

National Advisory Committee on Children and Terrorism

TRAINING

Bobbie Maniece-Harrison

Introduction

Following the events of September 11th, the subsequent anthrax attacks, and the continuing threats of possible bioterrorist attacks, public health measures to protect the American public have intensified, especially attention to the needs of our nation's children. In reassessing our level of general disaster preparedness, we have become acutely aware of the critical need to include specific training to meet the needs of children in all disaster preparedness plans at the Federal, state and local level. The American Academy of Pediatrics has reminded us that children have significant developmental vulnerabilities not shared by adults, which can influence how they will be affected by various biological and chemical agents. Children will have unique treatment and mental health needs and will therefore need care from providers trained to meet their unique needs.

When Senator Hillary Rodham Clinton announced her plans to introduce legislation to address important aspects of our response to the threat of bioterrorism, she remarked that "we must immediately begin training physicians and health care personnel on the unique needs of children, researching proper dosages and antidotes for treating children against biological and chemical agents." Training for non-health care personnel (clergy, school staff and parents) should also be included as part of the overall training component in disaster planning. Every health and defense authority, including the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO), the Centers for Disease Control and Prevention (CDC), the Federal Bureau of Investigation (FBI), and the U.S. Department of Homeland Security, is recommending that all healthcare personnel be trained on bioterrorism. Dennis O'Leary, President of JCAHO told Congress that "such education is essential to a prompt response to any bioterrorism attack."

Responders must be trained to detect and respond to disaster in a coordinated and integrated way. In-service and pre-service training must be tailored to the roles of the various providers. To ensure that responders and providers demonstrate the same basic level of core competencies and skills, a standardized curriculum should include those elements specific to the unique treatment and mental health needs of children. Simulated drills should be included so trainees can practice using protective equipment and other equipment used specifically for the treatment of children. The American College of Emergency Physicians (ACEP) Terrorism Response Task Force identified the core content of a medical training program to prepare health care professionals for a terrorist attack, under a grant from the U. S. Department of Health and Human Services.

Training should be updated regularly, as new information becomes available and accessible via a variety of sources, such as: distance learning, telemedicine, self-study, seminars, conferences, and classroom courses. A long-range goal should be to incorporate bioterrorism training related to the needs of children into the pediatric component of curricula for medical,

nursing and EMT students, and teacher preparation curricula. A comprehensive training program not only include elements related to the physical and psycho-social needs of children, but also public health surveillance and reporting and communication between response entities.

Most bioterrorism preparedness initiatives include a general training component, with minimal or no reference to the needs of children. Though some progress has been made to improve training, the failure to include a specific pediatric component seriously jeopardizes the care and support needed by children. Schools have recently been updating their emergency disaster plans, ordering more drills and briefings for their staff. The American College of Emergency Physicians reported that the lack of adequate training for medical responders to a biological, chemical or nuclear terrorist attack is so severe that timely and effective patient treatment may be seriously compromised. The urgency for adequate and appropriate training related to the needs of children requires that it be included in every federal, state and local bioterrorism preparedness plan.

Before developing a pediatric component for bioterrorism preparedness, there needs to be an assessment of existing training initiatives such as those included in the Health Resources and Services Administration (HRSA) Bioterrorism Hospital Preparedness Program, Metropolitan Medical Response System (MMRS), American Institutes for Research, the Disaster Medical Assistance Team (DMAT), The Agency for Toxic Substances and Disease Registry (ATSDR) and the Emergency Medical Services for Children (EMSC). This should help to discern to what extent training currently addresses the unique needs of children and what content areas need to be covered and included in training.

The comprehensive pediatric training component included in bioterrorism preparedness planning should encompass specific elements including, but not limited to:

- Special treatment areas for mass pediatric casualties in hospitals
- A pediatric trauma triage system
- Pediatric treatment protocols, including appropriate medications and dosages
- Pediatric specific training in the use of equipment and drill procedures
- Provision for the psychological support of children and families
- Resource acquisition from the Strategic National Stockpile (SNS)
- Basic surveillance and reporting to appropriate public health officials
- Appropriate decontamination procedures
- Communication and coordination among response entities

Some factors that will influence the success of training for providers include whether the content areas addresses the needs of children, the accessibility of training, how the training fits into the overall community disaster plan, and the extent to which it reaches the targeted audience.

