

HPP Special Topics National Call

Pediatric Preparedness for Healthcare Coalitions

Meeting Summary

Thursday, June 20, 2013

I. Welcome & Overview

- Dr. Cynthia Hansen, Senior Advisor, NHPP Cynthia.Hansen@hhs.gov
- Dr. David Marcozzi, Division Director, NHPP David.Marcozzi@hhs.gov

Dr. Hansen welcomed participants to the *Pediatric Preparedness for Healthcare Coalitions (HCC)* webinar, hosted by the ASPR National Healthcare Preparedness Program. A large audience is expected for this call, which highlights the importance of considering children's specialized needs during disaster planning and capability development. On behalf of the Assistant Secretary for Preparedness and Response, Dr. Nicole Lurie, and the Deputy Assistant Secretary and Director of the Office of Emergency Management, Mr. Don Boyce, thank you for participating in this call and prioritizing this issue.

Dr. Marcozzi thanked participants for taking the time to join this important call. Addressing pediatric needs is important across the Capabilities, but especially for Capability 1: Healthcare System Preparedness (HCC development) and Capability 10: Medical Surge. Speakers will be discussing available tools and resources to assist Awardees and other stakeholders in planning efforts. The effort to increase collaboration between ASPR, HRSA, and other federal agencies to improve the dissemination of information on pediatric readiness will be a sustained effort.

HPP is encouraging efforts in pediatric disaster planning in all disaster preparedness activities, as it is an area that can be enhanced. HPP data tells a mixed story about pediatric capabilities. Data indicate that participation by pediatric hospitals in the Hospital Preparedness Program (HPP) is increasing, but not every Awardee has a pediatric hospital in their jurisdiction. In addition, overall pediatric non-ICU bed capacity is decreasing. These trends reinforce the need for careful pediatric preparedness planning to maximize available resources. Thus, it is necessary for every HPP program and HCC to engage pediatric expertise in order to inform plans, training, exercises, and other initiatives. The speakers on this call are subject matter experts in pediatric readiness and will be discussing pediatric emergency care in the context of HCCs.

ASPR also thanks all the speakers who are presenting information on their pediatric readiness initiatives. Today's webinar will be recorded and archived on the ASPR ABC website: www.phe.gov/ABC. Awardees will also be able to download tools and materials that were presented on today's call.

II. Introduction to Healthcare System Preparedness for Children

- Daniel Dodgen, PhD, Director, Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC), ASPR Office of Planning and Policy
- Daniel.Dodgen@hhs.gov

Dr. Dodgen thanked everyone for joining today's very important Pediatric Emergency Care webinar hosted by ASPR. When discussing pediatric needs in disasters, it is important to ask the following questions:

1. What does the law say and why is it important?
2. How might disasters affect children differently than adults?
3. What expertise will the panelists share with you today and how can this information help you implement the Healthcare Preparedness Capabilities?
4. What tools and resources are available to support your efforts?

Question 1: What does the law direct us to do?

- The Public Health Service Act defines the term 'at-risk individuals' as: "...children, pregnant women, senior citizens and other individuals who have special needs in the event of a public health emergency..."
- The Pandemic and All-Hazards Preparedness Reauthorization Act of 2013 (PAHPRA) requires that we: "...ensure that recipients of State and local public health grants include preparedness and response strategies and capabilities that take into account the medical and public health needs of at-risk individuals in the event of a public health emergency..."
- PAHPRA puts emphasis on "at-risk individuals," and this term includes children. As a result, the U.S. has a legal requirement to address the needs of children and conduct pediatric disaster planning. This is also considered the right thing to do.

Question 2: How might disasters affect children differently than adults? (e.g., what makes children unique?)

- Children have unique anatomy, physiology, and behavior, which may impact how they are affected by disasters:
 - Young children have relatively larger heads and abdomens
 - Experience the world through hand-to-mouth activity
 - Needs differ among age groups (newborns, young children, adolescents). As a result, children cannot be grouped together in one category.
 - Children are not isolated, but fit within the context of family, schools, and society. Thus, children cannot be considered or treated as single individuals, but as part of a larger group.
- Children have unique medical and psychological needs that must be taken into account during disaster preparedness and response planning, but this does not mean that it is necessary to completely reinvent the context of how we provide care.

Question 3: What expertise will the panelists share with you today and how can this information help you implement the Healthcare Preparedness Capabilities?

Addressing pediatric needs in preparedness planning and response may seem overwhelming. The purpose of today's webinar is to give Awardees tools by sharing resources and identifying lessons learned.

Question 4: What tools and resources are available to support your efforts?

Sample pediatric tools and resources available to Awardees include:

