The Horrid Truth: Injuries Among Native American Children

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Faculty Disclosure

• I have no relevant financial relationships with the manufacturer(s) or any commercial product(s) and/or provider of commercial services discussed in this CME activity.

• I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.
“If a disease were killing our children in the proportions that injuries are, people would be outraged and demand that this killer be stopped.”

C. Everett Koop MD
Former US Surgeon General
Objectives

• By the end of this presentation, you should be able to:
  1. Describe the impact of injuries on Native children in the United States
  2. Discuss specific injury risks to aboriginal children
  3. List effective evidence based methods to address those risks
What’s Killing Children?
Top Causes: Ages 1 to 15
2001-2011

Source: CDC
Causes of Death, AI/AN 0-19 years

- Injury: 62%
- Congenital Anomalies: 18%
- Suicide: 7%
- SUID: 5%
- Homicide: 4%
- Malignancy: 3%
- Other: 1%
<table>
<thead>
<tr>
<th>Rank</th>
<th>1-4</th>
<th>5-9</th>
<th>10-14</th>
<th>15-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Congenital Anomalies 1,059</td>
<td>Unintentional Injury 513</td>
<td>Unintentional Injury 319</td>
<td>Unintentional Injury 396</td>
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<tr>
<td>2</td>
<td>SIDS 651</td>
<td>Homicide 131</td>
<td>Malignant Neoplasms 60</td>
<td>Suicide 145</td>
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<tr>
<td>3</td>
<td>Short Gestation 572</td>
<td>Congenital Anomalies 118</td>
<td>Congenital Anomalies 46</td>
<td>Malignant Neoplasms 49</td>
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<tr>
<td>4</td>
<td>Unintentional Injury 365</td>
<td>Malignant Neoplasms 61</td>
<td>Homicide 29</td>
<td>Malignant Neoplasms 98</td>
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<tr>
<td>5</td>
<td>Maternal Pregnancy Comp. 215</td>
<td>Heart Disease 39</td>
<td>Influenza &amp; Pneumonia 17</td>
<td>Homicide 35</td>
</tr>
</tbody>
</table>
Cause of Death

MV Traffic: 380
Drowning: 74
Fire/burn: 47
Other Land Transport: 44
Poisoning: 33
Suffocation: 28
Firearm: 26
Pedestrian, Other: 18
Natural/Environment: 16
Unspecified: 14
Fall: 8
Other Transport: 7
Other Spec., classifiable: 6
Pedal cyclist, Other: 5
Struck by or Against: 4
Machinery: 3
Other Spec., NEC: 2
Twenty-Year Trends in Fatal Injuries to Very Young Children: The Persistence of Racial Disparities

