National Pediatric Readiness Project: Ensuring Readiness of Your ED to Care for Kids

Marianne Gausche-Hill, MD, Katherine E. Remick, MD, Thomas Deegan, MD

Affiliations:

• Harbor-UCLA Medical Center, Department of Emergency Medicine and the Los Angeles Biomedical Research Institute, Torrance, California;
• Departments of Medicine and Pediatrics, David Geffen School of Medicine at UCLA, Los Angeles, California;
• Department of Pediatric Emergency Medicine, Dell Children's Medical Center, Austin, Texas;
• University of Nebraska Medical Center
• Children’s Hospital & Medical Center, Omaha, Nebraska
Acknowledgements:

• We would like to acknowledge the expertise of the National Pediatric Readiness Steering Committee with representatives from the three major professional organizations which co-authored the 2009 “Guidelines for Care of Children in Emergency Departments”:
  – American Academy of Pediatrics (AAP)
  – American College of Emergency Physicians (ACEP)
  – Emergency Nurses Association (ENA).

• We would also like to acknowledge state’s and territories’ EMS for Children (EMSC) program managers, whose local outreach and awareness efforts greatly enhanced response to the national assessment.
A National Assessment of Pediatric Readiness of Emergency Departments

Marianne Gausche-Hill, MD, FACEP, FAAP

Professor of Clinical Medicine and Pediatrics, David Geffen School of Medicine at UCLA
Vice Chair and Chief of the Division of Pediatric Emergency Medicine
Director Pediatric Emergency Medicine and EMS Fellowships
Harbor-UCLA Medical Center, Department of Emergency
Los Angeles Biomedical Research Institute at Harbor-UCLA, Torrance, California

JAMA-Pediatrics, April 2015
A National Assessment of Pediatric Readiness of Emergency Departments

• **Importance:**
  
  – This comprehensive web-based assessment of over 4,000 US emergency departments (EDs) is the first to evaluate national compliance with the 2009 “Guidelines for Care of Children in EDs” (*Guidelines*) (also called pediatric readiness).
  
  – Provides a national snapshot of pediatric readiness in EDs in US states and territories.
Building the Team: National Steering Committee
A National Steering Committee was formed to plan and implement this project.
A National Assessment of Pediatric Readiness of Emergency Departments

• Objectives:
  – To assess all US states and territories’ EDs for pediatric readiness.
  – To evaluate the effect of the presence of a physician and nurse pediatric emergency care coordinator (PECC) on pediatric readiness.
  – To identify gaps/areas of focus, including quality improvement and training, that may be targeted by a national, state and regional coalitions for future quality initiatives.
A National Assessment of Pediatric Readiness of Emergency Departments

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A National Assessment of Pediatric Readiness of Emergency Departments

• Key issues:
  – ED manager identification (ED nurse manager, ED medical director and CEO of 5,017 EDs in US and territories)
  – Creation of the web-based assessment instrument based on 2009 Guidelines
  – Assessment implementation
National Assessment of Pediatric Readiness of Emergency Departments

• **Creation of the Assessment Instrument:**
  - The assessment covered six areas (administration, staffing, polices and procedures, quality improvement, patient safety, equipment and supplies) of the 2009 *Guidelines for Care of Children in EDs*.
  - Questions were weighted using a modified Delphi method by a national expert panel to generate a weighted pediatric readiness score (WPRS).
National Assessment of Pediatric Readiness of Emergency Departments

• **Design, Setting and Participants:**
  • All 5,017 ED managers, excluding hospitals without an ED 24/7, were sent a 55-question web-based assessment (www.pedsready.org).