- Agency for Healthcare Research and Quality (AHRQ)
 - Pediatric Hospital Surge Capacity in Public Health Emergencies (<http://archive.ahrq.gov/prep/pedhospital/>)
 - Decontamination of Children (<http://archive.ahrq.gov/research/decontam.htm>)
- American Academy of Pediatrics (AAP)
 - Children and Disasters Web Site (<http://www.aap.org/disasters>)
- Centers for Disease Control and Prevention (CDC)
 - Information on Caring for Children in a Disaster (<http://www.bt.cdc.gov/children/>)
- Health Resources and Services Administration (HRSA)
 - Kids in Disasters: Facing Our Challenges (<http://learning.mchb.hrsa.gov/archivedWebcastDetail.asp?id=293>) (Archived webcast highlights innovations in pediatric disaster preparedness: “A Novel Imaging System for Reunification of Children Separated during Disaster” and “Refining Pediatric Disaster Triage Algorithms and Education in the Pre-hospital Setting.”)
 - Emergency Medical Services for Children (EMS-C) National Resource Center's PEDPrepared (<http://www.emscnrc.org/pedprepared/>) (A pediatric disaster resource clearinghouse that bring together information, tools, and resources to assist health care providers, emergency planners, and families to prepare for, respond to, and recover from a disaster or pandemic involving the pediatric population.)
- National Center for Disaster Medicine and Public Health (NCDMPH)
 - Tracking and Reunification of Children in Disasters: A Lesson and Reference for Health Professionals (<http://ncdmph.usuhs.edu/KnowledgeLearning/2012-Learning1.htm>) (Approved for CME/CE accreditation; two additional modules under development.)
- National Institutes of Health, National Library of Medicine (NIH/NLM)
 - Resource Guide for Disaster Medicine and Public Health (<http://disasterlit.nlm.nih.gov/>)
- Substance Abuse and Mental Health Services Administration (SAMHSA)
 - National Child Traumatic Stress Network pages on Natural Disasters (<http://www.nctsn.org/trauma-types/natural-disasters>) and Terrorism (<http://www.nctsn.org/trauma-types/terrorism>) (Information and resources for children, parents, and providers.)

In addition to exploring various Pediatric Emergency Planning references, it is also important to connect with potential resources in your community:

- AAP Chapter Contact for Disaster Preparedness at <http://goo.gl/JI9j5>
- EMSC State and Territorial Contact at <http://goo.gl/73bjm>
- Administration of Children and Families (ACF) Regional Emergency Management Specialist by e-mailing hswatchofficer@acf.hhs.gov²⁰
- FEMA Regional Disability Integration Specialist by e-mailing fema-disability-integration-coordination@fema.dhs.gov

III. Preparedness for Children In Disasters: A National Perspective

- Michael R. Anderson, MD, FAAP
 - Vice President and Chief Medical Officer, UH Case Medical Center and Rainbow Babies and Children's Hospital Cleveland, Ohio
 - Associate Professor of Pediatric Critical Care, Case Western Reserve University,
 - Former Vice Chair, National Commission on Children and Disasters, Washington DC
 - Michael.Anderson@UHhospitals.org

Dr. Hansen welcomed Dr. Michael Anderson. Dr. Anderson recently co-chaired an Institute of Medicine (IOM) seminar on caring for children in disasters. Today, Dr. Anderson will be presenting a national view of the following topics in regards to pediatric emergency care:

- The Good News
- The Challenging News
- The Road Ahead

The Good News

As a nation, disaster readiness for children has improved in recent years. Colleagues at the local, state, and federal level have made good progress. It is important to continue to sustain the effort of advocating for the needs of children, and improving pediatric emergency care. There are various federal and state initiatives that have drawn attention to pediatric readiness:

- It's very important that PAHPA was reauthorized with a special emphasis on considering the needs of at-risk populations, including children. This will reinforce state and local activities to enhance pediatric readiness.
- IOM, which sets national standards of medical care, conducted a two day seminar on caring for children in disasters. Materials and audio recordings of the IOM Seminar are archived on IOM website.¹
- Dr. Anderson participated in the National Commission on Children in Disasters,² which wrapped up in 2012. The commission drafted a 2010 report on children in disasters for the President and Congress.
- There are various on-going task forces on this topic, as it is important that pediatric emergency care is a sustained effort.

¹ <http://www.iom.edu/>

² <http://cybercemetery.unt.edu/archive/nccd/20110427002908/http://www.childrenanddisasters.acf.hhs.gov/index.html>

On today's call, federal and state partners are presenting information on pediatric readiness initiatives and various tools and resources, including websites and clearinghouses that advocate for children's rights. It is important for state and local representatives to explore these tools and develop a plan of how to apply them in their geographies and in the local and state paradigm.

The Challenging News

As a nation, we are not prepared for large disasters that involve pediatric patients. It is important to look at daily delivery of care and ask the question: Is this emergency department fully prepared to care for one acutely ill pediatric patient? Ohio has six freestanding pediatric hospitals, but many states only have one specialty pediatric hospital and some have none. These hospitals were queried and, at a specific point in time, there were only seven available beds. Healthcare systems must develop plans to be able to handle a surge of critical pediatric patients (i.e., 20-60 patients) during a disaster.

In addition, there is a current funding crisis at the federal, state, and local levels. It is key to continue to advocate for children and keep pediatric readiness at the forefront of disaster preparedness planning. To keep the current level of effort sustained, senior leadership must prioritize pediatric readiness.

The Road Ahead

It is important to address pediatric emergency care along the continuum of care and within the four stages of the Disaster Management Cycle: Mitigation, Preparation, Response, and Recovery. The medical needs of children must be represented in each phase of that paradigm, as well as other aspects of pediatric planning, such as sheltering, juvenile justice, social/psychological aspects, and family reunification. However, medical facilities are an important part of a community's resiliency after the disaster, and hospitals and healthcare systems must maintain a high-level of pediatric readiness.

Day-to-day challenges in pediatric care include:

- Funding
- Foci on other important issues
- Areas without deep pediatric expertise
- Surge Needs
 - Transport of critically ill children
 - Pediatric intensive care unit (PICU) beds

IV. Improving the Emergency Care System for America's Children

- Elizabeth Edgerton, MD, MPH, EMS-C
- Eedgerton@hrsa.gov

Dr. Beth Edgerton will discuss:

- The mission and activities of the EMS for Children Program (EMS-C) as they intersect with the Hospital Preparedness Program (HPP)

- The National Pediatric Readiness Project and its importance to the HPP Grantees

Organization

EMS-C is part of the Division of Child, Family, and Adolescent Health, which is housed in the Maternal and Child Health Bureau at the Health Resources and Services Administration (HRSA), Department of Health and Human Services (HHS). As stated by Senator Inouye, “The EMS for Children Program addresses the entire continuum of pediatric emergency services, from injury prevention and EMS access through out-of-hospital and emergency department care, intensive care, rehabilitation and reintegration into the community.”

