditional law enforcement and public health channels. For example, in Los Angeles, the public health department communicates with CDC and local hospitals about the information they have on a substance. CDC's role is to determine who has been exposed and possible remediation. CDC will also notify states through the Health Alert Network, which links public health departments across the country, which then notifies local law enforcement.

If law enforcement believes an incident is a potential bioterrorist event, in some cases the responding officers would call the appropriate Joint Terrorism Task Forces (JTTFs). Several participants were uncertain about exactly when to alert the their JTTF and health authorities. The session participants discussed the JTTFs role in the notification process. The JTTFs can make an initial threat assessment—to determine whether this is an isolated event or not—based on information coming in from local calls. Their initial threat assessment helps them determine law enforce-

ment's subsequent actions, as does public health's analysis. Federal agency participants noted that the JTTFs and the FBI's Strategic Information and Operations Center (SIOC) would then notify all 66 JTTFs in the event of a positive or negative finding. FBI information would be disseminated to law enforcement and health departments around the country.

In addition to the alert system through the JTTFs, several participants discussed regional alert systems used if an emergency occurs. The Maryland Institute for Emergency Medical Services Systems (MIEMSS) is mandated to coordinate the state's emergency medical systems.³² The MIEMSS uses a statewide system of microwave towers to connect hospitals to the emergency dispatch communications system. After the events of September 11, staff at MIEMSS used that existing system to develop a Facility Resources Emergency Database (FRED), which is a web-based application that provides information to hospitals about an ongoing emergency. When a FRED alert goes out, the receiver's computer sounds an audible alarm and the person is linked to information about the emergency. The FRED system also maintains information about hospitals and can request hospital capacity assessments and ambulance availability in an emergency.

The District of Columbia Emergency Management Agency (DCEMA)³³ ensures the continuity of government during and following major disasters by coordinating communications efforts. DCEMA's mission is to protect the lives

³² More information on the Maryland Institute for Emergency Medical Services Systems (MIEMSS) can be found at <http://miemss.umaryland.edu>.

³³ For more information on the District of Columbia Emergency Management Agency, go to <http://dcema.dc.gov/dcema/site/default.asp>.

and property of District residents and visitors during major emergencies and disasters through planning and timely operational response. DCEMA maintains the Executive Command and Communications Center (ECC), which provides communications and information regarding city conditions to the Executive Office and other District government officials. The ECC is staffed 24 hours a day, 7 days a week, and additional personnel are available if a situation requires. DCEMA also manages the Emergency Operations Center (EOC), the civilian operations command center used during disasters and emergencies.

In Washington, D.C., first responders activate the Emergency Operations Center (EOC) to facilitate the flow of information and begin coordinated management. The EOC is connected through multiple technologies to the Metropolitan Police Department Joint Operation Command Complex (JOCC), the law enforcement command center, as well as the operations centers of other critical agencies such as the District Department of Transportation and the Department of Health.

These centers rely on multiple communication devices, including the Washington Area Radio Circuit and the Washington Hospital Association Network, which connects 29 hospitals including Walter Reed Army Medical Center, to facilitate notification of a possible bioterrorist attack.

Summary

This chapter discussed the issues and concerns executive session participants raised about detection and notification. Detection is dependant on collaboration, scene management, and the assessment of suspicious substances. Notification is an essential issue related to communications between local law enforcement and federal agencies as well as notification strategies between health care providers and law enforcement. Agencies must decide before an event occurs what the roles and responsibilities of all government agencies will be, including police, fire, public health, and hospitals. Interagency and interdisciplinary cooperation and on-scene response protocols tailored to individual jurisdictions are essential.

CHAPTER FIVE

INTERVENTION, HEALTH CARE SURGE, AND COMMUNICATION

THIS CHAPTER DETAILS THE VARIOUS LAW ENFORCEMENT ROLES DISCUSSED AT the executive session for intervening in a bioterrorist attack, managing the health care surge, and communicating in ways that reduce public fear. The executive session discussion addressed several themes related to law enforcement officers' roles if real or threatened release of a biological agent occurs. A close working relationship between law enforcement and health care professionals is essential. Law enforcement personnel will often be in a support role rather than act as decision makers during these activities. Executive session participants stressed the need for advance planning on the specifics of these relatively new duties and responsibilities for police.

Intervention

The public typically turns to the police as their immediate contact for many matters related to the provision of government services whether or not those services are typically part of law enforcement's responsibility. Because law enforcement is highly visible and accessible, the tendency to turn to police would be no different in the event of a bioterrorist attack. If one or more cases of smallpox were confirmed or even suspected, for instance, community members and government leaders would call on police to respond to dramatically increased calls for service as well as two general categories of duties: 1) investigating the crime

of bioterrorism, and 2) assisting in health care delivery.

Investigating the Crime

The principle responsibility of law enforcement in a bioterrorist event is to investigate the crime. If a large outbreak is confirmed, investigating the crime would be impossible unless police and public health investigators worked together when interviewing suspects. Teams comprised of law enforcement and public health investigators can collaborate on interview questions that gather information both about exposure to agents and the circumstances of an individual's exposure that

may constitute evidence of the crime. Joint interviewing can both streamline the investigative process and provide different perspectives on the information gathered.³⁴

Joint police/public health investigations pose significant legal challenges that agencies must explore before implementing policies. For example, public health officials generally have broader authority in search and seizure situations than do law enforcement personnel. Public health departments have been granted this authority to enable them to stem the spread of infectious disease promptly. Public health officials also may be more familiar with privacy regulations and how to support them while still sharing critical information with law enforcement. Police and public health authorities must consider the differences in their authority and goals, and then plan for how they will be addressed if an incident occurs. Planning is essential to reduce the chances that critical evidence will be lost due to role confusion and legal mandates.³⁵

Although a memorandum of understanding (MOU) alone will not create an effective working relationship between police and public health, one is clearly advised. To be effective, MOUs must have a sufficient level of detail in such areas as determining who will have authority for each function, which functions may be necessary to manage a threat, the chain of command for multi-agency actions, and the procedure for assuring that one agency can get needed help from another without

delay. An agreement should be accompanied with legal documentation that supports departmental authority to enter into the agreement.

Assisting Health Care Delivery

Past experience with smallpox outbreaks, such as the one in New York City in 1947, dictates swift preventive and control measures, such as large cities being prepared to orchestrate a massive vaccination program. In this instance, one person infected 12 others while on a short trip to the city. Using the help of local law enforcement, officials instituted a vaccination of six million people in one month—and though tragic, only two people died (Chyba 1998). If a bioterrorist attack occurs today, law enforcement personnel would be called on to assist health care providers to locate and isolate (perhaps through quarantine) those individuals who have been in contact with infected people, to maintain order at health care centers and to provide support during mass administration of vaccinations or medical prophylaxis treatment. They would also be faced with unusual demands for traffic control, fear reduction, and other more traditional duties—stretching their available resources to the fullest.

In addition, law enforcement will also likely respond to numerous subsequent calls from fearful citizens who are ill and worried they may be infected. Others will want medicine or treatment to ensure they don't get infected in the days ahead. Potential "suspicious powder" incidents (even

³⁴ See, also, the National Domestic Preparedness Office/Department of Defense *Criminal and Epidemiological Investigation Report 2000* for more details. The issue of joint police and public health investigations is also addressed in the sidebar "Partnership Between Police and Public Health" in Chapter 3.

