Fatal and Non-Fatal Child Abuse Injuries of Children ≤5 Years Old in an Urban Area

Learning Objectives
Identify child abuse injuries using hospital discharge data
Describe child abuse injuries using various forms of data
Compare fatal and non-fatal child abuse injuries by demographics and cost

Statement of Purpose
In Dallas County, child abuse is the second leading cause of injury death for children under the age of 1 and the third amongst children 5 years of age and under. From 2010-2017, the fatal child abuse rate has remained the same with slight fluctuations in between the years. Within the same time, the non-fatal child abuse rate has increased 5.7%. The most common data used to describe the impact of child abuse focuses on fatal deaths. Utilizing non-fatal and fatal data along with other measures on child abuse injuries collectively allows for an in-depth description of the impact of child abuse on our communities.

Methods
Hospital Discharge Data was collected from the Dallas-Ft. Worth Hospital Council and used to describe the non-fatal child abuse injuries. Dallas County Medical Examiner Autopsy Data and Dallas County Child Death Review Team Data were used to describe fatal child abuse injuries. WISQARS Cost of Injury data was used to determine costs of non-fatal/fatal injuries.

Results
On average 50 children experienced severe injuries due to child abuse each year. Seven children died and 43 were injured each year, on average. Although children with “other” marked for race/ethnicity had the lowest rate of fatal injuries due to child abuse (3.6 per 100,000 population), they had the second highest rate of non-fatal injuries (29.1 per 100,000). Males had the highest rate of fatal injuries (5.1 per 100,000) while females had the highest rate of non-fatal injuries (38.0 per 100,000). Seventy-five percent of children that were seen at a hospital due to child abuse injuries were covered by Medicaid. The average cost of non-fatal child abuse injuries was $443,250.

Conclusions
The burden of child abuse becomes clearer when non-fatal injuries, cost associated with injuries, and years of life lost due to premature death are added to the conversation. Child abuse prevention efforts should utilize data to create a more targeted approach towards addressing higher risk populations.

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Replicating the Alaska Longitudinal Child Abuse and Neglect Linkage Project: The Oregon Connection

Learning Objectives
1) Understand the ALCANLink methodology
2) Learn about the steps and resources required to replicate ALCANLink
3) Describe preliminary results comparing Oregon and Alaska cumulative incidence estimates

Statement of Purpose
Child maltreatment, which includes abuse, neglect, and mental injury of a child by a parent or other caregiver, is associated with adverse health outcomes across the life course. There is growing interest among state health departments in developing methodology to estimate the cumulative incidence of maltreatment experienced during childhood. The State of Alaska developed the Alaska Longitudinal Child Abuse and Neglect Linkage project (ALCANLink) to estimate the cumulative incidence of child maltreatment in Alaska and describe associated demographic and early childhood factors. This population-based cohort study is comprised of responses from the Pregnancy Risk Assessment Monitoring System (PRAMS) linked to child welfare and other administrative data. ALCANLink estimates have been used to inform state-level policies, increase partnerships between public health and child welfare, and have provided substantive data to critically understand Adverse Childhood Experiences.

Methods
The ALCANLink team is partnering with the Oregon Health Authority and Oregon Health Sciences University to replicate this methodology and create a comparable cohort in Oregon. The ALCANLink methodology requires limited resources and is a practical and efficient approach to studying the cumulative incidence of child maltreatment at the state level. However, organizational differences in state government can challenge the replication of system integration projects. This replication project will be used to validate the Alaska methodology and document the feasibility of replication within a state with a different organizational structure and compare cumulative incidence estimates derived.

Results
The process for replicating the ALCANLink project requires clear documentation of data elements, sharing and confidentiality, and knowledge of data linkage methods. Development of partnerships, forming data use agreements, and IRB approval were all required but easy to navigate given the methodology. Linkage methods while similar, are not identical between states due to the requirement of all linkages be conducted by the Oregon Integrated Client Services office. One key person within the state is necessary, and in-person meetings with results for Alaska shared is critical for success. Comparative cumulative incidence results will be presented.

Conclusions
The ALCANLink methodology is built upon the solid foundation of the PRAMS survey and allows for efficient replication and valid comparison of the incidence proportion of maltreatment. The resources required to replicate included support from the Alaska project director and Oregon Health Authority senior MCH epidemiologist, and funding for a PhD level graduate research assistant. While entire birth cohort linkages to child welfare are useful the ALCANLink methods are feasible alternative that expand
the availability of data elements, increases comparability and the ability to conduct pooled analyses, and relatively easy to implement and maintain to inform population level program and policy.

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Using Child Death Review Model for Pedestrian Safety

**Learning Objectives**

In this session, participants will:
- examine the multiple data sets available to engage in upstream collaborative injury prevention efforts
- learn the child death review model of case presentation for prevention
- discuss challenges around working with diverse perspectives

**Statement of Purpose**

In efforts to improve public health and reducing traffic congestion by encouraging use of public transit systems and active lifestyles Washington has seen increased pedestrian activity and increased injury and death from pedestrian involved car crashes. In working towards Target Zero for traffic fatalities the Washington Legislature authorized a pedestrian advisory council to analyze fatality data and make recommendations for system improvements.

**Methods**

Using a child death review model, the FARS unit at WTSC compiled, analyzed, and presented fatality crash data involving pedestrians to an advisory council consisting of representatives from state and local governments in traffic safety, transportation, health, law enforcement, and non-profit community groups. Information was obtained from multiple data sources on selected cases from licensing and vehicle records, toxicology, death certificates, coroner reports, criminal background checks, crash scene reconstruction reports, pedestrian driving history and officer incident reports. Google streets was used to provide visual context of the location of the pedestrian crashes. Key factors related to the crash were identified and discussed in the formulation of recommendations of system changes to mitigate future crashes in similar environments and shared risk factors.

**Results**

Upstream factors associated with pedestrian crashes were identified from the data. Multiple data sets provided historical, geographical, and situational perspectives to the crashes. Use of technology such as Google Streets provided social context related to the crashes. Improved data and structured presentation enhanced discussion of upstream factors of both risk and protective factors to improve pedestrian safety.

**Conclusions**

A child death review model to analyzing traffic fatalities is a highly effective method to improving roadway safety in a Systems Approach where multiple perspective are working on a complex public health issue. By using a data informed process inherent in this model, linking multiple data sets and information sources facilitates conclusions on upstream risk and protective factors resulting in improved prevention strategy development.

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Dr. Will Hitchcock, received his PhD from Oklahoma State University with a research focus on aggression, violence, and measuring risk of child abuse. He is currently the Regional Network Injury Prevention Coordinator for HHS Regions 9, 10 at Washington State Department of Health. His body of work includes research in violence and aggression, program evaluation, child abuse and neglect prevention, juvenile delinquency prevention, and substance abuse prevention. His current work focuses on child unintentional injury, virtual facilitation, and peer network development. He also facilitates the Traumatic Brain Injury National Peer Learning Team.