Response was added on 01/29/2019 11:06am.

2019 Annual Meeting & Expo North Little Rock AR | April 29- May 1

The Arkansas Public Health Association (APHA) is now accepting abstracts for the 71st Annual Meeting. The theme for the meeting is "Public Health: Creating Healthier Lives and Stronger Communities." Authors are encouraged to submit abstracts on the theme, as well as, on current and emerging public health issues.

Primary Author: The primary author will serve as the point of contact between APHA and the presenters.

First Name	Kevin
Last Name	Thomas
Credentials	ВА
E-mail Address	KThomas@uams.edu
Phone Number	(812) 664-5498
Mailing Address:	701 N. Tyler Street Little Rock, AR, 72205
If you are a student, please select one:	 Undergraduate Graduate (Masters type) Graduate (Doctoral type) Other
Please upload your resume or CV	[document]

Additional presenters: Please upload a resume or CV for any additional presenters.

Do you have additional presenters?	○ Yes ⊗ No
Name(s) of Additional Presenters	
Title of Presentation	Effect of Insurance Status on Treatment and Outcomes in Pediatric Patients with Severe Traumatic Brain Injury
Abstract	[document]



Primary Presentation Type

Secondary presentation Type

Would you be willing to serve on a panel?

In which category does your abstract best fit?

Presentation Description

Statement of the Problem: What overall problem were you trying to study and why is it important?

Intervention (if appropriate): Describe the intervention you tested.

Study design: Describe the structure of the study and the variables of interest.

Sample size and composition: How many subjects were in the study and what are their characteristics?

Measures utilized: What measurement tools did you use to measure the variables of interest?

 \otimes Oral \bigcirc Poster

 \bigcirc Oral

 \otimes Poster

⊖ Yes

 \otimes No

- Theme: Creating Healthier Lives and Stronger Communities
- Public Health Policy
- □ Advocacy
- Health/Wealth Equity
- Health Disparity
- Environmental Health
- Public Health Nursing
- Chronic Disease
- Communicable Disease
- Immunizations
- Health Literacy
- Health Education and Health Promotion
- □ Nutrition
- Health Administration
- Public Health Preparedness
- Other (describe below)
- \otimes Research
- Program/Best Practice

We were studying the overall contributing factors the potentially led to different Pediatric Severe TBI outcomes.

N/A

This was a retrospective study, looking at EMR documentation from the NTDB. The variables of interest are patient demographics and vitals (ie. race, gender, mechanism of injury, GSC and ISS) and procedures and outcomes (ie. vent days, ICU length of stay, Craniotomy, Craniectomy, ICP monitoring, EVD monitoring).

There were 10,490 pediatric (<18 yo) patients with isolated severe TBI from the years 2007-2014. Isolated TBI was defined as patients with a head Abbreviated Injury Scale (AIS) score of 3+ and excluded those with another regional AIS of 3+. Patients with a total Glasgow Coma Scale (GCS) score greater than 8 were excluded. Additionally, patients with penetrating injuries were excluded.

We used the ISS and AIS tools to get the appropriate level for isolated TBI injury.



Page 267 of 296

Analysis method: What statistics did you use to analyze your data?

Demographic data, ventilation status, hospital length of stay, and other key variables were collected and analyzed. Chi-square, Student's t-test, and logistic regression analysis were used to compare data, where p<0.05 was considered statistically significant. The data analyses were performed using SAS version 9.3 (SAS Institute, Cary, NC).

www.projectredcap.org

Page 268 of 296

Results: Report the results of your analysis in quantitative form.

