Injury Prevention

Injury Prevention Program

Division of Environmental Health Services

Indian Health Service

Violence > 1,500,000 people lives lost each year

Road Traffic injuries 50% of all people dying on the roads are cyclist, pedestrians, or motorcyclists

Child injuries – 2,300 children die every day from injuries

Injuries are among the leading cause of death & disability in the World

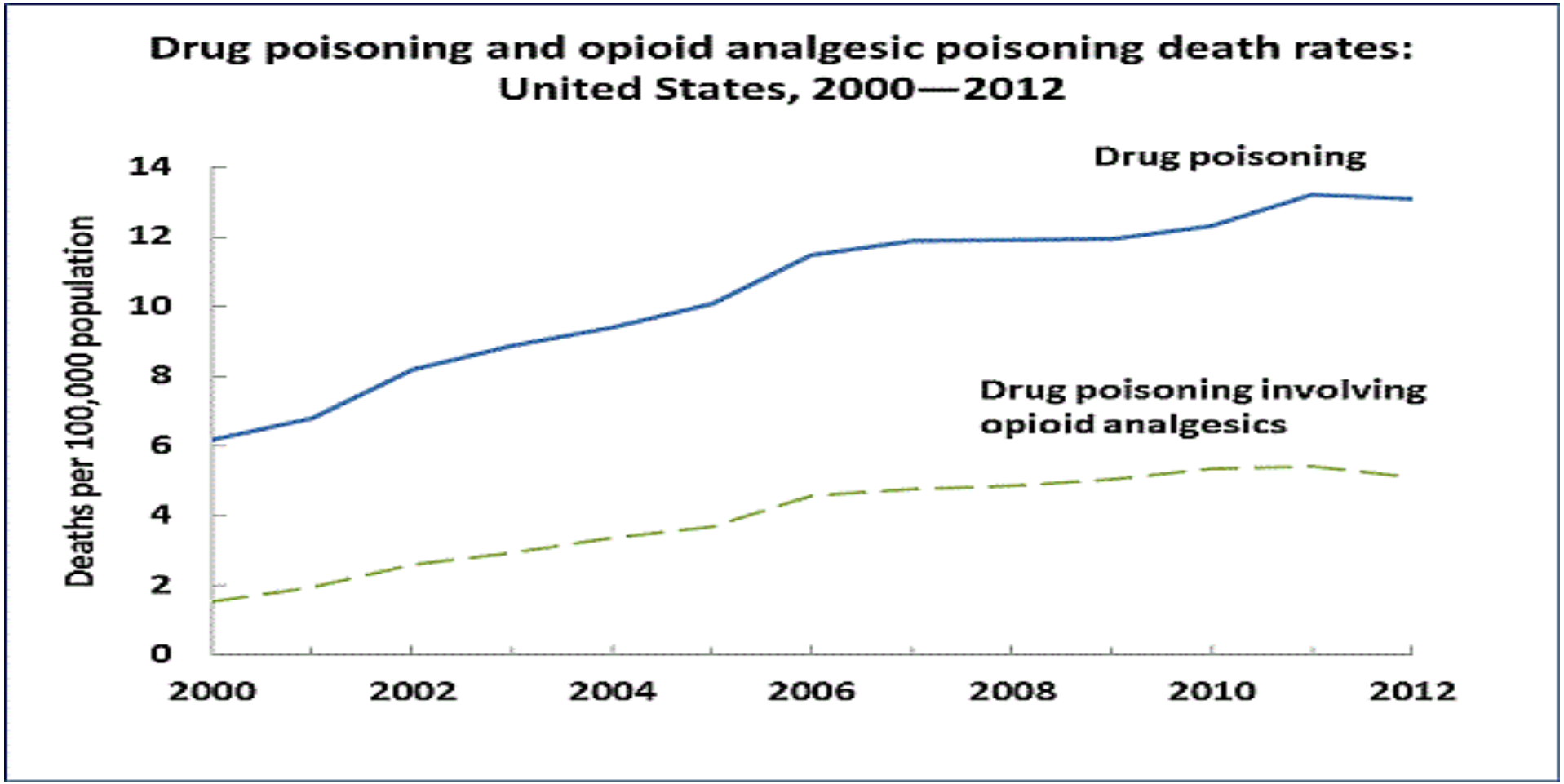
World Health Organization more than 5 million people die each year from injuries, acts of violence, traffic crashes, burns, drowning, falls and poisonings

Injuries accounts for 9% of the world's deaths – 1.7 times HIV/AIDS, TB, Malaria combined

