Emergency Medical Services for Children: Past, Present and Future
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The “HOST” of EMSC Present

Special Announcement: Dr. Mary Wakefield Next Administrator of HRSA
Mary Wakefield, RN, PhD
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.
EMSC Present

• Performance Measures (PM) support evidence
  ➢ PM #66 identifies and addresses gaps in the pediatric emergency care system

• Institute of Medicine (IOM) recommendations

• National Stakeholder collaborations

EMSC PM #66b: 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.

EMSC PM #66b: Ambulance Equipment

FOOTNOTE: The evidence in children for selected prehospital care interventions or topics was reviewed in preparation for finalizing this ambulance equipment PM. These topics included: (a) child safety seat booster seat approval for EMS use; (b) alternative airway devices; (c) graded immobilization devices including pillows; and (d) prehospital use of certified pediatric advanced life support. The results of this evidence evaluation including full citations will be provided in a companion article authored by the primary reviewers of the topics and the EMSC Stakeholders Council. The evidence is for use of selected interventions and hemostatic agents was also reviewed and will be presented in separate consensus review articles.

Pediatrics 2009;124: in press
**EMSC PM #66c: 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.

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_A Statewide Model Program to Improve Emergency Department Readiness for Pediatric Care_

Mark E. Chibnis, MD
Sudar Fakhruddin, MD
Robert L. Lucca, MBI
Samantha L. Long, MBI

- A statewide model program to improve emergency department readiness for pediatric care.

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**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 #66c: Hot Topic – AAP National Conference and Exhibition, 2008**

- 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
  
- Funding for this work was provided by Emergency Medical Services for Children, Maternal and Child Health Bureau grant 1-1434-MC-00040-01 (RAO)

*Pediatrics 2009;124 (in press)*

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**EMSC Present**

- Performance Measures (PM) support evidence
  
- Institute of Medicine (IOM) recommendations
  ➢ Evidence Based Guidelines
  ➢ Disaster Preparedness
  ➢ Research
  
- National Stakeholder collaborations

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**IOM Recommendation: Building a 21st Century Emergency Care System**

- “The National Highway Traffic Safety Administration, in partnership with professional organizations, should convene a panel of individuals with multidisciplinary expertise to develop evidence-based model prehospital care protocols for the treatment, triage, and transport of patients, including children”
From Evidence to EMS Practice

- Provide input on how the process for national EMS evidence-based guidelines will:
  - Be organized, operated and sustained
  - Evaluate evidence and develop guidelines
  - Translate evidence into practice
  - Ensure an ongoing method for revising guidelines
  - Integrate with other national EMS system development strategies

EMS Evidence Based Guideline Development Process

System Inputs
- External Evidence Synthesis Processes, e.g., Cochrane systematic reviews, EPCs
- Externally Developed Protocols, e.g., from existing systems – Nova Scotia
- Prehospital Components of Externally Developed Guidelines, e.g., AHA, NAEMSP, BTF, NICE, SIGN, NZGG
- Scope of Practice & National EMS Education Standards
- Individual Researchers, Medical Directors & Providers
- Academic Institutions

Guideline Development
- Document risks & benefits of intervention. First do no harm.
- Develop strength of recommendation, e.g., GRADE
- Document rationale for "no recommendation; disseminate.
- EMS "contextualization"
- Write or endorse guideline
- Provide feedback to originating institution or organization

Model Protocol Development
- EMS "contextualization"
- Clinical implications of strength of recommendation

Implementation
- Linked to National EMS Provider Certification/Recertification
- Linked to National EMS Agency accreditation.
- Development of GL implementation "tool kits," webinars, manuals, integration in local protocols
- Partnerships with national orgs. to facilitate interpretation, application & medical direction.
- Potentially linked to funding and reimbursement, e.g., CMS, 3rd party
- Development of health informatics & clinical decision support software.
- Develop QI measures & tools - local regional, state & tribal