Synergies between HPP and EMS-C

There are synergies between the HPP and EMS-C programs, and it is important that EMS and hospitals are partners in the field to facilitate a seamless process of caring for pediatric patients during disasters. HPP priorities include:

- **Enhanced Planning:** HPP funding is used to enhance hospital and healthcare system planning and response at the State, local, and territorial levels.
- **Increasing Integration:** HPP facilitates the integration of public and private sector medical planning and assets to increase the preparedness, response, and surge capacity of hospitals and other healthcare facilities.
- **Improving Infrastructure:** Awardees have used HPP Grants and Special Initiative Grant funding to improve the State, local, and territorial infrastructures that help hospitals and healthcare systems prepare for public health emergencies.

EMS-C provides the framework for successfully caring for pediatric patients during a disaster across the continuum of care. EMS-C supports EMS providers to improve everyday readiness so they are more prepared for a disaster. EMS-C distributes multiple grants:

- **State Partnership Grants:** Focus on EMS-C initiatives to accomplish the EMS-C performance measures
- **State Regionalization of Care Demonstration Grants:** Develop innovative models of improving pediatric emergency care in rural, tribal and territorial communities (Alaska, Arizona, California, Montana, New Mexico, Pennsylvania)
- **Targeted Issue Grants:** Demonstration projects addressing EMS-C Program priorities and resulting in projects that are applicable across State borders
- **Pediatric Emergency Care Applied Research (PECARN):** Six Research Nodes that coordinate research in 18 Hospital Emergency Departments, representing 1.2 million pediatric visits annually

EMS-C strives to measure the quality of pediatric emergency care in the pre-hospital and hospital arena. The following benchmarks measure progress of pediatric care on the continuum of EMS preparedness to ED preparedness:

- Pre-hospital:
 - Access to online and offline medical direction
 - Appropriate pediatric equipment

- Appropriate pediatric training
- Hospital:
 - Designation for pediatric trauma or medical care
 - Processes for transfer to a higher level of care
- Permanence measures (sustainability):
 - Institutionalization of pediatric emergency care within the larger system

Pediatric readiness is defined as “The capability of an ED to provide the right resources and the right care at the right time to an ill or injured child.” There is a scarcity of pediatric care in today’s healthcare system and many facilities must transfer pediatric patients to other specialized facilities for complex care. One of EMS-C’s priorities is to assure quality in pediatric patient transfers. Data indicate:

- Most children are treated at non-children’s facilities (approximately 89%)
- Less than 5% of all hospitals are recognized as pediatric or children’s hospitals
- 27% of pediatric emergencies are treated at rural/ local community EDs
- 50% of hospitals see less than 10 pediatric patients per day and hospitals in remote or frontier areas may see only 1-2 pediatric patients per day
- Most states have one pediatric hospital and some states (e.g., North Dakota, Alaska, Montana) have none

The data indicates that hospitals with a higher level of readiness had the following characteristics:

- Located in urban areas
- Treated a high pediatric volume
- Had a separate care area for pediatric patients
- Had a physician and nursing coordinator for the ED

Joint Policy Statement: Guidelines for Care of Children in the Emergency Department³

This joint policy statement raised awareness regarding the necessary criteria required to provide optimal care in an ED. The policy was authored by three organizations (AAP, American College of Emergency Physicians (ACEP), and the Emergency Nurses Association) and was signed by 20 other organizations. The joint policy statement indicates that having a physician and nursing “champion” or coordinator for pediatric care increases a hospital’s readiness to treat pediatric patients efficiently. The policy identified six domains for establishing an environment for optimal care:

1. Administration and Coordination
2. Physicians, Nurses, and Other ED Staff
3. Quality Improvement (QI)/Performance Improvement (PI) in the ED
4. Pediatric Patient Safety
5. Policies, Procedures, and Protocols
6. Equipment, Supplies, and Medications

³ PEDIATRICS Vol. 124 No. 4 October 2009, pp. 1233-1243

The National Pediatric Readiness Project (PRP): Ensuring Emergency Care for All Children

The National PRP is a collaborative quality improvement initiative to ensure that emergency departments are adequately ready to care for pediatric patients. Many professional associations are involved (e.g., the Emergency Nursing Association, ACEP, and AAP). The project consisted of a national assessment which provided an opportunity to assess the nation's ED capacity, based on the Guidelines, and created an ongoing quality improvement initiative.

National Pediatric Readiness Assessment

The National Pediatric Readiness Assessment is a web-based assessment developed by a Readiness Working Group based on the 2009 National Guidelines for optimum care of pediatric patients during disasters. ED Nurse leaders complete the survey, which was disseminated in January 2013. The survey will be completed in July 2013. The first step of the assessment was to measure which components are present in hospital EDs. For more details on the methodology and sample results of the survey please see slides 42-44 of the *Pediatric Preparedness for HCCs* presentation available online (www.phe.gov/ABC).

