Session No. 4

Course Title: Homeland Security and Emergency Management

Session Title: Planning/Preparedness/Readiness

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TIME: 4 Hours

Session
Objectives: At the conclusion of the session the students should be able to:

4.0   Describe the emergency planning framework in the United States

4.1   Describe the weapons of mass destruction and the process for estimating the risk to a community

4.2   Describe the professions and levels of government involved in planning for the victims of a WMD attack, including the injured and the fatalities

4.3   Describe the audiences for risk communication, the potential communicators and how they integrate their messages across levels of government and non-governmental organizations

4.4   Discuss the types of certification and standardization that are in existence or being undertaken under homeland security initiatives

4.5   Describe how continuity of government is ensured at the local level

4.6   Describe how organizations ensure the continuity of operations in a disaster

Scope
       Brief overview of the emergency planning framework in the U.S. Discussion of a method for analyzing risk and the components, including a brief description of the weapons of mass destruction/disruption. Description of professions and systems that deal with the injured and casualties. Overview of the various audiences for risk communication and some information on methods that may be used. Review of current standard setting activities and a comment on the trends. Description of continuity of government systems at the local government level. Description of organizational continuity of government systems and methods.

Required Session Readings:

9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States: Executive Summary, (GPO, 2004).

Amanda J. Dory, *Civil Security* (CSIS Press, September 2003), pp.20-60.

Sidney D. Drell, Abraham D. Sofaer, and George D. Wilson, *The New Terror* (Hoover Press, 1999), pp. 5-75, 375-389.

Juliette N. Kayyem and Robyn L. Pangi, *First To Arrive* (MIT Press, 2003), pp. 59-75.

Paul M. Maniscalco and Hank T. Christen, *Understanding Terrorism and Managing the Consequences* (Prentice Hall, 2002), pp. 187-202.

Paul M. Maniscalco and Susan S. McElrath, "WMD Defined: Nuclear: Response to Radiological Incidents," *Homeland First Response* (January-March 2003), pp. 8-11.

Objective 4.0
Describe the emergency planning framework in the United States

Since the 1980's FEMA has recognized four phases of emergency management: mitigation, preparedness, response and recovery. These represent a cycle of preparedness. Communities were urged to determine their "worst case scenario" and to write their emergency plan on that paradigm. The concept was that worst-case scenario planning would result in adequate preparedness for any other disaster.

After 9-11 and the creation of the Department of Homeland Security there was an increased focus on terrorism as the worst potential hazard, even though for most of the United States natural hazards are still much more likely and will have much more catastrophic effects.

> For example, 9-11 resulted in attacks in two cities far apart. Loma Prieta Earthquake resulted in severe damage and disruption, and death, throughout the entire Bay Area, and encompassing the major cities of Oakland and San Francisco, and the smaller cities of Los Gatos, Watsonville and Santa Cruz.

> While the 9-11 response was able to draw on nearby unaffected resources, such as New Jersey, Connecticut and upstate New York for New York City, in the Loma Prieta Earthquake all the potential responders were also victims, and help had to come from hundreds of miles away.

Terrorism is not monolithic. The causes of terrorism are many, as reviewed in Sessions I and II. The weapons are also varied, and may include mass destruction or mass disruption. The analysis of likely weapons, likely targets and likely potential terrorist groups in an area provides the framework for developing adequate terrorism response plans.

Planning for a response to a terrorist event is also a multi-discipline and multi-level activity.

> Local, regional, state and federal entities must work together to develop workable response plans.

> These entities must share a common vision of the threat, share mutual knowledge of the potential weapons and perpetrators, and understand the potential triggers for a terrorist event in their geographical area or field of responsibility.

Objective 4.1
Describe the weapons of mass destruction and the process for estimating the risk to a community

Understanding the potential hazards is the basis or **first component of risk assessment.** Terrorism may involve chemical, biological, radiological, nuclear or explosive materials. Agricultural and cyber targets are also probable. Each category has many varieties, each with its own characteristics, mechanism of injury and response requirements.

Chemical attacks can include battlefield weapons created specifically for attacks against human, such as the sarin attack in Tokyo in 1995.

> Weaponized agents fall into several categories: nerve agents, blood agents, choking agents, blister agents and riot control agents.

> Terrorists may also use weapons of opportunity, such as chlorine or ammonia found at industrial sites within a community.

> Terrorists may also create chemical weapons with household chemicals and information from the Internet or books like "The Poor Man's James Bond."

> Making weaponized chemicals requires special knowledge and facilities.

> Stealing industrial chemicals and creating simple dispersal devices is easy. The Bhopal accident shows what one disgruntled employee can accomplish through industrial sabotage, using a chemical to attack an entire downwind community.

Biological weapons fall into several categories: contagious diseases, non-contagious diseases, and toxins.

Using a contagious disease is difficult and dangerous for the terrorist. There has never been a successful biological attack with a contagious disease. However, the spread of SARS in Asia and Canada during 2002-2003 demonstrated the speed with which an infectious disease could be spread into a medically naive population by one infected individual.

Non-contagious diseases are easier to introduce into a community. Anthrax was placed in letters to elected officials and media personalities in the fall of 2001. Unintended consequences included the deaths of several people from handling contaminated mail.

Salmonella was introduced into salad bars in The Dalles, Oregon by a cult, resulting in 400 severe illnesses and over 700 people made ill.

Toxins are difficult to handle and introduce into a victim. Ricin was used to assassinate Georgy Markoff, injected under his skin to mimic a heart attack.

Radiological weapons are postulated to be relatively easy to make.

Radiological sources could be obtained from smoke detectors, industrial sterilizers or college laboratories. These materials could be added to a conventional explosive, such as a pipe bomb, to create a weapon that would have a radiological signature.

While the radiological shrapnel would be no more physically dangerous than conventional shrapnel, the psychological impact of knowing that the fragments were radioactive is likely to induce severe anxiety in both the actual victims and the surrounding community.

Nuclear bombs are still difficult to obtain and impossible to create outside of a state sponsored program. Multiple types of engineering and metallurgical knowledge and equipment are required to create a bomb. Stealing or buying a nuclear bomb from a nuclear power is a potential but unlikely.

Explosives are readily available and relatively easy to make. Pipe bombs are found in communities every year.

Truck bombs using ammonium nitrate and fuel oil (ANFO) have been used in Oklahoma City and in 1993 at the World Trade Center.