• **Main Outcomes and Measures:**
  – The weighted pediatric readiness score (WPRS).
    • An adjusted WPRS was calculated excluding the points received for presence of PECCs.
National Assessment of Pediatric Readiness of Emergency Departments

- **Participation Incentives**
  - Immediate feedback with comparison to similar hospitals
  - Live statewide/national results
  - Gap analysis to assist with meeting readiness goals
  - One year subscription to PEMSoft
## Benchmarking

### Average Pediatric Readiness Scores

<table>
<thead>
<tr>
<th>Low Volume (&lt;1800 patients)</th>
<th>Medium Volume (1800-4999 patients)</th>
<th>Medium to High Volume (5000-9999)</th>
<th>High Volume (&gt;=10000)</th>
<th>All Participating Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>62</td>
<td>70</td>
<td>74</td>
<td>84</td>
<td>69</td>
</tr>
<tr>
<td>n = 1629</td>
<td>n = 1248</td>
<td>n = 708</td>
<td>n = 561</td>
<td>n = 4146</td>
</tr>
</tbody>
</table>
Project Roll Out
National Assessment of Pediatric Readiness of Emergency Departments

- California served as pilot state to test assessment and tools and implementation process
Incentives: Gap Analyses

State Name: California
Report Date: May 3, 2013*
Number of Hospitals Assessed: 335
Response Rate: 89.6% (300/335)

YOUR SCORE AND COMPARATIVE SCORES:

71  
YOUR AVG STATE HOSPITAL SCORE OUT OF 100

70*  
N=2521 NATIONAL AVERAGE OF PARTICIPATING HOSPITALS

*DISTRIBUTION OF STATE SCORES FOR EACH VOLUME TYPE:

Low (<1800 patients)
Medium (1800-4999 patients)
Medium High (5000-9999 patients)
High (>=10000 patients)

BREAKDOWN OF STATE SCORES FOR EACH VOLUME TYPE:

<table>
<thead>
<tr>
<th>Annual Pediatric Volume</th>
<th># of Hospitals</th>
<th>Avg. Score</th>
<th>Median Score</th>
<th>Min. Score</th>
<th>Max. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (&lt;1800 patients)</td>
<td>67</td>
<td>62.3</td>
<td>61</td>
<td>35</td>
<td>97</td>
</tr>
<tr>
<td>Medium (1800-4999 patients)</td>
<td>78</td>
<td>67.4</td>
<td>67</td>
<td>34</td>
<td>97</td>
</tr>
<tr>
<td>Medium High (5000-9999 patients)</td>
<td>77</td>
<td>75.1</td>
<td>76</td>
<td>37</td>
<td>100</td>
</tr>
<tr>
<td>High (&gt;=10000 patients)</td>
<td>75</td>
<td>79.9</td>
<td>81.0</td>
<td>41</td>
<td>100</td>
</tr>
<tr>
<td>Not Recorded</td>
<td>3</td>
<td>N/A*</td>
<td>N/A*</td>
<td>N/A*</td>
<td>N/A*</td>
</tr>
<tr>
<td>Grand Total</td>
<td>300</td>
<td>71.3</td>
<td>70.0</td>
<td>34</td>
<td>100</td>
</tr>
</tbody>
</table>

ANALYSIS OF YOUR SCORE:
Guidelines for Administration and Coordination of the ED for the Care of Children

YOUR SCORE: 9.5 out of 19

You indicated that your hospital DOES have a nurse coordinator who has been assigned the responsibility of coordinating the administrative aspects of pediatric emergency care in the emergency department. (This person may have additional administrative roles in the ED.)

IMPROVEMENT: For information on how to set up a nurse coordinator for your hospital please refer to the "Nurse Administration/Coordination" section on pediatricsreadiness.org.

Guidelines for Physician and Other Practitioners
Stafing the ED

YOUR SCORE: 5 out of 10

You indicated that your hospital DOES NOT require specific competency evaluations of physicians staffng the ED (e.g., sedation and analgesia).

IMPROVEMENT: Competency evaluations ensure.....

