CRISIS EMERGENCY RISKCOMMUNICATION BE FIRST. BE RIGHT. BE CREDIBLE.

CERC: Terrorism and Bioterrorism Communication Challenges

Supervise SERVICES (A)

U.S. Department of Health and Human Services Centers for Disease Control and Prevention

Last Updated: 2014

CERC: Terrorism and Bioterrorism Communication Challenges

In this chapter, the following topics are addressed:

- Chemical, biological, radiological, nuclear, or explosive (CBRNE) events
- Communication challenges
- Bioterrorism versus emerging infectious diseases and hoaxes
- Psychological responses to terrorism
- The Strategic National Stockpile (SNS) and emergencies

This chapter discusses two phrases that are commonly used in responses to terrorism and bioterrorism events: $^{\rm 1}$

Crisis Management: Within the context of terrorism, this phrase refers to activities that involve identifying, obtaining, and planning the use of resources that a response organization may need to anticipate, prevent, or resolve an act of terrorism, or the threat of an act of terrorism.

Consequence management: Within the context of terrorism, "consequence management" refers to activities that a response organization might take to protect the health and safety of the public, restore necessary government services, and provide emergency relief to affected people, governments, and businesses.

Crisis management is mostly handled by law enforcement agencies, such as the Federal Bureau of Investigation (FBI). Consequence management is primarily controlled by state and local governments, with assistance from federal government agencies, such as the Federal Emergency Management Agency (FEMA), as required.

Communicators Face New Challenges

Most approaches to emergency management and response support an all-hazards approach to terrorism—the intentional use of violence, threats, and intimidation for political aims. Terrorists have become increasingly sophisticated in their forms of attacks.² This chapter describes many of the unique challenges that terrorism creates for communicators.

One of government's primary responsibilities is to protect its citizens. Given the relative sophistication of terrorists, this reality amounts to one of the most challenging priorities facing governments. Terrorism is a potential threat to national security and social stability. It is also a violent criminal act. Since the attacks of September 11, 2001, terrorism has become a more prominent national priority. The nature of the threat and the uncertainty associated with terrorism create particular challenges for communicators.



Chemical, Biological, Radiological, Nuclear, or Explosive (CBRNE) Events

Terrorist Events are Real

Terrorism is not new. It's been around as long as people have been willing to use violence as a political weapon. Title 22 of the United States Code, Section 2656f(d), defines terrorism as the "premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents, usually intended to influence an audience.³

The types of terrorist attacks discussed in this section are rare and usually relatively limited in scope. For example, in 1984, a small religious cult in The Dalles, Oregon, led by self-professed guru the Bhagwan Shree Rajneesh, tried to influence the outcome of a local election by infecting the local population with *Salmonella*.⁴

The organism was spread through restaurant salad bars, grocery produce, and doorknobs. Although no one was killed, about 750 people became ill.⁴ This was the first known bioterrorism attack during the 20th century in the U.S.

On September 11, 2001, several thousand people died from the air attacks on the World Trade Center, the Pentagon, and on the plane near Shanksville, Pennsylvania. Thousands more, including first responders, area residents, and workers, were exposed to potentially dangerous chemicals in the dust and ash clouds in Manhattan. Even more suffered issues of stress, including posttraumatic stress disorder (PTSD) and other mental health challenges.⁵ The attacks on the World Trade Center and the Pentagon demonstrated today's role of public health workers in terrorist attacks.

Later in 2001, the well-known anthrax attacks took place.⁶ This involved the intentional contamination of letters with this dangerous bacterium. Seventeen people were infected and five of them died. The attacks also created widespread social and economic disruption. The attacks demonstrated to the public how an infectious disease could be used in a terrorist attack. Public health professionals became central to the response. Since that time, CDC has paid even closer attention to reports involving viruses, bacteria, and toxins that might be used by terrorists to cause harm.

The bioterrorism agents that have the potential to create widespread harm to the public's health are ranked by categories. Category A biological diseases are those most likely to cause illness and death and are included in the following list:⁷

- Anthrax (Bacillus anthracis)
- Botulism (*Clostridium botulinum* toxin)
- Plague (Yersinia pestis)

- Smallpox (Variola major)
- Tularemia (*Francisella tularensis*)
- Hemorrhagic fever due to Ebola virus or Marburg virus



In addition to these agents, a large number of chemical, radiological, nuclear, or material substances could be used in a terrorist attack. Attacks with these agents are generally referred to as chemical, biological, radiological, nuclear, or explosive (CBRNE)⁸ events.

According to the Department of Homeland Security (DHS),⁹ "a biological attack is the intentional release of a pathogen (disease-causing agent) or biotoxin (poisonous substance produced by a living organism) against humans, plants, or animals." These attacks can cause the following:

Illness

Societal disruption

- Death
- Fear

In addition, attacks on agriculture would primarily cause the following:

- Economic damage
- Social disruption
- Possible human casualties

With biological attacks, it is important to distinguish between agents that may spread from person to person, such as smallpox virus, and those agents that do not spread from person to person, such as anthrax bacteria.

DHS defines a chemical attack¹⁰ as "the spreading of toxic chemicals with the intent to do harm." The variety of chemicals that could be used to do harm is quite large and includes the following:

- Chemical weapons
- Toxic industrial and commercial chemicals
- Toxins of biological origin, such as ricin

The severity of chemical attacks may vary based on the level of exposure, the form of the chemical, and the health of the people exposed.

A radiological attack,¹¹ according to DHS, "is the spreading of radioactive material with the intent to do harm." Radioactive materials are common and widely used in medicine, industry, and research. Like chemical attacks, radiological events are complex and must take into account many factors in determining risk. A radiological attack, such as a dirty bomb, is not considered a nuclear attack. A dirty bomb uses conventional explosives to disperse radioactive material.

CERC: Terrorism and Bioterrorism Communication Challenges

3

- Economic damage



DHS describes a nuclear attack¹² "as the use of a device that produces a nuclear explosion." A nuclear explosion would produce devastating waves of heat, light, air pressure, and radiation, followed by the production and release of radioactive material. Fallout from a nuclear explosion can expose people at great distances to radiation and radioactive material.

Attacks such as these are rare, but their potential health effects and other consequences would be severe. They would cause direct harm to the public. They would also create serious social disruption, psychological trauma, and a wide range of economic impacts.

