Indiana State Trauma Care Committee

December 13, 2019

Indiana State
Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Introductions & approval of meeting minutes

Indiana State
Department of Health

Thank you Dr. Vassy!

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Legislative updates

Amy Kent, *Legislative Affairs Director*

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Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Legislative updates

- Hands-free driving.

- Child helmet law.

- Other legislation?

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Hands-free driving

- Prohibits the use of handheld devices while driving, including the use of devices while at a stoplight, while allowing devices to be used with hands-free technology.

  - Updates and simplifies Indiana's current law that prohibits texting-while-driving, giving law enforcement the tools they need to help keep Hoosiers safe.

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Hands-free driving (continued)

- Goal is to reduce the number of car incidents caused by distracted driving.

- Twenty states have a hands-free law.
  - Georgia experienced a 2.2% decline in car crash fatalities and insurance collision claims fell after enacting their hands-free law.

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Child helmet law

- ISDH and IDHS have been in meetings with legislators and stakeholders to discuss a proposal to require children riding a bike, stake board, or scooter to wear a helmet while on public property (streets, bike baths, trails, etc).

- Language for the bill has not been finalized.

- Law enforcement and fire fighters are supportive of the law as an opportunity to engage with families and children in their community.

- Indiana Chapter of the American Academy of Pediatricians is also involved in discussions and supportive of the proposal.

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Child helmet law (continued)

- The most serious bicycle accident injuries are to the head and brain.

- Studies show helmet use can reduce the odds of head injuries in accidents by about 50%, and the odds of injuries to the neck, face, and head by 33%.

- Division surveyed trauma centers to survey how many organizations are distributing helmets currently.

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Trauma Center helmet Distribution

Data collected by the Indiana State Department of Health, Division of Trauma & Injury Prevention

Survey Highlights

- Majority of trauma centers distribute helmets.
- Facilities distribute a variety of types of helmets, majority is bicycle.
- Facilities distribute a range of helmets: 0-800.
- Helmets are distributed in a variety of ways, including in the hospital for trauma patients or at safety fair events.

23 verified trauma centers in Indiana

► 20/23 trauma centers completed the survey – 87% participation

  ► 1 Indiana Emergency Nurses Association Chapter participated

  ► 1 non-trauma center participated

Trauma Centers *in Indiana*

Ⓘ **Level I**
Indianapolis
Eskenazi Health
IU Health Methodist Hospital
Riley Hospital for Children at IU Health
St. Vincent Hospital & Health Services

Ⓘ **Level II**
Evansville
Deaconess Hospital
St. Vincent - Evansville

Ft. Wayne
Lutheran Hospital of Indiana
Parkview Regional Medical Center

South Bend
Memorial Hospital of South Bend

Terre Haute
Terre Haute Regional

Ⓘ **Level III**
Anderson
St. Vincent Regional Hospital
Community Hospital - Anderson

Bloomington
IU Health Bloomington

Crown Point
Franciscan Health - Crown Point

Elkhart
Elkhart General Hospital

Gary
Methodist Hospitals - Northlake Campus

Jasper
Memorial Hospital and Health Care Center

Lafayette
Franciscan Health - Lafayette East
IU Health - Arnett Hospital

Muncie
IU Health – Ball Memorial Hospital

Richmond
Reid Hospital & Health Care Services

Terre Haute
Union Hospital - Terre Haute

Vincennes
Good Samaritan Hospital
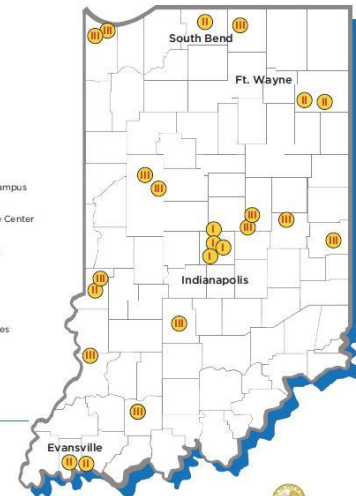
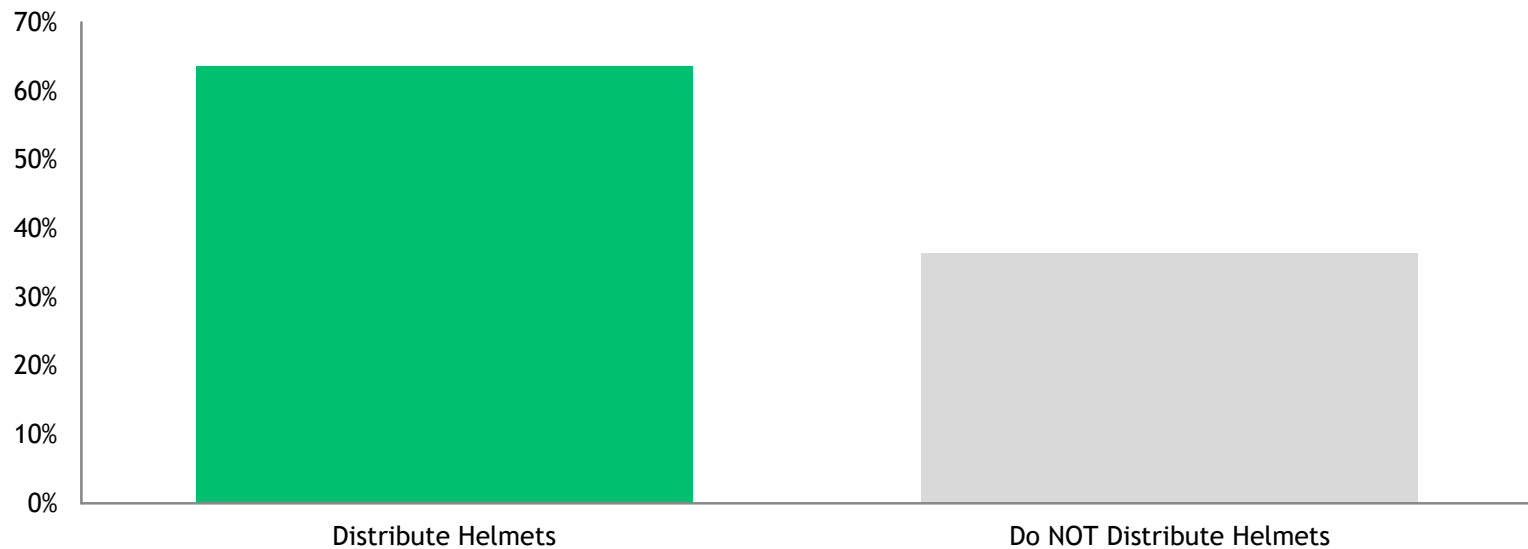**Total Trauma Centers in Indiana***
Ⓘ Level I = 4
Ⓘ Level II = 6
Ⓘ Level III = 13
   Total = 23

* Total includes current and In Process Trauma Centers

Indiana State Department of Health
Trauma and Injury Prevention

Updated: 6-20-2019

South Bend
Ft. Wayne
Indianapolis
Evansville

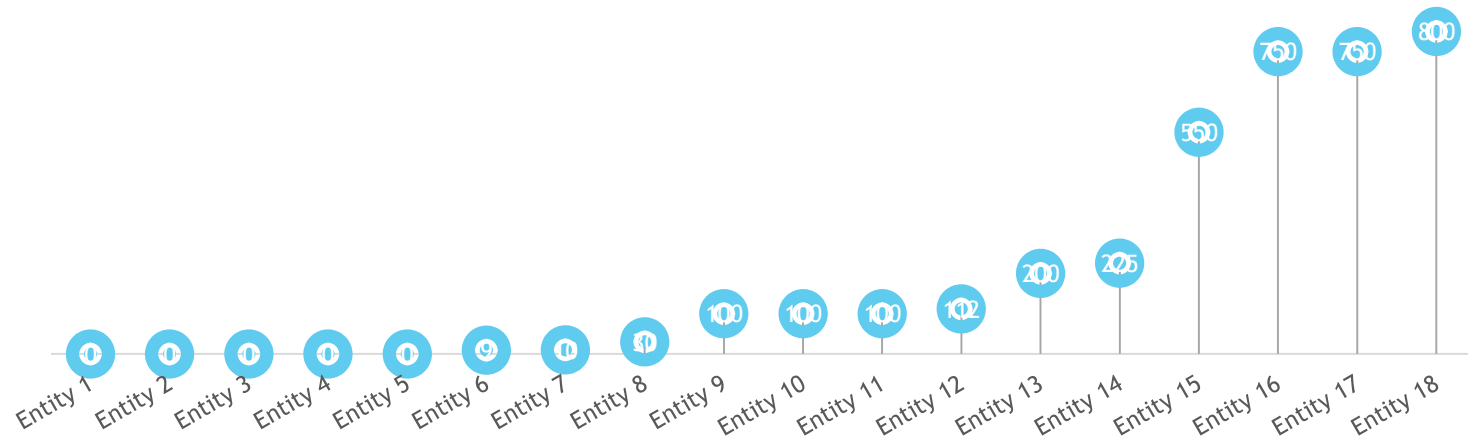# The majority of trauma centers distribute helmets

- ▶ Other types of helmets distributed:
    - ▶ ATV
    - ▶ Motorcycle
    - ▶ Equestrian

The majority of trauma centers distribute bicycle helmets

Bar chart showing: Bicycle ~88%, Other (please specify) ~31%, multi-sport ~6%
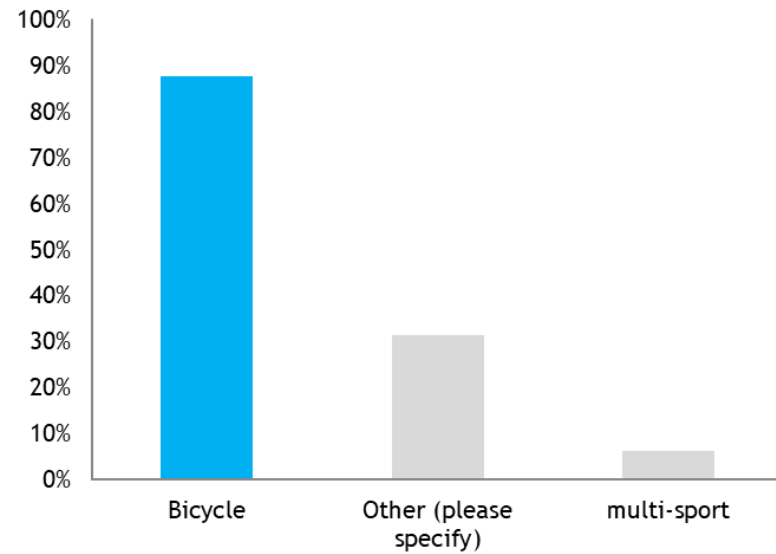
The number of helmets distributed range from 0-800

- Location of distribution:
  - Ambulance bay
  - Emergency Department
  - Ernie's Ride at the Rise
  - Family Fun Fair
  - Inpatient injury prevention education
  - Inpatient trauma patients
  - Local bikes for tikes program
  - Partnership with fire department
  - Riding events
  - Safety store
  - Schools

