An Inclusive Regional Trauma System Plan in District 10: D10TRAC

Stephen Lanzarotti, MD - Co-Chair D10TRAC
W. Matthew Vassy, MD Co-Chair D10TRAC

Email questions to: indianatrauma@isdh.in.gov
Regional Trauma System Plan Development

- Inclusive Trauma Systems emphasize the need and role of various levels of Trauma Centers to cooperate in the care of injured patients to avoid wasting medical resources.

- Role of Verified/Designated Trauma Centers in the Development of Regional Trauma Systems.
  - “Meaningful participation in state and regional trauma system planning, development, and operation is essential for all designated facilities within a region.”

Resource: Optimal Care of the Injured Patient 2006 ACS/COT
What is a trauma system plan?

- A trauma system plan is an organized process within a geographical area that guides flow of injured patients to the proper facility for best patient care and best outcomes.

- Local – Evansville
  - Pre-hospital protocols to guide flow of injured patients.
  - Trauma center coordinates with pre hospital services

- Regional – D10TRAC
  - Develop a regional trauma system plan for District 10 in Indiana which is based on standard guidelines set forth by the ACS-COT, for comprehensive trauma and acute care system development.
  - Oversight by ISDH Division of Trauma and Injury Prevention.

Email questions to: indianatrauma@isdh.in.gov
D10 Demographics

- Population: 595,893 (based on 2013 data)
- Counties: 12
- Hospitals: 10
- EMS: 87
- Flight Services: 4

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<table>
<thead>
<tr>
<th>Hospital</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daviess Community Hospital</td>
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<tr>
<td>Deaconess Hospital</td>
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<td>Memorial Hospital and Healthcare</td>
<td>Dubois</td>
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<td>Perry County Memorial</td>
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<td>St. Mary’s Medical Center</td>
<td>Vanderburgh</td>
</tr>
<tr>
<td>St. Mary’s Warrick Hospital</td>
<td>Warrick</td>
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</tbody>
</table>

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History of Organizational Efforts

- **2005-2007**: TPM and TMD visit each hospital in District 10
  - Purpose: update key stakeholders on the progress of the Indiana Trauma Task Force and the development of the Indiana Trauma System Plan.
  - Distributed the yellow/green book, copies of minutes from the Indiana Task Force meetings, and templates to implement transfer agreements with the Level II Trauma Centers in Evansville and Level I Trauma Centers in Indianapolis.
  - Stakeholders were asked to consider participating in the regional trauma system plan with a goal of becoming a Level III or Level IV trauma center.
  - Emphasis: Trauma System Rather than Trauma Center
    - Right patient, right place, right time
    - Participation in an inclusive system to provide care of injured patients and meeting the needs of each rural community.

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Critical Success Factors

- April 2011: First organized meeting of District 10 Regional Trauma System Plan Task Force
- Overview of Regional Trauma System Plan development based on the TX model
- July 2011: Level IV Trauma Center - Dr. Barnes, TMD and Robin Leidecker TPM, Livingston Hospital Level IV Trauma Center
- October 2011: Level III Trauma Center - Dr. Anthony Borzotta, TMD, Bethesda North Level III Trauma Center, Cincinnati, OH

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Meeting Logistics

- Rotate location throughout the District
- Ask hosting hospital to present a trauma case of their choice
- IDPH comes to answer questions and present data from District
- Cover hot topics in trauma care

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Evolution of D10TRAC

- 2012 Quarterly Meetings:
  - Emphasis on state registry participation, drafting of by-laws
  - By-Laws Steering Committee
  - Formation of D10TRAC Executive Committee
  - Nomination of Officers
  - Special Committees
  - Case study presentations with education/PI emphasis

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Voting Members:

- One representative from each district hospital (9 hospitals)
- Six representatives from Emergency Medical providers
  - One from an urban county (Vanderburgh)
  - One from rural county with hospital (Perry, Daviess, Dubois, Knox, Warrick, Gibson)
  - One from rural county without hospital (Martin, Crawford, Spencer, Posey, Pike)
  - Air Transport, hospital based
  - Air Transport, non hospital based
  - EMS medical director

