Emergency Medical Services for Children (EMSC)

Advocacy in Your Community and State

Joseph L. Wright, MD, MPH FAAP
Steven E. Krug, MD, FAAP

American Academy of Pediatrics Advocacy Institute
Schaumburg, IL -- March 2010
In Memoriam: Michael Shannon, MD, MPH, FAAP
1953 - 2009
Resolved: that the AAP actively promote pediatrician engagement in the assessment and improvement of pediatric preparedness in emergency departments in the community, state and/or region within which they practice.

Resolved: that the AAP work with other organizations, including ACEP, ENA, AAFP and EMSC to advocate for improved readiness for children in the nation’s EDs.

Disposition: Adopted as one of 15 resolutions [n=75] triaged by the ALF Reference Committee to the Consent Calendar.

EMSC: Advocacy in Your State and Community

• In this workshop participants will learn about:
  - EMSC in a Nutshell
  - EMSC State Partnership performance measures
  - AAP policy statement on *The Care of Children in the Emergency Department*
  - All Hazard Readiness and Pediatric Disaster Preparedness
EMSC in a Nutshell: 25 Years Old

• Bill introduced 1983 with bipartisan Senate sponsorship [Inouye (D-HI), Hatch (R-UT), Weicker (R-CT)]

• Authorizing legislation enacted 1984 (Public Law 98-555)

• First federal appropriation 1985 ($2 million)

Calvin C.J. Sia, MD, FAAP
EMSC in a Nutshell: Continuum of Care

- Prevention
- Bystander
- Prehospital
- Transport
- Definitive Care
- Rehabilitation
- Postvention
**EMSC in a Nutshell: Programmatic Mission**

- To ensure state-of-the-art emergency medical care for the ill or injured child and adolescent

- To ensure that pediatric services are well integrated into an emergency medical services (EMS) system and backed by optimal resources

- To ensure that the entire spectrum of emergency services - including primary prevention of illness and injury, acute care, and rehabilitation - is provided to infants, children, adolescents and young adults.
THE WHITE HOUSE  
Office of the Press Secretary  
For Immediate Release February 20, 2009

President Obama Selects Top Rural Health Care Advocate to Oversee Key HHS Agency  
Dr. Mary Wakefield will be the next HRSA Administrator

President Obama today announced the appointment of one of the nation’s top rural health care professionals as Administrator of the Health Resources and Services Administration (HRSA). Dr. Mary Wakefield, Director of the Center for Rural Health at the University of North Dakota, will oversee this critical agency, which helps to deliver health care to those who are uninsured and underserved by our current health care system.
Reauthorization of the Wakefield Emergency Medical Services For Children Program

- **H.R. 3590** - The Patient Protection and Affordable Care Act:
  - Section 1910 of the Public Health Service Act is amended...
    - 4 years authorization with optional 5th
    - $25M to $30.4M incrementally FY10 thru FY14
    - strive to enhance the pediatric capability of emergency medical service systems originally designed primarily for adults
History of EMSC Program Federal Appropriations

Fiscal Year

Million $

$0 Administrative Budget Request

$21.5M
EMSC Annual Meeting
June 2009
ED Preparedness for Children: Interface with National Initiatives

AAP/ACEP/ENA
ED Preparedness Guidelines

Institute of Medicine Report

EMSC Performance Measures
Current State of Pediatric Emergency Care

• “If there is one word to describe pediatric emergency care in 2006 it is **uneven**”

Growing Pains, pg. 33
Coordinated, Accountable, Regionalized System of Care: global recommendation

• “The federal government should support the development of national standards for emergency care performance measurement, the categorization of all emergency care facilities, and protocols for the treatment, triage and transport of prehospital patients”.
Emergency Care for Children - Growing Pains: Key Recommendations

- Arming the Emergency Care Workforce with Pediatric Knowledge and Skills
- Improve Emergency Preparedness for Children Involved in Disasters
- Building the Evidence Base for Pediatric Emergency Care
Personnel: pediatric-specific recommendation

• “EDs and EMS agencies should have pediatric coordinators to ensure appropriate, equipment, training and services for children.”
Disaster Preparedness: pediatric-specific recommendation

• “Pediatric concerns should be explicit in disaster planning”
  ➢ Minimize parent-child separation
  ➢ Family-centered decontamination
  ➢ Address pediatric surge capacity
Building the Evidence Base: pediatric-specific recommendation