Preparedness

Bioterrorism preparedness plans should pay special attention to the unique needs of children, with the knowledge that young children are more susceptible to the untoward

consequences of disasters and acts of terrorism, due to their special anatomical, physiological and psychological makeup. Because children are not little adults, training to address their special needs is necessary. Currently, there are a number of federal bioterrorism preparedness initiatives, however none has a strong training component for responders to address the needs of children. Of the five HRSA programs focused on bioterrorism, three have a training component and only one of these focuses specifically on the needs of children.

HRSA's **Bioterrorism Hospital Preparedness Program** focuses on improving the nation's hospitals and emergency departments to respond to biological terrorist attacks and situations involving large scale casualties. Through cooperative agreements with state health departments, local hospitals, EMS systems, community health centers, poison control centers and other health care facilities will be able to improve their preparedness to work together to combat terrorist attacks. The training component for this program does not make any specific reference to the needs of children. Phase One supported State Health Departments by conducting a needs assessment and developing a plan of action. Phase Two supports the implementation of the approved plans submitted.

During FY 2003, there is increased emphasis on building and improving hospital infrastructure. One objective is to ensure adequate hospital laboratory capacity, while another is to assist hospitals with the purchase of personal protective equipment, decontamination facilities and other equipment for decontamination of biological and chemical agents.

Another HRSA training program is the **Bioterrorism Health Professional Schools Curriculum Development and Training Program**. The goal is to prepare an interdisciplinary workforce of health care providers with the knowledge, skills and abilities to:

- Recognize when a bioterrorist attack has occurred
- Treat patients in a safe and appropriate manner
- Communicate the event to the appropriate public health officials at the local, state and federal level

This program provides continuing education to health professionals already in practice and incentives for curricular reform in health professional schools and training programs. It also promotes integration of healthcare professionals into the public health network.

The Emergency Medical Services for Children (EMSC) is integrated into the standard EMS system and enhances its capability to address the special needs of children. This program existed prior to the increased concern about bioterrorism, however it supports the bioterrorism effort because it makes specific and significant contributions to address the needs of the target population. The EMSC program supports various initiatives to improve the quality of emergency care that children receive. With EMSC funding, the University of Massachusetts developed and conducted the Pediatric Disaster Life Support (PDLS) program, a two-day training workshop for emergency medical professionals. EMSC funding was also utilized to develop a training video for the JumpSTART pediatric multi-casualty triage protocol.

Area Health Education Centers (AHEC) around the country have been instrumental in assessing the need for bioterrorism preparedness training in the medical community. Training modules and materials have been developed for physicians, nurses, pharmacists, emergency medical technicians and public health personnel. AHECs are actively providing continuing education to health providers, assistance to local and statewide emergency preparedness planning and assistance in developing infrastructure. They are beginning to identify potential trainers so as to coordinate a train-the-trainer approach to bioterrorism. A review of some AHEC activities did not indicate any specific training related to the needs of children.

Community-based health providers have formed crisis response teams, who receive extensive training for their outreach activities. Workshops, seminars and community planning meetings have been conducted by crisis response teams and they can be mobilized in the event of a bioterrorist attack to assist in meeting the needs of children. Communities across the country are engaging in simulated disaster drills, such as “TOPOFF 2.” Sponsored by the U.S. Department of Homeland Security and U.S. Department of State, in cooperation with Federal, state, local, and Canadian partners, this five-day, full-scale national exercise measured and analyzed the nation’s response to a mock terrorist attack. A total of nineteen Federal agencies and the American Red Cross were involved during the five-day period. On its website, <http://www.dhs.gov/dhspublic>, the Department of Homeland Security has frequently asked questions about citizen preparedness.

The Centers for Disease Control and Prevention (CDC) have funded 14 Centers for Public Health Preparedness. The goal of these centers is to ensure that local public health workers are fully prepared to respond to current and emerging health threats, including bioterrorism. The website, <http://www.bt.cdc.gov/training/CPHPlocations.asp> indicates where these centers are located. CDC conducts a wide-range of training opportunities specifically related to bioterrorism. These can be accessed from the website, <http://www.bt.cdc.gov/training/index.asp>

Most disaster preparedness plans include a training component, but there is minimal or no reference to the training related to the unique needs of children. Existing training should add a pediatric component.

Recommendations

- Ensure that training related specifically to the needs of children be included in all federal, state and local preparedness plans
- Recommend collaboration of training between and among agencies to increase their capacity to address the needs of children.
- Provide additional funding for community and school drills to evaluate how well the needs of children are met, to practice using special equipment and how to handle large number of casualties.