As of today, 72% (3,600) hospitals have completed the survey. Data trends indicate that hospitals that have higher patient volume receive higher pediatric readiness score than hospitals with lower patient volume. Data trends also indicate that many hospitals (2,000 of the 3,600 surveyed) receive a "low" to "medium" number of pediatric patients. The Delphi method was used to weight survey domains and processes, and data indicate that physician and nursing pediatric coordinators/champions are essential to hospital pediatric readiness.

The good news is that all hospitals have improved readiness scores as compared to 2003. However, there is still significant progress that needs to be made. According to the assessment, only 67% of high-volume hospitals have a pediatric-specific disaster plan. One of the future benefits of this survey is that it will provide a national "snapshot" of which hospitals and healthcare systems are prepared to handle pediatric patients in a disaster and which hospitals need to improve pediatric readiness.

There are many aspects of the National Pediatric Readiness Assessment that are specifically designed to assist hospital pediatric readiness activities. Individual hospitals receive a readiness score, which is compared to all hospitals across the nation who have completed the assessment, as well as all hospitals with a similar patient load. Hospitals also receive a gap analysis which identifies areas where improvement is needed and provides hospitals links to important resources, such as the national pediatric websites, or sample job descriptions of nurses or physicians. States receive aggregate data to assist with healthcare policy decisions

A resource that is available from the PRP is the Pediatric Readiness Toolkit.⁴ The toolkit is based on national guidelines and is focused on performance improvement of hospitals and HCCs. It includes sample hospital policies and procedures (e.g., pediatric triage and transport techniques) and a quality improvement section.

An important step to improve a facility's readiness includes prioritizing and implementing key areas of the guidelines, including:

1. **Staff:** Designate a nurse and/or physician coordinator to oversee ED pediatric quality improvement, patient safety, and clinical care activities
2. **Policies:** Implement child-friendly policies and procedures
3. **Equipment:** Ensure that all recommended equipment, supplies, and medication for children of all ages are available

The National Pediatric Readiness Assessment found the following sample barriers to Guideline Implementation:⁵

- Cost of personnel and training
- Lack of educational resources
- Lack of trained MDs, RNs, and Admin support
- Lack of policies in pediatric emergency care
- Lack of pediatric quality improvement plan and disaster plan
- Lack of interest in meeting guidelines

Stakeholders and key partners of this effort include:

- EMS for Children Program
- American Academy of Pediatrics (AAP)
- American College of Emergency Physicians (ACEP)
- Emergency Nurses Association (ENA)

Improving Pediatric Readiness includes national and state-level benefits. Globally, pediatric readiness reduces the unevenness of pediatric emergency care by creating a foundation for all EDs. At the state-level, pediatric readiness improves disaster preparedness by:

- Improving day-to-day readiness of an ED which increases the likelihood that it will be prepared for a disaster
- Providing an opportunity for children to be better integrated into overall state disaster plans
- Determining if the facility's disaster plan addresses issues specific to the care of children
- Providing an online toolkit that has sample ED disaster preparedness policies that incorporate the needs of children

Future Benefits of Pediatric Readiness include:

- Direct linkage to the prehospital setting

⁴ www.pediatricreadiness.org

⁵ For further information, please see slide 47 of the presentation

- EMS agencies can appoint a coordinator focused on pediatric emergency competency, quality improvement, patient safety, etc.
- Ultimate goal 1: EMS ability to transport a child to an ED, regardless of geographic location, knowing that the ED will have baseline readiness with medications, equipment, policies, and training to provide effective emergency care to stabilize a child
- Ultimate goal 2: Facilities that cannot care for critical pediatric patients will be linked to a broader regional system.

V. Hospital and Health Care System Preparedness & Pediatric Planning: Are You Ready for Kids?

- Steven E. Krug, MD, FAAP
 - Chair, AAP Disaster Preparedness Advisory Council
 - Professor of Pediatrics, Northwestern University Feinberg School of Medicine,
 - Head, Division of Emergency Medicine, Ann and Robert H. Lurie Children's Hospital of Chicago
 - skrug@luriechildrens.org

Dr. Hansen noted that Dr. Krug will be providing the AAP perspective and discussing current resources, including a toolkit that was inspired by the events and response to the H1N1 outbreak.

Dr. Krug acknowledged the colleagues, partnerships, and advocates that joined him as speakers on today's call along with HRSA and ACF as organizations with a long history of being committed in improving readiness for children.

Dr. Krug presented data from the 2008 National Hospital Ambulatory Medical Care Survey,⁶ which included questions on hospital capability to treat pediatric patients. The percentage of hospitals that had the following are indicated below:

- Tracking system for children – 43%
- Reunification of children and families – 34%
- Increasing pediatric surge capacity – 32%
- Plan for supplies/sheltering of children – 29%
- Countermeasures (Plan for distribution of KI) – 33%
- Disaster drills – 89%. Of all the disaster drills:
 - 45% included pediatric victims
 - 31% included a school system
 - The median number of children victims included in drills was 1

The EMS-C presentation indicated that less than half of hospitals have a pediatric disaster plan. It is important to have a pediatric disaster plan, or at least have a plan annex that addresses specific pediatric needs. If healthcare systems improve care for pediatric patients, care for all individuals will be enhanced. It is also important to test those plans. The above data indicate that nearly all hospitals perform drills, but only about half of hospitals include pediatric patients.

⁶ Niska RW, Shimizu IM. National Health Statistics Report #37, 2011. Available at: <http://www.cdc.gov/nchs/data/nhsr/nhsr037.pdf>

Drills should test hospitals limits and push hospitals out of their comfort zone. This data indicate that hospitals were not accomplishing this in the drills that were being conducted.

