

# **ACS Committee on Trauma: 100 Years of Impact Trauma Care for Children**

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Professor of Surgery-Department of Surgery, Dell Medical School  
ACS VRC Chair-American College of Surgeons



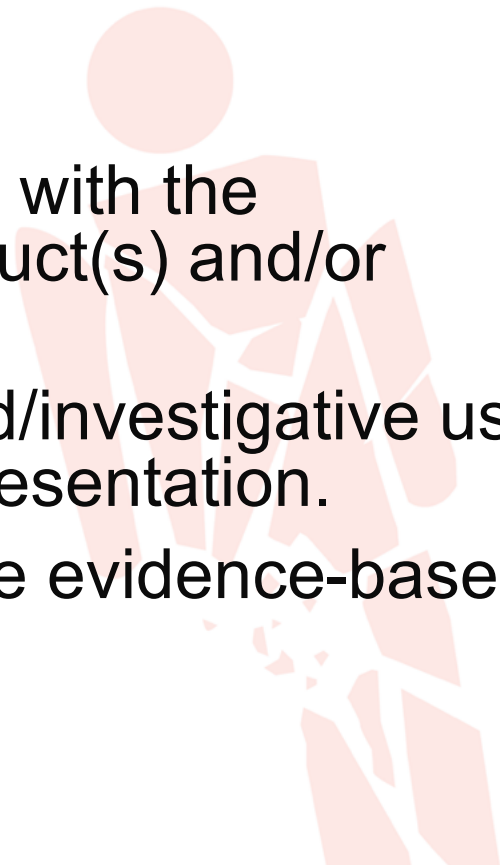
Verification Review Consultation  
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I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services.

I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.

I attest that clinical recommendations are evidence-based and free of commercial bias.



## Objectives

- History of ACS, COT, VRC
- VRC Standards and Pediatric Readiness
- Discuss current challenges in advancing pediatric trauma care

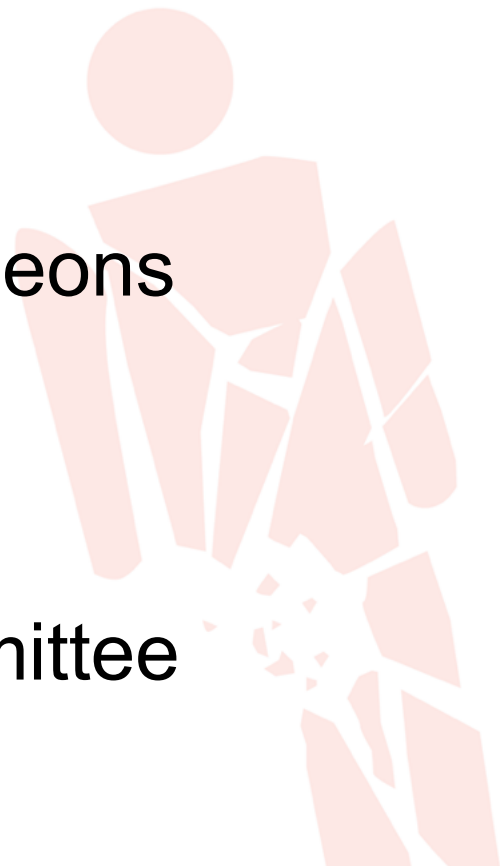


## Abbreviations

**ACS**- American College of Surgeons

**COT** - Committee on Trauma

**VRC**- Verification Review Committee



## Historical Trauma Care in 1913?

### ● Outcomes

- Open femur fracture: 70% mortality
  - Thomas splint developed in WW I
- Penetrating abdominal injuries: 70-80% mortality
- 30% TBSA burn: 50% mortality
- Major disabilities from poorly managed fractures

### ● Trauma Care

- No prehospital care services
- No hospital standards for trauma or emergency care
- Most emergency care provided by the least experienced physicians
- Imaging limited to plain X-ray
- Limited to no access to blood products (First blood bank 1937)



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## History of ACS

- **1913- Established** -Professional organization representing surgeons of all specialties
- **1922- Committee on Fractures** - focused on improved care of injured patients
- **1949- expanded and evolved into the Committee on Trauma**
  - Industrial safety
  - Improve automobile and traffic safety
  - Firearm and violence prevention
  - Comprehensive, multifaceted approach

## Principles of the COT



### ● **What is best for patient**

**Trauma care from point of injury and extends until recovery**

- **Optimal standards, ensure accountability**
- **Trauma education for all providers, including non medical bystanders, EMS, providers, nurses, APP, physicians**
- **Data driven, evidence based decisions**
- **If no data- devise a strategy**
- **Culture of continuous quality improvement**
- **Public health approach to injury prevention**
- **Collaborate, partner with all organizations**

## Structure and Growth of COT

**Central/National committee-** 100 members (Invited to join)

Regional committees- regions, states

Specialty representatives- general surgeons, orthopedic

**pediatric surgery**

Currently-

- 61 general surgeons
- 8 neurosurgeons
- orthopedic
- **7 pediatric surgeons**
- 1 urologist
  
- 1 Ophth

**In 2002-** Neurosurgeons,

In 2006- Plastics, Burns, Urology

- 8 burns
- 8
- 3 plastics
- 1 OMFS



# ACS- COT- Pillars

COT Chair

Vice Chair/Regional Committees  
Region Chiefs, RCOT Board

Membership  
METS, Scudder Orator, DEI

**Education**  
Steering Committee

Regulatory Group  
ATLS  
mATLS eLearning, myATLS  
App, SEAB, ATLS Coord, ATLS  
Revisions, TEAM, Global  
Symposium Planning  
Specialty Courses  
Disaster Education  
Rural Education  
Stop the Bleed® Education  
Surgical Skills  
ASSET  
ATOM  
BEST  
Post Graduate Education  
Congress, Hot Topics

**Quality**  
Steering Committee

Verification  
Trauma Center Standards,  
Reviewer Leadership, New  
Reviewer Orientation, Reviewer  
& Editor Training  
Performance Improvement &  
Patient Safety  
Trauma Guidelines Repository,  
Best Practice Guidelines,  
Mortality Reporting System  
TQIP  
Conference Abstract  
Reviewers, Poster  
Discussants, Peer Coaching,  
Patient Reported Outcomes,  
Advancing Leadership in  
Trauma Center Management  
Course, Research

**Systems**  
Steering Committee

Trauma Systems Evaluation  
& Planning  
Essential Elements,  
Consultation Follow-up,  
Consultations, Virtual  
Consultation Process  
Emergency Medical  
Services  
Pre-hospital Care  
Guidelines  
Rural Trauma  
Rural Advisory Council  
Disaster & Mass Casualty  
Regional Medical  
Operations Center  
Development

**Advocacy/Injury Prevention/  
Stop the Bleed®**

Advocacy & Health Policy  
Surgeon's Voice/PAC,  
National Trauma and  
Emergency Preparedness  
System,  
STOP THE BLEED®  
Advocacy  
Injury Prevention & Control  
Trauma Informed Care,  
Firearm Injury Prevention  
STOP THE BLEED®  
Steering Group  
WE STOP THE BLEED  
ACS SAFE  
CITY/ORGANIZATION

**Surgical Specialty Committees**

Burn Surgery, Neurosurgery, Orthopedic Surgery, Pediatric Surgery  
Reconstructive Surgical Specialties: Obstetrics & Gynecology, Oral Maxillofacial, Ophthalmology, Plastic, Urology, Vascular

**International Injury Care Committee (I2C2)**  
Global Education

**Regional Committees – Military/Civilian Integration**  
Region Chiefs State/Province/Country Chairs Vice Chairs

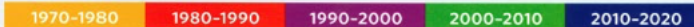
**Committee on Trauma Staff Partners**

**ACS – Committee on Trauma 2022 August**



#### ATLS Promulgation Map 2021

To honor the efforts of those who worked to bring ATLS to areas around the world we are depicting in gray tones areas where we have promulgated ATLS at one time in the past but where, due to State Department guidance, we are not currently allowed to conduct business, so there is no authorized ATLS activity in those countries currently.