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Evolution of D10TRAC

• 2013 Quarterly Meetings:
  • One on one mentoring with each hospital to facilitate state registry participation
  • All hospitals reporting late 2013 to trauma registry
  • Logo, Mission Statement, Website
  • EMS Virtual Access proposal
  • Fluid Management Discussion
  • Education Subcommittee Survey
  • District 10 PI – ED LOS

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Evolution of D10TRAC

- 2014-2015 Quarterly Meetings:
  - Data Review
  - District 10 PI – ED LOS
  - Pediatric Trauma: unique population, need for specialized services
  - Case Study from hosting facility
  - Education Subcommittee
  - Balanced Resuscitation, Anticoagulant Reversal Agents, Tourniquet Use
  - Ad hoc membership: Rehabilitation

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District 10 Data Highlights

Email questions to: indianatrauma@isdh.in.gov
ALL Patients - ED Length of Stay (Hours) - Average

Email questions to: indianatrauma@isdh.in.gov
transfer patients

ONLY

TRANSFERS - ED Length of Stay (Hours) - Average

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District 10 Data Report - Highlights

- 8,052 incidents reported to the state
  - 995 came from District 10

ED LOS (hours)
- < 1 hour = 13% (vs. 5% Statewide) - Up 3% from Q3’s (10%)
- 1-2 hours = 51% (vs. 30% Statewide) - Stayed the same
- 3-5 hours = 31% (vs. 41% Statewide) - Down 1% from Q3’s (32%)

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64% of the cases in D10
District 10 Highlights

• ICU LOS (Days)
  • No ICU = 66% (vs. 82% Statewide)
  • 1-2 Days = 22% (vs. 8% Statewide)
  • 3-7 Days = 9% (vs. 7% Statewide)

• Hospital LOS
  • No Hospital Stay = 16% (vs. 18% Statewide)
  • 4-7 Days = 37% (vs. 34% Statewide)
Future D10TRAC Trauma System Planning and Development

- D10TRAC management guidelines and protocols
- Data driven system performance improvement initiatives
- Prepare/assist member organizations in attaining trauma designation at the level appropriate for the resources in their area
- Trauma system funding—when applicable, approve and distribute funding to trauma care providers according to legislative rules.

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Future D10TRAC Trauma System Planning and Development

- Increase public awareness of the methods to access the trauma and acute care system and injury prevention programs in District 10.

- Enhance communication between pre-hospital health care providers and hospitals to facilitate the transport of patients to appropriate trauma facilities and utilization of the most efficient mode of transport.

- Provide education and certification programs for trauma care providers throughout region based upon identified needs (PIPS program, educational survey)

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D10TRAC: What is the goal?

- An inclusive trauma system for care of the injured patient in southern Indiana
- Provision of technical assistance and education to regional hospitals and providers for the purposes of improving system performance

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Summary

- Inclusive Trauma Systems require:
  - Ongoing evaluation of Local, Regional, State System plans
  - Leadership
  - ISDH
  - ACS-COT
  - Level I, II Trauma Centers

- The trauma system consists of a variety of discrete components interacting in an organized manner to accomplish defined goals.
Questions?

