Abstract:
Because September 11, 2001, demonstrated that the United States is vulnerable to terrorist attack and Hurricane Katrina exhibited gaps in our disaster response system, there has been a large investment in ensuring that our population is better protected. The purpose of this article is to discuss the opportunities for improvement in preparedness for children that span all levels of government, private institutions, and individuals. These include (1) ensuring that stockpiled medical countermeasures, equipment, and supplies are appropriate for children (dosing, types of medicines, quantity of medicines in Strategic National Stockpile); (2) ensuring that state and local planning includes child and family needs; (3) increasing linkages between preparedness agencies and child experts; (4) improving pediatric education and training of responders; (5) ensuring emergency medical services systems and hospitals are prepared for children; (6) improving individual and family preparedness, especially families with children with special health care needs; and (7) opportunities for involvement for pediatric clinicians. This article will also discuss the H1N1 outbreak that started during the spring 2009.

Keywords:
disaster; emergencies; children; planning; preparedness; government

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Protecting Children During Disasters: The Federal View

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The attacks of September 11 vividly demonstrated that the United States is vulnerable to attack. Since 9/11, billions of dollars have been invested to protect against, mitigate, prepare for, and respond to all types of disasters. The Department of Homeland Security (DHS) was created in 2003 to consolidate federal functions with the intent to better protect the United States. Even with this investment, Hurricane Katrina uncovered gaps in our ability to handle large-scale catastrophes, especially with regard to preparing for special populations. Since Katrina, there have been changes to improve preparation for special populations, but it is unclear whether these changes have improved our ability to effectively manage disasters involving children. In 2006, Congress recognized that children, pregnant women, and other vulnerable groups were not receiving enough attention in disaster planning and preparation. Consequently, these groups were included in the Pandemic and All-Hazards Preparedness Act, a provision for an Office of At-Risk Populations within the Office of Preparedness and Response within the Department of Health and Human Services (HHS). Although there has been some progress with regard to preparing for children since the passage of this bill, there is still more that can be done to ensure that we can protect children before, during, and after disasters.

To determine where opportunities for preparations for children may exist, there needs to be an understanding of how our disaster response system functions. This article will review the federal, state, and local roles in disaster preparedness and response, discuss gaps and opportunities in pediatric preparedness, and review national disaster preparedness activities related to children.

OVERVIEW OF LOCAL COMMUNITY, STATE, AND FEDERAL PREPAREDNESS AND RESPONSE ROLES

Local communities and states have the largest role in disaster preparedness and response; however, it is the federal government that funds a significant proportion of preparedness activities and drives requirements for readiness. The National Response Framework (NRF), released in 2008, provides guiding principles for all emergency management responders to prepare for and provide a unified national response to disasters and emergencies—from the smallest incident to the largest catastrophe.[1]

The NRF defines roles and structures involved with response, establishes essential processes for requesting and receiving federal assistance, and summarizes key capabilities and emergency support functions (ESFs). The ESFs most pertinent to medical response include ESF 6, which directs the Federal Emergency Management Agency (FEMA) to lead activities relating to mass care, emergency assistance, and human services; ESF 8, which directs HHS to lead the public health and medical response; and ESF 9, which addresses urban search and rescue activities and is led jointly by DHS/FEMA, DHS/US Coast Guard, the Department of the Interior/National Parks Service, and the Department of Defense/US Air Force.

Response to disasters begins locally. When a disaster strikes, it is the local first responders who arrive on the scene to provide an initial assessment of the scene to local officials. Such assessments focus on the extent of the incident, the numbers of casualties, anticipated numbers of casualties, property damage, and resources needed to treat and transport victims. Medical issues are addressed by local emergency medical services (EMS), local health care facilities and providers, and local public health agencies. The local government sets up an emergency operations center (EOC) and determines if the incident is or will exceed local capabilities. For incidents beyond local capacity, local officials can request mutual aid from intrastate local governments and aid from the state. The Stafford Act has been the major enabler for federal support of local communities during major disasters. The Stafford Act also provides the mechanism to obtain 1135 waivers (eg, EMTALA, HIPPA, Medicaid payments, and others) along with direct federal support. It is the responsibility of local communities to ensure that any planning and preparation that is done in anticipation of a disaster response includes the needs of children and families.[2]