The majority of helmets are distributed outside of organized events
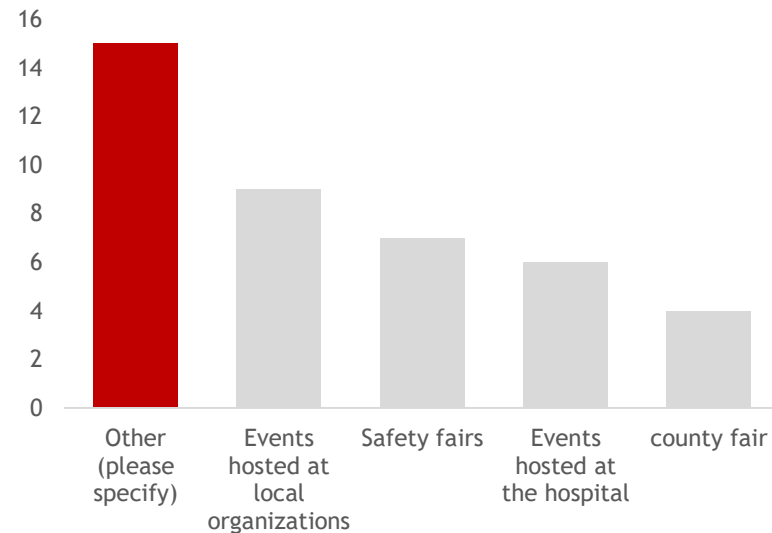
The majority of facilities fit the helmet for the child
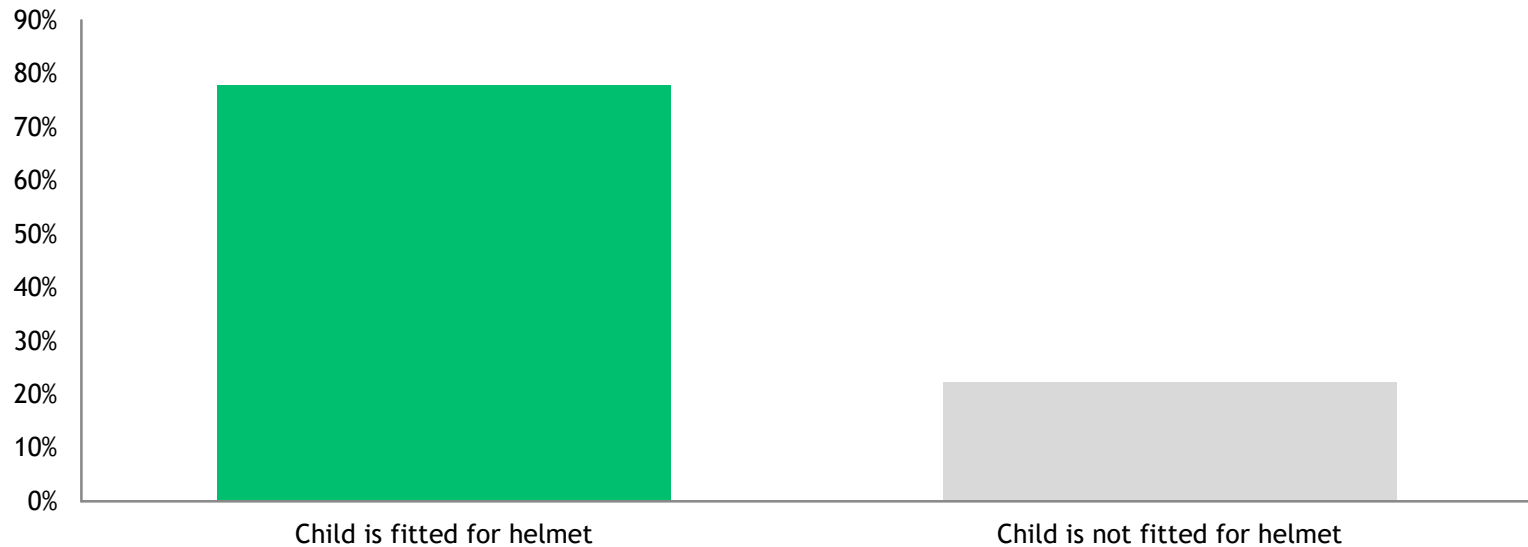
Updates

Katie Hokanson, *Director of Trauma and Injury Prevention*

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Division grant activities

- Overdose Data 2 Action (OD2A)Comprehensive Opioid Abuse Site-based Program (COAP)
  - Awarded & funded for 3 years!
    - Largest grant the division has ever applied for.
      - **$7.1 million per year for 3 years**
  - Hosted a webinar October 2 to share the specifics of the grant: https://www.in.gov/isdh/27756.htm

  - Funding opportunity for local communities!!!
    - **$1.2 million dollars**
      - Received 47 applications from 45 counties.

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IN CARES ECHO Awardees

NAME OF ORGANIZATION	COUNTY
ALLEN COUNTY DRUG & ALCOHOL CONSORTIUM, INC.	Allen
CHOICES COORDINATED CARE SOLUTIONS	Dearborn
CLARK COUNTY HEALTH DEPARTMENT	Clark
DELAWARE COUNTY PREVENTION COUNCIL	Delaware
DRUG AND ALCOHOL TASK FORCE	Jennings
FAMILY SERVICES AND PREVENTION PROGRAMS	Fayette
HOWARD COUNTY HEALTH DEPARTMENT	Howard
INDIANA UNIVERSITY HEALTH WHITE MEMORIAL HOSPITAL	White
JAY COUNTY DRUG PREVENTION COALITION, INC.	Jay
MADISON COUNTY HEALTH DEPARTMENT	Madison
MARION GENERAL HOSPITAL	Grant
OUR PLACE DRUG AND ALCOHOL EDUCATION SERVICES, INC.	Floyd
PORTER-STARKE SERVICES, INC.	Starke
RANDOLPH COUNTY SYSTEMS OF CARE	Randolph
ST. JOSEPH COUNTY DEPARTMENT OF HEALTH	St. Joseph
VANDERBURGH COUNTY HEALTH DEPARTMENT	Vanderburgh

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NEW grant opportunities

- Administration for Community Living (ACL) – Falls Prevention grant.
  - Applied several times over the year and have not been funded.
  - Due late January.
  - $300,00/year for 3 years.
- Department of Transportation - Safety Data Initiative.
  - New opportunity for ISDH; due mid-January.
  - $500,000 for 1 year.

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Division staffing updates

- Madeline Tatum
  - Moving from Community Outreach Coordinator to Fatality Review Program

- Ramzi Nimry
  - Promoted to Program Director of Trauma & Injury Prevention

- Klaudia Wojciechowska
  - Promoted to Program Director of Drug Overdose Prevention

- Interviewing for Division interns for Spring 2020!

- https://www.in.gov/isdh/26432.htm

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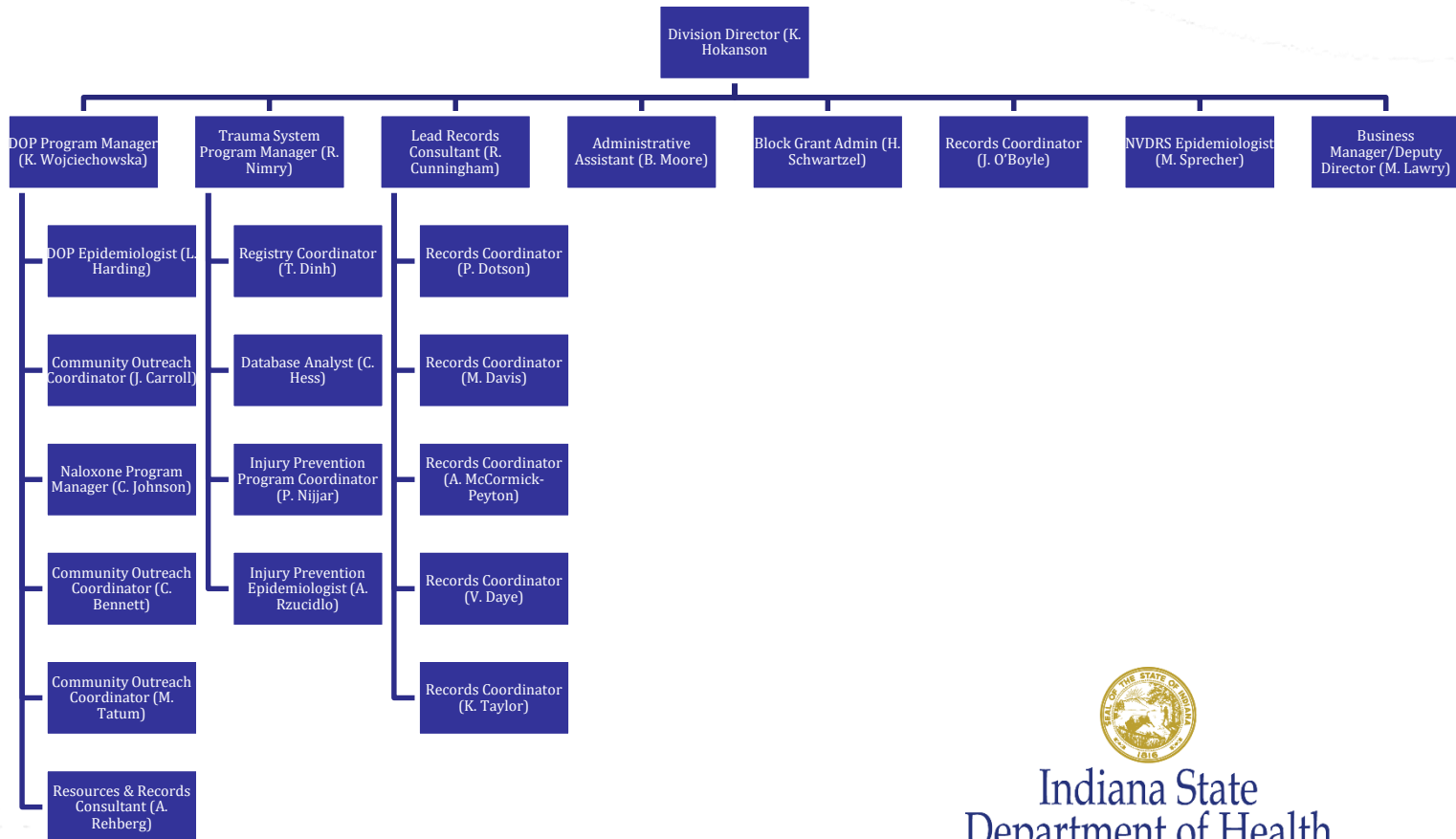
Division Sections

- Trauma & Injury Prevention

- Drug Overdose Prevention

- Indiana Violent Death Reporting System

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Division of Trauma and Injury Prevention

Division Director (K. Hokanson)

- DOP Program Manager (K. Wojciechowska)
  - DOP Epidemiologist (L. Harding)
  - Community Outreach Coordinator (J. Carroll)
  - Naloxone Program Manager (C. Johnson)
  - Community Outreach Coordinator (C. Bennett)
  - Community Outreach Coordinator (M. Tatum)
  - Resources & Records Consultant (A. Rehberg)
- Trauma System Program Manager (R. Nimry)
  - Registry Coordinator (T. Dinh)
  - Database Analyst (C. Hess)
  - Injury Prevention Program Coordinator (P. Nijjar)
  - Injury Prevention Epidemiologist (A. Rzucidlo)
- Lead Records Consultant (R. Cunningham)
  - Records Coordinator (P. Dotson)
  - Records Coordinator (M. Davis)
  - Records Coordinator (A. McCormick-Peyton)
  - Records Coordinator (V. Daye)
  - Records Coordinator (K. Taylor)
- Administrative Assistant (B. Moore)
- Block Grant Admin (H. Schwartzel)
- Records Coordinator (J. O'Boyle)
- NVDRS Epidemiologist (M. Sprecher)
- Business Manager/Deputy Director (M. Lawry)

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Stroke center list

- IC 16-31-2-9.5
  - Compile & maintain a list of Indiana hospitals that are stroke certified.
  - https://www.in.gov/isdh/27849.htm
  - Transfer agreements – must be stroke specific.