Attacks with explosives, including improvised explosive devices (IEDs), are used to destroy, incapacitate, harass, or create a distraction. IEDs are homemade explosive devices. The term "IED" became commonly used during the Iraq War that began in 2003.¹³

Explosive devices can come in many forms. They can be as small as a pipe bomb, or much larger and capable of causing significant damage and death, such as the one used in the 1996 Oklahoma City bombing.¹² Explosives can be made from commonly available chemicals and materials.¹⁴

Category B attacks are serious, but not as serious as Category A. Category B agents are the second highest priority:⁷

- They are moderately easy to spread.
- They result in moderate illness rates and low death rates.
- They require specific enhancements of CDC's laboratory capacity and enhanced disease monitoring.⁷

Traits of a Terrorist Attack

Terrorism is a criminal act and this influences the response. The goal of terrorism reaches beyond the immediate victims and seeks to influence wider public opinion. Terrorists try to commit criminal acts of violence to draw attention to issues, causes, and ideologies. Attacks are in part publicity events. They are likely to focus on targets with larger symbolic meaning and shock value, or are planned to create widespread disruption. Terrorists often target transportation, communication, food production, or economic institutions. Terrorist acts are also designed to undermine faith and trust in institutions, including government.

An attack involving a chemical, radiological, or biological agent could serve terrorists by producing widespread public fear and social disruption. Although not as dramatic or visual as a major explosion, a chemical, biological, or radiological event would likely create significant public anxiety because the effects would not immediately be evident.



Law Enforcement and Public Health in Terrorist Events

The focus on criminal investigations and prosecution is a relatively new concept for public health professionals when responding to a public health crisis. It is important that public health communicators understand the challenges they face in releasing information in response to a terrorist event. First and foremost, the FBI must have final authority over the release of information about the incident. The Department of Justice (DOJ) and the FBI are committed to ensuring that all health-related information addressing a terrorist or suspected terrorist incident will be immediately released to protect the public's health and safety. In a disease outbreak, however, some points normally considered background information, such as descriptions of where a suspicious outbreak first occurred, may have to be withheld by public health officials to protect the integrity of the criminal investigation.

The response to a terrorist threat or incident within the U.S. will entail a highly coordinated, multiagency local, state, and federal response. The primary agencies that provide the core federal response are the following:

- Department of Homeland Security (DHS)
- DHS' Federal Emergency Management Agency (FEMA)
- Department of Justice's (DOJ) FBI
- Department of Defense (DOD)
- Department of Energy (DOE)
- Department of Health and Human Services (HHS)
- Environmental Protection Agency (EPA)

A number of policies and procedures are in place to clarify roles. The National Response Framework (NRF) replaced the National Response Plan in 2008.¹⁵ NRF provides an approach for the U.S. in conducting all-hazards response. The National Incident Management System (NIMS)¹⁶ provides a template to coordinate the efforts of governments, NGOs, and the private sector in response to any incident.

Coordination of agencies responding to a crisis is challenging, particularly when there are multiple interests as noted below:

- The U.S. Attorney General has the lead and responsibility for criminal investigations of terrorist acts and threats.
- The Secretary of DHS is the principal federal official for domestic incident management.
- The FBI serves as the primary investigating agency under DOJ.
- HHS serves as a support agency to the FBI for technical operations and to FEMA for consequence management.
- FEMA, under the direction of DHS, is the lead agency for managing the event aftermath.



The federal government also recognizes the critical role and considerable responsibility of state and local authorities who are charged with managing their own local and regional emergencies and disasters.

HHS provides technical personnel and supporting equipment to the lead federal agency during all aspects of a terrorist incident. HHS can also provide regulatory follow-up when an incident involves a product regulated by the Food and Drug Administration (FDA).

HHS assistance support includes the following:

- Threat assessment
- Epidemiology investigations
- Technical advice and assistance for the FBI:
 - Identification of agents used
 - Sample collection
 - Sample analysis
- Operational support to FEMA:
 - · Mass immunization
 - Mass prophylaxis (preventive treatment)
 - Mass fatality management
 - Pharmaceutical support operations through SNS

- Onsite safety and protection activities
- Medical management planning
- Contingency medical records
- Patient tracking
- Patient evacuation
- Definitive medical care provided through the National Disaster Medical System

CDC's Strategic National Stockpile

CDC's Strategic National Stockpile, commonly referred to as SNS, has large quantities of medicine and medical supplies to protect the American public if there is a public health emergency severe enough to cause local supplies to run out. Examples of such emergencies could include a terrorist attack, flu outbreak, or earthquake.

Once federal and local authorities agree that SNS is needed, medicines will be delivered to health officials in the U.S. in time for them to be effective. Each state or territory has plans to receive and distribute SNS medicine and medical supplies to local communities as quickly as possible.¹⁷



Communication Challenges

How a Terrorism Incident Is Different From Other Crises

Chemical, biological, radiological, nuclear, or explosive substances used in a terrorist attack are CBRNE events.⁸ Weapons of mass destruction (WMDs) use CBRNE elements to produce:

- Mass casualties
- Extensive damage to property
- Widespread social and economic disruption

WMD incidents are different from other types of incidents in several ways.¹⁸ These must be considered when planning a communication response. First responders will need to be able to identify aspects of the incident, such as signs and symptoms exhibited by victims, and report them accurately. This will be key to maximizing the use of local resources and for triggering a federal response. Consider the following differences between WMD events and other public health events:

- There will likely be a stronger public reaction to WMD incidents than to other types of incidents. The thought of exposure to CBRNE events evoke fear in most people. Uncertainty also makes the public's response more severe.
- The interest and uncertainty will mean that information will flow very quickly through social media. Public information officers (PIOs) will need to engage with social media to keep up.
- The situation may not be recognized until there are multiple victims or casualties:
 - Most chemical and biological agents are not detectable by methods used for explosives and firearms.
 - Many agents can be carried in containers that resemble everyday items.
- Multiple events might occur. One event may be carried out in an attempt to influence another event's outcome.
- Responders are at a higher risk of becoming casualties:
 - Chemical and biological agents are not readily identifiable.
 - Responders may be contaminated before knowing an agent is involved.
 - First responders might be targets for secondary releases or explosions.
- The location of the incident will be treated as a crime scene:
 - Preservation and collection of evidence is critical.



- On-scene actions must be coordinated between response organizations to minimize conflicts with law enforcement authorities who will view the incident as a crime scene and other responders who view it as a hazardous material problem or a disaster scene.
- Critical facilities and large geographic areas may be contaminated:
 - Victims can unknowingly carry an agent to public transportation facilities, businesses, residences, doctors' offices, walk-in medical clinics, or emergency rooms because they don't realize they are contaminated.
 - First responders may unknowingly carry the agent to fire or precinct stations, hospitals, or to the locations of subsequent calls.
- Time works against responders. The incident can expand geometrically and very quickly, affecting mutual aid jurisdictions.
- Airborne agents flow with the air current and may spread via ventilation systems, carrying the agents far from the initial source. In addition, the effects of some chemicals and biological agents worsen over time.
- Support facilities such as utility stations and 9-1-1 centers, along with critical infrastructures, are at risk as targets.
- Specialized state and local response capabilities may be overwhelmed.