- Support AHEC activities, but encourage the need to include the care of children in their terrorism training modules and materials.

Response

During the response phase of a bioterrorist attack, responders could include school staff, emergency medical service, fire, police, rescue squad and hospital emergency department personnel. Anyone responding to children as victims of an attack needs knowledge of how children could be affected by a bioterrorist attack, and appropriate intervention skills.

School staff could be the first to respond to children during school hours and therefore need special training. Children's needs may change depending on whether the school decide on lockdown or evacuation.

Health care providers as first responders need specific training on treating children depending on the toxic agent, basic prophylactic guidelines to protect themselves and others, treatment protocols, the use of special protective equipment and special procedures. First responders may provide care ranging from first aid to the more complex pediatric procedures.

Emergency department staff and EMS personnel are generally well prepared to respond to routine emergencies, but need additional training to respond to mass casualties. A sudden influx of large numbers of sick or contaminated patients from a bioterrorist attack could overwhelm the health care system. Consequently, while treating victims of an attack is important, training should also prepare responders to protect the hospital, staff, patients, the health facility and its environment, and the victims, in that order.

Since a bioterrorist attack can strain the infrastructure of an already overwhelmed hospital and public health system, responders should know when and how to request additional equipment, supplies or human resources. Other agencies called upon to assist during the response phase on an emergency include:

- **The Metropolitan Medical Response System (MMRS)** emphasizes a coordinated approach in the first 48 hours to enhance the existing local emergency preparedness plan. This is coordinated with local law enforcement, fire, hazmat, EMS, hospital, public health, and other first responder personnel. MMRS has specifically trained responders at all levels and has specialized response equipment, but the training is not specific and relevant to the needs of children.
- **A Disaster Medical Assistance Team (DMAT)** is composed of medical professionals and support staff and is deployed to disaster sites to provide emergency medical care and/or augment overloaded local health care staff. DMATs are designed to be a rapid-response to supplement local medical care until other federal resources can be mobilized. There are two fully formed pediatric DMAT teams in the country, one out of Boston, the other one out of Atlanta.

- **The National Disaster Medical System (NDMS)** was developed to improve response to large-scale disasters. Federal agencies involved in NDMS include the **Department of Defense (DoD)**, **Department of Veteran Affairs (DVA)**, **Department of Health and Human Services (DHHS)**, and the **Federal Emergency Management Agency (FEMA)**. Components include medical response, patient evacuation, and definitive medical care. DMATs were created out of the medical response component.
- **The Agency for Toxic Substances and Disease Registry (ATSDR)** recognizes the special vulnerabilities of children with regard to chemical exposures. Children are not simply small adults; they often have greater exposures, greater susceptibility to toxic effects, and greater dependency needs when sheltering-in-place and other protective measure are indicated. ATSDR supports and maintains a national network of pediatric specialty clinics that provide expert consultation, training, and public education on chemical exposures in infants and children. It maintains a 24-hour hotline and emergency response team that is fully integrated with the CDC Emergency Operations Center and has worked closely with the EPA, FEMA, FBI, Coast Guard, and other response agencies at the federal, state, and local level.
- **The National Center for Injury Prevention and Control (NCIPC)** is developing guidelines for the rapid assessment of injuries and mental health for children and adults, in the immediate aftermath of large-scale disasters and emergencies.
- **The Commissioned Corps Readiness Force (CCRF)** is another response entity to public health emergencies. CCRF members are from medical disciplines (physicians, dentists, physician assistants, nurses, veterinarians and health services officers), and non-medical disciplines (environmental health officers, scientist, pharmacists, therapists). Some of the training for CCRF members was developed for the NDMS response teams (DMAT). CCRF members may be called upon to augment a NDMS response team.

The gap for all of the response teams is their lack of training specifically related to bioterrorism and the needs of children.

Recommendations

- Standardized training for response teams, especially since they sometimes augment local response teams.
- Training must encompass elements of a comprehensive response plan with specific reference to the needs of children.
- Ensure that pediatric experts, academicians and public health experts take the lead in developing training content related to the needs of children

Recovery

Children especially vulnerable to sustained damage from a bioterrorist attack. They could be more seriously affected than adults because of their developmental stages and vulnerability.

They could suffer long-term effects, therefore recovery efforts should begin with first responders. How children are approached and treated initially, in the aftermath of an attack, could have a lasting effect.