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Designation Subcommittee Update

Dr. Gerardo Gomez, MD, Trauma Medical Director
Eskenazi Health

Email questions to: indianatrauma@isdh.in.gov
Designation Subcommittee Update

August 21, 2015
Gerardo Gomez, MD, FACS
Committee Chair

Dr. R. Lawrence Reed, Dr. Lewis Jacobson, Spencer Grover, Wendy St. John, Jennifer Mullen, Lisa Hollister, Amanda Elikofer, Katie Hokanson, Ramzi Nimry, Missy Hockaday, Teri Joy, Art Logsdon, Judy Holsinger, Jennifer Conger, Dr. Emily Fitz, Dr. Matthew Sutter.
2015 Committee Meetings

• January 28, 2015
• April 20, 2015
• July 2, 2015
• August 13, 2015

• Meeting minutes available on-line:
  ▫ http://www.state.in.us/isdh/25400.htm
<table>
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<tr>
<th>ACS Verified Trauma Center Name</th>
<th>Location</th>
<th>Adult Designation</th>
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<td>IU Health Methodist Hospital</td>
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### In-process Trauma Center Name

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<tr>
<td>Community Hospital of Anderson &amp; Madison</td>
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<tr>
<td>Community Hospital - North</td>
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<td>Community Hospital - South</td>
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<tr>
<td>Franciscan St. Elizabeth - East</td>
<td>Lafayette</td>
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<tr>
<td>Good Samaritan Hospital</td>
<td>Vincennes</td>
</tr>
<tr>
<td>Methodist Hospital - Northlake Campus</td>
<td>Gary</td>
</tr>
<tr>
<td>St. Vincent Hospital Anderson</td>
<td>Anderson</td>
</tr>
<tr>
<td>Facility Name</td>
<td>“In the Process” Date*</td>
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<td>------------------------</td>
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<td>IU Health – Ball Memorial</td>
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<td>Methodist Northlake</td>
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</table>
Next Steps:

- Review the Triage and Transport Rule
The Value of Incorporating Trauma-Informed Approaches into Care and Services

Indiana State Trauma Care Committee
August 21, 2015

Michelle Hoersch, MS
Office on Women’s Health – Region V
U.S. Department of Health and Human Services
Region V Focus on Trauma

Vision

To equip every health and social service provider and institution with the knowledge, resources and support to provide services that are gender-responsive and trauma-informed so as to provide the best possible care for trauma-affected individuals.
Functional Definition of Trauma

Trauma occurs whenever an external threat overwhelms a person’s coping resources.

- Non-consensual
- Victim is in discomfort, fear, feels intimidated
- Bodily integrity (or that of someone else) is threatened
SAMHSA’s Definition of Trauma
The 3 E’s

- Event
- Experience
- Effect
Effects of Trauma

- Inability to cope with the normal stresses of daily life
- Difficulty trusting others
- Difficulty managing emotions
- Memory and attention deficits
- Behavior changes
- Altered neuro-physiology
- Health impairment
- Vulnerability
How common are traumatic exposures?
The Epidemic of Trauma

- Rape and Sexual Assault
- Child Abuse and Neglect
- Intimate Partner Violence
- Child Sexual Abuse
- Street Violence
- Historical Trauma
- Poverty
- Military Sexual Assault
- Human Trafficking

- 1 in 6 women
- 6 million children a year
- 1 in 3 women
- 2 in 10 girls; 1 in 10 boys
- Over 40% witness violence
- Millions of Americans
- Everyday Toxic Stress
- 1 in 3 women sexually assaulted
- Estimated 35.8 million worldwide

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Toxic Stress and Trauma

**Positive**
Brief increases in heart rate, mild elevations in stress hormone levels.

**Tolerable**
Serious, temporary stress responses, buffered by supportive relationships.

**Toxic**
Prolonged activation of stress response systems in the absence of protective relationships.

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Prevalence of Trauma in the U.S.