# Trauma Center Verification, Review and Consultation Program (VRC)

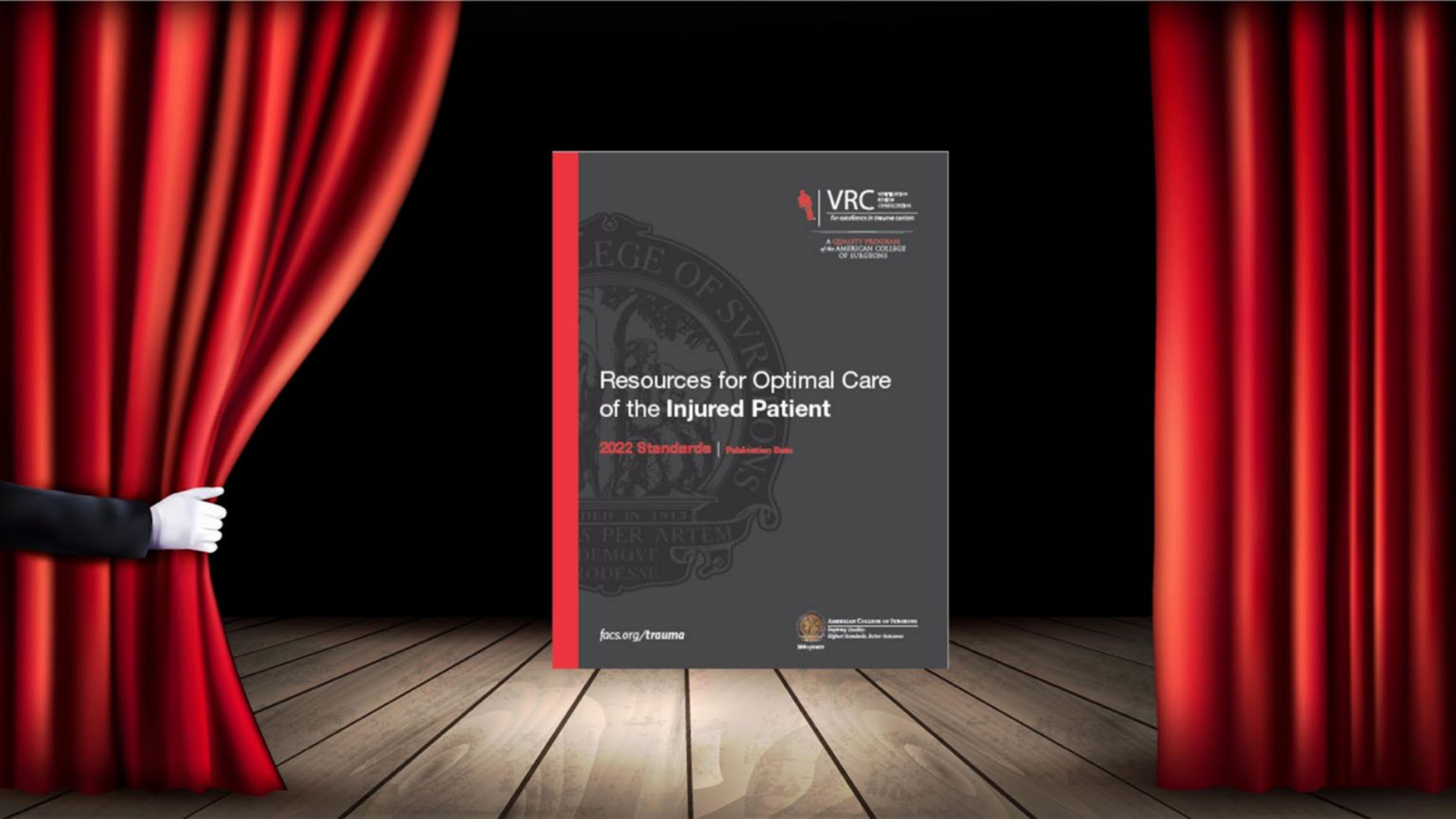
- Flagship program within the Committee on Trauma
- Established in 1976 with publication of Standards-  
“Optimal Resources for Care of the Seriously Injured”
- **ACS verification- is a statutory requirement for trauma center designation in many states**
  - Leads to rapid adoption of standards
- 275 site visits per year
- 581 verified centers

## Lessons Learned from ACS Verification

- Successful verification of a center leads to
  - Higher volumes of severely injured patients
  - Improved compliance with important patient care indicators (timely access to OR, consultant response time)
  - Lower rates of unexpected return to the ICU & other complications
  - Shorter ICU LOS
  - Shorter hospital LOS
  - Reduced costs related to improved performance and better utilization of hospital capacity
- COVID-19 has advanced the implementation of virtual visits
  - Fair process, well received, lower costs

## COT Focuses on Pediatrics

- First Peds chapter of ATLS - 1983
- 1983 - First standards for Pediatric Trauma Centers
- 1989 - Consultation for a Pediatric Center (Norton/Kosair Children's Hospital, Louisville, KY- Mary Fallot, MD)
- 2006 - First Verification of Pediatric Trauma Center
- 2007 - **COT partners with HRSA EMSC** for specific needs for childrens for ambulance equipment--lead by Mary Fallot, MD FACS
- Component of this list incorporated into EMSC performance measures
- 2014 - Pedi TQIP



VERTEBRAL  
RECONSTRUCTION  
CENTER

For excellence in trauma centers

A QUALITY PROGRAM  
of the AMERICAN COLLEGE  
OF SURGEONS

## Resources for Optimal Care of the Injured Patient

2022 Standards | Publishing Date

[facs.org/trauma](https://facs.org/trauma)



AMERICAN COLLEGE OF SURGEONS  
Trauma Quality  
Improvement Standards Author Database

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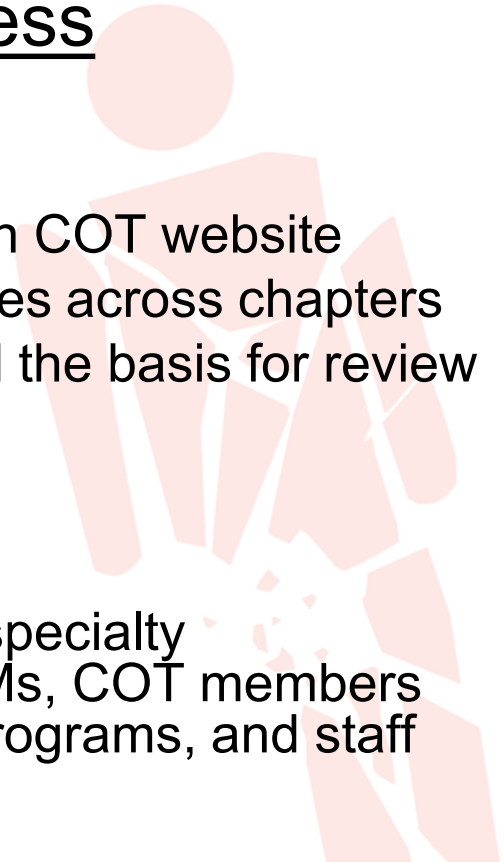
## An Inclusive Process

### Stakeholder surveys

- Surveys available on COT website
- Over 2,000 responses across chapters
- Comments provided the basis for review and revision

### Work groups

- 14 work groups
- Members included specialty representatives, TPMs, COT members across the Quality Programs, and staff



# Core Standards Group

Core Group

Dr. Avery Nathens  
Dr. Todd Maxson  
Dr. Dan Margulies  
Dr. Bill Marx  
Dr. Nilda Garcia

Staff

Molly Lozada  
Tammy Morgan  
Yaping Wang  
Bhumi Parikh  
Melanie Neal

COT Executive Committee

Dr. Ronald Stewart  
Dr. Eileen Bulger



A different package,  
same standards for quality patient care.

1

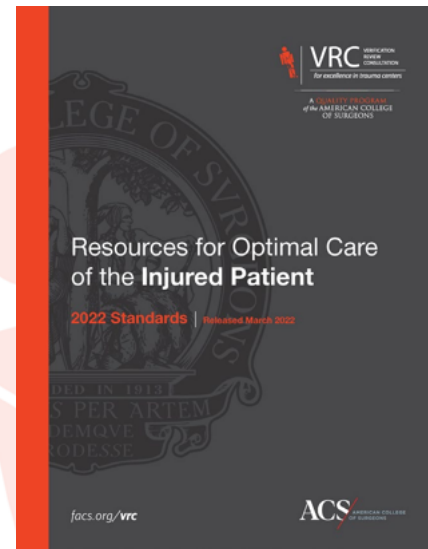
Update:  
ensure utility,  
relevance,  
effectiveness

2

Clarify: provide  
clarity and  
incorporate  
stakeholder  
input

3

Align:  
coordinate  
with other ACS  
quality  
programs





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# Why a Pediatric Readiness Standard?

**Pediatric Readiness Saves Lives**

Research has shown high pediatric readiness in emergency departments (EDs)—or scoring > 87 points on the National Pediatric Readiness Project Assessment—improves outcomes for children. While prehospital research is ongoing, a similar impact is anticipated in EMS settings.

High pediatric readiness in EDs is associated with:

**76%**  
lower mortality rate in ill children<sup>1</sup>

**60%**  
lower mortality rate in injured children<sup>2</sup>

**AT LEAST 1,400**  
children's lives saved across the US each year<sup>2</sup>

1. "Emergency Department Pediatric Readiness and Mortality in Critically Ill Children"  
Pediatrics, 2019, Arnes et al.

2. "Emergency Department Pediatric Readiness and Short-term and Long-term Mortality Among Children Receiving Emergency Care"  
JAMA Network Open, 2023, Newgard et al.



### The Power of PECCs:

Designating an individual to serve as a pediatric champion at an ED or EMS agency (also known as a pediatric emergency care coordinator or PECC) is one of the best ways to increase readiness for children.



Research on the impact of prehospital pediatric readiness will be supported by the launch of the Prehospital Pediatric Readiness Project Assessment in 2024.



You can help save children's lives.  
[www.pediatricreadiness.org](http://www.pediatricreadiness.org)

# Association of Emergency Department Pediatric Readiness With Mortality to 1 Year Among Injured Children Treated at Trauma Centers

## Conclusions and Relevance:

Children treated in high-readiness trauma center EDs after injury had a lower risk of death that persisted to 1 year. High ED readiness is independently associated with long-term survival among injured children.

*Newgard CD, Lin A, Goldhaber-Fiebert JD, et al.  
JAMA Surg. Published online February 02, 2022, doi:10.1001/jamasurg.2021.7419*

## 5.10 Pediatric Readiness-Type II

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### Applicable Levels

LI, LII, LIII, PTCI, PTCII

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### Definition Requirements

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

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### 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. The components that define readiness are available in the Resources section below

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### Measures of Compliance

Gap analysis with plan to address deficiencies in pediatric readiness

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### Resources

Pediatric readiness assessment:

<https://emscimprovement.center/domains/pediatric-readiness-project/assessment/>

Other resources to address deficiencies:

<https://emscimprovement.center/domains/pediatric-readiness-project/readiness-toolkit/>



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Call Kate Remick, MD



## Resources for Optimal Care of the Injured Patient (2022 Standards)

- Will be effective for visits starting in September 2023
- Standard 5.10 - Pediatric Readiness
  - The NPRP assessment must be conducted once during the Verification cycle.
  - One cycle is defined as the thirty-six (36) month period preceding the expiration date of the current Verification status

### 5.10 Pediatric Readiness—Type II

#### Applicable Levels

II, III, LIII, PTCL, PTCL

#### Definition and Requirements

In all trauma centers, each emergency department must perform a pediatric readiness assessment during the verification cycle and have a plan to address identified gaps.