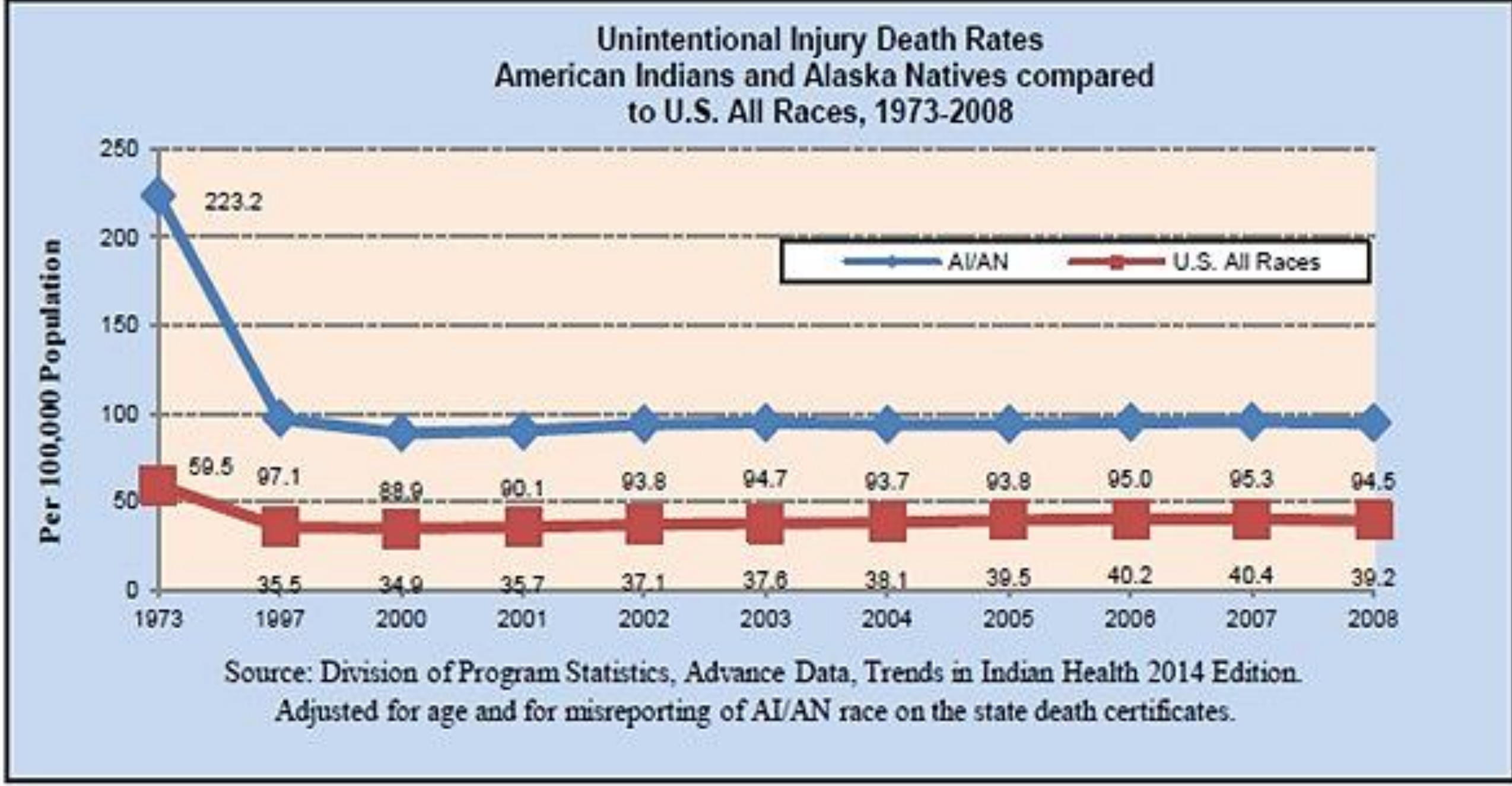
Millions suffer non-fatal injuries

Nearly 3,500 people die on the road every day

- *Global Road Safety Initiative*



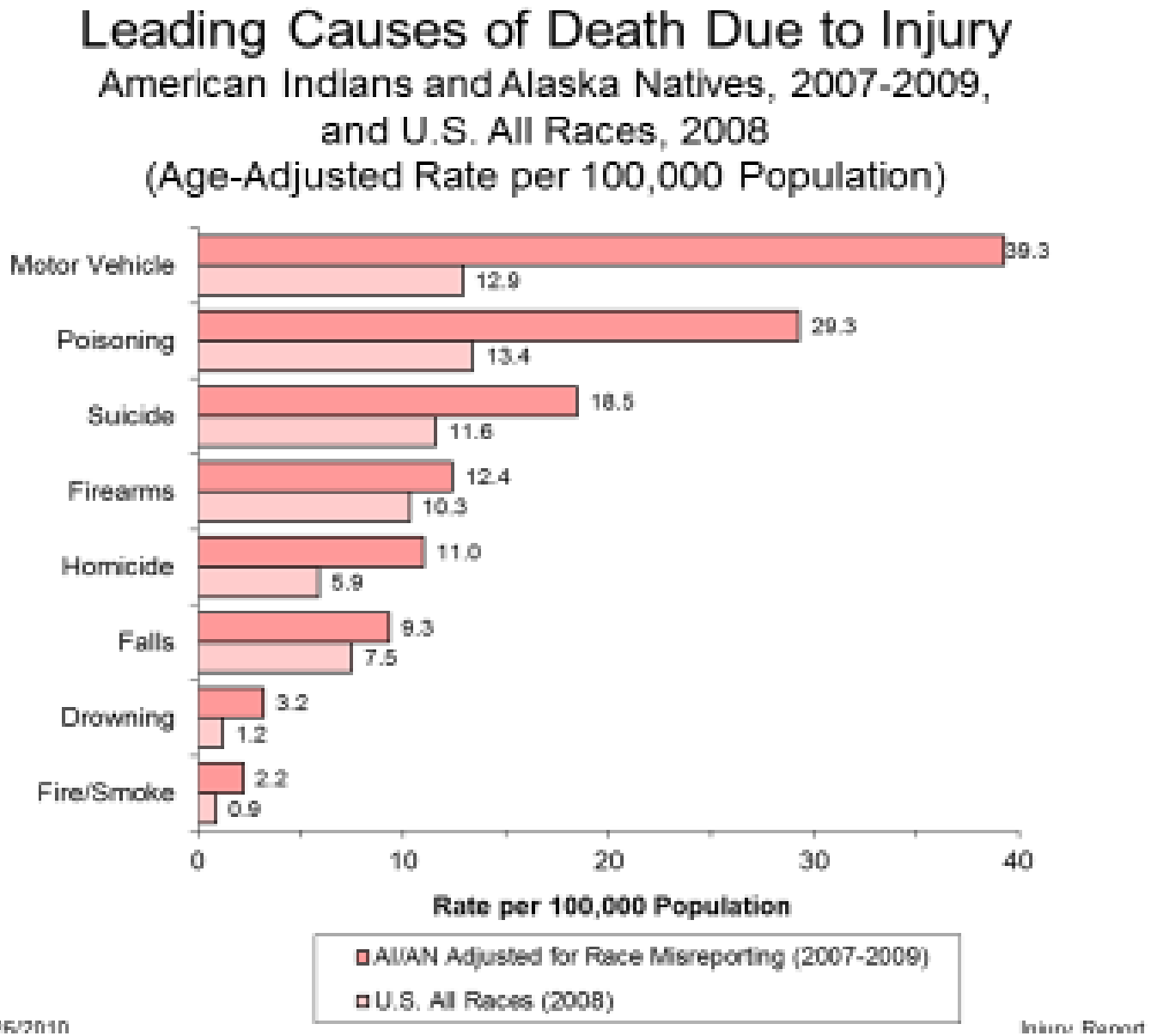
Source: National Vital Statistics System, 2000–2012.