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Fall 2019 meeting participants

- Northwest
  - 7 people
  - 5 counties
- Northeast
  - 3 people
  - 2 counties
- Southwest
  - 4 people
  - 3 counties
- Central/Southeast
  - 5 people
  - 3 counties

- Vital Records

- Epidemiology Resource Center

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Basic Demographics Collected at Death Investigation Scene

- Age
- Sex
- Race and ethnicity
- County and city of residence
- County and city of injury
- Occupation
- Education
- Marital Status

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Circumstance Variables

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Extended Demographics

- "SOGI" – sexual orientation & gender identity
- Employment status
- Veteran status
- Type of location of injury or overdose
- Homelessness
- Incarceration
- Recent release from jail or rehab facility

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Beyond Demographics

- Current/past mental health problems/treatment
- Previous suicidal behavior
- Life stressors
- Intimate partner violence
- Drug involvement
  - Dealing, using, arrest, addiction
- Crisis situations

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Drug Overdose Specific

- Was victim being treated for chronic or acute pain?
- Previous drug use or overdose history
- Previous treatment for substance abuse
- Indication of drug use
  - Paraphernalia
  - Substances present on site
  - Naloxone
  - Drug form (pill, powder, liquid, etc.)
- Route of administration
  - Intravenous
  - Ingestion
  - Inhalation

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Circumstances from Violent Deaths, 2015-2018

- **74% of all suicides have some situational circumstance known:**
  - 30% were in a depressed mood
  - 28% were experiencing a crisis:
    - 15% disclosed intent to die by suicide
  - 27% diagnosed with current mental health problem
  - 16% problem with current or former intimate partner
  - 12% experience physical health problem
  - 11% in mental health or substance abuse treatment
  - 10% alcohol problem
  - 9% substance abuse problem

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Death Investigation Guide

Detecting a Drug Overdose on Scene

Limbs

✓Check for evidence of needle tracks, including fine needle punctures or bruising between fingers, under nails, toes, within the lines of tattoos, wrists, ankles, and backs of hands

✓Check for evidence of burned fingertips or lips that may suggest smoking or drugs

✓Check for transdermal patches that may indicate use of fentanyl

Head

✓Check for the presence of foam cone in nose or mouth

✓Check for the condition of teeth

✓Check for the presence of patches or baggies in oral cavity

✓Check for a perforated nasal septum

Surroundings

✓Take pictures and document findings in your investigative reports!

✓Check clothing for for foreign objects, vials, or baggies

✓Check drawers, cupboards, and medicine cabinets

✓Check waste baskets and garbage bins outside

✓Look for paraphernalia such as needles, tourniquets, powders, scales, cut straws, rolled up money or broken pens

✓Count the number of pills. Record the number of prescriptions and who the prescription belongs to

Completing the Drug Overdose Investigation off Scene

Check the PDMP

✓Check the Prescription Drug Monitoring Program (PDMP) for prescribed controlled substances: https://indiana.pmpaware.net/login

✓Record your findings in the investigation report

Collect Body Specimens

✓Blood (at least 10mL)

✓Urine

✓Vitreous

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Trauma and Injury Prevention
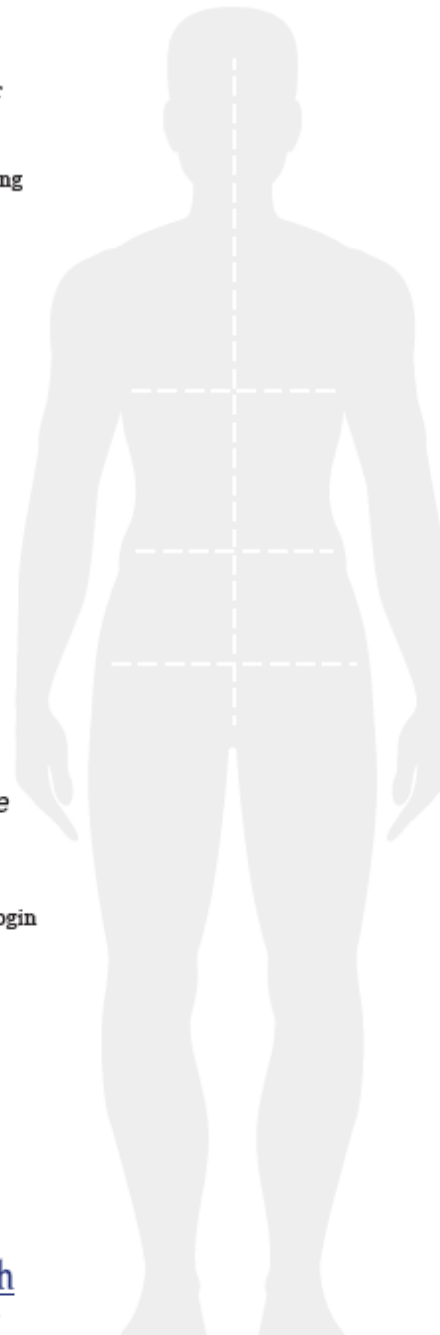
Death Investigation Guide

Circumstantial information is important for investigators. Consider collecting the following for the decedent:

Mental Health

✓Current or past treatment for mental health
✓Any known mental health diagnosis
✓History of suicide ideation or attempts
✓Physical evidence of self harm
✓Left a letter, note, text or email of intent

Medical History

✓Full medical history if possible from primary care provider or psychiatrist
✓Pain medications found on scene

Recent Problems

✓Relationships
✓Alcohol
✓Legal
✓Physical health
✓Job or financial
✓Homelessness
✓School
✓Evictions
✓Death in family or among friends
✓Arguments or fights
✓Bullying or harassment

Demographics

✓Age
✓Height
✓Sex
✓Race
✓Ethnicity
✓Marital status
✓Sex of partner
✓Sexual orientation and pregnancy status
✓Occupation and veteran status

Recent Institution Release

✓Incarcerated (jail, prison, probation and community corrections)
✓Residential treatment or recovery program
✓A medical care facility such as hospital or nursing home

Childhood Trauma

✓Physical abuse or neglect
✓Sexual abuse or neglect
✓Emotional abuse or neglect

Parental history of:

✓Abuse
✓Separation
✓Substance misuse
✓Incarceration
✓Mental diagnosis

Homicide

✓Previous victim of violence
✓Physical fight, argument, brawl
✓Stalking, prostitution
✓Self-defense, bystander, random?
✓Hate crime, lover's triangle

Suicide

✓Did victim leave a note?
✓Did victim disclose intent to someone?
✓Did victim experience a recent death of family or friend?
✓Did victim have any previous attempt history?

Substance Use History

✓Evidence of prescription drugs such as type and name
✓Evidence of injection or other route such as snorting, transdermal, smoking, or ingestion
✓Evidence of illegal drugs such as powders, tar, crystal, or fake pills
✓Evidence of morphine prescription
✓Any bystanders present at overdose
✓Any naloxone administration given by whom and how much
✓Current or past substance use disorder such as opioids, alcohol, or other drug
✓Last known use of substance such as days, weeks, or months
✓Last known overdose such as month, years, or longer
✓Recent relapse such as weeks, months, or longer
✓Living with another with substance use disorder who is using

If death included a firearm

✓Firearm type such as rifle, pistol, and the caliber/gauge
✓Firearm make, model, and serial number
✓Firearm owner
✓Check if the firearm was stored and locked up loaded
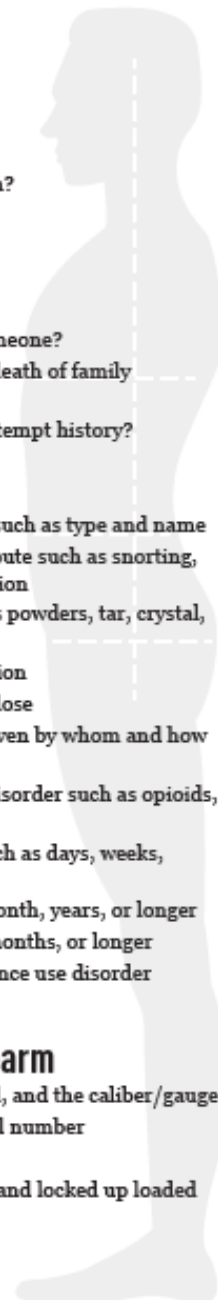
Contact information:

Morgan Sprecher, MPH

INVDRS Epidemiologist

msprecher@isdh.in.gov

Regional Updates

Email questions to: **indianatrauma@isdh.in.gov**

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Regional updates

- District 1
- District 2
- District 3
- District 4
- District 5
- District 6
- District 7
- District 8
- District 9
- District 10

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Division of Emergency Preparedness Update

