

Pediatric Readiness in Every Emergency Department

Jennifer Anders MD

Pediatric Emergency Medicine

Johns Hopkins University School of Medicine

Baltimore MD

EDDA II, April 19 2023

What is Pediatric Readiness?

- Prepared to resuscitate
- Prepared to provide stabilizing care
- Child friendly
- Family friendly
- Pediatric equipment

Why Pediatric Readiness Matters

- Staff Competence
- Staff Confidence
- Patient Satisfaction

- Patient Outcomes

Policy Statements

Care of Children in the Emergency Department: Guidelines for Preparedness

Approved by the ACEP Board of Directors September 2000 and the AAP Board of Directors December 2000.

This document has been reviewed by and is supported in concept by: Ambulatory Pediatric Association; American Association of Poison Control Centers; American College of Surgeons; American Hospital Association; American Medical Association; American Pediatric Surgical Association; American Trauma Society; Brain Injury Association, Inc; Emergency Nurses Association; Joint Commission on Accreditation of Healthcare Organizations; National Association of Children's Hospitals and Related Institutions; National Association of Emergency Medical Technicians; National Association of EMS Physicians; National Association of School Nurses; National Association of State Emergency Medical Services Directors; National Committee for Quality Assurance; Society for Academic Emergency Medicine.

Development of this statement would not have been possible without the generous support for the initial November 15-16, 1998, minimum standards consensus meeting funded by project #98-0156(P) from the US Department of Health and Human Services, Health Resources and Services Administration, and Maternal and Child Health Bureau.

Care of Children in the Emergency Department: Guidelines for Preparedness

See editorial, p. 389.

[American College of Emergency Physicians and the American Academy of Pediatrics. Care of children in the emergency department: guidelines for preparedness. *Ann Emerg Med.* April 2001;37:423-427.]

INTRODUCTION

Children requiring emergency care have unique and special needs. This is especially so for those with serious and life-threatening emergencies. There are a variety of components of the emergency care system that provide emergency care to children that are not limited to children. With regard to hospitals, most children are brought to community hospital emergency departments (EDs) by virtue of their availability rather than to facilities designed and operated solely for children. Emergency medical services (EMS) agencies, similarly, provide the bulk of out-of-hos-



Pediatric Readiness Project
Ensuring Emergency Care for All Children

Supported by:



EMSC
Emergency Medical
Services for Children

ENA
EMERGENCY NURSES
ASSOCIATION

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®



 American College of
Emergency Physicians®

Components of Pediatric Readiness

- Administration/Coordination of Care
- Pediatric Competencies for Staff
- QI/PI plan for pediatric emergency care
- ED policies and procedures for pediatric emergency care
- Equipment/Supplies
- Pediatric Considerations in Disaster Preparedness

NPRP Website



<https://www.pedsready.org/>

Administration/Coordination of Care

- Physician Champion
- Nurse Champion (Pediatric Emergency Care Coordinator)