³⁵ For more information on these issues, see Richards 2002. At the time of this writing, this publication was available at www.cdc.gov/ncidod/EID/vol8no10/02-0465.htm. Also consult Goodman et al. 2003.

those that turn out only to be spilled coffee creamer) can create significant panic. Police officers who are stationed in emergency rooms in large cities to help provide security could have direct contact with seriously or potentially ill people. They will also certainly encounter people who are frightened, possibly panicking, and in need of reassurance and guidance.

Isolation and quarantine. In the event of a bioterrorist attack involving a contagious organism, law enforcement will have a vital role in disease containment measures such as isolation and quarantine. Law enforcement will be called upon to assist in locating known associates and possibly even casual contacts of infected people. This strategy is consistent with "ring vaccination," a strategy begun in the late 1960s and which ultimately helped eradicate smallpox in the United States.³⁶

Containment strategies usually involve quarantining exposed people and those who have had contact with them. Public health has the authority under law to quarantine a building, but does not have the power to enforce that law. Consequently, public health authorities must work closely with law enforcement to determine how to enforce isolation and quarantine scenarios. Executive session participants noted that mandatory quarantines would be extremely difficult to enforce and suggested instead using voluntary strategies. Law enforcement officials and public health officials would request exposed individuals be quarantined voluntarily. Elected officials (such as the mayor) would need to step forward to calm the public as well as request their full cooperation. Law enforcement would also need to assuage community fears and ensure public

safety around treatment or quarantine facilities.

Vaccination and prophylaxis. If there is a large-scale bioterrorist attack, public health officials may vaccinate or provide antibiotics to individuals in large geographic areas as prophylaxis. This type of widespread response may be necessary should multiple outbreaks occur simultaneously or in response to public pressure. In these situations, law enforcement officers will likely be responsible for maintaining order for personnel providing medical treatment in hospital emergency rooms, clinic settings, or temporary vaccination centers.

If there is a significant anthrax attack, for instance, studies suggest that prompt distribution from the national stockpile of antibiotics may be the most critical step in reducing casualties and controlling public panic (Wein and Kaplan 2003). The Department of Health and Human Services (HHS) would work with the Department of Homeland Security to identify populations at risk and distribute antibiotics to them in any city in the United States in as little as six hours. HHS indicated at the executive session that they have the ability to deliver antibiotics to 20 million people for their immediate needs and 12 million people for 60 days. Executive session participants cautioned that public panic would occur if antibiotics were not distributed fairly and quickly. They warned that citizens will attempt any means—even storming pharmacies and health care centers or rioting—to obtain these medications.

Several jurisdictions represented at the executive session have developed plans for receiving and transporting medical stockpiles to distribution sites. These sites (emergency rooms, phar-

³⁶ More information on this strategy can be found at <http://www.bt.cdc.gov/agent/smallpox/prep/cdc-prep.asp>.

macies, and armories) will all be critical locations for law enforcement protection and crowd management. Executive session participants recommended that law enforcement agencies and public health officials prepare protocols and drill on the distribution process.

Health Care Surge

Although the critical issue of "health care surge" refers most directly to the spike in demand facing health care providers if a large outbreak occurs, law enforcement representatives at the executive session had several operational concerns related to their own staffing. Faced with current staff shortages, participants anticipated even greater personnel problems. To make the most resources available, the participants suggested proactive staff preparation, such as advance vaccines and education, and gathering and identifying such force multipliers as citizen groups and the National Guard.

Staffing

Those executive session participants who had experience planning for and managing bioterrorist attacks warned that demand for law enforcement personnel in these situations is enormous. One person may serve two or more first responder roles during normal operations but will not be able to do both when a crisis occurs.³⁷ One participant estimated the demand would be six times the number of officers who ordinarily are available on a given shift—that is if all officers come to work—and many participants were concerned that approximately 20 to 25 percent of the police force will stay home to protect loved ones and out of fear.

Executive session participants proposed several strategies to minimize law enforcement's absenteeism in the event of a bioterrorist attack. The first strategy is to provide adequate education in advance. This education should include information on how to protect oneself from exposure to biological hazards, how to protect suspects and reduce their exposure to others, and ways to identify risky situations before there is unintended exposure to a biological threat.

Session participants also suggested that agencies provide first responders, their families and other key service providers with medical treatments in advance of a bioterrorism crisis. This strategy might reduce absenteeism caused by personnel who stay home to assure their families' health. As an alternative to providing medical treatments in advance, participants suggest communities maintain and be ready to distribute adequate stockpiles of antibiotics for all key personnel and their families.

As part of the advance preparations for bioterrorism, the federal government has attempted to implement a policy of vaccinating against smallpox approximately 500,000 first responders, including medical staff and public health workers (Turner 2004). These first responders could then be ready to respond to possible bioterrorism in their city or to assist in another city. The federal policy envisioned that at least some number of local law enforcement officers would be vaccinated.

Local jurisdictions have had difficulty gaining voluntary compliance with this strategy for several reasons: Responders are concerned

³⁷ See John F. Kennedy School of Government 2002 for more information on surge capacity and first responder roles during a critical incident.

about the health risks associated with the vaccination itself, and many do not think the odds of a threat of a bioterrorist event outweigh the risks of complications from the vaccine. There is also concern about who would pay the health care costs should vaccinated responders become ill and supplemental staffing costs if workers need time off (Turner 2004).

Force Multipliers

In addressing surge problems for health care, some have suggested creating a pool of voluntary medical professionals who could deploy to the site of an attack with little notice (Wein and Kaplan 2003). In community policing jurisdictions, partners in the community—who are already a tremendous resource for police during non-crisis times—could be viewed as a similar asset during the event of a bioterrorist attack (Glass and Schoch-Spana 2002). Evidence for this capacity to help has been demonstrated by public reaction to previous natural disasters and disease outbreaks, where members of the public have often reacted effectively. Executive session participants recommended that community leaders develop programs that specify duties for appropriate organizations and individuals during a response to a bioterrorism crisis. For example, community members can organize groups to assist elderly or disabled neighbors who cannot leave their homes to evacuate or obtain treatments. Law enforcement executives are well situated to reach out to enlist this type of

help because of existing relationships with many local groups. All individuals who will be assisting law enforcement to bolster their ranks must be trained and supervised to address community fear and needs for treatment. The Department of Homeland Security (DHS) announced the development of the Private Sector Office, reflecting the recognition that private security is vital to homeland security efforts. The Private Sector Office³⁸ provides guidance on policies and regulations; works with federal labs; develops innovative approaches and technologies in research and development centers and through academia; and promotes public-private partnerships, programs, and best practices.

Other response assistance will come from the federal government, including the National Guard and DHS. The National Guard could provide some of the force multiplier that is required, especially for such duties as securing facilities and escorting food and medical supplies to distribution centers. The National Disaster Medical System within DHS is also prepared to provide on-scene response teams that offer medical and veterinary services. These teams include approximately 35 to 40 people who can be deployed for two to four weeks. DHS also has resources to assist mortuary services, such as identification of remains; casualty evacuation; and identification of medical bed capacity. DHS can also supplement hospital facilities and resources during incidents as well as provide some mental health resources.

³⁸ At the time of this writing, more information on the DHS Private Sector Office can be found at www.dhs.gov/dhspub-public/display?theme=9&content=3699.

NEED FOR COORDINATION AND INTEROPERABILITY OF PUBLIC HEALTH DISCIPLINES AND RESOURCES ACROSS JURISDICTIONAL LINES

by Ruth A. Vogel, Office of Public Health Preparedness and Response, Commissioner's Office, Baltimore City Health Department

The attacks of September 11 and subsequent terrorism events have affected virtually all aspects of life including domestic security, public health and safety, environmental issues, and the health care community—all historically viewed as separate entities and issues. This changing environment has highlighted the need for better coordination and interoperability of public health disciplines and resources across jurisdictional lines. A key determinant for appropriately addressing this need for collaboration is the inclusion and appropriate representation of public health resources and authorities acting in concert with emergency management officials, first responders, and public and private community-based partners.