Reality Check

It's easy to see why a terrorism event can cause such strong emotional responses among the public. These events:

- Are outside of the control of the individual
- Are catastrophic or unfairly distributed
- Originate from a mistrusted source
- Are manmade
- Usually appear exotic or unfamiliar

The uncertainty of the event may further increase fear and require CERC concepts for management.



Terrorism and Public Information

Releasing information about a terrorist event will be complicated by the ongoing criminal investigation. At the same time, social media can be expected to provide a great deal of information, correct and incorrect, very quickly. Speed of response will be particularly important as a media strategy.

The DHS Secretary and the Attorney General (through the FBI) will be responsible for coordinating information dissemination to the White House, Congress, and other federal, state, and local government officials. In fulfilling this responsibility, the FBI, as the lead law enforcement federal agency, ensures that the release of public information is coordinated between crisis-management and consequencemanagement response entities. A national joint information center (JIC) under NIMS will serve as a focal point for coordination and dissemination of public and media information. A state-level JIC will likely follow the same protocols.¹⁴

Because of the high uncertainty and concern that comes with a CBRNE terrorism event, communicators will have to contend with an intense need for information. A carefully coordinated communication plan is particularly critical. Coordination of communication will occur through the JIC. In all cases, JICs should include federal response agencies as well as state and local PIOs. "There are a number of things that have triggered the activation of a JIC in the past, but I think the most important was clearly when an agency is aware that there is a threat to public health and there is a responsibility to ensure that the public is aware of what is going on, what the risk is, and what to do to protect themselves."

> Dr. Marsha Vanderford, Associate Director for Communication, Center for Global Health, CDC

Coordinating with State and Local Response Agencies¹⁶

Throughout the management of the terrorist incident, crisis-management and consequencemanagement entities will operate at the same time. They do this to ensure that the work of multiple response agencies is coordinated. They also work to produce a time-phased deployment of specialized federal resources that is tailored to the incident.

It is critical that all participating federal, state, and local agencies and organizations coordinate their activities to avoid chaos.

Once an incident has occurred, local government emergency response organizations will report to the incident scene and communicate appropriate notifications to local, state, and federal authorities. Control of the incident scene will be established by local response authorities such as a senior fire or law enforcement official. Command and control of the incident scene is the responsibility of the Incident Commander or Unified Command. Operational control of assets at the scene is retained by the designated officials representing agencies or organizations (local, state, or federal) providing the assets. These officials manage tactical operations at the scene in coordination with the unit commanders as



directed by agency counterparts at field-level operational centers. Field-level centers are not always used; assets may be managed from the emergency operations center in some cases.

Traits of Biological Terrorist Events

Traditional tools used by public health officials, such as infectious disease reporting systems, would likely be the first to detect an infectious agent released to cause harm. At that point, the role of public health personnel is to detect, investigate, and work with responders to reduce the public health impact of a bioterrorist event. This is most important with biological agents, which, after a silent release, may first present as unidentified illnesses.

The delay from a silent release would likely occur between the time a biological agent is released in a public place and the onset of illness. Doctors or emergency department workers may be the first to identify initial casualties. By then, the terrorist(s) may be far away. With some infectious diseases, only a short window of opportunity exists between the time the first cases are identified and the time the second wave of the population becomes ill. During that brief period, public health officials must do the following:

- Determine that an attack has occurred.
- Identify the organism.
- Develop strategies to prevent more casualties.

Strategies for managing the illness will involve effective communication with the public as well as a variety of public health partners.

Early detection and response are crucial and require some level of knowledge among medical professionals about possible biological terrorist agents. They must possess bioterrorism knowledge as they are in the best position to report suspicious illnesses. Early detection also requires access to a communication system between medical professionals and public health officials.

Preparing Public Health Agencies for Biological Attacks

Some epidemiologists are trained to detect and respond to biological attacks. The goal is to rapidly identify the organism involved which allows for a faster response. Increased laboratory capacity, well-trained lab workers, and needed supplies also help to speed diagnoses. In addition, the implementation of secure, reliable, and swift communication channels assists with early detection alerts and a quick response.

Many medical providers and public health officials have received additional training to become familiar with disease signs and symptoms rarely or never seen in the U.S. that could be used as biological weapons. The nation has stockpiled drugs, medical supplies, and vaccines within the SNS program. Such items could be needed to supplement local supplies depleted by a large-scale biological or chemical event.



Bioterrorism Versus Emerging Infectious Diseases and Hoaxes

Recognizing and Responding to Outbreaks

The intentional release of a biological organism could mimic a naturally occurring outbreak.¹⁸ Recognition of and response to an undeclared use of an infectious disease agent by a terrorist will be much more difficult to detect than an announced biological release, a chemical release, or terrorist bombing.

Health investigators may not immediately know that an infectious disease outbreak is the result of an intentional release of germs. CDC has long recognized that selected illnesses and symptoms may result from nature or from bioterrorism.¹⁸ Examples include:

- Encephalitis
- Hemorrhagic mediastinitis
- Pneumonia with abnormal liver function tests
- Papulopustular rash, such as smallpox rash
- Hemorrhagic fever
- Descending paralysis
- Nausea, vomiting, and diarrhea

The following list summarizes some characteristics of a disease outbreak that suggest the possibility of intentional use of an infectious agent:¹⁸

- Outbreak of a rare disease
- Outbreak of a disease in an area that normally does not experience the disease
- Occurrence of a seasonal disease at an inappropriate time of year
- Unusual age distribution of people involved in the outbreak
- Unusual epidemiologic features of an outbreak (e.g., a typical pathogen transmitted solely by food ingestion now found to be transmitted from person to person)
- Unusual clinical symptoms not typically seen with a known pathogen (especially respiratory symptoms)



In the last 40 years, CDC has been involved in the discovery of several emerging infectious diseases, either in the U.S. or around the world. Many past outbreaks, now known to be only nature at work, could have been initially mistaken for terrorism. These include the following:¹⁸

