

# Selected Evidence-Based Strategies for Preventing Injuries

## Introduction

The following list is a publication of the Indian Health Service, Office of Environmental Health & Engineering, Division of Environmental Health Services, Injury Prevention Program (Version January 5, 2021).

## Purpose

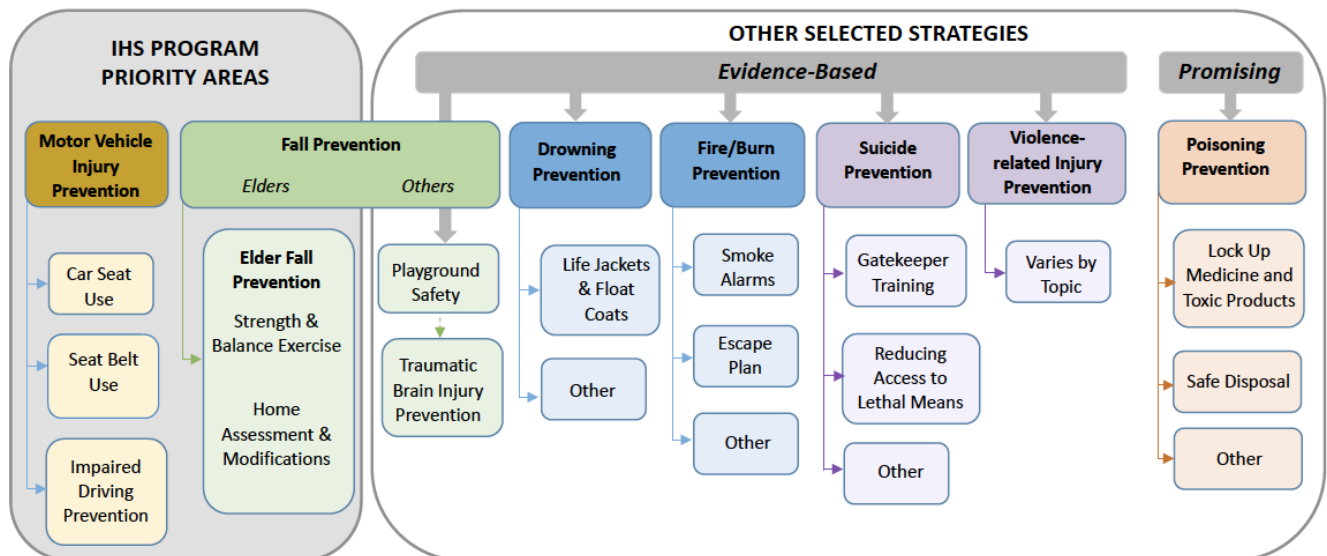
The Indian Health Service (IHS) Injury Prevention Program (IPP) supports American Indian and Alaska Native communities in their efforts to prevent injuries. The IPP focus is on prevention, rather than response, treatment, or rehabilitation.

This document outlines strategies and interventions recommended by the IHS IPP in working with tribal communities. The list of strategies will assist programs to identify and select the most appropriate evidence-based or promising strategies for reducing or preventing unintentional and intentional injuries in specific community settings.

## For Tribal Injury Prevention Cooperative Agreement Program (TIPCAP)

Select 1 or 2 strategies, each with only 1 or 2 interventions. Limiting the number of strategies helps to achieve quality programs and projects that are well-planned, focused, and manageable.

Other selected **evidence-based strategies** for unintentional injury (e.g., falls, drowning, fire/burn) and intentional injury (e.g., suicide, violence) are shown in the figure below. Selected **promising strategies** for poisoning prevention are also listed. Specific interventions are outlined in the subsequent pages of this document. Use the links to learn details about each strategy.



The next two sections of this document summarize evidence-based interventions for two IHS Injury Prevention Program Priority areas: I) Motor Vehicle Injury Prevention; and II) Elder Falls.

# Selected Evidence-Based Strategies for Preventing Injuries

## IHS IP PROGRAM PRIORITY AREA #1

### I. Motor Vehicle Injury Prevention

#### A. Increasing Car Seat Use

Buckling children in age- and size-appropriate car seats, booster seats, and seat belts reduces the risk of serious and fatal injuries:

- Car seat use reduces the risk for injury in a crash by 71-82% for children when compared to seat belt use alone.
- Booster seat use reduces the risk for serious injury by 45% for children aged 4–8 years when compared with seat belt use alone ([CDC Child Passenger Safety: Get the Facts](#)).