Very common that an individual will have exposure to multiple traumatic events during their lifetime.
Stressor activates the Amygdala

- HPA Axis
- Release of Cortisol
- Heart races
- Blood goes to muscles
- Digestion shuts down
- Memory impacted

The brain under stress: structural remodeling

- Prefrontal cortex: Atrophy
- Amygdala
- Hippocampus

- Amygdala, hypertrophy and later atrophy

- Hippocampus atrophy

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Impact of Trauma on the Brain and Behavior

**Amygdala**
- Triggers release of cortisol
- Involved in many emotions and motivations, particularly those related to survival
- Involved in the processing of emotions such as fear, anger, and pleasure
- Responsible for determining what memories are stored and where they are stored in the brain

**Hippocampus**
- Involved in the storage of long-term memory

**Prefrontal Cortex**
- Involved in planning complex cognitive behavior, personality expression, decision making, and moderating social behavior
Allostatic Load

- The "wear and tear on the body" which grows over time when the individual is exposed to repeated or chronic stress
- Physiological consequences of fluctuating or heightened neural or neuroendocrine response that results from repeated or chronic stress
- Frequent activation of the body's stress response, essential for managing acute threats, can in fact damage the body in the long run.

McEwen and Stellar, 1993
The Impact of Trauma

is dramatically underestimated
Behavioral Aftermath

- Difficulty trusting others
- Isolation
- Missing work, classes, appointments
- Using alcohol or drugs as a way to cope
Psychological Aftermath

- Disbelief, numbness, or shock
- Shame, guilt, or self-blame
- Anxiety, sadness, or anger
- Confusion or helplessness
- Fear of lack of safety
- Difficulty concentrating
Long Term Consequences

- Mental Health
- Physical Health
- Behavioral Health
- Early Mortality
Why?

What’s the relationship among trauma and poor health outcomes?
The Adverse Childhood Experience (ACE) Study

- Over 17,000 Kaiser patients having routine health screenings volunteered to participate in the study.
- Data continues to be analyzed
- Staggering proof of the health, social, and economic risks that result from childhood trauma
What is an ACE?
10 types of childhood trauma measured in the ACE Study

Five are personal:
- Physical abuse
- Verbal abuse
- Sexual abuse
- Physical neglect
- Emotional neglect

Five are related to other family members:
- A parent who’s an alcoholic
- A mother who’s a victim of domestic violence
- A family member in jail or prison
- A family member diagnosed with a mental illness
- The disappearance of a parent through divorce, death or abandonment

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 ACE Scores

- Number of categories (not events) is summed
- 2 out of 3 experienced at least one category of ACE
- If any one ACE is present, there is an 87% chance at least one other category of ACE is present

ACE Score | Prevalence
--- | ---
0 | 33% 
1 | 25%
2 | 15%
3 | 10%
4 | 6%
5 or more | 11%*

*Women are 50% more likely to have a score >5.

The Philadelphia Urban ACE Study

- The Institute for Safe Families examined the prevalence and impact of ACEs in Philadelphia, an urban city with a socially and racially diverse population.
- 1,784 adults completed the Philadelphia Urban ACE Survey
- Found a higher prevalence of ACEs than found in previous studies
  - 33.2% of Philadelphia adults experienced **emotional abuse**
  - 35% experienced **physical abuse** during their childhood
  - 35% of adults grew up in a household with a **substance-abusing** member
  - 24.1% lived in a household with someone who was **mentally ill**
  - 12.9% lived in a household with someone who served time or was sentenced to **serve time in prison**
The Philadelphia Urban ACE Study

Survey also examined the stressors that exist in the communities where people live. The study found:

- 40.5% of Philadelphia adults witnessed violence while growing up, which includes seeing or hearing someone being beaten, stabbed or shot.
- 34.5% reported experiencing discrimination based on their race or ethnicity
- 27.3% reported having felt unsafe in their neighborhoods or not trusting their neighbors during childhood
- Over 37% of Philadelphia respondents reported four or more ACEs

The findings suggest the need for services that address the unique environmental stressors experienced in urban neighborhoods to mitigate their impact on individuals and prevent ACEs.

http://www.instituteforsafefamilies.org
ACE Study Findings

As the number of ACEs increase, the risk for health problems increase in a strong and graded fashion.
Adverse Childhood Experiences
ACEs have a strong influence on:

- Adolescent health
- Teen pregnancy
- Smoking
- Alcohol abuse
- Illicit drug abuse
- Sexual behavior
- Mental health
- Risk of revictimization
- Stability of relationships
- Performance in the workforce
Mental Health

