

DIRTY BOMBS

Educating Law Enforcement First Responders

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This Command College Independent Study Project is a FUTURES study of a particular emerging issue in law enforcement. Its purpose is NOT to predict the future, but rather to project a number of possible scenarios for strategic planning consideration.

Defining the future differs from analyzing the past because the future has not yet happened. In this project, useful alternatives have been formulated systematically so that the planner can respond to a range of possible future environments.

Managing the future means influencing the future--creating it, constraining it, adapting to it. A futures study points the way.

The views and conclusions expressed in the Command College project are those of the author and are not necessarily those of the Commission on Peace Officer Standards and Training (POST).

History

Who would have thought that international terrorism could reach the shores of the United States? Who could have imagined terrorists would use commercial airliners as flying bombs with American hostages on-board? The events of September 11, 2001, have forever changed the public's sense of safety and level of security within the United States of America.

As the watch commander of a mid-size urban city, the sobering thought of sending a shift of police officers to a dirty bomb incident sent chills up my spine. "If my officers are sent to a dirty bomb event, is it the equivalent of signing their death certificates?" This, in fact, is a question on the minds of many aware that a dirty bomb might be the most likely terrorist scenario in local communities. How would we answer that question? How can we prepare for the unthinkable? How, after its use, might we respond?

For the next several months, I would examine the question of the medical impact of a dirty bomb on law enforcement first responders. Input was sought from experts in the fields of public safety, health care, emergency services, scientific, military and the volunteer arena. Ultimately, the truth about the dangers of radiological exposure surfaced. As the myths of radiation exposure become more prevalent, it became apparent that the truth of "radiation health risks from such an occurrence are small."¹ Accurate information must be provided to our departments and communities so they are fully prepared to address any potential terrorist event. As the likelihood for terrorism looms, the need for ongoing education for both law enforcement personnel, as well as the public, will become more critical.

Law Enforcement's Response – the Terrorism Liaison Officer

Imagine a terrorist is determined to cause economic disruption. He loads a U-Haul truck with shrapnel and radioactive material, parks it in a parking complex between a major university hospital and judicial complex, and triggers the bomb. Individuals close to the truck bomb will be impacted more from the explosion and shrapnel than from the radioactive material. Due to the long half-life, the radioactive material emitting from the scene will require years of isolation for the surrounding area. Both the physical and psychological debris of the incident must be scoured from the scene to minimize the long-term economic impact. To understand and implement the most appropriate strategy for a community, it is first critical to understand common misperceptions and ensure the facts are clear as to how law enforcement will operate during the aftermath of a potential dirty bomb.

Coordination of Public Safety Agencies

To prepare for the public's future safety, law enforcement personnel throughout the nation have been charged with mobilizing to break down barriers with other agencies and industries at an unprecedented rate. Law enforcement is partnering with fire services, county health departments, federal agencies, military, disaster response teams and various offices of emergency services to pre-plan a unified response to such incomprehensible events. The preparation also includes working with private and public critical infrastructure personnel.²

¹ Joseph P. Ring, "Radiation Risks and Dirty Bombs," Health Physics, (February 2004)

² Shawn Reese, "Federal Counter-Terrorism Training: Issues for Congressional Oversight," CRS Report for Congress (May 16, 2005).

Many municipalities are establishing Emergency Response Coordinators and Terrorism Liaison Officers (TLO) to meet the demands of emergency preparedness in our ever-changing world. Since the TLO position is just now emerging, it is being defined by a number of political and logistical forces. Public perception influences how local and federal entities collaborate to deal with terrorism. The public expects law enforcement officials of all jurisdictions and levels to work openly and cooperatively to overcome the challenges we collectively face. It is up to these entities to imagine the potential for terrorist strikes within our own communities and respond accordingly. This forecasting is a combination of intelligence insight coupled with experience and knowledge of how terrorists function. Terms such as CBRNE, which stands for *chemical, biological, radiological, nuclear and explosive*, are becoming more common in public safety discussions.³ In fact, the most likely scenario for the dispersal of these “unconventional weapons” is the use of what has come to be known as a dirty bomb.