Backpack bombs were used in Madrid against trains and train stations.

Instructions for making improvised explosive devices are readily available on the Internet and in books like "TM-31-210" from the U.S. Army and "The Poor Man's James Bond." Such books are readily available for purchase on the Internet

and at gun shows. Some background in chemistry is necessary, but high school chemistry provides the basic information needed. The Columbine High School terrorists were able to create an arsenal of explosive weapons.

Agricultural terrorism could destabilize the economy, deny sources of food leading to famine, and make the population feel vulnerable, leading to distrust of the government.

Agricultural terrorism could take the form of aerial crop dusting with pathogenic agents to kill crops or animals.

Diseased animals could be introduced into herds.

Chemicals could be dropped that would ruin the fertility of the solid or contaminate it to prevent growing crops. Some people postulate that the outbreak of foot and mouth disease in Great Britain in the late 1990's was intentionally caused.

Cyberterrorism's potential for disruption has been demonstrated by the NIMDA virus, and subsequent worms and Trojan horses. The Internet has become an integral part of the economy and commerce.

Denial of service to Internet dependent businesses can cause huge financial losses.

Emergency response services from information passage through resource ordering are all becoming increasingly dependent on the Internet and computer technology.

Communications interoperability depends on both computers and wireless technology. All of these are vulnerable to sophisticated cyber attack and many are vulnerable to electro-magnetic pulse (EMP) from nuclear detonations.

After the hazards have been evaluated, the likelihood of use of a particular type of terrorism is the **second component of risk analysis**. As has been mentioned, some of the materials are easily found everywhere, such as chlorine and ammonia. Other materials are easier to find in specific areas.

For example, dynamite and pre-mixed ANFO prills are available in agricultural areas, where they are used for removing stumps, and breaking up rocks in fields, but are less readily available in urban areas. Fertilizer and fuel oil would have to be purchased separately and mixed – at some risk- in an urban area.

The capability of the terrorists is another aspect of likelihood.

For example, if the terrorist group is large, well financed and well organized, like the Aum Shinrikyo cult in Japan, complex weapons and delivery systems could be developed.

Al Qaeda with its international connections was able to orchestrate a multi-pronged attack using airliners as bombs.

On the other hand, local environmental terrorists may be able to make only simple improvised explosive devices.

Individuals with a medical background may be able to brew enough non-contagious agent to contaminate a food supply for a small area, as in The Dalles, but only someone with highly specialized equipment and advanced training could weaponized anthrax.

A third component of threat assessment is the presence in the community of a known terrorist organization.

Potential Terrorist Entities (PTEs) are evaluated by law enforcement intelligence units to determine their focus and likelihood for action.

For example, while PETA and ELF members and spokespersons are located throughout the United States, only some members have the likelihood to act. A PETA group near a biomedical research center would be of more concern than one in a metropolitan city without such industry. An ELF group in a developing rural area is more concern than an ELF group in an old central city.

The fourth component of threat assessment is the presence of likely targets for the specific known terrorist groups. Brian Jenkins has stated, "The purpose of terrorism is to terrify." Wholesale death and destruction is not necessary if the event can terrify the general public.

Other goals include economic disruption and making the government appear incompetent to its constituents. Their goals are best achieved by attacking a place that will garner media attention and will be recognized by the worldwide media audience when the attack is announced.

Terrifying the general public can occur through targeting landmarks and places that people frequently go in large numbers. Tourist attractions like amusement parks and sports venues fall into this category.

Simplicity is a key to impressing on the general public that they are all vulnerable. Suicide bombers on public busses are an example. Using simple devices like a plastic bag and an umbrella to disseminate sarin I the Tokyo subway is another example.

Economic disruption is another goal of terrorism. Potential targets would include banking and finance centers, like the World Trade Center in New York; technology connection points, like the antenna array on top of Tower One of the

World Trade Center; and significant economic engines of a region, like rail heads, ports and airports.

The C.A.R.V.E.R. method of threat analysis used to select the first 30 Urban Area Security Initiative cities relied heavily on the identification of such targets, including heavy industry. Because this proprietary analysis system is based on World War II era conditions, it overlooks critical telecommunications and Internet connectivity elements that pose a significant target risk.

Third, the creation of anti-government sentiment is an important element, as in the newly democratic Iraq. Terrorist attacks are designed to make the government appear incapable of protecting the population from attack, and attacking the first responders is a principle technique used.

An example is the development of the secondary device in the United States. The 1993 attack against the World Trade Center incorporated a secondary device in the truck bomb. The goal was to release cyanide to kill the fire and emergency medical services personnel as they went to the aid of the victims.

Fortunately, in this case the weapon was not engineered correctly, but early on-scene first responders did report exposure to an unknown hazardous material causing respiratory problems. Imagine the terror engendered in the community if they saw their rescuers dying at the scene!

Thus, a community with a well-known site with international name recognition is a more likely target than a venue in a smaller or less well-known area. So while New York City and Washington, DC are obvious targets, high tech areas or agricultural breadbaskets also have specific vulnerabilities.

The final consideration is **frequency of the event**. There has only ever been one aircraft attack on an American building, but improvised explosive devices have been used in labor unrest (anarchists in 1880's), anti-war activities (Weathermen and Symbionese Liberation Army), and in truck bombs and suicide bombings throughout the Middle East and Africa, and targeted attacks in Moscow and Madrid. So while likelihood is partially dependent on past frequency, the possibility of future uses cannot be overlooked.

Thus, the risk of a terrorist event in a given community is understood as the recognition of a hazard (proven or possible), the likelihood that such a hazard exists or could exist in that community, the existence of a PTE to use it, and an attractive target to use it on.

Questions to ask students:

1. What are the four phases of emergency management upon which FEMA programs have been based?

2. What is the range of terrorist attacks with which American communities might have to deal?

3. What are the four components of terrorist threat assessment?

4. What might be the goals of terrorists?

5. Why should terrorism response plans be based upon worst case scenarios?

Objective 4.2
Describe the professions and levels of government involved in planning for the victims of a WMD attack, including the injured and the fatalities

Planning for Mass Casualties/Mass Fatalities

Once the threat is understood the potential community impact of a terrorist attack must be evaluated. Community first responders and emergency managers must apply the threat analysis to the community to determine possible numbers of injured and dead from various types of terrorism at various sites.