Childhood Experiences Underlie Suicide Attempts

% Attempting Suicide

ACE Score

- 0
- 1
- 2
- 3
- 4+

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Adverse Childhood Experiences vs. Smoking as an Adult

ACE Score

0 1 2 3 4-5 6 or more

% 20 18 16 14 12 10 8 6 4 2 0

p < .001

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Childhood Experiences Underlie Later Being Raped

% Reporting Rape

ACE Score

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The ACE Score and Risk Factors for HIV/AIDS

The risk factors for transmission of HIV, are well known. Less well known is that ACEs are a major hidden “engine” underlying these preventable risk factors for the transmission of HIV.

- Injected drug use
- 50 or more lifetime sexual partners
- Ever having a sexually transmitted disease (including AIDS)

All increase dramatically as the ACE Score increases

Anda, 2001
IV Drug Use

- The relationship of IV drug use to adverse childhood experiences is powerful and graded - it is a perfect dose-response curve.

- A male child with an **ACE Score of 6** has a **4,600% increase** in the likelihood of later becoming an IV drug user when compared to a male child with an ACE Score of 0.

Felitti, German ACE article
ACE Study Findings

There is a 250% increase in the odds of having a sexually transmitted disease between individuals with an ACE Score of 4 compared to those with an ACE Score of 0.

http://www.acestudy.org/
The ACE Pyramid

- Adverse Childhood Experiences
- Social, Emotional, & Cognitive Impairment
- Adoption of Health-risk Behaviors
- Disease, Disability, and Social Problems
- Early Death

Whole Life Perspective

Death

Conception

Scientific Gaps
High Risk Behavior
or
Coping?
A quote from Dr. Felitti:

“It’s hard to give something up that almost works.”
In Summary, the ACE Study indicates...

Adverse childhood experiences are the most basic and long lasting determinants of health risk behaviors, mental illness, social malfunction, disease, disability, death, and healthcare costs.

What does this look like in the clinical or social service setting?
Utilization of Medical Services

Survivors have higher utilization of medical services and report a greater number of physical health problems

Sources: Kartha et al., 2008; Lesserman, et al., 2006; Letourneau, Holmes, & Chasendunn-Roark, 1999; Nicolaidis, et al., 2004; Sadler, et al, 2000; Sledjeski, Speisman & Dierker (2008)
Utilization of Preventive Care

Trauma survivors are less likely:

- To obtain regular mammograms
- To obtain regular cervical cancer screenings
- To attend regular dental appointments

Sources: Farley, Golding, & Minkoff (2002); Farley, Minkoff, & Barkan (2001); Farley & Patsalides (2001)
Secondary Victimization

- Also known as the “Second Rape” or “Retraumatization”
- Victimization which occurs, not as a direct result of the criminal act, but through the response of institutions and individuals to the victim

Sources: Campbell & Wasco (2005); Campbell & Raja (2005); Campbell, Wasco, Ahrens, et al., (2001)
The Results of Secondary Victimization

- Actually *increases* symptoms
- Keeps patients/clients from seeking or benefitting fully from the care they need

Sources: Campbell & Wasco (2005); Campbell & Raja (2005); Campbell, Wasco, Ahrens, et.al, (2001); Ullman & Filipas, 2001
Specific Examples

- Physical Exams
- OB/Gyn
- Sleep clinics
- Ophthalmology
- ER visits
- A Surgical Procedure
  - Feeling out of control during sedation
  - Strangers present while unconscious
What Helps to Create Favorable Outcomes?

- No prior trauma history
- Resiliency
  - Social support
  - A sense of life purpose
  - A feeling of mastery
- Religious coping
- Trauma-informed care and services
Trauma-Informed Care

Words, actions, and policies have the ability to hurt or heal
What is Trauma-Informed Care?