Step 1: Have a Plan for Kids. It is important to have a plan that specifically addresses the needs of at-risk populations, especially children. It is also essential to implement the plan and gauge a hospital's progress. The plan should:

- Engage the input/expertise of pediatricians and other pediatric SMEs on the local and regional levels
- Be compatible with a local hazard vulnerability assessment and the needs of the patient population served
- Consider the requirements of children with special health care needs
- Address all disaster components (Mitigation, Preparedness, Response, Recovery AND Resiliency). Hospitals are a very important component of a community's resiliency during and after a disaster
- Include pediatric-specific performance measures

Step 2: Build the Foundation:⁷ Hospitals and EDs should be prepared to meet the needs of acutely ill and injured children on a day-to-day basis. This is accomplished by:

- Aligning with activities within your state's EMS-C program
- Considering how to improve emergency care quality and safety and measure performance
- Identifying MD and RN coordinators for pediatrics as they are essential for improving and sustaining pediatric emergency care initiatives
- Collaborating with EMS and other associations such as AAP, ACEP, and ANA

Step 3: Consider Your Capabilities: It is important to consider present institutional capacity and capabilities for pediatric care:

- All locations: inpatient, outpatient, emergency, etc.
- All acuity levels, including critical care
- All populations: neonates, older children, children with special health care needs
- Define core competencies for pediatric care among front-line staff in all locations
- Consider opportunities to increase capacity after capabilities are developed
- Make enhancing pediatric readiness a priority by providing staff access to resources to maintain/expand capabilities to care for children (e.g., training courses)
- Partner with others: It is important to reach out to individuals in the field, (e.g. local and/or regional pediatric center) to better understand pediatric readiness concerns

Step 4: Think Local: Develop a pediatric disaster readiness coalition and/or advisory council in the local community. Even in the competitive healthcare environment, it is critical to partner with other institutions in regards to pediatric readiness. In addition, one coalition model/size may not satisfy all. There are pediatric-patient specific coalitions and coalitions caring for all

⁷Gausche-Hill M, Krug S, and the American Academy of Pediatrics, American College of Emergency Physicians, Emergency Nurses Association. Guidelines for care of children in the emergency department. Pediatrics 2009; 124(4):1233-43

populations. Coalitions for the general population should have plans or plan annexes that specifically address the special needs of the pediatric population. Sample coalition members include:

- Hospitals
- Primary and specialty care providers, Federally Qualified Health Centers (FQHCs)
- Mental health: It is very important to consider mental health issues in the aftermath of disasters, and children have specialized mental health needs
- Key stakeholders (e.g., Public health, emergency mgmt., public safety, EMS, Schools, child (day) care providers, State EMS-C. It is important to bring on key stakeholders into coalition planning activities.

Step 5: Think BIG (Globally): It is critical to identify and/or help build regional coalition(s) AND participate:

- To address surge capacity (e.g. inpatient and critical care)
- To address specialized services (e.g. trauma, burns)
- To address special populations (e.g. obstetrics, pediatrics)
- For access to specialty consultation, SMEs
- For access to patient transport

Step 6: Practice, Practice, Practice: Conduct disaster drills that include pediatric victims of sufficient number and acuity as to exceed typical operating conditions. Exercises should include the following components:

- Triage, decontamination
- Unaccompanied children, tracking, reunification
- Surge capacity (ambulatory and inpatient)
- Participate in local/regional disaster exercises
- Include schools and child care facilities

Available Resources:

- **AAP Children and Disasters Website**⁸ provides disaster planning resources for pediatricians and other stakeholders:
 - Psychosocial and mental health considerations and other information on natural hazards, influenza, CBRNE, etc.
 - Resources for clinicians (Practice guidance, management recommendations)
 - Resources for patients and families
 - Link to the Disaster Preparedness Advisory Council
 - Numerous external links (CDC, FEMA, HHS, DHS, FDA, NCCD, EMS-C, etc.)
- **Pediatric Preparedness Resource Kit**⁹ was a collaborative effort between AAP and CDC and was inspired by the lessons learned from state response to H1N1. Representatives from 10 states, including AAP chapters, public health, healthcare, EMS,

⁸ <http://www.aap.org/disasters>

⁹ <http://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Children-and-Disasters/Pages/Pediatric-Preparedness-Resource-Kit.aspx>

and EM contributed to the development of the toolkit. The toolkit includes information to assist in pediatric planning, including guidelines and templates. In addition, the toolkit:

- Includes pediatric care providers in state-level decision-making
- Promotes strategic communications and systematic messaging
- Prioritizes within/among high-risk groups
- Develops state action plans
- Establishes pediatric advisory councils or children's preparedness coalitions
- Provides AAP Chapter contacts for disaster preparedness
- Includes appendices with other resources
- **Pediatric Readiness Clearinghouse**¹⁰ brings together information, tools, and resources to assist health care providers, emergency planners and families to prepare for, respond to, and recover from a disaster or pandemic involving a pediatric population.
- **EMS-C State Coordinator.** In addition to exploring resources available on-line, it is important to reach out EMS-C state coordinators when conducting pediatric readiness activities.

