MCHB/ EMSC
Pediatric Disasters and
Terrorism Preparedness Update

August 31st, 2004

Moderator:

Dan Kavanaugh

Addressing the needs of Children and their Families in Terrorism and Disaster Preparedness

Center for Pediatric Emergency Medicine
George L. Foltin, MD, FAAP, FACEP

All Hazards Preparation includes Enhancing Public Health

- Preparedness for Disasters as well as Terrorism
- Hurricane Charley
- Identifying emergency natural epidemics
  - **Influenza**
  - **SARS**

Integrating Pediatric Priorities into Preparedness

- National Efforts
  - **Consensus Conference- Spring 2003**
  - **NAACT Report – Summer 2003**
  - **Model State Disaster Planning Grant for pediatrics Fall 2004**
  - **HRSA products release Fall 2004**

New Resources

- **AHRQ funding to American Academy of Pediatrics-**
  - **Subcontract to Department of Pediatrics, NYU School of Medicine**
- **Pediatric Terrorism and Disaster Preparedness Resource**
- **Lead Editors**
  - **George Foltin, Michael Shannon, David Schonfeld**
- **A practical, easy to access guide**
- **Fall, 2004**

Integrating Pediatric Priorities into Preparedness

- State and Regional Efforts
  - Underway in many States
- Each State
  - Hospital Preparedness Program– HRSA
  - Bioterrorism Program-CDC
  - EMS Offices
    - EMSC Programs
  - Public Health (DOH)
- This year Pediatrics is a written Priority
  - How it roles out is up to us

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The Role of EMS-C Coordinators in State Disaster Planning

- Understand your State
  - Identify preparedness lead agencies and personnel
- Process of inclusion
- Being there –again
  - Attend committee meetings
  - Make presentations at meetings
  - Work to improve the entire system.
- Mobilizing your experts and advocates
- Linking with National Efforts
  - AAP Taskforce

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Hospital Preparedness – What about Children?

- Children gather in the daytime.
- A mass casualty event involving children is not a function of population percentage.
- Children's hospitals will of course practice mass events involving children.

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JCAHO Revised Emergency Management Standard

Facilities must establish and maintain

- **Comprehensive plan for response**
  - **Disasters**
  - **Emergencies**
  - **Terrorism**
- **Utilizing ALL HAZARDS planning**
- **Coordination**
- **Annual Evaluation**

Hospital Preparedness – What about Children?

- **A general hospital-somewhere-is likely to be faced with a mass event involving children.**
- **General hospitals will be least prepared for such an event.**
- ***Every* hospital must practice a mass event involving large numbers of children**

Pediatric Decontamination Practical Considerations

All federal, state, and regional protocols and guidance for decontamination must address the following pediatric considerations, including pre-event practice:

- **Strength of water stream**
- **Temperature of water/environment considerations**
- **Should contaminated baby be carried though carwash by:**
  - **Rescuer?**
  - **Parent?**
  - **On a stretcher? (airway)**
  - **In a car seat?**
  - **Banded prior?, kept with parents?, do parents carry through?**

Pediatric Decontamination

- After shower, pediatric sized and designed coverings
  - Resources for warming
  - Holding environment
  - Reunification with family

Have you planned for…?

Principle 1: The smaller the child, the bigger the problem

Principle 2: Children do not like showers - they will scream and resist

Post 9/11--Pre-Event School and Child Care Setting

- Ensure disaster plan is updated
  - Evacuation plans
  - Sheltering on Site
  - Preplanning with local authorities (police/fire)
  - Preplanning for parent contact in crisis
  - Stocking of supplies
  - Planning for children with medical needs
  - Planning for when children are enroute

Pediatric Emergency Preparedness Guidelines:
An Idea Whose Time At Last Has Come?