Since September 11th, voluminous literature has been produced on how to help children cope after a traumatic event, including tips on how to talk to children, behavioral changes to observe and changes in school performance. However, training for health care providers and first responders has sufficiently emphasized helping children to recover. The lack of adequate and appropriate training and resources to meet their needs could seriously compromise the recovery phase.

Recommendation: Training should ensure that children are treated and supported through the recovery phase of a disaster

Mitigation

Training may not prevent a bioterrorist attack, but it can lessen the effects, save lives, and help children cope with the trauma. Emergency department physicians, pediatricians, school personnel and parents could all be first responders after a disaster and need some training aimed to lessen the impact or severity of the trauma. Children themselves also would benefit from training related to lessening the effects.

Health care providers need recognize unusual disease patterns or disease clusters and diagnostic clues that might signal an unusual infectious disease outbreak due to a bioterrorist attack, which should be immediately reported to the appropriate local public health officials. An effective training program should emphasize basic surveillance and epidemiological warning signs and signals.

Children are being instructed to keep bottled water and non-perishable food items in their locker in the event of a lockdown at school. Those on special medications are advised to keep an extra supply with them, along with instructions for taking. Schools are having more drills for lockdown and as well as evacuation.

The American Academy of Pediatrics (AAP), in its “Disaster Preparedness to Meet Children’s Needs,” outlines the vulnerabilities of children because of their developing minds and bodies, as well as their treatment needs and unique mental health needs. For details, the AAP website is http://www.aap.org/advocacy/releases/disaster_preparedness.htm. To ensure that its practitioners are armed with the latest information and skills, the AAPs’ Task Force on Terrorism has promised that pediatricians and other pediatric providers will have information they need related to terrorism and disasters as fast as it becomes available.

The American Red Cross (ARC) disaster services offers information related to preparing for and responding to disasters, but the information is very general with minimal reference to children. To reduce the effects of a disaster, the ARC suggests that families prepare a disaster supplies kit and cites specific items to include for infants and children (formula, diapers, bottles,

powdered milk and medications). The U.S. Department of Homeland Security suggest two kits, one if the family is sheltered in and another one if evacuation is necessary.

One of the gaps to mitigation is that children have not been included in the training.

Recommendations

- Include children as responders with their roles and responsibilities clearly clarified, in all training initiatives
- New information on bioterrorism, especially related to the needs of children, should be communicated to all providers and first responders as soon as it becomes available
- Include training related to the needs of children in all federal, state and local disaster preparedness plans
- Provide funding for special equipment and support for simulated drills where large-scale pediatric casualties are involved and practice in the use of specific equipment.

TRAINING

The training components in existing bioterrorism preparedness plans make little or no reference to the unique needs of children. Children have significant developmental vulnerabilities that will influence how they respond to various biological and chemical agents. They will have unique treatment and mental health needs requiring care from providers who have been trained to recognize and respond to their needs.

It is essential that the Department of Health and Human Services support the development of an interdisciplinary workforce of pediatric healthcare personnel and the integration of these professionals into the public health network. Training programs must be developed to provide a healthcare workforce with the knowledge, skills, and abilities to (1) recognize indications of a terrorist event in their patients; (2) treat their patients in a safe and appropriate manner; and (3) rapidly and effectively alert the public health system of such an event at the Federal, state, and local level. It is equally important that training programs focus on: (1) the delivery of continuing education to health professionals already in practice and (2) the provision of incentives for curricular reform in health professions schools and training programs. Recommendations for the Secretary:

1. The Secretary should mandate that a specific pediatric training component be included in all bioterrorism preparedness plans at the Federal, state, and local level. The Committee recommends that:

- All existing bioterrorism preparedness plans review their current training, revise and add a pediatric component

- Funding to states and local communities for bioterrorism preparedness be contingent on their disaster plans including training to meet the needs of children
- Funding be provided to supply states and local communities with adequate equipment and supplies suitable to meet the needs of children
- There be an increase in the number of fully formed pediatric DMAT teams around the country
- All DMAT teams add a pediatric training to their current training curriculum

2. The Secretary should support and ensure that pediatric and public health experts are included in all bioterrorism planning to:

- Define and delineate the unique treatment and mental health needs of children after a bioterrorist attack
- Assess current bioterrorism preparedness training for providers and ascertain the extent to which the needs of children are addressed
- Develop a comprehensive pediatric training component for all levels of responders, which can be standardized
- Collaborate with the Education Department and develop training guidelines for school personnel, parents and students
- Develop guidelines related to the needs of children during simulated drills