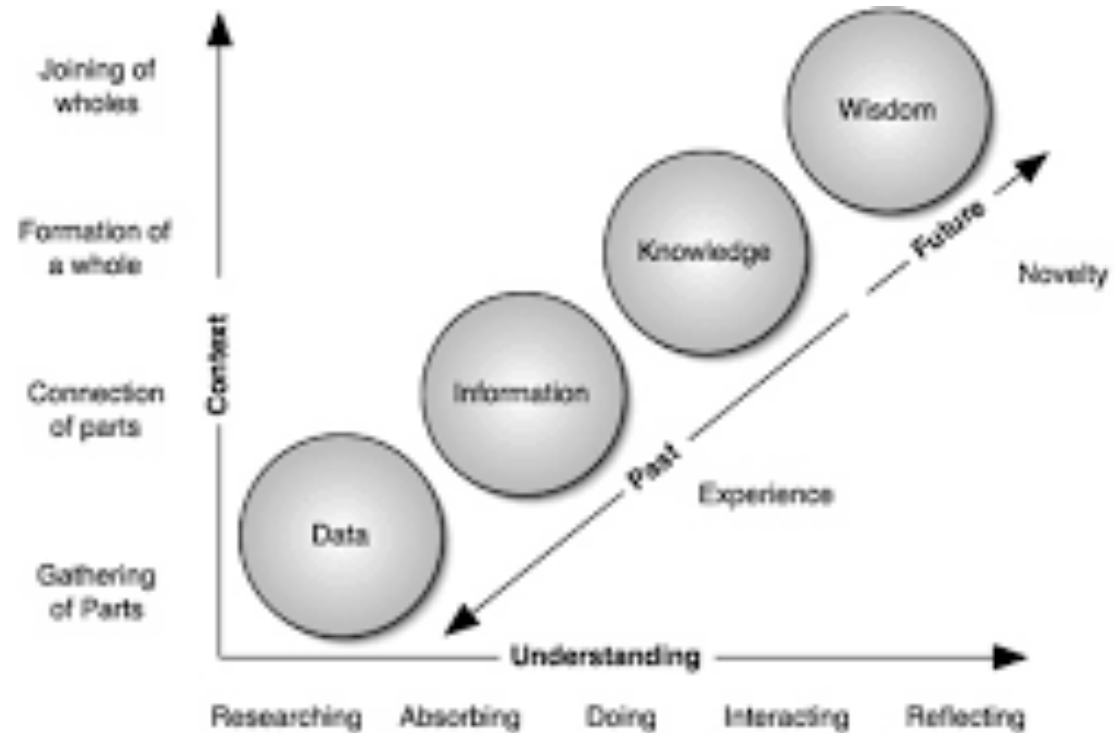


Pediatric Competencies for Staff

- Periodic assessment of pediatric competency
 - Broadly defined
- Physicians, APPs, Nurses and Others

QI/PI Plan for Pediatric Emergency Care

- Include pediatric-specific metrics
 - Defined Locally



Source: From Clark (2004). Reproduced with the permission of Clark D

ED Policies and Procedures for Pediatric Care

- Trauma
- Children with special health care needs
- Sedation/analgesia
- Child abuse

Pediatrics in Disaster Preparedness Plans

- All-hazard disaster preparedness plan addresses pediatric specific needs



Goals of NPRP

- Establish a baseline composite of national capacity to care for children in Emergency Departments
- Foundation for QI efforts for ED engagement with guidelines for pediatric care
- Benchmark scores for similar departments and measure individual ED improvement over time

Key Studies from NPRP

- [A National Assessment of Pediatric Readiness of Emergency Departments](#) Gausche-Hill M, Ely M, Schmuhl P, Telford R, Remick KE, Edgerton EA, Olson LM. *JAMA Pediatr.* 2015 Jun;169(6):527-34.
- [Emergency Department Pediatric Readiness and Mortality in Critically Ill Children](#) Ames SG, Davis BS, Marin JR, Fink EL, Olson LM, Gausche-Hill M, Kahn JM *Pediatrics.* 2019 Sep;144(3). pii: e20190568.
- [Access to High Pediatric-Readiness Emergency Care in the United States](#) Ray KN, Olson LM, Edgerton EA, Ely M, Gausche-Hill M, Schmuhl P, Wallace DJ, Kahn JM *J Pediatr.* 2018 Mar;194:225-232.e1.
- [Pediatric Readiness in Critical Access Hospital Emergency Departments.](#) Pilkey D, Edwards C, Richards R, Olson LM, Ely M, Edgerton EA. *J Rural Health.* 2018 Jul 30.
- Emergency Department Pediatric Readiness and Short-term and Long-term Mortality Among Children Receiving Emergency Care. Newgard CD, Lin A, Malveau S, Cook JNB, Smith M, Kuppermann N, et al; Pediatric Readiness Study Group. *JAMA Netw Open.* 2023 Jan 3;6(1):e2250941.
- Evaluation of Emergency Department Pediatric Readiness and Outcomes Among US Trauma Centers. Newgard CD, Lin A, Olson LM, et al.. *JAMA Pediatr.* 2021;175(9):947–956.

