

## **A PARADIGM FOR ACHIEVING SUCCESSFUL PEDIATRIC TRAUMA VERIFICATION IN THE ABSENCE OF PEDIATRIC SURGICAL SPECIALISTS WHILE ENSURING QUALITY OF CARE**

**Richard A. Falcone, Jr, MD, MPH, William J. Milliken, MD, Denis Bensard, MD, Lynn Haas, MSN, Margot Daugherty, MSN, MEd., Lisa Gray, MSN, David Tuggle, MD, Victor F. Garcia, MD**  
Comprehensive Children's Injury Center at Cincinnati Children's, St. Mary's Medical Center, Children's Hospital of Colorado, Dell Children's Medical Center

# Disclosures

Cincinnati Children's Hospital Medical Center receives funding from participating hospitals to support the collaborative program described



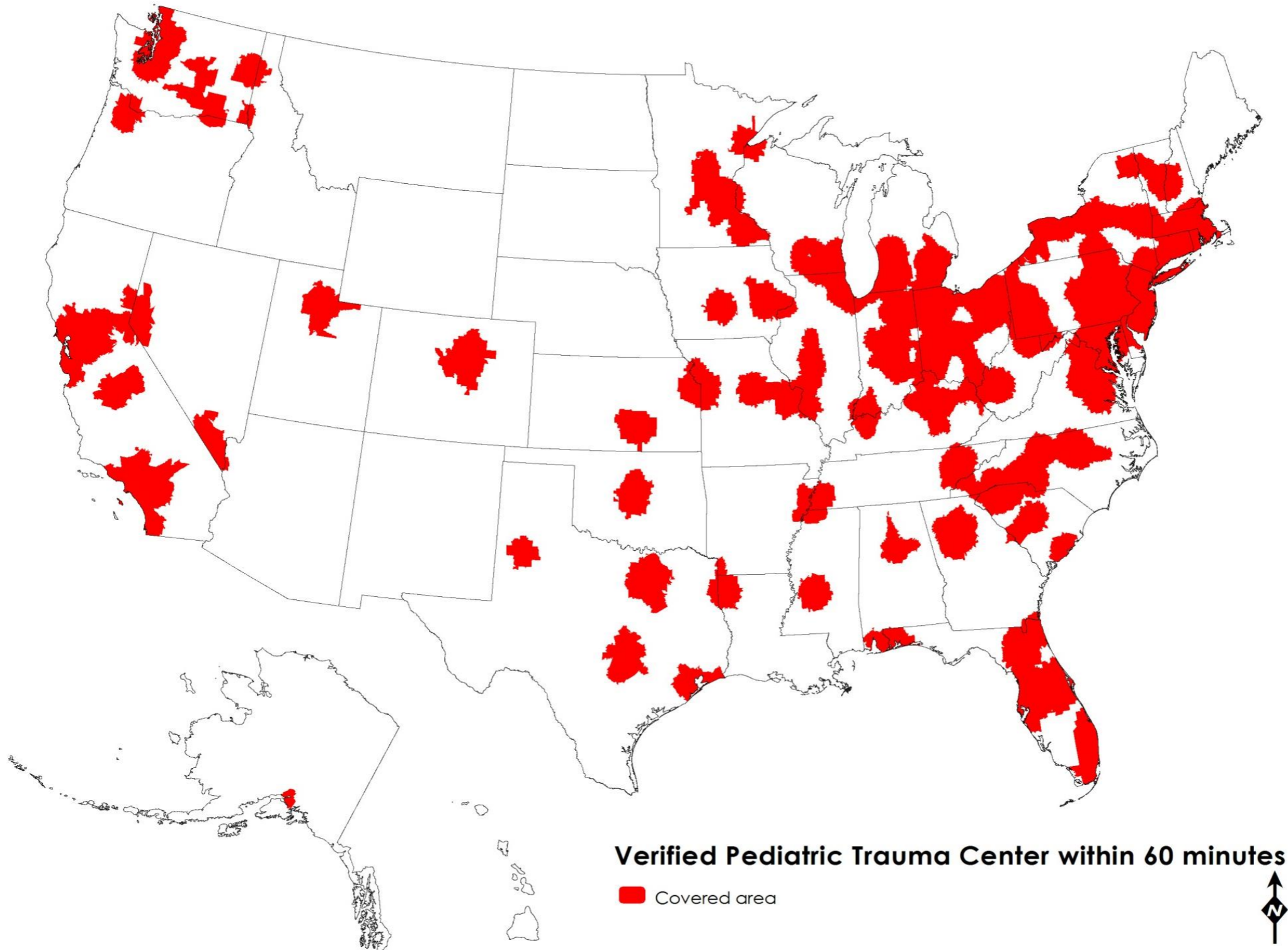
# Objectives

- Identify current access to Pediatric Trauma Centers and the need for additional centers
- Discuss the collaborative partnerships paradigm
- Summarize program results
- Define potential future steps