- **Develop model pediatric disaster plans for hospitals to adopt and adapt, depending on needs and resources**
- **Coordinate pediatric emergency disaster response with regional trauma and burn disaster responses**
- **Identify pediatric critical care centers but ensure all emergency departments' pediatric capabilities**
- **Consider development of pediatric component for medical incident response teams**

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Let's Remember

- **8 - 10 million children uninsured**
- **Millions more lack access to primary health care due to geography, cultural, linguistic, transportation, or other reasons.**
- **Result is lack of a support system and overburdening of emergency departments**
- **Ability to deliver care in all 4 phases of preparation are disrupted.**

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Emerging Policy and Resource Centers

- The Center for Biopreparedness, Children's Hospital Harvard Medical, Boston
  - Contact: Michael Shannon, MD Director
    - Michael.shannon@childrens.harvard.edu
- National Center for Disaster Preparedness Program for Pediatric Preparedness Mailman School of Public Health Columbia University
  - Contact: David Markenson, MD Director
    - DSM2@cu2@columbia.edu
- Terrorism and Disaster Branch National Center for Child Traumatic Stress Los Angeles, CA
  - Contact: Melissa J. Brymer, Psy.D.
    - mbrymer@mednet.ucla.edu

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Emerging Policy and Resource Centers

- Center for Catastrophe Preparedness, NYU University, New York City
  - Contact: Center for Pediatric Emergency Medicine (CPEM)
  - George Foltin, MD: gr1@nyu.edu
  - FEMA for Kids www.fema.gov/kids
  - American Academy of Pediatrics www.aap.org
  - American College of Emergency Physicians www.acep.org

National Resource Center (NRC) EMS-C Program

- **Director: Jane Ball**
- **WEBSITE: www.ems-c.org**
  - **Excellent Starting Point**
  - **Valuable Links**
  - **Resource materials**
- **Listserve**
- **Technical Assistance**
  - **Experienced staff**
  - **CPEM partnership**

EMS-C WEBCAST

Pediatric Terrorism and Disaster Preparedness

DECISION SUPPORT IN EMERGENCY PREPAREDNESS

Michael Shannon, MD, MPH
The Center for Biopreparedness
Division of Emergency Medicine
Children's Hospital/Harvard Medical School
Boston

OUTLINE

- History of AHRQ funding in Bioterrorism and other Public Health Emergencies
- Current Research and Training Activities
  - Establishment of the Center for Biopreparedness
  - Automated Decision Support – AEGIS Project
  - Automated Decision Support – The Bioagent Diagnosis Program (BDP)
  - Protocols for Pediatric Bioterrorism Preparedness
- Remaining Needs
- Uses of the Current Information
- Summary

HISTORY OF AHRQ FUNDING IN BIOTERRORISM AND OTHER PUBLIC HEALTH EMERGENCIES

a. American Academy of Pediatrics

b. National Center for Disaster Preparedness, Mailman School of Public Health, Columbia University – Pediatric Expert Advisory Panel

c. Children's Hospital Boston

The Children's Hospital Boston Center for Biopreparedness

- Created in July 2003
- Has 2 programs
  - Research in Automated Decision Support
  - Education and Training in Pediatric Aspects of Emergency Preparedness

The Center for Biopreparedness
At Children's Hospital Boston

Faculty	Affiliation	Specialty
Directors		
Michael Shannon, MD, MPH	Division of Emergency Medicine, CHB	PEM, Toxicology
Kenneth D., Mandl, MD, MPH	Division of Emergency Medicine, CHB	PEM, Informatics
Gary R. Fleisher, MD	Division of Emergency Medicine, CHB	PEM, Infectious Dis.
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Sarin Chung, MD	Division of Emergency Medicine, CHB	PEM
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Paola Sebastiani, PhD	Department of Biostatistics, BU	Statistics
Marco Ramoni, MD	Informatics Program, CHB	Computer Science
Karen Olson, PhD	Informatics Program, CHB	Statistics
William Long, PhD	Laboratory for Computer Science, MIT	Medical Informatics
Janice Danielson	Brookline Public Schools	School Crisis Management
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Fred Henretig, MD	Division of Emergency Medicine, CHOP	PEM, Bioweapons
Rusty Lorenzen	Radiation Safety Program, CHB	Radiation safety
Domain Experts		
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Donald Goldmann, MD	Infection Control Program, CHB	Infectious Dis., QI
Peter Szolovits, PhD	Laboratory for Computer Science, MIT	Computer Science
Stuart Goldmann, MD	Department of Psychiatry, CHB	Ped. Mental Health
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Nursing Director		
Fran Damian, MSN, RN	Division of Emergency Medicine, CHB	Emergency Nursing
Administrative Director		
Melody Rosin		