NPRP Results: National Benchmarking

2003

2013

55 / 100

69 / 100

NRPP Results: Your ED

2021

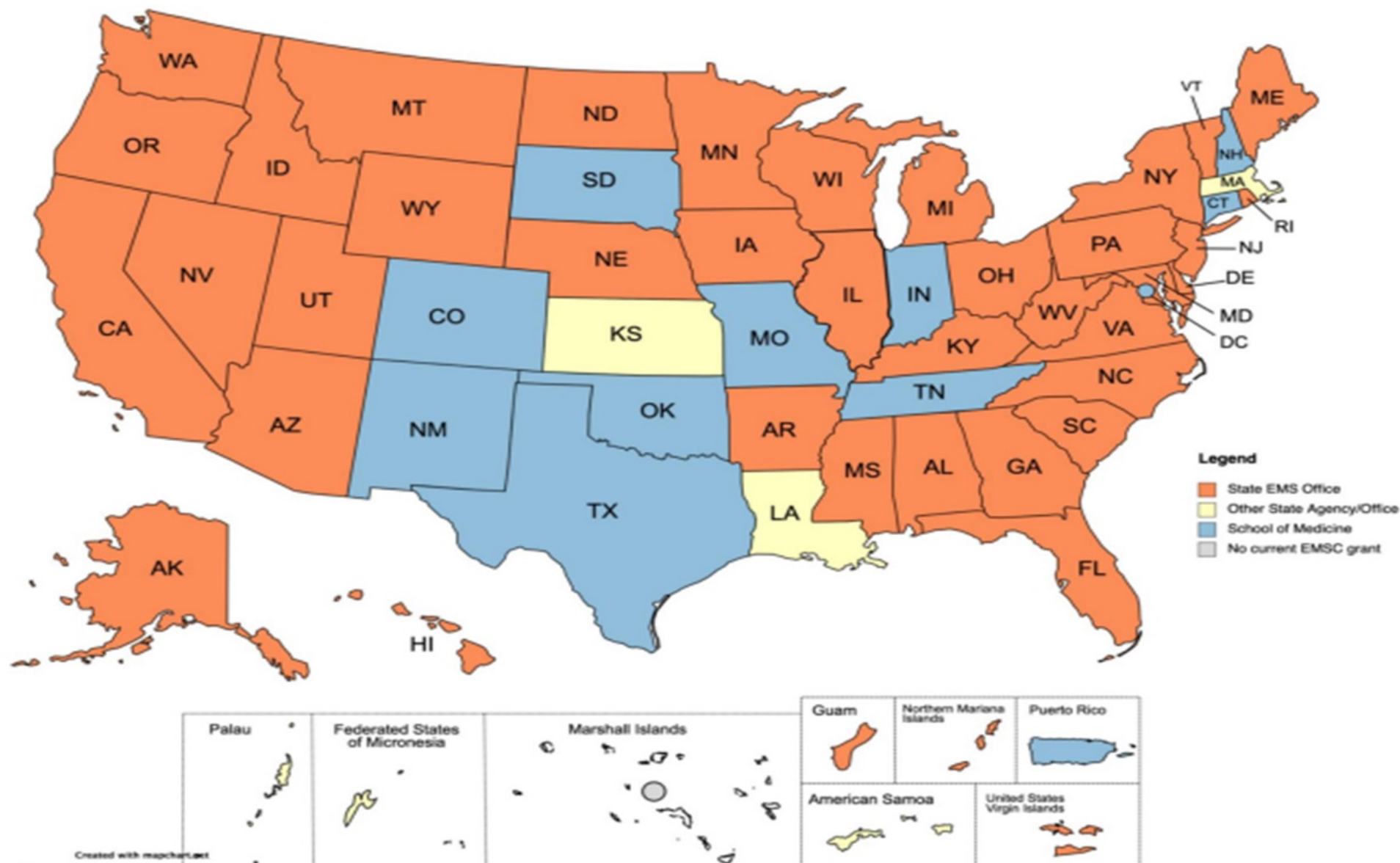
Complete

***Available from
Your EMSC State
Partnership***



EMSC

**Emergency Medical
Services for Children**



NPRP Results: National Benchmarking

Average Pediatric Readiness Scores

Low Volume (<1800 patients)	Medium Volume (1800-4999 patients)	Medium to High Volume (5000-9999)	High Volume (>=10000)	All Participating Hospitals
62	70	74	84	69
n = 1629	n = 1248	n = 708	n = 561	n = 4146