VI. Perspectives on Creating a Multi-state Coalition for Pediatric Surge

- Andrew C. Rucks, PhD and Peter M. Ginter, PhD
 - University of Alabama at Birmingham (UAB) School of Public Health
 - arucks@uab.edu and pginter@uab.edu

Today Dr. Rucks will provide:

1. A description of the Southeastern Regional Pediatric Disaster Surge Network (SRPDSN)
2. A rural and local perspective on the process for creating coalitions
3. Lessons learned from creating a multi-state coalition

The SRPDSN is a permanent voluntary network of health care providers, public health departments, volunteers, and emergency responders from Alabama, Florida, Georgia, Louisiana, Mississippi, and Tennessee. The SRPDSN Executive committee has decided to extend SRPDSN coverage to all states in FEMA Region IV, and thus SRPDSN is currently reaching out to Kentucky, North Carolina, and South Carolina. Throughout the development and continued growth of the network, collaboration and coordination of key stakeholders is vital. The Mission Statement of the network is: *The SRPDSN strives to be a high-reliability, highly collaborative regional network of hospitals, public health agencies, emergency management agencies, emergency responders, private practitioners, and volunteer agencies that effectively cooperate to meet the medical care needs of the region's pediatric populations during an emergency or disaster.*

Key Milestones of the SRPDSN include:

- Need for a multi-state coalition explored at a conference held in Birmingham, April 2004.
- Meeting of potential collaborators, Birmingham, August 2005. This meeting occurred one week before the events of Hurricane Katrina.

¹⁰ <http://www.childrensnational.org/EMSC/DisasterPreparedness>

- Funding to initiate coalition formation provided by the Alabama Department of Public Health and the Mississippi State Department of Health, January 2009.
- Executive Committee formed, March 2010.
- First MOU signer, May 2011.

The SRPDSN MOU:

- Provides a framework to share staff and equipment, supplies, and essential resources, but is not attempting to “reinvent the wheel.”
- Parties are not legally obligated to accept patients or send staff, supplies or resources when to do so would compromise its local service mission.
- However, participants agree to try to assist and to offer resources through Incident Management Systems.
- Signatories include the Alabama, Florida and Mississippi state health departments, and all specialty hospitals in Alabama, Georgia, Mississippi, and Tennessee.
- Reaching out to Community Health Centers, Community Pediatricians, and EMS to sign MOU.

SRPDSN Organization: The SRPDSN has approximately 175 participating organizations. Members of the Executive Committee are executive-level representatives of key stakeholders. The Executive Committee provides strategic direction for the SRPDSN and plays a key role in identifying organizations that should be present in the broad coalition. Network coordination is performed at the UAB School of Public Health. The SRPDSN members are organized into five workgroups: Operations Planning, Licensing and Credentialing, Community Pediatricians, public health law, and Pediatric Patient Transportation. An EMS-C representative in Tennessee is leading the Pediatric Patient Transportation workgroup.

SRPDSN Coalition Process: The first step in the HCC formation process is recognizing that preparing for and responding to disasters is not a response agency or institution competency problem, but rather an organization, management, and leadership opportunity. A theoretical framework was utilized to focus the Executive Committee’s work and guide work regarding leadership and management issues. The model utilized is a three-phase model of network development created by Alter and Hage,¹¹ which identifies three phases of coalition development:

1. Formation of an *Exchange Network*: Participants share information about what they are doing and who is doing it.
2. An *Exchange Network* may evolve into an *Action Network* in which participants develop a set of mutually-agreed upon goals and take actions together to achieve these goals.
3. An *Action Network* may evolve into a Systemic Network in which the coalition members develop formal working relationships involving MOUs, contracts, and grants.

¹¹ Alter C., Hage J. Organizations working together. Newbury Park (CA): Sage Publications: 1993.

In Phases 1 and 2 the focus is on recruiting organizations to participate in the coalition. SRPDSN is currently in Phase 3 and is engaging regional stakeholders. SRPDSN is currently writing an operations plan to address various network challenges.

Lessons learned:

1. A key principle: Operate within the existing response systems of the National Response Framework (e.g., do not reinvent these processes).
2. Keep the time between the developmental phases as short as possible (meeting fatigue is an issue)
3. Participants should be knowledgeable of the “big picture.” It is important for members to understand the broader concepts of the region’s needs.
4. In Phase 2 of the coalition building process, institutional executives must be involved. Coalition participation will diminish if the effort does not have support of the executives.
5. One organization has to take primary responsibility for convening, facilitating, and documenting the work of participants and one organization must be responsible for network maintenance. This will help prevent participants from working in silos.
6. Multistate mutual-aid networks are practical, but more complicated than intrastate networks.
7. The process of convening independent agencies is beneficial and instructive in itself. Knowing who to call is important.
8. There is a continuous need to repeat processes for sustainability purposes.
9. The process requires rethinking and change as it evolves, including expanding stakeholder involvement and membership.
10. Plans and documents should be developed and vetted by people in the field.
11. Rural Areas have unique problems, issues, and strategies, such as community hospitals with relatively fewer pediatric beds and equipment.

SRPDSN strategy:

- Community hospitals will serve as triage centers.
- Regional hospitals are the next level up and can provide pediatric patients with more specialized care
- Link community hospitals, regional hospitals, and specialty hospitals with specialized transport capacity.

Key Issues for Interstate Coalitions

- Ascertaining and communicating the perceived level of need
- Developing a plan of operations (e.g., what situations will trigger the coalition, how will it function, when will it stand down, etc.)
- Maintaining a current inventory of available resources
- Licensing and credentialing issues across state lines
- Specialized Transportation of patients/responders
- Reuniting kids and parents

Barriers to Coalition Formation

- State lines – Incompatibility of laws, jurisdictions, organizations, procedures, nomenclature
- Decline in state funds
- Individuals perceive pediatric readiness as a “Federal problem” not a “state problem”
- The perception that there are no outside incentives to participate
- Inertia – Institutional priorities, schedules of individual points of contact, turnover of institutional representatives, etc.
- Sustainability of capabilities and capacity
- Small- and medium-scale disasters (if disasters do not rise to the federal level, there are various issues and challenges regarding funding, transportation, and licensing/credentialing)

It is very important that PAHPA was reauthorized and that the revised version put an increased emphasis on the needs of at-risk populations, including children. It is also positive that HPP requires participating hospitals to participate in HCCs. This provides outside incentives for HCC participation from the federal level and may also assist with the issue of decreased state funding.