The state governor is responsible for activating the state EOC, and the state EOC assesses the extent of the damage and the scope of casualties to determine if the response needs have exceeded state capabilities. If so, the governor then requests aid through the Emergency Management Assistance Compact or through other interstate agreements. The governor can request a presidential declaration, and if the event is anticipated, such as with a hurricane, the federal government can predeploy response assets to the expected affected area. These activities are coordinated by FEMA. Federal health care assets are requested from HHS through FEMA based on state request and requirements. The FEMA regional staff evaluates the situation and the governor's request and makes recommendations to the FEMA administrator. When the president declares an emergency or disaster, federal response teams and other resources are deployed and a Joint Field Office is set up to provide unified coordination of response resources. A federal medical asset available to an affected area includes the Disaster Medical Assistance Teams (DMATs) of the National Medical Disaster System (NMDS) that also provides plans and processes for interfacility patient movement.

Before a disaster, the federal government supports a number of state and local preparedness activities. The federal government provides financial resources through grant programs such as the Homeland Security Grants Program, which includes Urban Areas Security Initiative, Metropolitan Medical Response System, and the National Health Care Preparedness Program. It is through these grant programs that the federal government sets priorities and requirements and promotes best practices. The federal government also provides guidance to states and territories for disaster preparedness and response activities. The federal government funds research on medical countermeasure development, development of detection and response technologies, and on best practices. The federal government also stockpiles medications, equipment, and supplies to supplement state and local caches.

FEDERAL AGENCIES INVOLVED IN DISASTER PREPAREDNESS AND RESPONSE

The HHS is the primary agency responsible for the medical and public health response or ESF 8 of the

NRF. Emergency support function 8 responsibilities are wide ranging and split between various agencies and departments. Several agencies within HHS have disaster preparedness and response responsibilities. The Office of Assistant Secretary for Preparedness and Response is responsible for providing resources to hospitals for preparedness, for maintaining federal response personnel, and for medical countermeasure development. The Coordinating Office of Terrorism Preparedness and Emergency Response of the Centers for Disease Control and Prevention (CDC) is responsible for providing capability to state and local public health communities, for supporting surveillance programs for human health, for supporting epidemiological response teams, and for maintaining the Strategic National Stockpile (SNS).

During response activations, HHS (Office of Assistant Secretary for Preparedness and Response) receives medical and public health mission assignments from FEMA. HHS deploys Incident Response Coordination Teams to the affected area to provide assessments to their department leadership while working with state and local officials to coordinate the medical response. HHS deploys direct patient care assets to augment local patient care in the form of DMATs of the NDMS and Federal Medical Stations staffed by Public Health Service Officers. National Disaster Medical System has the capability to provide acute care in temporary freestanding emergency facilities with some intensive care capability and can provide some staffing to supplement an affected area's hospitals. However, there is little pediatric expertise on federal response teams. There are only 2 pediatric DMATs and few pediatricians on other general DMATs. Federal Medical Stations have a 250-bed capability and have historically been used to care for patients with less acute short-term illness who may need care, such as nursing home patients and persons with chronic diseases. The Medical Reserve Corps (MRC) is a program run by the US Surgeon General's Office at HHS for volunteer local medical personnel surge capacity. This program is composed of 710 local area teams with more than 176 000 volunteers. However, these volunteers do not consistently have supplies, are not mobile, and are not credentialed to practice outside their home institutions. A related HHS-run program is the Emergency System for Advanced Registration of Volunteer Health Professionals (ESAR-VHP). This HHS state program facilitates verification of the identity, credentials, and qualifications of registered volunteers in an emergency. Often, MRCs and state ESAR-VHP programs function together.[3]

Another HHS response asset is the SNS run by the CDC. The SNS is a stockpile of medications and supplies intended to supplement state and local resources. The CDC is required to distribute prepackaged containers of medications and supplies ("push packs") to the affected state within 12 hours. It is the responsibility of state and local public health officials to arrange dispensing sites/mechanisms to get those medications and supplies to the population.

The DHS plays a central role in disaster preparedness and response for the nation. Homeland Security Presidential Directive 5 tasks DHS with the role of overall incident manager. FEMA is the DHS agency assigned with certain responsibilities for disaster mitigation, preparedness, response, and recovery planning. FEMA is also responsible for improving local and state capability. FEMA does this by managing a number of general capability building programs, such as the Homeland Security grant programs (Urban Areas Security Initiative, Metropolitan Medical Response System, and others). Some of their other programs provide assistance and guidance on planning, training, exercises, and assessments. For example, the National Exercise Program outlines the doctrine for exercise design and the after action review process and serves to coordinate and perform exercises at all levels of government. Also, FEMA training programs such as the National Fire Academy, Noble Training Center, Emergency Management Institute, and others serve to develop training for a variety of emergency management disciplines, including EMS and their role in incident management. Federal Emergency Management Agency also leads the development of the Target Capabilities List that describes the capabilities related to the 4 homeland security mission area: prevent, protect, respond, and recover. This list provides the basis for assessing preparedness. Information on FEMA training programs, the National Incident Management System, and the NRF are available on the FEMA Web site, www.FEMA.gov.

H1N1 OUTBREAK

The H1N1 influenza A outbreak and the government response beginning the week of April 20, 2009, has provided a real-world opportunity for the federal government, state governments, local communities, and the private sector to assess their readiness for a pandemic. Since 2005, the federal government has invested more than 7 billion dollars to prepare for the next pandemic. Much of this investment has been in research and

development of medical countermeasures, such as improving vaccine production capacity, and on stockpiling antiviral medications and other equipment in the SNS. In the fall of 2005, the White House released the National Strategy for Pandemic Influenza and subsequently an implementation plan that outlines 300 actions for federal departments to take to prepare for a pandemic.[4] Because of the investment of resources, planning, and preparation, the federal government and states were prepared to handle the H1N1 outbreak and will be better positioned to protect our nation's people and resources if the virus becomes more virulent and widespread in the fall.

The lead federal agency for managing a pandemic medical and public health response is HHS. On April 26, 2009, HHS determined that a public health emergency existed through the authority vested in the secretary of HHS under section 319 of the Public Health Service Act, 42 U.S.C. § 247d.[5] This determination specifically stated that H1N1 influenza A affects or has significant potential to affect national security. Because of issues of national security, the DHS secretary, in her role as the principal federal official, leads the overall incident as directed by Homeland Security Presidential Directive 5. A public health emergency determination allows HHS to prepare for prevention and mitigation activities by enabling the Food and Drug Administration to issue emergency use authorizations of drugs, devices, or medical tests under certain circumstances. Among the first emergency use authorizations issued included allowances for the use of oseltamivir (Tamiflu) in children less than 1 year old and zanamivir (Relenza) in children less than 7 years old.

The average age of persons infected with H1N1 by late spring was 16 years old, and the mean age of those persons hospitalized in California was 27 years as of May 17, 2009. The most common admitting diagnoses were pneumonia and dehydration. The age range for those people hospitalized was 27 days to 89 years, and 64% had underlying medical conditions.[6] People older than 65 years, the age group more likely to have the highest morbidity and mortality during seasonal influenza, tended to have fewer cases than the younger age groups, which possibly means that older people have been exposed to a form of this virus in past years. The overall fatality rate, as of the writing of this article, was relatively low.

Although the initial outbreak of H1N1 in the spring 2009 seemed rather mild in the United States, the impact on the health care system was felt. Pediatric emergency departments reported a marked increase in patient census during the first 2 weeks of the outbreak. Anecdotally, reported increases ranged from 20% to 100% (personal communication with pediatric emergency physicians in several United States cities). Anecdotal reports were that while communication between the federal, state and local public health commissions and hospital leadership was effective, with the CDC holding frequent conference calls and sending out alerts to practitioners, some practitioners felt that institutional leadership was less effective with communicating hospital and emergency department policies. Infection control policies differed between hospitals within the same communities and changed often within individual institutions as well. Personnel surge plans were either nonexistent or not well communicated to staff. Policies for absences from work and protection measures available to the hospital workforce were also either nonexistent or not clearly communicated. The mild spring 2009 outbreak is an opportunity for hospitals and emergency departments to review their plans, make changes, and communicate these plans to their staff. Perhaps one of the most important issues for health care institutions and community practices to plan for is ensuring that staff have contingency plans for the care of their children should school closures occur in their communities.

Ongoing federal activities include epidemiologic studies of the virus, tracking of the virus in the southern hemisphere, revising federal and state plans for H1N1, development of a vaccine against H1N1, and review of community mitigation guidance and planning for second-order effects of community mitigation practices such as school closures. Because of the investment in preparedness activities before the H1N1 outbreak on the federal level, the United States is in a much better position to respond if there are subsequent waves in the fall.

GAPS AND OPPORTUNITIES IN PEDIATRIC PREPAREDNESS

There are many opportunities for improvement in preparedness for children. These opportunities span all levels of government, private institutions, and individuals. The following is a list of some of these gaps and opportunities:

- Ensuring that stockpiled medical countermeasures, equipment, and supplies are appropriate for children (dosing, types and formulation of medicines, quantity of medicines);

- Ensuring that state and local planning includes child and family needs;
- Increasing linkages between preparedness agencies and child experts;
- Improving and ensuring pediatric education and training of responders;
- Ensuring EMS systems and hospitals are prepared for children;
- Improving individual preparedness, including families with children with special health care needs; and
- Involving pediatric experts at all levels of planning.

Ensure That Stockpiled Medical Countermeasures Meet Pediatric Needs

The SNS run by the Coordinating Office of Terrorism Preparedness and Emergency Response of the CDC contains medicines and medical supplies to protect the public in case of a public health emergency if and when local supplies run out. The contents of the stockpile are not public, but of those medications that are known to be in the stockpile, it is not clear that these are the most appropriate for children, may not have enough of the appropriate formulation, and not enough are stockpiled. It is important for pediatricians and other child advocates to review their community stockpiles and to advocate for appropriate medications and formulations for children within local and state stockpiles and the SNS.

Ensure That State and Local Planning Includes Child and Family Needs

Many local communities and every state have an emergency management agency that is responsible for planning for disasters. In recent years, there has been an increase in specific guidance for planning for special populations available from a variety of sources. For example, the CDC and the Association for State and Territorial Health Organizations released "At-risk populations and pandemic influenza: planning guidance for state, territorial, tribal, and local health departments" (available at http://www.astho.org/pubs/ASTHO_ARPP_Guidance_June3008.pdf). In addition, the DHS Office of Civil Rights and Civil Liberties coordinated the development of the *Emergency Management Planning Guide for Special Needs Populations* as an annex to the DHS FEMA *Comprehensive Preparedness Guide 101*. Although these products demonstrate a greater awareness of the specific needs of special populations, there still remains confusion about whether children should be grouped with other special populations. Some of this confusion may be at least in part due to the terms used to describe various populations that merit special attention in preparedness and response. Some of these include "at-risk populations," "special needs populations," and "vulnerable populations." A wide-ranging number of people could be included such as persons with physical disabilities, sensory disabilities, mental health issues, chronic health problems, children, the elderly, pregnant women, and low English proficiency, among others. Planning for such a disparate group is a challenge for any community.

An effective way for child advocates to ensure that their community's plan can respond to the needs of children is for pediatricians to volunteer for local and state preparedness advisory committees and to review their community's planning activities. Pediatric advocacy organizations could also conduct a state-by-state assessment of disaster preparations/planning to determine if states are "ready" to meet children's needs during a disaster. Finally, pediatricians and their professional organizations should encourage local and state officials to require community hospitals to enter into memoranda of agreement with pediatric institutions or other hospitals with advanced pediatric capability to ensure that the medical needs of children are met for treatment of pediatric casualties during incidents.

Increase Linkages Between Preparedness Agencies and Child Experts

As children are unable to advocate for themselves, pediatric professional societies and other child advocacy organizations are needed resources that can provide expertise to state and local community planners. Organizations can do this by providing child experts on disaster advisory committees and other groups. States should seek out their local and state child experts either through appropriate organizations or local children's hospitals. Also, pediatric professional societies could improve planning for children during disasters by developing resources for state and local public health and homeland security agencies.

Child advocacy organizations could also develop networks of experts as a resource to communities and states to address child issues during and after disasters (eg, health care, childcare, mental health issues, school issues).

Ensure That EMS Systems and Hospitals are Prepared for Children and Ensure Pediatric Education and Training of Responders

In 2007, the Institute of Medicine published "The Future of Emergency Care in the United States Health System." One of the report's 3 volumes, "Emergency Care for Children: Growing Pains," describes the unique medical needs of children compared to adults and asserts that our emergency care system is not well prepared to handle child emergencies. Although children comprise 27% of all emergency department visits, only 6% of emergency departments in the United States have all of the supplies deemed by the American Academy of Pediatrics and the American College of Emergency Physicians as essential for managing pediatric emergencies, and only half of US hospitals have at least 85% of those supplies.[4] The implications for children during large-scale disasters then are clear. In an emergency health care system with poor day-to-day readiness for pediatric emergencies, it is likely that these same providers will not be fully able to provide appropriate care to children during mass casualty incidents. And because federal response units, DMATs, have relatively few pediatric providers, and with only 2 pediatric specialized DMATs and no requirements for pediatric training, our pediatric medical surge capacity is limited.[7]

There are few disaster educational resources that fully consider the needs of children. Some of these texts may contain a short chapter on children or mention children within a chapter on special populations such as the Basic Disaster Life Support curriculum, which is a series of courses created by the American Medical Association. These series of disaster life support courses do not include a pediatric specific course. There are disaster resources that are pediatric specific such as Agency for Health Care Research and Quality's "Pediatric Terrorism and Disaster Preparedness: A Resource for Pediatricians," "Decontamination of Children: Preparedness and Response for Hospital Emergency Departments Video," and "Pediatric Hospital Surge Capacity in Public Health Emergencies" (available from www.ahrq.gov).

Pediatric education in medical first responder curriculums is limited. Furthermore, community EMS requirements for pediatric continuing education are variable. The most common courses offered include Pediatric Advanced Life Support, Pediatric Education for the Prehospital Provider, or Special Children's Outreach and Prehospital Education. Pediatric professional organizations should continue to promote and support the development and use of educational resources for first responders and other individuals who will treat children during disasters. Pediatric professional organizations and children's hospitals should encourage their staff to educate and train community first responders.

Improve Individual and Family Preparedness

One area where government, the private sector, and professional societies can collaborate to improve pediatric preparedness is in helping families to prepare themselves to withstand a disaster. Government can provide the capacity to encourage families with children to prepare. This is especially critical for families with children with special health care needs. A culture of readiness can be infused within existing institutions such as schools, places of worship, and health care facilities. Government can promote preparedness with incentives to businesses that would be in a position to encourage their employees to prepare themselves and their families. Some resources for families and children are available from the DHS at www.ready.gov.