Joyce C. Pressley, Barbara Barlow, Tiffany Kendig and Rachel Paneth-Pollak

*Pediatrics* 2007;119;875-884

DOI: 10.1542/peds.2006-2412
<table>
<thead>
<tr>
<th>Injury Mechanism</th>
<th>Black Rate Ratio (95% CI)</th>
<th>% Change</th>
<th>American Indian/Alaskan Native Rate Ratio (95% CI)</th>
<th>% Change</th>
<th>Asian/Pacific Islander Rate Ratio (95% CI)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>All causes</td>
<td>1.93 (1.85–2.02)</td>
<td>−0.03</td>
<td>2.00 (1.76–2.29)</td>
<td>0.00</td>
<td>0.55 (0.48–0.63)</td>
<td>−0.10</td>
</tr>
<tr>
<td>Unintentional</td>
<td>1.64 (1.56–1.73)</td>
<td>−0.04</td>
<td>1.81 (1.55–2.12)</td>
<td>−0.02</td>
<td>0.52 (0.45–0.61)</td>
<td>−0.09</td>
</tr>
<tr>
<td>Intentional</td>
<td>3.18 (2.91–3.47)</td>
<td>−0.19</td>
<td>2.86 (2.19–3.73)</td>
<td>−0.03</td>
<td>0.66 (0.50–0.88)</td>
<td>−0.30</td>
</tr>
<tr>
<td>Motor vehicle traffic</td>
<td>1.38 (1.24–1.54)</td>
<td>0.07</td>
<td>2.76 (2.15–3.55)</td>
<td>0.48</td>
<td>0.60 (0.46–0.80)</td>
<td>−0.24</td>
</tr>
<tr>
<td>Occupant</td>
<td>1.31 (1.11–1.54)</td>
<td>0.39</td>
<td>2.85 (1.99–4.08)</td>
<td>0.45</td>
<td>0.35 (0.21–0.60)</td>
<td>−0.45</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>1.63 (1.33–2.00)</td>
<td>−0.19</td>
<td>1.39 (0.69–2.81)</td>
<td>−0.22</td>
<td>0.72 (0.43–1.21)</td>
<td>−0.35</td>
</tr>
<tr>
<td>Unspecified</td>
<td>1.32 (1.07–1.63)</td>
<td>0.52</td>
<td>3.91 (2.61–5.85)</td>
<td>1.08</td>
<td>0.94 (0.61–1.45)</td>
<td>0.49</td>
</tr>
<tr>
<td>Drowning</td>
<td>0.74 (0.64–0.86)</td>
<td>0.10</td>
<td>1.12 (0.74–1.69)</td>
<td>−0.32</td>
<td>0.49 (0.35–0.68)</td>
<td>0.23</td>
</tr>
<tr>
<td>Residential fires</td>
<td>2.84 (2.44–3.30)</td>
<td>−0.28</td>
<td>1.38 (0.74–2.58)</td>
<td>−0.11</td>
<td>0.15 (0.06–0.40)</td>
<td>−0.58</td>
</tr>
<tr>
<td>Suffocation</td>
<td>2.49 (2.28–2.72)</td>
<td>0.28</td>
<td>1.89 (1.40–2.56)</td>
<td>0.12</td>
<td>0.39 (0.27–0.55)</td>
<td>0.20</td>
</tr>
<tr>
<td>Poisoning</td>
<td>2.74 (1.99–3.76)</td>
<td>−0.10</td>
<td>1.22 (0.30–4.93)</td>
<td>−0.58</td>
<td>0.83 (0.34–2.03)</td>
<td>−0.14</td>
</tr>
<tr>
<td>Falls</td>
<td>1.32 (0.91–1.92)</td>
<td>−0.55</td>
<td>0.50 (0.07–3.58)</td>
<td>−0.82</td>
<td>1.89 (1.09–3.29)</td>
<td>0.40</td>
</tr>
<tr>
<td>Firearms, all intents</td>
<td>3.00 (2.26–3.99)</td>
<td>0.25</td>
<td>3.07 (1.35–6.98)</td>
<td>0.10</td>
<td>0.30 (0.07–1.20)</td>
<td>−0.06</td>
</tr>
</tbody>
</table>


* All specific injury mechanisms are unintentional except firearms.

* Unstable estimate because of small numbers.
Unintentional Injury Trends

Intentional Injury Trends
Injury Risk Factors for American Indians and Alaska Natives

- Young Population:
  Median age of 24 vs. 33 for all US Races.

- Poverty
• **Risky Environments:**
  • **Distances**
    • **Travel**
    • **EMS/Health Care**
    • **Public safety**
  • **Poor Conditions**
  • **Alcohol**
Public Health Impact of Injuries Among Native Americans

- Highest Unintentional Injury Rates
  - MV: 3rd Leading Cause of Death vs. 8th—US
- Highest Suicide Rates
- 2nd Highest Homicide Rates
- Rates 1.5 to 5 Times Greater than National Rates Depending on Region, Cause, and age
Motor Vehicle Crashes

- 2-3 Native American children or teens have been killed every week for the last 10 years

Data Source: IHS mortality data for Native Americans; Black/White: NCHS mortality, CDC WISQARS
Motor Vehicle Occupant Deaths