Megan Lytle, Interim Director

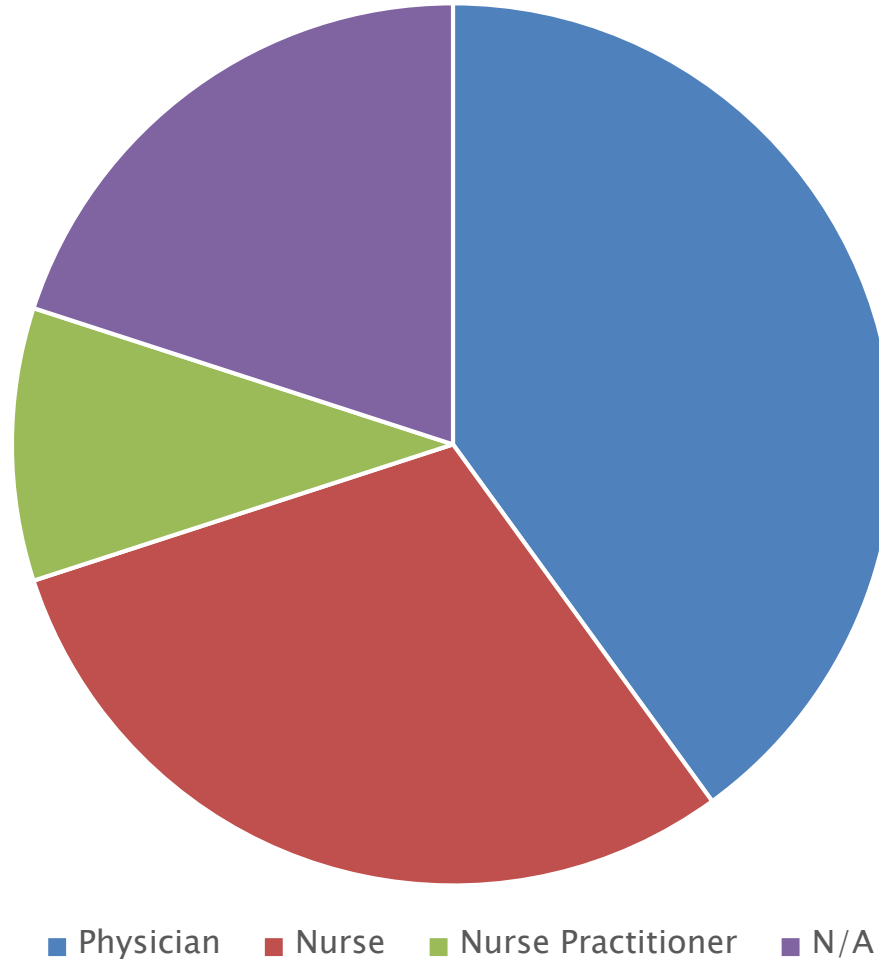Division of Emergency Preparedness

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HCC Clinical Advisors

Indiana Healthcare Coalition Clinical Advisors		
District 1 Healthcare Coalition		
Clinical Advisor		
District 2 Healthcare Coalition		
Clinical Advisor	Greg Bingaman, NP	South Bend Memorial
District 3 Healthcare Coalition		
Clinical Advisor	Dr. Sara Brown	Parkview Regional EMS Medical Director
District 4 Healthcare Coalition		
Clinical Advisor	Dr. Michael D Bohlin	Franciscan East
District 5 Healthcare Coalition		
Clinical Advisor	Roxanna Lefort	Riley Hospital for Children
District 6 Healthcare Coalition		
Clinical Advisor	Dr. Jon Kornilow	IU Ball Hospital
District 7 Healthcare Coalition		
Clinical Advisor	Jackie Martin	Union Hospital
District 8 Healthcare Coalition		
Clinical Advisor	Lesley Meyer	Schneck Medical Center
District 9 Healthcare Coalition		
Clinical Advisor	Tina Butt	Highpoint Health (Dearborn County)
District 10 Healthcare Coalition		
Clinical Advisor		

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Division of Emergency Preparedness

Clinical Advisor License Type

Physician ■ Nurse ■ Nurse Practitioner ■ N/A

HCC Clinical Advisor Role

- **Provide clinical leadership to the Coalition and serve as liaison between the Coalition and medical directors/ leadership at healthcare facilities, supporting entities and EMS agencies.**

- Review and provide input on coalition plans and activities to ensure accuracy and relevance.

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HCC Clinical Advisor Role

- Advocate for clinical staff to encourage their involvement

- Assure coalition mass casualty/surge plans provide appropriate distribution of trauma patients to avoid overloading single center

- Provide subject matter experts are available and a process exists to support secondary transfer prioritization on specialty surge

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EMResource/ eICS

RESOURCE Definition: a facility or agency; hospital, health department, EMS provider, long term care facility, etc.

EMResource: resource availability and resource sharing platform

eICS: online incident management system platform

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Resource Loaded (EMResources)

- **Total Resources: 2,943**

- Total Hospitals (with ED): 140

- Total EMS: 444

- All Local Health Departments (93), Emergency Management Agencies (92)

- Multiple Long Term Care, Dialysis, Home Health Agencies

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Status Updates View

Resource Status

Indiana Health Alert Network

Encourage providers to sign up for IHAN Alerts:

https://ihan-in.org/

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Division of Emergency Preparedness

QUESTIONS?

Indiana State
Department of Health
Division of Emergency Preparedness

Contacts

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Indiana State Department of Health
Division of Emergency Preparedness

Pre-Hospital Hypocapnia, Hypoxia and Hypothermia Impacts Mortality in Pediatric Traumatic Brain Injury

Laurie L Ackerman MD[1], Teresa Bell PhD[2], Riad Lutfi MD[3], Alyson K. Baker MD[3], Jodi Raymond MPH[4], Rachel Hardacker, Alex Stout, Dillon Mobasser, Courtney M. Rowan MD[3]

[1]Department of Neurosurgery, Riley Hospital for Children at Indiana University Health, [2]Department of Surgery, Riley Hospital for Children at Indiana University Health, [3]Department of Pediatrics, Critical Care Division, Riley Hospital for Children at Indiana University Health,[4]Trauma Epidemiologist Research Coordinator, Riley Hospital for Children at Indiana University Health

Riley Children's Health — Indiana University Health

INDIANA UNIVERSITY — SCHOOL OF MEDICINE

Introduction

- *No Disclosures*

- **Traumatic brain injury (TBI): a leading cause of death and disability in children**
- **Limited data regarding the incidence and mortality risk of prehospital:**
  - Hypocapnia
  - Hypercapnia
  - Hypoxia
  - Hypothermia

References:

Curry R et al. Incidence of hypo- and hypercarbia in severe traumatic brain injury before and after 2003 pediatric guidelines, Pediatric Critical Care Medicine 2008 Mar9(2): 141-6.

Rosario BL et al. Presenting characteristics associated with outcome in children with severe traumatic brain injury: a secondary analysis from a randomized, controlled trial of therapeutic hypothermia, Pediatric Critical Care Medicine 2018 Oct 19(10):957-964

Methods

- **Retrospective cohort study**
  - TBI patients aged 18 years or younger
  - PICU admission at Riley Hospital for Children 2010-2017

- **Pre-Hospital Data Points**
  - *Included scene, hospital transfer and interfacility transfer data*

  - Arrival Glasgow Coma Score (GCS)

  - Pooled variables documented any incident of:
    - Hypocapnia *($PaCO_2 < 35$ mmHg)*
    - Hypercapnia *($PaCO_2 > 45$ mmHg)*
    - Hypoxemia *(O_2 sat <92%)*
    - Hypothermia *(Temp < 36 degrees Celsius)*
    - Seizures

Results: Cohort Descriptives

Patient Demographic and Injury Characteristics		n	%
Age	1 or Younger	88	27.5%
	2 to 5	82	25.6%
	6 to 12	89	27.8%
	13 and Older	61	19.1%
Gender	Female	111	34.6%
	Male	**209**	**65.1%**
Race/Ethnicity	White	244	76.0%
	Black	58	18.1%
	Asian	7	2.2%
	Unknown Race	14	4.4%
	Hispanic or Latino	32	10.0%
Insurance type	Government/VA	6	1.9%
	Medicaid/CHIP	190	59.2%
	Private insurance	94	29.3%
	Self pay	30	9.3%
Any Comorbidity	No	168	52.3%
	Yes	**153**	**47.7%**
Mechanism	Bicycle (non-MVC)	6	1.9%
	Fall	36	11.2%
	Motor Vehicle Crash (MVC)	**150**	**46.7%**
	Non-Accidental Trauma	**74**	**23.1%**
	Other	53	16.5%
Injury Type	**Blunt**	**297**	**92.5%**
	Penetrating	15	4.7%
Hospital Transfer	No	143	44.5%
	Yes	**177**	**55.1%**
Glasgow Coma Score (GCS)	**Severe GCS 3-8**	**304**	**95.9%**
	Moderate (GCS 9-12)	11	3.5%
	Mild (GCS13-15)	2	0.6%

- Male predominance
- Most had other comorbidities
- Motor vehicle crash and non-accidental trauma were the most common mechanisms of injury
- Blunt injuries were the most common injury type
- Over half were transferred from another facility
- Severe TBI (GCS 3-8) accounted for 95.9% of patients

Results: Prehospital Outcomes

Patients Experiencing Study Variable Prior to Reaching Trauma Center		n	%
Seizure	*No*	296	92.2%
	Yes	25	**7.8%**
Hypocapnia *(PaCO2 <35 mmHg)*	*No*	273	85.0%
	Yes	48	**15.0%**
Hypercapnia *(PaCO2 >45 mmHg)*	*No*	295	91.9%
	Yes	26	**8.1%**
Hypothermia *(T<36 degrees Celcius)*	*No*	198	61.7%
	Yes	123	**38.3%**
Hypoxia *(O2 sat <92%)*	*No*	257	80.1%
	Yes	64	**19.9%**

Results: Mortality Outcomes

Mortality Outcomes by Prehospital Complication						
		Alive		Dead		
		n	%	n	%	p value
Seizure	No	209	90.9%	85	95.5%	0.167
	Yes	21	9.1%	4	4.5%	
Hypocapnia	No	203	88.3%	68	76.4%	**0.008***
	Yes	27	**11.7%**	21	**23.6%**	
Hypercapnia	No	208	90.4%	85	95.5%	0.138
	Yes	22	9.6%	4	4.5%	
Hypothermia	No	156	67.8%	40	44.9%	**<0.001***
	Yes	74	**32.2%**	49	**55.1%**	
Hypoxia	No	202	87.8%	54	60.7%	**<0.001***
	Yes	28	**12.2%**	35	**39.3%**	

Why is Hypocapnia so bad???

- **Hypocapnia**
  - More ventilation is not necessarily better in TBI!

  - Low PaCO2 leads to arterial vasoconstriction of blood vessels

  - Over-hyperventilation (e.g. PaCO2< 25) results in critical vessel narrowing which reduces cerebral blood flow
    - 3% decrease per mmHg change in PaCO2!

  - Prophylactic hyperventilation was a usual treatment until the early 1990's
    - *Had to be unlearned….*

Objective: To examine the incidence of severe hypocarbia (Paco₂ <30 mm Hg) in patients with severe pediatric traumatic brain injury before and after publication of the 2003 pediatric guidelines (PG).
Design: Retrospective cohort analysis.
Setting: Harborview Medical Center, Seattle, Washington (January 1, 1995, to December 31, 2005).
Patients: Children <15 yrs of age with severe pediatric traumatic brain injury.
Interventions: None.
Measurements and Main Results: The pre-PG group (before August 1, 2003) included 375 patients and the post-PG group included 89 patients. Post PG guidelines, there was a trend toward earlier (45 vs. 32 mins; *p* = .05) and more frequent (7.1 vs. 8.4 samples; *p* = .06) Paco₂ sampling within 48 hrs of admission. Children 0–2 yrs had a longer time (75.0 mins) between admission and first Paco₂ sample than older children (44.3 mins; *p* < .01). The youngest children also had the highest incidence of severe hypocarbia on the first Paco₂ sample (31% vs. 19%; *p* = .02). Incidence of severe hypocarbia was high and did not decline (60% vs. 52%; *p* = .2) after the PG guidelines. However, over the 11 yrs, the odds of severe hypocarbia decreased (adjusted odds ratio 0.9; 95% confidence interval 0.84–0.96). During both periods, the incidence of severe hypocarbia was highest during the first 2 hrs after hospital admission. Intracranial pressure monitors were used more frequently post-PG. In 62 of 82 (77%) patients with severe hypocarbia in whom an intracranial pressure monitor was in place, the preceding intracranial pressure was <20 mm Hg. Severe hypocarbia independently predicted inpatient mortality (adjusted odds ratio 2.8; 95% confidence interval 1.3–5.9).
Conclusions: Although Paco₂ sampling was more frequent during the post-PG period and severe hypocarbia decreased during successive study years, the incidence of severe hypocarbia remained high during the first 48 hrs after hospital admission during the post-PG period. Time to Paco₂ sampling was longer in young children and associated with more severe hypocarbia. The presence of severe hypocarbia predicted mortality. (Pediatr Crit Care Med 2008; 9:141–146)
KEY WORDS: hyperventilation; traumatic brain injury; outcome; children; Paco₂; hypoventilation

Pediatric patients:
   long time to ABG in ED (45 minutes!)
   frequently hypocapnic
   youngest (<2 y/o) most often affected
      75 minutes to ABG
      31% severe hypocarbia