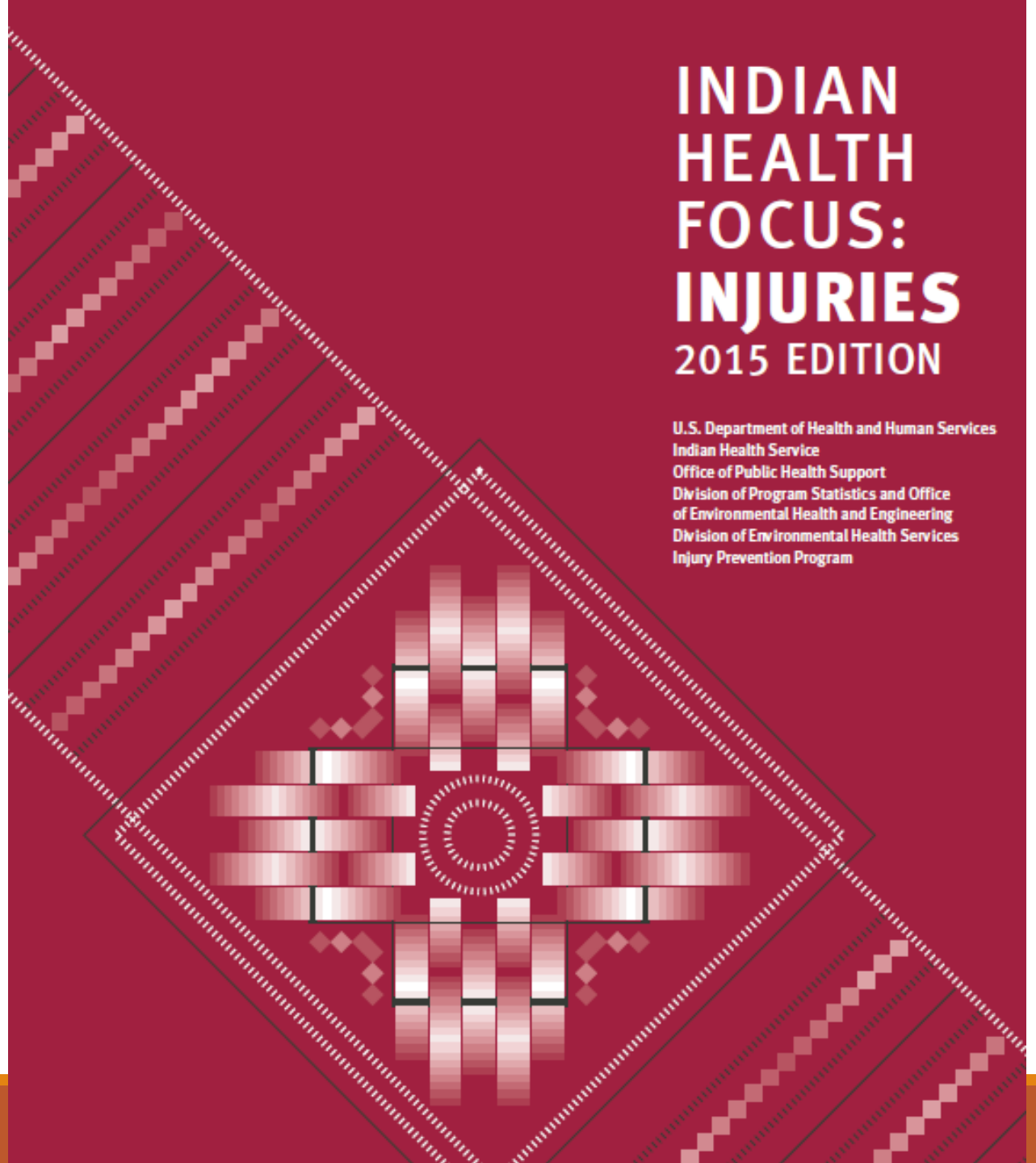
Source: Division of Program Statistics, Advance Data, Trends in Indian Health 2014 Edition.
Adjusted for age and for misreporting of AI/AN race on the state death certificates.

AI/AN Burden of Injury

- Average 4 AI/AN death each day from injuries and violence
- For injury & violence, ages 1-44 ranks #1 & account for at 43% YPLL
- Estimate costs at $350 million to IHS
- Lifetime societal cost



The AI/AN age-adjusted leading cause of death due to injury is motor vehicle accidents followed by poisoning and suicide. AI/AN deaths due to motor vehicle accidents are 3.0 times higher than the U.S. all races.


INDIAN
HEALTH
FOCUS:
INJURIES
2015 EDITION
U.S. Department of Health and Human Services
Indian Health Service
Office of Public Health Support
Division of Program Statistics and Office
of Environmental Health and Engineering
Division of Environmental Health Services
Injury Prevention Program

Tribal Injury Prevention Cooperative Agreement Program - 1997-2020

Part I - Tribe/Tribal Organization Injury Prevention (IP) Coordinator to manage the day-to-day operations, including completion of annual project goals, objectives, and activities.

Part II - Tribal IP Projects - Effective strategy projects to focus on culturally-competent activities to educate, legislate and promote safe community environmental modifications.

IHS Project Officers oversight - Local IHS staff Division of Environmental Health Services (DEHS) assigned by the Program Manager

External Technical Assistance (TA) Contractor - Provide on-going TA to Coordinators, Project Officers, and Program Managers

Tribal Leadership - Engaging Tribal leadership by reporting on IP activities

Tribal Injury Prevention Cooperative Agreement Program (TIPCAP)

- External contractor monitor for Technical Assistance
- On-site Technical Assistance by DEHS Project Officers
- Conference calls, webinars
- Guide document
- Annual skill building Workshop
- Newsletter
- Partnerships: Tribal, State, National
- Tribal Leadership

INJURIES are NOT ACCIDENTS

- *Accident:* An unexpected occurrence, happening by chance
- Injuries can be defined by event with specific strategies for prevention
- Injuries are predictable and preventable

I.H.S. Injury Prevention Program National Priorities

Motor Vehicle – Effective Strategies

- Policy
- Environment
- Education (advocacy)

Unintentional Fall Prevention (Dr. Bruce Finke & Judy Stevens, CDC)

Comprehensive – multifactorial focus

- clinical
- home assessments
- exercise – tai chi

Motor Vehicle Safety

BAC laws of .05 or below effective reducing alcohol-related crashes

Wearing motorcycle helmet reduce death 40%

Seat-belt use reduce fatality risk 50%

Drivers using mobile phone while driving 4 times to be involved in a crash.

Correctly installed Child safety seats reduce the risk of fatal injuries for infants by 71% and by 54% for Toddlers (1-4 yrs of age).

NHTSA reports between 1975 and 2010, an estimated 9,611 lives were saved by Child safety car seat restraints.

Fall Prevention

- Implementing Comprehensive Approaches
  - Clinical multifactorial
    - Medication
    - Physical therapy
    - Vision
  - Exercise (strength/balance)
    - Tai Chi evidence-base
  - Home Safety (assessments)

Before

After

TIPCAP Success Stories 2010-2015

Pueblo of Jemez:

- **Seat belt use at 87%** following adoption of resolution and ordinances to increase community seat belt use
- Child attributes saving grandparent's lives during home fire to Sleep Safe instructions in Head Start
- Strong support for IP programs among Tribal Leadership

Navajo Nation

- **Seat belt use increased by service unit 79%**
- Child passenger safety seat outreach to 64 communities (110)
- Certified EMS as child safety seat technicians (CPST)
- Conducted Child Passenger Safety Seat Technician trainings throughout the Navajo Nation; certifying 100+

Kaw Nation

- **Seat belt use increased from 60% in 2010 to 80% in 2015**
- Partnership with Tribal Police, BIA and Oklahoma's ENDUI campaign to conducted an Impaired Driving activities event
- Partnership with Ponca Methamphetamine Suicide Prevention Initiative to host a Fatal Vision obstacle course
- Elder fall prevention initiatives included seminars and Tai-Chi classes

Pueblo of San Felipe:

- **Seat belt use increased from 22% in 2010 to 72% in 2015**
- Implementing Comprehensive fall prevention program
- San Felipe Pueblo leadership considering funding the IP program