As a local health department that is implementing an "anti-terrorism" program, we have found through our efforts two salient needs: 1) improvement is needed regarding basic understanding of public health roles and responsibilities among all partners, and 2) public health must be represented in anti-terrorism and emergency preparedness planning initiatives. The infrastructure of a public health agency is complicated and includes a variety of programs and services whose roles and responsibilities are what essentially define the health and well-being of a community. The public health discipline is historically founded in prevention-based initiatives using epidemiology, risk assessments and surveillance to drive program goals, objectives, and activities. Many of the existing prevention-based programs also have a front-line component that provides defensive and ongoing management of natural and man-made public health threats. It is these existing resources that need integration for effective responses to any public health emergency. Consequently, we are currently focusing our efforts toward developing more effective initiatives that include the resources and assets of Maryland's state and local public health in coordinated prevention, planning, preparedness, response, recovery and mitigation efforts for both natural and man-made disasters.

This first step to improving the integration of public health is recognizing that our roles are unique as they relate to homeland security and emergency response. The Baltimore City Health Department is working closely with other state, local, and regional agencies in Maryland to achieve this. For example, the State of Maryland's Department of Homeland Security has coordinated a public health technical working group that through a collaborative effort with local public health at the table, agreed to the following objectives that are now being used to improve the public health role in Maryland's emergency preparedness and response efforts:

Objective: Improve the knowledge base of all response partners by providing basic public health "101"-type training so that partnering agencies and institutions can appropriately utilize resources within their respective emergency operations infrastructures.

Objective: Enhance opportunities for "hands on" training and exercises that incorporate public health roles and responsibilities, both among disciplines and jurisdictions.

Objective: Improve integration of federal partners and their resources for emergency planning and response services.

In summary, the current efforts to improve and incorporate public health into existing emergency response systems have been largely based upon a crisis response mentality following September 11 and the anthrax events of 2001. Optimal response is contingent upon tactics that incorporate a collage of plans, agencies, and resources. It is clear that a more cohesive plan that can be easily adapted for a variety of public health emergencies is needed. The challenge is to ensure it is structured so that it represents all responders.

Communication

A significant issue in the aftermath of a bioterrorist attack will be to manage the public panic that could occur. Law enforcement agencies must use existing ties with communities to mobilize a recovery strategy that can get local areas back to functioning as soon as possible following the event. A clear communication plan and a consistent message to the public will be essential components of that recovery strategy. A communication plan should include the private sector, the mass media, and community organizations.

Advance Public Education Campaign

Experts agree that community leaders should engage in public information and education campaigns prior to a terrorist attack (Glass and Schoch-Spana 2002). Executive session partici-

pants noted that the general public is poorly informed about bioterrorism and what they should do after an attack. In a crisis, public education is almost impossible to provide through news reports. The public should be educated before an incident on such matters as whether they would be required to go to distribution centers to obtain antibiotics or vaccinations, and what preventive measures to take to limit their exposure. This education must also address treatment compliance, a concern that is based on experience with exposed postal workers in the anthrax attacks in fall 2001. Some of the workers did not comply with the full treatment regimen (Wein and Kaplan 2003).

Executive session participants noted that advance public education strategies for dealing with the risks of bioterrorism should involve mass media communications (such as broadcast media,

print media, and the Internet), public schools, businesses, religious groups, and various community and civic organizations. Several mass media experts emphasized the importance of early communication that is candid about what is, and is not, known about the nature of the threat. This information would be especially valuable for government officials who will be charged with providing the public with accurate information without instigating panic.³⁹

Developing the Public Communications Strategy

Community policing's focus on partnerships, trust, and problem solving are essential to police agencies' efforts to better protect the public and communicate after a bioterrorist attack. During a critical incident, successful community policing will reduce fear as well as ensure that the combined efforts and resources of the police, local government, and community members will be deployed effectively. Honest communication with the public will be essential to maintaining their trust in a crisis. Executive session participants stressed the need for transparency in communication strategies and the need for taking a proactive approach. Some executive session participants stressed that the effect of a bioterrorist attack on the public's mental health would require a keenly coordinated and sensitive response.

Making the announcement. A community must decide as part of its communication strat-

egy which government authority will make the announcement that a bioterrorist attack has occurred. Executive session participants noted that in all likelihood this would be an elected official (such as the governor, county administrator, or mayor). Some participants stressed that a public health official should also be involved and the local law enforcement executive's visibility would also help calm the public.

Communications content. Executive session participants noted that communications should include information about how the agent was delivered, how illness is contracted, what the symptoms are, and how the public can protect itself from exposure. These participants urged giving individuals as much information as possible to reduce panic and fear. They indicated that community members would want to know what law enforcement is doing to investigate the crime and what the medical community is doing to treat illness. They also stressed how important it is for authorities to say what they do *not* know.

Communications frequency. Session participants who had experienced a biological attack noted that while there may be a tendency to wait before making announcements about the attack, the media is likely to put tremendous pressure on the authorities to get information out quickly. These participants recommend beginning communications early (as soon as credible information dictates) and updating available information frequently.

³⁹ For more information to the Department of Homeland Security guidelines and resources on preparation for a terrorist attack, see www.ready.gov.

Summary

Partnerships and planning between law enforcement, other first responders, and the health care community are critical in preparing for a bioterrorist event. Planning with other government agencies will determine the roles and responsibilities of law enforcement officials and other stakeholders. Local law enforcement will shoulder a significant role in intervening in a bioterrorist attack, helping to manage the health care surge, and in communicating with the public to reduce fear.

CHAPTER SIX

RECOMMENDATIONS

THIS WHITE PAPER HAS LOOKED AT THE LESSONS SHARED BY EXECUTIVE SESSION participants whose agencies have dealt with a bioterrorist event or have developed response plans to a biological attack. It has also provided recommendations for law enforcement agencies to enhance bioterrorism preparedness in the five critical action areas involved in planning for and responding to a bioterrorism event: detecting the event, notifying the proper authorities, intervening (in coordination with fire, EMS, and public health responses), managing the surge of demands placed on health care systems, and maintaining effective communication with all agencies involved in a response as well as the public. Three overarching concerns common to all of these five critical areas were also discussed: funding and resources, training, and intelligence.

There are numerous multi-agency efforts involved in carrying out each of the five critical function areas. Consequently, there is a need for interagency and interdisciplinary cooperation with clearly defined, on-scene response protocols that predetermine agency roles and responsibilities for each jurisdiction. While there may be some overlapping duties as some needs overtake available resources, generally the fire department's role may be to manage rescue operations, treat victims, and provide hazardous materials response, whereas law enforcement's role may be to safeguard evidence and witnesses, preserve and manage the crime scene, investigate the crime, calm the community, prevent violence around health care settings, and respond to calls for service.

Specific recommendations for law enforcement agencies on developing bioterrorism response plans are outlined in the previous chapters. Listed below are highlights of selected recommendations.

Five Critical Areas

Detection

Determining a bioterrorist act has been committed is dependent on law enforcement collaborating with hospitals, other health care facilities, and public health departments. Partnerships with these and other stakeholders allow police to detect bioterrorism, manage the on-scene response using the Incident Command System, provide appropriate equipment and training to enhance officer and

public safety, and assess the potentially lethal substance with appropriate, available technology.