- The Secretary of DHSS should conduct a study to examine the gaps and opportunities in emergency care research, including pediatric emergency care, and recommend a strategy for the optimal organization and funding of the research effort. This study should include consideration of training of new investigators, development of multicenter research networks, involvement of emergency and trauma care researchers in the grant review and research advisory processes, and improved research coordination through a dedicated center or institute.
The Pediatric Emergency Care Applied Research Network: Progress and Update
Peter Dayan, MD, MSc,* James Chamberlain, MD,† J. Michael Dean, MD, MBA,‡
Ronald F. Maio, DO, MS,§ Nathan Kuppermann, MD, MPH, LL‖ and
The Pediatric Emergency Care Applied Research Network

Original Article

Epidemiology of a Pediatric Emergency Medicine Research Network
The PECARN Core Data Project
Elizabeth R. Alpern, MD, MSCE, Rachel M. Stanley, MD, MHSA, Marc H. Gorelick, MD, MSCE,‡ Amy Donaldson, MS, Stacey Knight, MStat, Stephen J. Teach, MD, MPH, Tasmeen Singh, MPH,‖
Prashant Mahajan, MD, MPH, Julius G. Goepp, MD, Nathan Kuppermann, MD, MPH,§ J. Michael Dean, MD, MBA, and James M. Chamberlain, MD‖ For the Pediatric Emergency Care
Applied Research Network (PECARN)

The NEW ENGLAND JOURNAL of MEDICINE
ESTABLISHED IN 1812 JULY 26, 2007 VOL. 357 NO. 4

A Multicenter, Randomized, Controlled Trial of Dexamethasone for Bronchiolitis
Howard M. Corneli, M.D., Joseph J. Zorc, M.D., Prashant Majahan, M.D., M.P.H., Kathy N. Shaw, M.D., M.S.C.E.,
Richard Holubkov, Ph.D., Scott D. Reeves, M.D., Richard M. Ruddy, M.D., Baqir Malik, M.D.,
Kyle A. Nelson, M.D., M.P.H., Joan S. Bregstein, M.D., Kathleen M. Brown, M.D., Matthew N. Denenberg, M.D.,
Kathleen A. Lillis, M.D., Lynn Babcock Cimpello, M.D., James W. Tsung, M.D., Dominic A. Borgialli, D.O., M.P.H.,
Marc N. Baskin, M.D., Getachew Teshome, M.D., M.P.H., Mitchell A. Goldstein, M.D., David Monroe, M.D.,
J. Michael Dean, M.D., and Nathan Kuppermann, M.D., M.P.H., for the Bronchiolitis Study Group
of the Pediatric Emergency Care Applied Research Network (PECARN)\*
Special Contribution

Revisiting the Emergency Medicine Services for Children Research Agenda: Priorities for Multicenter Research in Pediatric Emergency Care

Steven Zane Miller, MD,* Helena Rincon, MA, Nathan Kuppermann, MD, MPH, and the Pediatric Emergency Care Applied Research Network (PECARN)

Interobserver Agreement in Assessment of Clinical Variables in Children with Blunt Head Trauma

Marc H. Gorelick, MD, MSCE, Shireen M. Atabaki, MD, MPH, John Hoyle, MD, Peter S. Dayan, MD, MSc, James F. Holmes, MD, MPH, Richard Holubkov, PhD, David Monroe, MD, James M. Callahan, MD, Nathan Kuppermann, MD, MPH, for the Pediatric Emergency Care Applied Research Network (PECARN)

Original Article

Referral and Resource Use Patterns for Psychiatric-Related Visits to Pediatric Emergency Departments

EMSC: Advocacy in Your State and Community

- EMSC in a Nutshell

- State Partnership performance measures

- AAP policy statement on *The Care of Children in the Emergency Department*

- All Hazard Readiness and Pediatric Disaster Preparedness
EMSC Spending

- **NRC** = National Resource Center
- **NEDARC** = National EMSC Data Analysis Resource Center
- **PECARN** = Pediatric Emergency Care Applied Research Network

NRC 14%
NEDARC 7%
PECARN 23%
Targeted Issues 18%
State Partnership 38%
EMSC Performance Measures (PM)

• Designed to measure effectiveness of federally-supported programmatic and research grants in accordance with the Government Performance Results Act (GPRA)
# State Partnership Performance Measures, 71-75