Every part of a service, agency or institution from front desk staff, administrators, to care providers is assessed and potentially modified to include a basic understanding of how trauma impacts the life of an individual seeking services and provides services so as to prevent retraumatization and optimize opportunity for the individual to benefit from care and services.
Trauma-informed Services

- Take the trauma into account
- Avoid triggering trauma reactions and/or retraumatizing the individual
- Adjust the behavior of counselors, other staff and the organization to support the individual’s coping capacity
- Allow survivors to manage their trauma symptoms successfully so that they are able to access, retain and benefit from the services

(Harris & Fallot)
“Universal Precautions”

- Exposure to trauma is pervasive
- The impact of trauma is dramatically underestimated

Therefore, assume EVERYONE has a trauma history.
Trauma-Informed Care

Paradigm shift from...

What’s wrong with you?

to

What happened to you?
The Trauma-Informed Care Pyramid

Trauma-Informed Care
Addressing “high-risk” behavior

- Be aware of your own feelings about behavior and actively and intentionally set them aside for this encounter.
- Ask “what role does (insert behavior) play in your life?”
- Acknowledge the legitimacy of their response.
- Is there anything else that might be almost as effective, but perhaps better for you?
- If yes, explore how to make a plan by first helping to adopt alternative coping mechanisms, and then helping to decrease more dangerous activities
- Always provide a “warm hand off” where possible.
- Check in on progress
Trauma Stewardship
Success Stories

Colorado
Wisconsin
Truman Medical College
Head Start
Tarpon Springs, FL
Training Health Care Providers

Trauma-Informed Care for Health Care Providers: On-line Clinical Cases

- To increase knowledge and skills in trauma-informed care
- Interactive case-based learning
- Free-standing cases allow providers to self-tailor CMEs
- Evidenced-based
Trauma-Informed Care for Health Care Providers: On-line Clinical Cases

Introductory Cases
- Preventive care visit
- Acute care visit
- Chronic disease management

Subsequent Cases
- Prenatal
- Obstetric
- Post-partum
- Pelvic exams with STI testing
- ER
- Hospitalization
- Ophthalmologic care
- Pain clinic
- Sleep clinic
- Office Procedures – biopsies cardiac imaging
- Surgical care
- Women Veterans
- Incarcerated and recently released
- Elderly
- LGBTQ
- Pediatric

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Women and Trauma Federal Partners Committee

Building a Trauma Informed Nation: Moving from Conversation to Action

Webcast Event and local stakeholder convenings
September 29-30, 2015
Resources

- National Center for Trauma-Informed Care
  [http://beta.samhsa.gov/nctic](http://beta.samhsa.gov/nctic)

- ACEStudy.org

- ACEStoohigh.com

- Wisconsin Department of Health Services – Trauma-informed Care Website
  [www.dhs.wisconsin.gov/tic/principles.htm](http://www.dhs.wisconsin.gov/tic/principles.htm)
Questions and Comments

Email questions to: indianatrauma@isdh.in.gov
Contact Info

Michelle D. Hoersch, MS
Office on Women's Health - Region V
U.S. Department of Health and Human Services
312-353-8122
michelle.hoersch@hhs.gov
www.womenshealth.gov

Email questions to:
indianatrauma@isdh.in.gov
PI Subcommittee Update

Dr. R. Lawrence Reed, Trauma Medical Director
IU Health – Methodist Hospital

Email questions to: indianatrauma@isdh.in.gov
INDIANA STATE TRAUMA CARE COMMITTEE

Performance Improvement Subcommittee Report

Email questions to: indianatrauma@isdh.in.gov
PI Subcommittee Members

- Merry Addison
- Lynne Bunch
- Annette Chard
- Christy Claborn
- Kristi Croddy
- Dawn Daniels
- Amy Deel
- Emily Dever
- Bekah Dillon
- Amanda Elikofer
- Spencer Grover
- Jodi Hackworth
- Missy Hockaday
- Lisa Hollister
- Michele Jolly
- Sean Kennedy
- Roxann Kondrat
- Paula Kresca
- Lesley Lopossa