#### 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.

The components that define readiness are available in the Resources section below.

#### Measures of Compliance

- Pediatric Readiness Assessment Gap Report
- Plan to address gaps identified through the pediatric readiness assessment

#### Resources

Pediatric readiness assessment: <https://www.pediready.org/>

Other resources to address deficiencies: <https://emscimprovement.center/downloads/pediatric-readiness-project/readiness-toolkit/>

#### References

Renick K, Garache-Hill M, Joseph MM, et al. Pediatric Readiness in the Emergency Department. *Pediatrics*. 2018;142(5):e20182439. doi:10.1542/peds.2018-2439.



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## Other VRC Standards with Pediatric Component

- CD 2.5 Level 1 Peds Trauma Patient volume Criteria
- CD 2.8 Trauma Medical Director
- CD 2.14 Child Life Program
- CD 4.9 Pediatric Critical Care Staffing
- CD 4.27 Child Abuse Physician
- CD 5.7 Assessment of Children for Nonaccidental Trauma
- CD 5.10 Pediatric Readiness



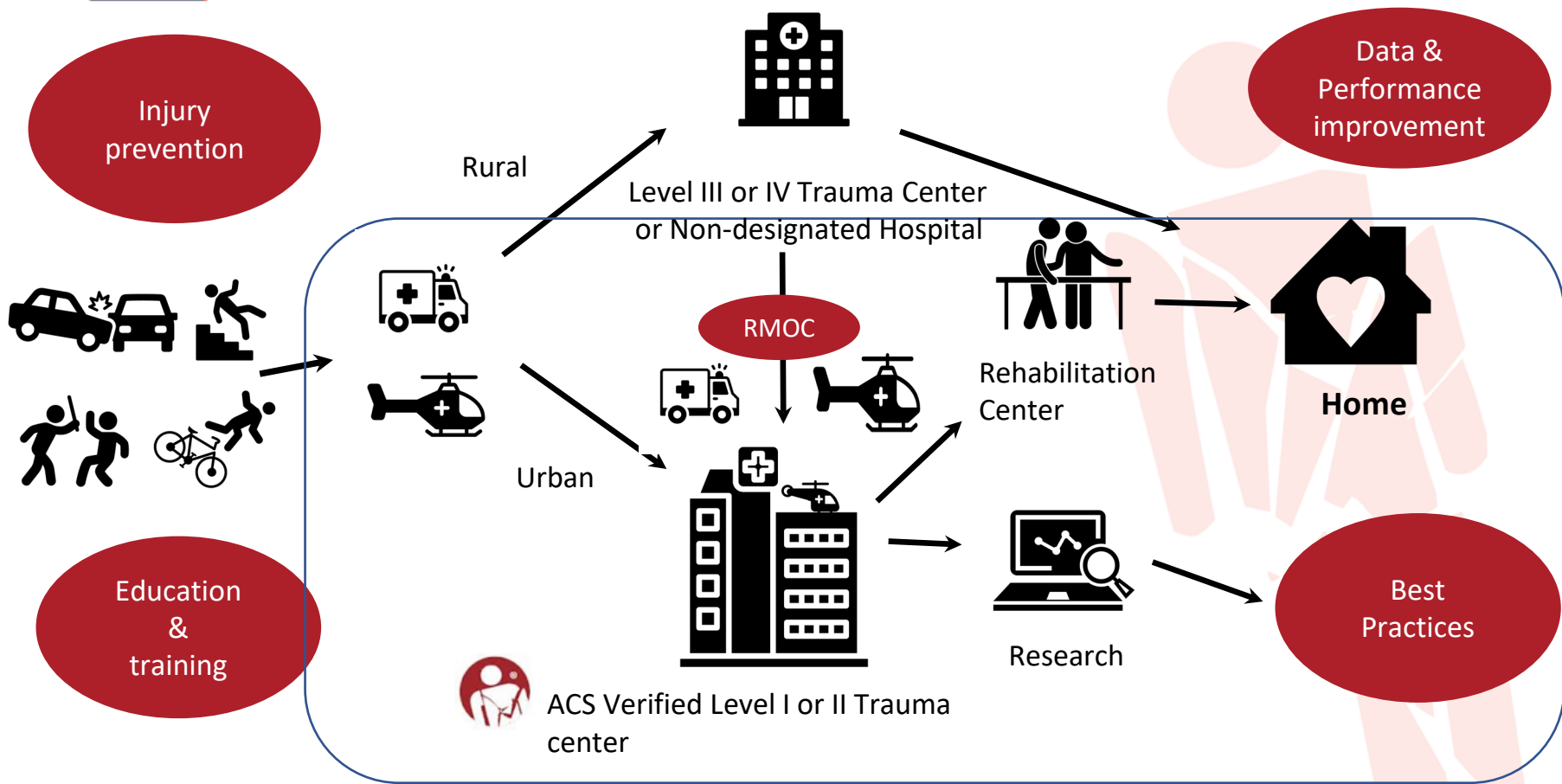
# **ACS**

## **Trauma Systems Development**

Trauma Systems: Ready Regions, Ready Communities



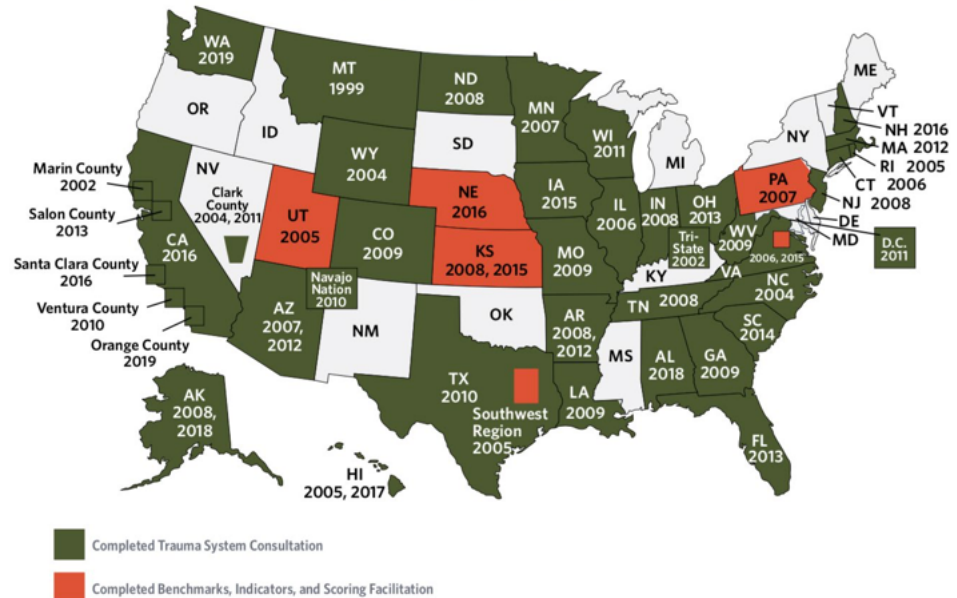




A Focus on Trauma System Development

- Initial Preventable Death Study – 1979
- The Trauma Systems Planning and Development Act of 1990
  - 1992 Model Trauma Care System Plan
- First Pilot Trauma System Evaluation
  - Palm Beach, FL – 1994
- Formal TSEPC Consultations - 1999

Trauma Systems Evaluation and Planning Committee Consultations  
Brian J. Eastridge, 2018–Present





**Mary E. Fallat, MD, FACS**  
Chief of Pediatric Surgery,  
University of Louisville  
Chair of the Subcommittee on  
Emergency Services -  
Prehospital (2004-2007)

## Challenges in Achieving High Quality Pediatric Emergency Care



- >80% of children seen in general EDs
- ~70% of EDs see less than 15 pediatric patients a day
- Low volumes = difficult to establish pediatric quality metrics/performance standards at an individual site

