Addressing the New Pediatric Readiness Standards at Your Trauma Center

Aaron Jensen MD FACS

January 26, 2022
New Standards!
Announced at 2021 TQIP Meeting
Standard 5.10—Pediatric Readiness—Type II

Applicable Levels
LI, LII, LIII, PTCI, PTCII

Definition and Requirements
In all trauma centers, the emergency department must evaluate its pediatric readiness and have a plan to address any deficiencies.

Additional Information
“Pediatric readiness” refers to infrastructure, administration and coordination of care, personnel, pediatric-specific policies, equipment, and other resources that ensure the center is prepared to provide care to an injured child.

Measures of Compliance
Gap analysis with plan to address deficiencies in pediatric readiness
Why Does This Matter?

Access to PTCs is Limited

By Air

30min <20%
45min ~55%
60min ~70%

By Ground

30min <20%
45min ~30%
60min ~40%

**Pediatric Trauma Centers**

57% of Children within 30 miles

100% coverage only in Northeast
**Why Does This Matter?**

**Pediatric Trauma Center**

57% of Children within 30 miles

100% coverage only in Northeast

**Any L1-L3 Trauma Center**

88% of Children within 30 miles

100% coverage in 37 states
Why Does This Matter?

**Children Die Early After Injury**

- Earlier than adults
- 51% on arrival or in ED
- 74% within first 24h

- Suggests greatest impact on outcomes is during **early resuscitative care**!
Early Resuscitative Care?

Normal:
- Perfusion
- EtCO2
- SaO2
- Temp
- Glucose
Early Resuscitative Care...is Complex for Kids

Is Your Center Ready?

2 ‘Units’: 10cc/kg
MTP Volumes?
Ratios?
832 Eds / 372,000 Kids:

- Analyzed outcomes by Peds Readiness Score of INITIAL RECEIVING HOSPITAL

- Risk-adjusted mortality 58% lower for kids treated at EDs with highest Peds Readiness Scores.

- “If all children cared for in the lowest-readiness quartiles were treated in an ED in the highest quartile of readiness, an additional 126 lives might be saved each year in these trauma centers”.
1247 Trauma Hospitals:

- Children's Hospitals are Peds Ready (99/100, duh!)

- EDAP Hospitals are Peds Ready (91/100)

- Trauma Hospitals are no better than national average (Median 68 v. 72)

- We have OFI...as a trauma system (57% ->88% access)
Panelists

Lisa Gray, MHA, BSN, RN, CPN, TCRN
• Nurse Lead for the EMS for Children Innovation and Improvement Center Hospital and Trauma Domains
• Previous TPM for a Level II Adult and Pediatric Trauma Center for 10+ years
• EMSC liaison to the ACS-COT

Meredith Rodriguez, PhD, CCRC
• Senior Project Manager with the EMS for Children Innovation and Improvement Center
• Leads the development and implementation of the EIIC’s quality improvement collaboratives, as well as projects related to pediatric disaster preparedness and the EIIC’s state partnership programs
Tackling New Standards... You got this!

Lisa Gray, MHA, BSN,CPN, TCRN
Co-Lead Trauma and Hospital Domains, EMSC Innovation and Improvement Center
Acknowledgements and Disclaimers

Funding Sources

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• The National Pediatric Readiness Quality Initiative is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling $1.2M with 0% financed with non-governmental sources.

Disclaimer

• The content presented here and throughout this presentation is that of the authors and do not necessarily represent the official views of, nor an endorsement by HRSA, HHS, or the U.S. Government.
Background

Policy Statement
Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy of Pediatrics
Dedicated to the Health of All Children

