Good morning/afternoon. My name is [   ], and I am a member of The Ohio Center of Excellence for Bioterrorism Preparedness and Response. This introductory talk provides an overview of what every health care provider should know about being prepared and responding to bioterrorism, and is a result of funding obtained by the Health Resources and Services Administration.
Dr. Casto asked me to accomplish 6 things in this presentation - given that I have less than 30 minutes to do so, I have a challenge before me.

These are the six things he wanted me to cover (go over them).

Through this talk I will also emphasize four “essentials” in combating terrorism - those are
1. Early recognition of the event
2. Early management of the event
3. Knowing whom to contact, and
4. Working together as a multidisciplinary team and understanding your role on that team.
We all remember September 11, 2001, the day when terrorists attacked both the World Trade Center in New York City and the Pentagon in Washington DC. Also, 40 individuals lost their lives when United Airlines Flight 93 crashed into a Pennsylvania field.
Terrorists such as these are not hesitant to use weapons of mass destruction. And these weapons are not just biological (point to the letter B in the circle above), which we think of when we hear the word, “bioterrorism.” These weapons also involve (point at each letter in the circle above) - nuclear, incendiary, chemical, explosive, and cyber terrorism.
The greatest threat to the United States and its citizens in the first decade of the 21st century will not come from a military confrontation. Rather, it will come from an attack within our borders from a single individual or group that has access to weapons of mass destruction, including large conventional explosives and nuclear, chemical or biological weapons.

COL Ed Eitzen, Senior Medical Advisor to the US Assistant Secretary for Public Health Emergency Preparedness.

Dr. Ed Eitzen, the Senior Medical Advisor to the US Assistant Secretary for Public Health Emergency Preparedness, emphasized that,

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Terror Is a Weapon Itself

“The real force multiplier in bioterrorism is the panic, misinformation and paranoia associated with it.”


However, the biggest threat is not the weapons themselves, but the terror that is associated with that threat. Recall what our nation went through a few years ago when small towns across the US were trying to prepare for a potential chemical attack. Remember the run on duct tape as people were sealing their basements, often cutting off their own oxygen supply? It has been documented in prior attacks that for every one person who is injured physically, there are four individuals who are injured emotionally.
The major purpose of terrorism is not to kill, but to create disabling fear and panic.
Terrorism forces us to make a choice. We can be afraid. Or we can be ready.


But as Tom Ridge, the Former Director of Homeland Security, points out, terrorism forces us to make a choice. We can be afraid. Or we can be ready.
Which brings to our Center. Today’s talk has been possible through the efforts of over 50 healthcare providers who have come together, thanks to a grant from HRSA, to develop The Ohio Center of Excellence for Bioterrorism Preparedness and Response. This center was created because a need exists to train healthcare professional students to be prepared to respond to terrorist attacks and other public health emergencies and major natural disasters.

This center is a collaborative effort of The Ohio State University, the University of Cincinnati, Ohio University, and Northeastern Ohio Universities College of Medicine in the disciplines of allied medical professions, medicine, nursing, and public health.
What Every Health Care Provider Should Know

1. Early recognition
2. Early management
3. Whom to notify
4. How to work together as a team

The Center’s goal is that each health care professional student, prior to graduation, will be able to

1. Recognize early a potential bioterrorist attack. Nuclear and conventional explosions are easy to detect. However, biological and chemical attacks are often less obvious, and require a heightened sense of awareness and attention to subtle clues.

2. Manage the early events of an attack, including what to do personally, what to do with your colleagues, and what to do with your patients. This task also includes the management of panic and hysteria that commonly follows the attack.

3. Know who to notify if you suspect a terrorist attack. And…

4. Work together in a multidisciplinary team, knowing your role on the team, and the roles of others.
And when we talk about needing to be prepared for a terrorist attack, we are talking about being at the “right place” on the continuum between mindless complacency, which can easily occur when it has been a while since the last attack, and all consuming paranoia, which occurs in the event of an attack.
As mentioned earlier, bioterrorism goes beyond just a biological attack. It also includes nuclear, incendiary, chemical, and explosive weapons. However, for tonight, I will focus on the potential biological weapons, and one agent in particular.
Bioterrorism is defined as the “unlawful release of biological agents or toxins with the intent to intimidate or coerce a government or civilian population to further political or social objectives.”

Targets can include humans, animals, and plants.