IMPROVEMENT: For information on how other hospitals have setup competency evaluations for.....
**Staggered Roll Out: Jan – August 2013**

<table>
<thead>
<tr>
<th>Field Test/Pilot</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Group 5</th>
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<tbody>
<tr>
<td>California</td>
<td>Arizona</td>
<td>Colorado</td>
<td>Alabama</td>
<td>Alaska</td>
<td>Delaware</td>
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<tr>
<td></td>
<td>CNMI</td>
<td>D.C.</td>
<td>Connecticut</td>
<td>American Samoa</td>
<td>Kansas</td>
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<tr>
<td></td>
<td>Hawaii</td>
<td>Florida</td>
<td>Georgia</td>
<td>Arkansas</td>
<td>Louisiana</td>
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<td></td>
<td>Montana</td>
<td>Kentucky</td>
<td>Iowa</td>
<td>Idaho</td>
<td>Maine</td>
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<tr>
<td></td>
<td>Nebraska</td>
<td>Michigan</td>
<td>Massachusetts</td>
<td>Illinois</td>
<td>New Hampshire</td>
</tr>
<tr>
<td></td>
<td>Nevada</td>
<td>Mississippi</td>
<td>New Jersey</td>
<td>Missouri</td>
<td>North Dakota</td>
</tr>
<tr>
<td></td>
<td>Oregon</td>
<td>Oklahoma</td>
<td>New Mexico</td>
<td>North Carolina</td>
<td>Ohio</td>
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<tr>
<td></td>
<td>Rhode Island</td>
<td>Utah</td>
<td>New York</td>
<td>Pennsylvania</td>
<td>Puerto Rico</td>
</tr>
<tr>
<td></td>
<td>Texas</td>
<td>Virginia</td>
<td>Virgin Islands</td>
<td>South Dakota</td>
<td>South Carolina</td>
</tr>
<tr>
<td></td>
<td>Washington</td>
<td>Wyoming</td>
<td></td>
<td>Tennessee</td>
<td>Wisconsin</td>
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<tr>
<td></td>
<td>W Virginia</td>
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<td></td>
<td>Vermont</td>
<td>Palau</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Marshall Islands</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fed States of Micronesia</td>
</tr>
</tbody>
</table>
National Results
Of the 5,017 assessments sent - 4,149 (82.7%) ED Managers responded. 4,137 hospitals were included in the data analysis.
National Assessment of Pediatric Readiness of Emergency Departments

• Results:
  – The assessment of EDs represents approximately 24 million pediatric visits
  – Nearly 83% of children are seen in non-children’s hospitals
  – 69% of EDs see < 15 children per day.
  – Almost a third of hospitals are located in rural or remote areas.
National Assessment of Pediatric Readiness of Emergency Departments

Main Outcome:

<table>
<thead>
<tr>
<th>WPRS Median (IQR)</th>
<th>All Hospitals</th>
<th>Low (IQR)</th>
<th>Medium (IQR)</th>
<th>Medium High (IQR)</th>
<th>High (IQR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>68.9 (56.1, 83.6)</td>
<td>61.4 (49.5, 73.6)</td>
<td>69.3 (57.9, 81.8)</td>
<td>74.6 (60.9, 87.9)</td>
<td>89.8 (74.7, 97.2)</td>
</tr>
</tbody>
</table>

- **Low** pediatric volume (<1800 pediatric visits)
- **Medium** volume (1800-4999 visits)
- **Medium high** volume (5000-9999 visits)
- **High** volume (10,000+ visits)

p<0.0001
### National Assessment of Pediatric Readiness of Emergency Departments

**Table: Median Adjusted WPRS by Volume and Presence of PECC**

<table>
<thead>
<tr>
<th></th>
<th>No PECC</th>
<th>Nurse PECC Only</th>
<th>Physician PECC Only</th>
<th>Both</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Hospitals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Median [Q1, Q3]</td>
<td>66.5 [56.0, 76.9]</td>
<td>69.7 [58.9, 80.9]</td>
<td>75.3 [64.4, 85.6]</td>
<td>82.2 [69.7, 92.5]</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td><strong>Low Volume</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Median [Q1, Q3]</td>
<td>60.6 [51.0, 71.9]</td>
<td>63.2 [54.1, 73.6]</td>
<td>66.6 [55.0, 80.2]</td>
<td>70.6 [59.7, 81.0]</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td><strong>Medium Volume</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Median [Q1, Q3]</td>
<td>69.2 [60.5, 77.5]</td>
<td>73.8 [64.4, 83.4]</td>
<td>76.5 [70.4, 82.4]</td>
<td>81.4 [70.7, 90.4]</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td><strong>Medium High Volume</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Median [Q1, Q3]</td>
<td>71.4 [62.1, 80.0]</td>
<td>78.1 [69.2, 84.4]</td>
<td>81.3 [71.0, 88.3]</td>
<td>86.0 [76.7, 93.3]</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td><strong>High Volume</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Median [Q1, Q3]</td>
<td>74.3 [63.5, 80.7]</td>
<td>82.4 [71.9, 89.7]</td>
<td>77.4 [68.7, 88.1]</td>
<td>93.8 [86.7, 98.3]</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>
Table: Adjusted Relative Risk and 95% CI of having all ‘Yes’ responses to a scored section given the presence of at least one PECC