__Discussion__

- __Any documented occurrence of hypoxia, hypothermia, or hypocarbia in the pre-hospital setting was associated with increased mortality__

- __Hypoxia:__
  - 19.9% of patients experienced at least one episode of hypoxia in the pre-trauma center setting
  - Hypoxic episodes were seen in 39.3% of those who died vs 12.2% of survivors *(p<0.001)*

- __Hypothermia__
  - 38.3% of patients were hypothermic on arrival to the trauma center
  - Hypothermia was reported in 55.1% of those who died vs 32.2% of survivors *(p<0.001)*

- __Hypocarbia:__
  - 15% of patients experienced hypocarbia in the pre-trauma center setting
  - Hypocarbia was reported in 23.6% of those who died vs 11.7% of survivors *(p=0.008)*

Multiorgan Dysfunction

Multiorgan Dysfunction

Number of Dysfunctional Organ Systems by Goldstein Criteria

	Survivors (n=115)	Non-survivors (n=46)	p-value
Day 0	2 (0,4)	3 (2,5)	**< 0.0001**
Day 1	2 (0,4)	3 (0,4)	**< 0.0001**

Multiorgan Dysfunction

	Survivors (n=115)	Non-survivors (n=46)	p-value
Day 0			
Respiratory	90%	98%	0.115
Heme	2%	32%	**0.0005**
Renal	2%	3%	1.0
CV	13%	78%	**<0.0001**
Day 1			
Respiratory	100%	100%	-
Heme	1%	20%	**0.0026**
Renal	0%	3%	0.2920
CV	16%	85%	**<0.0001**

Acute Kidney Injury

	Survivors (n=115)	Non-survivors (n=46)	p-value
Riley ER	8%	29%	**0.007**
Day 1	4%	13%	**0.05**

	Survivors (n=115)	Non-survivors (n=46)	p-value
Riley ER			**0.005**
Stage 1	7%	14%	
Stage 2	0%	10%	
Stage 3	1%	4%	

Diagnosis of AKI by KDIGO Criteria

Pediatric ARDS

	Survivors (n=115)	Non-survivors (n=46)	p-value
Day 0	35%	57%	**0.05**
Day 1	28%	62%	**0.002**

	Survivors (n=115)	Non-survivors (n=46)	p-value
Day 0			**0.05**
Mild	19%	20%	
Moderate	10%	14%	
Severe	6%	23%	
Day 1			**0.002**
Mild	20%	43%	
Moderate	14%	30%	
Severe	0%	0%	

Diagnosis of pARDS by PALICC Criteria

MODS not due to initial Trauma

	Survivors (n= 115)	Non-survivors (n=46)	p-value
Abdominal Injury	18%	17%	0.90
Chest Injury	33%	35%	0.83
Facial Injury	47%	67%	**0.002**
No Other Injuries	25%	9%	**0.02**

There was also not statistically significant difference between
the two groups with regard to orthopedic or spinal injuries.

Morbidity

Organ System	Effect
Cardiovascular	⬆ vasoactive support
Liver	⬆ LFTs and PT/INR
Pancreas	⬆ hyperglycemia
Marrow	⬇ hematocrit and platelets

Summary

- Prehospital occurrence of hypocarbia and hypothermia were associated with increased mortality

- Prehospital occurrence of hypercarbia and seizures were **NOT** associated with increased mortality

- Non-survivors had more organ injury (especially respiratory and cardiovascular) that may not be solely explained by mechanism of injury

- **Naïve to believe this is only happening in TBI**
  - **Unknown effect on morbidity/mortality in other trauma populations**

Updates to Recent Guidelines

- **Hyperosmolar Therapy**
  - 3% Saline (Hypertonic Saline) is gaining traction
    - Preserves volume status better than mannitol
    - Helps avoid hypotension

  - **Bolus HTS (3%) is recommended in patients with intracranial hypertension**
    - *(dosing 2-5 mL/kg over 10-20 minutes)*

- **Seizure Prophylaxis**
  - No data to suggest that either Fosphenytoin or Levetiracetam is superior to the other

Improving Care

- Monitoring $EtCO_2$ and avoiding $EtCO_2 < 35$
- Monitoring oxygenation and keeping $SpO_2 > 92\%$
- Avoiding hypothermia
  - *Our trauma rooms are now 80 degrees!*
- Hyperosmolar therapy with 3% HTS at 2-5 ml/kg over 10 – 20 minutes
- Early seizure prophylaxis

- **These findings could have implications in crafting EMS transfer policies for monitoring patients during transport.**

Thank You!

- An ounce of prevention…

- Contact:

- Laurie L Ackerman
  - Riley Pediatric Neurosurgery
  - 317-944-6201
  - lackerma@iuhealth.org

- Alyson K Baker
  - Riley Pediatric Intensive Care
  - 317-944-1608
  - alykbake@iu.edu

Trauma system planning subcommittee update

Dr. Scott Thomas, *Trauma Medical Director*

Memorial Hospital of South Bend

Dr. Matt Vassy, *Trauma Medical Director*

Deaconess Hospital

Indiana State
Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Trauma system planning subcommittee - agenda

- Hands-free device law.

- Helmet law.

- Additional Discussion.

Indiana State
Department of Health

Performance Improvement Subcommittee Update November 2019

Peter M. Hammer, MD

Trauma Medical Director

IU Health Methodist Hospital

Email questions to: **indianatrauma@isdh.in.gov**

2019 Goals Refresher

- Decrease Emergency Department (ED) Length of Stay (LOS) at non-trauma centers.

- Increase trauma registry quiz participation.

- Collect hospital level variables on an annual basis.

- Continued EMS run sheet collection.

2020 Goals

- Data validation
  - 2013-2015 review by Dr. Jenkin.
    - 6,953 cases with missing values.
    - 18 cases with >1 month ED LOS.
    - 2 cases with ED LOS > 100,000,000 minutes (~3 years).
    - 154 cases w/negative values.
  - Consider hospital level reports:
    - eg. Hospital rate of GCS missing and ISS >16.

Number of Reporting Hospitals are Increasing

Quarter, Year	# of hospitals reporting
Q2 2018	102
Q3 2018	108
Q4 2018	102
Q1 2019	104
Q2 2019	107

Transfer Delays

- Q1 2019 (n=366):
  - Null (n=185) 50.4%
  - EMS (n=50)
  - Referring Facility (n=29)
  - Referring physician decision making (n=28)
  - Delay issue (n=24)

Email questions to: **indianatrauma@isdh.in.gov**

Transfer Delays

- Q2 2019 (n=464)
  - Null (n=214) 46.1%
  - EMS (n=65)
  - Referring Facility (n=40)
  - Receiving facility issue (n=33)
  - Other (n=33)

Email questions to: **indianatrauma@isdh.in.gov**

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Increase Trauma Registry Quiz Participation

- October 2018 to October 2019:

  - Results:

    - 38 of 43 individuals have taken the quiz at least five times (quiz sent to 50 individuals).

- Continued promotion of quiz participation.

- If you have registrars/other staff interested in taking quizzes for CEUs, please contact Trinh Dinh at tdinh@isdh.in.gov.

Collecting Hospital Level Variables

- Variables being collected:
  - Teaching status (Community, Non-Teaching (no residents), University).
  - Profit (For-Profit, Non-Profit.
  - # of beds.
  - # of ICU bed.
  - # of trauma, orthopedic and neuro – surgeons.
- First survey sent out January 2019, with next survey being sent out January 2020.

EMS Run Form/Sheet Collection

- Please send Randall Eimerman, Department of Homeland Security (REimerman@dhs.IN.gov) an email with the list of providers not leaving run sheets.

PI Subcommittee Schedule

- Next meeting January 14, 2020 at 10:00am EST.

- 2020 meeting dates at ISDH (Larkin Conference Room)

- January 14   July 14

- March 17   September 14

- May 12   November 14

Email questions to: **indianatrauma@isdh.in.gov**

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American College of Surgeons – Committee on Trauma

Dr. Scott Thomas, *Trauma Medical Director*

Memorial Hospital of South Bend

Indiana State
Department of Health

Email questions to: **indianatrauma@isdh.in.gov**

Trauma Systems Pillar

- Develop and lead programs, initiatives, and collaborative efforts
  - To optimize regional and state trauma systems

- Establish a framework for a national trauma system
  - To reduce preventable deaths and disability

THE **COMMITTEE** ON **TRAUMA**

Trauma Systems Pillar

- Trauma Systems Evaluation and Planning

- Emergency Medical Services

- Disaster and Mass Casualty Management

Updates
Trauma System Consultation Guide

- White Book Revision Project
  - Trauma Systems Consultation(TSC) Guide Update – Built upon
    - Essential Trauma System Elements
    - Current Literature
    - Lessons learned
  - Utilize an inclusive stakeholder approach
    - State and Regional lead agency staff
    - Consultation reviewers
    - Representatives throughout the continuum of care
  - Develop metrics of compliance for the 11 Elements of the Guide
    - How do we determine if a state or region has element in place
  - Ensure that a public health approach is maintained

THE
COMMITTEE
ON **TRAUMA**

# 11 Essential Trauma System Elements
5 Workgroups

- Workgroup Charge
  - Review elements
  - Focus on Purpose and Rationale
  - Develop Metrics –summary of what constitutes compliance or non-compliance with each element
  - List types of documentation (policies, meeting minutes, etc.) needed to demonstrate compliance with elements
  - Current literature and best practices

THE
COMMITTEE
ON **TRAUMA**

- Indiana – Workgroup 2
  - Statutory Authority- **Should** exist to enable development and implementation of a trauma system. A lead agency with sufficient authority to implement policy, maintain evidence-based administrative rules, and allocate trauma system funds, **Should** be established or identified. A multidisciplinary advisory group, consisting of stakeholders representing the full spectrum of trauma care , **Should** guide the lead agency.

  - Funding- The lead agency **Should** establish a sustained funding mechanism for trauma system infrastructure. Funding **Should** include physical staffing, resources for program administration and oversight, data collection, storage, and analysis, and quality improvement activities, as well as support for disaster response and military integration.