Table 2 describes patient characteristics. treatments, and outcomes when stratified by insurance status. The mean age in both groups was 9.2 years (p=.49). Blacks were associated with 20% decreased odds of having insurance compared to those who were not Black (p=.008). A greater proportion of patients with insurance were likely to be placed on a ventilator when compared to those without insurance (75.2% vs. 67.4%; p<.0001), and those with insurance remained on the ventilator for a longer period of time (5.0 vs. 3.6 days; p<.0001). Furthermore, a greater proportion of insured patients were likely to be admitted to the ICU compared to uninsured (83.8% vs. 68.6%; p<.0001), and those with insurance spent more time in the ICU than those without (7.2 vs. 5.6 days; p<.0001). The overall hospital length of stay was significantly longer for patients with insurance (10.8 vs. 8.2 days; p<.0001). Patients with insurance had a lower injury severity score (19.5 vs. 21.0; p=.01) and were less likely to be hypotensive upon ED arrival (9.4% vs. 19.5%; p<.0001). Additionally, the proportion of patients with a GCS of 3 was smaller among patients with insurance compared to those without (64.8% vs. 72.5%; p<.0001). With respect to surgical procedures, the proportion of craniotomies or craniectomies performed on patients with insurance was higher when compared to those without insurance (16.9% vs. 13.2%; p=.002), and the proportion of EVD or ICD monitors placed on patients with insurance was higher (13.4% vs. 7.6%; p<.0001). The proportion of patients who expired was lower among those with insurance (18.6% vs. 33.2%; p<.0001). A smaller proportion of insured patients were discharged to their home than uninsured patients (57.3% vs. 68.6%; p<.0001), and a larger proportion of insured patients than uninsured were discharged to a rehabilitation facility (36.9% vs. 24.5%; p<.0001). Further, insured patients were less likely than uninsured patients to be transferred to another acute care facility (12.3% vs. 22.1%; p<.0001). When adjusting for potential confounders, the results presented in Table 3 indicate that patients with insurance were associated with a 31% higher odds of receiving a craniotomy or craniectomy when compared to those without insurance (p=.01). Similarly, patients with insurance were associated with a 87% higher odds of an EVD or ICP monitor placed (p<.0001). A regression analysis was performed on a subset of the population (patients with a GCS = 3) to determine if insurance status had an impact on any of the neurosurgical procedures being performed (craniotomy, craniectomy, EVD monitor, or ICP monitor) on those with severe neurological deficits (Table 4). The results of this analysis indicate that having insurance was associated with a 58% higher odds of having any of these procedures (p < .0001). Finally, the regression analysis shown in Table 5 indicates that having insurance was associated with 52% lower odds of dying compared to not having insurance (p<.0001). In addition to

insurance status, it was found that race (Black),

hypotension, and injury severity scores all produced com ster and a severity scores all produced com ster and a severity scores and a severity score and a

models.

Conclusions: What overall conclusions can you draw from this study?

Insurance status and race are independently significant predictors of patient treatment and outcomes in the pediatric population. The findings from this study reinforces the importance of policies and programs, such as the Children's Health Insurance Program (CHIP), that are in place to provide and protect the health insurance of children. Ensuring all children have access to health insurance is necessary to equalize outcomes following traumatic brain injury.

Learning Objectives: You MUST follow the format shown in the example below. NO COMPOUND OBJECTIVES.

Step 1. Describe the information, skills, behaviors, or perspectives participants in the session will acquire through attendance and participation.

Step 2. Clearly identify the outcomes or actions participants can expect to demonstrate as a result of the educational experiences. See the action words below.

Step 3. Write the learning objectives that relate to these outcomes and that reflect the content of the session.

Objectives describe the behavior of the learner, and:

- □ are stated clearly
- □ define or describe an action
- □ are measurable, in terms of time, space, amount, and/or frequency

Measurable Action Words (examples): Explain, Demonstrate, Analyze, Formulate, Discuss, Compare, Differentiate, etc.

Examples of Learning Objective

- By the end of the session, attendees will:
- 1. List five factors that contribute to hypertension.
- 2. Design a community-based breast screening model.

*Each abstract must have 3 learning objectives.

Learning Objective I:	Explain sociodemographic factors that portend a poor prognosis for pediatric TBI patients.
Learning Objective II:	List 2 factors that are related to mortality in pediatric TBI management.

Learning Objective III:

Discuss methods to overcome healthcare disparities in the pediatric TBI population.