<table>
<thead>
<tr>
<th>Section</th>
<th>ARR: 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians, Nurses, and Other Health Care Providers Who Staff the ED</td>
<td>1.53 (1.38, 1.70)</td>
</tr>
<tr>
<td>Guidelines QI/PI in the ED</td>
<td>4.31 (3.47, 5.35)</td>
</tr>
<tr>
<td>Guidelines for Improving Pediatric Patient Safety in the ED</td>
<td>1.44 (1.29, 1.60)</td>
</tr>
<tr>
<td>Guidelines for Policies, Procedures, and Protocols for the ED</td>
<td>2.68 (2.11, 3.40)</td>
</tr>
<tr>
<td>Guidelines for Equipment, Supplies, and Medications for the Care of Pediatric Patients in the ED</td>
<td>1.44 (1.23, 1.68)</td>
</tr>
</tbody>
</table>

*Relative Risks adjusted for Pediatric Patient Volume, Hospital Configuration, and Geo Location.*
### Table : Barriers by Pediatric Volume

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Overall (N = 4137)</th>
<th>Low (N = 1626)</th>
<th>Medium (N = 1244)</th>
<th>Medium High (N = 706)</th>
<th>High (N = 561)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of training personnel</td>
<td>2250 (54.4%)</td>
<td>999 (61.4%)</td>
<td>684 (55.0%)</td>
<td>355 (50.3%)</td>
<td>212 (37.8%)</td>
</tr>
<tr>
<td>Lack of educational resources</td>
<td>2026 (49.0%)</td>
<td>989 (60.8%)</td>
<td>609 (49.0%)</td>
<td>286 (40.5%)</td>
<td>142 (25.3%)</td>
</tr>
<tr>
<td>Lack of a Quality Improvement/Performance Improvement plan for children</td>
<td>2005 (48.5%)</td>
<td>927 (57.0%)</td>
<td>636 (51.1%)</td>
<td>306 (43.3%)</td>
<td>136 (24.2%)</td>
</tr>
<tr>
<td>Lack of policies for pediatric emergency care</td>
<td>1961 (47.4%)</td>
<td>950 (58.4%)</td>
<td>591 (47.5%)</td>
<td>284 (40.2%)</td>
<td>136 (24.2%)</td>
</tr>
<tr>
<td>Unaware that national guidelines existed and/or unfamiliar with national guidelines</td>
<td>1766 (42.7%)</td>
<td>895 (55.0%)</td>
<td>540 (43.4%)</td>
<td>226 (32.0%)</td>
<td>105 (18.7%)</td>
</tr>
<tr>
<td>Lack of a disaster plan for children</td>
<td>1723 (41.6%)</td>
<td>790 (48.6%)</td>
<td>540 (43.4%)</td>
<td>248 (35.1%)</td>
<td>145 (25.8%)</td>
</tr>
<tr>
<td>Lack of appropriately trained nurses</td>
<td>1703 (41.2%)</td>
<td>822 (50.6%)</td>
<td>497 (40.0%)</td>
<td>247 (35.0%)</td>
<td>137 (24.4%)</td>
</tr>
<tr>
<td>Lack of appropriately trained physicians</td>
<td>1657 (40.1%)</td>
<td>810 (49.8%)</td>
<td>500 (40.2%)</td>
<td>225 (31.9%)</td>
<td>122 (21.7%)</td>
</tr>
<tr>
<td>Cost of personnel</td>
<td>1655 (40.0%)</td>
<td>717 (44.1%)</td>
<td>506 (40.7%)</td>
<td>263 (37.3%)</td>
<td>169 (30.1%)</td>
</tr>
<tr>
<td>Lack of administrative support</td>
<td>847 (20.5%)</td>
<td>382 (23.5%)</td>
<td>247 (19.9%)</td>
<td>128 (18.1%)</td>
<td>90 (16.0%)</td>
</tr>
<tr>
<td>Lack of interest in meeting the guidelines</td>
<td>513 (12.4%)</td>
<td>264 (16.2%)</td>
<td>143 (11.5%)</td>
<td>67 (9.5%)</td>
<td>39 (7.0%)</td>
</tr>
<tr>
<td>No Barriers Reported</td>
<td>795 (19.2%)</td>
<td>200 (12.3%)</td>
<td>211 (17.0%)</td>
<td>161 (22.8%)</td>
<td>223 (39.8%)</td>
</tr>
</tbody>
</table>