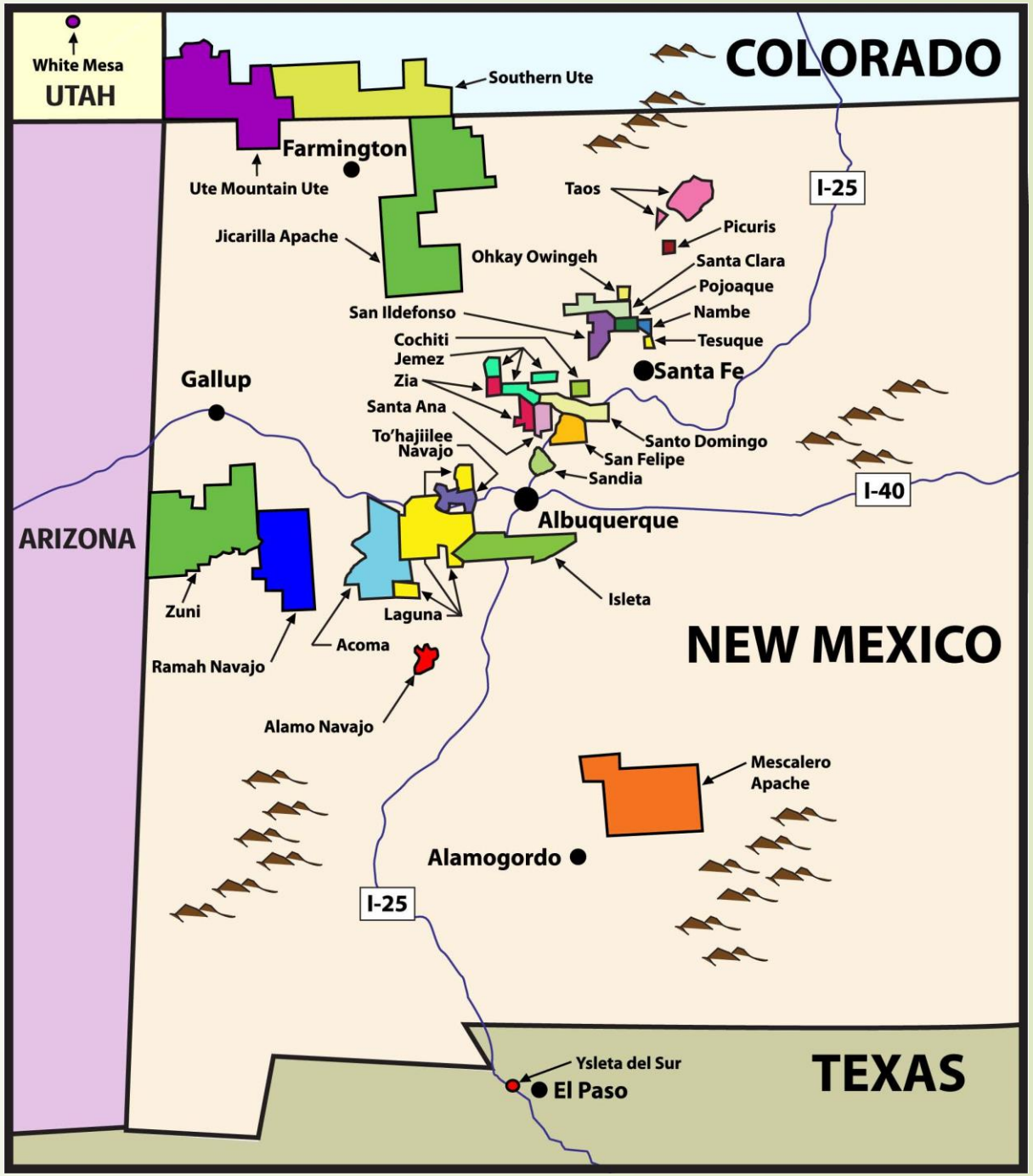
TRIBAL
INJURY
PREVENTION
PROGRAM

Evidence-Based Injury Prevention Gap Analysis: 27 Southwest Tribes

Jerrod K. Moore, Injury Prevention Program Coordinator

Setting

Albuquerque Area Southwest Tribal Epidemiology Center (AASTEC)



Intro/Background

- NM mortality rate from unintended injuries among AIs (107.6/100,000) was almost double the rate witnessed among Whites (55.5/100,000) from 2010-2014
- NM AIs motor vehicle death rate (40.2/100,000) was 3.5 times higher than Whites (11.1/ 100,000) during 2010-2014
- Falls were the third leading cause of unintentional injury-related deaths for AIs of all ages, behind poisoning and motor vehicle traffic injuries

Injury Prevention "Gap Analysis"

- Completed mixed method gap analysis with 27 Southwest Tribes
  - Currently using gap analysis findings for program planning
  - Will repeat survey in project years 3 and 5
  - More in-depth look at motor vehicle safety

Key Topics

- Online Survey – Survey Monkey
  - Demographics
  - Perceived concern (Falls & MVI)
  - Current evidence-based IP practices
  - Existing IP small media
  - Local data collection and surveillance
  - Training needs
  - Coalition participation
  - Barriers
  - Resources needed

Injury Prevention Gap Analysis

- Disciplines Targeted:
  - ✓ Health Administrator
  - ✓ CHRs
  - ✓ Environmental Health
  - ✓ Law Enforcement
  - ✓ EMS/EMT
  - ✓ Head Start
  - ✓ Senior/Elder Services
  - ✓ Wellness Centers
  - ✓ Housing Authorities
  - ✓ Social Services
  - ✓ Public Health Nursing
  - ✓ Diabetes Programs