- **Legionnaires' disease outbreak, Philadelphia, 1976:** This outbreak was characterized by a severe pneumonia of unknown origin. The discovery of the cause of the pneumonia took many months.
- Hantavirus pulmonary syndrome, Southwestern U.S., 1993: This outbreak of severe pneumonia of unknown origin affected healthy young adults. This virus had never before been recognized in the U.S.
- **Foodborne cryptosporidiosis, Minnesota, 1995:** Investigators determined that a common organism previously associated with drinking contaminated recreational water, exposure to animals, or person-to-person contact was associated with contaminated chicken salad in this outbreak.
- Antibiotic-resistant strain of plague, Madagascar, 1995: This outbreak could have been attributed to genetic engineering for bioterrorism purposes, but it was found to be a naturally occurring strain.
- **Ebola virus infection, Zaire, 1995:** Researchers found this virus to be a 99% genetic match to the Ebola virus that caused the 1976 outbreak. This was unusual because most viruses mutate over time, causing a greater gap in genetic matching to strains from previous outbreaks. This finding raised the possibility of intentional reintroduction from a strain kept in a laboratory.
- Nipah virus encephalitis, Malaysia, Singapore, and Bangladesh, 1999–2003: Nipah virus is considered to be an agent with the potential to be used in bioterrorism. It was first identified in 1999 following a naturally occurring outbreak in Malaysia and Singapore. It reemerged in Bangladesh in 2001 and 2003.¹⁹
- H1N1 influenza pandemic, Worldwide, 2009–2010: This pandemic first attracted attention as an outbreak of influenza-like illness in Mexico in March and April 2009.²⁰ It developed into a worldwide pandemic. The influenza virus that caused this pandemic had characteristics of multiple other influenza viruses. This led to discussions, including online discussions, of possible bioterrorism.²¹

Whether epidemics result from terrorism or natural factors, the public health community must detect and quickly investigate outbreaks in the U.S. and worldwide. New disease agents could simply be nature at work. The past illustrates that it is best to be cautious and not prematurely assume that bioterrorism is the cause of an emerging infectious disease outbreak.



Reality Check

An outbreak could unfold such that an early and reasonable assumption of bioterrorism will be made simultaneously by the media, the public, and official responders. This happened with the anthrax letters in 2001.

In the anthrax response, some suggested early on that the anthrax death of a National Inquirer employee was likely from natural causes, not from bioterrorism, because he was an avid fisherman with plenty of outdoors exposure.

In a potential bioterrorism response, there is no room for assumptions:

- Nothing is officially bioterrorism until a designated official, usually law enforcement says it is.
- The FBI should publicly announce what is or is not deemed a bioterrorist act.
- Over-reassurance can impede the government's credibility.

Identifying Bioterrorism

In fall 1999, West Nile virus first appeared in the western hemisphere.²² It debuted in the media capital of the world, New York City. Since then, West Nile virus spread throughout the U.S., Canada, Mexico, the Caribbean, and Central America.

West Nile virus' notoriety has rivaled such deadly diseases as plague, Ebola, and hantavirus. Perhaps, it was because this exotic disease arrived in local neighborhoods and communities. In addition, the disease killed birds. Every dead bird was an additional reminder of the outbreak. Unfortunately, for public health communicators, the number of questions about when, where, and how it would strike, was much greater than the available answers at the time.

New York City public health and medical professionals had well-developed plans and training for responding to emerging diseases and bioterrorism. Some experts believe that these preparations enabled them to recognize that the initial cluster of illnesses was unusual and bring it to the attention of public health officials more quickly. Infectious disease experts are taught, "When you hear hoof beats think horses, not zebras." This describes a medical philosophy of considering the most obvious explanations first, before moving on to less likely explanations. When monitoring the public's health for both an emerging infectious disease and a potential bioterrorist act, epidemiologists must think horses and zebras. This means they must be sure to consider all explanations, not just the obvious ones. That distinction is important in early responses to disease outbreaks regardless of whether the virus is supplied by nature or by people.



Although public health was considering all explanations, some in the media theorized that this was a case of domestic bioterrorism. A New Yorker magazine article released in October 1999 about West Nile virus, after the first wave of questions about the new virus had been answered, might have led to a potential media frenzy.²³ The article asked if West Nile virus could be a case of bioterrorism. The day the article's advance news release went to national media, the CDC issued a statement reassuring New Yorkers that as awful as West Nile was, it still looked like nature at work. Working closely with CDC, local media officials minimized the plausibility of bioterrorism theories. Within 24 hours of the CDC statement, the media frenzy faded.

These communication approaches are helpful:

- Policy on commenting about potential bioterrorism aspects of an outbreak investigation should be made in advance and be included in your CERC planning.
- Spokespersons should not mention bioterrorism as a possibility unless there are compelling reasons to do so. Mentioning bioterrorism is likely to feed speculation.
- If media asks, organizations can respond by saying, "There is no reason to suspect that this is anything other than a natural outbreak."

By stating officially to the media that West Nile virus was believed to be nothing more than nature at work, the CDC set a challenging precedent. For example, what if, in the course of the next outbreak, early suspicions about bioterrorism are raised? Should those suspicions be confirmed? CDC experts can name many disease outbreaks with characteristics that could have been believed at first to be the work of terrorists.

CDC uses the following general format in responding to media speculation about bioterrorism during the early stages of an ongoing infectious disease outbreak investigation:

We're all understandably concerned about the uncertainty surrounding this outbreak and we wish we could easily answer that question today. For the sake of those who are ill or may become ill, our medical epidemiologists (professional disease detectives) are going to first try to answer the following critical questions:

- 1. Who is becoming ill?
- 2. What organism is causing the illness?
- 3. How should it be treated?
- 4. How can it be controlled to stop it from spreading?

A question that disease investigators routinely ask is: "Could this outbreak have been caused intentionally?" [Your organization name] must keep an open mind as data in this investigation are collected and analyzed.



With public safety in mind, we should not speculate on the organism's route of introduction until we have enough data to formulate a theory. We must consider the possibility that we may never have the data to answer this important question, based on epidemiology alone.

Any specific questions about the FBI's involvement in this outbreak investigation should be referred to them. However, the FBI and [your organization] have a strong partnership in the investigation of unusual disease outbreaks and have worked comfortably together in past parallel investigations.

All messages should be coordinated carefully with other response agencies. This is particularly important when considering the potentially sensitive questions surrounding a possible bioterrorism event.

CDC Media Strategy during a Possible Undeclared Bioterrorism Event

During all infectious disease outbreak investigations, CDC will not comment to the media about the possibility of an outbreak being a bioterrorist event; nor will it comment on the FBI's participation in an investigation unless first confirmed by the FBI to the media.

CDC will inform the media that all disease outbreak investigations routinely include questions about the possibility of an intentional act and that it is CDC's policy not to speculate about this possibility during an outbreak investigation. All media will be referred to the FBI while an investigation is ongoing for comment about the possibility of bioterrorism.

CDC will provide factual information as requested. CDC will not release information about an ongoing investigation unless first coordinated with the affected state; however, CDC can confirm that it has been invited by the state to assist in an investigation. CDC can release information about a multistate investigation after the state health departments (health officer and information officer) are notified.