Barriers were reported in 81% of EDs
**Overall Median Pediatric Readiness Score**

<table>
<thead>
<tr>
<th>Median Score</th>
<th>2003 Median Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>68.9</td>
<td>55.0</td>
</tr>
</tbody>
</table>

**Median Pediatric Readiness Score for Emergency Departments by Patient Volume**

<table>
<thead>
<tr>
<th>Patient Volume</th>
<th>Median Score</th>
<th>Median 2003 Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Volume (&lt;1800 patients)</td>
<td>61.3</td>
<td>47.8</td>
</tr>
<tr>
<td>Medium Volume (1800-4999 patients)</td>
<td>69.3</td>
<td>54.2</td>
</tr>
<tr>
<td>Medium to High Volume (5000-9999)</td>
<td>74.8</td>
<td>58.3</td>
</tr>
<tr>
<td>High Volume (&gt;=10000)</td>
<td>89.8</td>
<td>68.9</td>
</tr>
</tbody>
</table>
Conclusions
A National Assessment of Pediatric Readiness of Emergency Departments

Conclusions and Relevance:

- The compliance of EDs with pediatric readiness guidelines has improved since the last data were reported in 2007.
- The assignment of a PECC improves compliance with national guidelines across all ED patient volume categories, ED configuration, and geographic locations.
- Barriers were commonly reported and may be targeted for future initiatives.
- The NPRP is a successful implementation of a public health initiative by a national coalition that achieved a high response rate and is poised for further engagement with the goal to ensure day-to-day pediatric readiness of our nation’s EDs.
Impact of Pediatric Verification Programs on Pediatric Readiness in Emergency Departments

Katherine Remick, MD
Associate Medical Director, Austin-Travis County EMS System
Trauma Liaison, Emergency Department, Dell Children’s Medical Center
Faculty, Pediatric Emergency Medicine Fellowship, Dell Medical School, University of Texas
Local, Regional, and State Efforts to Improve Pediatric Emergency Care

• 2009 *Guidelines for Care of Children in the Emergency Department* - awareness campaigns

• EMS Recognition Programs

• Pediatric Facility Recognition Programs

• EMS for Children Performance Measures
## Federal EMS for Children Performance Measures

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>Availability of on-line pediatric medical direction</td>
</tr>
<tr>
<td>72</td>
<td>Availability of off-line pediatric medical direction</td>
</tr>
<tr>
<td>73</td>
<td>Availability of essential pediatric equipment and supplies on ambulances</td>
</tr>
<tr>
<td>74</td>
<td>Hospitals capable of stabilizing/managing pediatric medical emergencies</td>
</tr>
<tr>
<td>75</td>
<td>Hospitals capable of stabilizing/managing pediatric traumatic emergencies</td>
</tr>
<tr>
<td>76</td>
<td>Presence of inter-facility transfer guidelines that cover pediatric patients</td>
</tr>
<tr>
<td>77</td>
<td>Presence of inter-facility transfer agreements that cover pediatric patients</td>
</tr>
<tr>
<td>78</td>
<td>State requirements for pediatric education for BLS and ALS providers</td>
</tr>
<tr>
<td>79</td>
<td>Permanence of EMSC in state EMS system</td>
</tr>
<tr>
<td>80</td>
<td>EMSC priorities in state statutes and/or regulations</td>
</tr>
</tbody>
</table>
Pediatric Facility Recognition Programs