- Jeremy Malloch
- Carrie Malone
- Kelly Mills
- Jennifer Mullen
- Regina Nuseibeh
- Tracy Spitzer
- Wendy St. John
- Amanda Rardon
- Dr. Larry Reed
- Mary Schober
- Lana Seibert
- Lisa Smith
- Chuck Stein
- Latasha Taylor
- Cindy Twitty
- Chris Wagoner
- Lindsey Williams

Email questions to: indianatrauma@isdh.in.gov

8/24/2015
IDSH Staff
PI Subcommittee

- Katie Hokanson
- Ramzi Nimry
- Jessica Skiba
- Camry Hess
- Murray Lawry
- Art Logsdon

Email questions to: indianatrauma@isdh.in.gov
Met on 8/11/2015
- 23 attendees (6 present, 17 by phone)

Review of goals:
1. Increase the number of hospitals reporting to the Indiana Trauma Registry
2. Decrease the average ED LOS at non-trauma centers
3. Increase EMS run sheet collection
Goal #1: Increase Number of Hospitals Reporting to the ITR

- For Quarter 1 2015: 94 hospitals reporting
- Trauma Registry Training events
  - 2015 Trauma Tour with pre-session refresher courses: 6 attendees over the first 5 trauma tour events
- Trauma Center Mentor Program
  - Confirmation of mentorship still in place
- Discussion of specific hospitals

Email questions to: indianatrauma@isdh.in.gov
District 1:
- Jasper County Hospital
- St. Mary Medical Center Hobart

District 2:
- IU Health Goshen Hospital

District 3:
- Adams Memorial Hospital
- Bluffton Regional Medical Center
- St. Joseph Hospital (Fort Wayne)
- VA Northern IN Healthcare System
- Wabash County Hospital

District 4:
- None

District 5:
- Community Westview Hospital
- IU Health West Hospital
- Richard L. Roudebush VA Medical Center
- St. Vincent – Carmel Hospital
- St. Vincent – Fishers Hospital
- St. Vincent – Peyton Manning Children’s Hospital

Email questions to: indianatrauma@isdh.in.gov

8/24/2015
Hospitals Not Reporting

- District 6
  - None
- District 7
  - None
- District 8
  - St. Vincent – Dunn Hospital
- District 9
  - St. Vincent – Jennings Hospital
  - Kentuckiana Medical Center
- District 10
  - None

Email questions to: indianatrauma@isdh.in.gov

8/24/2015
Goal #2: Decrease mean ED LOS at non-trauma center hospitals

### June 1, 2014 to June 30, 2015

<table>
<thead>
<tr>
<th>Measure</th>
<th># of Patients</th>
<th>Avg ED LOS (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Hospital: Shock Index &gt; 0.9</td>
<td>974</td>
<td>186</td>
</tr>
<tr>
<td>Initial Hospital: GCS Total Score ≤ 12</td>
<td>366</td>
<td>148</td>
</tr>
<tr>
<td>Initial Hospital: ISS ≤ 15</td>
<td>6233</td>
<td>199</td>
</tr>
<tr>
<td>Initial Hospital: ISS &gt; 15</td>
<td>566</td>
<td>178</td>
</tr>
</tbody>
</table>

### June 1, 2014 to June 30, 2015

<table>
<thead>
<tr>
<th>Total # of <strong>CRITICAL</strong> Patients Transferred</th>
<th>1614</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>0</td>
</tr>
<tr>
<td>Max</td>
<td>1814</td>
</tr>
<tr>
<td>Average</td>
<td>182</td>
</tr>
<tr>
<td><strong>CRITICAL</strong>: GCS ≤ 12, Shock Index &gt; 0.9, ISS &gt; 15</td>
<td></td>
</tr>
</tbody>
</table>