# The Problem

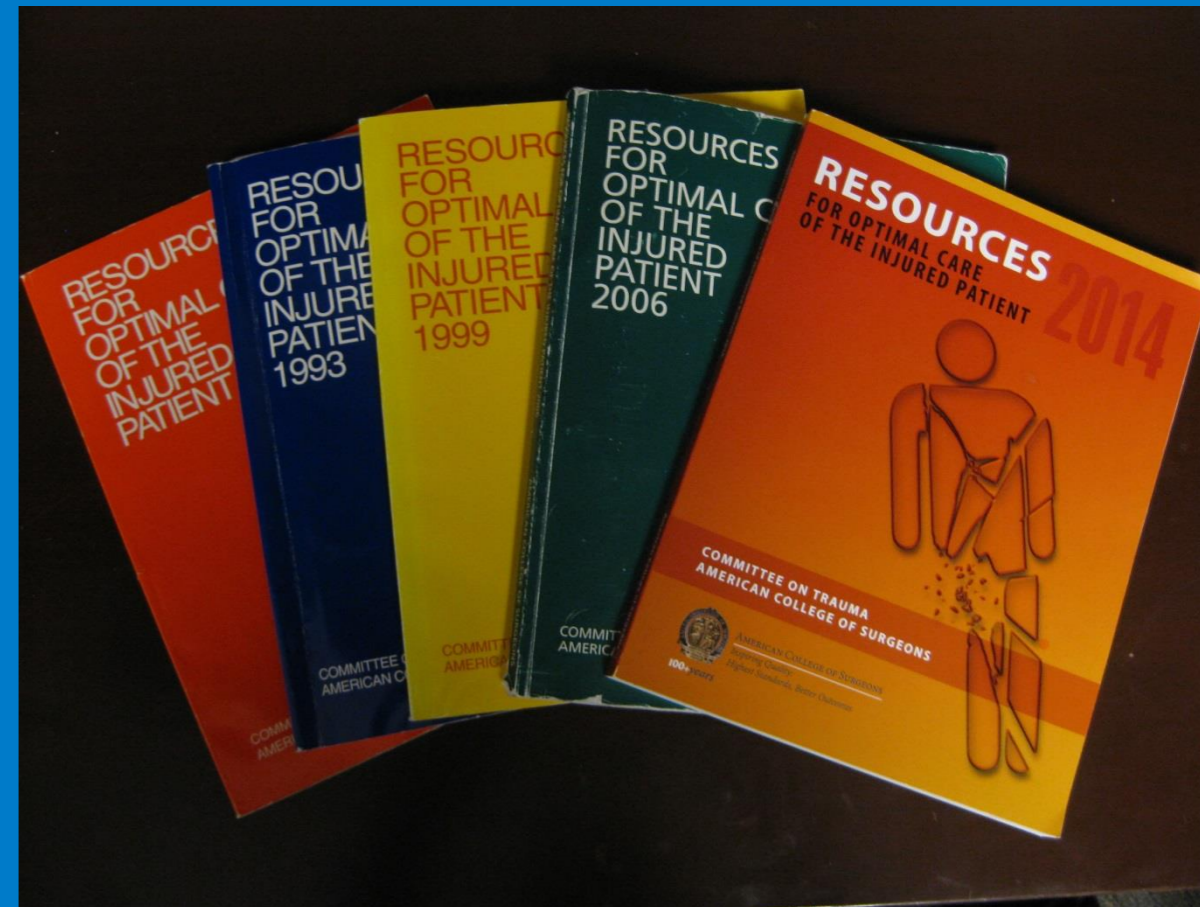
- One in five children are injured each year
- Injury is the leading cause of death in children over 1 year of age
- Verified Pediatric Trauma Centers help but only 10% of children are cared for at these centers

17.4 Million children without access



# American College of Surgeon Committee on Trauma Changes

- 2006 New edition released
- No longer allowed “added qualifications in pediatrics”
- Required participation of a pediatric surgeon to qualify



# PEDIATRIC TRAUMA TRANSFORMATION COLLABORATIVE



Hypothesis: ATCs in collaboration with a PTC could achieve successful ACS verification as a pediatric trauma center with measurable improvements in care despite the lack of onsite pediatric surgical specialists.