Travel Reimbursement: APHA welcomes abstracts from our public health partners near and far. If you are traveling more than 120 miles to the conference site, travel reimbursement may be available.

Will you require travel reimbursement? \bigcirc Yes
 \bigotimes No

Thank you for your submission. The call for abstracts closes on 01/18/19. Authors will be notified on 02/15/19. For any questions, email president-elect@arkpublichealth.org

Registration and Membership: You do NOT have to be an APHA member to submit an abstract. However, if your abstract is accepted for presentation, the presenting author MUST register for the Annual Meeting by the pre-registration deadline.

Additional Information may be required from you to complete the continuing education process. If your abstract is accepted, you may be required to submit additional forms such as conflict of interest forms. You will be contacted by email to complete these forms.

Author Disclaimer: Opinions expressed by a speaker represent only the opinions of the speaker and do not necessarily reflect the official policy or position of the Arkansas Public Health Association.

Penalties: Presenters who fail to show up for their scheduled presentations without notifying the program planner of cancellations will not be permitted to present papers or posters at an APHA sponsored meeting for two years following the "no-show."

Session Types:

• Oral presentation: A 50 minute spoken presentation, including questions and answers for a total of 60 minutes

• Panel Discussion: Total of 1 hour comprised of 15-20 minute coordinated presentations by up to 3 people, including questions and answers

Training Session: up to a 3 hour training session on a current best practice intervention or data training course
 Poster: Authors present their papers using a visual medium with key excerpts from the papers displayed on a 4' high x 8' wide/1.2 m high x 2.4 m wide free-standing bulletin board.

Hotel Reservation link: https://www.wyndhamhotels.com/groups/hr/apha-71st-annual-meeting-and-exhibitions1 http://tiny.cc/APHAHotel2019 Hotel Room block - held until April 8, 2019



Effect of Insurance Status on Treatment and Outcomes in Pediatric Patients with Severe Traumatic Brain Injury

Kevin Thomas, BS³; J. Mick Tilford, PhD¹; Kevin Sexton, MD⁴; Saleema Karim, PhD¹; Namvar Zohoori, MD, MPH, PhD²⁵; Clare Brown, MPH¹; Md Minhajul Islam, MA¹; Analiz Rodriguez, MD, PhD³ Austin Porter, DrPH, MPH¹

¹ Fay W. Boozman College of Public Health, Department of Health Policy and Management, University of Arkansas for Medical Sciences, Little Rock, AR 72205

²Arkansas Department of Health, Little Rock, AR 72205

³ Department of Neurosurgery, University of Arkansas for Medical Sciences, Little Rock, AR 72205

⁴ Division of Trauma Surgery, Department of Surgery, University of Arkansas for Medical Sciences, Little Rock, AR 72205

Fay W. Boozman College of Public Health, Department of Epidemiology, University of Arkansas for Medical Sciences, Little Rock, AR 72205

Introduction: Pediatric severe traumatic brain injury (TBI) remains a leading cause of mortality causing approximately 2200 deaths annually. Treatment of severe TBI is variable and not all patients receive interventions such as intracranial pressure monitoring (ICP) or craniotomy. Furthermore, the impact of insurance status on management and outcome in this patient population has yet to be studied.

Methods: The National Trauma Data Bank (NTDB) was analyzed from January 1, 2007 to December 31, 2014 and 10,079 pediatric patients with severe TBI and no other significant traumatic injury were identified. Mechanism of injury, clinical events and disposition were collected.

Results: Median age of the cohort was 9.2 years and 9,052 (89%) were insured. The most common mechanism of injury was motor vehicle collision. 65% of insured patients and 73% of uninsured patients had a presentation Glasgow coma score (GCS) of 3. Insured patients had significantly more ICP monitors placed (13.1% vs.7.3%; p<0.0001), craniotomies performed (16.6% vs. 13%; p=0.002), *intensive care unit admissions (84% vs 69%; p<0.0001)*, and discharges to rehabilitation centers (37% vs. 24.5%; p<0.0001) in comparison to uninsured patients. Uninsured patients were more likely to expire (34.5% vs. 19.3%; p<0.0001) or be discharged home (73.6% vs. 60.5%; p<0.0001). Insured patients with a GCS of 3 at presentation had a 50% higher odds ratio of receiving neurosurgical intervention in comparison to uninsured patients with a GCS 3. Among this sub-cohort, insured status was associated with a 41% decrease in odds of dying.