> The terrorism response plan should be predicated on the worst-case scenario: the most people injured at the most likely target with the most credible destructive weapon.

> Therefore, for many communities a radiological or chemical weapon at a large indoor sports venue or concert venue would pose the greatest response challenge.

Multi-agency and multi-profession planning partners are crucial. The continuum of care of the patient must be coordinated for the best outcome.

> Joint planning must analyze the patient's path and ensure that all elements of recognition, response, rescue and care are appropriately integrated to best care for the patient while best protecting the community, the medical assets and the first responders themselves.

> Initially all plans were recommended to be based on the **Incident Command System (ICS)**. As of October 1, 2004 all emergency response is to comply with the **National Incident Management System (NIMS)** to receive Federal funding and disaster reimbursement. NIMS is based on ICS 100, 200, 300 and 400.

The emergency manager of each community should convene a committee of all first responder agencies to develop a coordinated response plan to care for the injured and dead. These would include at a minimum

- the fire department, including rescue and field medical personnel and hazardous materials team;
- emergency medical services agencies including emergency medical transport and communications dispatchers;
- law enforcement, including traffic control, evidence protection and collection technicians;
- hospitals including emergency departments, inpatient care and security staff;
- public health departments including laboratories, epidemiologists and immunization services;
- physicians in private and clinic practices;
- mental health services for Critical Incident Stress Management (CISM) for first responders and mental health care for the community; and
- coroner for field investigative services, forensics including disease recognition and evidence collection, and care of the deceased's remains.

City, county, state and federal partners should be included, notably the
- Federal Bureau of Investigation,
- National Guard Civil Support Teams,
- National Disaster Medical System and
- Department of Homeland Security regional staff.

Focus areas for planning include
- field recognition of an event,
- field response to a known event,
- decontamination protocols,
- disease surveillance for unknown events,
- epidemiology,
- mass prophylaxis and mass vaccination,
- Strategic National Stockpile management,
- hospital and clinic coordination including security,
- mental health coordination,
- public information dissemination,
- training and
- exercising.

The Federal government recognized the importance of these steps for the nation's largest cities.

After the Murrah Building attack and Tokyo sarin attack occurring within weeks of each other in 1995 the Congress created the Domestic Preparedness Program.

> One element was the location of a **Metropolitan Medical Task Force** in each of the nation's 25 largest cities, and Honolulu and Anchorage because of their isolation.

Ultimately 122 communities were brought into the program.

The program required that the participating communities create a planning team as described above, write a plan, acquire adequate equipment, supplies and pharmaceuticals to begin a response for up to 10,000 victims, take a suite of training classes for each specialty, and hold an exercise.

In 2000 the scope of services was extended to recognize the pivotal role of the health community in a biological attack.

The system was broadened to be the **Metropolitan Medical Response System**, which created an equal emphasis at the field and at the point of definitive care.

The MMTF and MMRS are not deployable by the Federal government, although mutual aid plans are being developed within states, like California. MMTF assets are envisioned to be deployed under the Fire Mutual Aid system, including possible inter-state assistance.

The National Disaster Medical System (NDMS) has components to assist communities experiencing disasters. Disaster Medical Assistance Teams (DMATs) are part of the NDMS, which was originally developed to designate hospital beds throughout the United States that could be used for military casualties resulting from overseas conflicts.

The U.S. Public Health Service later expanded the role to include civilian casualties from foreign or domestic disaster events. Following that was the development of the DMAT concept: using volunteer medical professionals to provide emergency services to victims of disasters.

The **Disaster Medical Assistance Team (DMAT)** is a volunteer organization with teams throughout the United States, composed of physicians and allied medical arts that can be deployed as a Federal asset.

Each DMAT is an independent, self-sufficient team that can be deployed within a matter of hours and can set up and continue operations at the disaster site for up to 72 hours with no additional supplies or personnel.

The 72-hour period allows federal support, including medical supplies, food, water and any other commodity required by the DMAT, sufficient time to arrive later.

A general medical DMAT has a minimum of 35 members, including at least two physicians, ten nurses and ten EMTs or paramedics, with the remainder of the team made up of support personnel. However, these numbers can be flexible.

Operational divisions may include: Incident Command, Operations, Communications, Logistics, Finance, Safety, Public Affairs, Intelligence,

Planning and Training. For example, sometimes situations call for more nurses than paramedics, or vice versa.

There are also specialized DMATs located throughout the country. These DMATs can specialize in burn care, pediatrics, urban search and rescue, mortuary services, infectious disease outbreaks, and other problems.

The DMAT becomes a part of the mutual aid system available under the Federal National Response Plan to back up or enhance local medical response assets.

DMATs were used in New York City after 9-11 to provide on-site medical care for first responders working on the pile. In natural disasters they have replaced hospital staffs to enable them to return home to care for their families.

A second component is the **Veterinary Medical Assistance Team (VMAT)**.

The mission is to support the local veterinary community in whatever way necessary to help it to resume its normal support of the community.

VMAT has the capability of setting up a full field hospital, and can provide medical care for pets, search and rescue dogs, livestock, wildlife and even zoo animals if the need arises. They may also be activated to assist with food safety concerns, zoonotic disease, terrorist events and toxicological problems.

A third component is the **Disaster Mortuary Service (DMORT).**

The DMORT teams are composed of funeral directors, medical examiners, coroners, pathologists, forensic anthropologists, medical records technicians and transcribers, finger print specialists, forensic odontologists, dental assistants, x-ray technicians, mental health specialists, computer professionals, administrative support staff, and security and investigative personnel.

The DMORT-WMD Team is a specialized unit whose function is the decontamination of human remains for the ultimate purpose of returning these remains to family members where possible for humanitarian and legal reasons.

Through the integration of local, mutual aid and national assets a community can plan for an effective response to a weapons of mass destruction/ weapons of mass disruption attack that will minimize loss of life and enhance local recovery, both psychological and economic.

Questions to ask students:

1. What are the first responder agencies that should be included in community response plans to deal with terrorist attacks?

2. What are the major focus areas for emergency planning for terrorist attacks?

3. Describe the functions of the following:

     a. Incident Command System,
     b. National Incident Management System,
     c. Metropolitan Medical Task Force,
     d. Critical Incident Stress Management,
     e. National Disaster Medical System,
     f. Disaster Medical Assistance Teams,
     g. Veterinary Medical Assistance Teams, and
     h. Disaster Mortuary Service Teams.