Participation

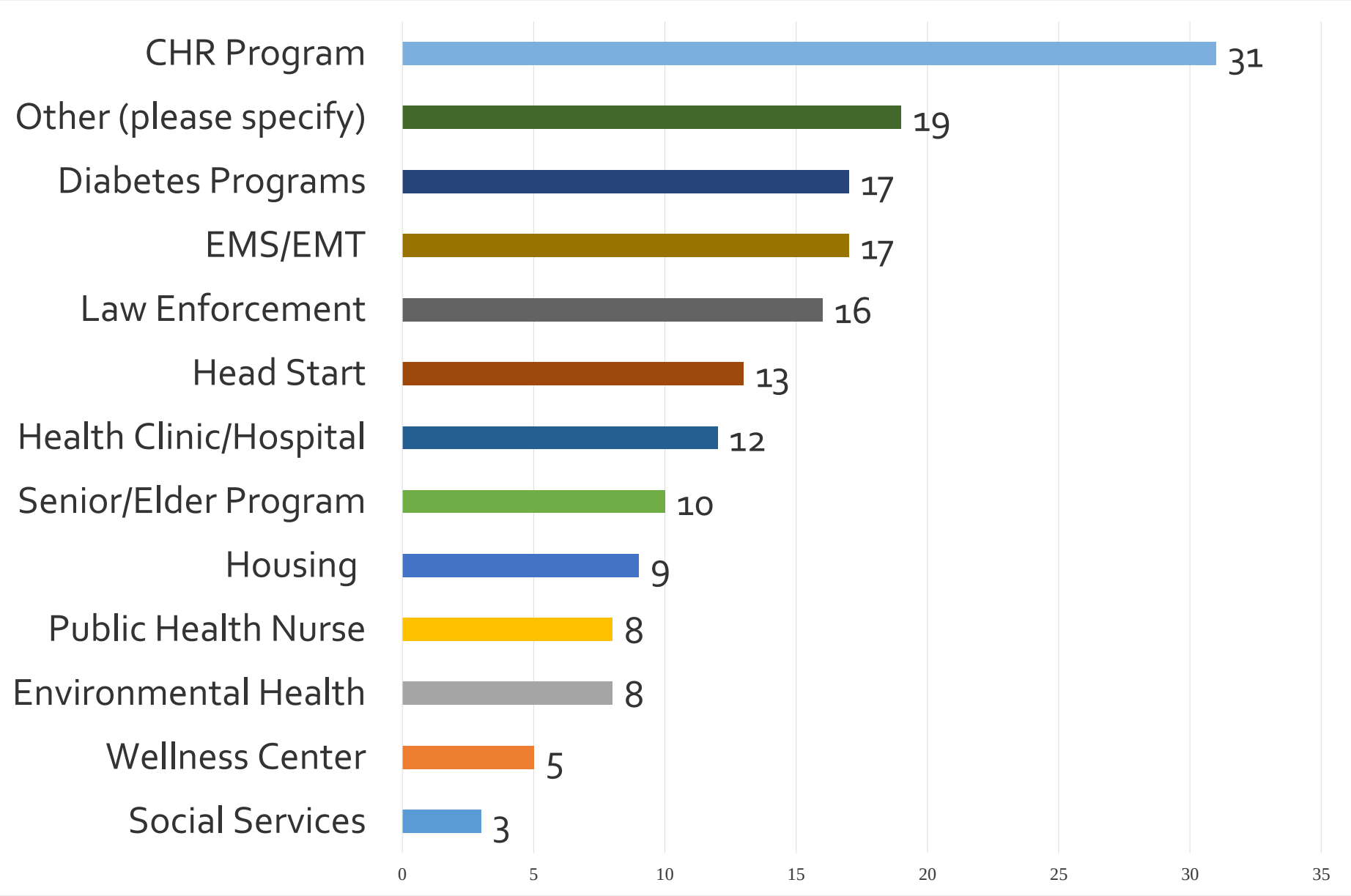
INDIVIDUALS

Target Sample:	n= 267
Total Participants:	n= 169
Response Rate:	**63.3%**

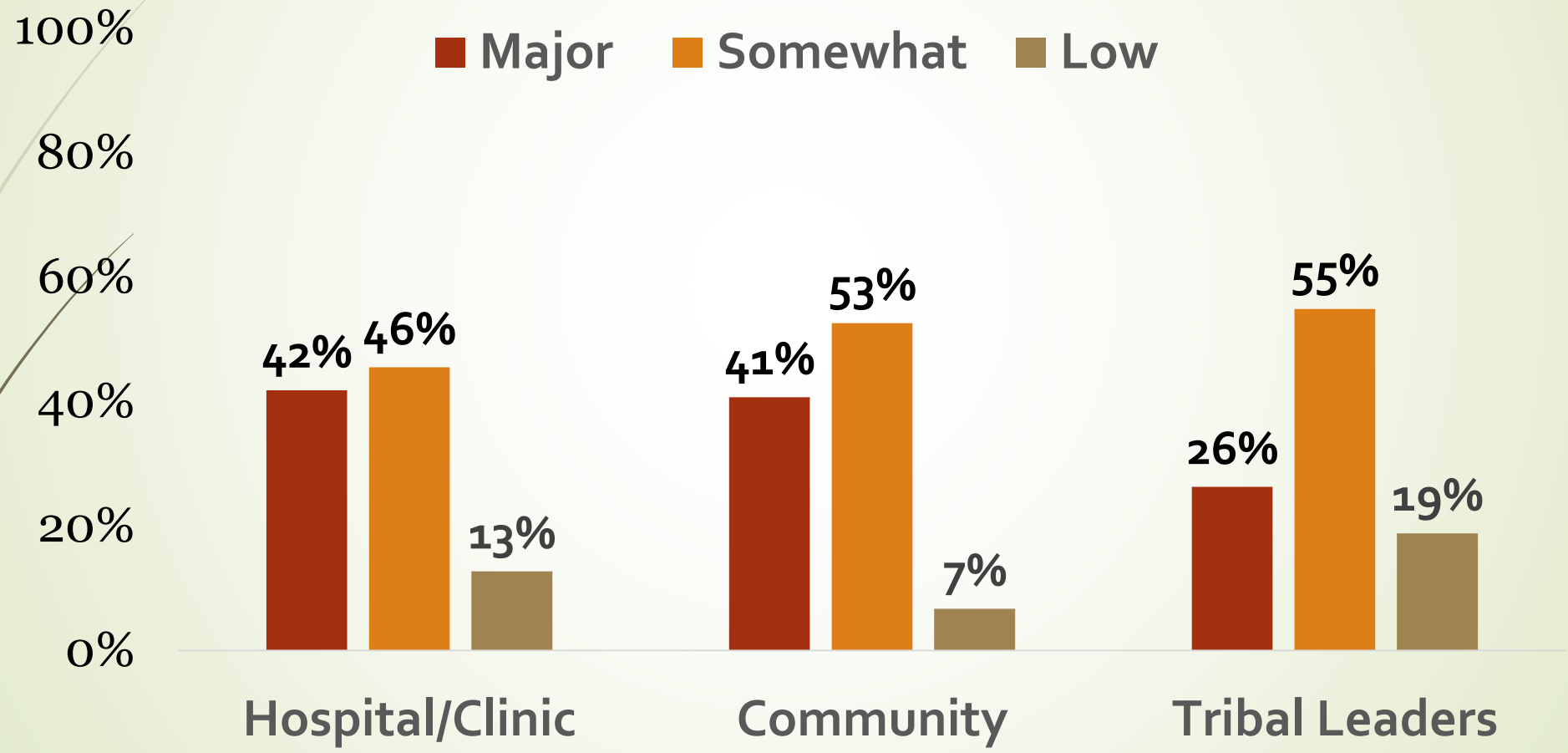
TRIBES

Target Sample:	n= 27
Total Participants (Tribes):	n= **27**
Response Rate:	100%
Average Respondents/Tribe:	6.2
Range:	**1–16**