**Table 1. Car Seat Use**

Intervention	Evidence
<b>1. Mandatory Car Seat Use Laws</b> What: Car seat laws that require children riding in motor vehicles to be restrained in appropriate car seats, including booster seats	<b>Strong</b>
<b>2. Distribution Combined with Education Programs</b> What: Programs that provide appropriate car seats to parents and caregivers combined with an educational component	<b>Strong</b>
<b>3. Community-Wide Information and Enhanced Enforcement Campaigns</b> What: Enforcement campaigns such as checkpoints and saturation patrols that include mass media, information and publicity, public car seat displays, and other targeted strategies	<b>Sufficient</b>
<b>4. Incentive and Education Programs</b> What: Programs that offer parents, caregivers, and/or children rewards for properly using car seats, and education that varies in content, duration, intensity and delivery methods	<b>Sufficient</b>

Sources:

- [CDC's Tribal Motor Vehicle Injury Prevention: Best Practices Guide 2016](#)
- [The Community Guide: Motor Vehicle-Related Injury Prevention](#)
- [CDC's Tribal Road Safety website: Get the Facts](#)



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## B. Increasing Seat Belt Use

- Seat belts reduce the risk of serious injury and death in a crash by about 50%.
- There is strong evidence that seat belt use laws, especially primary enforcement laws, and enhanced enforcement campaigns are effective in increasing seat belt use ([CDC Tribal Road Safety: Get the Facts](#)).

Table 2. Seat Belt Use	
Intervention	Evidence
<b>1. Laws Mandating Use</b> What: Seat belt laws that require motor vehicle occupants to wear seat belts	<b>Strong</b>
<b>2. Primary (vs. Secondary) Enforcement Laws</b> What: 'Primary' enforcement laws allow police to stop motorists because someone in the vehicle is unbelted. They are more effective than secondary enforcement laws.	<b>Strong</b>
<b>3. Enhanced Enforcement Programs</b> What: Enhanced enforcement conducted in addition to normal enforcement; includes publicity; and increased citations in combination with increasing the number of officers on patrol or by issuing more citations during an officer's normal patrol	<b>Strong</b>

Sources:

- [CDC's Tribal Motor Vehicle Injury Prevention: Best Practices Guide 2016](#)
- [The Community Guide: Motor Vehicle-Related Injury Prevention](#)
- [CDC's Tribal Road Safety website: Get the Facts](#)

## C. Preventing Alcohol Impaired Driving

- At sobriety checkpoints, police stop drivers to judge if they are driving under the influence of alcohol. More widespread, frequent use of these checkpoints could save about 1,500 to 3,000 lives on the road each year.
- Minimum legal drinking age laws prohibit selling alcohol to people under age 21. Keeping and enforcing 21 as the minimum legal drinking age helps keep young, inexperienced drivers from drinking and driving ([CDC Impaired Driving: Get the Facts](#)).

Table 3. Impaired Driving Prevention	
Intervention	Evidence
<b>1. 0.08% Blood Alcohol Concentration (BAC) Laws</b> What: Laws that declare it is illegal for a driver's BAC to reach or exceed 0.08% (0.08 g/dL) for drivers aged 21 years and older	<b>Strong</b>
<b>2. Maintaining Current Minimum Legal Drinking Age (MLDA) Laws</b> What: Laws that specify an age below which the purchase or public consumption of alcoholic beverages is illegal (21 years of age)	<b>Strong</b>
<b>3. Publicized Sobriety Checkpoint Programs</b> What: Programs that involve high visibility enforcement conducted by law enforcement stopping drivers systematically to assess alcohol impairment	<b>Strong</b>