VII. New York City Pediatric Disaster Coalition (PDS) Operational Pediatric Disaster Planning

- Michael Frogel, MD, FAAP, Principal Investigator, Project Officer, PDS
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- George L. Foltin, MD, FAAP, FACEP
 - Vice Chair of Clinical Services, Chief, Division of Pediatric Hospital Medicine
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Dr. Frogel’s presentation began with emphasizing that when disaster planners conduct planning activities there are many aspects of preparedness and response to operationalize. Disaster response planning must be tailored to the special needs of children and provide appropriate surge capacity. Children are different and have special needs to be considered during pediatric planning activities:

- **Physiological Response**
 - Airway and ventilation
 - Hypovolemia
 - Vascular access
 - Hypothermia
- **Psycho-social Response**
 - Age/development dependent
 - Parent/child-dyad dependent
 - Reflected in play
 - Regression
 - Somatisation

Children are involved in multiple disasters around the world, and children are primary targets in various attacks around the world:

- 1995 - Murrah Federal Building, Oklahoma City, OK: 168 dead (19 children, mostly in daycare center), 680 injured (66 children)
- 2003 - Schmuell HaNavi Children's Bus Bombing, Jerusalem, Israel: 24 killed (9 children), 130 injured (40 children)
- 2004 - American Troops Giving Candy Car Bombing, Baghdad, Iraq: 35 dead
- 2004 - School Number One Shootings, Beslan, North Ossetia, Russia: 385 dead (186 children), 783 injured
- 2011 - Car Bombing and Camp Shootings, Oslo and Utøya, Norway: 77 dead (69 children), 319 injured (110 children)
- 2012 - Ozar Hatorah School Shootings, Toulouse, France: 4 dead (3 children)
- 2012 - Sandy Hook Elementary School Shootings, Newtown, CT: 28 dead (20 children), 2 injured

Terror events versus non-terror events: Terror events differ from non-terror events, and it is important to be prepared for the special needs of children as a result of terror events so first responders can act appropriately. As compared to non-terror events, terror event victims are typically:

- Younger
- Arriving in mass
- More severely injured
- Heavier consumers of resources
- In more immediate need of operations/procedures
- Sustaining excess injuries to blood vessels and nerves
- More likely to require ICU admissions
- Exhibiting walking wounded acute stress reaction issues
- More likely to have persistent mental health issues

The NYC "Scare:"

On May 1, 2010 a gasoline bomb was found in a car in Times Square. The bomb was near the Lion King Theatre, which holds 1,000 children. It was estimated that the bomb may have critically injured 900 people, including 300 kids. PDC reviewed the status of 75% of PICU beds in the area, and only 32 PICU beds were available, which would have been inadequate for responding to this disaster. This close call indicates the importance of continued pediatric readiness planning.

PDC's Primary Goals:

- Build a coalition of hospitals, public health, municipal services and community groups to:
 - Effectively match critical assets and resources to victims needs during and after a large scale disaster affecting children, neonates and women in labor.
 - Develop and expand ongoing pediatric disaster preparedness through advisory and coalition building activities.

PDC stakeholders include experts from various disciplines, including public health, EMS-C, Pediatrics, community groups, and hospitals. The PDC addresses multiple phases of the continuum of care: Triage, Tiering, Transport, and Surge Capacity. It is important to address the whole process from triage to transport and conduct “chain of events” planning.

HCCs must consider Space, Staff, and Stuff:

1. Space: (Rapid Patient Discharge from ED, PICU, Floor/Expansion Plans (e.g., Additional/Alternate area, doubling up))
2. Staff: Roles, staffing, training in emergency roles
3. Stuff: Equipment and supplies - Known location, accessible, prepackaged

In Years 1-3 PDC accomplished:

1. Created new guidelines for first responders.
2. Recommended transport of pediatric patients to pediatric receiving hospitals (PDRH) Tier1 (PICU, Subspecialty Care) Tier 2 (ED capable).
3. Formed a MOU for inter-hospital secondary transport of patients to PDRH by FDNY-EMS.
4. Developed pediatric intensive care surge plans and increased pediatric surge bed capacity by an additional 128 beds above the baseline of 238 beds.

PDC accomplishments in Pediatric Critical Care Surge Capacity Building

- Developed guidelines for pediatric critical care surge capacity
- Created Template Pediatric Critical Care Surge Plan
- Coordinated and facilitated on-site development of plan and final recommendations
- Added 128 PCC Surge beds to existing 238 (54% increase)
- 12 hospitals doubled their surge capacity

Example Lessons Learned:

- A rapid system for patient registration and identification is essential
- Children require “baby sitters” in the absence of parents (these individuals do not need a medical or clinical background)
- Triage resources must be robust and high level
- Provisions for patients with psycho-social issues must include: medical triage, patient identification, family reunification, social work and psychological support for patients, families and providers.
- Local incident command in ED/PICU, necessary for communication with Emergency Operation Center, patient tracking, resource management and situational awareness
- Just in Time Training and Job Action sheets are essential
- Hospitals should sponsor various training opportunities in Pediatric Critical Care, including train the trainer.