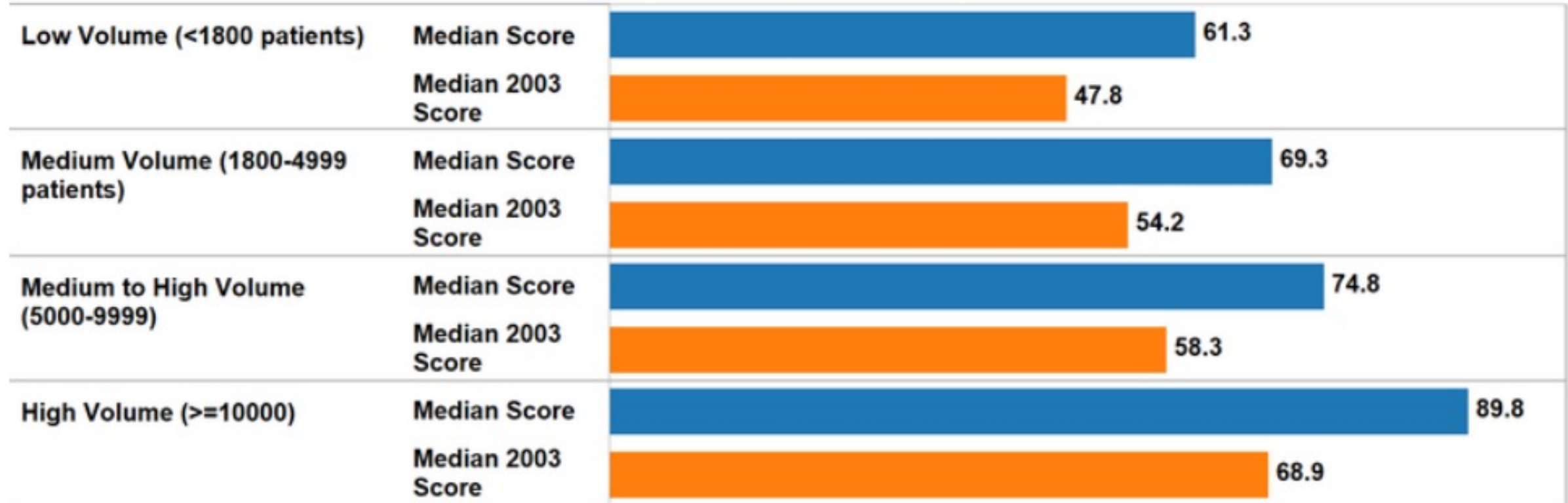
NPRP Results: National Benchmarking

Basic Statistics from Completed Assessments

Annual ED Pediatric Patient Volume	Hospitals w/EDs	Average Score	Median Score	Minimum Score	Maximum Score
Low Volume (<1800 patients)	1,629	62	61	22	100
Medium Volume (1800-4999 patients)	1,248	70	69	27	100
Medium to High Volume (5000-9999)	708	74	75	31	100
High Volume (>=10000)	561	84	90	35	100
Grand Total	4,146	69	69	22	100

NPRP Results: National Benchmarking

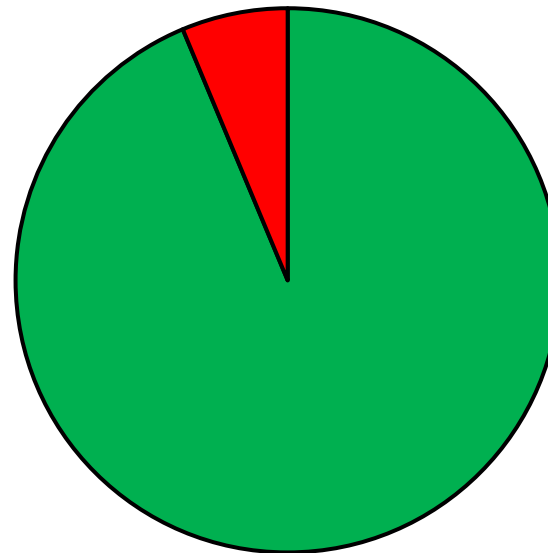
Median Pediatric Readiness Score for Emergency Departments by Patient Volume



NPRP Results: Access to Pediatric Ready ED

- How many children live within 30 minutes drive of a “High Pediatric-Readiness” ED?

ANY ED

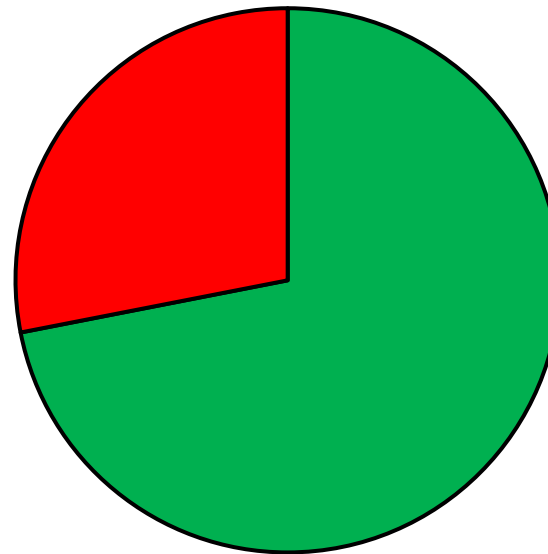


■ yes ■ no

NPRP Results: Access to Pediatric Ready ED

- How many children live within 30 minutes drive of a “High Pediatric-Readiness” ED?