Pediatric Readiness in the Emergency Department

Katherine Remick, MD, FAAP, FACEP, FAEMS,1,2,3 Marianne Gausche-Hill, MD, FAAP, FACEP, FAEMS,4,5,6
Madeline M Joseph, MD, FAAP, FACEP,2,3 Kathleen Brown, MD, FAAP, FACEP,1 Sally K Snow, BSN, RN, CPEN,1,3
Joseph L Wright, MD, MPH, FAAP,6,7 American Academy of Pediatrics Committee on Pediatric Emergency Medicine and Section on Surgery, AMERICAN COLLEGE OF EMERGENCY PHYSICIANS Pediatric Emergency Medicine Committee, EMERGENCY NURSES ASSOCIATION Pediatric Committee

Pediatric Readiness in Emergency Medical Services Systems

Sylvia Owusu-Ansah, MD, MPH, FAAP,4 Bryan Moore, MD, FAAP,5 Mariah I Shah, MD, MS, FAAP,5 Tony Gross, MD, MPH, FAAP,7
Kathleen Brown, MD, FAAP,4 Marianne Gausche-Hill, MD, FACEP, FAAP, FAEMS,5 Katherine Remick, MD, FAAP, FAAP, FAEMS,6,7
Kathleen Adelgoso, MD, MPH, FAAP,6 Lara Rappaport, MD, MPH, FAAP,6 Sally Snow, BSN, RN, CPEN, FAEN,7
Cynthia Wright-Johnson, MSN, RN,7 Julia C Leonard, MD, MPH, FAAP,7 John Jay, MD, FAEMS, FACEP,7
Mary Hart, MD, FACEP, FAAP,6,7 Committee on Pediatric Emergency Medicine, Section on Emergency Medicine, EMS Subcommittee, Section on Surgery

National PRP Pediatric Readiness Project
Ensuring Emergency Care for All Children

The Committee on Trauma
American College of Surgeons
Inspiring Quality, Higher Standards, Better Outcomes

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Pediatric Readiness Standard

Standard 5.10—Pediatric Readiness—Type II

Definition and Requirements

In all trauma centers, the emergency department must **evaluate** its pediatric readiness and **have a plan** to address any deficiencies.

Additional Information

“Pediatric readiness” refers to infrastructure, administration and coordination of care, personnel, pediatric-specific policies, equipment, and other resources that ensure the center is prepared to provide care to an injured child.

Measures of Compliance

**Gap analysis with plan to address deficiencies in pediatric readiness**
What is the National Pediatric Readiness Assessment?

A National Assessment of Emergency Departments (ED)s to:

• Determines baseline/progress in pediatric readiness
• Identifies existing gaps
• Promotes quality improvement (QI) efforts in EDs across the country

• Allows the EIIC to develop national collaboratives to address common and critical gaps
• Identifies best practices in pediatric emergency care
What is the National Pediatric Readiness Assessment?

2013 = 82.7% response rate

2021 = 71% response rate
Definition and Requirements

In all trauma centers, the emergency department must **evaluate** its pediatric readiness and **have a plan** to address any deficiencies.
What information does the assessment provide?

• An ED pediatric readiness score from 0 – 100
• The average pediatric readiness score of EDs of similar pediatric volume
• The average pediatric readiness score of all participating EDs to use as a benchmark
• An ED Gap Report to target efforts for improvement in pediatric readiness
Gap Report

Pediatric Readiness Assessment Gap Report

Report Generated Date: 5/21/2021 12:50:39 PM

Hospital Name: [redacted]
Hospital Volume: Medium: 1,800 – 4,999 pediatric patients (average of 6-13 a day)

Current Assessment Date: 05/21/2021
Respondent Name: [redacted]
Respondent Contact Info: [redacted]

Previous Assessment Date: N/A
Respondent Name: [redacted]
Respondent Contact Info: [redacted]

We encourage you to export this Gap Report to a pdf as you will not have access to the report after exiting this screen (see the button above). If you have any questions about the report, please contact our support team via email at pedsready@nshc.utah.edu.