Chart showing the rate of motor vehicle occupant deaths per 100,000 population from 1981-1983 to 1999-2001, categorized by race/ethnicity.
Motor Vehicle Crashes Native Americans, Ages 0-19

- Ranks 1 or 2 -- Leading Cause of Death at Each Year of Life from 1-19
- 56% -- Occupants
- 22% -- Pedestrians
- 4% Bike/Motorcycle
Native American Pedestrian Deaths, Ages 0-19

- Majority killed on public roads
- Half of 1-4 year olds killed in Non-Traffic settings such as driveways
- Among Children 1-9 Years -- Number Pedestrian Deaths > Occupant Deaths
Pedestrian Deaths
Motor Vehicle-Related Injuries Among Native American Children

Child Safety Seat/Seat Belt Use is Still Low In Many Native American Communities, even in the presence of mandatory use laws
Evidenced-Based Strategies to Increase Seat Belt/Car Seat Use

- Mandatory Use Laws and Enforcement
- Enhanced Enforcement Campaigns
  - "Click it or Ticket"
- Incentive Programs—Somewhat Effective
- Community-based initiatives
Pedestrian deaths

- Traffic Engineering
- Shoulders
- Lighting
- Vehicle cameras
- Supervision
- Walking school bus
- Personal vehicle vigilance
Buckle Up

It's the Navajo Nation Law!

GOT BELTS?

Gallup Safe Kids &
Gallup Indian Medical Center
Motor Vehicle Related Injury Hospitalization Rates and Percent of Safety Belt Use
Navajo Nation, 1983-1991

Year
Rate per 100,000
Percentage of Safety-belt use


% Safety-belt Use
Discharge Rates

% Safety-belt Use
Discharge Rates
What Percent of American Indian and Alaska Native Deaths Are Alcohol-Related?

Homicide — 85%
Suicide — 75%
Motor Vehicle — 73-65%
Pedestrian — 84%

Are We Making a Difference?

Percent of Alcohol-Related Motor Vehicle Deaths, Native Americans and All US Races

Source: NHTSA FARS Query system 2002:
In 2000, only 12% of those American Indians killed in alcohol-related motor vehicle crashes were wearing seat belts.

Other motor vehicles
ATV/Snow Machine deaths

- 46% higher death rate compared to all races
Motorized vehicle safety

- Helmets
- Adult supervision
- Age >16 years
- Training
Drowning Deaths

![Graph showing drowning rates per 100,000 population from 1981 to 1998 for Native American, African American, and White populations. The graph indicates a decrease in drowning rates over the years.]
Native American Drownings per 100,000
Ages 0-19
IHS Areas, 1989-1998

All IHS Areas Rate - 4.2
United States Rate - 2.0
Drowning Deaths
Drowning Prevention

- Swimming lessons
  - >4 years
- Personal Flotation Devices
- Pool fencing
- Supervision
Suffocation

Remember to tell others about the ABC’S:
My baby sleeps Alone.
My baby sleeps on his/her Back.
My baby sleeps in an empty Crib in a Smoke-free room.
Native American Unintentional Suffocation Deaths

- Young children—infants mostly—die from airway Obstruction/Strangulation/Suffocation
- 2.4 times more than motor vehicle crashes

25%--Bed or Crib (40% for infants)
24%--Inhalation/Ingestion Objects
20%--Unintentional hanging
13%--Food Related
Suffocation Related Deaths

The graph shows the rate of suffocation-related deaths per 100,000 people over different years. The data is categorized by ethnic groups and the ICD codes (ICD-9-CM and ICD-10). The graph indicates variations in the rate of suffocation-related deaths among different groups over time.
Suffocation

Remember to tell others about the ABC’S:
My baby sleeps Alone.
My baby sleeps on his/her Back.
My baby sleeps in an empty Crib in a Smoke-free room.
Fire and Burns

- Ranked 1\textsuperscript{st} or 2\textsuperscript{nd} Leading Cause of Injury Death for children Aged 2-5
- House Fires
Fire-Related Deaths
Fire-Related Deaths per 100,000 Ages 0-19, IHS Areas, 1989-1998