CDC will not speculate to media or the public about the possibility of a bioterrorist act, nor will it respond to alarming scenario questions of a general nature during a suspected event. During an infectious disease outbreak investigation, CDC will defer to the FBI any speculation about whether an event may be a bioterrorist event.



Preparing for a Hoax

Hoaxes are false claims that, at least momentarily, appear credible. When these false claims reach the public, they can considerably disrupt daily activity and cause lasting economic harm. For example, during the anthrax attacks of 2001, many perpetrators sent benign white powder substances in letters with notes claiming the substance was anthrax. These hoaxes caused momentary fear as recipients waited for verification that the contents were actually harmless.

The power of hoaxes is in the uncertainty they create. Agencies often have a good idea that the claims are false. The difficulty is that if they are incorrect in assuming a hoax is false, the result could be disastrous. Imagine if a school ignored a bomb threat only to have a major explosion in a highly populated area of the school. Thus, agencies are typically forced to dedicate considerable time and resources to investigating hoaxes.

The Internet and social media provide almost limitless opportunities to spread hoaxes. DHS maintains an Internet website to label and debunk hoaxes as soon as they are identified.²⁴ The management of hoaxes requires an effective and rapid social media strategy.

Agencies face a paradox when responding to hoaxes. They are forced to make a serious response to all claims. Agencies need to be open and honest about the fact that they cannot, beyond a shadow of doubt, deny the authenticity of a suspected hoax without taking appropriate precautions and completing a thorough investigation. As such, hoaxes can drain valuable resources.

Key communication strategies during a confirmed hoax include:²³

- Attacking the source
- Challenging the claims made in the hoax
- Emphasizing that public safety remains the agency's primary value

Attacking the source involves stressing the harm caused by the hoax and revealing the misguided motives of the perpetrators. Challenging claims occurs as the agency generates evidence to invalidate the hoaxers' allegations.

The value of public safety must remain of utmost importance throughout your agency's response. It is possible to say, "Although the accusation is not credible, our agency is responding in this way out of an abundance of caution and concern for public safety."²⁵



Foot and Mouth Hoax in New Zealand

New Zealand's Ministry of Agriculture and Forestry (MAF) provided a model response to a hoax in 2005.²⁵ The Prime Minister received a letter claiming that a group had released a vial of foot and mouth disease virus on Waiheke Island. Had the claim been true, the financial impact would have been colossal for New Zealand and its farmers. The MAF was open and honest in its communication.

The agency shared its anger toward the perpetrators with farmers and reporters. Animals were tested and the feasibility of infecting the cattle in the precise manner described in the threatening letter was subjected to rigorous scientific debate.

The MAF assured farmers that the agency was taking steps to protect both the livestock and the reputation of New Zealand's farmers. New Zealanders waited anxiously for six days as information was gathered. In the interim, the hoaxers sent a follow-up letter with outlandish claims that were deemed scientifically impossible. This letter, along with negative test results and scientific discussion, enabled the MAF to declare the event a hoax within a week.

The MAF's patient and thorough response allowed the agency to maintain the confidence of New Zealand's citizens and the international marketplace. New Zealand's farmers saw no lasting impact of the event on consumption and exportation of their product.

Psychological Responses to Terrorism

The public will likely have a stronger public reaction and risk perception following terrorist incidents than other types of crisis events. This is due to the intentionality and uncertainty that accompanies such events. The intense media coverage of international terrorist attacks and frequent government warnings of future attacks cause some people to continue to experience anxiety and fear.

A review of several research studies on the medical and psychological effects following the September 11, 2001, attacks concluded the following.⁵

The likelihood of developing PTSD after the attacks was influenced by direct exposure, knowing someone who perished in the attacks, number of hours of watching television, and prior mental illness. The intense media coverage of international terrorist attacks and frequent government warnings of future attacks cause some people to continue to experience anxiety and fear.



- People who are anxious about potential future attacks are more likely to change their behaviors. One year after the attacks, some people had become more anxious and exhibited such behavioral changes as avoidance of crowds, avoidance of flying, and increased watching of programs related to world politics in general. People who were depressed were more likely to increase their consumption of alcohol, cigarettes, and marijuana.
- Trauma also has the potential to bring out the best character strengths in some people.
 Examples include gratitude, hope, kindness, leadership, love, spirituality, and teamwork. This reaction held true both immediately following the attacks and 10 months later.
- People may first seek support from family and friends rather than health professionals. Both immediately and in the months following the attacks, the majority reported that they did not seek help from counseling services but rather found support by talking to family and friends.
- There are different gender responses to terrorist attacks. Women reported more psychological distress, but more positive coping mechanisms than men.
- Responders need to be taken care of, too. Mental health professionals, social workers, and medical professionals assisting victims of the attacks and disaster workers at Ground Zero experienced increased levels of emotional exhaustion, anxiety, depression, and psychological distress.

The Strategic National Stockpile (SNS) and Emergencies

The SNS Program¹⁷

In anticipation of a natural or manmade infectious disease outbreak, CDC's SNS maintains large quantities of medicine and medical supplies. This stockpile is composed of multiple, comprehensive collections of supplies stored in strategic locations around the U.S. to ensure rapid delivery. It is maintained to protect the public if there is a public health emergency, such as a terrorist attack, widespread flu outbreak, or natural disaster that is severe enough to cause local supplies to run out.

Should federal and local authorities agree that SNS is required, SNS staff will ship drugs, vaccines, medical supplies, and medical equipment to states and local communities. The first of these supplies will arrive within 12 hours of the federal decision to deploy. Other shipments will continue to be delivered for as long as needed. SNS experts can assist states, territories, and communities with receiving, storing, staging, distributing, and dispensing SNS materials. Emergency communication plans support SNS staff deployments and are part of every regional, state, territory, or local area's SNS plans.

SNS supplies typically will arrive by air or ground in two shipment phases:

The first phase is called a 12-hour push package. The "12-hour" refers to the package's transit time: 12 hours or less after the federal decision to deploy. The word "push" is used because a state need only ask for help—not for specific items—and the SNS will "push" or ship everything



a state needs in response to a broad range of threats in the early hours of an event. The 12-hour push takes place when people are critically ill or dying from an ill-defined threat.

 Second-phase shipments will normally begin within 24–36 hours after a state identifies a threat. Shipments contain large quantities of specific items designed to deal with a defined threat. Second-phase shipments are referred to as vendor-managed inventory or VMI. This is because major pharmaceutical vendors store second-phase pharmaceuticals until they are shipped.