# Goals of Collaborative Partnership

- Support hospitals committed to improving the care of injured children in their regions
- Help provide high quality of care in regions of need to reduce the need to transfer patients away from their families and support systems





# Program Description



# Participation in monthly performance improvement meetings

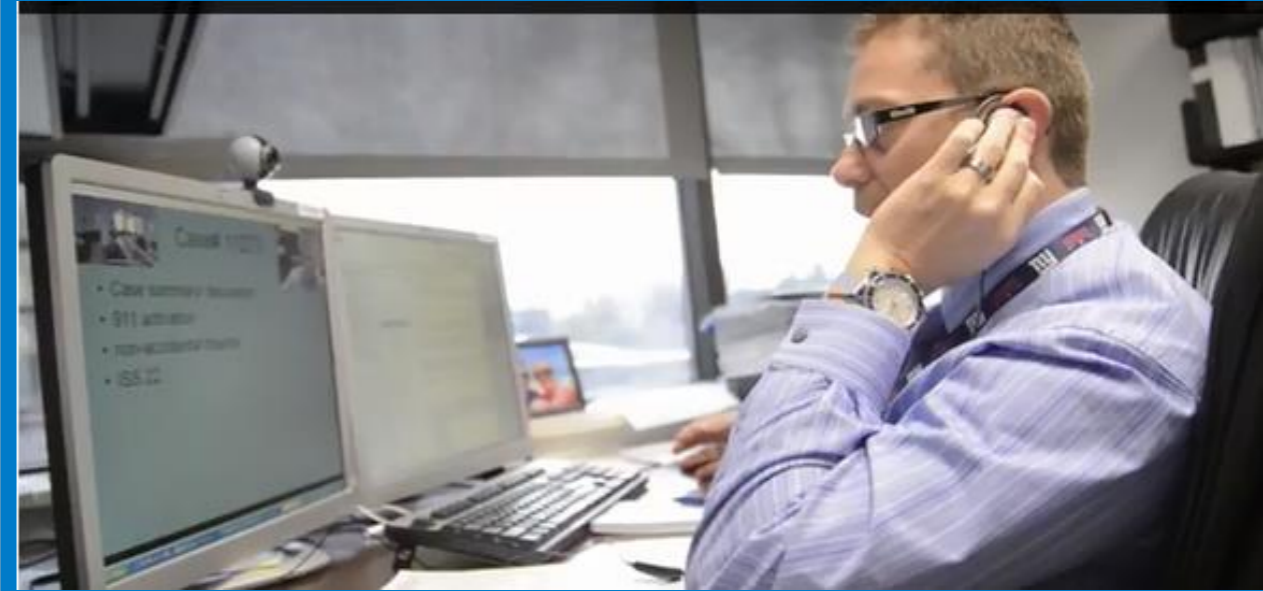
- Review of cases identified by participating hospitals
- Video conference participation in monthly multidisciplinary team meetings
- Identification of improvement opportunities and sharing of resources



## Guideline development and support

All current trauma guidelines  
are made available to  
collaborative partners

Specific needs of individual  
partners are reviewed and support  
provided in developing and  
reviewing new guidelines





## Pediatric trauma focused CME/CEU

Comprehensive Children's  
Injury Center monthly lecture  
series available on-line  
10 hours each year

CME/CEU provided for  
performance improvement  
meetings

# Pediatric trauma simulation training

- Multidisciplinary trauma team training
- Scenarios based on real cases
- Video based debriefing



# Peer to Peer Support

- Physician and nurse shadowing opportunities
- Registrar expertise support
- Program Manager collaboration
- Pediatric Trauma Nurse Practitioner
- 24/7 access to phone consultation



# Results

# Patient Volumes

- 2,808 pediatric trauma patients
- 81 (3%) required transfer
- Average volume
  - 128 pre vs. 162 post ( $p < 0.05$ )
- Transfers
  - 3.8% pre vs 2.4% post ( $p < 0.05$ )