<table>
<thead>
<tr>
<th>Performance Measure 71 (formerly PM 66a (i))</th>
<th>The percent of prehospital provider agencies in the state/territory that have on-line pediatric medical direction available from dispatch through patient transport to a definitive care facility.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Measure 72 (formerly PM 66a (ii))</td>
<td>The percent of prehospital provider agencies in the state/territory that have off-line pediatric medical direction available from dispatch through patient transport to a definitive care facility.</td>
</tr>
<tr>
<td>Performance Measure 73 (formerly PM 66b)</td>
<td>The percent of patient care units in the state/territory that have essential pediatric equipment and supplies as outlined in national guidelines.</td>
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<tr>
<td>Performance Measure 74 (formerly PM 66c medical)</td>
<td>The percent of hospitals recognized through a statewide, territorial, or regional standardized system that are able to stabilize and/or manage pediatric medical emergencies.</td>
</tr>
<tr>
<td>Performance Measure 75 (formerly PM 66c trauma)</td>
<td>The percent of hospitals recognized through a statewide, territorial, or regional standardized system that are able to stabilize and/or manage pediatric traumatic emergencies.</td>
</tr>
</tbody>
</table>
## State Partnership Performance Measures, 76-80

<table>
<thead>
<tr>
<th>Performance Measure 76 (formerly PM 66d)</th>
<th>The percentage of hospitals in the state/territory that have written interfacility transfer guidelines that cover pediatric patients and that include pre-defined components of transfer.</th>
</tr>
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<tbody>
<tr>
<td>Performance Measure 77 (formerly PM 66e)</td>
<td>The percent of hospitals in the state/territory that have written interfacility transfer agreements that cover pediatric patients.</td>
</tr>
<tr>
<td>Performance Measure 78 (formerly PM 67)</td>
<td>The adoption of requirements by the state/territory for pediatric emergency education for license/certification renewal of BLS/ALS providers.</td>
</tr>
<tr>
<td>Performance Measure 79 (formerly PM 68a,b,c)</td>
<td>The degree to which state/territories have established permanence of EMSC in the state/territory EMS system by establishing an EMSC Advisory Committee, incorporating pediatric representation on the EMS Board, and hiring a full-time EMSC manager.</td>
</tr>
<tr>
<td>Performance Measure 80 (formerly PM 68d)</td>
<td>The degree to which state/territories have established permanence of EMSC in the state/territory EMS system by integrating EMSC priorities into statutes/regulations.</td>
</tr>
</tbody>
</table>
EMSC PM #73: Ambulance Equipment

• The percentage of BLS and ALS patient care units in the state/territory that have essential pediatric equipment and supplies as outlined in national guidelines.

Policy Statement—Equipment for Ambulances

Almost 4 decades ago, the Committee on Trauma of the American College of Surgeons (ACS) developed a list of standardized equipment for ambulances. Beginning in 1988, the American College of Emergency Physicians (ACEP) published a similar list. The 2 organizations collaborated on a joint document published in 2000, and the National Association of EMS Physicians (NAEMSP) participated in the 2005 revision. The

CONTRIBUTORS:
AMERICAN COLLEGE OF SURGEONS COMMITTEE ON TRAUMA
AMERICAN COLLEGE OF EMERGENCY PHYSICIANS
NATIONAL ASSOCIATION OF EMS PHYSICIANS
PEDIATRIC EQUIPMENT GUIDELINES COMMITTEE—EMERGENCY MEDICAL SERVICES FOR CHILDREN (EMSC) PARTNERSHIP FOR CHILDREN STAKEHOLDER GROUP
AMERICAN ACADEMY OF PEDIATRICS
EMSC PM Measures #74/#75: Categorization System

- The existence of a statewide, territorial or regional standardized system that recognizes hospitals that are able to stabilize and/or manage pediatric medical emergencies and trauma.

Regionalized Approach to the Pediatric EMS and Trauma System in the National Capital Area
A Statewide Model Program to Improve Emergency Department Readiness for Pediatric Care

Mark E. Cichon, DO
Susan Fuchs, MD
Evelyn Lyons, MPH
Daniel Leonard, MS, MCP

From the Department of Surgery-EMS, Loyola University Chicago Stritch School of Medicine, Division of Emergency Medical Services, Loyola University Medical Center, Maywood, IL (Cichon); Department of Pediatrics Feinberg School of Medicine, Northwestern University, Division of Pediatric Emergency Medicine, Children’s Memorial Hospital, Chicago, IL (Fuchs); Emergency Medical Services, Illinois Department of Public Health, Maywood, IL (Lyons); and Emergency Medical Services, Loyola University Medical Center, Maywood, IL (Leonard).