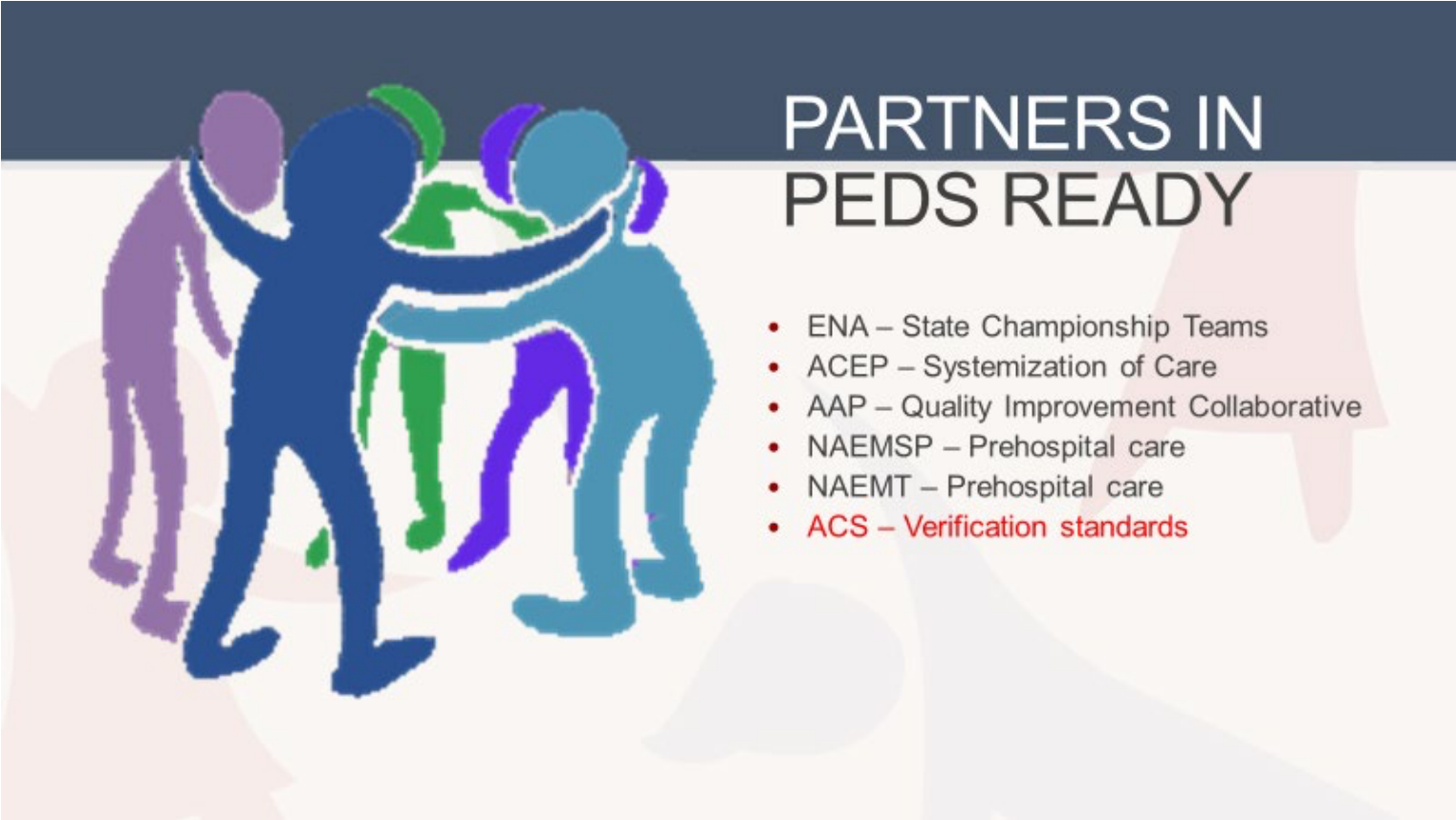


## History of Pediatric Readiness

Project is over 20  
years old

The National  
Pediatric  
Readiness Project  
(NPRP)

- 2001 - NPRP History began with first joint guidelines
- AAP cooperative grant and paper survey of all EDs finished in 2004; published in Pediatrics 2007
- 2006 IOM report leveraged data from first assessment to suggest PECC in all EDs
- Subsequent guidelines 2009 with NPRP web-based assessment
- 2012 with more evidence for PECCs and improved readiness
- Subsequent research with demonstration of improved outcomes in critically ill and Peds Trauma patients; ACS engagement ongoing
- NPRP 2021 Assessment – engagement of Pediatric ASPR Centers of Excellence (WRAP-EM, EGLS) and now PPN



# PARTNERS IN PEDS READY

- ENA – State Championship Teams
- ACEP – Systemization of Care
- AAP – Quality Improvement Collaborative
- NAEMSP – Prehospital care
- NAEMT – Prehospital care
- **ACS – Verification standards**

## Why do we need a national and state pediatric trauma systems.....

There are not enough pediatric hospitals and pediatric surgeons/specialty surgeons/anesthesiologists to meet the demand or cover the necessary geography

The building blocks for a statewide pediatric trauma system may be in place but an impediment to a coordinated system is often a lack of coordination for children's interests among state entities.

Trauma is one piece of the puzzle, and we are all working in the same spaces.

The PPN network provides an opportunity to unite efforts for all hazards to children.



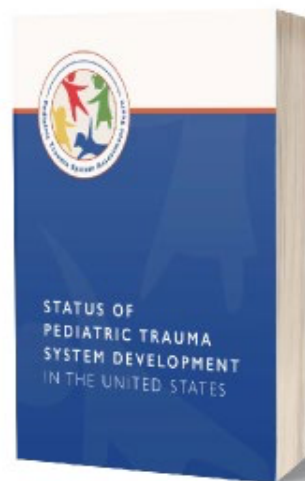
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**PEDIATRIC  
TRAUMA SYSTEM  
ASSESSMENT SCORE**

Share and Download the Report:

<https://qrcodes.pro/TkkDy6>



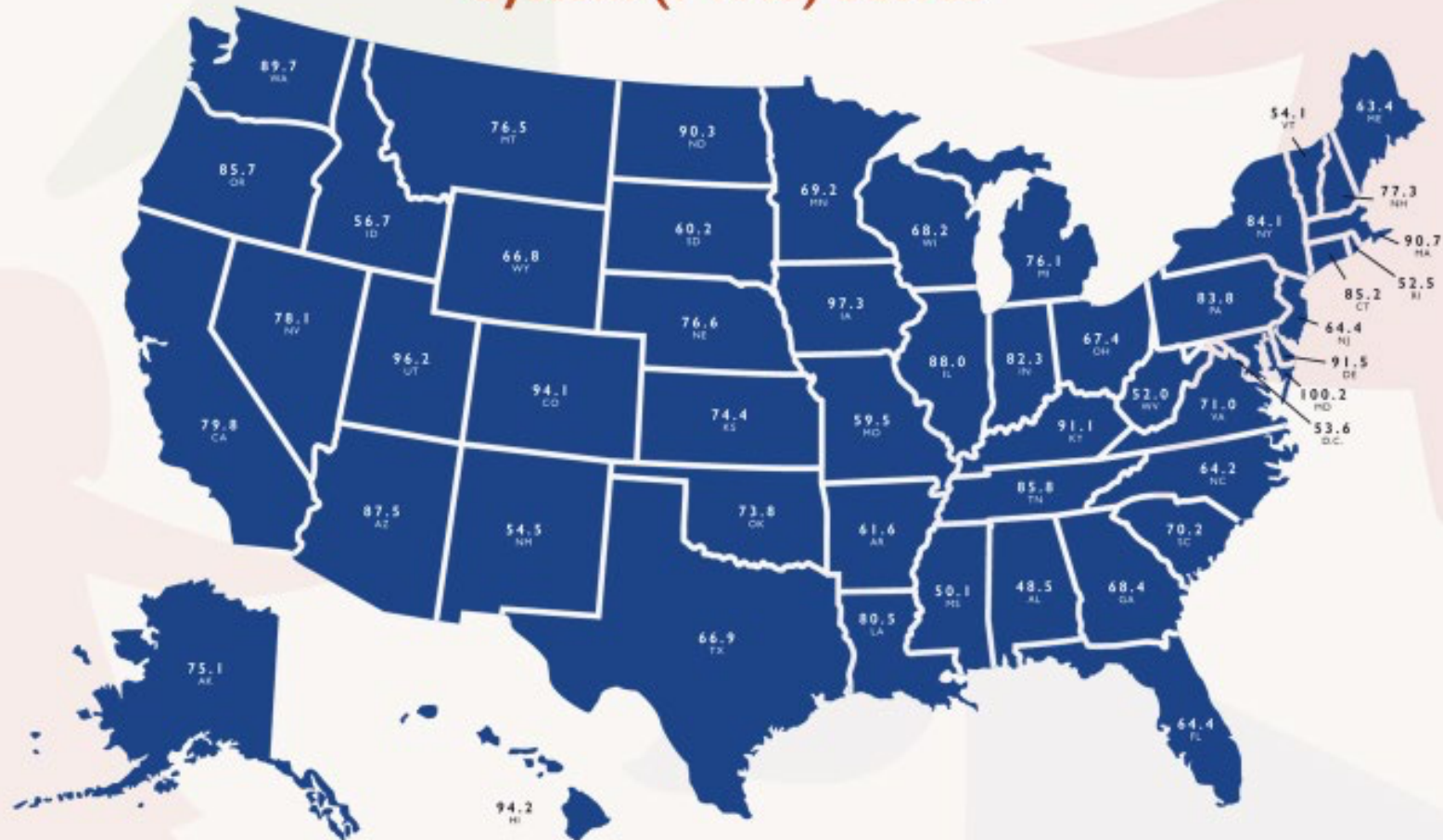


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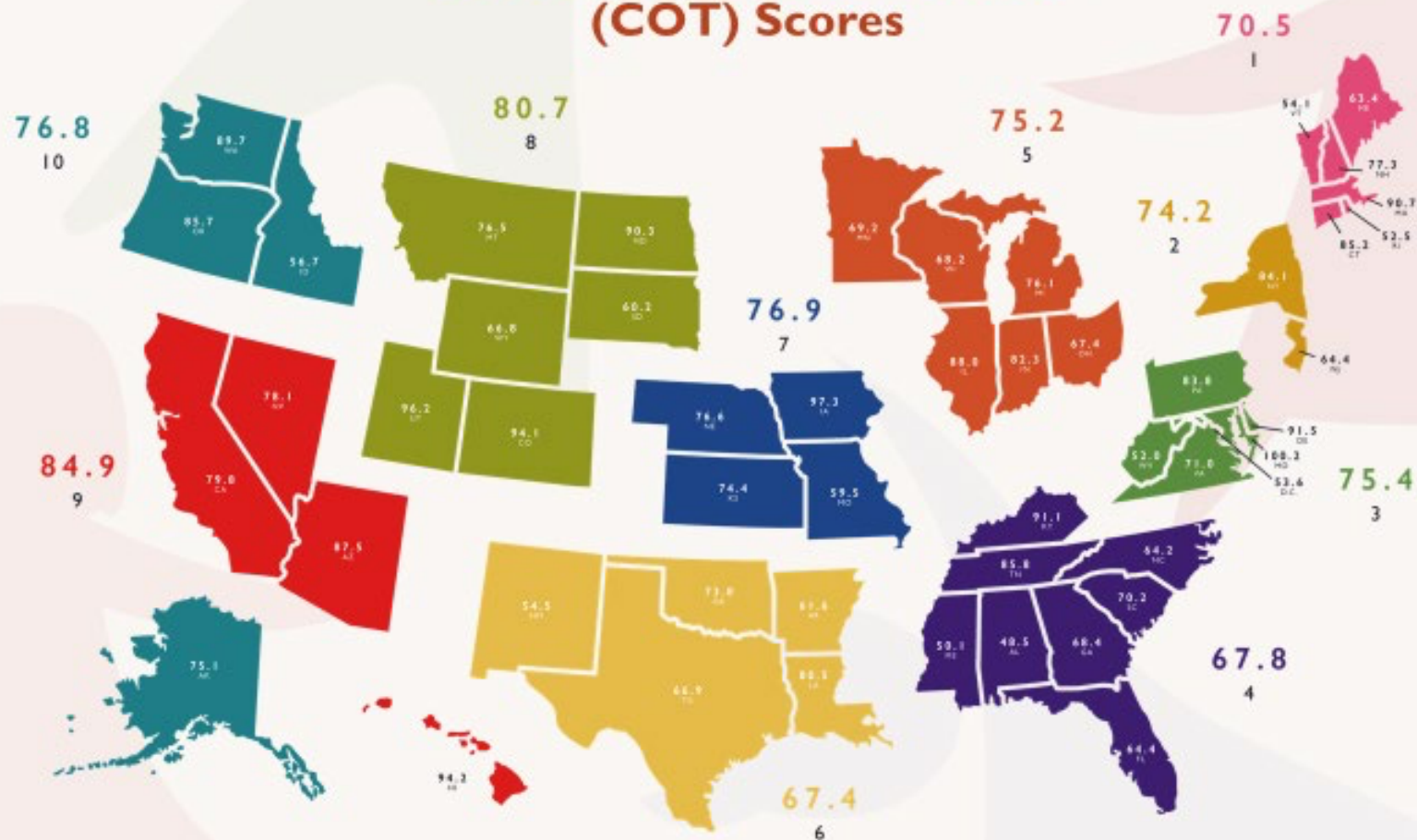
- The report begins to identify the gaps systematically
- It focuses on how states have individually perceived children's interests within their state trauma systems.
- The report describes the **development of a novel scoring system**
- The **Pediatric Trauma System Assessment Score (PTSAS)**, using parameters critical to the inclusion of children in trauma care.
- It is clear in retrospect that children were unintentionally left out of statutes and regulations in some states because no one was speaking for their interests when plans were developed
- States most inclusive of children, which have a **higher PTSAS, have less mortality due to injury.**
- Some parameters will stand to be enhanced by improving the “pediatric readiness” of emergency departments in US trauma centers, whether they are verified by the American College of Surgeons Committee on Trauma or by a state verification process
- Clearly the best way to build an integrated pediatric trauma system in a state and in this country is to include children in all aspects of planning and development



## States Pediatric Trauma System (PTAS) Scores



# ACS Committee on Trauma (COT) Scores

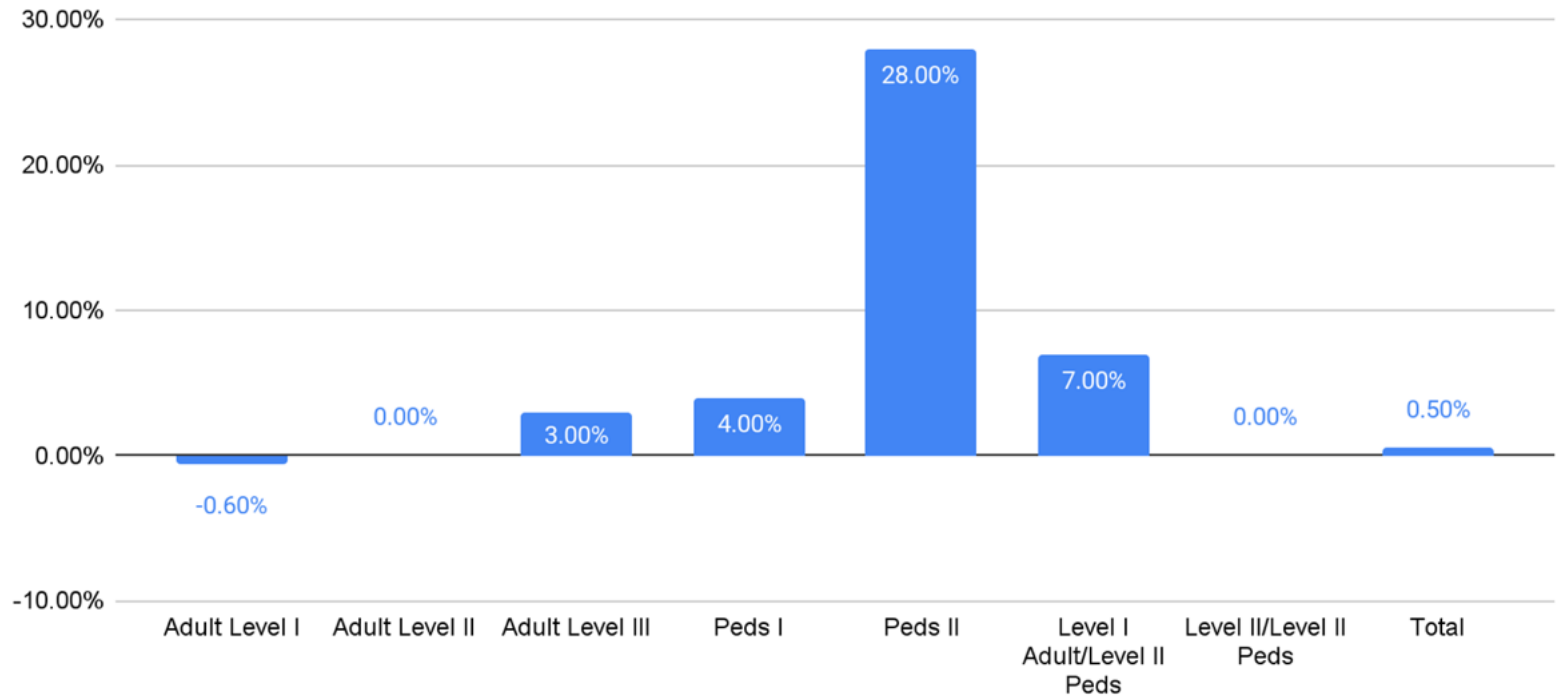




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## Hospitals VRC Verified


Enrollment Growth - % Change since January 2023





## ACS COT Priorities Moving Forward

- National Trauma and Emergency Preparedness System
- Strengthen COT Core Programs (Quality/Education)
- Focus on Rural Trauma/Trauma in Under Resourced Areas
- COT Membership/Engagement Opportunities
- Global Expansion of COT Quality Programs

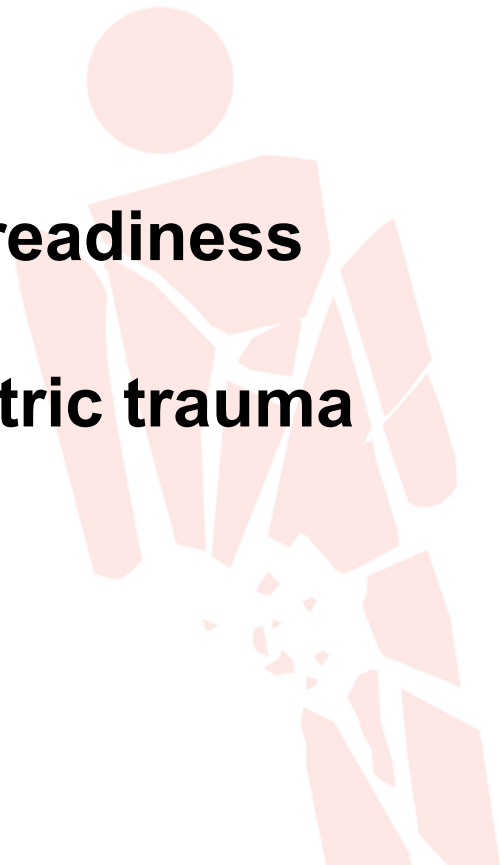
A long, straight asphalt road with white lane markings stretches into the distance, flanked by lush green trees and grass. The road leads towards a bright, hazy horizon, symbolizing a journey. The text "Excellence is a journey, not a destination" is overlaid in white on the road.

Excellence is a journey, not a destination



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**Will the adoption of pediatric readiness  
as a VRC standard  
change the landscape for pediatric trauma  
care?**





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# Thank you!





