Pediatric Disaster Preparedness
Building a Coalition in your community

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Objectives

• To identify potential gaps in your community for pediatric disaster preparedness

• To create a list of resources to close the potential gaps

• To explore examples of communities with disaster planning that have incorporated children
Vulnerable Groups in Disasters

- Individuals of a population that are unable to provide for their own day to day needs; more prone to illness

- Groups may include: children, pregnant women, elderly adults, disabled individuals, individuals with different language or cultural practices from the majority population and potentially others
Guiding Principles for Disaster Response-Developed Countries

- Terrorism prevention and preparedness
- All- Hazards preparedness
- Post disaster disease and injury prevention
- Nutrition and Hydration
- Equipment and supplies
- Pharmacology
- Mental Health
- Identification and reunification of displaced children
- Daycare and School
- Perinatology
Creating a case for additional planning is needed for children in disaster preparedness

• Children make up 20% of population (and more in some parts of the country)

• Children are dependent on someone to assist with their basic needs

• Child physiology creates unique and varied treatment and equipment needs

• Child mental ability create unique reactions
Physical Differences for Children in Disasters

• Respiratory rate faster - breath more toxins
• Short stature - closer to ground for fallout of chemical or radiation
• Thinner skin - more heat loss and absorption of chemicals
• Fluid shifts and hydration - shock may have quicker onset
• Permeable blood brain barrier - more susceptible to infectious agents
• Immature immune system - more effects of infectious agents and radiation
Children’s Reaction in a Disaster

- May actually run to site of “incident” - curiosity, seeking help, do not recognize “danger”

- Unable to follow directions

- Hysterical - fear of strangers, scared, anxious, reaction to chaos (autism spectrum), reaction to care givers

- Quiet/distant - regressive behaviour (acting younger than chronological age) or head injury

- Children are more susceptible to PTSD
Ongoing Challenges for Children in Disasters

- Limited personnel with pediatric expertise
- Limited equipment (and appropriate drug) availability
- Limited Hospital bed capacity
- Pediatric Transport capability
- Just-in-time training
- Experience taking care of “sick or injured” children
National Pediatric Readiness Project

- based on assessment of Joint policy statement from AAP/ACEP - “Care of Children in Emergency Department” (2009)

- Assessed: Pediatric Administration, Healthcare staff, QI processes and safety, Policies/Procedures/Protocols and Equipment/Supplies

- Surveyed ED around the country by state

- 2003 - Overall States Median score = 55

- 2013 - Overall States Median score = 69

- Differences for low and high volume centers

pediatricreadiness.org
Document used to assess National Pediatric Preparedness Project: because if you to take care of one child on a daily basis it helps preparation for taking care of many in a disaster.
Purpose of commission was to assess needs of children for preparedness, response and recovery from disasters and emergencies.

- Report gaps and recommendations to President and Congress.
- Established in 2008 and discontinued in 2011.
• Ensure the inclusion of pediatrics for all Mass Causality Management

• Expand capability and integration for Pediatrics

• Ensure adequate training for healthcare providers in pediatric emergency and disaster clinical training

• Create Regional Pediatric networks

www.childrenanddisasters.acf.hhs.gov
NACCD

• National Advisory Committee on Children and Disasters established 2014

• 15 member committee (government and private sector representation)

• 7 members are from AAP

• To provide expert advice and consultation to the Secretary of HHS with respect to the medical and public health needs of children in relation to disasters
Definition of Coalition

- Group of individuals working toward a common goal
- Common purpose which brings people together
Creating a Coalition in your community:
So children could be the gap or the linkage in disasters
Where are the gaps in your community?

- Individual and Family preparedness
- Daycare and School preparedness
- Prehospital preparedness
- Healthcare preparedness - individuals and institutions
- Communication, Transportation, Evacuation, Shelters
- Reunification
- Other?
Who are the Pediatric Experts in your community?

- Children (Teens)
- Parents
- Teachers
- Daycare Providers
- Healthcare providers
- Others?
Disaster Experts in your Community?

• Emergency Personnel
• Hospital based Personnel
• Emergency Managers
• Public Health
• Others?
What types of Disasters will occur in your community?