Below, in the box on the left, is the Pediatric Readiness Score for your Emergency Department (ED). The other boxes allow you to compare your score to other EDs in the nation. Your score represents the essential components to establish a foundation for pediatric readiness. The score does not include all of the components recommended for pediatric readiness. Please review the Guidelines for Care of Children in the Emergency Department to develop a comprehensive pediatric readiness program for your Emergency Department. Other important resources include a Pediatric Readiness Resource Toolkit and the Health Resources and Services Administration (HRSA) Critical Crossroads Toolkit: HRSA Critical Crossroads Toolkit Pediatric Mental Health Care in the Emergency Department.

YOUR PEDIATRIC READINESS SCORE COMPARED TO THE NATION:

- Your current score is 70 out of 100 (%2121)
- National average score is 72 out of 100
- National average score is 70 out of 100

Guidelines for Administration and Coordination of the ED for the Care of Children

YOUR SCORE: 9.5 out of 19

<table>
<thead>
<tr>
<th>Physician Coordinator</th>
<th>N/A</th>
<th>0.0</th>
<th>9.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse Coordinator</td>
<td>N/A</td>
<td>9.5</td>
<td>9.5</td>
</tr>
</tbody>
</table>

- You indicated that your hospital DOES NOT have a physician coordinator who is assigned the role of overseeing various administrative aspects of pediatric emergency care.

IMPORTANT: The physician coordinator provides administrative oversight for pediatric emergency care. The coordinator may also be called a pediatric emergency care coordinator (PECC) or a pediatric champion. In conjunction with the nurse coordinator, the physician coordinator plays an important role by ensuring that the staff has ongoing education and skills in pediatric emergency care, that policies and procedures are in place for the care of children, that there is a quality improvement program for pediatric patients, and who works closely with the nurse coordinator to optimize the emergency care of children. The physician coordinator is a designated person that both hospital and community-based entities may turn to for pediatric issues, and ideally is identified and supported by ED and/or hospital leadership. Assigning the role of a physician and nurse coordinator is the single most important step in improving pediatric readiness.
### Guidelines QI/PI in the ED

<table>
<thead>
<tr>
<th>Guideline</th>
<th>PREVIOUS:</th>
<th>CURRENT: 05/21/2021</th>
<th>Points Possible</th>
<th>Readiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient care-review process (chart review)</td>
<td>N/A</td>
<td>0.0</td>
<td>1.4</td>
<td>☠</td>
</tr>
<tr>
<td>Identification of quality indicators for children</td>
<td>N/A</td>
<td>0.0</td>
<td>1.4</td>
<td>☠</td>
</tr>
<tr>
<td>Collection and analysis of pediatric emergency care data</td>
<td>N/A</td>
<td>0.0</td>
<td>1.4</td>
<td>☠</td>
</tr>
<tr>
<td>Development of a plan for improvement in pediatric emergency care</td>
<td>N/A</td>
<td>0.0</td>
<td>1.4</td>
<td>☠</td>
</tr>
<tr>
<td>Re-evaluation of performance using outcomes-based measures</td>
<td>N/A</td>
<td>0.0</td>
<td>1.4</td>
<td>☠</td>
</tr>
</tbody>
</table>

- You indicated that your ED DOES NOT have a pediatric patient care-review process.
Next Steps

-Assessment

-Gap Report

What’s the plan?
What’s the Plan?

Do you know if your ED has taken the NPRP Assessment?

What is your ED’s Peds Ready Score?

Has your ED counterpart shared the results of the NPRP Assessment?

Is your Emergency Department currently working on Pediatric Readiness initiatives and/or addressing gaps in the report?

Does your ED have a pediatric champion?
What is a Pediatric Champion or PECC?

An individual (s) who is responsible for coordinating pediatric specific activities
Value of the PECC Role Emergency Departments

83% of children arrive at general EDs (versus specialized pediatric EDs)

Increased pediatric readiness scores...