➔ Public health and law enforcement must collaborate to develop effective detection strategies. A mechanism in each jurisdiction is needed to detect a significant increase in public health indicators that are symptomatic of high-risk biological agents. Law enforcement must collaborate with health care providers, including nurses or doctors in hospitals or health care clinics, pharmacists, emergency medical technicians, and others who are in a position to identify spikes in illness.

➔ Line-level first responders must be trained to recognize indicators of a potential bioterrorist attack and treat suspicious letters or packages as they would any unknown, potentially hazardous material. Adequate, up-to-date personnel protective equipment should be provided to first responders to enhance officer safety at the scene. Agencies must repeatedly train officers to ensure compliance with equipment usage in the field.

➔ As first responders to the scene of a potential bioterrorist attack, law enforcement personnel, fire fighters, and EMS workers must also be able to conduct preliminary assessments of potentially harmful substances using available technologies that are both sophisticated and practical.

➔ Law enforcement agencies should invite health care leaders, such as hospital CEOs and medical directors, to planning meetings designed

to identify effective collaborative bioterrorism response strategies. There should also be an active partnership between law enforcement and public health experts, including epidemiologists and microbiologists.

➔ Law enforcement should be aware of local hospitals that are accredited by the Joint Commission for the Accreditation of Healthcare Organizations (JCAHO), which offers a "seal of approval that indicates a hospital meets high performance standards." JCAHO-accredited hospitals must conform to a standard requiring them to participate in emergency response training drills.

➔ Law enforcement agencies should collaborate with private security firms and establish protocols on detection (as well as notification and response) activities should they become aware of suspicious substances.

➔ Jurisdictions must effectively integrate multi-agency responses by clearly articulating and documenting each agency's role in detecting bioterrorism, before an attack occurs. Written agreements are encouraged for multiple jurisdictions within regions as part of their planning efforts.

➔ A Unified Command must be established to coordinate multidisciplinary responses (e.g., local fire, local law enforcement, FBI, and others such as public works, public health, and EMS). The Unified Command includes all of the major players in an incident that need to share information,

resources, and responsibility for the delivery of effective services.⁴⁰

Notification

Once first responders or medical professionals detect that a bioterrorist event has occurred, they must initiate a broader team response by notifying the proper authorities. Notification occurs through lines of communication developed between local law enforcement and federal agencies as well as between health care providers and law enforcement.

➔ On-scene response protocols must be in place to ensure timely notification of government authorities when a bioterrorist event is suspected or confirmed. In some cases, responding officers first contact the local Joint Terrorism Task Force (JTTF), which is then responsible for subsequent notifications.

➔ Written interagency agreements should specify a decision tree and optimal information-sharing paths to facilitate notification of suspected bioterrorism. The decision tree should specify who is responsible for making decisions, as well as which actions are then required by which partners.

➔ Once local medical professionals (including those at public health laboratories responsible for identifying unknown substances) have found something unusual, they must immediately communicate their suspicions to their local public health department and the Centers for Disease

Control. Local law enforcement should be notified immediately as well.

(Notification to the public is covered under "Communication" below.)

Intervention

Local response to a bioterrorist attack involves both a public health and medical component (controlling the spread and severity of the disease and treating those who are ill) as well as a law enforcement component (concentrating on criminal investigation, offender apprehension, public safety issues, and assisting in health care delivery).

➔ Law enforcement and public health agencies should develop a protocol that permits their investigators to conduct joint interviews and share information. Teams composed of law enforcement and public health investigators can collaborate on interview questions that gather information both about exposure to agents and the circumstances of an individual's exposure that may constitute evidence of the crime. Joint interviews can both streamline the investigative process and provide different perspectives on information.

➔ Protocols must both safeguard the privacy of health information and maintain the confidentiality of sensitive case investigation information.

➔ A memorandum of understanding (MOU) should identify specific persons with authority for each function during an intervention, the func-

⁴⁰ For more information on multijurisdictional responses, setting up a Joint Operation Command Center, pre-event planning, and unified command, see Murphy and Wexler, forthcoming. In addition, more information on the National Incident Management System (NIMS) can be found at www.fema.gov/preparedness/nims/nims.shtm.

tions that are necessary to manage a threat, the chain of command for multi-agency actions, and the procedure for assuring that one agency can get needed help from another without delay.

➔ Law enforcement agencies must work with public health authorities to look at a range of options for isolation and quarantine scenarios, or to administer vaccinations or medical prophylaxis treatment, and concentrate on those that minimize force and maximize public involvement.

➔ Law enforcement officers should know their responsibility for maintaining order during the process of distributing medical treatment—in hospital emergency rooms, clinic settings or temporary vaccination centers—or enforcing isolation or quarantine.

➔ Law enforcement agencies and public health officials must prepare protocols and practice the distribution process for mass vaccination or prophylaxis.

Health Care Surge Management

In any significant bioterrorist event, there will be enormous demands placed on both the health care system and emergency responders. As a result, the ability of a community to effectively manage a bioterrorist attack will depend partly on that community's "health care surge" capacity and partly on its ability to maintain adequate emergency responses.

➔ Law enforcement agencies must be aware that stockpiles of antibiotics and vaccines as well as medical equipment (e.g., ventilators) are avail-

able from the Department of Health and Human Services, vendors, or through sharing arrangements among neighboring regions.

➔ Law enforcement must prepare for its role in supporting medical service providers, which can include providing security at health care settings, transporting ill people to hospitals, and managing traffic and crowds.

➔ Law enforcement must plan for treating and protecting line officers and their family members before an attack occurs.

➔ Law enforcement must seek remedies anticipated staffing shortages, including advance treatments and education for current personnel. Law enforcement must work with their emergency management agency to plan for how to access force multipliers, such as citizen groups and the Citizens Corps' Citizen Emergency Response Team Program (CERT), the National Guard, private security, and the Department of Homeland Security. Law enforcement executives can use existing relationships with community groups to enlist their help in augmenting police responses in a bioterrorist attack.

➔ Police executives need to compute the minimum number of sworn personnel and civilian staff who must be immunized so that the department can continue to function in the event of a contagious organism outbreak. Then, executives must work with personnel to determine the safest means for their protection and address their concerns.

Communication

- ➔ A multi-pronged communication strategy for early education efforts and for the hours and days immediately following a bioterrorist attack is essential for an effective emergency response plan. Communication plans must include protocols for communications among service providers—including law enforcement, fire, EMS, and public health entities. These plans must address terminology issues, interoperability, dispatch protocols, and public notification of the attack and treatment plans.
- ➔ A law enforcement agency must use existing ties within the community to mobilize a recovery strategy that can get the local area into a non-crisis mode as soon as possible following the event.
- ➔ A clear communication plan and consistent message to the public will be an essential part of a recovery strategy. Early communication must be candid about what is and is not known about the nature of the threat. The effect of a bioterrorist attack on the public's mental health may be significant, so information on how to cope with the stress and any available referral agency resources should be shared.
- ➔ Public education strategies for dealing with the risks of bioterrorism should involve mass media communications (such as broadcast media, print media, and the Internet), public schools, businesses, religious groups, and various community and civic organizations. This public awareness campaign must occur in advance of an attack, because it will not be possible for community leaders to effectively communicate critical information

(such as appropriate public responses to biological agents, ways to access treatment regimens, and behaviors that reduce the potential for exposure) in a crisis.

- ➔ Communities must decide as part of their communication strategy which government authority will make the announcement that a bioterrorist attack has occurred. A public health official should be involved, as should local law enforcement executives, as their visibility will help calm the public. The communication should include information about how the agent was delivered, how illness is contracted, what the symptoms are, and how citizens can protect themselves from exposure or get assistance if exposed.
- ➔ Common cautions about not overwhelming emergency rooms, leaving roadways and emergency lanes open, not using cell phones unless necessary, and others may be useful as well.