ANY ED



■ 1st Qtr ■ 2nd Qtr

NPRP Results: Access to Pediatric Ready ED

ED at or above 75th percentile WPRS (83.6)



NPRP Results: Access to Pediatric Ready ED

	Any ED within 30 min	Only EDs with WPRS <75th percentile within 30 min
Specified Score Threshold		
National	93.7%	23.5%
Census Division		
– New England	98.2%	19.6%
– East North Central	97.5%	21.5%
– West North Central	90.9%	35.2%
– Mid Atlantic	98.0%	14.9%
– South Atlantic	95.5%	27.3%
– East South Central	94.1%	33.8%
– West South Central	93.0%	26.0%
– Mountain	79.9%	15.2%
– Pacific	91.9%	21.0%

NPRP Results: Access to Pediatric Ready ED

	Any ED within 30 min	Only EDs with WPRS <75th percentile within 30 min
Specified Score Threshold		
National	93.7%	23.5%
Census Division		
– New England	98.2%	19.6%
– East North Central	97.5%	21.5%
– West North Central	90.9%	35.2%
– Mid Atlantic	98.0%	14.9%
– South Atlantic	95.5%	27.3%
– East South Central	94.1%	33.8%
– West South Central	93.0%	26.0%
– Mountain	79.9%	15.2%
– Pacific	91.9%	21.0%

← **15 + 20 = 35%**

NPRP Results: Rural/Urban Disparities

- 86% of CAH participated
- Low Volume (< 5 ped/day)
Mean 59.3/100
- Medium Volume (6-14 ped/day)
Mean 66.9/100

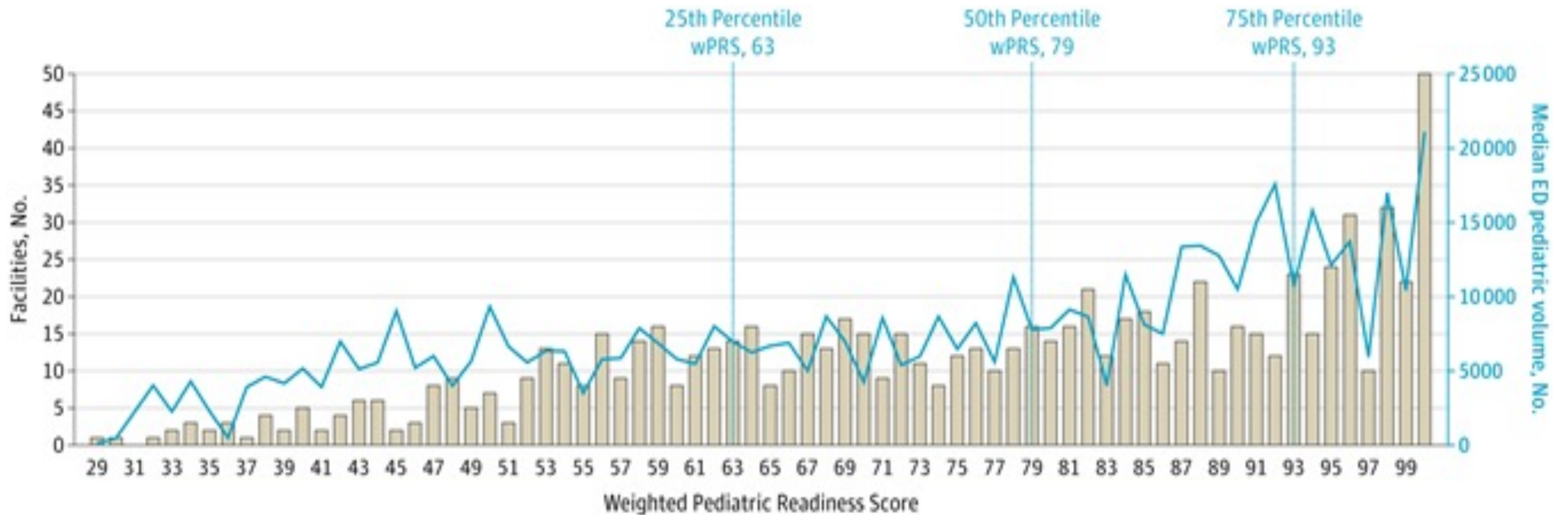


NPRP Results: Pediatric Mortality Differences

- Cohort of EDs from 5 states
- 426 hospitals
- Median WPRS 74.8
- Critically ill < 18 yo