Participant Discipline



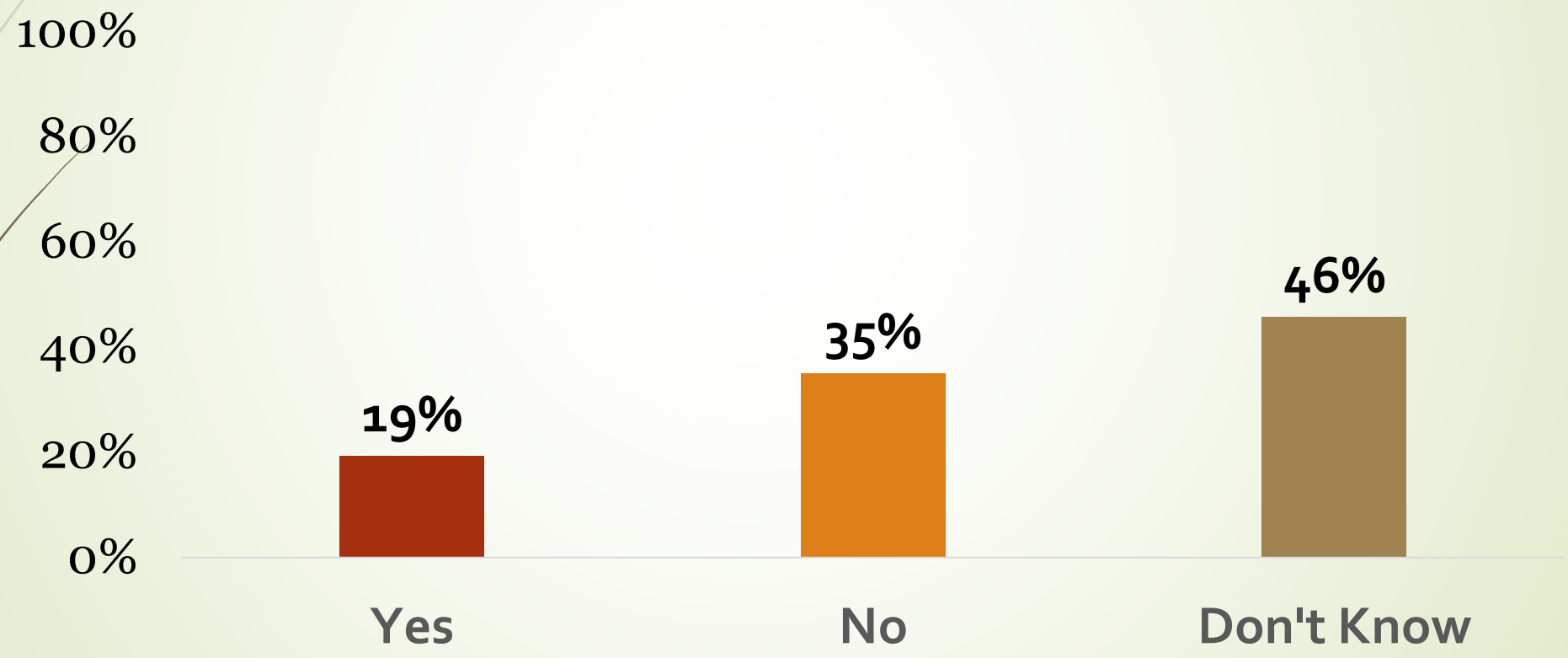
Perceived Level of Falls Concern



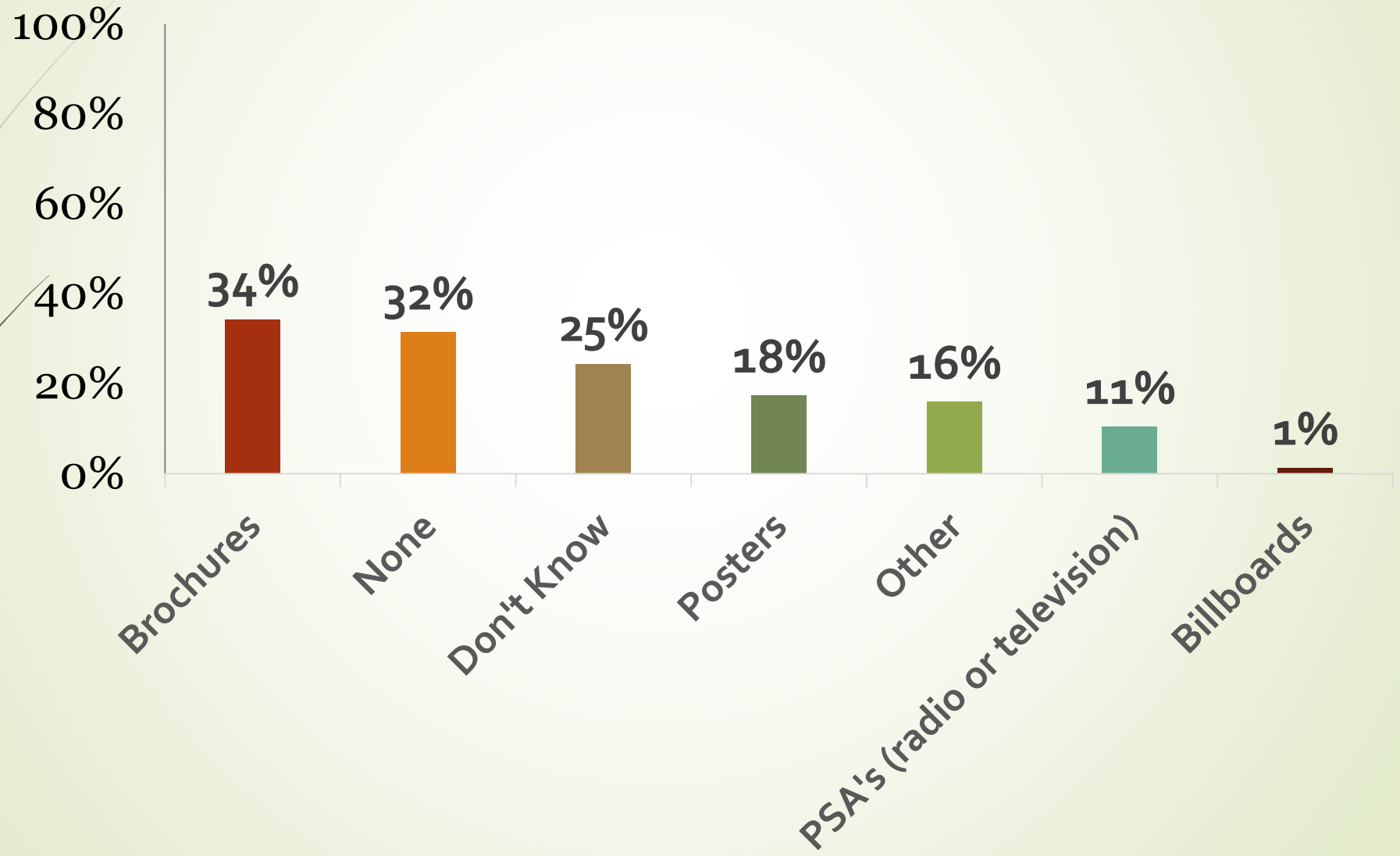
Current Evidence-Based Falls Prevention Activities