Year 4 Overview:

- Five Pediatric Tabletop and Full Scale Exercises of PICU surge plans
- Pediatric Intensivist Response Team (PIRT)

- Pediatric Resource Directory
- Neonatal and Maternal Care Committee

The Pediatric Intensivist Response Team (PIRT) is a virtual (phone/email) consultation service that helps Fire Department of New York (FDNY) triage pediatric patients in a disaster. PIRT advises on pediatric patient secondary transport prioritization from Pediatric Critical Care Board Certified Physicians and only operates if a pediatric disaster is operationalized by FDNY.

Drilling/Exercising is essential, as it is the only way to operationalize plans and lessons learned.

- A plan is just a piece of paper until it is tested.
- Full scale exercises (FSE's) are crucial in order to test plans for strengths, weaknesses and gaps.
- What works on paper does not always work in real life!
- Examples of Lessons Learned (slide 125)
- Tabletop Exercises followed by Full Scale Exercises allow hospitals to troubleshoot and improve existing plans, while becoming more comfortable with response to pediatric disasters.

Year 5 Overview

- Neonatal and Maternal Health
 - NICU Resource Directory Completed
 - NICU guidance documents
 - NICU Evacuation and Surge Plans
- PICU Surge Planning
- Community Outreach
- PDC Conference
- Hurricane Sandy Response

Special Projects/Conferences

- Participated in Citywide H1N1 Response
 - 311 nursing triage hotline
 - CDC Emergency Department H1N1 triage prioritization protocol
 - Provided ongoing subject matter expertise on pediatric H1N1 issues
 - Citywide Conference
- Haiti Response
 - Information sharing telephone conferences
 - Liaised with groups on the ground in Haiti for supplies and personnel
- Super Storm Sandy Citywide Conference

Hurricane Sandy Response

- Created a working group for pediatric response to Hurricane Sandy that is studying successes and gaps in planning and response.
- Conducted a city-wide conference and created a lessons learned report for managing children during coastal storms.

Community Preparedness for Children – Considerations

- Mental Health: Children and Acute Traumatic Stress, PTSD and Chronic Morbidity
- Decontamination: How to decontaminate children
- Pediatric field triage considerations
- Involve schools in pediatric disaster planning
- Legal obstacles involving the voluntary care of children who are separated from their legal guardians during a disaster

Future areas of progress:

- Build evidence base and competencies
- More funding for research and infrastructure
- Situational awareness/effective communications
- Public awareness and risk communications
- Comprehensive communitywide coalition building
- Women in labor, newborns, NICUs
- Mental health, ASR, ASD, PTSD prevention/treatment

Pediatric Disaster Planning Considerations:

- Children represent almost 25% of the US population
- Children have special needs during a disaster
- Many resources and experts are available to assist in planning and drills to simplify the process
- Every Disaster Plan should match resources to needs based on a risk assessment and should include a pediatric component/annex that is operationalized and revised based on lessons learned from drills and real events
- Pediatric disaster planning is important for all coalitions and must include governmental agencies, first responders, health care providers and community based resources (Schools, Day Care, etc.)

Pediatric Resources

- NYC PDC Website: www.pediatricdisastercoalition.org
 - PICU and NICU Planning Templates
 - Tabletop and Drill Planning Resources
 - Best Practices
 - Further information on the PDC
- New York City Department of Health and Mental Hygiene (NYC DOHMH) Office of Emergency Preparedness <http://www.nyc.gov/html/doh/html/em/emergency-ped.shtml>
 - Pediatric Disaster Hospital Tabletop Exercise Toolkit
 - NYC Hospital Pediatric and Neonatal Resource Directory
 - Children in Disasters: Hospital Guidelines for Pediatric Preparedness
 - Additional Resources
- Medical Reserves Corps (MRC) <https://www.medicalreservecorps.gov/HomePage>
- Psychological First Aid via the National Child Traumatic Stress Network <http://www.nctsn.org/content/psychological-first-aid>

- The Greater New York Hospital Association Emergency Preparedness Plans and Tools: A Resource Guide www.gnyha.org/12141/File.aspx

We as a nation can do a great job caring for kids during a disasters. PDC is a replicable model that can be utilized at other sites and PDC is promoting its concepts at a National and International Level. On-site development of pediatric readiness is essential and experts from PDC are available to assist areas that would like to implement these initiatives. All cities, localities, and regions should have a plan for disasters involving children. Dr. Frogel thanked ASPR and HRSA for funding the PDS project. Participants can contact Dr. Frogel or Dr. Foltin with any questions about this presentation or PDS.

VIII. Closing Comments

- Dr. Cynthia Hansen, Senior Advisor, NHPP
- Dr. David Marcozzi, Division Director, NHPP

Dr. Marcozzi thanked everyone for joining this very important call. HPP would like to emphasize that it is essential for all HCCs to address the special needs of pediatric patients in their planning activities. It is important that pediatric readiness is an on-going effort, and HPP is excited to collaborate with EMS-C moving forward.

Dr. Hansen thanked all the speakers on behalf of ASPR for presenting exceptional information regarding pediatric readiness. Future calls may also include speakers from other federal partners, such as CDC Office of Public Health Preparedness and Response (OPHPR) and state-level participants, such as HPP Awardees who have developed various pediatric readiness initiatives. There was no time today to conduct a Question and Answer Session, so ASPR will conduct a future call to address any outstanding questions from Awardees. Awardees may submit questions by emailing Dr. Cynthia Hansen (Cynthia.Hansen@hhs.gov). The materials from this webinar, including the PowerPoint presentation, an audio recording of the webinar, and all references will be posted on www.phe.gov/abc.