Pediatric emergency patients have unique needs, requiring specialized personnel, training, equipment, supplies, and medications. Deficiencies in these areas have resulted in historically poorer outcomes for pediatric patients versus adults. Since 1985, federally funded Emergency Medical Services for Children (EMSC) programs in each state have been working to improve the quality of pediatric emergency care. The Health Resources and Services Administration now requires that all EMSC grantees report on specific performance measures. This includes implementation of a standardized system recognizing hospitals that are able to stabilize or manage pediatric medical emergencies and trauma cases. We describe the steps involved in implementing Illinois’ 3-level facility recognition process to illustrate a model that other states might use to provide appropriate pediatric care and comply with new Health Resources and Services Administration performance measures. [Ann Emerg Med. 2009;54:198-204.]
Mortality Rates per 1,000 Injury-Related Inpatient Admissions From the ED Pre- and Post-EDAP, 1994-2005

- Age group: 0-15 yrs.
- Data from hospitals participating in IL EDAP program
- Outcomes exceed national injury-related mortality trends

*Sources: Illinois EMSC & Illinois Hospital Assoc.*
EMSC PM #74: Regionalization/Categorization for medical emergencies

- AAP 2007 ‘Hot Topic’ - Use of PALS/APLS by Community Physicians to Reverse All-Cause Pediatric Shock is Associated with Reduced Mortality and Functional Morbidity: A Multicenter Cohort Study

Principal Investigator – Joseph A. Carcillo, MD
Senior Investigator – Richard A. Orr, MD
Children’s Hospital Pittsburgh

- Funding for this work was provided by Emergency Medical Services for Children, Maternal and Child Health Bureau grant 1-1434-MC-00040-01 (RAO)
Mortality and Functional Morbidity After Use of PALS/APLS by Community Physicians

WHAT'S KNOWN ON THIS SUBJECT: We previously demonstrated in a single-center study that early PALS/APLS resuscitation practice performed by community physicians saved children from mortality caused by septic shock. However, a criticism of this study was that septic shock is relatively uncommon.

WHAT THIS STUDY ADDS: We demonstrated that shock is common, occurring in 37% of 4856 children transported to 5 children’s hospitals. PALS/APLS resuscitation performed by community physicians reduced mortality rates in trauma patients and mortality and neurological morbidity rates in nontrauma patients alike.

CONTRIBUTORS: Joseph A. Carcillo, MD, Bradley A. Kuch, RRT-NPS, Yong Y. Han, MD, Susan Day, MD, Bruce M. Greenwald, MD, Karen A. McCloskey, MD, Anthony L. Pearson-Shaver, MD, and Richard A. Orr, MD

Departments of Pediatrics and Critical Care Medicine, University of Pittsburgh School of Medicine, Children’s Hospital of Pittsburgh, Pittsburgh, Pennsylvania; Department of Pediatrics and Communicable Diseases, University of Michigan Medical School, C. S. Mott Children’s Hospital, Ann Arbor, Michigan; Department of Pediatrics, University of Wisconsin School of Medicine, Milwaukee Children’s Hospital, Milwaukee, Wisconsin; Division of Pediatric Critical Care Medicine and Department of Pediatrics, Weill Cornell Medical College, New York, New York; and Department of Pediatrics, Medical College of Georgia, Georgia Children’s Hospital, Augusta, Georgia
EMSC PM #80: Towards EMSC Permanence at the State Level

• The degree to which the State/Territory has established permanence of EMSC in the State/Territory EMS system.
Towards EMSC Permanence: An Advocacy-based Approach

• Definition

“To champion a cause while applying professional expertise and leadership to support efforts on individual, community, and legislative/policy levels, which result in improved quality of life for children, families and communities.”

Ambulatory Pediatrics 2005;5:165
Strategic Approach: The Three “A’s” of Advocacy

• Awareness
  ➢ Political process and procedures

• Advancement
  ➢ Coalition and relationship building

• Action
  ➢ Effective communication and message delivery
Action: Effective Messaging

• Many hours “educating” (not lobbying) staffers in all three branches

• Public testimony at several Council hearings (televised)

• Strategically selected high circulation print media [IOM report, high profile case]
Mind the Children in Reshaping ER Care

Washington Post, Sunday, October 1, 2006: B08

The anniversaries of Sept. 11, 2001, and Hurricane Katrina were painful reminders that the United States needs to be better prepared for the unexpected. A three-part report by the Institute of Medicine released this summer underscores the need for major reordering of priorities in emergency medicine, but the portion of the report devoted to the needs of children has not received the attention it deserves.

Although children account for nearly 30 percent of all emergency department visits, only 6 percent of emergency departments are properly equipped to handle them. Reports have shown that emergency medical technicians, nurses and even doctors lack adequate pediatric training, that health-care facilities lack sufficient pediatric resources and that emergency department policies often overlook children.