The Dirty Bomb

The term “dirty bomb” is formally known as a Radiological Dispersal Device. According to the U.S. Nuclear Regulatory Commission, “...the principal type of dirty bomb, or Radiological Dispersal Device (RDD), combines a conventional explosive, such as dynamite, with radioactive material. In most instances, the conventional explosive itself would have more immediate lethality than the radioactive material. At the levels created by most probable sources, not enough radiation would be present in a dirty bomb to kill people or cause severe illness. For example, most radioactive material employed in hospitals for diagnosis or treatment of cancer is sufficiently benign that about 100,000 patients a day are released with this material in their bodies. However, certain other radioactive materials, dispersed in the air, could contaminate up to several city blocks, creating fear and possibly panic and requiring potentially costly cleanup. Prompt, accurate, non-emotional public information might prevent the panic sought by terrorists.”⁴

The public’s lack of knowledge exists not only for the dirty bomb, but as importantly, how the radiological material within a RDD impacts its victims. T.D. Luckey, an expert in the field of radiation, wrote in his study, “...radiation from their concentrated gamma rays makes dirty bombs more dangerous for those who make, store, and transport them than for the victims subjected to fragmented bits of radioactive material. Persons who prepare, store, carry, and detonate dirty bombs constitute a high-risk group for radiation sickness. Many will develop radiation sickness, and some may die.”⁵ The reason is that the half-life of the radioactive material determines its potency. Radioactive material with a short half-life is more potent, therefore requiring a smaller amount to have a lasting impact. Fortunately, the availability of this type of radioactive material is more difficult to access. Conversely, radioactive material with a longer half-life requires larger quantities to have any adverse medical impact. In both cases, when the radioactive material is placed in a RDD, the explosion will pulverize and disperse much of the contaminant.

With this insight, it is important health care providers work closely with law enforcement officials in order to debrief these “patients” to ascertain potential involvement in a terrorist plot. Since September 11, cross-training amongst various disciplines, including law enforcement and

³ Command Officers Response to Terrorism Training, Orange County Sheriff’s Training Center, (March 13-14, 2006).

⁴ US Nuclear Regulatory Commission, Fact Sheet on Dirty Bombs [on line] accessed October 18, 2006, available <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/dirty-bombs.html>.

⁵ T.D. Luckey, “Nuclear Triage and the Dirty Bomb,” Radiation Protection Management, Volume 20, Number 1 (2003) : 4.

health care professionals has been occurring more frequently. The information gleaned from these partnerships will improve our response to terrorism. A necessary first step, though, is to dispel the myths and hysteria such an incident will create. Lacking information, one might conclude such incidents could occur anywhere to anyone, similar to the panic created when anthrax was mailed to members of Congress. Other misperceptions of the possible use and response to RDD incidents are:

Myth 1: A RDD is highly lethal and everyone exposed to the explosion will die.

Fact 1: For law enforcement first responders, the proper use of personal protective equipment will provide adequate levels of protection. The public can survive the exposure with decontamination and medical attention.

Myth 2: Evacuate everyone in the area as soon as possible.

Fact 2: Establish a decontamination zone to mitigate exposure and avoid secondary contamination.

Myth 3: Terrorists are knowledgeable in handling radiological materials.

Fact 3: Most terrorists have a surface knowledge and are not adequately equipped. They are more committed to their cause than to a depth of understanding about chemicals.

Myth 4: After the dirty bomb area is cleaned up, the location can be reopened for normal use as with all other major events or crime/accident scenes.

Fact 4: A dirty bomb forever changes the environment. The surrounding area, including infrastructure, may be sealed off and unusable for decades.

The lack of understanding of a dirty bomb creates fertile ground for these myths to thrive. Unless properly addressed, the myths can perpetuate and create panic within the community. It is important, however, to recognize that fear can be utilized as a powerful tool to eradicate terrorism.

Impact of Fear

A group of experts, including TLOs and professionals in the medical, emergency services, scientific, military and volunteer arenas, convened on the issue of the medical impact of a dirty bomb on law enforcement first responders. They identified a recurring theme of fear in the community as a major component in critical incident management. Fear will increase as a result of a RDD; however, the fear will not necessarily be based on factual information. Instead, it will be based on the public's misperception that everyone who came into contact with the RDD will die, as was the original impression left with the watch commander in the preceding scenario.

Health officials point out that a number of people who were only indirectly exposed and some who were not exposed at all, yet still sought out medical care, would over-impact the ability of the health care system to manage such an event. The combination of RDD and lack of understanding will fuel high levels of fear, until the public can be educated about the actual effects of a RDD. According to Joseph P. Ring, "For most people directly involved, the exposure would have an estimated lifetime health risk that is comparable to the health risk from smoking five packages of cigarettes or the accident risk from taking a hike."⁶ The impact from a

⁶ Joseph P. Ring, *ibid.*

dirty bomb is more likely to be economic and societal as it relates to the clean up costs and loss of infrastructure. Depending on the timeliness of the clean up, the long term impact can cripple a local economy.