- West - earthquakes, fires
- South - hurricanes, tornados, ice storms
- Midwest - tornados, winter storms
- East - hurricanes, winter storms
- Terrorist attacks may be more specific to infrastructure in your region
Places to get started

• Incorporate children into community drills
• Education of prehospital and emergency personnel
• Specific gap analysis by hospitals and public health
• School projects
• Learning from other communities
Disaster Drill July 2012
- Radiation Event
Personal and Family Preparedness

- AAP Family Readiness checklist (http://www.healthychildren.org/English/safety-prevention/at-home/Pages/How-to-Prepare-for-Disasters.aspx)
Personal and Family Preparedness

- CDC preparedness (http://emergency.cdc.gov/preparedness/plan)
Personal and Family Preparedness

Assisting Families with Special Needs

Items of Importance for Special needs

- Medications
- Equipment and supplies
- Generator back up (75% new admits to hospital during the Japan earthquake 2011)
- Sheltering in place
- Evacuation and location of shelter
- List of care providers
Communicating with Special Needs

- Hearing impaired - face to face communication, gestures and sign language
- Visual impaired - pat on shoulder to get their attention, need physical escort to manage the scene
Education of Prehospital Personnel

- NREMT 15% Pediatric knowledge - Paramedic level

- Many providers have little pediatric experience (kids do not get sick)

- Day to day experience and refresher education will assist with Disaster situations

- NREMT has adopted PEPP curriculum as the basis for pediatric education (created by PEM physicians with AAP)

nremt.org
Areas to educate prehospital providers

- Pediatric Trauma
- Pediatric Airway
- Pediatric Shock recognition and resuscitation
- Understanding and working with children in distress
- Care of special needs patients
Resources

- PALS
- PEPP
- ATLS (audit for prehospital)
- EMSC National Resource center (Special needs including SCOPE)
- BDLS and ADLS
- Psy Start
- Pediatric ITLS
Tennessee EMSC

• Resources for healthcare professionals and families

Another Resource

Highlights: EMS Recommendations and Equipment List

- Recommend Pediatric Coordinator for each agency

- Indirect and Direct Medical command available

- Standard Protocols (Ohio EMS-C website for pediatric minimum protocols-available as pdf)

- **Equipment recommendations for BLS and ALS squads:** Ventilation and Airway, Vascular Access, Immobilization, Monitoring Devices to list a few
Coordination of Recommendations for Pediatric Equipment

- Supported by many national organizations
- Standardization of equipment recommendations
- Availability of appropriate equipment for all ages
Example: the Unique challenges of decontamination for pediatrics

- Stranger anxiety: appearance in PPE
- Communication: talking thru PAPR
- Flow: time to disrobe, time to shower
- Unaccompanied minor: who to assist
Decon: Removal of clothing

- Respect the modesty of the child (consider cultural customs)
- Use same sex chaperones when possible
- Keep the child warm (preventing heat loss and hypothermia)
Process of Decontamination

- Lower water pressure for children
- Moderate the temperature to 98°F
- Use of water only (and mild soap)
- Dry immediately and consider use of space blanket
- Outdoor decontamination areas—moderate the ambient temperature
Equipment: Decontamination of toddler/ small child

use of scoop may be helpful, but again consider the added weight and need for individuals to carry the item
Because providing the optimal care of one child daily makes it easier to care for many when a disaster strikes.
Community Drills

- Common triage tool for region with prehospital/hospital triage guidelines that have the ability to support pediatrics with expanded capabilities
- Triage tool that has pediatrics included
- Tendency to over-triage children in disasters
- Memorandum of understanding
Prehospital Triage

- Consists of 5 modules to assist with triage; including children with special situations (i.e. head injuries)

- [http://www.emscnrc.org/](http://www.emscnrc.org/)
Drill 2013 - Explosion at an Airshow
Children’s potential contributors to PTSD

- Separation from parent (fear that parent will die)
- Physical injury and related pain
- Caregivers inability to meet child’s needs due to their own distress (prior maladaptive behaviors are exaggerated)
- Over exposure to mass media images
- Lack of cohesive community response
Factors that affected Mental Health - Katrina

- Parental mental distress
- Informal social support
- Minimal sense of community
- Unstable housing
- Loss of household income
- Food insecurity
- Poor family functioning
- Social disorder (gangs, drug sales)
How to help

✧ Return to normal routine (meals, sleep)
✧ Opportunities to play, interact with peers
✧ Encourage patience by caregivers to be supportive of distress (healthy coping skills)

✧ Listen

✧ Set normal limits and expectations
✧ Do not overestimate child’s ability to cope - lack of communication may be due to not wanting to add to stress of others
Communication tips

- Use clear simple language
- Answer questions directly, do not use graphic detail or speculate
- Acknowledge cultural bias and differences - physical contact
- Acknowledge emotions - empathy (hiding your own emotions due to being overwhelmed is acceptable)
- Do not ignore suicidal or homicidal thoughts or statements
Vulnerability: contributing factors

- Age and developmental stage
- Dependency upon caregivers (emotional availability of individuals)
- Gender (males may externalize behavior-aggression and females may internalize - depression)
- Previous physical or mental health issues
- Baseline family or community problems - compounded by disaster
Prevention of PTSD in Children