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Intervention	Evidence
<b>4. Multicomponent Interventions with Community Mobilization</b> What: Interventions that can include one or more components (e.g., sobriety checkpoints, training in responsible beverage service, education and awareness-raising efforts, and limiting access to alcohol)	<b>Strong</b>
<b>5. Ignition Interlocks</b> What: Devices that are installed in motor vehicles (mandated by a court system or offered as an alternative to a suspended driver's license) to prevent operation of the vehicle by a driver who has a BAC above a specified level (usually 0.02% to 0.04%)	<b>Strong</b>
<b>6. Mass Media Campaigns</b> What: Campaigns that are designed to educate individuals to avoid drinking and driving, or to prevent others from drinking and driving	<b>Strong</b>
<b>7. Lower BAC Laws for Young or Inexperienced Drivers</b> What: Laws that identify a lower illegal BAC (0.02% or lower) for young or inexperienced drivers under the age of 21 (the minimum legal drinking age in the U.S.) than for older or more experienced drivers	<b>Sufficient</b>
<b>8. School-Based Instructional Programs</b> What: Programs that address the problem of riding with alcohol impaired drivers. There is insufficient evidence to determine the effectiveness of these programs on reducing alcohol impaired driving by the drivers themselves	<b>Sufficient</b>

Sources:

- [CDC's Tribal Motor Vehicle Injury Prevention: Best Practices Guide 2016](#)
- [The Community Guide: Motor Vehicle-Related Injury Prevention](#)
- [CDC's Tribal Road Safety website: Get the Facts](#)

### **Additional Resource**

#### **Counter Measures that Work – National Highway Safety Administration**

For selecting effective, evidence-based countermeasures for traffic safety problem areas, including:

- Alcohol- and Drug-Impaired Driving
- Seat Belts and Child Restraints
- Speeding and Speed Management
- Distracted and Drowsy Driving
- Motorcycle Safety
- Young Drivers
- Older Drivers
- Pedestrian Safety
- Bicycle Safety



# Selected Evidence-Based Strategies for Preventing Injuries

## IHS IP PROGRAM PRIORITY AREA #2

### II. Community-Based Elder Fall Prevention

#### A. Strength and Balance Exercise

- Multiple evidence-based intervention options are listed on the websites for the National Council on Aging (NCOA) and the Centers for Disease Control and Prevention (CDC). A few selected fall prevention programs are outlined in Table 4.
- Recommended Resource: [Preventing Falls: A Guide to Implementing Effective Community-Based Fall Prevention Programs.](#)

**Table 4. Elder Fall Prevention – Strength and Balance Exercise**

Intervention	Instructor Certification	For more information
<p><b>1. Exercises to strengthen legs and improve balance</b></p> <p>What: Websites with a list of evidence-based falls prevention programs such as CAPABLE, Falls Talk, A Matter of Balance, Tai Ji Quan: Moving for Better Balance, Bingocize, and Fit &amp; Strong!</p>	Varies	<a href="#">National Council on Aging</a> <a href="#">CDC Older Adult Fall Prevention</a>
<p><b>2. Tai Ji Quan: Moving for Better Balance</b></p> <p>What: Controlled movements to improve strength, balance, mobility, and daily functioning. Duration: 60 minutes 2x/week for 24 weeks.</p>	Required	<a href="#">Tai Ji Quan: Moving for Better Balance® (TJQMBB)</a>
<p><b>3. Bingocize</b></p> <p>What: Combines a bingo-like game with exercise and health education. Bingocize increases functional fitness, health knowledge, and social engagement in a variety of settings. Duration: 60 minutes 2x/week for 10 weeks.</p>	Required	<a href="#">Western Kentucky University Center for Applied Science in Health and Aging</a>
<p><b>4. Fit &amp; Strong!</b></p> <p>What: Combines flexibility, strength training and aerobic walking with health education for sustained behavior change. Duration: 24-90 minutes 3x/week for 8 weeks.</p>	Required	<a href="#">University of Illinois at Chicago Institute for Health Research and Policy</a>



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## B. Home Modifications and Screening

- Multiple evidence-based exercise intervention options are listed on the websites for the National Council on Aging (NCOA) and the Centers for Disease Control and Prevention (CDC). A few selected falls prevention programs are outlined in Table 5.
- Recommended Resource - [Preventing Falls: A Guide to Implementing Effective Community-Based Fall Prevention Programs](#).