The 12-hour push package includes large quantities of supplies that states and communities will need to respond to such nerve agents as sarin and biological agents such as anthrax, plague, and tularemia. The package will enable state and local authorities to immediately treat thousands of symptomatic individuals and protect hundreds of thousands more who may have been exposed.

CDC scientists work closely with the intelligence community to assess the probability of various biological and chemical threats. Once the scientists identify the threats, they create protocols for therapeutic treatment and preventive medication. The protocols determine which drugs and other supplies are in the SNS. Because threat assessments, treatment protocols, and other factors change over time, the items in the 12-hour push packages are also subject to change.

SNS Communication Concerns

Crisis communication plans should include special consideration of SNS issues. During a large-scale emergency, public fear and anxiety could impair the ability of agencies to distribute and dispense disease-preventing medicines to those who need it. An effective public information plan, designed to inform and reassure the public, will earn public confidence and cooperation.

Your pre-crisis planning is critical and should be consistent with principles described in previous chapters. Plans should take the following into account:

- Audience characteristics
- Audience needs
- Channels of communication, including using public health partners and stakeholders to distribute messages

Carefully coordinate all messages and integrate the SNS communication plan into the larger SNS plan.

SNS will be deployed only in the case of a significant threat to the public health. The act of deployment will signal that the event is very serious and will generate a requirement for communication. Therefore, in your plan, you should consider specific communication channels, partnerships, and staffing pools that support public information release, reproduction, and dissemination. Also consider volunteers or contracted professionals to assist with the following:



- Public information campaigns
- Printing needs and distribution of printed materials
- Onsite public information
- Onsite interpretation for people who do not speak English
- Resources for the hearing impaired

A state or community's SNS program will require careful coordination and planning regarding logistics and the medical needs of various audiences. You will need simple and accessible messages to inform the public. Storage location of all informational material, including electronic versions, should also be considered. Methods for reproducing and passing out information must be there, as well.

In your planning, consider the following:

- Use Emergency Use Authorization (EUA) information sheets. They are required by the FDA and must be provided along with any medication that is dispensed "off label" during an emergency. For example, antibiotics expected to be dispensed during an anthrax attack are medically safe for such use, but may not be specifically licensed for it. Current versions of EUA information sheets are available for state and local SNS planners.
- Incident-specific messages for people who are potentially exposed will need to say where they should go for preventive medications if they are well. These messages should also say where people who are potentially exposed need to go if they are sick. The messages need to make clear which people should go to dispensing sites.
- Include information about who should seek preventive treatment at a dispensing site, often called a point of dispensing or POD, and who should seek symptomatic treatment at a treatment center. Provide directions to and information about PODs. Also include information and directions for treatment centers. For both, be sure to include the following:
 - Hours of operation
 - Access to each site (the best way and an alternative route)
 - Driving and parking instructions
- Include information about the best modes of transportation to get to the dispensing site, such as walking, public transportation, or driving. If you list public transportation, include information on bus departure locations and schedules.
- Include threat-specific information about the nature of the disease and appropriate preventive medications.
- Disseminate information through multiple communication channels.



- Establish 24-hour hotlines in coordination with other agencies. It may help provide reassurance and updates to the public. By doing so, you will lessen the time they spend in clinics asking questions. The hotline can include separate lines for physicians, those seen in a clinic, and the general public.
- Include plans for communicating with patients and their caregivers in clinics, using items such as flyers, posters, and other printed material.
- When developing communications materials, make sure you include important information in the languages spoken in your community. This includes medical forms and paperwork, television and radio public information announcements, scripts, and videotapes that dispensing sites use to issue preventive medications to the public.
- Use frequently asked questions (FAQ) sheets for threat-specific diseases. These can be found on CDC's Emergency Preparedness and Response website at http://emergency.cdc.gov/ bioterrorism/factsheets.asp.
- Make sure the public knows what medical history and related information to bring when seeking assistance:
 - Form(s) of identification
 - Information they must present when picking up medications for family members
 - For children: required weight, age, and health information; drug allergies; and current medications
 - For adults: health information, drug allergies, and current medications

If members of the public must be given medications, make sure they are also given information about those drugs:

- Explain the reasons for using specific drugs or changing drug regimens. The cultural and ethnic sensitivity of this information is important. You need to make sure some groups do not think others are getting preferential treatment because they may receive different drugs. The reasons for using specific drugs will affect the quantities of those drugs that are provided to dispensing PODs or treatment locations. Your explanation will make a difference in how the public accepts these medications.
- Provide information about the importance of taking the medication. Stress the importance of taking all of a prescribed course of drug treatment. For example, someone who has potentially been exposed to anthrax needs to take the whole 60-day course of this antibiotic. This information affects the demand for SNS resources and minimizes the likelihood of additional people becoming symptomatic.
- Be aware of the danger of overmedicating. Focus on dispelling the false notion that if two doses per day are good, four or six must be better. Reduce the demand for SNS supplies by discouraging individuals from acquiring drugs from multiple dispensing sites. A secondary goal is to minimize the possibility that some individuals will take more of a drug than is safe.



Reality Check

In fall 2001, health authorities put at-risk anthrax individuals in one area on ciprofloxacin. This antibiotic is effective, but causes adverse reactions in some people.

- Later, the determination was made that doxycycline was also effective, and authorities put subsequent at-risk individuals on doxycycline to eliminate drug reaction problems arising and to reduce cost.
- In their rush to protect everyone, authorities failed to adequately explain their reasons for changing the medication.
- The ensuing outcry forced public health officials to spend valuable time dealing with public complaints rather than protecting the public.

Medication compliance is a well-known problem and will be especially challenging during an emergency if the following are true:

- The treatment period is long
- The prescribed drugs cause unpleasant side effects
- Outbreaks stop before the public finishes their required medications

After the anthrax attacks in fall 2001, CDC surveyed those who received preventive drugs. Despite initial counseling and strong local appeals that encouraged people to finish the 60-day course of treatment, CDC found that only 45% adhered to the required time plan. Reasons for sporadic or discontinued use included the following:

- Side effects of the medication
- A perception they were no longer at risk for anthrax



Conclusion

The all-hazards approach is most appropriate for emergency management and response.

However, terrorism involving CBRNE agents will create unique challenges. Many programs and much effort have been directed toward preparing and developing response capabilities. These include new surveillance and monitoring systems, new training, and expanded programs such as SNS. Bioterrorism creates unique challenges for public health, including an enhanced need for CERC within the context of a criminal investigation.

Human-caused outbreaks versus the natural origins of disease, along with the possibility of a hoax, create additional uncertainty for everyone. While rare, and usually of limited scope, bioterrorism is a real and significant danger. Careful CERC planning and preparation, in collaboration with your organization's stakeholders and partners are required to address these threats.