It is highly probable that an astute person in the community, not the traditional first responders such as fire fighters and law enforcement, will be the first to recognize that a bioterrorist event has occurred.
Terrorist organizations are interested in using biological agents as weapons of mass destruction for a number of reasons. First, these agents typically can be obtained from soil, water, animals, clinical specimens and clinical research labs. Second, technology used to produce antibiotics, vaccines, and other industrial and food products can be converted to making biological agents, which can be easily concealed.
Those biological agents that are ideally used for bioterrorism have these characteristics. They cause disease, which can be severe, at low doses. They result in a high rate of morbidity and death. They are highly infectious, but not always contagious. They are difficult to diagnose and to treat and are insidious in onset. They are easy, fast, and cheap to produce, and can be concentrated for easier distribution. They can be adaptable to weapons systems. And, their names cause fear and panic among the public.
It is quite clear that there is growing concern that the people of the United States might be subjected to bioterrorism assaults. This manifests itself in multiple ways. It shows in the growing press coverage of the threat. It also shows up in popular culture: here are nearly two dozen novels that include incidents of the use of biological agents by criminals and terrorists as a central theme. It also shows up in the increasing number of comments about the threat by non-US government experts and by senior US officials.
The three major ways in which biological agents can be transmitted are through aerosol, through the GI tract, and through the skin.
Many biological agents are effectively delivered as an aerosol. If a protective mask is not readily available, cover your mouth and nose with layers of fabric that can filter the air but still allow for breathing. Examples include 2 to 3 layers of cotton such as a T-shirt, handkerchief, or towel. Otherwise, several layers of tissue or paper towels may help.

Explosives are inefficient delivery systems because the heat generated by the explosion will inactivate most of the biological agents.
Another concern is possibly the contamination of our milk supply with a pathogen such as botulinum toxin. Easy to find and easy to produce, botulinum toxin is the most poisonous natural substance on earth. In the hands of a bioterrorist, a single gram - the weight of a paper clip - could kill more than one million people.
Although there are hundreds of thousands of biological agents in this world, only a dozen or so could potentially be used as a biological weapon. Of these, the Centers for Disease Control have classified them according to their potential threat. Category A agents are those high-priority organisms that have the following characteristics:

First, they pose a risk to national security because they can be easily disseminated or transmitted from person to person.

Second, they can result in high mortality rates and have the potential for a major public health impact.

Third, they cause public panic and social disruption.

And, fourth, they require special action for public health preparedness.
The CDC has listed these six agents as Category A… Anthrax, Smallpox, Botulism, Plague, Tularemia, and Viral hemorrhagic fevers, the most famous of which is probably Ebola virus.
Tularemia
*Francisella tularensis*

- Gram-negative bacteria
- Found in rodents
- One of the most infectious agents known
  - Few organisms can cause disease

Up to 95% of naturally occurring anthrax infections develop when the bacterium enters a cut or abrasion of the skin, such as when handling contaminated wool, hides, leather or hair products, especially goat hair, of infected animals.

In this slide we see Berlin electoral workers equipped with protective masks and gloves as they open mailed votes during the regional elections in October 2001. The protection is used as a precaution against a possible anthrax threat.
Tularemia

*Francisella tularensis*

- Non-specific, “flu-like” symptoms
  - Fever, chills
  - Headache
  - Muscle aches
  - Non-productive cough
- Deadly if not treated!
- Diagnosed by index of suspicion and confirmed by laboratory

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In this slide we see Berlin electoral workers equipped with protective masks and gloves as they open mailed votes during the regional elections in October 2001. The protection is used as a precaution against a possible anthrax threat.
If you suspect a biological threat, the best resource to contact immediately is your local health department. The state and local public health departments play an extremely important role in all-hazards emergency preparedness and response. Public health professionals within these departments have immediate access to guidance and information that will assist them in rapidly establishing priorities and undertaking necessary actions during the response to an emergency or disaster.
Regardless of the cause of the disaster, whether it be natural, such as a tornado or flood, or whether it be man-made, such as what we have talked about today, a critical skill that health care providers need to have is the ability to work together in a multi-disciplinary team.

**Click to bring forth next image** - The team consists of these three major groups. Health Care Providers include physicians, nurses, allied health such as lab, respiratory and x-ray technicians, veterinarians, dentists and psychologists. Public Health Officials include the local and state health departments and the Centers for Disease Control. First Responders include members of the fire and police department, emergency personnel, and, depending upon the disaster, the FBI, Homeland Security, and the Federal Emergency Management Agency. Each have an important role and must work together.

**Click to bring forth next image** - It is also important to know that most disaster plans call for an Incident Commander, who is responsible for coordinating the effort of all three groups. The Incident Commander is determined by the agent and delivery mechanisms. Typically, the Public Health Commissioner would be the Incident Commander for biological events, while the Fire Chief would oversee the other events.

It is important that you know what your role would be in this team.
To be prepared, review your local Disaster and Bioterrorism Safety Plan. Also, review the Ohio Department of Health Disaster Preparedness and Response Plan, which can be found at this website.
Three great websites that will help you to get prepared are presented here. First, the CDC is a wonderful, rich resource for health care providers. Almost everything you wanted to know about what we have touched on today is found at this site.

Both Homeland Security and the American Red Cross have excellent web sites that provide advice on personal and family safety during a disaster.

I would recommend that you become familiar with all three sites.
So, in summary, it is essential that we as health care providers be prepared for a new generation of potential threats to our health. Be alert for subtle warning signs that may be due to a terrorist event. Be ready to manage not only the physical but also the mental health casualties. Become familiar with your local public health department, and know how to contact them quickly. Develop skills on how to work together in a multi-disciplinary team during a disaster, and know your role on that team. And finally, know the web sites where you can go to quickly to learn more about what we discussed today.
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Thank you for your attention. Please take a few minutes to complete the evaluation.

If you have any questions, I will be able to answer them once your evaluations are completed.