SELECT NATIONAL PEDIATRIC DISASTER PREPAREDNESS ACTIVITIES

The American Academy of Pediatrics identified disaster preparedness as a strategic health priority and established a Disaster Preparedness Advisory Council. The American Academy of Pediatrics and its Disaster Preparedness Advisory Council established a number of pediatric readiness activities including a contact network of pediatricians with an interest or expertise in disaster preparedness, a literature review catalogue, promotion of disaster preparedness activities through their state chapters, and dissemination of a disaster preparedness plan for pediatricians. Their Web site contains a number of resources for pediatricians and can be accessed at http://www.aap.org/disasters/index.cfm.

Another important national activity includes the National Commission on Children in Disasters, a bipartisan panel that held its first meeting in October 2008. For a period of 2 years, the Commission has been charged with the study and assessment of the needs of children with regard to preparation for, response to, and recovery from large-scale disasters. The commission will then submit a report to the president, the secretary of HHS, and Congress on the

commission's independent and specific findings, conclusions, and recommendations.

OPPORTUNITIES FOR INVOLVEMENT FOR PEDIATRIC CLINICIANS

There are a variety of volunteer and nonvolunteer opportunities for pediatric health care providers to become involved in disaster preparations and response. These activities have varying levels of commitment but would benefit from pediatric expert involvement. These activities include the following:

- National Disaster Medical System,
- Medical Reserve Corps,
- Emergency System for Advanced Registration of Volunteer Health Professionals,
- Citizen Corps' Community Emergency Response Teams, and
- as advisors or members of advisory committees to local and state homeland security or public health officials.

The National Disaster Medical System

The National Disaster Medical System (NDMS) is the federal government's primary medical response system for large regional and national disasters. NDMS provides surge capability in the form of personnel, supplies, and equipment. It is a coordinated system of volunteers intended to augment the nation's medical response capability. There are 6000 to 9000 medical providers who can be temporarily activated as federal employees. NDMS is composed of 53 general DMATs and 35 specialty care teams consisting of 12 Disaster Mortuary Operational Response Teams, 5 National Veterinary Response Teams, 3 National Nurse Response Teams, 1 Family Assistance Team, 2 Pediatric Teams, 2 Mental Health Teams, 4 Burn Teams, 3 International Medical/Surgical Teams, and 3 National Pharmacy Response Teams. As temporary federal employees, NDMS member credentials are verified, and the providers are afforded liability protection.

Disaster Medical Assistance Teams (DMAT) are a group of professional and para-professional medical personnel (supported by a cadre of logistical and administrative staff) designed to provide medical care during a disaster or other event to supplement local medical care until other resources can be mobilized or the situation is resolved. DMAT deploy to disaster sites with sufficient supplies and equipment to be self-sustaining for a period of 72 hours while providing medical care at a fixed or temporary medical care site. The personnel are activated for a period of 2 weeks. Once DMATs are activated, the goal is to achieve a response time of 24 hours. However, depending on conditions, it may be up to 72 hours before the medical resources are operational. Most members of DMATs are professionals within their communities and not full-time members of these teams and therefore have to make personal arrangements for coverage of their daily responsibilities when deployed. For anticipated events such as a hurricane, teams may predeploy adjacent to the expected affected area for a more rapid response.

For information on joining an NDMS team, visit www.oep-ndms.dhhs.gov/.

Medical Reserve Corps and Emergency System for Advanced Registration of Volunteer Health Professionals

The MRC is a specialized component of FEMA's Citizen Corps. It is a community-based program administered by the HHS Office of the Surgeon General that is composed of local medical and public health volunteers whose primary mission is focused on supporting local agencies with public activities throughout the year and secondarily with disaster response activities when needed. The stated goal of the MRC is to identify, screen, train, and prepare local medical professionals to respond to a local event. The MRC units were originally intended to be used as supplemental providers during the initial hours after an incident (first 12 to 72 hours), before state mutual aid or federal providers can arrive to supplement local medical or public health facilities. There are currently 796 MRC units with more than 173 000 volunteers in 49 states, Washington, DC; Puerto Rico; Palau; Guam; and the US Virgin Islands, and other territories.