- Preparing and Coping with Disasters will assist to prevent long term effects: of emotional and behavioral disorders from antisocial behavior to PTSD

- PTSD “Arises as a delayed or protracted response to a stressful event of exceptionally threatening nature which is likely to cause pervasive distress in almost everyone”

- Children have a long time to live with the effects of PTSD
Psy-first aid

- Resource to assist with knowledge of children who experience disasters

  - http://ncdmp.h.usuhs.edu/KnowledgeLearning/2013-Learning2.htm

- Developed by Mark Schreiber, UC-Irvine

- Psychological simple triage and treatment

- Used by the American Red Cross and others
Psy-Start

Three components

• community resilience via linkage between community "disaster systems of care"
• an evidence-based rapid triage "tag" designed for field use by responders without mental health expertise
• an information technology platform to manage the collection and analysis of triage needs in near real time

http://www.cdms.uci.edu/disaster_mental_health.asp
Engage physicians in community

- Private practice readiness to assist children, families and community with issues pertinent to children
- Integration of children in to all hazard plans for community, including participation in drills
- Resources such as the AAP (www2.aap.org/disaster/)
Training Resources for Physicians (and others)

- Training in medical schools (Germany, Belgium, some in U.S.)

- Pediatrics in Disasters - created by AAP to teach in international settings (10 modules - in China physicians showed knowledge acquisition pre/post test)

- Management of Humanitarian Emergencies (sponsored by CWRU has been offered worldwide)

- Global Health and Disasters Course - Univ. of Denver
Are physicians offices prepared

• Personal preparedness is essential (physician and staff)

• Office that is ready for day to day emergency

• Preparation for catastrophic emergency (paper files, vaccines, EMR, maintenance of operations)

• MRC members
Preparing your Healthcare facilities

- Pediatric Readiness toolkit includes:
  - competency and evaluation
  - training recommendations
  - equipment, medication and treatment (checklists and competencies)
  - quality improvement and safety
  - resource list and self evaluation
Engaging the community

- Crisis standards of care (laypersons and healthcare personnel) specifically with regards to children
- Business partnerships (are there barriers to assisting in disaster)
- Special interest groups (ethnic, religious, other communities, etc.)
- CERT teams
- FEMA Youth preparedness council
- Reunification plan for unaccompanied minors
Community engagement

- Save the Children (http://www.savethechildren.org/site/c.8rKLIXMGIpI4E/b.9085951/k.B899/Get_Ready_Get_Safe_Community.htm#PepRally)
September 2014 Disaster Preparedness Month - One Community

• Public/Private partnerships

• Campaign done thru volunteers

• Mass media

• Exhibits at libraries (those without internet)
Family Reunification Options

- Patient Connection
- Safe and Well Online Registry (two registry) www.redcross.org/safeandwell or 1-800-733-2767
- International Tracing
- Armed Forces Emergency Services and Communication
- Facebook and Twitter
- Google missing persons
Safe and Well

After a disaster, letting your family and friends know that you are safe and well can bring your loved ones great peace of mind. This website is designed to help make that communication easier.

Register Yourself as “Safe and Well”
Click on the “List Myself as Safe and Well” button to register yourself on the site.

Search for Loved Ones
Concerned family and friends can search the list of those who have registered themselves as “safe and well” by clicking on the “search registrants” button. The results of a successful search will display a loved one’s first name, last name and a brief message.
FEMA Youth Preparedness Council

- council of youth from FEMA Regions
- youth who have demonstrated willingness to participate in emergency preparedness and be a voice back to their communities
- examples: Teen CERT training, school drills, engagement with social media
Recommendations for school preparedness

- Children spend up to 70% of waking hours at schools or childcare
- Important to incorporate planning at these locations into the community preparedness
- Tabletops and Practical drills will assist with readiness (and could be fun)
School preparedness

- http://www.tnemsc.org/DisasterPreparednessforSchools
Tools for educators

- http://www.ready.gov/kids/educators
Lessons from Joplin 2011

- Tight community (schools have relationships with everyone)
- Bright futures - linking business, faith and other organizations in community
- Communication strategy - including social media
- People first
- Set clear goal to start school
- Summer school
- Temporary facilities not education
- Take care of Adults too
- Celebrations frequently

Besendorfer - IOM Conference June 2013
Unanswered questions

- Unaccompanied minors and identification
- Creating a sense of urgency for planning from individuals to larger organizations
- Funding
The best preparation to taking care of children in a disaster is to take great care of children every day.

Questions?
Disaster Drill 2011