QUARTILE	MORTALITY	ADJUSTED MORTALITY OR (95% CI)
1	11.1%	N/A
2	5.4%	0.52 (0.30-0.90)
3	4.9%	0.36 (0.22-0.58)
4	3.4%	0.25 (0.18-0.37)

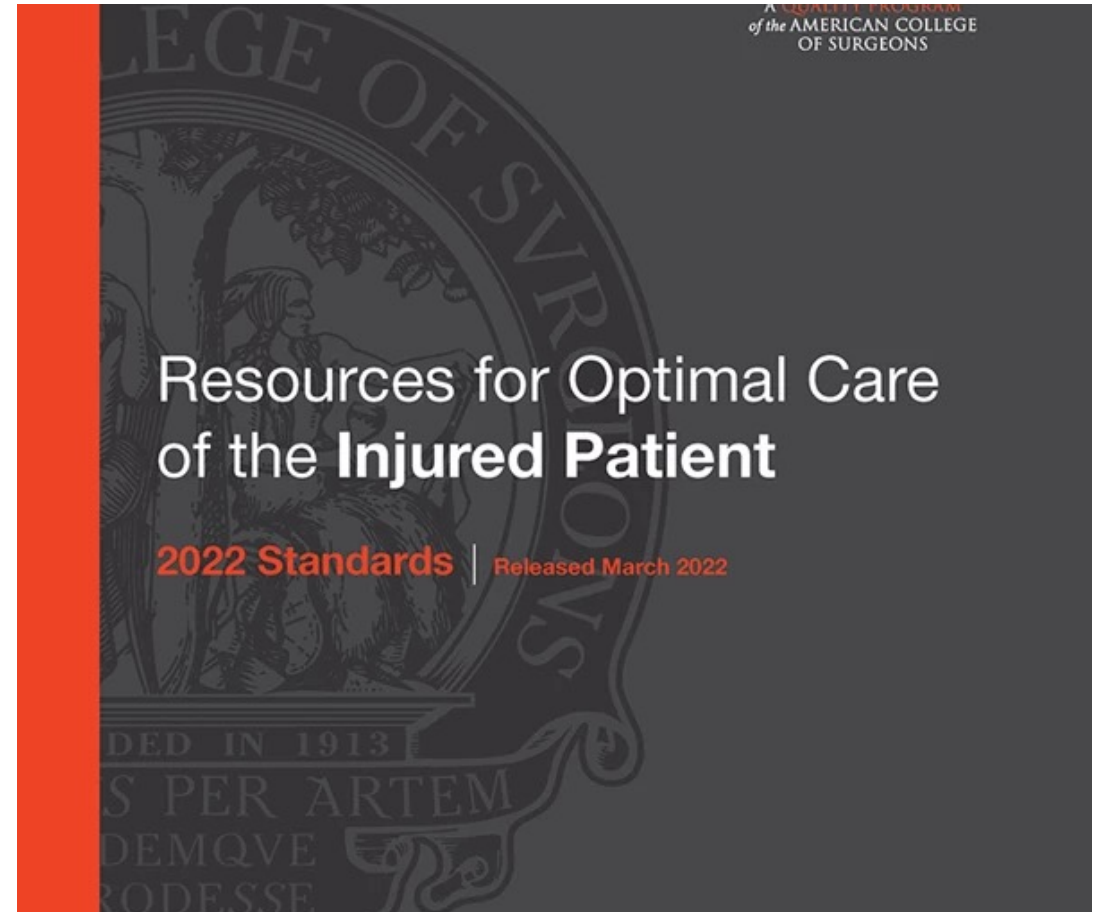
NPRP Results: Trauma Center Quality



Newgard, et al. Evaluation of ED Pediatric Readiness and Outcomes Among US Trauma Centers, JAMA Pediatrics 2021; 175:947-56

NPRP now in ACS Trauma Verification

- 2022 standards include expectation of NPRP assessment
- PECC in every trauma center



Pediatric Readiness in YOUR ED

- Know your current score (or if your ED participated!)
- Identify nurse and physician champions for pediatric emergency care
- Include pediatric considerations in ED operations
 - QI
 - Policies and Procedures
 - Disaster plans
 - Equipment/supplies/meds
- Join me for a workshop later this afternoon!