Portland 2.04
Billings 1.68
Aberdeen 7.72
Bemidji 7.58

Alaska 6.94
California 0.79
South Dakota 7.72
Albuquerque 1.47
Oklahoma City 1.49

United States Rate – 1.33
Fire-Related Death Rates

Rate per 100,000

Black
Native American
White

Data Source: IHS mortality data for AI/AN; Black/White: NCHS mortality, CDC WISQARS
Fire/Burn Prevention

- No smoking
- Smoke detectors
- Fire extinguisher
- Non flame-related heat sources
- Access to fire trucks
Firearm Related Deaths

FOR MEDICAL EMERGENCY
CALL 911
“We use to see my mom and dad beat each other up and we thought that’s the way it was supposed to be”

San Carlos Apache victims of violence
Causes of Intentional injury vary, but share certain patterns and risk factors:

- Access to Firearms
- Alcohol Abuse
- Being Male
- Poverty

Homicides per 100,000, Ages 0-19
IHS Areas, 1989-1998

- United States Rate: 5.87
- Nevada (NV): Portland, 5.83
- Utah (UT): Billings, 12.74
- Montana (MT): Aberdeen, 10.45
- Idaho (ID): Bemidji, 6.42
- Washington (WA): Phoenix, 12.12
- California (CA): Tucson, 15.81
- Arizona (AZ): Albuquerque, 7.29
- Texas (TX): Nashville, 2.40
- New Mexico (NM): Oklahoma City, 3.85
- Colorado (CO): Nevada, 8.69
- Nevada (NV): Alaska, 5.81
- Oklahoma (OK): FL
Homicide Rates Ages 0-19
1981-1998

Rate per 100,000

Black
Native American
White

Data Source: IHS mortality data for AI/AN; Black/White: NCHS mortality, CDC WISQARS
Firearm Related Deaths
Native American Youth Suicide

• 15-19 Year Old Males--Greatest Risk
• Rates Over 4 Times Female Rates
• 1st, 2nd or 3rd Leading Cause of Injury Death--Ages 12-19
Suicide Rates Ages 0-19, 1981-1998

Data Source: IHS mortality data for AI/AN; Black/White: NCHS mortality, CDC WISQARS
Youth Suicide Risk Factors

- Easy access to lethal means
- Firearm in home = 5 times greater risk
- Local clusters of suicide
- Impulsivity
- Alcohol
- Being Male

Percent of Suicides by Method and Sex, Ages 5-19, AI/AN, 1989-1998

Males
- Hanging: 34%
- Firearm: 59%
- Poison: 3%
- Other: 4%

Females
- Hanging: 46%
- Firearm: 26%
- Poison: 25%
- Other: 3%

Data Source: CDC, WISQARS, 2002.
Firearm Injury Prevention

- Safe Storage
  - Guns locked, unloaded
  - Ammo locked in separate place
  - Trigger locks

- Effective laws
  - Child access protection
Questions?

PROBLEMS
No Matter how Great and Destructive your Problems May Seem Now, Remember, You’ve Probably only Seen the Tip of Them.
Recommendations for Providers

Individual Level

- Injury Prevention Counseling to parents regarding drinking and driving, occupant protection, smoke alarms, risk of firearms in home, safe storage of firearms, etc.
- Bright Futures
- Stress adult supervision for young children, especially around water, ATV’s, and motor vehicles to prevent pedestrian injury
- Infants are at particular risk from unintentional suffocation/hanging/choking. Parents should be aware of these risks
Recommendations for Providers

Advocacy Level

• Get to know your Area and local IHS/Tribal Injury Prevention Specialists

• Take part in local/regional community based coalitions and campaigns

• Your voice is respected—advocate for passage, strengthening, and enforcement of traffic safety laws and changes in alcohol policy

• Become involved with AAP’s CONACH and IHS staff interested in injury