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Objective 4.3
Describe the audiences for risk communication, the potential communicators and how they integrate their messages across levels of government and non-governmental organizations

Risk Communication and Communicating Risk: Homeland Security Advisory System, warning systems, messaging

The management of Intelligence regarding terrorism has been a subject of considerable debate following 9-11. The 9-11 Commission Report suggested many changes to improve the development and sharing of terrorism intelligence, including the creation of a "Czar."

Risk communication has several levels.

The Federal government must communicate intelligence to local law enforcement, and local law enforcement must communicate intelligence to the Federal government.

Local law enforcement must share intelligence regarding credible threats to the community with emergency management, fire and medical partners to ensure appropriate preparedness.

Local government executive (city manager or city administrator) must share credible threat information with the elected officials.

Mayor or city manager must share appropriate threat information with the resident and business community, sometimes in selective messages.

National messages about threat and risk must be consistent, accessible to everyone, including the English as a Second Language (ESL) and disability communities, and provide understandable direction for the average member of the public.

Media outlets must be partners with the government in providing accurate information rather than sensational stories.

The Federal government has formed a partnership with local law enforcement through the FBI regional offices. **Joint Terrorism Task Forces** were created in most major metropolitan areas to bring together intelligence from local law enforcement and Federal agencies.

Los Angeles pioneered a **Terrorism Early Warning Group** where police, fire and medical personnel share and evaluate information regarding potential terrorist threats.

In northern California the **Bay Area Terrorism Working Group (BATWING)** was formed for monthly meetings to share intelligence and best practices among police, fire, medical services, emergency management and public health personnel.

Similar organizations have been developed by the Federal Bureau of Investigation throughout the United States.

Through these organizations information about terrorist activities and **Potential Threat Elements (PTEs)** are shared at various levels of specificity, based on how many non-law enforcement personnel are involved. Most groups have a secure website where members can share information between meetings.

MMTFs provide a forum for law enforcement to share intelligence with their immediate community partners.

Protocols are being developed to make the passage of information between law enforcement and first responders in fire, emergency management and emergency medical services smoother, so that they can prepare for the specific threats that appear to be developing in their immediate area.

For example, when a rash of burglaries resulted in the loss of police uniforms and FBI credentials, the first responders were able to alert their members regarding carefully checking all identification at an emergency event.

The San Jose Urban Area Security Initiative group has a goal of developing a set of agreed upon protocols to prompt the rapid passage of critical information among the field first responders and to the emergency operations center.

Elected officials must be included in intelligence briefings so that they can be prepared to provide extra resources to first responders and reassuring messages to the public.

>Mayor Rudy Guiliani is credited with maintaining public confidence in government through his regular media conferences and his strong messages after the attacks on 9-11.

>The local governments must have a plan for gathering accurate information and sharing it regularly with the elected officials, as part of the Emergency Operations Plan.

>Most large cities appoint a senior staff member as the point of contact with elected officials to ensure that they questions are answered quickly.

>After each Action Planning Briefing the city manager or city administrator will brief the mayor and other elected officials to ensure that they know about community conditions, and what steps are being taken to protect and care for the community.

Another key element of the Emergency Operations Plan is the **Public Information Plan**.

Professional public information officers and marketing personnel from local government departments will meet with the city manager to develop consistent messages for the public.

>This information will be shared with the senior staff and elected officials to support their interaction with the media and members of the public.

>The public information officers will facilitate participation in media briefings by senior staff and elected officials. They will also used city websites and cable TV stations to disseminate information to the community about threats, events and self-protective actions.

>Critical messages may be targeted to specific portions of the community.

>For example, in the fall of 2001 messages were sent to hazardous materials using industries to ensure that they heightened their security around loading docks and storage areas to prevent theft of their chemicals. Community members were encouraged to develop "shelter in place" kits, although that deteriorated into "tape your duck" due to a well meant but inadequate explanation of the goal and purpose of sheltering in place.

>Larger communities have developed downloadable brochures on shelter in place for the public that are available in at least one or two major community languages other than English.

The goal of the **Homeland Security Threat Level** color code was to provide a simple gauge for the public of how serious the terrorist threat is, and to indicate when the threat increases or decreases.

>The color codes from green through red were intended to have an intuitive message based on culturally understood color symbolisms, mostly derived from the three- color traffic signal.

>The color code was introduced before the Iraq War at a level Yellow, which has now become defined as "ordinary" conditions, since Blue and Green have never been experienced.

>The Department of Homeland Security and the American Red Cross have websites that explain the color code level for a given day and describe what steps the average community member should take in response to the existing threat level. The level was changed to Orange during several intense periods during the war and its aftermath.

>Because of the expense and disruption related to going from Yellow to Orange, the Federal government has determined to delineate areas where the threat is heightened, unless there is an articulated increase everywhere.

>>For example, in the summer of 2004 there were specific threats against financial institutions in New York City, northern New Jersey and Washington, D.C. Their alert level was raised to "High/Orange," but the rest of the nation remained at yellow.

>Changes from Yellow to Orange involve enhanced security measures at critical facilities, including public buildings, infrastructure, and at airports under Transportation Security Administration rules. Port security is also enhanced.

>These changes cost money for extra security staff, and cost businesses time and money in shipping delays, and long periods at airports for staff traveling for meetings.

>The inconvenience of business travel under heightened alert levels has resulted in decreased business travel, causing additional economic losses in sales and transient occupancy taxes for communities that serve a large business base.

>Increased overtime costs for public agencies to provide the heightened security services are only partially covered by limited Federal reimbursements. The economic impact of color code changes is pervasive.

Written material on the color code is readily available on the Internet for those literate in English. While there is a Spanish language section of the America Red Cross disaster information page, the color code information is available in English only. Those without

adequate English literacy have no other source of information on understanding and responding to the color codes.

Larger cities are using some of the homeland security grant funds to develop materials in community languages other than English to distribute in hard copy. Their public information officers work closely with the non-English language media outlets to share consistent, accurate and timely information with community members who do not understand English.

The community has other members with special vulnerabilities. These may include age, socio-economic condition or physical disability. Larger cities and counties have recognized the need to ensure adequate pre-disaster information and timely warnings and briefings to all residents of the community.