Three Overarching Themes

Funding and Resource Issues

Funding is a major issue in preparing for and responding to bioterrorism. Pooled resources will build strong partnerships between law enforcement, public health, fire, and other first responders.

- ➔ Local, state, and federal governments must assess existing resources, in terms of both staffing and equipment, and identify funding to augment already strained budgets. A recommended mechanism for assessing such resources is called a "gap analysis," which is critical in identifying redundancies and shortfalls. A gap analysis can also be

used to assess equipment needs and develop plans to purchase, maintain, and replace equipment.

➔ Resources can be combined across several regions or statewide to enhance emergency responses.

➔ Federal agencies should consider encouraging regional or statewide cooperation when awarding federal grants. Localities should consider the ways funds could be used to accomplish more than one purpose.

➔ Law enforcement agency budgets are already strained to the limit as a shrinking police force deals not only with traditional crime-fighting duties, but also with antiterrorism duties. Funding for all first responders must be quickly and effectively distributed.

➔ Law enforcement partnerships with the private sector, especially private security can also enhance funding and provide resources—such as staff, equipment, and monetary support—to effectively respond to an emergency.

Training

Law enforcement training serves a variety of purposes—to enhance detection of a bioterrorist event, to protect and treat area individuals, to reduce exposure to the agent, to ensure smooth coordination of on-scene hazardous materials response, and to promote effective investigation and management of contagious agents. Personnel at all agency levels must be trained initially and then given frequent in-service training.

➔ To maintain first responder readiness, agencies must offer frequent and consistent training on possible indicators of bioterrorism, precautions to take to reduce exposure, the signs and symptoms of contamination by a potential harmful biological agent, and critical immediate response procedures.

➔ One executive session participant suggested that at a minimum agencies must provide eight hours of training (16 hours of training is preferable) on hazardous materials awareness for all recruits and in-service law enforcement department members.

➔ Multi-agency training should be designed to ensure that clear strategies engage all agencies across government, and to work out communication and command issues related to incident management. This training should include specialists and all personnel involved in on-scene response for a particular jurisdiction. A local agency should reach out to other police chiefs and sheriffs as well as tribal and federal agencies in the region to design training. Medical ethicists, physicians, public health professionals, and scientists expert in contagious diseases should be used to help develop staff training.

➔ Training should occur by any or all of the following means in each jurisdiction: tabletop exercises; computer simulations; and field training drills (both planned and unplanned) involving officers, hospitals, private security, other first responders, other stakeholders, and the public who can enact possible scenarios.

➔ Law enforcement officers must be educated on contagious organisms, and the risks and benefits of vaccination and medical treatments. This education should include information about the biological agents, their disease spread and manifestations, available vaccines and treatments, and the risks and benefits of those treatments. Law enforcement officers will also need to know how to interact safely with people who are potentially contagious. Health department officials should be involved in educating first responders (including police, fire, EMS, and health care providers) about physical protections and mental health concerns.

➔ Private security should be educated on contagious organisms and trained on how to respond to them. Private security should also be included in training with law enforcement and other first responders when possible.

➔ Communities must develop and conduct joint exercises that test local and regional capabilities in carrying out quarantine, evacuation, and isolation plans.

➔ Training needs to be conducted in areas such as law enforcement's involvement in the process of administering prophylactic treatments (such as antibiotics) or vaccinations and conducting interviews to obtain information about the suspects and/or site of exposure.

Intelligence Sharing

Information related to terrorism in general and bioterrorism in particular may come from many different sources and may be obtained from many different agencies (fire, EMS, law enforcement,

public health, and myriad others). It is imperative that agencies be able to quickly and effectively share information with others.

➔ Government agencies should build on existing intelligence systems that would produce a single, seamless intelligence system useful for a wide range of threats (e.g., drugs, gangs, international terrorists, etc.).

➔ The Terrorist Threat Integration Center (TTIC) should be supported as a resource for identifying terrorism threats and sharing intelligence, as it collects information from DHS, FBI, CIA, DoD, and others, and provides integrated threat analyses to state and local law enforcement through the JTTFs and other means.

➔ Intelligence analysis within local law enforcement agencies should be upgraded or supplemented in order for local law enforcement to be better positioned as a "full partner" in the counterterrorism arena.

➔ Jurisdictions must improve mechanisms for determining the criteria for when, a threat is deemed credible and when information is appropriate for federal agencies release to local first responders.

Conclusion

These highlighted recommendations from this white paper cover a wide range of issues for law enforcement and other government agencies as they prepare their response to a bioterrorist event. The text offers more detailed suggestions that can be tailored to the unique needs of a jurisdiction. These approaches are meant as a starting point for law enforcement and public health officials to

develop a collaborative, proactive, and problem-oriented response to combat future bioterrorism and reduce fear within our communities.

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⁴¹ By inclusion here, neither PERF nor the Office of Community Oriented Policing Services endorses the content of these materials.

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BIOTERRORISM WEB RESOURCES⁴²



Centers for Disease Control and Prevention (CDC), Emergency Preparedness and Response

www.bt.cdc.gov

The CDC's Emergency Preparedness & Response website is one of the most comprehensive informational site involving bioterrorism on the Internet. It offers fact sheets and overviews on lethal agents and diseases, including anthrax, Ricin, Sarin, smallpox, and others. Topics on biological agents include diagnosis/evaluation, environment/response, exposure management, infection control, preparation and planning, training opportunities and materials, vaccination, treatment, and surveillance and investigation. The site has information on radiation emergencies, chemical agents, and other disasters and emergencies. The site offers links to pertinent topics such as sheltering in place, mass trauma related to catastrophic events, emergency preparedness for business, and has a clinician registry for email updates on terrorism and emergency response.

Center for Biosecurity –University of Pittsburgh Medical Center (UPMC)

www.upmc-biosecurity.org

The Center for Biosecurity is an independent, nonprofit organization of the University of Pittsburgh Medical Center, with its base of operations located in Baltimore, MD. The Center works to prevent the development and use of biological weapons, to catalyze advances in science and governance that diminish the power of biological weapons as agents of mass lethality, and to lessen the human suffering that would result if prevention fails. The Center draws upon the expertise of multidisciplinary staff with experience in the government, medicine, public health, and bioscience.

Center for Infectious Disease and Research Policy (CIDRAP), University of Minnesota

www.cidrap.umn.edu

CIDRAP's mission is to reduce illness and death from infectious diseases by conducting original, interdisciplinary research, and by facilitating public policy refinement and the adoption of science-based best practices among professionals and the public. The center focuses on timely and emerging issues of greatest significance to public health and strives to create solutions targeted for greatest impact.

⁴² This list primarily includes the resource list created in 2003 for the Bureau of Justice Assistance-funded project, Police-Medical Collaborations. While not exhaustive, these resources provided valuable information at the time at which they were compiled. Neither PERF nor the Office of Community Oriented Policing Services endorses the content of any listed websites.

Chemical Materials Agency (CMA)

www.cma.army.mil

This website has chemical agent facts sheets on nerve agents.

Counter-Terrorism Training and Resources for Law Enforcement

www.counterterrorismtraining.gov

The Counter-Terrorism Training and Resources for Law Enforcement website offers access to counter-terrorism training opportunities, related materials and website links from the federal government, private and nonprofit organizations. The Counter-Terrorism Training Coordination Working Group convened by the U.S. Department of Justice's (DOJ's) Office of Justice Programs examined the counter-terrorism tools available to law enforcement and first responders and recommended the establishment of a website. The working group determined current training offered by DOJ components, identified duplication or gaps, and recommended the most effective mechanisms for delivering training. These resources will help law enforcement decision-makers develop strategic plans for professional training and local emergency response.