	Yes %
Annual foot exam for patients with diabetes 65+	**70.2%**
Community-based exercise programs for adults that include strengthening and balancing exercise	**62.0%**
Efforts to educate community members and caregivers about fall risk factors and prevention strategies	**50.0%**
Regular medication review by pharmacist for elders to assess potential side effects and interactions between medications for elders	**47.9%**
Annual vision assessment and correction by a health care professional for elders	**47.9%**
Home safety modifications to reduce fall risk for elders	**40.4%**
Home safety assessment for falls prevention among elders	**37.6%**
Calcium and vitamin supplementation for elders 65+	**34.8%**
Clinical screening for fall risk for all elders	**29.1%**
Routine osteoporosis screening and treatment for elders 65+	**22.0%**

Local Data Collection/Monitoring for Falls among Older AIs



Small Media – Falls Prevention



Preferred Falls-Related Training Topics

	Yes %
Fall risk factors for older adults	**76.1%**
Evidence-based fall prevention interventions	**67.4%**
Exercise programs for older adults	**60.1%**
STEADI toolkit training (health provider guide used to incorporate fall risk assessment and prevention into practice)	**58.7%**
Initiatives to lower hip fracture risk among older adults	**58.7%**
Medication review/management for fall prevention	**51.4%**
Other (please specify)	**13.8%**

Motor Vehicle Safety

Current Evidence-Based Motor Vehicle Safety Practices

	Yes %
Child safety seat education	**76.1%**
Child safety seat distribution	**66.0%**
Efforts to increase use of seat belts for children	**59.0%**
Efforts to reduce alcohol-impaired driving	**58.1%**
Sobriety checkpoints	**57.1%**
Efforts to increase use of seat belts for adults	**54.2%**
Efforts to eliminate texting while driving	**30.8%**
Efforts to increase use of motorcycle helmets	**18.7%**
Ignition interlock services	**14.2%**
Driver education for teens	**12.2%**

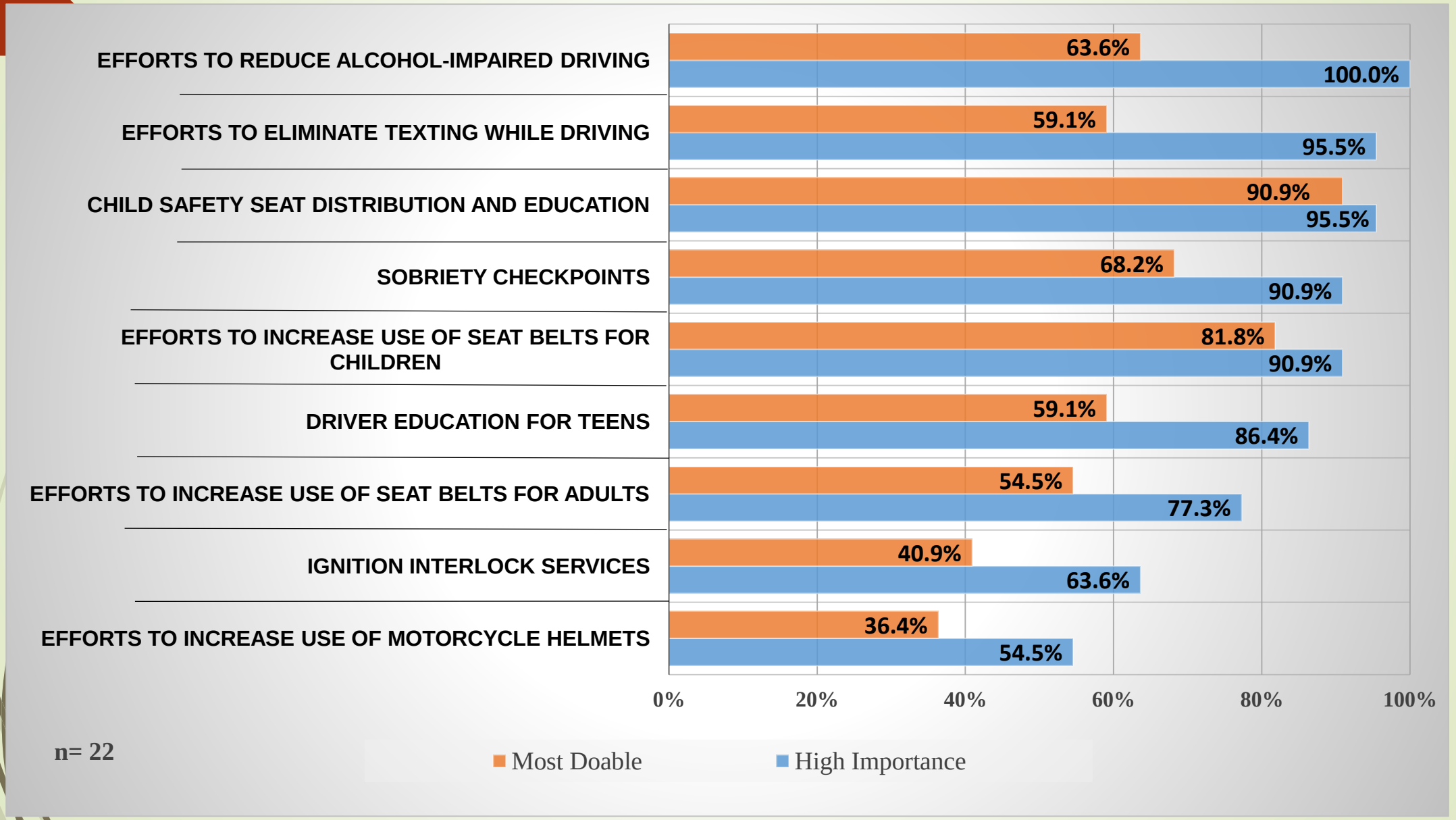
Preferred Motor Vehicle Safety Training Topics

	Yes %
Strategies to reduce alcohol-impaired driving	**69.2%**
Policies/laws to support unintentional injury prevention	**61.6%**
Child safety seat education programs	**57.5%**
Data/surveillance for unintentional injuries among American Indians	**56.8%**
Program Evaluation	**46.6%**
Other (please specify)	**4.8%**

Barriers To Implementing Injury Prevention Activities

	Yes %
Insufficient funds dedicated to injury prevention	**70.9%**
Lack of awareness and/or prioritization of injury prevention	**68.9%**
Lack of training among community workers in injury prevention	**59.6%**
Lack of culturally appropriate injury prevention resources and/or programs	**49.7%**
Lack of programs/services	**47.7%**
Other (please specify)	**13.9%**