• 14 states/regions
• Voluntary and mandatory programs
• 2-, 3- and 4-tier systems for pediatric capabilities
• Host institution varies
  – State EMS for Children Program
  – Department of Health
  – State chapters of professional organizations
  – Local EMS agencies
A Statewide Model Program to Improve Emergency Department Readiness for Pediatric Care
Cichon M, Lyons E, Fuchs S, Leonard D

• Hospital facility recognition process for pediatric emergency care
  – Based on 2001 AAP/ACEP guidelines
  ✓ ED staffing & training, equipment/medications, P&P, QI/PI, etc
  ✓ 3 tiers: PCCC, EDAP, SEDAP
  ✓ Voluntary program managed by Illinois EMSC and IDPH
  – Implemented 1999: 107 of 190 hospitals participate
  – Associated with improved patient outcomes
Mortality Rates per 1,000 Inpatient Injury-Related Admissions 0-15 Year Olds, 1994-2013

- Post-facility recognition mortality rate: 10.1 per 1,000
- Pre-facility recognition mortality rate: 12.2 per 1,000 (p < 0.05)
- Increased awareness and attention to pediatric emergency care needs

Sources: Illinois EMSC & Illinois Hospital Assn.
Los Angeles County EDAP Verification Program: Effect on Pediatric Readiness in Emergency Departments

<table>
<thead>
<tr>
<th></th>
<th>EDAP (n=43)</th>
<th>Non-EDAP (n=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>91.8 [IQR 88.1-95.7]</td>
<td>68.3 [IQR 49.2-73.5]</td>
</tr>
</tbody>
</table>

p<0.0001
California Pediatric Readiness Project

- Pilot for NPRP
- 300 participating EDs
  - 51 participate in EDAP process with formal verification
  - 31 participate in regular assessments
- Median WPRS = 69 [IQR 57.7, 85.9]
- Areas for Improvement
  - PECC – 53% of EDs
    - (+) WPRS 85 [IQR 75, 93.1]
    - (-) WPRS 58 [IQR 50.1, 66.9]
  - QI Process – 43% of EDs
    - (+) WPRS 88 [IQR 76.7, 95]
    - (-) WPRS 62 [IQR 51.2, 68.7]
# Weighted Pediatric Readiness Score (WPRS) by Annual Pediatric Volume and Verification Status

<table>
<thead>
<tr>
<th>Annual Pediatric Volume (n=300)</th>
<th>Median WPRS [IQR]</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1,800 (n=70)</td>
<td>61.5 [52.1, 70.0]</td>
</tr>
<tr>
<td>Verified (n=3)</td>
<td>85.8 [69.3, 91.6]</td>
</tr>
<tr>
<td>Assessed (n=4)</td>
<td>67.1 [61.9, 69.6]</td>
</tr>
<tr>
<td>Non-Assessed (n=63)</td>
<td>60.0 [51.6, 69.2]</td>
</tr>
<tr>
<td>1,800-4,999 (n=78)</td>
<td>67.0 [54.6, 80.3]</td>
</tr>
<tr>
<td>Verified (n=12)</td>
<td>85.8 [77.7, 91.1]</td>
</tr>
<tr>
<td>Assessed (n=10)</td>
<td>67.0 [59.1, 78.3]</td>
</tr>
<tr>
<td>Non-assessed (n=56)</td>
<td>65.4 [51.1, 73.0]</td>
</tr>
<tr>
<td>5,000-9,999 (n=77)</td>
<td>76.0 [63.1, 89.3]</td>
</tr>
<tr>
<td>Verified (n=17)</td>
<td>91.8 [88.1, 95]</td>
</tr>
<tr>
<td>Assessed (n=13)</td>
<td>79.5 [59.6, 89.3]</td>
</tr>
<tr>
<td>Non-assessed (n=47)</td>
<td>69.6 [58.5, 77.0]</td>
</tr>
<tr>
<td>&gt;10,000 (n=75)</td>
<td>81.3 [65.5, 95.0]</td>
</tr>
<tr>
<td>Verified (n=19)</td>
<td>92.8 [89.1, 95.7]</td>
</tr>
<tr>
<td>Assessed (n=4)</td>
<td>95.0 [80.7, 100]</td>
</tr>
<tr>
<td>Non-assessed (n=52)</td>
<td>74.5 [63.6, 89.7]</td>
</tr>
</tbody>
</table>
## Median Weighted Pediatric Readiness Score (WPRS) and Subsection Scores by Verification Status