National Association of County and City Health Officials (NACCHO)

www.naccho.org

At the core of NACCHO's bioterrorism programs is the belief that the capacities needed to effectively respond to bioterrorism allow for multi-use response infrastructure that improves the ability to respond to all hazards. NACCHO has been actively engaged in response activities since 1999. As part of a cooperative agreement with CDC, NACCHO has undertaken several programs that involve collaboration with local, state, and federal partners to strengthen and improve local health agencies' capacity to respond to bioterrorism and other communicable diseases and environmental health threats.

National Library of Medicine Specialized Information Services (Biological Warfare Page)

www.sis.nlm.nih.gov

The Specialized Information Services (SIS) Division of the National Library of Medicine (NLM) is responsible for information resources and services in toxicology, environmental health, chemistry, HIV/AIDS, and specialized topics in minority health. The website features an extensive database and other resources.

United States Army Medical Research Institute of Infectious Diseases (USAMRIID)

www.usamriid.army.mil

The United States Army Medical Research Institute of Infectious Diseases (USAMRIID), Fort Detrick, MD, conducts research to develop strategies, products, information, procedures, and training programs for medical defense against biological warfare threats and naturally occurring infectious diseases that require special containment. USAMRIID, an organization of the U.S. Army Medical Research and

Material Command (USAMRMC), is the lead medical research laboratory for the U.S. Biological Defense Research Program. The Institute plays a key role in national defense and infectious disease research at the largest biocontainment laboratory in the Department of Defense (DoD) for the study of hazardous diseases.

U.S. Food and Drug Administration (FDA)

www.fda.gov/oc/opacom/hottopics/bioterrorism.html

The FDA's counterterrorism Web page covers biological agents such as anthrax, smallpox, botulism, plague, etc. It also has extensive material on public health initiatives/actions, preparedness, vaccines, and treatments.

Other Resources

U.S. Army Soldier and Biological Chemical Command www.sbcomm.army.mil

For updated CDC Ricin see website www.emergencyemail.org/cdc.htm

The Emergency Email Network, Inc. www.emergencyemail.org/

APPENDIX A

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Melissa Reuland joined PERF in 1995, following ten years of work in the social and medical sciences managing research projects and analyzing large sets of survey data. Currently, Reuland is the principal investigator and project director of the *Community Policing Partnerships for Domestic Violence: Documentation and Assessment* project, funded by the Office of Community Oriented Policing Services. She serves as project director for PERF's phase of the National Institute of Justice-funded project: *Explaining the Prevalence, Context, and Consequences of Dual Arrest in Intimate Partner Cases* and is the principal investigator for the NIJ-funded project *Local Law Enforcement and the Terrorist Threat*, in which a team of nationally known researchers and experts will help develop a research agenda for law enforcement on terrorism responses. Reuland recently completed work for the law enforcement track of the Criminal Justice/Mental Health Consensus Project. She also directed PERF's prior project on the police response to people with mental illnesses, co-authoring a publication of the same name.

Reuland's PERF publications include several community policing and problem-solving curricula. She has also edited *Information Management and Crime Analysis* (1997) and *Solving Crime and Disorder Problems* (2001). Most recently, she wrote a guide on implementing police-based diversion for people with mental ill-

ness, which was published by the TAPA Center for Jail Diversion, U.S. Department of Health and Human Services. Reuland received her master's in criminal justice from the University of Baltimore.

Heather J. Davies

Research Associate, Police Executive Research Forum

Heather Davies, Ph.D., has experience in criminal justice and child welfare research, evaluation, training, and technical assistance. She is currently responsible for managing national-level terrorism research and policy development projects. She is the project director of the white paper series, *Protecting Your Community from Terrorism: Strategies for Local Law Enforcement*, and the subsequent *Community Policing in a Security Conscious World* project, to address local law enforcement's concerns in preventing and preparing for terrorist acts. Davies is first author of the second white paper in this series, *Working with Diverse Communities*. Davies is also one of PERF's representatives for several terrorism research working groups. She is also the project coordinator on a Bureau of Justice Assistance-funded project, *Managing Multijurisdictional Cases: Lessons Learned from the Sniper Investigation*.

Prior to joining PERF in 2003, Davies was a senior research associate with the American Bar Association's Center on Children and the Law, and the Criminal Justice Section. She was the principal investigator on a project evaluating parental

involvement practices of juvenile courts, and one on improving legal and judicial responses to parental kidnapping. Davies conducted an analysis of legal services provided by the District of Columbia's Office of Corporation Counsel to the Child and Family Services Agency. In addition, she served as the project manager on such studies as the implementation of the Michigan Lawyer-Guardian Ad Litem Statute, a national assessment of law enforcement and community partnerships for helping children exposed to domestic violence, and an evaluation of domestic violence no-drop policies. Davies is the co-author of a National Center for Missing and Exploited Children monograph, *Child Pornography: The Criminal Justice Response*. She holds a bachelor's degree in sociology from Virginia Tech, and a master's degree and a Ph.D. in justice, law and society from American University. Her dissertation addressed *Understanding Variations in Murder Clearance Rates: The Influence of the Political Environment*.

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Appointed the chief of the Los Angeles Police Department (LAPD) in October 2002, William J. Bratton oversees the operations of one of the largest major municipal law enforcement agencies in the United States. His responsibilities include the supervision of 9,304 sworn and 3,055 civilian employees. Bratton directs all patrol, investigative, and administrative operations. A strong advocate of transparent community policing that embraces partnership, problem solving, and prevention, he

initiated a major reengineering of the LAPD to be more responsive to local community needs. Bratton's vision includes a comprehensive and assertive strategy for dramatically reducing crime, disorder, and fear. Particular emphasis has been placed on gang-related crimes and the culture that creates it. He joined the LAPD with more than 32 years of public and private sector law enforcement experience.

His policing career began as a police sergeant in the U.S. Army Military Police. He then joined the Boston Police Department in 1970 and rose through the ranks to Superintendent of Police, the highest sworn rank, by 1980. In 1983, Bratton became chief of the Massachusetts Bay Transportation Authority Police Department. In 1986, he was appointed as the Superintendent of the Metropolitan District Commission Police, which patrols the Boston Metropolitan Area.

In 1990, he became Chief of Police/Senior Vice President for the New York City Transit Authority Police Department, where he won national recognition for his leadership by initiating reforms and strategies that eventually cut subway crime by nearly 50 percent. Then Bratton returned to the Boston Police Department as Superintendent in Chief and in 1993 was appointed as Police Commissioner. During his tenure, he significantly reduced crime and improved relations between the police and minority communities.

Bratton returned to New York City in 1994 when he was appointed as Police Commissioner. His leadership helped foster a 39 percent decline in serious crimes and a 50 percent reduction in homicides. From 1994–1996, he also initiated the internationally acclaimed COMPSTAT system—a com-

46 The contributing author bios are listed in alphabetical order.

puter-driven management accountability process that is integral to his decentralized management philosophy. From 1996–2002, Bratton worked in the private sector, where he formed his own consulting company, The Bratton Group, L.L.C. He also served as a senior consultant with Kroll Associates.