# Evolution of Pediatric Trauma Care A Texas Tale

**Alan H. Tyroch, MD, FACS, FCCM**

**Professor & Chair of Surgery  
Texas Tech University Health Sciences Center El Paso  
Chief of Surgery and Trauma Medical Director  
University Medical Center of El Paso**

**Governor's EMS and Trauma Council Chair**



2023 ALL-GRANTEE MEETING

CULTIVATING COMMUNITY GROWING COLLABORATION

# Speaker Disclosure

- **No financial interests or relationships to disclose.**



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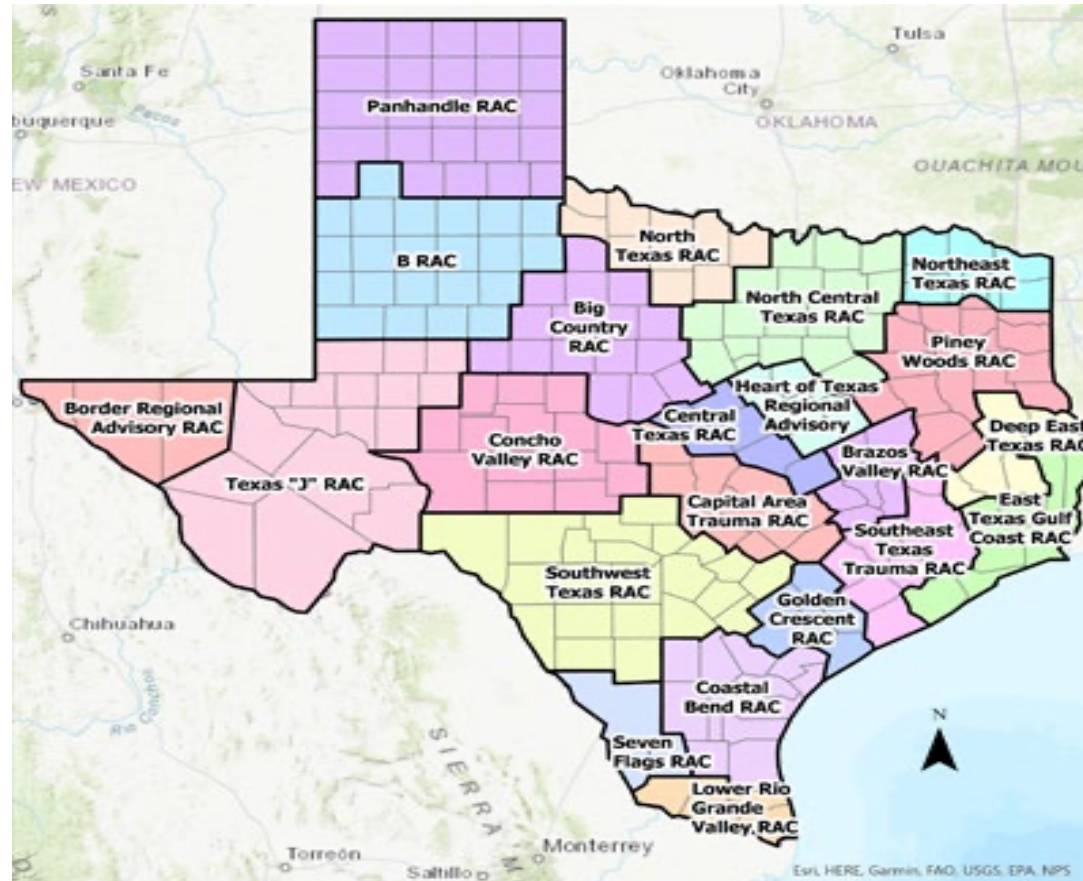
# Texas Emergency Healthcare System

- **1989:** Mandated by the Legislature with Texas Department of Health (DSHS) as lead agency.
  - Twenty-two trauma services areas with 22 regional advisory councils.
- **1999:** Governor's EMS and Trauma Advisory Council (GETAC).
  - Advise and make recommendations on development and implementation of Texas Emergency Healthcare System rules.
- **2001:** Mandated GETAC to assess the need for emergency medical services and trauma care systems.
- **2002:** 1<sup>st</sup> strategic plan for the Texas EMS/Trauma System was developed.
- **2019:** GETAC expanded to 19 members



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# Texas Trauma System



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# Governor's EMS and Trauma Council

## VISION

**A unified, comprehensive, and effective Emergency Healthcare System.**

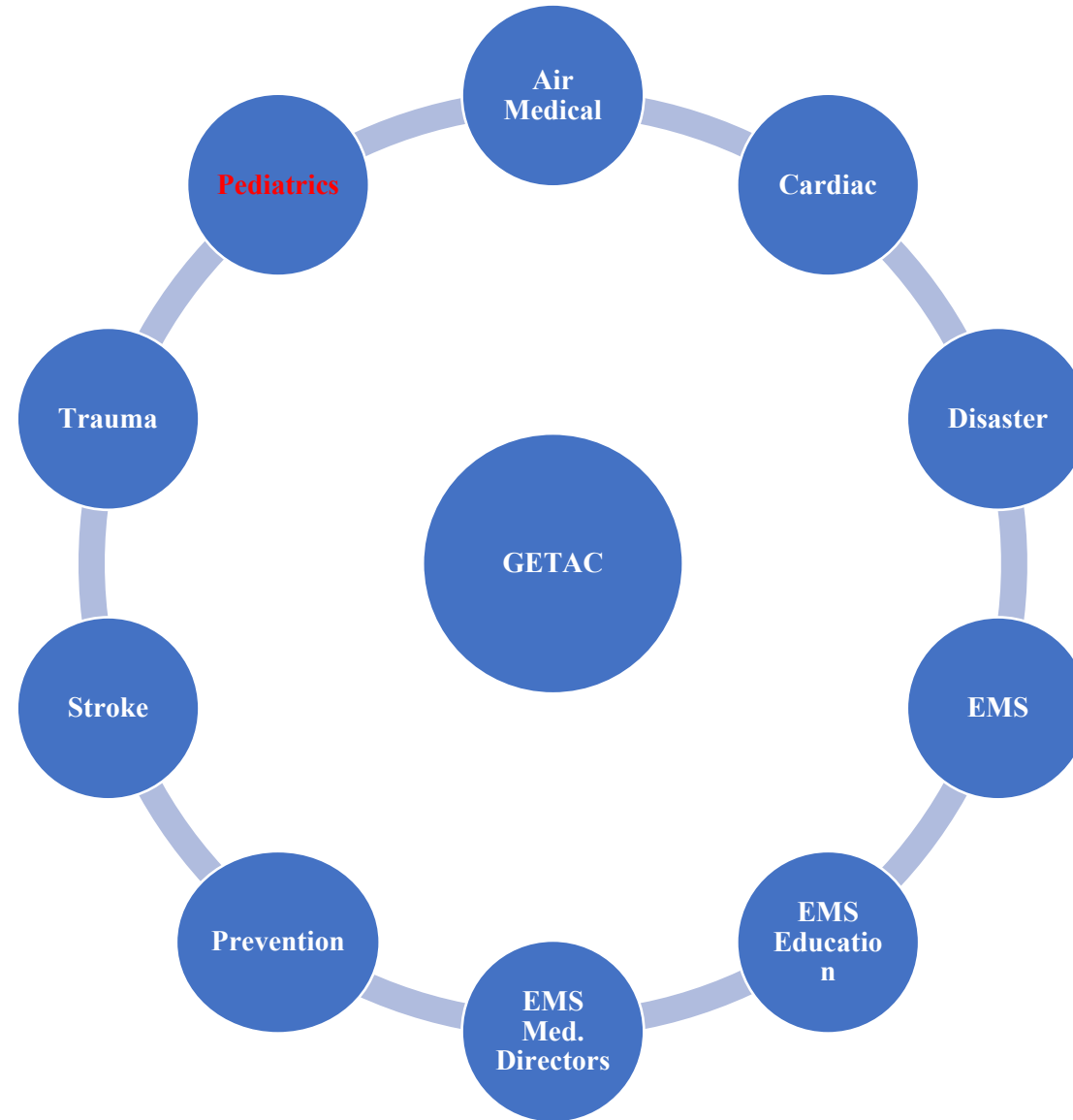
## MISSION

**To promote, develop, and advance an accountable, patient-centered Trauma and Emergency Healthcare System.**



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# Governor's EMS and Trauma Council



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# Texas Trauma Centers

- **Comprehensive (Level I): 22**
- **Major (Level II): 27**
- **Advanced (Level III): 60**
- **Basic (Level IV): 194**



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# Texas Children's Hospitals

1. **Children's Medical Center - Dallas (TC: I)**
2. **Texas Children's Hospital - Houston (TC: I)**
3. **Memorial Herman Children's Hospital - Houston (TC: I)**
4. **Dell Children's Medical Center - Austin (TC: I)**
5. **University Hospital - San Antonio (TC: I)**
6. **University Medical Center - El Paso (TC: I)**
  - **El Paso Children's Hospital**
7. **Cook Children's Medical Center - Fort Worth (TC: II)**
8. **Baylor S&W McLane Children's Hospital - Temple (TC: II)**
9. **Covenant Children's Hospital - Lubbock (TC: II)**
10. **Children's Hospital - San Antonio (TC: III)**
11. **Driscoll Children's Hospital - Corpus Christi (TC: III)**



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# **ACCIDENTAL DEATH AND DISABILITY: THE NEGLECTED DISEASE OF MODERN SOCIETY**

Prepared by the  
COMMITTEE ON TRAUMA AND COMMITTEE ON SHOCK  
DIVISION OF MEDICAL SCIENCES  
NATIONAL ACADEMY OF SCIENCES  
NATIONAL RESEARCH COUNCIL

NATIONAL ACADEMY OF SCIENCES  
NATIONAL RESEARCH COUNCIL  
Washington, D. C., September, 1966

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**When funeral  
homes  
operated  
ambulances...**

## JFK's Hearse



## Oswald's Ambulance



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# A Matter of Life and Death

## *Texas Monthly*

### 1975



*“If you were shot in the heart and reached Parkland or Ben Taub Hospitals with visible life signs, you would almost certainly survive. Elsewhere in Texas, you would probably end up dead.”*