As an emergency physician at Children's National Medical Center in Washington, I know firsthand that pediatric emergency departments differ immensely from adult facilities. For instance, each year overcrowded emergency rooms divert 500,000 ambulance patients to more distant facilities. Children's medical center, like many regional pediatric hospitals, does not have the option of diverting ambulances to other hospitals. In fact, we employ a "no-diversion" policy, requiring that all children transported to our emergency department be stabilized and treated.
What Happens When You Call 911 in Washington, DC

By John Pekkanen

Dr. Joseph Wright, executive director of the Child Health Advocacy Institute, told the DC Council’s Committee on Public Safety and the Judiciary in May that his organization had offered pediatric continuing-education courses to DC fire and EMS personnel that went undersubscribed or completely unattended.

Wright noted that 10 of every 100 EMS patients are children. Under a federal grant, Children’s Hospital organized a training program for the District EMS to prevent what Wright calls “a pediatric Rosenbaum situation that I don’t want to see happen.”
The EMS Act of 2008

IN THE COUNCIL OF THE DISTRICT OF COLUMBIA

To establish a District-wide Emergency Medical Services system, to require emergency medical services provider entities, emergency medical response vehicles, emergency medical services personnel, and emergency medical services training facilities and instructors to be licensed or certified by the Mayor, to provide for procedures and standards for licensing and certifying emergency medical services provider entities, emergency medical response vehicles, emergency medical services personnel, and emergency medical services training facilities and instructors, to provide for a District-wide trauma and emergency care data collection system, to provide for a program of emergency medical services for children, to establish the District of Columbia Emergency Medical Services Advisory Committee, to authorize the Mayor to promulgate regulations and to conduct inspections, evaluations, and investigations, and to provide penalties for violations of this act.
Towards EMSC Permanence: Understanding the Nuances and Realities

“When you’ve seen one EMS system, you’ve seen one EMS system”

Technical Assistance

Reporting & Data Collection
Things You Need To Know: Hot Topic Issues in EMSC

• **Regionalization** - Injured children in exclusive systems have better outcomes, particularly for isolated head injury and in the youngest age groups.  
  - *J Trauma* 2007

• **Categorization** – EMSC Performance Measure #74: Percent of hospitals recognized through a standardized system that are able to stabilize and/or manage pediatric medical emergencies.  

• **Readiness** - All elements of the continuum of care must commit to a ‘floor’ of pediatric readiness upon which capability, training and preparedness can be built.  
  - *Pediatrics* 2009
EMSC: Advocacy in Your State and Community

- EMSC in a Nutshell

- State Partnership performance measures

- AAP policy statement on *The Care of Children in the Emergency Department*

- All Hazard Readiness and Pediatric Disaster Preparedness
Improving the Care of Children in the Emergency Department: Why EMSC?

- Emergency Medical Services Act of 1973
  - Created present day EMS systems
    - Regionalized networks: eg. trauma, burn, cardiac, neonatal
  - Significant reductions in morbidity & mortality for sentinel diseases – *esp. adult trauma, cardiac*
  - Failed to consider children as a population with special needs
    - Did not promote development of regionalized pediatric emergency or tertiary care networks
    - Changes in pediatric M&M rates did not parallel reductions achieved in adults
      - *Pediatric rates actually increased !!*
Emergency Medical Services for Children {EMSC}

• HRSA/HHS federal grant program
  ➢ First funded in 1985 (4M → 20M)
• Developed in recognition that EMS systems had failed to meet the needs of children
• Goal to improve capabilities of existing EMS systems via education, training and research
• Program development/implementation partnership grants with all 50 states
  • Targeted issue grant program
  • Funding for EMSC NRC, NEDARC, PECARN
So, How’s The Foundation of Our Nation’s Emergency Care System?

- Existing public safety systems (EMS, fire, etc) are frequently over-taxed by demand
- EMS and trauma systems are woefully under-funded
- Hospital-based emergency departments are increasingly and dangerously overcrowded
- Pediatric capabilities of our emergency (and disaster) care systems is uncertain
Emergency Care: At the Breaking Point

• ED visits grew by 26% between 1993 and 2003 (90 ⇒ 114 million)
  ➢ Number of ED’s declined by 425

• Critical shortages of healthcare providers (MDs, RNs, etc)

• Substantial ED overcrowding

• Ambulances are frequently diverted from overcrowded EDs
  ➢ ~ 500,000 diversions in 2003

• In addition to ED access concerns, overcrowding is associated with poor care quality & medical error

Future of Emergency Care in the US Healthcare System
Institute of Medicine. 2006.
Pediatric Readiness: “Growing Pains”

- Although children constitute nearly 1/4 of all ED visits nationwide
  - Most general EDs and EMS agencies do not require specialized pediatric training for their clinical staff
  - Most EDs do not have the full scope of pediatric equipment, medications, supplies
  - Paucity of research on best practices, clinical outcomes, & patient safety in pediatric emergency care