Checklist 10–1. Strategic National Stockpile Communication Needs Assessment

As a state or local public health communicator, you should contact the project area official managing SNS planning under the cooperative agreement to coordinate health communications needs.

Pre-event Planning

Do you have FAQ sheets for threat-specific diseases (found on CDC's Emergency Preparedness and Response website at http://emergency.cdc.gov/bioterrorism/factsheets.asp)?

Do you have threat-specific information about the nature of the disease and appropriate preventive medications?

□ Have you considered how to provide disease and drug information prepared in the multiple languages spoken by your community?

□ Are processes in place to create incident-specific messages for people who are potentially exposed? These messages will need to say where they should go for preventive medications if they are well. These messages should also say where people who are potentially exposed need to go if they are sick. The messages need to make clear which people should go to dispensing sites.

□ Are processes in place to ensure that PIOs know which dispensing and treatment locations are active?

Are media, public health partners, and other stakeholders aware—before an event—of the need to disseminate SNS-related information and messages?

Your plan should include the following:

Assurance for dissemination of information through multiple communication channels

Plans for communicating with patients in the clinic (flyers, posters, printed material, etc.)

□ Establishment of 24-hour hotlines in coordination with other agencies, which can include separate lines for physicians, those seen in the clinic, and the general public.

□ Plans to use multiple languages in the information your organization hands out. You need to consider the languages spoken by ethnic populations within your community. This includes medical forms and paperwork, television and radio public information announcements, scripts, and videotapes that dispensing sites use to issue preventive medications to the public.

□ Storage location(s) of all informational material (including electronic versions).



□ Methods for reproducing and disseminating informational materials during an emergency.

□ Specific communication channels, partnerships, and staffing pools that support public information release, reproduction, and dissemination. This includes possible volunteers or contracted professionals to assist with public information campaigns, printing needs, onsite public information, onsite interpretation for people who do not speak English, and resources for the hearing impaired.

To determine how much SNS-related information you will need to provide to site locations, consider the following:

 \Box Is the agent contagious?

□ Who should be concerned about exposure?

□ Who should seek preventive treatment at dispensing sites and who should seek symptomatic treatment at treatment centers?

Directions to and information about dispensing and treatment locations.

- □ When will the dispensing operation start and what hours will it be open?
- \Box Where is the nearest dispensing site?
- □ What is the best way to get to each dispensing site and an alternative route?
- \Box Where is there parking at each dispensing site?

□ What is the best way to get to the dispensing site (e.g., walk, use public transportation, drive)? In the case of public transportation, do you have bus departure locations and schedules?

 \Box What is the dispensing process?

 \Box What form(s) of identification are needed?

□ What information must someone present when picking up medications for family members? For children: required weight, age, and health information; drug allergies; and current medications. For adults: health information, drug allergies, and current medications.



Information about the Drugs the Public Must Take

The information should include the following:

Reason(s) for using specific drugs or changing drug regimens. Remember that cultural sensitivities of this information are important to ensure that some groups do not think others are getting preferential treatment because they receive different drugs. The reasons for using specific drugs will affect the quantities of those drugs that are provided to dispensing PODs or treatment locations. Your explanation will make a difference in how the public accepts these medications.

□ The importance of taking the medication. Stress the importance of taking all of a prescribed course of drug treatment. For example, someone who has potentially been exposed to anthrax needs to take the whole 60-day course of this antibiotic.

□ Messages about the importance of medication compliance, especially if the treatment regimen is long, the prescribed drugs cause unpleasant side effects, or the outbreak stops before the public finishes the required medications.

□ Messages to warn patients of the danger of overmedicating. Focus on dispelling the erroneous notion that if two doses per day are good, four or six must be better. Reduce the demand for SNS supplies by discouraging individuals from acquiring drugs from multiple dispensing sites or taking more of a drug than is safe.



References

- 1. Federal Emergency Management Agency (FEMA). R&R: response and recovery. Terrorism incident annex [online]. 1999 Jun 3. [cited 2012 Jun.] Available from URL: http://www.au.af.mil/au/awc/awcgate/frp/frpterr.htm.
- 2. Central Intelligence Agency. CIA & the war on terrorism. Terrorism-related excerpts from the National Intelligence Council's Global trends 2015: a dialogue about the future with nongovernment experts [online]. 2011 Dec 30 [cited 2012 Jun]. Available from URL: https://www.cia.gov/news-information/cia-the-war-on-terrorism/terrorism-related-excerpts-from-global-trends-2015-a-dialogue-about-the-future-with-nongovernment-experts.html.
- 3. U.S. Department of State. Legislative requirements and key terms [online]. 2011 Jun 23. [cited 2012 Jun]. Available from URL: http://www.state.gov/documents/organization/65464.pdf.
- 4. CDC. Forensic epidemiology: case study III salmonellosis in Oregon [online]. [cited 2012 Jun]. Available from URL: http://www.cdc.gov/phlp/docs/FE15.pdf.
- 5. Mardikian J. Mental health consequences of September 11: a five-year review of the behavioral sciences literature. Behavioral & Social Sciences Librarian 2008;27(3):158–210.
- 6. Federal Bureau of Investigation (FBI). Famous cases & criminals. Amerithrax or anthrax investigation [online]. [cited 2012 Jun]. Available from URL: http://www.fbi.gov/about-us/history/famous-cases/anthrax-amerithrax/amerithrax-investigation.
- 7. CDC. Emergency preparedness and response. Bioterrorism agents/diseases [online]. [cited 2012 Jun]. Available from URL: http://emergency.cdc.gov/agent/agentlist-category.asp.
- 8. National Science and Technology Council (NSTC), Committee on Homeland and National Security, Subcommittee on Standards (SOS). A national strategy for CBRNE standards [online]. 2011 May. [cited 2012 Jul]. Available from URL: http://www.whitehouse.gov/sites/default/files/microsites/ostp/chns_cbrne_ standards_final_24_aug_11.pdf.
- 9. U.S. Department of Homeland Security (DHS). Biological attack: what it is [online]. 2011 Jul 15. [cited 2012 Jun]. Available from URL: https://www.dhs.gov/files/publications/gc_1245181954420.shtm.
- 10. U.S. Department of Homeland Security (DHS). Chemical attack: what it is [online]. 2011 Jul 15. [cited 2012 Jun]. Available from URL: https://www.dhs.gov/files/publications/gc_1243880711334.shtm.
- 11. U.S. Department of Homeland Security (DHS). Radiological attack: what it is [online]. 2011 Jul 13. [cited 2012 Jun]. Available from URL: https://www.dhs.gov/files/publications/gc_1245337032502.shtm.
- 12. U.S. Department of Homeland Security (DHS). Nuclear attack: what it is [online]. 2011 Jul 20 [cited 2012 Jun]. Available from URL: http://www.dhs.gov/files/publications/gc_1252522849927.shtm.
- 13. U.S. Department of Homeland Security (DHS). IED attack: what it is [online]. 2011 Jul 20 [cited 2012 Jun]. Available from URL: https://www.dhs.gov/files/publications/gc_1252695582972.shtm.
- 14. U.S. Department of Homeland Security (DHS). Bomb making materials awareness program [online]. 2010 Mar 31 [cited 2012 Jun]. Available from URL: http://www.dhs.gov/files/programs/gc_1259938444548.shtm.
- 15. Federal Emergency Management Agency (FEMA). National Response Framework (NRF) [online]. 2008 Jan. [cited 2012 Jul]. Available from URL: http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf.