He holds a bachelor's degree in law enforcement from Boston State College/University of Massachusetts. He is a graduate of the FBI National Executive Institute and was a Senior Executive Fellow at Harvard University's John F. Kennedy School of Government, where he served as a Research Fellow. He is a graduate of the Senior Management Institute for Police (SMIP). From 1993–1996, he served as the elected president of the Police Executive Research Forum (PERF), and again was elected as PERF's president in March 2004. A frequent guest lecturer, writer, and commentator, he is the co-author of his autobiography, *Turnaround*. Among his many other honors and awards, Bratton holds the Schroeder Brother's Medal, which is the Boston Police Department's highest award for valor and the PERF Leadership Award.

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Director, Public Health and Health Officer, Los Angeles County Department of Health Services

Jonathan E. Fielding is Director of Public Health and Health Officer for Los Angeles County responsible for all public health functions including surveillance and control of both communicable and non-communicable diseases, and of health protection (including against bioterrorism) for the county's 10 million residents. By 2004, he was direct-

ing a staff of 3,600 with an annual budget exceeding \$600 million.

He chairs the U.S. Community Preventive Services Task Force and was a founding member of the U.S. Clinical Preventive Services Task Force. Fielding is also a professor in the UCLA Schools of Medicine and Public Health and has authored over 150 peer-reviewed articles, chapters, and editorials on a wide range of public health and preventive medicine issues. He is the editor of the *Annual Review of Public Health*, the vice-chairman of Partnership for Prevention and an elected member in the National Academy of Sciences Institute of Medicine.

Formerly, Fielding was the Massachusetts Commissioner of Public Health and was a vice president of Johnson & Johnson. He received his medical and public health degrees from Harvard University and a M.B.A. in finance from the Wharton School of Business.

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Richard A. Goodman, M.D., J.D., is co-director of the Public Health Law Program, Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, and is the former editor of CDC's *Morbidity and Mortality Weekly Report (MMWR) Series*. Goodman received his medical degree and completed a residency in internal medicine at the University of Michigan in Ann Arbor, and earned a law degree at Emory University in Atlanta. He is Board Certified in both Internal Medicine and Preventive Medicine. A commissioned officer in the U.S. Public Health Service, he holds the grade

of Medical Director (Captain: O-6). Following completion of his internal medicine residency in 1978, he joined CDC's Epidemic Intelligence Service Program and has remained on that agency's staff in assignments to the Georgia Department of Human Resources and to the UCLA School of Public Health. Goodman also holds appointments as a professor (adjunct) at the Rollins School of Public Health, Emory University, and at the College of Law, Georgia State University. He has published on a broad range of topics in applied epidemiology—from surveillance and outbreak investigations of acute infectious diseases, to population-based studies of the epidemiology of homicide, and the law of public health. He also is the lead editor of *Law in Public Health Practice*, published by Oxford University Press.

Jerome M. Hauer

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As of this writing, Hauer is the first director of the Response to Emergencies and Disasters Institute (READI) and an assistant professor at The George Washington University. Working with the Department of Homeland Security, Hauer's duties include coordinating and delivering first responder, medical, and public health training to the National Capital Region (NCR). Hauer also teaches at The George Washington University as an assistant professor in the School of Public Health and the School of Medicine.

At the time of the executive session, Jerome Hauer was the Acting Assistant Secretary for the Office of Public Health Emergency Preparedness. He was responsible for coordinating

the country's medical and public health preparedness and response to emergencies, including acts of biological, chemical, and nuclear terrorism. Hauer also served as senior advisor to the Secretary for National Security and Emergency Management during the events of September 11, 2001 and the nation's anthrax crisis. He was the first director of the Mayor's Office of Emergency Management in New York City. During his tenure, New York City developed the country's first bioterrorism response plans and surveillance systems, and conducted the country's largest bioterrorism tabletop exercise.

Hauer holds a master's degree from the Johns Hopkins School of Public Health and has more than twenty years of experience in emergency management. He is the recipient of numerous honors, including the Outstanding Alumni of the Year award from the Johns Hopkins Bloomberg School of Public Health, the Indiana Commendation Medal for Exceptional Meritorious Service, Legion of Hoosier Heroes Award, and the Distinguished Alumni award from NYU. He is a member of the New York City Police Department's Honor Legion, and is an honorary assistant chief in the New York City Fire Department.

Ronald L. Iden

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At the time of the executive session, Iden was the Assistant Director in Charge of the FBI's Los Angeles Field Office. He was later appointed as the Director of the California Office of Homeland Security on January 6, 2004, after 25 years of service with the Federal Bureau of Investigation (FBI).

As this paper goes to print, Iden has accepted the position of Senior Vice President of Security for the Walt Disney Company. He holds a bachelor's degree in the administration of criminal justice from the University of Illinois, as well as a master's degree in public administration from the Illinois Institute of Technology.

From July 2001 until his retirement from the FBI in January 2004, Iden served in the FBI's Los Angeles Field Office. From 1998 to 2001, he was assigned as the Special Agent in Charge of the Los Angeles FBI's investigations of terrorism, foreign counterintelligence, financial crimes, and civil rights matters. From 1997 to 1998, Iden served as the Deputy Assistant Director of the FBI's Information Resources Division. In that capacity, he was responsible for the FBI's worldwide automation and information management requirements. Prior to that assignment, he served for one year as chief of the Information Resources Division's strategic planning, budget, and personnel operations.

From 1992 to 1996, Iden served as an Assistant Special Agent in Charge within the Los Angeles FBI Office where he was responsible for all violent crime investigations conducted by the FBI within the seven-county Los Angeles metropolitan area. He served as chief of the FBI's Public Corruption Unit at FBI Headquarters during 1991 and 1992. In April 1990, while assigned to FBI Headquarters, he was tasked to supervise the FBI's investigation of the bombing deaths of a federal judge in Birmingham, Alabama, and a civil rights attorney in Savannah, Georgia. That investigation resulted in the convictions of all involved.

In October 1984, while assigned to the FBI's San Juan Division, he was responsible for the investigation of a Puerto Rican terrorist group's

involvement in a \$7 million armored car robbery in Connecticut. That investigation resulted in the indictment of 17 terrorists and the dismantling of that terrorist organization. In May 1979, while assigned to the FBI's San Antonio, Texas, Division, he was assigned to investigate the assassination of a federal judge as well as the attempted assassination of a federal prosecutor. Those investigations resulted in the convictions of all involved. He was appointed as a Special Agent with the FBI in May 1978, after serving 10 years as a police officer with the Elk Grove Village, Illinois, Police Department.

Cathy L. Lanier

Commander, Special Operations Division, D.C. Metropolitan Police Department

Cathy L. Lanier is currently serving as commanding officer of the Special Operations Division of the Metropolitan Police Department where she manages members of the Emergency Response Team, Aviation and Harbor Units, Horse Mounted and Canine Units, Special Events/Dignitary Protection Branch, and the newly formed Domestic Security Office and Special Threat Action Teams.

Lanier has been with the D.C. Metropolitan Police Department for fourteen years, rising through the ranks to become Captain in the Uniform Patrol Division. In 1999, she was appointed to the rank of inspector, where she served as the commanding officer of the Department's Major Narcotics Branch and Vehicular Homicide Units in the Special Services Division.

After reaching the rank of commander, she returned to the Uniform Patrol Division where she served as the district commander of the largest and

most diverse residential district in the city for nearly two years. In early 2002, Lanier was transferred to the Special Operations Division, becoming the first female commander to head the specialized units in the department's history. Since reaching the executive level of the department, Lanier has handled numerous large-scale special events, demonstrations, and civil disturbances to include the IMF/World Bank Conferences, the World Figure Skating Championship, and numerous "right to life" and "anti-war" marches on Washington.

She is a graduate of the FBI's National Academy and the DEA's Drug Unit Commanders Academy. She is also certified at the technician level in hazardous materials operations. Lanier has a bachelor's and master's degree in management and leadership from Johns Hopkins University, and will complete her second master's degree in homeland security in September 2005.