Collaborative relationships have been developed with the non-governmental organizations that regularly provide services to vulnerable populations. Organizations called CADRE (Collaborating Agencies Disaster Response Effort) or CARD (Community Agency Disaster Response) have been formed to create strategies and plans for continuing services to those with age, economic or disability limitations.

Pre-plans have included ICS-based disaster response plans for the agencies, and training for their staff and volunteers in how they will be prepared to respond during a disaster to continue services to the vulnerable populations.

Information for the general public falls into three categories: preparedness, warning and response information. Websites and public presentations, newsletters and news articles provide avenues for sharing preparedness information with the community.

The American Red Cross site (**http://www.redcross.org/**), Department of Homeland Security site **www.ready.gov** and local government sites contain brochures on many aspects of preparedness for all hazards, including terrorism.

Warnings are more problematic. Local governments have no special knowledge on which to base terrorism watches or warnings. The color code system of the federal government fills that role for terrorism. Weather-related warnings come from the National Weather Service, and geologic hazard warnings such a volcanoes and earthquakes come from the US Geological Survey.

The Emergency Alert System (EAS) creates a partnership between the federal government and media outlets in every community, to ensure that critical messages from the Federal government are carried by the media in a timely fashion.

> These messages may be carried as verbal messages, or as a written "crawl" across the bottom of the television screen. An alert tone comes before the message to stimulate viewer or listener attention.

This digital system replaced the old **Emergency Broadcast System (EBS)** in the late 1990's, and has been effective in various natural disasters.

In many states it is also used for **Amber Alerts** and other local emergency messages. Local emergency managers have a code word to authenticate messages with the media, which enables them to be transmitted quickly to the community.

Telephone notification systems are used by some communities, but they carry a variety of impediments, such as speed of information sharing to thousands of telephone numbers, and the requirement for the recipient to understand the main language or one secondary language. Messages usually have a time limitation of 1 to 2 minutes, limiting the amount of languages that can be repeated.

Some communities have tried to overcome those limitations by developing a voluntary listserve of community members who want to receive disaster warning information by e-mail to a computer or pager.

While a variety of languages can be transmitted simultaneously, this system pre-supposes both the economic capacity to own and operate a computer or pager, and the technological capability to receive and manage the information.

This biases the service toward middle class and upper class community members who are seldom among the most vulnerable.

While such a system is useful for businesses and hospitals, it does not meet the needs of alerting the general population.

The old civil defense siren system can be a useful method of alerting the community to the need to turn on a media outlet for information. This has the advantage of stimulating an action, but letting the community member select the outlet that uses the language of choice.

The Oakland, California metropolitan area holds an annual "Corridor of Safety" exercise of its siren system. The limitations are that it pre-supposes that the media outlets are available and willing to provide the actual messages, since the sirens themselves carry no message. In addition there are concerns that double pained windows limit the passage of sound, and people with hearing disabilities might be left out of the notification.

The National Oceanic and Atmospheric Administration (NOAA) has in place a **National Weather Service (NWS) weather alerting radio system** that self-activates.

The NOAA weather radio is left on but is silent unless a warning is issued for the community. It emits a warning tone and then transmits a clear text verbal message unless it is silenced.

The NWS has offered to include terrorism warnings and information on the system. This would require that every household buy a NWS radio and keep it plugged in at a location where it could be heard by someone in the household throughout the day and night when the house is occupied.

The cost again biases the system against the poor, and the question of the number of languages available creates a question about accessibility for non-English speakers. Like a siren, it could serve as a trigger to seek information from a media outlet in the appropriate language.

A partnership with the media must be developed in advance of need. Local government public information officers need to coordinate with their media counterparts to understand the needs of the media and the amount of information that can be carried. Languages, formats and editorial bias need to be understood in advance.

While the EAS provides guaranteed access for brief messages, longer features on disasters, appropriate preparedness and community conditions may create tension between the public agency and the privately owned media outlet.

The media is interested in stories that sell, while the public agency is interested in simple information sharing. The media will editorialize while the public agency wishes to share simple facts.

Pre-disaster relationships are the key to a successful partnership with the local media. Opportunities to take file footage of exercises and to understand local emergency plans can help create a more cordial relationship between reporters and public agencies that will help the public information flow in a disaster.

6. What are the major components of risk communication and who should be involved?

7. Describe the Homeland Security Advisory System and what it is intended to do.

8. Describe the Emergency Alert System and what it is intended to do.

9. What other alert and warning systems might a community have?

10. Where can public officials and the general public find training to deal with terrorist attacks and other disasters?

11. Where can Homeland Security officials and emergency managers find information on equipment to use in dealing with terrorist attacks and other disasters?

Objective 4.4
Discuss the types of certification and standardization that are in existence or being undertaken under homeland security initiatives

Preparedness Standard Setting

The early days of emergency management had their roots in the military, but as focus shifted from war planning to natural hazards and technological hazards the idea of a trained civilian emergency manager evolved. Initially a political appointment in many communities, the emergency manager evolved into an educated professional with a set of defined knowledge, skills and abilities that matched the environment of the community.

Civil defense plans and personnel derived from military roots. The paradigmatic civil defense warden for a community was a retired military member who drew on military training to make a "battle plan" for community protection.

However, the signal failure of emergency management at the Three Mile Island Nuclear Power Plant accident, and the specter of the tragic accident at Bhopal, India changed the paradigm. Discovery of the disastrous pollution at Times Beach in New York State and Fairchild's plant in San Jose, California led to state and then federal regulatory and emergency planning requirements.

As emergency management grew into an all-hazards approach, people with widely varying specialties joined the ranks of local government staff.

> Knowledge of public administration, budgeting, personnel management and intergovernmental relations became basic skills for emergency managers.

> Scientific knowledge related to natural hazards also had to be acquired: seismology, hydrology, geography, chemistry, physics, engineering and urban planning.

> Emergency managers began to have very diverse backgrounds, from administrative generalists hired as "coordinators" of a multitude of local government activities, to specialists in the one scientific element that posed the greatest risk to a given community.

> For example, in the 1980's it was not uncommon to have a chemist as the emergency manager while the focus was on SARA Title III and Community Right to Know.

Emergency management diverged into two paths during the 1980s as the Federal Emergency Management Agency (FEMA) and the Environmental Protection Agency (EPA) developed their missions.