...are associated with decreased mortality
## Impact of Pediatric Emergency Care Coordinators (PECCs)

<table>
<thead>
<tr>
<th></th>
<th>No PECC</th>
<th>Nurse PECC only</th>
<th>Physician PECC only</th>
<th>Both PECCs</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Hospitals</td>
<td>66.5</td>
<td>69.7</td>
<td>75.3</td>
<td>82.2</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td></td>
<td>[IQR 56.0,76.9]</td>
<td>[IQR 58.9,80.9]</td>
<td>[IQR 64.4,85.6]</td>
<td>[IQR 69.7,92.5]</td>
<td></td>
</tr>
</tbody>
</table>

- Physician PECC - 48% of EDs
- Nurse PECC – 59% of EDs

Gausche-Hill et al. JAMA Pediatr. 2015
Collaboration between the TPM and the PECC

• Working on a shared vision for the care of children in the Emergency Department
• The PECC will likely be a nurse and/or physician in the ED
• Utilize the infrastructure of the trauma program and the expertise of the TPM to include the PECC and pediatric readiness initiatives in the Emergency Department (PIPS process, Operations Meeting, etc.)
National Pediatric Readiness Project: Checklist and Toolkit

• Updated checklist based on 2018 guidelines, revised in 2020

https://emscimprovement.center
Additional NPRA Resources

pedsready.org
Key Takeaways

• Pediatric Readiness Matters
• Your Emergency Department may have already taken the NPRP Assessment and received a gap report
  • If not, you will have the ability to take the assessment and obtain a gap report in the future
• There are a multitude of resources available on the EIIC and Peds Ready website
• This new standard is another opportunity for Trauma Programs to collaborate with Emergency Departments to improve the care of ALL children
• You can utilize the existing infrastructure of the Trauma Program to work closely with a Pediatric Champion/PECC in the ED
Passion for kids is all that’s required.
Acknowledgement & Disclaimer

The Emergency Medical Services for Children Innovation and Improvement Center is supported by the Health Resources and Services Administrations (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award (U07MC37471) totaling $3,000,000 with 0% financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit HRSA.gov.
Empower Pediatric Emergency Care Coordinators (PECC) to drive pediatric readiness efforts.

Two half-days
Wednesdays, Feb 23rd & Mar 2nd
11:00 – 4:00 ET

Continuing education credit: 8 hours of CNE
Trauma Improvement Sprint

Feb 23 & Mar 2
11:00 – 4:00 ET

• 1-hour deep dives into each focus area
• Environmental Scan questions for each focus area
• Guest speakers for each area
• Group discussion
Resources: Focus Area Guides

FLOW DIAGRAM

This flow diagram is designed to help you think about how to break down this task in the flow diagram with the maximum use of staff and equipment in the following process map:

1. COMMUNICATION

Staff

Communication

Leadership

Communication

Leadership

Communication

Leadership

3. Resources

TOOLS:
1. National Pediatric Readiness Project Toolkit [https://www.trauma.org/content/national-pediatric-readiness-project/toolkit]
2. Pediatric Hospital Readiness Project Toolkit [https://trauma.org/toolkit/pediatric-hospital-readiness-project/toolkit]
3. PECO Community of Practice Website (Agency PECO) [https://www.trauma.org/toolkit/peco-community-of-practice-
   website]
4. EmS Education Toolkit for Pediatric (Peds2) [https://www.trauma.org/toolkit/emergency-medical-responders-
   education-toolkit-peds]
5. Advanced Critical Respiratory Management (Advanced Respiratory Management of Adults) [https://trauma.org/toolkit/
   advanced-critical-respiratory-management]
6. Emergency Care, Resuscitation, and Lifeline Care (Adults) [https://trauma.org/toolkit/advanced-respiratory-
   management]
7. Trauma Life Support (TLS) [https://trauma.org/toolkit/trauma-life-support]
8. Identifying Child Abuse - Online Module (University of Colorado & Colorado EmS) [https://trauma.org/toolkit/identifying-
   child-abuse]
9. Other Pediatric Education (University of Colorado & Colorado EmS) [https://trauma.org/toolkit/other-pediatric-
   education]
10. Inactivation Based Prehospital (Initiation of Prehospital Providers) (World Med Press) [https://trauma.org/toolkit/
    inactivation-based-prehospital]