<table>
<thead>
<tr>
<th>All Hospitals</th>
<th>Verified (n=51)</th>
<th>Assessed (n = 31)</th>
<th>Non-Assessed (n= 218)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Median [IQR]</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Overall Median WPRS (100pts)</strong></td>
<td>89.6 [84.1, 94.1]</td>
<td>70.7 [57.4, 88.9]</td>
<td>65.5 [55.5, 76.3]</td>
</tr>
<tr>
<td>Administration (19pts)</td>
<td>19.0 [19.0, 19.0]</td>
<td>0.0 [0.0, 19.0]</td>
<td>0.0 [0.0, 9.5]</td>
</tr>
<tr>
<td>Staffing (10pts)</td>
<td>5.0 [5.0, 10.0]</td>
<td>10.0 [5.0, 10.0]</td>
<td>5.0 [5.0, 10.0]</td>
</tr>
<tr>
<td>Quality Improvement (7 pts)</td>
<td>7.0 [7.0, 7.0]</td>
<td>0 [0.0, 7.0]</td>
<td>0.0 [0.0, 5.5]</td>
</tr>
<tr>
<td>Safety (14pts)</td>
<td>14.0 [12.6, 14.0]</td>
<td>14.0 [12.6, 14.0]</td>
<td>14.0 [12.6, 14.0]</td>
</tr>
<tr>
<td>Policies and Procedures (17pts)</td>
<td>14.8 [10.6, 17.0]</td>
<td>10.6 [8.5, 14.8]</td>
<td>10.6 [6.4, 12.7]</td>
</tr>
<tr>
<td>Equipment and Supplies (33pts)</td>
<td>30.9 [28.8, 31.9]</td>
<td>31.4 [29.2, 31.9]</td>
<td>30.1 [27.6, 31.9]</td>
</tr>
<tr>
<td>General (3pts)</td>
<td>3.0 [3.0, 3.0]</td>
<td>3.0 [3.0, 3.0]</td>
<td>3.0 [3.0, 3.0]</td>
</tr>
<tr>
<td>Monitoring Equipment (3.3 pts)</td>
<td>3.3 [2.8, 3.3]</td>
<td>3.3 [2.8, 3.3]</td>
<td>3.3 [2.8, 3.3]</td>
</tr>
<tr>
<td>Fluid Equipment (3.3pts)</td>
<td>3.3 [3.3, 3.3]</td>
<td>3.3 [3.3, 3.3]</td>
<td>3.3 [2.8, 3.3]</td>
</tr>
<tr>
<td>Respiratory Equipment (23.4pts)</td>
<td>21.8 [19.6, 22.3]</td>
<td>22.3 [19.6, 22.3]</td>
<td>21.3 [19.1, 22.3]</td>
</tr>
</tbody>
</table>
Benefits of Pediatric Verification Programs

• Establish minimal standards for pediatric emergency care
• Potential for improved clinical outcomes and minimize patient safety events
• Address regional gaps in resources
• Establish partnerships – “right care, right place, right time”
• Backbone of disaster planning
Improving Pediatric Readiness in a Rural State

Thomas J Deegan MD, FAAP, FACEP
Associate Professor, Pediatrics
University of Nebraska Medical Center
Associate Medical Director, Emergency Department
Children’s Hospital & Medical Center
Omaha, Nebraska
Nebraska - 2009-2013 Census Estimates
Total Population by County