# ACS Verification

- St. Mary's Hospital in Evansville, IN successfully verified twice as Level II Pediatric Trauma Center

*All sites had the PTTC listed as one of the key strengths of their program*

- Sanford Hospital in Fargo, ND verified as Level II Pediatric Trauma Center – First in North Dakota



# Improvement Initiatives

Image/radiation reduction

Cervical Spine clearance

Non-accidental trauma  
evaluation process

Safe transport checklists for children

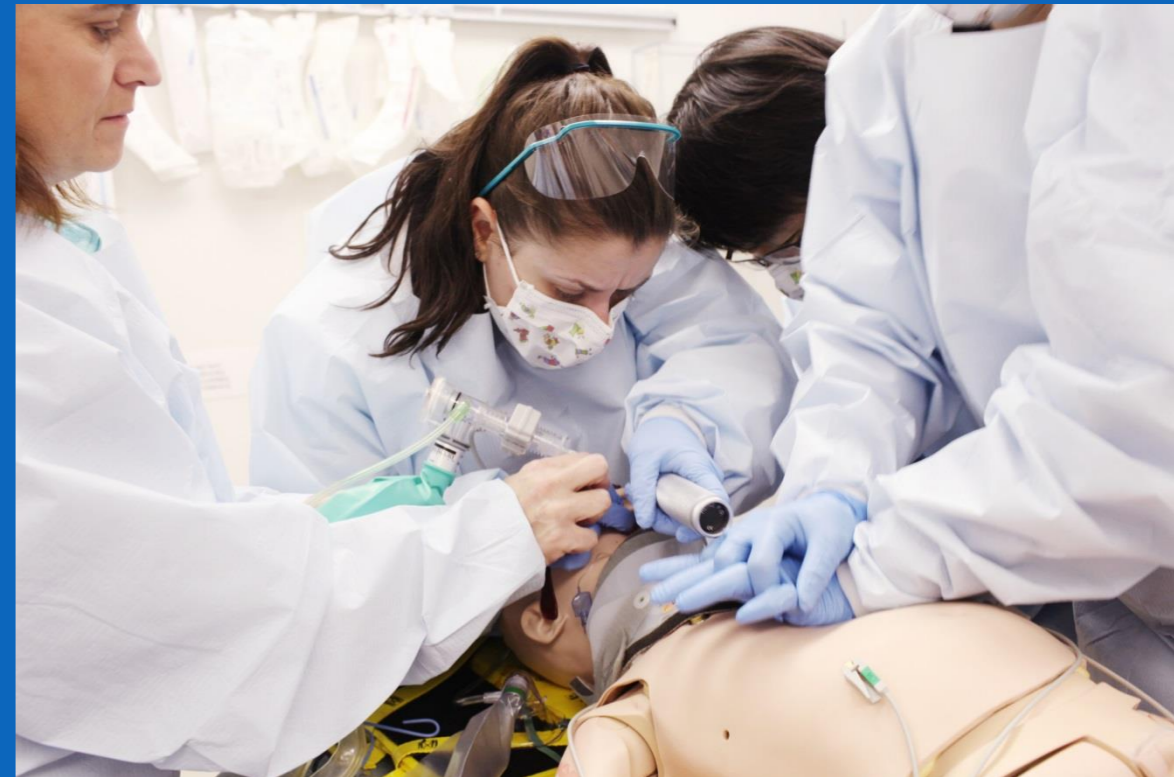
Trauma team notification system to  
include pediatric critical care  
physician

Pediatric trauma outreach/follow up



# Simulation Training

- 13 Four hour sessions
- 129 individuals
  - 23 physicians
  - 94 nurses
  - 12 ancillary staff
- “Shared Mental Model”
- Role definition
- Clear communication



# Solid Organ Management

	Pre	Post	P
LOS	7.7	4.3	0.0319
# of lab draws	10.9	6.0	0.0014
% repeat abdominal CT scan	46.4	11.0	0.0001
Total abdominal CT scans (mean)	1.7	1.1	<0.0005



# Future Steps

- Expand the number of partners
- Increase collaborative learning opportunities across centers
- Increase the quality and benchmark metrics across sites to improve care and patient safety
- Grow the neurosurgery, orthopaedic and emergency pediatric care components of the collaborative program

# Thank You!