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# A Matter of Life and Death

## Texas Monthly

### 1975

**Austin:** *Most people associated with health care in Austin believe that the city's emergency medical service is the worst in the state. In general, ER services range from adequate to nightmarish. As to getting there, the ambulance service rates fair to poor.*

**Corpus Christi:** *Nueces County Medical Society says both ambulance and ER services are very good. Citizens and media sources rate the Hospital's ER services good and the new firemen/EMTs a little better.*

**El Paso:** *Seems content to provide only bare-bones emergency medical care. Little or no civic or medical clamor for better care. Ambulance services rated as good. El Pasoans should see an improvement over minimum emergency equipment sometime in 1975. For now, El Pasoans are content with less than other Texans. Thomason's ER rates excellent on the basis of its dedicated and skilled medical work.*



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# A Matter of Life and Death

## *Texas Monthly*

### 1975

**Dallas:** *Before 1972, many ambulance drivers were morticians making \$40 a month plus room and board. Training was basic first aid due to high turnover and some had no training. Dallas is now the best Texas city to be in when an ambulance and the skills and immediacy of trauma medicine are required. Its service is a model for emergency care. However, such praise would not have been deserved before the seventies.*

**Fort Worth:** *Medical services at JPS rated as good; physical conditions which medicine labors and patients wait rate very poor. Ambulance services rate good under the conditions the city has set for it; however, the ambulances themselves are not always maintained in top-notch condition.*



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# A Matter of Life and Death

## *Texas Monthly*

### 1975

**Houston:** *The fire department directs the oldest public ambulance service in the state with 51K emergency calls in 1974. In all likelihood, the ambulance carrying a critical case or a person unable to pay at a private hospital will go to Ben Taub. The hospital's ER is headed by two senior residents, one a medicine resident, the other a surgery resident. Hermann Hospital's ER handles about 2K cases a month but not as many trauma cases as Ben Taub. The goal for Hermann is to provide trauma and cardiac care like Taub does, but only for people who can pay. Houston's ambulance service and the ERs at Ben Taub and Herman hospitals rate excellent.*



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# A Matter of Life and Death

## *Texas Monthly*

### 1975

**San Antonio:** *The city will soon complete its first year with a publicly run ambulance service. Under the private service, getting a patient to a hospital seemed more a competitive sport like football than a medical specialty. Competition between private companies ran high; stories of one ambulance blocking the route of another with a patient and drivers following a patient into the hospital demanding immediate payment were not unusual. The atmosphere in the Bexar County ER waiting room is almost always hectic. The San Antonio public ambulance service rates as very good. The Bexar County ER system rates as good.*



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*Pediatric Readiness Project*  
Ensuring Emergency Care for All Children



*Prehospital Pediatric Readiness Project*  
Ensuring Emergency Care for All Children



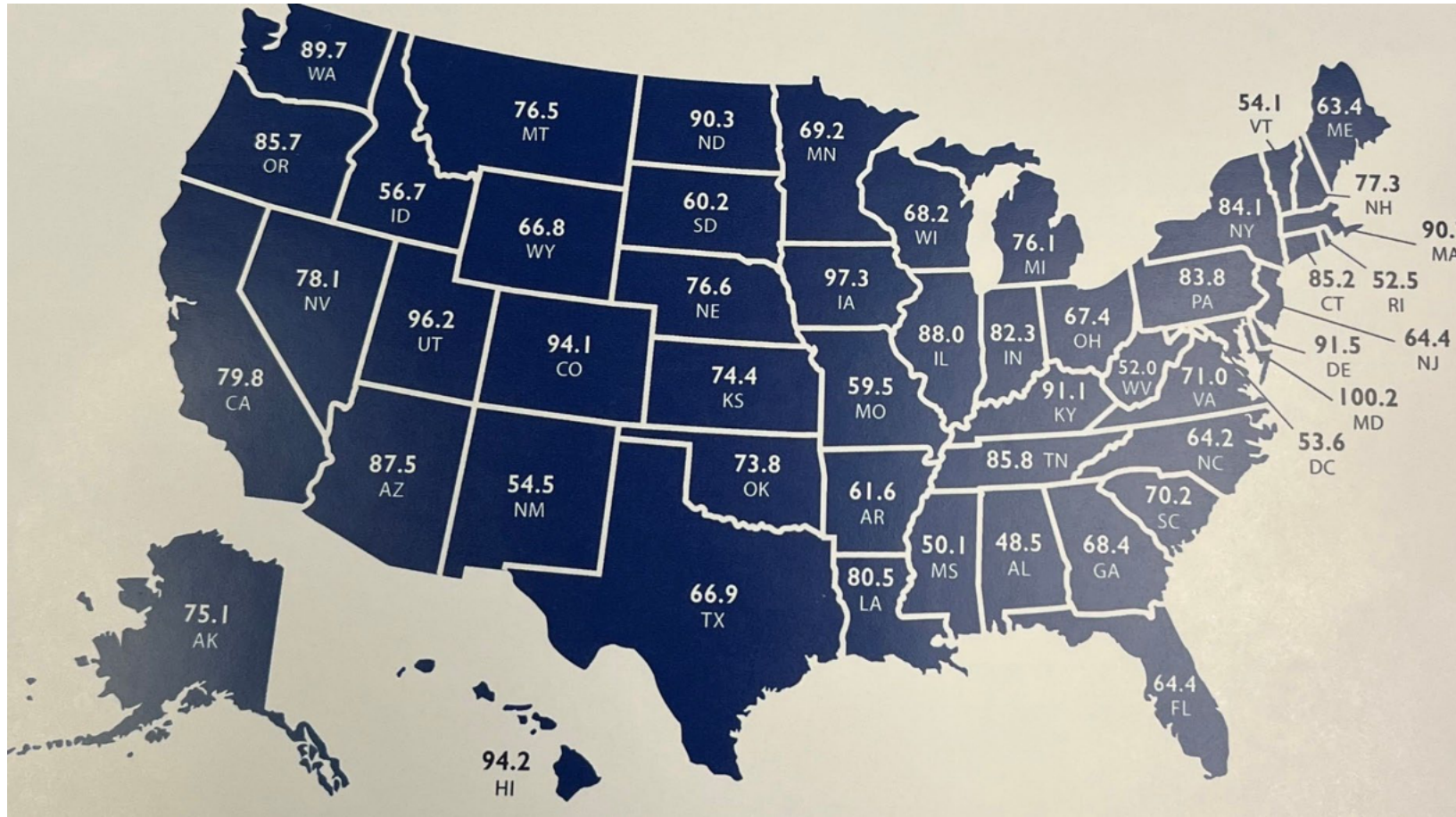
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# Pediatric Trauma System Assessment Score (Childress Institute for Pediatric Trauma)



#EMSC23

# Texas 2021 NPRRP State Summary

## 2021 Pediatric Readiness Response Rate

Numerator: 267  
Denominator: 525  
Response Rate: 51%

### 2021 Average State Score

74

State AVERAGE Hospital  
Score out of 100  
(n=265)

### 2021 Median State Score

74

State MEDIAN Hospital  
Score out of 100  
(n=265)

NOTE: There are 2 records in this dataset that did not have answers to all the scored questions and are not included in the scores shown above.

71

(8/6/2021)

**NATIONAL AVERAGE  
SCORE OF ALL  
PARTICIPATING  
HOSPITALS**

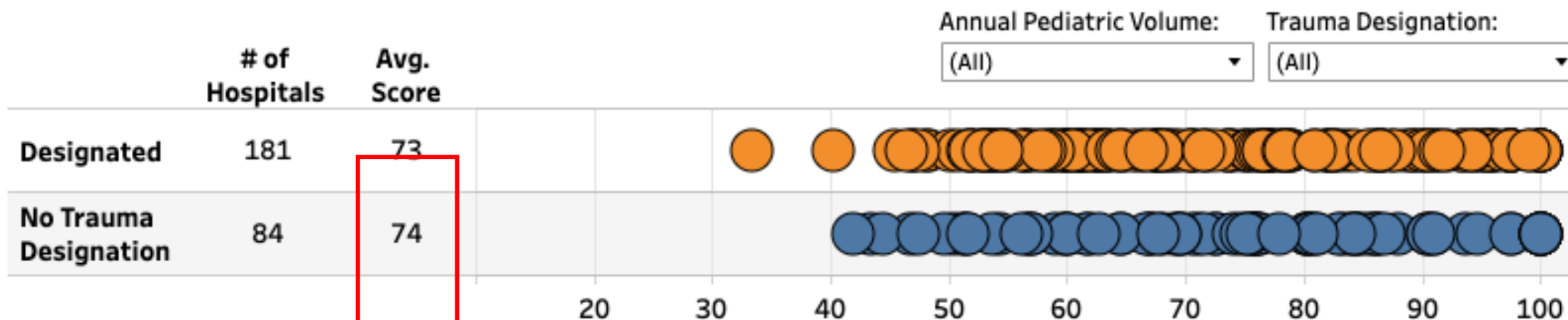


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# Trauma Facility vs Non-Trauma (Texas)

## Breakdown of Scores by Trauma Designation



NOTE: There are 2 records in this dataset that did not have answers to all the scored questions and are not included in the scores shown above.



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# Texas Trauma System Rules

- **Participate in the National Pediatric Readiness Project (NPRP).**
- **Ensure pediatric equipment and resources are immediately available.**
- **Education requirements for ENPC or PALS is compliant for nurses.**
- **Facility conducts one pediatric trauma simulation quarterly.**



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# What is Pediatric Readiness?