Those who worked in the field of environmental protection, hazardous materials management and in developing the Local Emergency Planning Committee tended to be chemists, or hazardous materials specialists with a fire department background. Their Federal partner was the EPA, and at times the Nuclear Regulatory Commission (NRC), if a power plant was present in the community.

These Federal agencies provided training for local government emergency planners in the programs and practices that they enforced. Standards for local community programs, including public education, were set at the Federal level.

Utilities that owned power plants had a program of planning and exercises with a strict schedule that was overseen by NRC. Local governments in the power plant's defined accident area or evacuation catchment area had specific participation requirements, for which they were generally reimbursed by the utility. The plant's internal emergency managers had to interface with the community's emergency managers, working from two very different paradigms: the bottom line of profit versus absolute safety of the community.

The natural hazards focus of emergency management was developed by FEMA.

Funding was provided to local governments on a grant basis (Emergency Management Assistance) to fund part of the cost of an emergency management professional position (usually a 50/50 match including benefits).

The grant required specific cycles of planning, training and exercising over a four-year program period.

Natural hazards and nuclear attack were the subject matter of the planning process.

While initially it was assumed that any government employee could manage the program, as the information became more complex and technical, FEMA began offering training to ensure that some standard of knowledge was the basis for the diverse planning activities taking place around the nation.

FEMA's Emergency Management Institute and the National Fire Academy, both located in Emmitsburg, Maryland, offered a variety of "train-the-trainer" courses to create a cadre of trainers within the fifty states. These trainers could offer the FEMA courses in the regions of their state to increase the number of emergency managers with subject matter information. A Master Trainer program was also developed to enable the train-the-trainer program to be offered within the states.

Some states also developed their own educational facility for training emergency managers and first responders. The California Specialized Training Institute was one of the most advanced, offering both FEMA classes and locally developed classes on state-

specific hazards, such as earthquake and tsunami. Profession-specific classes were also developed, such as a three level public information officer course suite.

As homeland security developed as a focus in emergency management, other elements of the government joined in the training effort. Army Reserve Medical Brigades offered training for paramedics and emergency medical technicians in fire departments on the medical care of victims of weapons of mass destruction.

> The federal funding sources through the State Homeland Security Grant Program and the Urban Area Security Initiative Program provided funding to cover the cost of overtime for "first responder" personnel as defined in Homeland Security Presidential Directive-8 to attend weapons of mass destruction response training.

> After January 2003 the Department of Homeland Security's Office of Domestic Preparedness (ODP) issued a series of regulations regarding training that was acceptable for the use of the overtime funds. A catalog of acceptable courses, and sources for those courses, was issued, that eliminated many of the previously accepted training sites and topics.

> In some states the National Guard became a training coordinator, developing a list of courses currently offered within the state and seeking approval of those courses by the ODP.

> Training for the general public is available through DHS/FEMA websites. Independent study courses cover a large variety of emergency management topics (http://training.fema.gov/emiweb/is/crslist.asp) with a number related to radiological and hazardous material response planning. Included is an orientation to the new National Incident Management System (NIMS).

> The National Fire Academy independent study site (http://www.usfa.fema.gov/fire-service/nfa/courses/offcampus/nfa-off3.shtm) includes a course on Emergency Response to Terrorism. Students complete the course and take a test, resulting in a certificate of training that may include lower division college level credit.

Equipment for responding to CBRNE emergencies is similar to equipment used for hazardous materials events, medical events and industrial radiological events. However, more specific field level evaluation of the weapon material is needed to better guide the treatment of victims.

> While the typical SAW Mini-CAD or PID will provide information on the category of the material, simply knowing that the product being detected is an organo-phosphate may not be enough to determine the best treatment for the victim.

For example, a victim exposed to pepper spray may be successfully treated by the removal of contaminated clothing, eyewash, and the administration for some oxygen for a short period. On the other hand, a victim exposed to sarin will require injections of atropine and possibly 2PAM to prevent death from seizures and breathing dysfunction.

Since the administration of these drugs carries its own potentially lethal side effects, and may require that the victim remain on respiratory support for days to weeks, making the correct choice based on the agent is essential for a good outcome for the victim.

In the fall of 2001 the distribution of letters containing anthrax to media and political personalities resulted in deaths of five people and the treatment of thousands. Because of the publicity surrounding the letters, communities all over the United States received hundreds of calls for "suspicious white powder, " resulting in a demand by the fire service for field level detectors of anthrax. Biological field tests available at the time did not provide any useful disease information.

Therefore, many companies tried to adapt existing laboratory methods to the field. However, the sensitive instruments cannot tolerate being subjected to movement in vehicles and remain calibrated. The result is that many communities, lacking adequate scientific guidance, purchased untested and poorly understood equipment with marginal reliability using federal terrorism response funds.

The Federal government has a series of organizations that routinely test equipment for accuracy and usability, including the National Institute of Standards and Technology (NIST).

The Federal Bureau of Investigation and the Centers for Disease Control both have procedures for testing and review of equipment.

The newly established Department of Homeland Security developed some review capabilities and worked in conjunction with the National Laboratories to review equipment and provide information for local governments.

Most recently the DHS Science and Technology Directorate (http://www.dhs.gov/dhspublic/display?theme=53) is developing information for first responders to use in selecting equipment appropriate to their field response needs.

A Homeland Security Science and Technology Committee is being developed to provide independent planning advice in technology for the Secretary. Centers for Excellence are being established at various universities where multi-disciplinary research will be conducted to support the nation's homeland security needs. A better understanding of the technical capabilities of equipment will be one outcome.

Emergency management has continued to evolve from the old "civil defense warden" into a profession. Professional evolution began with FEMA's Professional Development Series of courses that ensured a baseline of knowledge for its graduates.

Colleges and universities have partnered with FEMA's Higher Education Project to offer academic education in emergency management. FEMA has funded the development of courses like this one to enhance the emergency management knowledge of college graduates in many disciplines, as well as developing the next generation of emergency managers. (http://www.training.fema.gov/emiweb/cgi-shl/college/User.cfm)

In an effort to provide a baseline of professional competence, FEMA partnered with the largest national emergency management organization, the International Association of Emergency Managers (IAEM), to create a certification that is recognized nationally.

> Starting in the late 1980's professional emergency managers from across the nation formed a committee under FEMA sponsorship to determine what constituted the appropriate knowledge, skills and abilities for the professional emergency manager.