Field Triage Guideline Revision

- NHTSA funding approved 2019-2021
  - ACS is the lead agency

- Process
  - Systematic review of available evidence
  - Technical expert panel
  - EMS protocol
    - Performance measures
    - Training Materials

- Goal
  - Supported by evidence
  - Practical for use

THE
COMMITTEE
ON **TRAUMA**
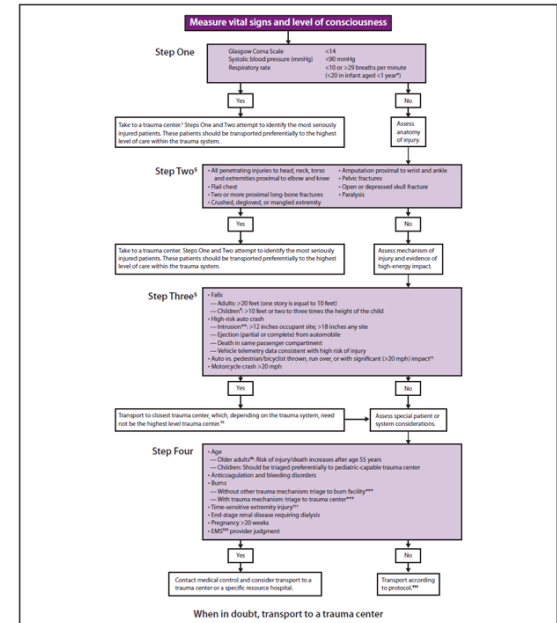
FTG revision process

- ACS EMS Committee Role
  - FTG Subcommittee
    - Survey EMS medical directors, trauma medical directors and other stakeholders for feedback on current FTG's

  - What works and what doesn't

Stop the Bleed

Stop the Bleed

- As of 10/25/19
    - 64,951 Instructors trained
    - All 50 States
    - 111 Countries

- 66,386 Courses completed

- 1,121,186 students trained
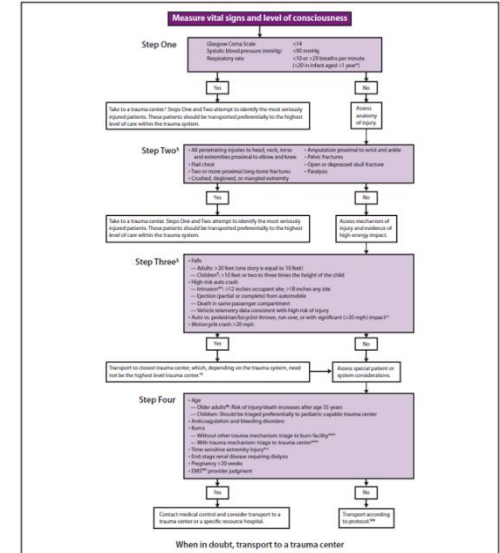
THE
COMMITTEE
ON **TRAUMA**

Stop the Bleed

- Support local STB efforts
  - Help connect students to programs
  - Message
    - Learn, teach, advocate
  - Moving forward
    - Why are you not teaching ?
    - What can you /we do to advance effort?
    - Build on legislative success
    - Keep foot on gas…..

Ketamine in Trauma

- Consensus statement, Version 13
  - ACS- COT
  - ACEP
  - NASEMSO
  - NAEMSP
  - NAMET
  - Peds -AAP

Billing for Prehospital Blood

- Prehospital blood products

- Seeking COT support

- 17 organizations
  - NAEMSP
  - NTI
  - ARC
  - AABB

- ACS-COT EMS Committee recomm

THE
COMMITTEE
ON **TRAUMA**

State Funding

- Louisiana
  - H.B. 380 to increase DL fees and direct funds to LA trauma system (failed)

- Michigan
  - COT chapter previously received enhanced grant to establish statewide trauma system (no updates)

- Texas
  - H.B. 2048 to *eliminate* driver responsibility program that generated **$71 million** to state trauma system (passed)
    - Program to be replaced with revenue from traffic fines

THE **COMMITTEE** ON **TRAUMA**

Other Injury Prevention Legislation

- Distracted Driving
  - 131 bills introduced
  - Legislation enacted (vetoed) in: AZ; AK; FL; IL; LA; MN; RI; TN; VA; (NH)

- Motorcycle Helmets
  - State laws weakened (vetoed) in: AX; MD; MA; MO; NE; NJ; NC; VA; WA; WV; (MO)
  - CO & IA introduced universal helmet legislation; bills failed
  - NC COT chapter initiated call to action opposing legislation to repeal universal helmet law

Rural Trauma Committee (RTC)

Needs Assessment Survey

- Opportunities
  - Mixed messages regarding additional testing prior to transfer
  - More education
  - Increased frequency of case reviews
  - More feedback/patient follow-up

- Strengths
  - Telemedicine help in ED
  - Call centers, "one call" transfer process
  - Feedback from TCs; Regional meetings with TCs
  - Same hospital team/using same EMR system

Rural Trauma Committee (RTC)

- Barriers to transfer
  - Weather related – 30%

- Additional needs from RTC
  - Education on procedures: airway; chest tube
  - Initial prehospital care
  - PIPS
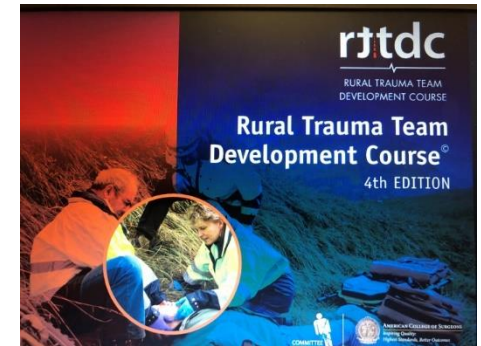
ISTCC Meeting Update December 2019

Michael A. Kaufmann, MD, FACEP, FAEMS
State EMS Medical Director
Indiana Department of Homeland Security

EMS Actionable Items Pre-2020

- Mobile Integrated Healthcare
- Reimbursement reform
- EMS Scope of Practice
- EMS Compact
- Stroke Rule
- 836 Re-write
- Board of Pharmacy
- KPIs and Data initiatives

MIH-CP

MIH-CP

- At the last meeting of Indiana EMS Commission, myself and IDHS introduced our intent to initiate discussion and movement on further developing Mobile Integrated Healthcare/Community Paramedic (MIHP) programs in the State of Indiana. You will recall the passage and adoption of SEA498 that gives the EMS Commission, in consultation with the Department of Homeland Security the authority to do the following:
  - Develop a mobile integrated healthcare program
  - Define the type of healthcare that can be provided under this program
  - Define the training or education that is needed in providing services under this program
  - Address the issues of certification, endorsement, oversight, and reporting for this program
  - Establish an application for EMS provider agencies wishing to develop these programs
  - Establish a committee to review and approve applications and provide general guidance to the development of MIHP programs

Examples in Indiana

- Crawfordsville Fire Department
  - Project Swaddle
  - SUD programs
- Carmel Fire Department
  - SRT Program
  - Post acute discharge program
- Fishers Fire Department
  - Behavioral health program
  - Alternate destination programs
- Lutheran Hospital EMS
  - Sepsis screening program

PROJECT SWADDLE
connects new moms to needed care

Franciscan HEALTH

Building One Indiana
Governor Holcomb's 2020 Next Level Agenda

Economy

Tell Indiana's story by starting up the new Indiana Destination Development Corporation & attracting more jobs & talent

Leverage our defense assets & **triple Department of Defense investment** in Indiana

Infrastructure

Parks
Rehab & renovation

Roads
Build, preserve & enact hands-free device driving law

Rail
West Lake & South Shore

River
Fourth port

Runways
Nonstop international flights

Finish **$190M investment in broadband & trails**

Deploy **$436M for water quality**

Workforce & Education

Support Teacher Compensation Commission in **making teacher pay more competitive**

Eliminate unnecessary requirements in 2021

Change career-related teacher professional growth points from **required to optional**

Hold schools harmless for 2018-19 ILEARN scores

Redesign prison education credits to better prepare offenders for re-entry

Public Health

Raise smoking, vaping age to 21 & enhance enforcement

Make **health care costs more transparent** for consumers

No surprise billing

Add **more recovery housing & expand pilot program** for jail inmates

Require **school relationship** with a mental health provider

Increase **mental health** professionals & services

More community **paramedicine** programs

Provide **more accommodations for pregnant workers**

Good Government

Use $300M in reserves to **pay for capital projects** that will save more than $125M in borrowing costs

Improve & expand 2-1-1 call services to help more Hoosiers

IDHS Summer Study Concluded

- Over the summer months, we conducted a state by state survey and assessment of the status of MIH-CP programs across our county.

- To date, MIH-CP programs are recognized in more than 33 other states, many of which have already developed training and education requirements, as well as rules and regulations to guide the development of new MIHP programs.

- IDHS engaged and collaborated with the School of Public Health from Purdue University to further analyze this data and make some specific recommendations for the EMS Commission to consider as next steps in better defining the practice of MIH-CP for EMS provider agencies and their licensed providers in Indiana.

EMS Commission Approved

- **MIH-CP Advisory Board**
  - Dedicated MIH-CP board with seats representing the diverse stakeholders in MIH-CP in Indiana, including but not limited to:
    - State EMS Medical Director
    - State EMS Director
    - EMS Medical Directors
    - MIH-CP program director
    - Municipal EMS CP program
    - Non-municipal CP program
    - College/University
    - MIH-CP provider
    - MIH-CP patient
    - Professional organizations
    - Representatives from other relevant professions
    - FSSA Representative
    - Insurance Industry Representative
    - Indiana State Department of Health representative
    - Indiana Hospital Association representative

Reimbursement Reform

EMS as Transportation Benefit

- Our EMS system of care was created more than 50 years ago and was a simple design; move patients quickly from the scene of an accident to a hospital.

- To this day EMS continues to be regarded as a transportation benefit and in most instances requires transport of a patient before a claim for reimbursement can be submitted.

- Prehospital medical care has evolved over the last 50 years with more complex therapies, procedures, medications and interventions being delivered in the prehospital setting.

- Reimbursement for those services has not.

- There are currently no avenues for EMS provided novel models of care to get reimbursed for those services.

Re-imagining EMS Reimbursement

- Pennsylvania Act 103 of 2018 requires insurance companies and Medicaid to reimburse EMS agencies for calls where the EMS provider treated the patient, but did not transport them.

- In PA, the new law says that in order for the reimbursement to be required, the ambulance must have been dispatched by a county 911 center, but gives EMS providers the option to treat patients at home.

- This is in alignment with the CMS ET3 Pilot study.

- Currently working with Governor Holcomb's administration, FSSA, and the State Department of Health to explore the possibility of similar language here in Indiana.

Currently working with FSSA to establish a reimbursement mechanism for naloxone administration!

Scope of Practice
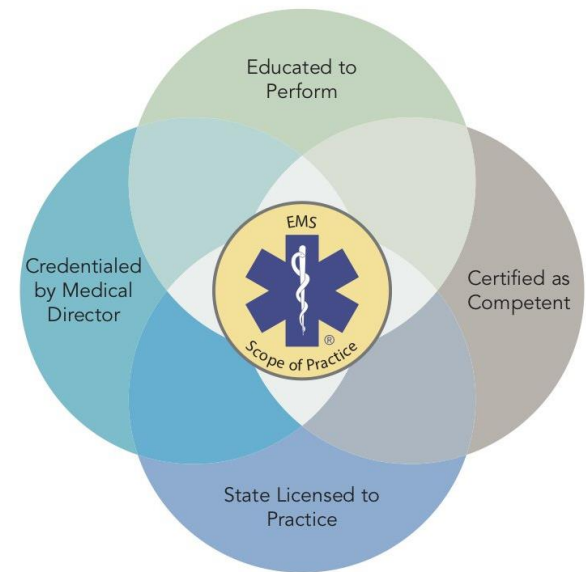
- Defines the licensure levels of EMS personnel
- Currently recognized as
  - EMR
  - EMT
  - AEMT
  - Paramedic
- Originally proposed in 2007 by the NASEM, "4.1 State governments should adopt a common scope of practice for EMS personnel"

NATIONAL EMS SCOPE OF PRACTICE MODEL

THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

- Consensus document published in 2006/7
- Defines levels of EMS licensure
- Delineates <u>practice and minimum competencies</u> for each level
- Does not have regulatory authority but provides guidance to each state
- Increases uniformity of EMS practice and allows for reciprocity among states
- Delegated to the NASEMSO
- Funded by the NHTSA

National Scope of Practice in Indiana

- January 21st, 2011 – EMS Commission partially adopted TAC recommendations.
  - National Education Agenda
    - Core Content
    - Scope of Practice
      - EMR
      - EMT
      - A-EMT
      - Paramedic
    - Educational Standards

NEMSAC Committee Report 12/2016

The need for alignment of the 2000 EMS Education Agenda for the Future: A systems approach, the 2005 National EMS Core Content, the 2007 National EMS Scope of Practice Model, and the 2009 National EMS Education Standards with the current practice of EMS Medicine

Bottom Line: Numerous national EMS guidance documents have been created in the last 2 decades and would benefit from being aligned with the modern practice of EMS.