Pediatric Readiness is ensuring that **every EMS agency and emergency department** has the right equipment, supplies, medications and training to provide high-quality emergency care for children. Every Child. Every Day. It is addressing system-level issues such as policies, protocols and agreements, and not penalizing individual people or teams to truly reduce morbidity and mortality for ill and injured children.



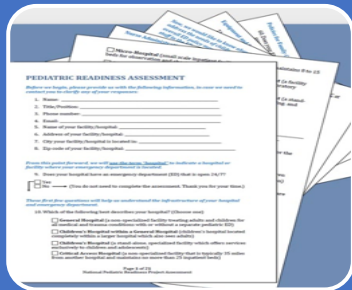
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What to do NOW!

Participate ASAP in the National Pediatric Readiness Project at <https://www.pedsready.org>



Once submitted, the respondent will receive an **email summary report** which shows:

- Answers to all **scored questions** broken down by the six domains of the assessment
- **Overall readiness score**
- Copy of **all answers** to all questions in the assessment (both scored and non-scored)



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# Barriers to Readiness

- Lack of educational resources (48%)
- Lack of a QI plan (47%)
- Lack of pediatric-specific **policies** (46%)
- Not aware of the guidelines (45%)
- Cost of training personnel (43%)
- Lack of a disaster plan (42%)
- Lack of trained nurses (40%)
- Lack of trained physicians (36%)
- Lack of administrative support (15%)
- Not interested (9%)
- Low pediatric volume (1%)



Common barriers are not due to cost, personnel, interest or support of administration



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# Pediatric Emergency Department Readiness Among US Trauma Hospitals

## *J Trauma, 2019*

**Objective:** To evaluate pediatric readiness (PRS) in trauma centers.

**Methods:** Comparison of EDs participating in the NPRP versus those that did not participate in the NPRP that identified as trauma centers.

**Results:** Overall, median PRS was 71.7. Children's hospitals had the highest PRS (98.6). The next highest was EDAPs (EDs approved for pediatrics) and the lowest was trauma centers (68.4).

**Conclusions:** Trauma center readiness may not translate to pediatric readiness in EDs.



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# Evaluation Of Emergency Department Pediatric Readiness And Outcomes Among US Trauma Centers *JAMA Pediatrics, 2021*

**Objective:** To evaluate the association between ED pediatric readiness, in-hospital mortality and in-hospital complications among injured children in trauma centers.

**Design:** Review of 372K children (832 TCs) using the NTDB and NPRP assessment

**Results:** Children receiving care in EDs at trauma centers in the highest quartile was associated with a 42% lower odds of death.

**Conclusions:** Injured children treated in high-readiness EDs had lower mortality compared with similar children in low-readiness EDs, but not fewer complications. This supports national efforts to increase pediatric readiness in US trauma centers.



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# Impact Of Individual Components Of Emergency Department Readiness On Pediatric Mortality In US Trauma Centers

## *J Trauma, 2022*

**Objective:** To identify individual components of ED pediatric readiness associated with better-than-expected survival in US trauma centers.

**Methods:** Matching NTDB data with the NPRP assessment (555 trauma centers).

**Results:** Unadjusted analyses showed a benefit with the following: pediatric triage tool, comprehensive quality improvement processes, pediatric-specific disaster plan and critical airway & resuscitation equipment. Multivariable analysis demonstrated the benefit of both a physician and nurse pediatric emergency care coordinator (PECC).

**Conclusions:** The above components of pediatric readiness may serve as targeted areas of focus for trauma centers. (My opinion: The PECC is essential to success.)



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# Association Of Transport Time, Proximity And Emergency Department Readiness With Pediatric Survival At US Trauma Centers

*JAMA Surg, 2023*

**Objective:** To ascertain the association between geographic access to high-readiness EDs in US trauma centers and mortality.

**Methods:** Review of 213K children from 765 trauma centers that contributed data to the NTDB and completed the 2013 National Pediatric Readiness Assessment.

**Results:** Trauma centers with high PRS was associated with lower mortality. Matching children to TCs with high readiness EDs < 30 minutes may have potentially saved 468 lives but increasing all TCs to high ED readiness may have potentially saved 1,655 lives.

**Conclusions:** Increasing the level of pediatric readiness at all US trauma centers may substantially improve patient outcomes after trauma.



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# Voluntary Pediatric Recognition Program

Criteria Developed

Pilot phase in progress

First facility recognized

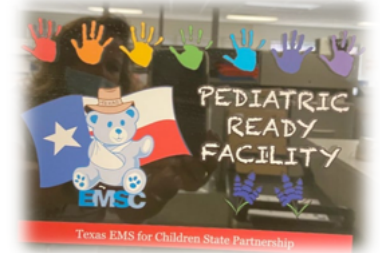
- Christus Mother Frances Hospital-Jacksonville June 2020

Two other facilities have undergone the review process

Texas EMS for Children Texas State Partnership coordinating



# Why Texas Considered Developing a Pediatric Facility Recognition Program?



<b>Increase</b>	<b>Increase awareness of pediatric readiness in emergency departments</b>
<b>Establish</b>	<b>Establish minimal standards for pediatric emergency care</b>
<b>Verify</b>	<b>Verify pediatric resources (virtual-site assessments)</b>
<b>Minimize</b>	<b>Minimize pediatric patient safety events</b>
<b>Address</b>	<b>Address gaps in access and care</b>



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# Statewide Pediatric Facility Recognition Programs And Their Association With Pediatric Readiness In Emergency Departments In The United States

## *J Pediatrics, 2020*

**Objective:** To describe the relationship between statewide pediatric facility recognition (PFR) programs and pediatric readiness in EDs.

**Design:** Data extraction from the 2013 National Pediatric Readiness Project using the pediatric readiness score (PRS) comparing EDs in 8 states that participate in the PFR to non-participating states.

**Results:** States with a PFR program had a higher PRS (9.1 points) compared with states without a PFR program. EDs recognized in a PFR program had a 21.7 point increase.

**Conclusions:** Statewide PFR initiatives are associated with higher pediatric readiness.



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# Contact Information

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# C. Everett Koop, M.D.

## U.S. Surgeon General 1982-1989

*“If a disease were killing our children in the proportions that injuries are, people would be outraged and demand that this killer be stopped.”*

2020, Both Sexes, All Ages, All Races

	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	All Ages
1	Congenital Anomalies 4,043	Unintentional Injury 1,153	Unintentional Injury 685	Unintentional Injury 881	Unintentional Injury 15,117	Unintentional Injury 31,315	Unintentional Injury 31,057	Malignant Neoplasms 34,589	Malignant Neoplasms 110,243	Heart Disease 556,665	Heart Disease 696,962
2	Short Gestation 3,141	Congenital Anomalies 382	Malignant Neoplasms 382	Suicide 581	Homicide 6,466	Suicide 8,454	Heart Disease 12,177	Heart Disease 34,169	Heart Disease 88,551	Malignant Neoplasms 440,753	Malignant Neoplasms 602,350
3	Sids 1,389	Homicide 311	Congenital Anomalies 171	Malignant Neoplasms 410	Suicide 6,062	Homicide 7,125	Malignant Neoplasms 10,730	Unintentional Injury 27,819	Covid-19 42,090	Covid-19 282,836	Covid-19 350,831
4	Unintentional Injury 1,194	Malignant Neoplasms 307	Homicide 169	Homicide 285	Malignant Neoplasms 1,306	Heart Disease 3,984	Suicide 7,314	Covid-19 16,964	Unintentional Injury 28,915	Cerebrovascular 137,392	Unintentional Injury 200,955
5	Maternal Pregnancy Comp. 1,116	Heart Disease 112	Heart Disease 56	Congenital Anomalies 150	Heart Disease 870	Malignant Neoplasms 3,573	Covid-19 6,079	Liver Disease 9,503	Chronic Low. Respiratory Disease 18,816	Alzheimer's Disease 132,741	Cerebrovascular 160,264
6	Placenta Cord Membranes 700	Influenza & Pneumonia 84	Influenza & Pneumonia 55	Heart Disease 111	Covid-19 501	Covid-19 2,254	Liver Disease 4,938	Diabetes Mellitus 7,546	Diabetes Mellitus 18,002	Chronic Low. Respiratory Disease 128,712	Chronic Low. Respiratory Disease 152,657
7	Bacterial Sepsis 542	Cerebrovascular 55	Chronic Low. Respiratory Disease 54	Chronic Low. Respiratory Disease 93	Congenital Anomalies 384	Liver Disease 1,631	Homicide 4,482	Suicide 7,249	Liver Disease 16,151	Diabetes Mellitus 72,194	Alzheimer's Disease 134,242
8	Respiratory Distress 388	Perinatal Period 54	Cerebrovascular 32	Diabetes Mellitus Influenza & Pneumonia 50	Diabetes Mellitus 312	Diabetes Mellitus 1,168	Diabetes Mellitus 2,904	Cerebrovascular 5,686	Cerebrovascular 14,153	Unintentional Injury 62,796	Diabetes Mellitus 102,188
9	Circulatory System Disease 386	Septicemia 43	Benign Neoplasms 28	50	Chronic Low. Respiratory Disease 220	Cerebrovascular 600	Cerebrovascular 2,008	Chronic Low. Respiratory Disease 3,538	Suicide 7,160	Nephritis 42,675	Influenza & Pneumonia 53,544
10	Neonatal Hemorrhage 317	Benign Neoplasms 35	Suicide 20**	Cerebrovascular 44	Complicated Pregnancy 191	Complicated Pregnancy 594	Influenza & Pneumonia 1,148	Homicide 2,542	Influenza & Pneumonia 6,295	Influenza & Pneumonia 42,511	Nephritis 52,547



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