“If there is one word to describe the current state of pediatric emergency care in 2006, it is UNEVEN”
--- IOM Panel, 2006
Pediatric Preparedness of US Emergency Departments: A 2003 Survey
Gausche-Hill M, Schmitz C, Lewis R

• Closed response survey of 5100 US emergency departments assessing their awareness & compliance with published AAP/ACEP pediatric readiness guidelines

• Nearly 90% of pediatric ED visits occur in a non-children’s hospital ED
  ➢ 26% of these visits occur in remote or rural facilities < 1000 kids/yr
  ➢ 50% of emergency departments see less than 10 kids per day

• Only 6% had all recommended equipment per AAP/ACEP 2001 guidelines
  ➢ Common shortfalls were neonatal & infant sized equipment (e.g. airways)

• Readiness scores were higher in larger volume EDs, and particularly in those with a physician and/or nurse coordinator for pediatric care
  ➢ This ADVOCATE could be a hospital- or community-based pediatrician
Guidelines for Care of Children in the ED


- Recommendations regarding personnel, training, equipment, supplies, medications, support services, quality and process improvement, policies, protocols, and other resources necessary for optimal pediatric emergency care
  - Updated version of 2001 AAP/ACEP joint policy statement
  - Applicable standard for EDs with 24/7 physician staffing
  - Endorsed by 22 organizations, including AMA, NACHRI, JC

- The presence of MD & RN pediatric coordinators may be the most important factor associated with readiness

- Recommendations for patient safety & disaster readiness

Available at: www.pediatrics.org/cgi/doi/10.1542/peds.2009-1807
Pediatric Physician and Nurse Coordinators

- Pediatric physician coordinator is a specialist in pediatrics, emergency medicine, or family medicine, appointed by the ED medical director, who through training, clinical experience, or focused continuing medical education demonstrates competence in the care of children in emergency settings including resuscitation.

- Pediatric Nurse coordinator is a registered nurse (RN), appointed by the ED nursing director, who possesses special interest, knowledge, and skill in the emergency medical care of children.
Physicians, Nurses and Other Healthcare Providers Who Staff the ED

• Physicians who staff the ED have the necessary skill, knowledge, and training in the emergency evaluation and treatment of children of all ages who may be brought to the ED, consistent with the services provided by the hospital.

• Nurses and other ED health care providers have the necessary skill, knowledge, and training in providing emergency care to children of all ages who may be brought to the ED, consistent with services offered by the hospital.

• Baseline and periodic competency evaluations completed for all ED clinical staff, including physicians, are age specific and include evaluation of skills related to neonates, infants, children, adolescents, and children with special health care needs. Competencies are determined by each institution’s medical staff privileges policy.
Guidelines for QI/PI in the ED

The pediatric patient care-review process is integrated into the ED QI/PI plan

- Includes pediatric-specific indicators
- Components should include measures that are outcome based.
- Should interface with out-of-hospital, ED, trauma, inpatient pediatric, pediatric critical care, and hospital-wide QI/PI activities
- Age-specific (neonate, infant, children, adolescent, children with special needs) pediatric clinical competency evaluations should be a part of the credentialing process for all licensed ED staff.
- Mechanisms should be in place to monitor professional performance, credentials, continuing education, and clinical competencies.
Pediatric Patient Safety in the ED

The “Perfect Storm”

Why?
The Perfect Storm

- Impact of the emergency department environment on patients and their care providers
  - Requirements posed by acute illness/injury care
  - Influences of overcrowding $\Rightarrow$ increased risk for error
- Unique characteristics and needs of children
  - Further increase the risk for medical error
- Deficiencies in day-to-day readiness, experience and pediatric care competencies of pre-hospital and hospital-based emergency care providers
- Baseline patient care quality & safety concerns in present day healthcare systems
Guidelines for Improving Pediatric Patient Safety in the ED

The delivery of pediatric care should reflect an awareness of unique pediatric patient safety concerns

- Children are weighed in kilograms
  - Recorded in a prominent place on the medical record
  - For children who are not weighed, a standard method for estimating weight in kg is used (e.g., a length-based system)
- Infants and children should have a full set vital signs recorded (T, HR, RR) in the medical record
  - Blood pressure and pulse oximetry monitoring are available for children of all ages on the basis of illness & injury severity
  - A process for identifying age-specific abnormal vital signs and notifying the physician of these is present

Processes in place for safe medication storage, prescribing, and delivery that includes pre-calculated dosing guidelines for children of all ages
Guidelines for Improving Pediatric Patient Safety in the ED