Population Count
- Urban Counties
  - 382 - 10999
  - 11000 - 24999
  - 25000 - 98999
  - 99000 - 287999
  - 288000 - 524999
- City >10,000 population
- City >5,000 population

Total State Population: 1,868,516

Cartography: Clark Sintek | Community & Regional Planning Intern | DHHS
Source: U.S. Census Bureau, 2009-2013 American Community Survey 5-Year Estimates
Nebraska Hospitals with an Emergency Room
2015

Source: Health Professions Tracking Service
Office of Community and Rural Health
Date: February 2015
Location: K: RURAL_HEALTH > Rural Health Intern > EMS > mxd_gdb

Cartography: Clark Sintek | Community & Regional Planning Intern | DHHS
For: Thomas Rauner | Primary Care Office Director
thomas.rauner@nebraska.gov | 402-471-0148
Nebraska Critical Access Hospitals
64 as of September 2014

Legend
- Critical Access Hospital
- county

Source: Nebraska Department of Health & Human Services, Acute Care Facilities Section, September 2014.

Cartography: Thomas Rauner, DHHS, Office of Community and Rural Health, (402) 471-0148, thomas.rauner@nebraska.gov
Rural State Challenges

• Distance from Pediatric Referral Center and Academic Resource
  – Multi-facility transfers
  – Long transport times
  – Education and training

• Critically ill or injured child is RARE event
  – Maintenance of skills
  – Expiration of equipment and medications
Equipment and Supplies

• Even if skilled provider, suboptimal care if not 100% compliant w/ recommendations
• Continued feedback and ongoing surveys
• Cost sharing
• Software for EMS Agencies
  – Tracking use and expiration/near expiration
Equipment and Supplies

• NE Trauma Designation System (58/87 EDs)
  – Current Pediatric Equipment requirements
  – Clearly Define Pediatric Equipment, Supplies and Medications using NPRP Tool Box
  – Nebraska State Trauma Advisory Board
Quality Improvement and Patient Safety

- Survey data
- Weight in KG’s ONLY
- Normal Vital Signs for Age wall chart in every hospital ED Triage area
Outreach Education

• Pediatric Education Through Simulation (PETS)
  – Train-the-Trainer
  – 16 yo Status Asthmaticus
  – 2 mo w/ Tachypnea (Respiratory)
  – 3 yo MVC
  – 2 yo Unresponsive Ingestion
  – 4 yo Drowning
  – 10 mo Unresponsive (NAT)
Outreach Education

- 971 total participants at 50 hospitals
  - 711 RN’s
  - 66 LPN’s
  - 290 EMT’s
  - 30 Other
Outreach Education

• Tele-Health Presentations by Pediatric Subspecialists
  – Asthma and Anaphylaxis
    • 152 Participants, 27 Hospitals
  – Concussions
    • 184 Participants, 41 Hospitals
  – Child abuse
    • 136 Participants, 25 Hospitals
  – Burns
    • 389 Participants, 43 Hospitals
Is your ED “Pediatric Ready”

• Nebraska Chapter AAP
• Nebraska Chapter ACEP

• Present Survey Data, Recommendations/Tool Box
• Establish “Buy-In” of ED Providers and Community Pediatricians
ED Recognition and Community Awareness
Next Steps
Having one or more coordinators can ensure:

- Ongoing education and skills in Pediatric ED care
- Polices and procedures are in place for children
- Quality Improvement Plan and Disaster Plan is in place for Pediatric Patients
- Appropriate medication is stocked
- Pediatric care is included in staff orientation
Next Steps

• Work with stakeholders to continue making pediatric readiness a high priority.
• Develop strategies to regionalize efforts through collaborations based on models that work such as the Emergency Department Approved for Pediatrics (EDAP) model.
• Learn what works in your setting and ongoing need for assessment!
Pediatric Readiness Toolkit
Questions?

National PRP

Pediatric Readiness Project
Ensuring Emergency Care for All Children