### June 1, 2014 to June 30, 2015

<table>
<thead>
<tr>
<th>Body Region</th>
<th># of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremity</td>
<td>2435</td>
</tr>
<tr>
<td>External</td>
<td>2200</td>
</tr>
<tr>
<td>Head</td>
<td>1715</td>
</tr>
<tr>
<td>Chest</td>
<td>836</td>
</tr>
<tr>
<td>Face</td>
<td>476</td>
</tr>
<tr>
<td>Abdomen</td>
<td>426</td>
</tr>
</tbody>
</table>
Goal #2: Decrease mean ED LOS at non-trauma center hospitals

Average ED LOS (Minutes) for Patients Transferred from ED at non-trauma center hospitals

Month of Injury

- 2015 Goal
- 2013
- 2014
- 2015

Average ED LOS (Minutes)

100 120 140 160 180 200 220 240 260 280

Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec
Goal #2: Decrease mean ED LOS at non-trauma center hospitals

- Review of current ED LOS reveals some data quality issues:
  - ED LOS < 0 hours
  - ED LOS > 24 hours
- Feedback to hospitals regarding timely transfers
  - Letter sent to facilities June 15
- Impact of RTTDC on ED LOS

Email questions to: indianatrauma@isdh.in.gov

8/24/2015
Goal #2: Decrease mean ED LOS at non-trauma center hospitals

All Transferred Patients

$R^2 = 0.7646$
Goal #2: Decrease mean ED LOS at non-trauma center hospitals

![Graph showing all critical transferred patients with ED LOS vs. quarter before or after training.](image)

R² = 0.6884
Goal #3: Increase EMS run sheet collection

- Please send Katie a list of EMS providers not leaving run sheets
  - E-mail sent to Mike Garvey & Lee Turpen on 3/25/2015 & 2/18/2015 listing EMS providers not leaving run sheets
- Mike Garvey encouraged EMS providers to leave run sheets at April 17 EMS Commission meeting
- Sent list of hospital contact information for EMS providers to know where to send run sheets
- Seeking to provide list to EMS Commission at their next meeting
ED LOS vs ICU LOS: Added patients with ICU LOS >0 but did not have ED disposition = ICU
Compared 2013 ITR data to NTDB data
Evaluation or Triage & Transport Rule
  - Seeking to use data to evaluate adherence to Rule by EMS providers: Katie & Dr. Walthall
Identifying double transfers: new Linking Software
Data quality dashboard for linking cases

Email questions to: indianatrauma@isdh.in.gov
8/24/2015
New Issues

- EMS Commission member asked for consideration of separating isolated hip fracture cases from all patients ED LOS calculations
  - We recommend not adopting this practice
- Regional PI: Illinois model
  - Regular district meetings
  - Review of specific cases
  - Confidential discussions protected by Medical Studies Act
  - Discussions & conclusions (w/o identifiers) included in meeting minutes

Email questions to: indianatrauma@isdh.in.gov
Trauma Registry Data Report

Camry Hess, MPH, Database Analyst
Ramzi Nimry, Trauma System PI Manager
Division of Trauma and Injury Prevention

Email questions to: indianatrauma@isdh.in.gov
ISDH Updates

Katie Hokanson, Director
Division of Trauma and Injury Prevention

Email questions to: indianatrauma@isdh.in.gov
2015 Trauma Tour Details

• Trauma Registry Refresher Training: 14 attendees

• Trauma Tour:
  – 292 attendees
  – 47 vendors

• New questions from attendees:
  – How do we talk to our patients about the need to go directly to a trauma center?
  – How can we educate the general public/new EMTs/new staff about the differences in levels of trauma centers?
Blue Sky Project

• Faster, easier way to report trauma cases to trauma registry.
• Utilizes Application Programming Interface (API) to share Electronic Medical Record (EMR) data with ISDH.
• Currently, accepts XML files.
• In the future, HL7 files.
Questions?

Email questions to: indianatrauma@isdh.in.gov