- 16. Federal Emergency Management Agency (FEMA). About the National Incident Management System (NIMS) [online]. 2008 Dec. [cited 2012 Jul]. Available from URL: http://www.fema.gov/pdf/emergency/nims/NIMS_ core.pdf.
- 17. CDC. Office of Public Health Preparedness and Response. Strategic National Stockpile (SNS) [online]. 2012 Mar 8 [cited 2012 Jul] Available from URL: http://www.cdc.gov/phpr/stockpile/stockpile.htm.
- 18. CDCynergy. Biological attacks: communication challenges [online]. [cited 2012 Jul]. Available from URL: http://www.orau.gov/cdcynergy/erc/Content/activeinformation/essential_principles/EP-bt.htm.
- 19. Hsu VP, Hossain MJ, Parashar UD, Ali MM, Ksiazek TG, Kuzmin I, et al. Nipah virus encephalitis reemergence, Bangladesh. Emerg Infect Dis [serial online] 2004 Dec [cited 2012 Jul];10(12). Available from URL: http:// wwwnc.cdc.gov/eid/article/10/12/04-0701.htm.
- 20. CDC. Outbreak of swine-origin influenza A (H1N1) virus infection—Mexico, March-April 2009. MMWR 2009;58(17):467-70. Available from URL: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5817a5.htm.
- 21. Le Page M, editor. Is swine flu a bioterrorist virus? New Scientist [online]. 2009 Apr 27. [cited Jul 2009]. Available from URL: http://www.newscientist.com/blogs/shortsharpscience/2009/04/is-swine-flu-a-bioterrorist-vi.html.
- 22. Kramer LD, Bernard KA. West Nile virus in the western hemisphere. Curr Opin Infect Dis. 2001 Oct;14(5):519–25.
- 23. Preston R. West Nile mystery. New Yorker Magazine [online]. 1999 Oct 18 & 25:90–108 [cited 2012 Jul]. Available from URL: http://www.newyorker.com/archive/1999/10/18/1999_10_18_090_TNY_LIBRY_000019339.
- 24. U.S. Department of Homeland Security (DHS). Internet hoaxes. Identifying hoaxes and urban legends [online]. 2011 Nov 7. [cited 2012 Jul]. Available from URL: http://www.dhs.gov/xcitizens/general_1165337828628.shtm.
- 25. Sellnow T, Littlefield R, Vidoloff K, Webb E. The interacting arguments of risk communication in response to terrorist hoaxes. Argumentation and Advocacy, 2009;45(3):135 (Document ID: 1948264041).

Resources

- American Medical Association. Bioterrorism—FAQs [online]. [cited 2012 Jul]. Available from URL: http://www.ama-assn.org/resources/doc/cphpdr/bioterrorism_faqs.pdf.
- CDC. Communicating in the first hours: initial communication with the public during a potential terrorism event [online]. 2007 May 14. [cited 2012 July]. Available from URL: http://emergency.cdc.gov/firsthours/index.asp.
- CDC. Emergency preparedness and response. Bioterrorism training and education [online]. [cited 2012 Jul]. Available from URL: http://emergency.cdc.gov/bioterrorism/training.asp.
- CDC. Emergency preparedness and response. Preparation and planning for bioterrorism emergencies [online]. 2012 Mar 23. [cited 2012 Jul]. Available from URL: http://emergency.cdc.gov/bioterrorism/prep.asp.
- Chandler D, Landrigan I. Bioterrorism: a journalist's guide to covering bioterrorism. 2nd ed [online]. New York (NY): Radio and Television News Directors Foundation (RTNDF); 2004. [cited 2012 Jul]. Available from URL: http://www.rtdna.org/media/pdfs/bestpractices/newsandterror/bioterrorism/bioguide.pdf.
- Federal Emergency Management Agency (FEMA). National Response Framework (NRF) resource center [online]. [cited 2012 Jul]. Available from URL: http://www.fema.gov/emergency/nrf/.



- Mitchell CS, editor. Worker training in a new era: responding to new threats. Report of Johns Hopkins Education and Research Center for Occupational Health and Safety Conference [online]; 2002 Oct 26–27; Baltimore, MD. Cincinnati: National Institute of Occupational Safety and Health (NIOSH) and Johns Hopkins Bloomberg School of Public Health [cited 2012 Jul]. Available from URL: http://www.cdc.gov/niosh/docs/2004-173/pdfs/2004-173.pdf.
- National Institutes of Health (NIH), National Institute of Allergy and Infectious Diseases. Biodefense and related programs [online]. 2011 Oct 27. [cited 2012 Jul]. Available from URL: http://www.niaid.nih.gov/topics/ biodefenserelated/Pages/default.aspx.
- National Institutes of Health (NIH), U.S. National Library of Medicine. MedlinePlus. Biodefense and bioterrorism [online]. 2012 May 3. [cited 2012 Jul]. Available from URL: http://www.nlm.nih.gov/medlineplus/ biodefenseandbioterrorism.html.
- U.S. Department of Health and Human Services (HHS). Public health emergency. Medical countermeasures [online]. [cited 2012 Jul]. Available from URL: https://www.medicalcountermeasures.gov/home.aspx.
- U.S. Department of Homeland Security (DHS). Proposed guidance for protecting responders' health during the first week following a wide-area anthrax attack [online]. 2011 Sep 14. [cited 2012 Jul]. Available from URL: http://www.dhs.gov/files/laws/gc_1256758853114.shtm.
- U.S. Food and Drug Administration (FDA). Emergency preparedness and response: counterterrorism and emerging threats [online]. 2012 Jun 18. [cited 2012 Jul]. Available from URL: http://www.fda.gov/ EmergencyPreparedness/Counterterrorism/default.htm.



Notes:



Notes:



Notes: