Mobilization of Pediatric Medical Personnel for Disasters

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In 2010, a devastating earthquake hit the small island of Haiti. Thousands of residents, many of them children, were injured or killed. Like so many medical personnel, hundreds of American pediatric providers (physicians, nurses, therapists, etc) rushed to find a way to deploy and render aid to the children injured during the quake. The American Academy of Pediatrics and the Children's Hospital Association coordinated the development of a list of volunteer surgeons, intensivists, and transport professionals who were ready and eager to deploy. What became apparent, however, was that most of these highly trained pediatric professionals had not previously been trained in disaster response and/or had not registered their credentials with the US response agencies. Thus, although some providers did respond with nongovernmental relief agencies, most willing volunteers were not actually ready to respond or deploy.

It has become the goal of federal and nonfederal partners, such as the Assistant Secretary of Preparedness and Response and the American Academy of Pediatrics, to improve pediatric disaster response by answering the following complex question: How do we train, credential, and prepare pediatric professionals to respond to regional and national disasters, so that ill or injured children receive the best medical care possible? For this article, pediatric professionals refers to physicians, nurses, allied health professionals, and other clinicians working with children.

Children represent 22% of the American population and have unique physiologic and psychosocial needs that call for trained health care providers. For example, children having shock from dehydration display a constellation of symptoms that can differ quite dramatically from adults. Thus, a disaster response workforce that is rich in pediatric expertise would be ideally suited to care for their unique needs.
This article will outline current venues, where pediatric professionals can register for possible deployment and discuss the important question of how to maintain a ready pediatric disaster workforce that is flexible and scalable. A brief summary of potential future solutions will also be discussed.

**KEY QUESTIONS CONCERNING DISASTER RESPONSE FOR PEDIATRIC PROFESSIONALS**

Currently, there are several avenues, whereby pediatric professionals can volunteer for possible deployment for regional disasters. As with any volunteer position outside one’s normal employment, each pediatric professional needs to investigate several important aspects of volunteering:

1. **What is your current employer's policy and procedure for granting time for these activities?**

   Although many employers encourage and support their professionals taking part in preparedness and response activities during a time of crisis, your primary place of employment may need your skills at home. Likewise, different agencies require different lengths of deployment service during a disaster (ie, 5 days to 4 weeks, etc). Thus, one needs to investigate what the requirements are of the relief agency and how those needs synchronize with current employment policies.

2. **What are the physical requirements of the potential disaster deployment?**

   Responding to the scene of a disaster, whether naturally occurring or man-made, carries additional hazards not present in everyday practice. Physical demands on the responders can be extreme. Extremes of temperature, physical labor, and the stress of practicing in an unknown environment can all add to the trials of disaster response. Likewise, the support equipment one needs can be much more than scrubs and a stethoscope as we use in everyday care. Packing of clothing, equipment, and rations can add to the stress of deployment. Thus, although many pediatric personnel are anxious to deploy and render aid to children affected by disasters, the demands of deployment cannot be understated. The last position a pediatric volunteer wishes to be in is that of a drain upon the system.

   Unfortunately, several reports exist, where responders have actually become a burden as opposed to an asset. Proper training, physical conditioning, and ongoing preparation are key to constantly being ready to serve the nation’s children in times of crisis.

3. **What training is required for deployment?**

   Pediatric professionals bring a wide breadth and depth of training to the disaster response pool of talent. Pediatric professionals have begun to integrate themselves into the fabric of national response teams. However, no matter the degree of residency or fellowship training or clinical practice credentials, one needs to understand the language and the standard operating procedures used during disasters. The language of command and control, known as Incident Command Structure, is a foundational language for how decisions are made in disasters and how the command and control structure functions during an event. It is important for all hospital-based clinicians to have a basic knowledge of this structure. Individual response agencies may require other training for enrollment or ongoing readiness.

   An excellent source of online training for disaster readiness is the FEMA.gov Web site. Online courses on Incident Command Structure as well as advanced training are easily accessible. Information on how to access live training at FEMA’s Center for Domestic Preparedness in Anniston, AL, can also be achieved online.

**CURRENT VENUES FOR PEDIATRIC MEDICAL PERSONNEL**

**National- and State-Based Organizations**

For those pediatric professionals who wish to become part of a coordinated disaster response team, there are several advantages to joining a federal team. First and foremost, as discussed above, practicing clinical care in a disaster zone is markedly different than practicing in a hospital or clinic. Federal teams receive excellent training both in the classroom and in field exercises. Furthermore, when joining a federal team such as a disaster medical assistance team (DMAT), members are protected by both malpractice as well as workman’s compensation care insurance as outlined in the Uniformed Services Employment and Reemployment Rights Act and Federal Tort Claims Act. And, finally, team members of a federal team can be assured that their regular place of employment will...
not be altered during their deployment, as they are protected under federal law.7

**Disaster Medical Assistance Teams**

Disaster medical assistance teams are small, agile, and highly trained disaster response teams composed of physicians, nurses, and support/logistics staff. Disaster medical assistance team members become federal employees when deployed and are protected as outlined above against malpractice claims. The teams typically carry a cache of rations that can sustain the team for upwards of 72 hours.

Pediatric personnel are strongly encouraged to join a local DMAT team because pediatric expertise in the field has been less than ideal. However, team members must be ready and willing to care for all patients, as there are rarely pediatric-only disaster events. Likewise, a true team work environment is the hallmark of a disaster team, and all members can be called on for chores such as setting up tents or providing other help for the team.

Care delivered during a deployment is typically focused on low-to-medium level acuity, akin to an urgent care center. However, teams must also be ready to acutely stabilize a wide variety of patients who will then be transported and cared for by other hospitals.

Occasionally, DMAT teams are called to supplement medical staffs who have been affected by a disaster. Thus, practitioners with hospital-based skill sets are also highly valued members of the team.8 Further information concerning DMAT teams can be found at: http://www.phe.gov/Preparedness/responders/ndms/teams/Pages/dmat.aspx.

**International Medical Surgical Response Team**

The International Medical Surgical Response Team (IMSURT) is a National Disaster Medical System team of medical specialists who provide surgical and critical care during a disaster or public health emergency. These teams were first designed to address the needs of US citizens injured overseas. However, IMSURT teams have deployed both nationally and internationally.

Like DMAT team members, IMSURT personnel are federal employees used on an intermittent basis to deploy to the site of a disaster or public health emergency to provide high-quality, lifesaving surgical and critical care. Likewise, IMSURT deployments often occur in austere environments, where many of the conveniences of modern life are limited or unavailable. Although there are some case reports on the importance of orthopedic specialists on IMSURT teams, there are no publications on the use of pediatric professionals on these teams.9

**Emergency System for Advance Registration of Volunteer Health Professionals**

The Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) is a federal program created to support states and territories in establishing standardized volunteer registration programs for disasters and public health emergencies.

The program, administered at the state level, verifies health professionals' identification and credentials, so that they can respond more quickly when disaster strikes. By registering through ESAR-VHP, volunteers' identities, licenses, credentials, accreditations, and hospital privileges are all verified in advance, saving valuable time in emergency situations.10

Pediatric professionals can register, and thus be assured that, in times of crisis, they are at least precredentialed should state or federal authorities require their services. Obviously, simply registering with ESAR-VHP does not necessarily mean one would be deployed. In addition, there is no required training that is a part of this process. It is the author's opinion that some baseline, Web-based disaster training should be mandatory for all ESAR-VHP enrollees.

**State Teams**

States vary in their level of organization for disaster response teams. Some states, such as North Carolina, have a robust infrastructure, where teams are ready to deploy in a moment's notice. One advantage to having a solid state-based team is that a federal declaration of a disaster is not required before teams can deploy. Likewise, the governor of the state has greater flexibility in requesting medical assets. Obviously, there is a significant cost associated with these teams (training, equipment, drills, etc). However, in states often affected by disasters, these teams can be vital.11-13 The following Web sites provide examples of several excellent state-based teams:

- http://www.caprac.com/
- http://www.floridaonatedmat.com/
- http://www.umc.edu/smat/

Note, some of these teams hold both state and federal roles. In other words, the Florida team can serve both at the discretion of the governor and of the President depending on the scale of the disaster.

A future goal for consideration by these state teams is the incorporation of pediatric personnel into their team composition. Likewise, partnering with their local chapter of the American Academy of
Pediatrics (or other professional organization) may allow pediatric-trained professionals to assist their teams.

**Nonprofit Disaster Response Agencies**

Several distinguished nonprofit agencies respond to humanitarian crises and disasters across the United States and throughout the world. A national clearinghouse organization, Voluntary Organizations Active in Disaster, is a robust resource for medical professionals seeking to volunteer through nongovernmental routes.14

**FUTURE CONSIDERATIONS**

Since the publication of the final report of the National Commission on Children and Disasters in 2010, much progress has been made at the federal and local level in addressing children’s needs affected by disasters. Both federal efforts in the Assistant Secretary of Preparedness and Response’s office and within local agencies have increased not only the focus on pediatric issues but have continued to reach out to pediatric professionals for guidance. Likewise, the Pandemic and All Hazards Preparedness Reauthorization Act of 2012 created a new National Advisory Committee on Children and Disasters. This 16-member committee will advise the Department of Health and Human Services Secretary on matters related to children and their unique needs in disasters.

However, the role of pediatric advocates is not to simply celebrate progress but to continue to work with their local public health, emergency management, and health care systems to grow capacity and capabilities for pediatric care. In that light, there exist many opportunities to engage with pediatric experts in better preparing our nation for the medical needs of children affected by disasters.

**Expansion of the Medical Surge Enhancement Team Concept for DMAT**

A pilot program has been developed at National Disaster Medical System, where pediatric specialists (e.g., pediatric emergency medicine, critical care, anesthesia, and surgery) are fully credentialed and ready to deploy. This source of pediatric personnel could be an important talent pool should a major disaster occur again.

**Continued Growth of Pediatric Disaster Coalitions**

Communities and thus children's needs are best served when coalitions of important and interested parties come together for a common goal. In the arena of pediatric medical preparedness, the nation will be better prepared for disasters involving children, when entities such as children's hospitals, pediatricians, transport teams, local support agencies and others come together before the event to plan, strategize, and learn from past disasters. Thus, pediatric medical personnel can be actively engaged in all phases of disaster management, and communities can become more resilient. More on coalition planning for children's medical needs can be found in a seminal article by Rucks et al.15

**SUMMARY**

Everyday in America, children receive outstanding pediatric care by pediatricians, family physicians, emergency medicine specialists, nurse practitioners, and others. When disasters strike, children can be adversely affected in ways greater than that of adults. Thus, if the United States is to be truly prepared for the next disaster, natural or man-made, integration and mobilization of pediatric-trained personnel must be a foundational part of any planning. We have outlined some important ways in which these highly trained professionals can volunteer their expertise. And, although much excellent work has been undertaken since Hurricane Katrina to improve our pediatric readiness, much work remains. It is the author's hope that, through a keen attention to integration of pediatric personnel into local, regional, and national response teams, children will receive world-class care during times of great crisis.

**REFERENCES**

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