TEMPLATES:
1. Equipment Competency (Childrens Hospital) [https://trauma.org/toolkit/equipment-competency]
2. Physical Assessment Skills Checks (Pediatric) [https://trauma.org/toolkit/physical-assessment-skills-checks-
   pediatric]
3. Infection Control and Skills (Checklist for the Pediatrician) [https://trauma.org/toolkit/infection-control-
   pediatrician]
4. CPR, Pediatric Chain of Survival Curriculum [https://trauma.org/toolkit/cpr-pediatric]
5. Skills (Workforce Scenario) (Plastic County EmS) [https://trauma.org/toolkit/skills-workforce-scenario-
   plastic-county]
6. Skills Competency (Kenton County EmS) [https://trauma.org/toolkit/skills-competency-kenton-county]
7. Prehospital Pediatric Care (Annie Schramek) (New York) [https://trauma.org/toolkit/prehospital-pediatric-
   care]

ARTICLES:
2. Rothfurf, H., et al., "Emergency Ventilation in a Rural ER: Statewide Practice Utilization and Impact of Skills Education Guidelines:
   [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3072033/]

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Register Here for the PWDC Trauma Improvement Sprint

PeCC Workforce Development Collaborative (PWDC)

September 1, 2021 – June 30, 2022

Purpose
This collaborative will develop individuals who are interested in improving the quality of pediatric care at your EMS agency, ED, hospital, or within your region. We will

IMPROVEMENT PLAN

PWDC Recruitment Video

Session Links, Slides & Recordings

Latest News

FAQ

Why Join?
Trauma Improvement Sprint
How It Works
Calendar of Events
Focus Areas

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PWDC Trauma Improvement Sprint

By the end of the two half-days, we hope to:

1. Foster confidence in defining and embodying the PECC Role
2. Develop understanding of how to identify gaps and how to approach improvement
3. Enrich development as a PECC with basic Quality Improvement (QI) skills
4. Gain guided QI initiative experience (optional, phase 2)
The PECC Workforce Development (PWDC) Collaborative

The foundation of the Trauma Improvement Sprint

Tracks
- Prehospital practitioners
- Nurses & other healthcare professionals
- Physicians & advanced practice providers
- EMSC State Partnership program managers

Phase 1
- September 2021–March 2022
- Monthly deep-dives on 1 of 7 pediatric readiness areas of focus.
- Track-specific breakout discussions
- Focus Area Guide and Environmental Scan worksheet

Phase 2
- March 17 – June 2022
- Design and implement a QI project
- Multidisciplinary approach
### Calendar of Events