> This research coalesced into the current requirements for the designation Certified Emergency Manager (CEM). The designation requires a bachelor's degree, five years of experience, and a variety of educational, professional and practical activities. (http://www.iaem.com/index.php?option=com_frontpage&Itemid=1) Students submit an application and take a test to demonstrate their knowledge and capabilities.

In an effort to encourage local governments and states to engage in meaningful pre-disaster mitigation and emergency preparedness, NEMA (the national association for state directors of emergency management), FEMA, and IAEM partnered to develop a set of criteria for measuring state and local capabilities.

> The process includes a survey of the government's existing capabilities as measured against a set of guidelines developed from the NFPA 1600 list of the National Fire Protection Association.

> This program developed into the Emergency Management Accreditation Program (http://www.emaponline.org/). The process begins with an on-line assessment tool designed to enable local emergency managers to determine how complete their existing program is.

> Using the results of the self-assessment and the NFPA Standards (http://www.nfpa.org/PDF/nfpa1600.pdf?src=nfpa), local governments can assess their areas of emergency preparedness deficiency and strive to obtain political support for correcting the deficiencies.

The goal of the EMAP was to provide FEMA with a method for determining which communities have achieved an adequate level of all hazards emergency preparedness for their community conditions.

The accreditation staff consists of professional emergency managers and emergency management researchers who have been trained as EMAP Assessors.

Many professional emergency managers question the program. First, federal funding for all hazards emergency management, measured in constant 1972 dollars, has decreased since the end of the Cold War. At the same time local demands for city services have dramatically increased, resulting in a lower per capita expenditure on all hazards efforts.

In addition, funding for all public programs is dropping (per capita and in constant dollars), causing emergency management to have to compete with law enforcement, fire/medical services and libraries for scarce dollars.

Application for accreditation can be a significant expense for programs. For example, the State of Florida, the first state to be accredited, brought on new staff and spent over $1 million to develop the documentation.

One professional emergency manager at an EMAP session estimated that it would cost the average county or large city government at least half that amount to amass and document existing materials, and that additional work to meet the accreditation requirements would double that figure.

The NFPA 1600 criteria were developed for private businesses and the EMAP Commission has adapted them for public agency emergency management assessment and is expanding upon them to make them more applicable to programs having Homeland Security responsibilities.

Florida and Washington, D.C. became the first two communities to be accredited by EMAP.

It remains to be seen whether Florida's and Washington's future performance in a real emergency demonstrates the purported level of capability. Hurricane Charlie was the first disaster to occur in Florida after the accreditation. Researchers will have to determine whether the management of that event was actually any better than the management of the hurricane by the affected but non-accredited states.

Questions to ask students:

1. What is NFPA 1600 and why is it important?

2. What is the Emergency Management Accreditation Program (EMAP) and what role is it expected to play in improving state and local emergency management programs?

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Objective 4.5
Describe how continuity of government is ensured at the local level

Continuity of Government

One goal of emergency management was ensuring continuity of government after an attack or disaster to prevent anarchy, maintain defense, aid the victims and engender recovery.

Several steps achieve that goal:
1. a trained emergency organization in place,
2. designated chain of succession for elected official and appointed executives,
3. protection of vital records, and
4. alternate seats of government.

One goal of war or attack is to separate the people from the government by making the government look incompetent or uncaring. Local government services must be organized to withstand attack through redundancy of personnel and equipment. In this way essential services for victims can be delivered, and community safety from looting and rioting can be ensured.

Public information systems are a critical part of the emergency organization, as had been mentioned above. As important as risk communication is, planning for reassurance and rumor control after an attack or disaster is one key to maintaining calm.

In many states the Incident Command System has been adopted as the management standard for field response.

> Some states, like California, have adopted emergency management systems for the emergency operations center, as well. California's is called the Standardized Emergency Management System (SEMS).

> By October 1, 2004 all levels of government wishing to receive federal aid will have to use the National Incident Management System (NIMS) that incorporates ICS into all phases and levels of emergency management.

The community's **Emergency Operations Plan** embodies the emergency management system. That document becomes the basis for training those people who will fill the emergency organization roles within the community.

Some states, like California, have a standard set of classes that everyone in the emergency organization must take. For example, all employees who held with disaster response at any level must take the 2.5-hour SEMS/ICS Introduction course.

All employees who work in the Emergency Operations Center must take the 8-hour SEMS EOC course.

Elected officials and other members of policymaking bodies must take the SEMS Executive Course.

A designated chain of succession is essential for the continuity of government. The first step in obtaining federal assistance after an attack is the declaration of a local emergency.

This declaration can only be made by the duly appointed official, generally the city manager, or by the elected officials of the community.

If the appropriate people are unavailable to meet to declare the emergency due to absence, incapacity or death, the community could be left without the aid it needs from higher levels of government.

A plan for the rapid replacement of missing elected officials is critical to the maintenance and restoration of community services.

Every state has its own standards for the line of succession. In California the city manager must appoint three people to succeed him in an attack or disaster. The elected officials must pass a local ordinance to provide for the appointment of "standby" officials who assume their duties until an election can be scheduled. In this way continuity of legal authority and decision-making is ensured.

Public records are a critical part of maintaining and restoring community functionality and the local economy.

Local laws and ordinances, land records, tax records, court records and personal vital statistics records form the basis for civil society.

Agency accounts receivable information is essential to maintaining cash flow. These records must be safeguarded on-site in vaults, but must also be duplicated and stored off-site.

Electronic data may be stored in a remote location where it can be immediately accessed (hot site) or where it can be retrieved (cold site).

Hard copies may be stored in document warehouses in other parts of the country.

Especially critical documents can be stored in blast proof facilities, such as the salt caverns in Kansas.

These documents form the basis for proof of ownership for federal assistance to owners of damaged property, and for death benefit and insurance claims, as well as for the maintenance of the criminal justice system.

Each government agency needs to define its own unique vital records and safeguard them accordingly.

Every community must designate a Custodian of Vital Records, usually the City Clerk or equivalent. That person is responsible to ensure that timely updates of vital records are sent to storage, that storage technologies are appropriate, and that staff are trained in the retrieval and management of records lost to attack or disaster.

Since the city hall and county courthouse are prominent local landmarks, such facilities might serve as a focus for attacks. White supremacist groups and so-called "militias" have targeted such facilities in the past.