Because each MRC unit is locally controlled, there is great variability in capability, purpose, and composition of the unit. All units are expected to screen members for verification of professional licensure and provide training and preparation, but the implementation of such screening is variable. Some units may have the capability to provide surge capacity to public health by participating in mass influenza vaccination clinics, although they may not have the ability to treat wounded or ill patients. Other units may only be composed of students or medical aides and are more limited in their ability to provide patient care. Medical Reserve Corps do not have significant supplies and only provide personnel, as opposed to providing a complete capability to an incident. Because there

are few requirements and many differences among MRCs, there is no uniformity in MRC response capability across the United States.

Professional licensure is administered by states. Currently, nonfederal health responders cannot cross state lines to supplement medical response. The ESAR-VHP program was initiated to address this issue. Each state has its own ESAR-VHP program with the role of the program to collect and verify information on the identity, licensure, privileges, and credentials of volunteers. The state programs are formed with a common set of national standards with the intention of being able to rapidly identify and coordinate volunteer health professionals in an emergency. Theoretically, these programs provide a willing cadre of volunteers by providing a centralized mechanism for the recruitment and registration of individual health professionals who are willing to help in an emergency but who are not interested in being part of a formal unit such as a DMAT.

In many locations, the MRC and ESAR-VHP programs compliment each other so that the ESAR-VHP mechanism serves the purpose of verifying the professional credentials of the medical members of the MRC unit. For information on how to join an MRC, visit www.medicalreservecorps.gov.

Citizen Corps' Community Emergency Response Teams

The Community Emergency Response Team (CERT) Program of Citizen Corps is a DHS program. The purpose of this program is to provide education and training of people within local communities about disaster preparedness for hazards that may impact their area and in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. CERT members can assist others in their neighborhood or workplace after an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community.

Some communities supplement their response capabilities after a disaster with CERT members. These civilians are recruited and trained as neighborhood, business, and government teams that become auxiliary responders. These groups can provide immediate assistance to victims in their area, organize spontaneous volunteers who have not had the training, and collect disaster intelligence that will assist professional responders with prioritization and allocation of resources after a disaster. Since 1993 when this training was made available nationally by FEMA, communities in 28 states and Puerto Rico have conducted CERT training.

The CERT course is delivered in the community by a team of first responders who have the requisite knowledge and skills to instruct the sessions. Instructors complete a CERT Train-the-Trainer course conducted by their State Training Office for Emergency Management or the Emergency Management Institute of FEMA. The CERT training for community groups is usually delivered in 2 1/2-hour sessions, one evening a week for a 7-week period. For more information on the CERT program, go to http://www.citizencorps.gov/cert/index.shtm.

SUMMARY

There are growing opportunities for collaboration between all levels of government, pediatric professional organizations, private institutions, and pediatricians to improve our nation's ability to protect children during disasters. Pediatric health care providers should seek out opportunities in their local communities and states to advocate for children and their family's needs by volunteering to

TABLE 1. Abbreviations.

ASPR—Office of Assistant Secretary for Preparedness and Response
CDC—Center for Disease Control and Prevention
COTPER—Coordinating Office of Terrorism Preparedness and Emergency Response
DHS—Department of Homeland Security
DMAT—Disaster Medical Assistance Team
EMAC—Emergency Management Assistance Compact
EMS—Emergency Medical Services
EOC—Emergency Operations Center
ESAR-VHP—Emergency System for Advanced Registration of Volunteer Health Professionals
ESF—Emergency Support Functions
EUA—Emergency Use Authorizations
FDA—Food and Drug Administration
FEMA—Federal Emergency Management Agency
FMS—Federal Medical Stations
HHS—Department of Health and Human Services
IRCT—Incidence Response Coordination Teams
MMRS—Metropolitan Medical Response Systems
MRC—Medical Reserve Corps
NDMS—National Disaster Medical Systems
NRF—National Response Framework
SNS—Strategic National Stockpile
USAI—Urban Areas Security Initiative

participate on advisory committees, reviewing plans, and preparing their own practices and patients to withstand catastrophic incidents (Table 1).

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