**2021**

#### SEPTEMBER
- 6, 7, 8, 12, 13, 16, 19, 20, 23, 24, 27, 28, 30

#### OCTOBER
- 4, 5, 6, 7, 11, 12, 13, 18, 19, 25, 26, 27, 28, 29, 30

#### NOVEMBER
- 1, 2, 8, 9, 15, 16, 22, 23, 29, 30

#### DECEMBER
- 1, 2, 8, 9, 15, 16, 22, 23, 29, 30

#### IMPORTANT DATES
- **Collaborative Kickoff**
  - 12:30pm - 1:30pm CT
  - 2-Sep 21

#### LEARNING SESSIONS (Phase 1)
- **The Pediatric Emergency Care Coordinator**
  - 12:00pm - 2:00pm CT
  - 16-Sep 21

- **Patient Safety & Family Centered Care**
  - 30-Oct 21

- **Equipment, Supplies & Medications**
  - 21-Nov 21

- **Policies & Procedures**
  - 2-Dec 21

- **Care Team Competencies**
  - 6-Jan 22

- **Communication & Collaboration Across Systems of Care**
  - 3-Feb 22

- **Quality Improvement Methodology**
  - 3-Mar 22

#### IMPLEMENTATION PROJECT CHECK-INS (Phase 2)
- **12:00pm - 1:30pm CT**
  - 1-Jun 21

#### COACHING SESSIONS (optional)
- **12:00pm - 1:00pm CT**
  - 1-Jun 21

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**2022**

#### JANUARY
- 3, 4, 5, 6, 10, 11, 12, 13, 16, 17, 18, 21, 24, 25, 26, 27

#### FEBRUARY
- 1, 2, 3, 4, 5, 6, 7, 14, 15, 16, 17, 21, 24, 25, 26

#### MARCH
- 1, 2, 3, 4, 5, 6, 7, 8, 15, 16, 17, 22, 23

#### APRIL
- 1, 2, 3, 4, 5, 6, 7, 8, 15, 16, 17, 22, 23

#### MAY
- 1, 2, 3, 4, 5, 6, 7, 8, 15, 16, 17, 22, 23

#### JUNE
- 1, 2, 3, 4, 5, 6, 7, 8, 15, 16, 17, 22, 23
Phase 2
March 17, 2022 - June 30, 2022

Develop an improvement project within one of the following areas:

1. Formalizing the role of the PECC
2. Secure essential pediatric equipment, supplies or medications
3. Develop a program to train / assess care team pediatric competencies
4. Develop a policy, protocol, pathway, or decision support tool
Phase 2: Quality Improvement Projects

Model for Improvement

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What change can we make that will result in improvement?

Process Flow Map, Environmental Scan, SMART Aim
Measurement
Key Drivers & Change Strategies

http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx
Tools: Process Flow Map

Model for Improvement

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What change can we make that will result in improvement?

Act Plan

Study Do

Is there a standard format for policies & procedures?

Yes

Is there a defined process for drafting a policy/procedure?

Yes

Is there a standard process and timeline for vetting draft policies or procedures?

Yes

Change Strategy

No

Change Strategy

No

Change Strategy

Is there a mechanism in place to evaluate adherence and effectiveness?

Yes

Is there a standard review process & timeline?

Yes

No

Change Strategy

No

Change Strategy
Aim Statement - Example

Your aim statement will define the change/improvement you want to make.

**EXAMPLES:**
By March 31, 2022, we will have an approved policy for the use of physical restraint devices.

By May 31, 2023, 95% of ED staff will accurately follow the approved procedure for using the XYZ physical restraint device.

By May 31, 2023, 95% of EMS staff will accurately select patients meeting criteria for choosing to apply the XYZ physical restraint device.
Measurement for Policies - Examples

- Degree of uptake
  - % of patients for whom physical restraint devices were used when indicated.

- Degree of adherence
  - % of time all aspects of policy were followed when physical restraint devices were used.

- Degree to which staff positively view policy

- Degree to which this policy is impacted by systems

Using a scale of 1 - 5, how well has this policy improved patient safety when physical restraint devices are used.

Using the provided list, rank the degree of importance for the top 5 barriers to implementing this policy.
Example Key Driver Diagram

Model for Improvement

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What change can we make that will result in improvement?

Act | Plan
--- | ---
Study | Do

Communication

- Leadership Support
  - Advocate for the importance of including pediatric considerations in existing policies and revisions.
  - Identify key stakeholders that need to be engaged in the development of the policy/procedure (e.g., a policy/procedure committee).
  - Identify potential safety events where clear direction in the form of a policy or procedure would have aided in the care of the child.

- Staff Buy-In
  - Determine which individuals will be affected by the new policy and develop a process to obtain their feedback or conduct an impact analysis.
  - Develop talking points that address the importance of pediatric-centered policies or procedures to ensure the delivery of high-quality care.

- Patient and Family Engagement
  - Engage your family advisory board in the development of policies that may directly affect them (e.g., hospital visitation policies during the pandemic).
Trauma Improvement Sprint
Feb 23 & Mar 2
11:00 – 4:00 ET
https://redcap.dellmed.utexas.edu/surveys/?s=MLWKLD3M34TMMJTE