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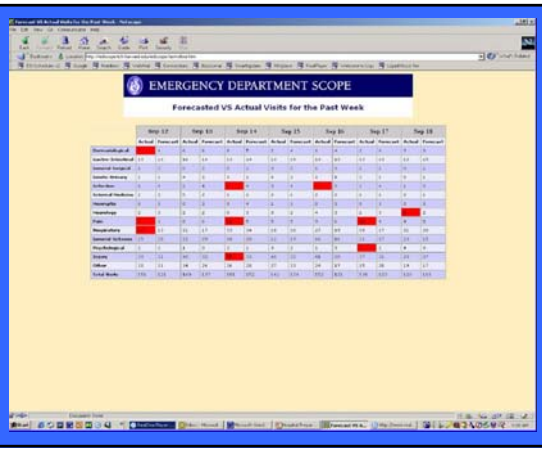
Abbreviations: CHB-Children's Hospital Boston; PEM-Pediatric Emergency Medicine; EMS-Emergency Medical Services; MIT-MA Institute of Technology; BIDMC-Beth Israel Deaconess Medical Center

CURRENT ACTIVITIES IN THE CHB CENTER FOR BIOPREPAREDNESS

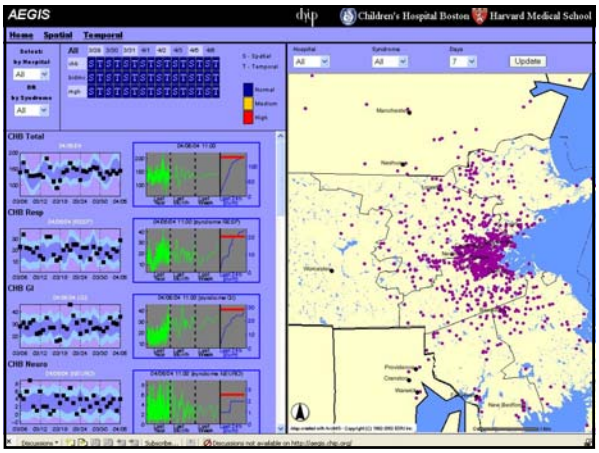
Automated Decision Support Project #1 - EDScope

- A real-time surveillance tool for the Children's Hospital Emergency Department
- Categorizes all visits into 11 chief complaint categories (syndromes)
- A 10-year analysis of emergency department data has provided for expected frequency and diagnosis distribution with high accuracy
- Aberrations in the forecast number or pattern of ED visits trigger an alarm



Automated Decision Support Project #2 – AEGIS

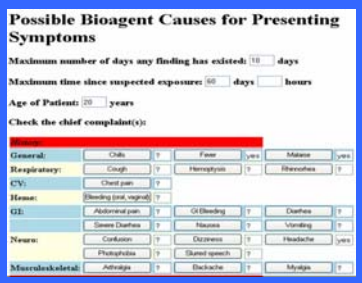
- A real-time automated syndromic surveillance program that adds geospatial data to more rapidly detect changes in emergency department visit patterns
- Currently linked to children's hospital emergency departments throughout the US as well as hospitals (academic and community) throughout Greater Boston
- Although it remains a research tool, it is currently being utilized by the MA Department of Public Health Epidemiology Network



Automated Decision Support Project #3 – The Bioagent Diagnosis Program (BDP)

- Developed by a panel of emergency physicians, infectious disease specialists and toxicologists
- Can identify 14 bioweapons and emerging infections, providing a differential diagnosis with probability estimates
- Designed for use by clinicians in the emergency department setting.
- Currently a web-based research tool, currently undergoing validation and development as a PDA program