• Infection-control practices, including hand hygiene and use of personal protective equipment, are implemented and monitored
• Pediatric emergency services are culturally and linguistically appropriate
• ED environment is safe for children and supports patient- and family-centered care
• Patient-identification policies meet Joint Commission standards
• Policies for the timely reporting and evaluation of patient safety events, medical errors, and unanticipated outcomes are implemented and monitored
Equipment, Supplies, and Medications

- Pediatric equipment, supplies, and medications are appropriate for children of all ages and sizes, easily accessible, clearly labeled, and logically organized.
- ED staff is educated on the location of all items.
- Daily method in place to verify the proper location and function of equipment and supplies.
- Medication chart, length-based tape, medical software, or other systems is readily available to ensure proper sizing of resuscitation equipment and proper dosing of medications.
• Hospital facility recognition process for pediatric emergency care preparedness
  ➢ Based on 2001 AAP/ACEP guidelines
    ✓ Staff/training, equipment/meds, P&P, QI/PI, etc
    ✓ 3 tiers: PCCC, EDAP, SEDAP
    ✓ Voluntary program managed by Illinois EMSC and IDPH
  ➢ Implemented 1999: 100 of 197 hospitals participate
  ➢ Associated with improved patient outcomes

Cichon M, Lyons E, Fuchs S, Leonard D

Available at: www.luhs.org/depts/emsc/facility.htm
Preparation for Emergencies in the Offices of Pediatricians and Pediatric Primary Care Providers
Frush K, and the Committee on Pediatric Emergency Medicine

POLICY STATEMENT
Pediatrics 2007; 120(1): 200-12

• Perform a self-assessment of office readiness for emergencies
• Develop an organizational plan for emergency response in the office
• Maintain recommended office equipment, medications, supplies and tools to guide resuscitation interventions (e.g. protocols, pre-calculated drug doses)
• Develop a plan to provide education and training for all office staff
• Practice mock codes in the office on a regular basis
• Educate families about what to do in an emergency, pandemic or disaster
• Partner with EMS and hospital-based emergency care providers to ensure optimal emergency care and disaster readiness for children
EMSC: Advocacy in Your State and Community

- EMSC in a Nutshell

- State Partnership performance measures

- AAP policy statement on *The Care of Children in the Emergency Department*

- All Hazard Readiness and Pediatric Disaster Preparedness
Improving All-Hazard Disaster Readiness for Children

• 1997 - FEMA survey of state disaster plans
  ➢ Not one state plan had pediatric considerations

• Pandemic & All Hazards Preparedness Act (2006)
  ➢ All state plans must now contain considerations for “at risk populations”, including children
    ✓ The content, scope and efficacy of these pediatric elements vary greatly
  ➢ Baseline deficiencies in pediatric readiness
    ✓ Training/experience of disaster care providers
    ✓ Medical countermeasures and equipment
    ✓ Shelters, reunification, mental health
    ✓ Disaster drills may not include child victims
Strained resources

Chaos in EDs and pediatric offices during early weeks of H1N1 outbreak provides lessons

Emergency departments struggled to keep up with the influx of patients seeking H1N1 testing.
H1N1 2009: “Special” Problems Encountered and Bullets Dodged

• Pathogen targeted “special populations”
  ➢ Children
    ✓ Particularly children with special health care needs
  ➢ Pregnant women

• Baseline deficiencies in pediatric health care capabilities and surge capacity
  ➢ Pre-hospital care
  ➢ Ambulatory care
  ➢ Emergency care
  ➢ Inpatient care and tertiary/critical care
    ✓ Facilities, staff, equipment, medications
A ‘Blueprint’ for Disaster Readiness

All-hazard mass casualty event readiness
Day-to-day emergency readiness

“The Elevated Hurricane Zone Housing Solution”
Emergency Preparedness 101
One Plan for All Hazards & All Victims?

- Can we manage acutely ill or injured children like they are small adults?
  - No, neither singly nor in multiples
- Why not….
  - Unique vulnerabilities
  - Assessment/triage
  - Specialized care resource needs
  - Development & mental health
  - Family issues

Does your disaster plan address the unique needs of children & families or pediatric surge capacity?
National Commission on Children and Disasters: *Interim Report (10/09)*

- Disaster management and recovery
- Mental health
- Child physical health and trauma
- Emergency medical services and pediatric transport
- Disaster case management
- Child care
- Elementary and secondary education
- Child welfare and juvenile justice
- Sheltering standards, services and supplies
- Housing
- Evacuation

Available at: http://www.childrenanddisasters.acf.hhs.gov/20091014_508IR_partII.pdf
**Disaster Management and Recovery**

**Recommendation 1.1** – Distinguish and comprehensively integrate the needs of children across all inter- and intra-governmental disaster planning activities and operations.

- **Establish a focus on children and disasters within FEMA and the White House** supported by policy and operational expertise from across the federal government, non-federal partners and relevant NGOs.

- **Incorporate meeting the needs of children as a distinct priority** throughout base disaster planning documents and relevant grant programs.

- **Include children in relevant target capabilities, preparedness training and exercises, with specific target outcomes and performance measures**

**Recommendation 1.2** – Accelerate the development of a National Disaster Recovery Strategy with an explicit emphasis on addressing the immediate and long-term physical and mental health, educational, housing and human services recovery needs of children.
**Child Physical Health and Trauma**

**Recommendation 3.1** – Assure access and availability to pediatric medical countermeasures (MCMs) at the local state and federal levels for chemical, biological, radiological, nuclear, and explosive (CBRNE) threats.

- **Provide funding for the development, acquisition and stockpiling of MCMs specifically for children** in the SNS and other federally funded caches.

- Form a standing advisory body of federal partners and external experts to advise the HHS secretary on issues specifically pertaining to pediatric MCMs.

- **Include pediatric expertise on all relevant committees and working groups** addressing issues pertaining to MCMs.
Recommendation 3.3 – Ensure that all health care professionals who may treat children during an emergency have adequate pediatric disaster clinical training specific to their role

- Form a pediatric disaster clinical education and training working group to establish core competencies and a standard, modular pediatric disaster health care education and training curriculum
Recommendation 3.4 – Provide funding for a formal regionalized pediatric system of care for disasters

• Build upon the foundational role of children’s hospitals in strengthening and expanding a regionalized network for pediatric care

• Ensure that all hospital emergency departments stand ready to care for ill and injured children of all ages through the adoption of disaster preparedness guidelines jointly developed by the American Academy of Pediatrics, American College of Emergency Physicians and Emergency Nurses Association

Guidelines for All-Hazard Disaster Preparedness

- Availability of medications, vaccines, equipment and appropriately trained providers for children in disasters
- Pediatric surge capacity for both injured and non-injured children
- Decontamination, isolation and quarantine of families and children of all ages
- Plan that minimizes parent-child separation and includes system tracking of pediatric patients allowing for the timely reunification of separated children and their families

Source: Guidelines for Care of Children in the ED, Pediatrics 2009.
Guidelines for All-Hazard Disaster Preparedness

- Access to specific medical and mental health therapies, as well as social services, for children and families
- Disaster drills, which should include a pediatric mass casualty incident at least every two years
- Care of children with special health care needs
- A plan that includes evacuation of pediatric units and pediatric specialty care units

Source: Guidelines for Care of Children in the ED, Pediatrics 2009.
The Pediatrician and Disaster Preparedness

Committee on Pediatric Emergency Medicine and the Task Force on Terrorism

POLICY STATEMENT
Pediatrics 2006; 117(2): 560-65

- Advocate for children and families in disaster planning at all levels
- Become knowledgeable about issues related to pediatric disaster mgmt
- Participate in disaster planning:
  - Office emergency readiness and an office disaster plan – develop & practice
  - Take part in local community and hospital disaster planning, exercises, drills
  - Work with local schools and child care facilities in developing their plans
- Provide anticipatory guidance to families on preparedness – esp. CSHCN
  - Participate in disease surveillance and reporting activities
  - Participate/provide guidance to local volunteer disaster response groups
Disaster Planning Resources for Pediatricians
  ➢ Disaster Preparedness Plan for Pediatricians

Information on Biological, Chemical, Radiological & Thermonuclear/Mechanical Agents - & - Influenza!
  ➢ Psychosocial and mental health considerations

Resources for clinicians
  ➢ Practice guidance, patient resources, and management recommendations

Resources for patient and families

Numerous links
  ➢ CDC, HHS, DHS, FDA, NCCD, others
AAP DPAC
Disaster Preparedness Advisory Council

- Steven Krug, MD, FAAP - Chairperson
- Sarita Chung, MD, FAAP
- Daniel Fagbuyi, MD, FAAP
- Margaret Fisher, MD, FAAP
- Scott Needle, MD, FAAP
- David Schonfeld, MD, FAAP
- Liaison Members
  - DHS/OHA, HHS/ASPR, CDC, NICHD, FDA
- Laura Aird – AAP Staff
Questions?

New doll available at the American Girl Store: “Suzy Swine Flu”
Selected References


Selected References (continued)


http://www.childrensnational.org/EMSC/