Therefore the emergency plan must designate alternate seats of government where the public's business can be conducted if the primary facilities are damaged or destroyed.

The exact location of such facilities is generally withheld from public knowledge as a security measure.

The locations must be documented and surveyed in advance of need, and detailed plans for setting up basic services from the site should be in place.

Critical elements include security and communications considerations.

Questions to ask students:

1. What is continuity of government and why is it important? What should be the major components of a continuity of government plan?

2. What is continuity of operations and why is it important? What should be the major components in a continuity of operations plan?

Objective 4.6
Describe how organizations ensure the continuity of operations in a disaster

Continuity of government operations is ensured through the development of Standard Operating Procedures at the department level and below.

Standard Operating Procedures have several parts:
- outline of essential department emergency services including integration with the organization-wide Emergency Operations Plan,
- explanation of emergency positions,
- call back plan for staffing, and
- plan for the use of community volunteers and integration with community-based organizations where appropriate.

Every department of government has some elements of its services that contribute to community response to or recovery from an attack or disaster. Those activities should be outlined, and plans made to ensure those services.

> For example, housing inspectors might become damage assessment inspectors after a disaster, entailing working for the City Building Official rather than the House Department Director.

> Their roles might change, requiring specific training in advance of the disaster. For example, the housing inspectors might need FEMA ATC-20 Training to adequately evaluate the damage to dwellings after an attack. Coordination and management inside the department's emergency response must also be outlined.

Once the services are determined, the exact positions must be defined. Levels of supervision and support positions must also be developed.

> Day to day relationships form the building blocks for the definition of emergency positions. However, special situations related to the emergency need to be described.

> For example, in an attack when communications are cut off, each battalion chief might act as the chief of the department for that portion of the city under his control. At that time all command and control decisions would be made at the battalion level rather than the citywide level, until communications with the Emergency Operations Center are established.

Departmental Emergency Operations Centers may need to be established to meet the special needs of a situation.

> For example, in a chemical attack the County Health Department EOC (DEOC) would be in a Logistics mode as the focal point for collecting and disseminating information about hospital bed availability and the location and movement of pharmaceutical stockpiles. In a biological attack the DEOC would be the focus of Operations, including epidemiological operations to determine the spread of disease, coordination with the CDC to determine treatment modalities, and even

quarantine operations coordination with local and state law enforcement and federal resources.

In order to staff the required positions, a call back plan is essential. The list of persons to fill positions should be 3 to 5 deep to account for shift change, vacation and illness.

Various methods are available for call back. The system can be automated or it may be managed by human operators. It may be based on telephones, pagers, or other technologies. Redundant systems are best, and a protocol for no-notice response should also be in place.

For example, many earthquake-prone communities have a standard that all city staff will report to their emergency response locations without notice in the event of a 6.0 or greater earthquake. In this way response is ensured in situations where telephone outages may be expected.

Government cannot provide all of the services that communities will need to respond to and recover from a disaster. Partnerships with community based organizations and volunteers will be essential.

For example, the American Red Cross is the congressionally mandated provider of care and shelter for disaster victims.

Special needs community members who are served by community based organizations need to have those services continued.

In New York City the lower part of Manhattan was cut off after the 9-11 attack on the World Trade Center. A Meals on Wheels volunteer raised the issue of what had happened to her elderly and disabled clients who lived in that area. Her desire to maintain services revealed their abandonment in the evacuated portion of the city, and resulted in the fire department making house calls with medical services for the homebound elderly.

People living with disabilities may need special services, such as Braille instructions or sign language information in a shelter. These types of services must be planned for in advance.

In California organizations called **CADRE (Collaborating Agencies Disaster Response Effort) or CARD (Community Agencies' Response to Disaster)** have been developed to ensure the incorporation of the community based organizations into the overall community disaster response.

They have plans for maintaining their services in the midst of community disruption. They have trained their staff members and volunteers in home and personal preparedness steps, and have plans to operate with alternate power supplies and even out of alternate headquarters.

Many communities have federally sanctioned emergency response volunteer organizations in place. The **Radio Amateurs in Civil Emergency Services (RACES)** (http://www.races.net/) and **Community Emergency Response Teams (CERT)** (http://training.fema.gov/EMIWeb/CERT/) are community members who volunteer their time in advance of disaster to assist the community in preparing for disasters and emergencies.

> They train with the paid staff, and receive regular updates and exercise opportunities.

> They are fully integrated into the overall emergency organization and provide essential auxiliary communication and response services when paid first responders are fully engaged in more complex and demanding elements of the response.

Similarly, the **American Red Cross** has a cadre of trained disaster service workers who aid the community in smaller emergencies as well as disasters (http://www.redcross.org/donate/volunteer/).

> Their Emergency Response Team is prepared to assist individual families with alternate shelter, food and household goods replacements.

> The Mass Care volunteers are prepared to open shelters for disaster victims in schools and other facilities.

> The local chapter makes agreements with school districts in advance for the use of their facilities to house evacuees and disaster victims.

Community members will also volunteer after an event. The management of these unregistered and untrained volunteers becomes a disaster within a disaster. While most post-disaster volunteers are looking for a positive way to help others and celebrate their own survival, the potential use of these people raises a variety of problems.

> Is the volunteer a criminal looking for a way to prey on the victims? Is the volunteer looking for a way to commit fraud and get a workers compensation claim against the government entity? Does the volunteer actually have the credentials stated, such as an MD or EMT?

Communities must include in their continuity of operations plan a way to manage the unregistered and unsolicited volunteer.

> One method is to make a pre-disaster agreement with the local volunteer center to manage the volunteers, which is their core service. They can then coordinate with community-based organizations that are used to supervising volunteers to use

these people under proper supervision in organizations without "deep pockets" for fraudulent injury lawsuits.

A good example is the Volunteer Management Plan of the Volunteer Center of Silicon Valley based in San Jose, California (http://www.vcsv.org/index.shtml).

Developed in conjunction with the local professional Emergency Managers Association, this plan enables volunteers to be used by organizations that are prepared to provide the assignments and supervision that are appropriate to their capabilities.

Even medical professionals can be integrated into the system through local hospitals and clinics, where other medical professionals can evaluate thee credentials that they present.

Questions to ask students:

1. Discuss the integration of volunteers into emergency operations plans.

2. What are the major problems with using volunteers and how might they be overcome?