Effectiveness, Outcomes, Clinical Research, QI Evaluations
- GL/Protocol Pilot testing/feasibility studies (may occur during development process)
- Monitor local QI benchmarks & indicators, QI processes at all levels
- Apply NEMSIS data in evaluation process.
- Outcomes research: EMSOP – local, regional, statewide, national
- Clinical research of specific questions
- Systems research (See EMSOP II & IV)
- Cost effectiveness, cost-utility analyses, cost-benefit (See EMSCAP papers)
- Implementation research – analysis of barriers & facilitators to implementation

Establish Priorities for GL Development
- Evaluate quality of evidence and guidelines, e.g. GRADE
- Recommend topics for further GL Development
- Archive material not selected

Dissemination of Guidelines/Protocols
- Linked to EMS Education Agenda for the Future
- Core Content
- Scope of Practice Model
- National EMS Education Standards
- Linked to National EMS Education Program Accreditation
- Publications: peer-reviewed journals, trade press, textbooks, govt. reports.
- New products: educational materials, QI improvement materials
- Target stakeholder organizations
- Multimedia approach: ems.gov, podcasts, etc.

Evidence Based Guidelines: Pediatric Working Group
- Joe Wright, chair
- Eddy Lang, co-chair
- Bob Bass
- Kathy Brown
- Peter Dayan
- Mary Fallat
- Sue Fuchs
- Andy Garrett
- Halim Hennes
- Rick Hunt
- Baxter Larmon
- Charles Macias
- Manish Shah
- NHTSA
- Drew Dawson
- Sue McHenry, NHTSA
- Cathy Gotschall, NHTSA
- EMSC/NRC
- Tasneem Singh Weik
- Jaclynn Haymon
- Jessica Weber
IOM Recommendation: Inclusion of Pediatric Concerns in Disaster Preparedness

- “Federal agencies in partnership with state and regional planning bodies and emergency care provider organizations should convene a multidisciplinary panel to develop strategies for addressing pediatric needs in the event of a disaster”.

  ➢ Executive Director, EMSC National Resource Center appointed to National Commission on Children in Disasters (NCCD)

IOM Recommendation: Building the Evidence Base for Pediatric Emergency Care

- 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.

PECARN Publications: 2006 - present

- The Pediatric Emergency Care Applied Research Network: Progress and Update
- Epidemiology of a Pediatric Emergency Medicine Research Network: The PECARN Care Data Project
- The NEW ENGLAND JOURNAL of MEDICINE: J. Hizelman, E. and T. E., 2006 - present
Targeted Issue: ED Approach to Intentional Injury Prevention, 2008

- Randomized Trial of a Case Management Program for Assault-Injured Youth: Impact on Severe Utilization and Risk At-Risk


- Clinical and Translational Science Award (CTSA) grantUL_100001638

Late Breaking News: Federal Interagency Council on EMS (FICEMS)

- Technical Working Group – Data & Research Committee: “Ensure a comprehensive body of scientific evidence regarding the practice of prehospital EMS”

Adopted 6-3-09

Gap Analysis of EMS Related Research

Prepared for: HHS National Institute of Health Children’s National Medical Center
**EMSC Present**

- Performance Measures (PM) support evidence
- Institute of Medicine (IOM) recommendations
- National Stakeholder collaborations:
  - American Academy of Pediatrics (AAP)
  - American Trauma Society (ATS)

**National Stakeholders: American Academy of Pediatrics**

- Implementation and Evaluation of Care of Children in the ED: Guidelines for Preparedness
  - Baseline National Survey**
  - Training DVD
  - Implementation Kit
- Supported by Maternal Child Health Bureau grant 1 U93 MC 00184


**AAP 2009 Annual Leadership Forum Resolution**

**Title:** Emergency Department Preparedness for the Care of Children

- 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

**AAP and ACEP Policy Statement. Pediatrics in press**
National Stakeholders: American Trauma Society - National Trauma Month Education Campaign

Thank You - Questions??