2017 SOPM Expert Panel Conveined

Co-Chairman	Peter Taillac, MD
Co-Chairman	Scott Bourn, PhD
American Academy of Pediatrics	Brian Moore, MD
American Ambulance Association	John Russell, MD
American College of Emergency Physicians	David Lehrfeld, MD
American College of Surgeons-Committee on Trauma	Mark Gestring, MD
International Association of Fire Chiefs	David Becker, M.S.
International Association of Fire Fighters	Robert McClintock, NRP
National Association of EMS Educators	Mike Miller, NRP
National Association of EMS Physicians	John Gallagher, MD
National Association of EMTs	Dennis Rowe, EMT-P
National Association of State EMS Officials	Kyle Thornton, M.S.
International Association of Flight and Critical Care Paramedics	Aaron Byrd, NRP, FP-C
National EMS Management Association	Sean Caffrey, NRP
National Registry of EMTs	Ashish Panchal, MD
Unaffiliated SME (member at-large)	Leaugeay Barnes, NRP
Unaffiliated SME (member at-large)	Ann Bellows, EdD, NRP
Unaffiliated SME (member at-large)	Douglas Kupas, MD
Unaffiliated SME (member at-large)	Richard Kamin, MD
Unaffiliated SME (member at-large)	Jules Scadden, EMT-P

2018 SOPM Revision

- Identify new evidence and science regarding the regulation and State licensure of EMS personnel

- Facilitate implementation of the Scope Model with State EMS regulators including medical directors

- Provide opportunities for broad public and EMS community input and participation

- Incorporate new evidence and science as well as public and EMS community input into the document

- Improve the consistency and uniformity of EMS throughout the nation while still honoring the unique needs of individual states

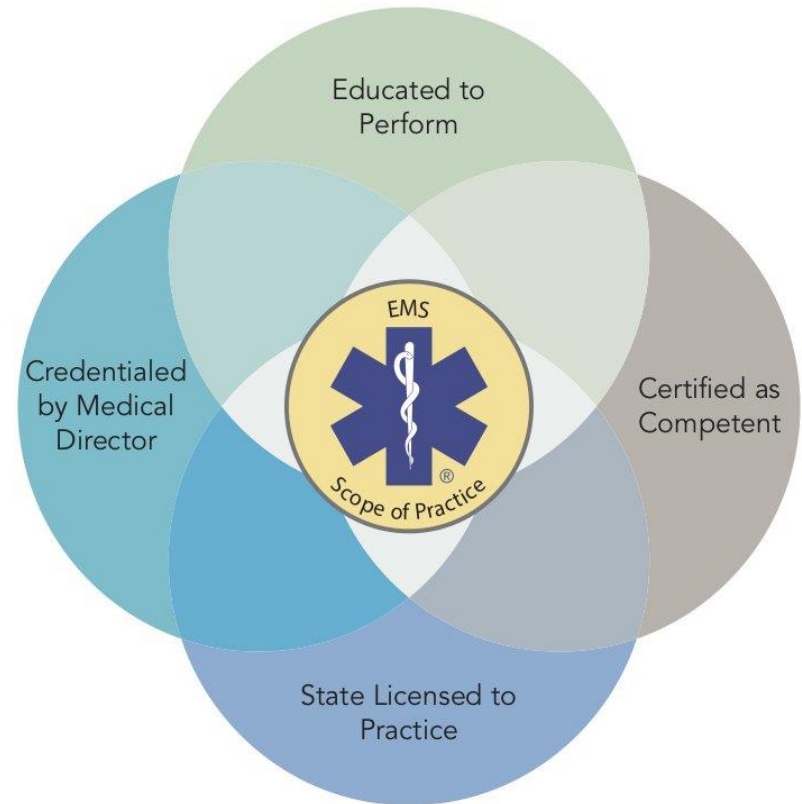# Why a National EMS Scope of Practice Model?

- CONSISTENCY!

- Defines MINIMUM practice requirements in advance of gaining field experience and prior to supervised or individual work experience

- It is NOT intended to define the limits of EMS practice

- Implies performing skills universally – EVERY EMR, EMT, AEMT, and Paramdic in every state MUST be educated and credentialed at the minimum practice level.

How it all fits together!

- The interdependent relationship between education, certification, licensure, and credentialing.

- An individual may perform only those procedures for which they are educated, certified, licensed, AND credentialed.

2018 National EMS
Scope of Practice Model

Education

Credentialing

Certification

Licensure

EMS
Scope of Practice®

The National Highway Traffic Safety
Administration
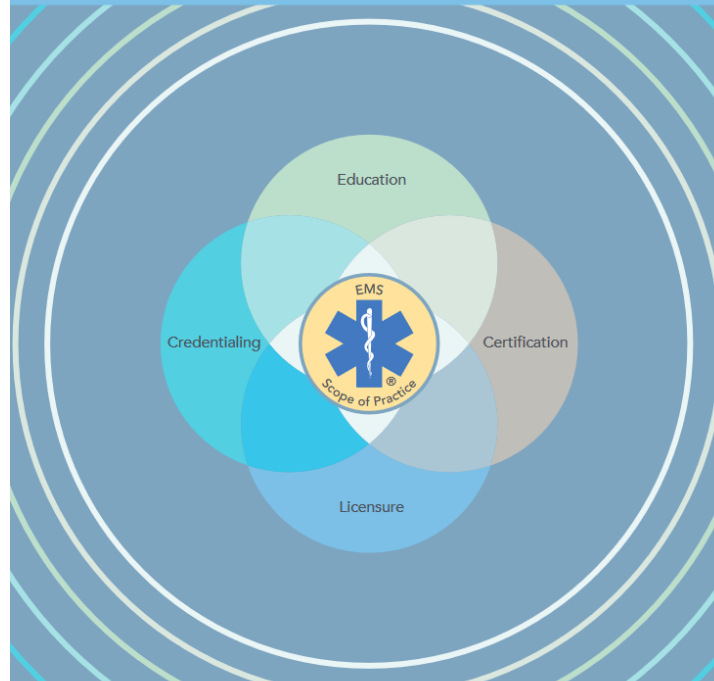
NHTSA
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

November 2019 EMS Commission Meeting

- IDHS submitted a proposal to the EMS Commission with a recommendation to adopt the 2018 National EMS Scope of Practice Model.

- Indiana exceptions and additions from previous iterations were left in place (e.g. supraglottic airways at the EMT level.)

- The EMS Commission unanimously adopted the newly proposed scope of practice model at all EMS provider levels with only one exception
  - Advance EMT medications – TBD January 2020 EMS Commission meeting.

EMS Compact

NEW EMS CERTIFICATIONS ISSUED SINCE 2010
(EMR, EMT, PARAMEDIC)

Year	Certifications
2010	3,638
2011	3,286
2012	2,852
2013	3,523
2014	2,272
2015	2,541
2016	2,482
2017	2,276
2018	1,955
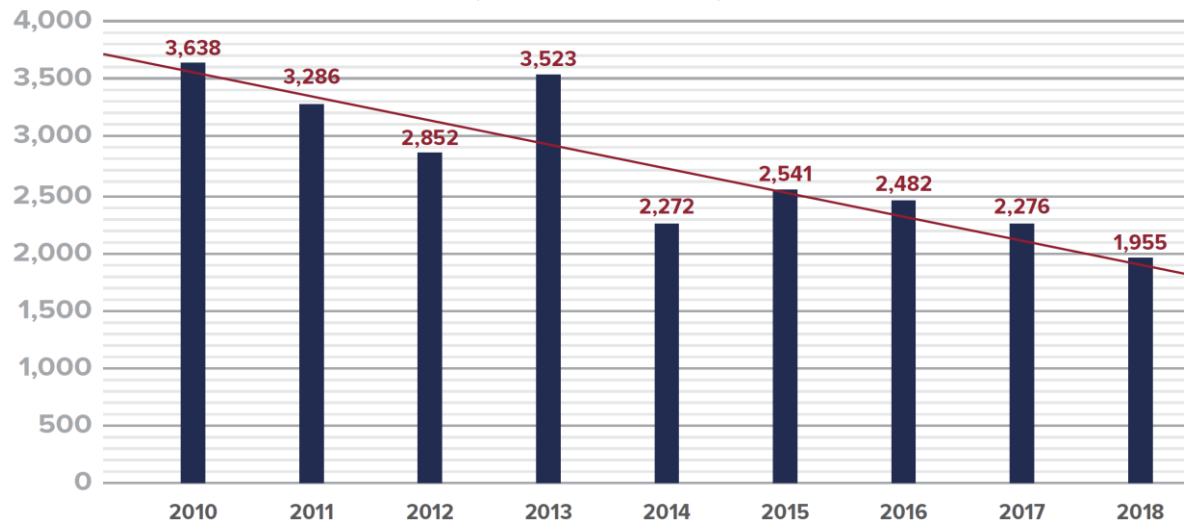
- Working to identify barriers restricting EMTs and Paramedics from entering the workforce in Indiana.

- Looking at licensing and certification process to remove obstacles.

- Looking for ways to align Indiana with other organizations such as NREMT to simply the continuing education and certification/licensure process.