**Table 5. Elder Fall Prevention – Home Assessment and Modifications**

Intervention	Resources	For more information
<p><b>1. Home Assessment</b></p> <p>What: Conduct safety assessments to identify fall hazards in the home, including tripping hazards and low lighting</p>	<p><b>Home hazard checklist</b></p>	<p><a href="#">CDC – Check for Safety: A Home Fall Prevention Checklist for Older Adults</a></p>
<p><b>2. Home Modifications</b></p> <p>What: Making the home safe through simple modifications such as removing tripping hazards, increasing lighting, making stairs safe, and installing grab bars in key areas</p>	<p><b>Home hazard checklist</b></p>	<p><a href="#">CDC – Check for Safety: A Home Fall Prevention Checklist for Older Adults</a></p>



# Selected Evidence-Based Strategies for Preventing Injuries

## SELECTED EVIDENCE-BASED STRATEGIES

Table 6 summarizes selected evidence-base strategies to address unintentional injuries (e.g., falls, burn prevention in the home, and drowning prevention).

Table 6. Unintentional Injuries	
Injury and Strategy	For more information
<b>1. Falls Prevention</b> What: Playground safety and traumatic brain injury prevention	<a href="#">CDC Playground Safety</a> <a href="#">CDC Heads Up</a>
<b>2. Burn Prevention in the Home</b> What: smoke alarm installation and checks, development and practice of emergency escape plan, safe cooking practices, lower water temperature	<a href="#">CDC Burn Prevention</a> <a href="#">US Fire Administration</a>
<b>3. Drowning Prevention</b> What: Use of personal floatation device (life jacket) to reduce the risk of drowning, life-saving skills	<a href="#">CDC Unintentional Drowning Prevention</a>

Table 7 summarizes selected evidence-base strategies to address intentional injuries (e.g., suicide and violence).

Table 7. Intentional Injuries	
Injury and Strategy	For more information
<b>4. Suicide Prevention</b> What: Gatekeeper training – training to teach identification of warning signs and how to respond  What: Reducing Access to Lethal Means – reducing an individual’s ability to attempt suicide or attempts are made less fatal  What: Other strategies to prevent suicide	<a href="#">Suicide Prevention Resource Center</a> <a href="#">Question, Persuade, Refer (QPR) Institute</a> <a href="#">Applied Suicide Intervention Skills Training</a> <a href="#">Suicide Prevention Resource Center – Zero Suicide</a> <a href="#">Harvard School of Public Health – Means Matter</a> <a href="#">CDC Suicide Prevention Strategies</a>
<b>5. Violence-related injury prevention</b> What: Prevention of child abuse and neglect, youth violence, elder abuse, intimate partner violence, and sexual violence	<a href="#">CDC Violence Prevention</a>



# Selected Evidence-Based Strategies for Preventing Injuries

## SELECTED PROMISING STRATEGIES

### Poisoning Prevention

- The increased use of prescription opioid medications has led to patient misuse, addiction, and diversion/theft.
- Use of medication lockboxes and drug deactivation bags are community-based strategies with the goal of reducing opioid-related poisonings by decreasing access to medication in the home environment.

Table 8. Opioid Overdose Poisoning Prevention	
Intervention	For more information
<p><b>1. Home Lockbox Use</b></p> <p>What: Install lockboxes in homes of at-risk populations to prevent theft, misuse, poisoning, and diversion of prescription and other drugs.</p> <p>Medication lockboxes can provide a method to securely store medications to prevent unauthorized access.</p>	<p><a href="#">Johns Hopkins School of Public Health – Opioid Epidemic Report</a></p>
<p><b>2. Use of medication/drug deactivation bags</b></p> <p>What: A simple way of getting rid of unused and unwanted pills, liquids, and patches.</p> <p>Drug deactivation bags can decrease access to expired/unused prescription medications by providing a safe disposal method by deactivating them within the home environment.</p>	<p><a href="#">Partnership for Drug-free Kids</a></p> <p><i>For example only. IHS does not endorse any specific brands or products.</i></p>
<p><b>3. Other</b></p> <p>What: Other strategies to prevent opioid overdose poisoning</p>	<p>CDC National Center for Injury Prevention and Control – <a href="#">Evidence-Based Strategies</a> and <a href="#">Promising State Strategies</a></p>