Conclusions: Un-insured pediatric TBI patients received less interventional procedures and had an increased odds of dying in comparison to the insured population. Further studies are needed to determine the reasons behind these treatment and outcomes disparities in order to decrease morbidity and mortality in this patient population following severe TBI.

Learning Objectives

- 1) Explain sociodemographic factors that portend a poor prognosis for pediatric tbi patients
- 2) List 2 factors that are related to mortality in pediatric TBI management
- 3) Discuss methods to overcome healthcare disparities in the pediatricTBI population.

Kevin Thomas

kthom94@gmail.com

1707 Brentwood Dr., Princeton, IN 47670, (812)-664-5498

Education

Washington University in St. Louis, St. Louis, MO Bachelor of Arts and Sciences, May 2016 Major: General Psychology Minor: Music, Biology Cumulative GPA: 3.44

University of Arkansas School of Medicine/ Public Health, Little Rock, AR Doctor of Medicine/ Masters of Public Health

Awards and Honors

Honors in Research Stipend Recipient (Summer 2018)

Volunteer Work

University of Arkansas School of Medicine, Little Rock, AR

Class of 2021, Student Curriculum Committee Representative (August 2017- Present)

- Help meet with students of the class of 2021 about changes that can be made in the curriculum
- Act as liaison for the Basic Sciences Subcommittee meetings once a month

12th Street Medical Student Volunteer (August 2017- Present)

- Have the opportunity to take history of patients that visit the 12th street free clinic
- Have served over 100+ hours volunteering with fellow students from other disciplines
- 12th Street Medical Student Board of Directors (August 2018- Present)
 - Help coordinate volunteer participation on different volunteer nights
 - Looked over the Volgistics and Sign-Up Genius sign-up systems for volunteers

Teaching

UAMS Student Success Center (August 2018- Present)

• Served as a tutor for M1 students in subjects of Anatomy and Biochemistry

<u>Research</u>

Oral Presentations

International

 Effect of Insurance Status on Treatment and Outcomes in Pediatric Patients with Severe Traumatic Brain Injury. Porter A, Thomas K, Tilford JM, Sexton K, Karim S; Zohoori, N; Brown C; Islam M, Rodriguez A. 13th World Congress on Brain Injury. March 2019

Regional

 Effect of Insurance Status on Treatment and Outcomes in Adult Patients with Severe Traumatic Brain Injury. Thomas K, Porter A, Henson JC, Gray K, Sifford MC, Sexton K, Rodriguez A. Southern Neurosurgical Society Annual Meeting. February 2019. 2) National Trends in Management of Adult Severe Traumatic Brain Injury Following Brain Trauma Foundation Guidelines: An Analysis of 22,562 Patients at ACS Level 1 Trauma Centers". Helton M, Porter A, Thomas K, Sexton K, Rodriguez A. Southern Neurosurgical Society Annual Meeting. February 2019.

<u>Posters</u>

National and International

- 1) Effect of ACS Level 1 trauma center designation on management of adult severe TBI patients. Helton M, Porter A, Thomas K, Sexton K, Rodriguez A. American Association of Neurosurgical Surgeons Annual Meeting. April 2019.
- Effect of Insurance Status on Treatment and Outcomes in Adult Patients with Severe Traumatic Brain Injury. Porter A, Thomas K, Henson JC, Gray K, Sifford MC, Sexton K, Rodriguez A. 13th World Congress on Brain Injury. March 2019.

Computer Skills/General Interests

Microsoft Excel, Powerpoint, and Word Conversant in English, Spanish, and Malayalam