- REPLICA

REPLICA

Multi-State Privilege To Practice

REPLICA extends a multi-state privilege to practice to qualified EMS personnel.
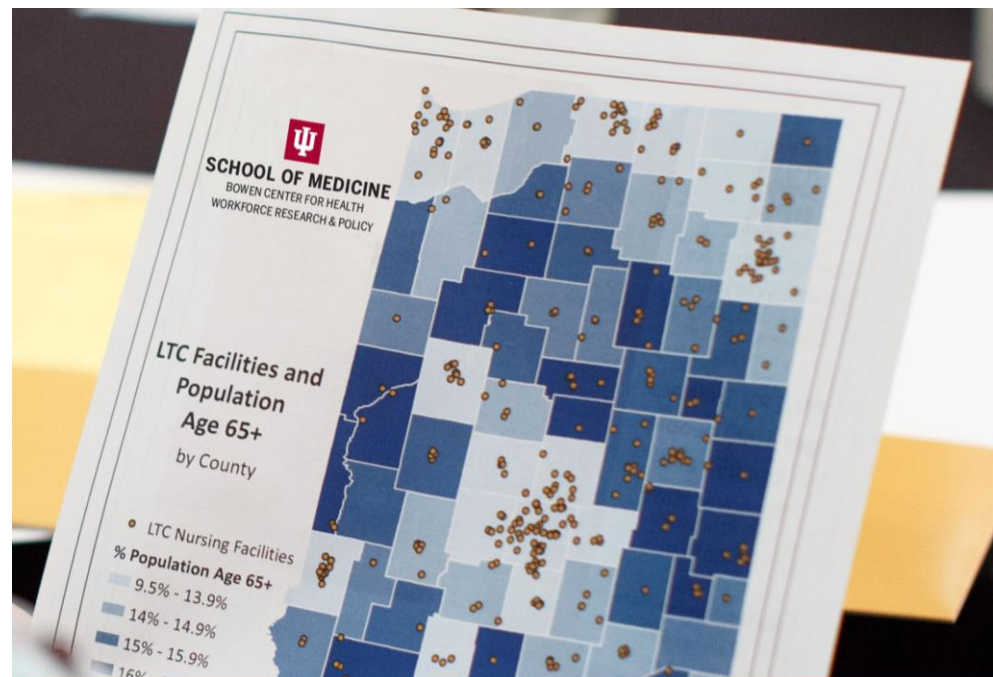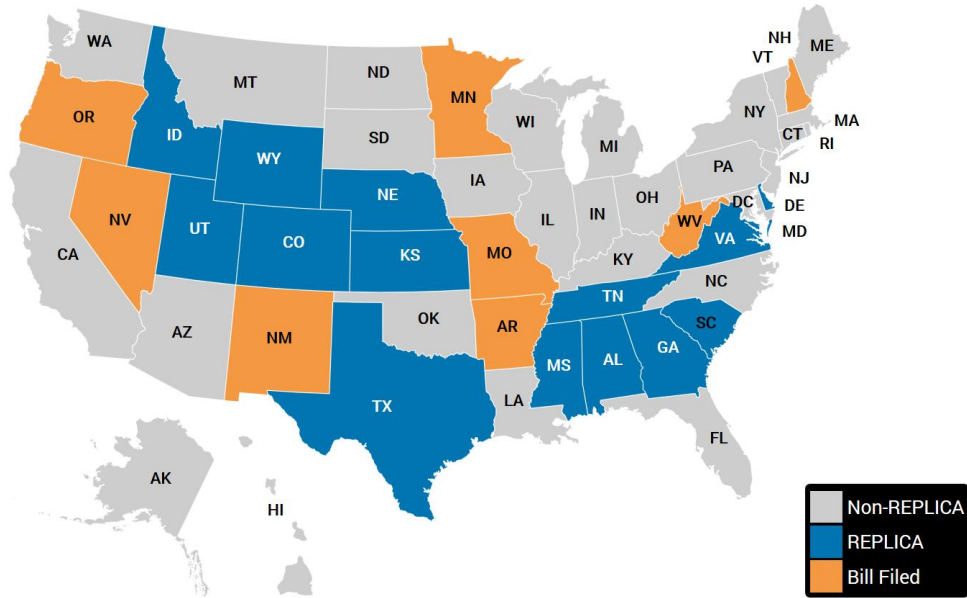
- The Recognition of EMS Personnel Licensure Interstate CompAct (REPLICA) is the nation's first and only multi-state compact for the Emergency Medical Services profession.

- REPLICA provides qualified EMS professionals licensed in a "Home State" a legal "Privilege To Practice" in "Remote States".

- Home States are simply a state where an EMT or Paramedic is licensed;

- Remote States are other states that have adopted the REPLICA legislation

- Obtain and maintain one EMS license, receive privileges to practice in REPLICA states while carrying out day-to-day duties, staffing large planned and unplanned events as authorized.

- Creates an expedited pathway to licensure for members of the military separating from active duty and their spouses with unrestricted NREMT card.

- Work under the scope of practice from your home REPLICA state.

- Reduced time, paperwork and costs associated with maintaining multiple licenses just to do your job.

Public Service

REPLICA enhances the way EMS is able to serve the public. REPLICA allows EMS personnel to better serve the public across state lines. (Note: REPLICA applies to individual EMS professionals, not EMS agencies.)

- Must be 18 years of age and have met state licensure requirements at the EMT, AEMT or Paramedic level in a REPLICA Home State.

- Be practicing in good standing in their home state with an unrestricted license and under the supervision of an EMS Medical Director.

Veteran Recognition

REPLICA recognizes the service of veterans and their spouses. REPLICA provides a mechanism for our nation's veterans to receive priority processing of EMS licensure paperwork.

- ✓ Utilize the NREMT exam at the EMT and Paramedic levels for initial licensure

- Utilize FBI compliant background check with biometric data (e.g. fingerprints) within 5 years of Compact activation.

- ✓ Have a process to receive, investigate, and resolve complaints; and share information with other Compact states as necessary.

- Enact the model REPLICA legislation

Public Protection

REPLICA provides a mechanism for State EMS Offices to share licensure information, communicate, and coordinate.

Current State

- Pending status in Senate.

- Rumor has it that a similar bill is set to be introduced in the House.

- IDHS has been having ongoing discussions with key stakeholders across the state and if introduced this session will provide broad based support for participation.

Rules

Rule Making Update

- **836 IAC Re-write currently underway**
- EMS rules las updated more than a decade ago.
  - ARTICLE 1. EMERGENCY MEDICAL SERVICES
  - ARTICLE 2. ADVANCED LIFE SUPPORT
  - ARTICLE 3. AIR AMBULANCES
  - ARTICLE 4. TRAINING AND CERTIFICATION
- All articles re-written and reviewed
- Approved by EMS Commission
- Completed fiscal impact study
- Review by the A.G.
- Gone to the Governor's office for initial review.

HEA 1145

SECTION 1. IC 16-31-2-9.5 IS ADDED TO THE INDIANA CODE **NEW** SECTION TO READ AS FOLLOWS [EFFECTIVE JULY 17]: **Sec. 9.5. (a) Before July 1, 2018, the commission shall do** ollowing:

(1) Adopt rules under IC 4-22-2 concerning protocols for the identification, transport, and treatment of stroke patients by personnel providing emergency medical services. The rules must include standards for stroke triage and transport protocols to be implemented by regional and local emergency medical services entities and programs to promote the efficiency and quality of care for stroke patients based on evidence based science and nationally recognized guidelines.

(2) Adopt and distribute a nationally recognized stroke assessment tool to personnel providing emergency medical services.

) Before July 1, 2018, the state department shall do the

Stroke Rules Draft

- Upon EMS arrival at the scene of a patient with suspected stroke, a provider must perform and document
  - An initial Stroke Screening Tool (i.e. CPSS, FAST, LA Stroke Severity Scale, NIH, or other appropriate scale approved by the agencies medical director
  - Obtain a blood glucose if available
  - Identify and document time last known well and time of symptom discovery.
- If the patient screens positive the provider may then perform an evidence based nationally recognized Large Vessel Occlusion (LVO) Stroke Scale
- Patients determined to need stroke center care by virtue of their stroke screening tool, shall be transported to an appropriate stroke hospital.

Stroke Rules Draft

Anticipated date of review by the Governor	November 4, 2019
Anticipated effective date	December 20, 2019

- To meet the below standards, local EMS medical directors shall develop protocols based on an assessment of local and regional hospital stroke capabilities. The appropriate stroke hospital destination shall be based on local and regional protocols which shall consider;
  - Capability to administer TPA (alteplase) accurately, promptly, and safely
  - Nationally recognized evidence-based science
  - Nationally recognized guidelines
  - The list of available certified stroke centers and network participating hospitals published by ISDH.

- Emergency medical services personnel shall provide early advance notification to the receiving hospital or stroke center whenever possible to allow appropriate activation of resources prior to patient arrival.

Transportation destination procedures

- Sec. 4. (a) Upon arrival at an incident, emergency medical services personnel shall assess the condition of each patient using the field triage decision scheme to determine the appropriate transport destination.

- (b)   Patients determined to need trauma center care by virtue of their satisfying either step one or step two of the field triage decision scheme shall be transported to a **Level I or Level II** trauma center, unless transport time exceeds 45 minutes or, in the judgment of the emergency medical services certified responder, a patient's life will be endangered if care is delayed by going directly to a **Level I or Level II** trauma center, in which case the patient shall be transported to a Level III trauma center. If transport to a Level III trauma center exceeds 45 minutes or, in the judgment of the emergency medical services certified provider and it would not be in the patient's best interests to be transported directly to a Level III trauma center, then the patient shall be transported to the nearest appropriate hospital, as determined by the provider's protocols.

- (c)   Patients determined to need trauma center care by virtue of their satisfying step three of the field triage decision scheme shall be transported to a trauma center unless transport tine exceeds 45 minutes or, in the judgment of the emergency medical services certified provider and it would not be in the patient's best interest to be transported directly a trauma center, in which case the patient shall be transported to or the nearest appropriate hospital, as determined by the provider's protocols.

- (d)   Patients determined to need trauma center care by virtue of their satisfying step four of the field triage decision scheme shall be transported to a trauma center or the nearest appropriate hospital, as determined by the provider's protocols.

- Controlled Substance Issues
- DEA 222 Forms
- EMS Medical Directors

- Public Law No: 115-83 (11/17/2017)

DEA

Planning for DEA/CSR for EMS Providers

- This law amends the Controlled Substances Act to ensure that paramedics and other emergency medical services (EMS) professionals are able to continue to administer controlled substances, such as pain narcotics and anti-seizure medications, pursuant to standing or verbal orders when authorized by State law.

- Further, the bill specifies that EMS agencies are permitted to have one DEA registration, rather than having separate registrations for each EMS location, so long as certain requirements are met relating to the transportation and storage of controlled substances are met

- Have met with BOP, PLA, DEA

- BOP has created and PASSED new rule language allowing EMS provider agencies to obtain a CSR

- Working through the rule promulgation process

Data and KPIs

NEMSQA

Measure ID	Description	Type	National Quality Strategy Domain
Hypoglycemia-01	Treatment Administered for Hypoglycemia	Process	Clinical Process – Effectiveness
Pediatics-01	Pediatric Respiratory Assessment	Process	Clinical Process – Effectiveness
Pediatrics-02	Administration of Beta Agonist for Pediatric Asthma	Process	Clinical Process – Effectiveness
Pediatrics-03	Documentation of Estimated Weight in Kilograms	Process	Patient Safety
Seizure-02	Patient with Status Epilepticus Receiving Intervention	Process	Clinical Process – Effectiveness
Stroke-01	Suspected Stroke Receiving Prehospital Stroke Assessment	Process	Clinical Process – Effectiveness
Trauma-01	Injured Patients Assessed for Pain	Process	Patient Experience
Trauma-03	Effectiveness of Pain Management for Injured Patients	Outcome	Patient Experience
Trauma-04	Trauma Patients Transported to a Trauma Center	Process	Clinical Process – Effectiveness
Safety-01	Use of Lights and Sirens During Response to Scene	Process	Patient Safety
Safety-02	Use of Lights and Sirens During Transport	Process	Patient Safety

IHIE
Integration

- Meeting with IHIE leadership
- Discussions are underway to integrate EMS data
- Exploratory team looking at EMS data for a CCD
- Integration would allow EMS data to be accessible from CareWeb
- Funding may be an obstacle
- More details to come in 2019

Other Ongoing Initiatives

IDHS EMS Division

- Data collection and reporting
- EMS-C pediatric survey for EMS
- Patient/Provider safety
- Stop the Bleed
- Suicide awareness/prevention and first responder mental health
- Biospatial, AED registry
- Dementia awareness
- Overdose education
- Quality improvement

Thank you!

Other Business

Indiana State
Department of Health

2020 ISTCC & ITN Meetings

- Location: Indiana Government Center – South, Conference Room B.

- Webcast still available.

- Time: 10:00 A.M. EST.

- 2020 Dates:
  - February 21
  - April 17
  - June 19
  - August 21
  - October 16
  - December 11

Email questions to: **indianatrauma@isdh.in.gov**