Gerard Group International (GGI) consists of experts in counter-terrorism preparedness and continuity planning within American corporations. According to GGI, "When considering the power of fear, it helps to remember that there are two kinds of fear that the threat of terrorism creates. One is always debilitating, but the other can be empowering. The **Irrational Anxiety** is brought about by media hype, false alarms, and other events that result in confusion and denial. This kind of fear is debilitating and counter-productive in every environment. It increases a sense of insecurity and interferes with production and efficiency. Intense anxiety cannot be sustained for extended periods of time. It is soon replaced either by on-going background stress or by denial and complacency that enable us to ignore the real danger. The **Rational Fear** (is) where people recognize that the danger is real and develop proactive resolutions to counter the threat. It is a constructive reaction to a real and present danger. The process of understanding the nature of threat, and taking proactive steps towards definitive solutions creates an environment in which security can be significantly enhanced and continuity of life and 'business as usual' can prevail."⁷

The best way to counteract the realities of fear is to provide meaningful education to the public in addition to police officers. For the public, there is information available by accessing the Internet. Site links through the Department of Homeland Security (DHS) provide information on prevention, protection, preparedness and planning. For law enforcement professionals, most agencies have implemented on-line training offered through the National Incident Management System (NIMS). NIMS training provides a basic understanding of responding to critical incidents. It is the responsibility of the each respective department's TLO to provide on-going training through bulletins and training offered by the Terrorism Early Warning Groups (TEWG), as well. By advertising these opportunities through the media and seeking out learning opportunities, increased understanding about terrorist events is gained. As in the example of the ill-informed watch commander, sending officers to a dirty bomb incident is not, by itself, going to cause mass casualties of police officers. The training will begin to establish lessons to build upon and make the country a hardened target.

Lessons Learned

Since the devastating events of September 11, 2001, America and American law enforcement have been strengthening our resolve to combat terrorism and restore the public's confidence in a free and safe America. There have been a number of lessons learned that can prepare us for improved responses in the future to these cataclysmic events. The lessons include the power of fear, the importance of contemporary equipment and the critical component of on-going communication.

It is normal to experience fear, but as previously mentioned, providing law enforcement first responders and the public with credible information will establish Rational Fear where proactive steps can be taken to combat terrorism. In the example involving a RDD, arming the first responders and public with the facts about half-life and how radioactive material is dispersed during the detonation will serve as a foundation for understanding this type of device.

⁷ Gerard Group International LLC, "About Terrorism" [on line] accessed May 8, 2006, available: http://www.gerardgroup.com/about_terrorism.php

Providing law enforcement first responders with contemporary equipment and training will prepare them to respond more effectively to such events. Personal Protective Equipment (PPE) and dosimeters are essential pieces of equipment that the law enforcement officer in the 21st century maintains in their arsenal. With the realization that radioactive material is thwarted by proper usage of dosimeters and PPEs, first responders can concentrate their energies on life-saving measures and means for identifying and locating the terrorists.

Ultimately, it is continued training on the latest intelligence and responses to terrorism that is relevant to maintaining hardened targets in the United States. The TLO is the department's liaison to the exchange of information and current intelligence. This information is shared and constantly updated through bulletins from their respective TEWG. It is equally important that the public be provided appropriate training to provide a level of readiness that will compliment the efforts of law enforcement. The Internet is an excellent resource for the public to gain information. Furthermore, each local police department can provide a link to the DHS on their website to help its citizens. The department can also use public presentations at Citizen Academies and other police-citizen programs to allow the TLO to update the group on critical incident planning and preparations they should make. It is through these efforts that local law enforcement can collectively make a difference in making our communities safer.

Making America Safe

It is the responsibility of all Americans to assist law enforcement in fighting terrorism and making America safe. The vision can be accomplished by concentrating efforts on three goals: prevention, enforcement, and prosecution.

Law enforcement prevention efforts are already underway to head off terrorist activities. According to current Terrorism Liaison Officers and experts in the field of training law enforcement officers for such events, there are a number of strategies to prevent terrorism. A panel of such experts convened to study the issues related to this topic and concurred on the top strategies necessary for the safe management of critical incidents. Some of these objectives include:

- Providing public education and awareness to report suspicious activities
- Informing the public about the reality of radioactive material
- Providing dosimeters to law enforcement first responders
- Improving communication between federal, state and local law enforcement officials
- Responding to reports of terrorist activities using the TEWG
- Using monitoring networks to identify radioactive materials at various locations (ports, airports, train stations and shopping malls)
- Restricting the availability of radioactive materials
- Cross-training emergency first responders
- Working more closely with non-law enforcement entities in preparation for terrorist activity
- Involving the media in accurate reporting of terrorism prevention

The outcome of a coordinated multi-faceted approach is to frustrate efforts to commit terrorism and neutralize those associated with terrorism. Some of the enforcement efforts involve:

- Using intelligence networks to intervene when terrorists, both foreign and domestic, attempt to create havoc in the United States and abroad (such as the arrests of Muslim extremists conspiring to attack the rail system in Manhattan)
- Working with local level TEWG and federal joint terrorism task forces to collectively combat terrorism.