The Bioagent Diagnosis Program



Possible Bioagent Causes for Presenting Symptoms

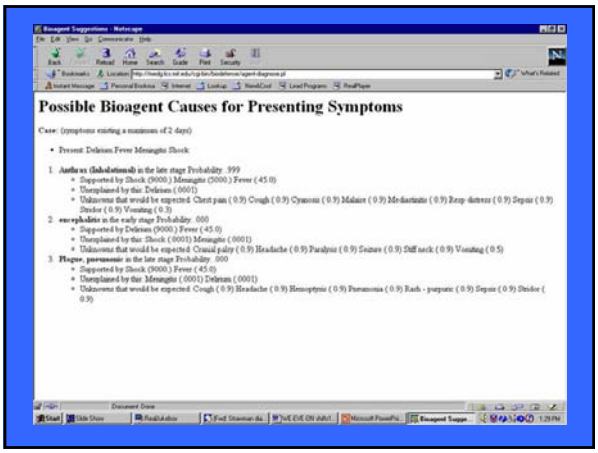
Maximum number of days any finding has existed: 10 **days**

Maximum time since suspected exposure: 60 **days** **hours**

Age of Patient: 20 **years**

Check the chief complaint(s):

General:	Chills	?	Fever	yes	Malaise	yes
Respiratory:	Cough	?	Hemoptysis	?	Rhinorrhea	?
CV:	Chest pain	?				
Heme:	Bleeding (oral, vaginal)	?				
GI:	Abdominal pain	?	GI Bleeding	?	Diarrhea	?
	Severe Diarrhea	?	Nausea	?	Vomiting	?
Neuro:	Confusion	?	Dizziness	?	Headache	yes
	Photophobia	?	Slurred speech	?		
Musculoskeletal:	Arthralgia	?	Backache	?	Myalgia	?



Protocols for Pediatric Preparedness

School-based Preparedness for Bioterrorism and other Public Health Emergencies

- A best practices monograph in final stages of completion for use as a template
- Created in conjunction with an emergency preparedness initiative within the Brookline Public Schools, Brookline, MA

Principles of Surge Capacity for Multiple Casualty Incidents involving Children

- Being developed by experts in disaster medicine and pediatric emergency medicine
- An analysis of existing strategies with recommendations for development of surge capacity both in children's and non-children's hospitals, including the role of EMS and EMS-C

Establishment of Pediatric Disaster Medical Assistance Teams (DMAT)

1. One of the only 2 pediatric DMAT teams (PST-1) has its central location in the Children's Hospital Boston Division of Emergency Medicine
2. There is a perceived deficiency of pediatric DMAT teams as well as pediatric expertise within the existing DMAT system
3. This monograph is being authored by Drs. Debra Weiner and Gary Fleisher, members of PST-1

The Decontamination of Pediatric Patients

- Designed to provide education and training in the decontamination of pediatric patients, specifically for non-pediatricians
- This educational module is also being designed to create a model for remote learning through creation of a broadcast medium (CD, DVD)
- Filming complete, packaging now under completion

The Role of Neighborhood Health Centers in Preparedness for Bioterrorism

- Community health centers are being increasingly recognized as a valuable community resource in consequence management. However, they have been largely excluded from emergency response plans
- This monograph will analyze the potential roles for community health centers as adjuncts to public health as well as emergency departments in public health emergencies involving children

REMAINING NEEDS

- Mental health needs of parents, children and staff after public health emergencies
- Validation of the effectiveness of the many new emergency response programs that have appeared post-9/11
  - Requires critical research of new programs

USE OF CURRENT INFORMATION

- Many programs are in the research phase or are new and untested
- Monographs and educational tools are near-completion as are automated decision support tools
- Other initiatives, e.g., the AAP's Pediatric Terrorism and Disaster Resource will also soon be available to assist clinicians
- Most important is to continue the process of information sharing through this and other venues

SUMMARY

- The Center for Biopreparedness, public health agencies, NGOs and interested clinicians continue to focus on the areas that are routinely left undiscussed in emergency planning
- This continued work will assure that the needs of children after bioterrorism or other public health emergencies will be met

Questions and Answers

Please fill out the evaluation at the end of the webcast.

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