Phil T. Pulaski

Assistant Chief, Counter Terrorism Bureau, New York City Police Department

Assistant Chief Phil T. Pulaski has been a member of the NYPD for 23 years where he has held numerous command positions. He currently serves as the Commanding Officer of the Counter Terrorism Bureau. As such, he is in command of the more than 135 NYPD detectives and supervisors assigned to the FBI/NYPD Joint Terrorism Task Force, and is also responsible for the NYPD programs involving critical infrastructure protection, counterterrorism force deployment/countermeasures, intelligence analysis, counterterrorism-related training, and the evaluation of emerging counter terrorism-related technology. Pulaski is also responsible for overseeing the NYPD's

Chemical, Biological, Radiological, Nuclear/Hazardous Materials Programs as well as the integration of those programs with other city, state, and federal agencies such as the NYC Department of Health and Mental Hygiene, NYC Department of Environmental Protection, NYS Civil Support Team, FBI, and the U.S. Department of Homeland Security.

Prior to his current assignment, Pulaski was the NYPD Commanding Officer of the FBI/NYPD Joint Terrorism Task Force. As such, together with his FBI counterpart, he managed and directed terrorism-related investigations, including the 9-11 World Trade Center/Pentagon attacks and October 2001 anthrax attacks, as well as, the collection, vetting, and analysis of terrorism-related intelligence. He has also served as Commanding Officer, Manhattan Detectives; Commanding Officer, Bronx Detectives; Commanding Officer, Forensic Investigations Division; Acting Director, Police Laboratory; Commanding Officer, Special Investigations Division; Commanding Officer, Arson and Explosion Squad; and Managing Attorney, Legal Bureau. He holds a J.D. from St. Johns University Law School, and has been licensed to practice law for 24 years. He also holds both a master's degree and bachelor's degree in engineering from Manhattan College, and worked as a civil engineer for the United States Environmental Protection Agency. He has also worked as an adjunct assistant professor at John Jay College of Criminal Justice.

Ruth A. Vogel

Executive Director, Office of Public Health Preparedness and Response, Baltimore City Health Department

Ruth Vogel was appointed director of the Baltimore

City Health Department's Office of Public Health Preparedness and Response in May 2002. She is the executive advisor to the mayor and the commissioner of health for all public health emergency preparedness, planning, and response issues. She serves on the Mayor's Joint Executive Committee for Homeland Security, the City's Security Cabinet, and is a member of the Maryland Anti-Terrorism Task Force. One of her primary responsibilities is to provide leadership on collaborative projects with key institutions and agencies within the Baltimore metropolitan region.

Prior to her current position, she was the division director for the Baltimore City Health Department's Health Promotion and Disease Prevention. She was responsible for overall implementation of the HIV, STD, and TB Prevention Programs, and the Acute Communicable Disease Program. She was recognized nationally for her work with the Ujima Demonstration Project.

Vogel has undergraduate degrees from the University of Minnesota in Nursing, and the University of North Dakota in community health. She completed her graduate work at Johns Hopkins University Bloomberg School of Public Health and Hygiene.

Dani-Margot Zavasky

Medical Director, Counter Terrorism Bureau, New York City Police Department

Dani-Margot Zavasky has been serving the New York City Police Department as the Medical Director of Counter Terrorism since July 2002. She is the medical and science advisor regarding Chemical, Biological, and Radiological/Nuclear (CBRN) terrorism to the Deputy Commissioner of Counter Terrorism and is the police department liaison to the public health authorities. Her other responsibilities include developing and supporting CBRN-related defense policies and strategies, as well as assisting in the police department personnel's CBRN terrorism training and education.

Zavasky received her medical degree as well as her postgraduate residency training in internal medicine from the University of Washington in Seattle. She completed the fellowship program in infectious diseases at the University of Utah in Salt Lake City. She is board certified in internal medicine and infectious diseases. Prior to her assignment in the New York City Police Department, Dr. Zavasky had been a practicing physician in infectious diseases.

ABOUT THE OFFICE OF COMMUNITY ORIENTED POLICING SERVICES



U.S. DEPARTMENT OF JUSTICE

THE OFFICE OF COMMUNITY ORIENTED POLICING SERVICES (COPS) WAS created in 1994 and has the unique mission to directly serve the needs of state and local law enforcement. The COPS Office has been the driving force in advancing the concept of community policing, and is responsible for one of the greatest infusions of resources into state, local, and tribal law enforcement in our nation's history.

Since 1994, COPS has invested over \$10 billion to add community policing officers to the nation's streets, enhance crime fighting technology, support crime prevention initiatives, and provide training and technical assistance to help advance community policing. COPS funding has furthered the advancement of community policing through community policing innovation conferences, the development of best practices, pilot community policing programs, and applied research and evaluation initiatives. COPS has also positioned itself to respond directly to emerging law enforcement needs. Examples include working in partnership with departments to enhance police integrity, promoting safe schools, combating the methamphetamine drug problem, and supporting homeland security efforts.

Through its grant programs, COPS is assisting and encouraging local, state, and tribal law enforcement agencies to enhance their homeland security efforts using proven community policing strategies. Traditional COPS programs such as the Universal Hiring Program (UHP) give priority consideration to those applicants that demonstrate a use of funds related to terrorism preparedness or response through community policing. The COPS in Schools (CIS) program has a mandatory training component that includes topics on terrorism prevention, emergency response, and the critical role schools can play in the community response. Finally, COPS is implementing grant programs intended to develop interoperable voice and data communications networks among emergency response agencies that will assist in addressing local homeland security demands.

The COPS Office has made substantial investments in law enforcement training. COPS created

a national network of Regional Community Policing Institutes (RCPIs) to offer state and local law enforcement, elected officials, and community leaders training opportunities on a wide range of community policing topics. Most recently the RCPIs have been focusing their efforts on developing and delivering homeland security training. COPS also supports the advancement of community policing strategies through the Community Policing Consortium. Additionally, COPS has made a major investment in applied research that makes possible the growing body of substantive knowledge covering all aspects of community policing.

These substantial investments have produced a significant community policing infrastructure across the country, as evidenced by the fact that at the present time, approximately 86 percent of the nation's population is served by law enforcement agencies practicing community policing. The COPS Office continues to respond proactively by providing critical resources, training, and technical assistance to help state, local, and tribal law enforcement implement innovative and effective community policing strategies.

ABOUT PERF



THE POLICE EXECUTIVE RESEARCH FORUM (PERF) IS A NATIONAL PROFESSIONAL association of chief executives of large city, county, and state law enforcement agencies. PERF's objective is to improve the delivery of police services and the effectiveness of crime control through several means:

- the exercise of strong national leadership,
- the public debate of policing and criminal justice issues,
- the development of research and policy, and
- the provision of vital management and leadership services to law enforcement agencies.

PERF members are selected on the basis of their commitment to the organization's objectives and principles. PERF operates under the following tenets:

- Research, experimentation, and exchange of ideas through public discussion and debate are paths for the development of a comprehensive body of knowledge about policing.
- Substantial and purposeful academic study is a prerequisite for acquiring, understanding, and adding to that body of knowledge.
- Maintenance of the highest standards of ethics and integrity is imperative in the improvement of policing.
- The police must, within the limits of the law, be responsible and accountable to citizens as the ultimate source of police authority.
- The principles embodied in the Constitution are the foundation of policing.

Categories of membership also allow the organization to benefit from the diverse views of criminal justice researchers, law enforcement of all ranks, and other professionals committed to advancing law enforcement services to all communities.

NOTES



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