Finally, it is the criminal courts that have the responsibility to hold these terrorists to answer for their illicit activities. Relentless prosecution is crucial to send a message that law enforcement officials at all levels in the United States will aggressively pursue those who choose to commit terrorism. Therefore, it is important the public is accurately informed as to the impact of fighting terrorism and its future implications for a safer country. With an informed public, specific pressure and an environment of zero tolerance on terrorist activities can empower the courts to take strong measures to punish those found guilty of terrorist acts.

By taking these steps, the outcome will result in improvements in a number of areas. First, the public will be better prepared and informed. Irrational anxiety brought about by faulty reporting in the media will be replaced by rational fear where citizens can make a difference in the fight against terrorism. Having an accurate sense about radioactive material will help make people more likely to pay attention to their surroundings. The on-going training will make citizens less apt to be alarmed by speculation and unsubstantiated information. The public's vigilance can provide noteworthy community intelligence that law enforcement can use to employ a proactive versus reactive approach. Second, by working more closely with the public, along with other state and federal agencies, local law enforcement can have a significant impact on defeating terrorism. Maintaining continued open dialogue with the public will allow citizens a level of comfort and security knowing information gleaned from outside sources can be validated by local law enforcement. This also helps law enforcement stay in tune with misinformation, thereby addressing myths before they can create a life of their own.

Ways to Educate Law Enforcement First Responders

In examining the topic of the medical impact of a dirty bomb to law enforcement first responders, it became evident that education is a fundamental component that must be implemented. The importance of sharing the facts behind exposure to radioactive material is an underlying issue identified during this research. Since the events of September 11, the federal government has steered billions of dollars towards the problem and even created the Department of Homeland Security. Many local police agencies have Terrorism Liaison Officers who are dedicated to Homeland Security and networking with Joint Terrorism Task Forces established for their respective region. The fact remains that information not only needs to be shared with local, state and federal law enforcement agencies, but with line-level officers and the public.

Police departments around the state already have information-sharing networks established within their communities. These groups will be important resources to disseminate critical information. The Terrorism Liaison Officer will be crucial in coordinating the training of law enforcement first responders so they can learn the details of radiation exposure. By learning the facts about radiological weapons, fear and misperception can be mitigated and law enforcement first responders can respond in a more prepared manner.

For example, when personal protective equipment first became available, each officer was required to attend a two-day course on the conditions for use and proper fitting of the gear. As more equipment and technology is developed for fighting the war on terror, additional

training will be required to better prepare law enforcement first responders. Quarterly or semi-annual update training on the latest intelligence is necessary to ensure officers are armed with the latest information and tactics to deal with these events.

Moreover, the Terrorism Liaison Officer should also be responsible for facilitating the education of the public. This position could oversee the collaborative efforts throughout the respective jurisdictions to ensure accurate and appropriate information about radiological exposure is presented. Since the TEWGs are the clearinghouse of information, they are already capable of providing training to groups in addition to law enforcement. Thus, the TLO becomes the driving force for training both law enforcement and the public. The TLO can create the training and disseminate it to networking groups such as the city employees, Chamber of Commerce, hospitals and service groups. Training at the local level will compliment the information available on the Internet. By educating the public first-hand, they will be encouraged to follow through with getting better precautions and being prepared. For instance, the public will come to understand the theory behind remaining in the decontamination area in order to prevent the spread of further contamination. When they realize leaving the area could jeopardize the ones they love by returning home, most will remain for the decontamination protocols. Learning how the dirty bomb will not affect someone is as important and will reduce the alarm and hysteria associated with a RDD.

Education is the key to arming law enforcement first responders as well as the public with facts about a dirty bomb. It will be the first of many subsequent phases of training that will eradicate terrorism.

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Panel experts: Jeff Bird, Emergency Services Coordinator; Bob Barry, EMT Ambulance Company; Cullen Case, National Marrow Donor Program Office of Emergency Services; Fred Gaggioli, Orange County Health Department; Chris Hays, Military Officer; Michael Lee, American Red Cross; Colette Muhlenkamp, UCI Medical Center Cancer Center Representative; Doug Weeks, City of Orange Fire Department Captain; John Whiteley, City of Orange Police Department Lieutenant; Rick Whiteley, Analytical Chemist University of Pacific, Oregon.