Focus Group: MV Interventions

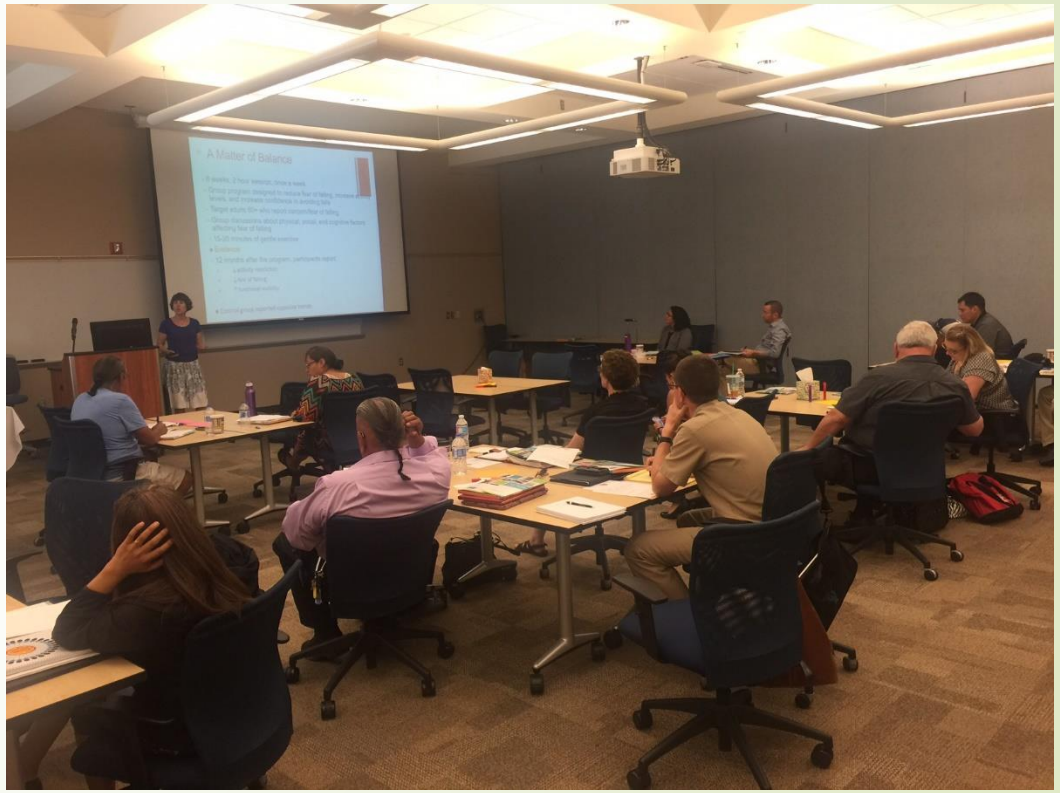


Scope of Work

- Conduct Injury Prevention Gap Analysis
- Establish Regional Tribal IP Coalition
- Implement Surveillance/Data Quality Projects
- Pilot Test IP Projects
- Coordinate Regional Webinars/Trainings
- Develop Culturally Appropriate Small Media Products
- Offer Technical Assistance

Albuquerque Area Tribal Injury Prevention Coalition

- ***Mission*: To reduce injuries throughout tribal communities with support of tribal leadership through prevention and education to promote healthy communities.**
- ***Vision*: Serving future generations starting with a safer today**

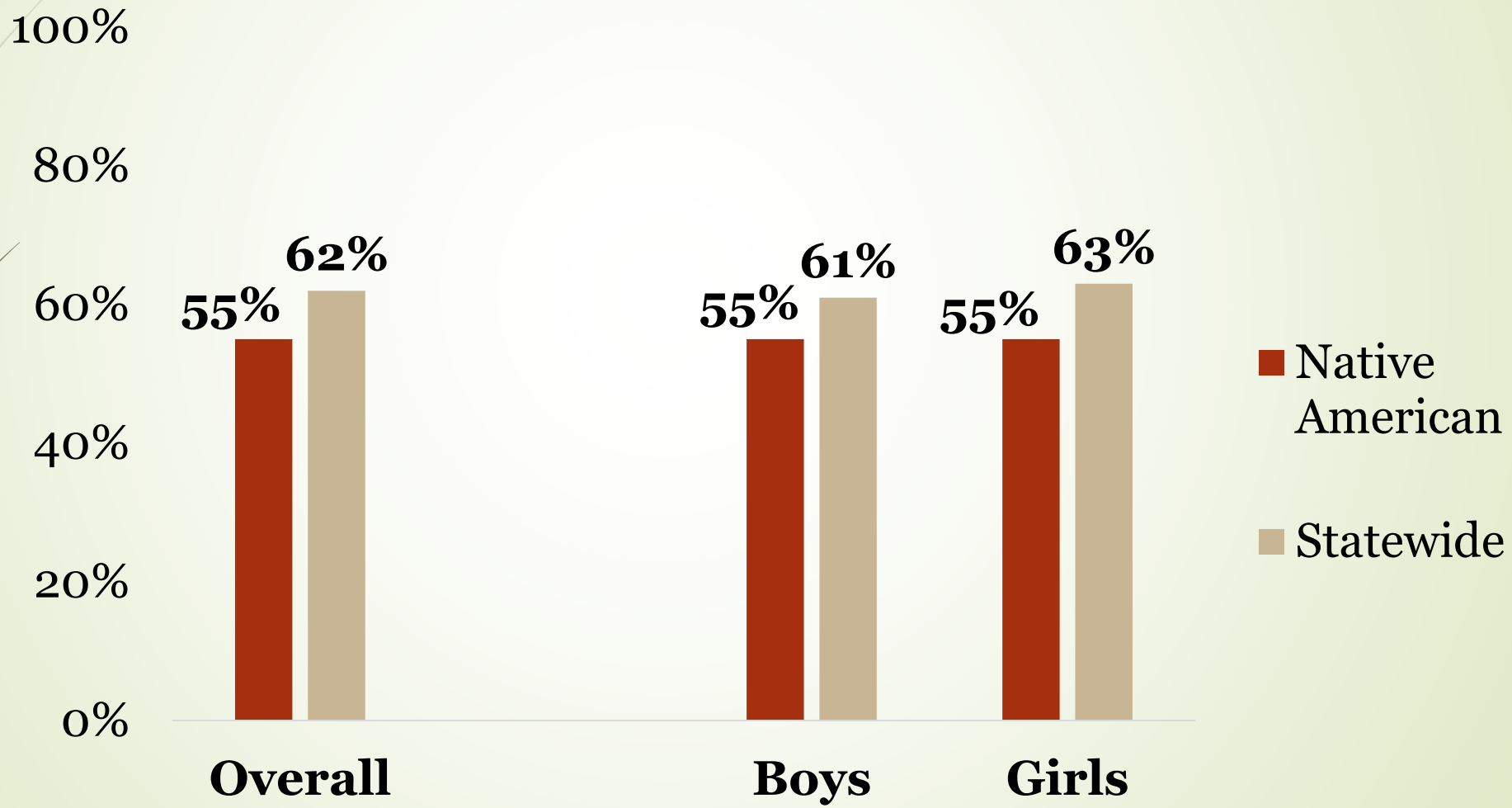


High School

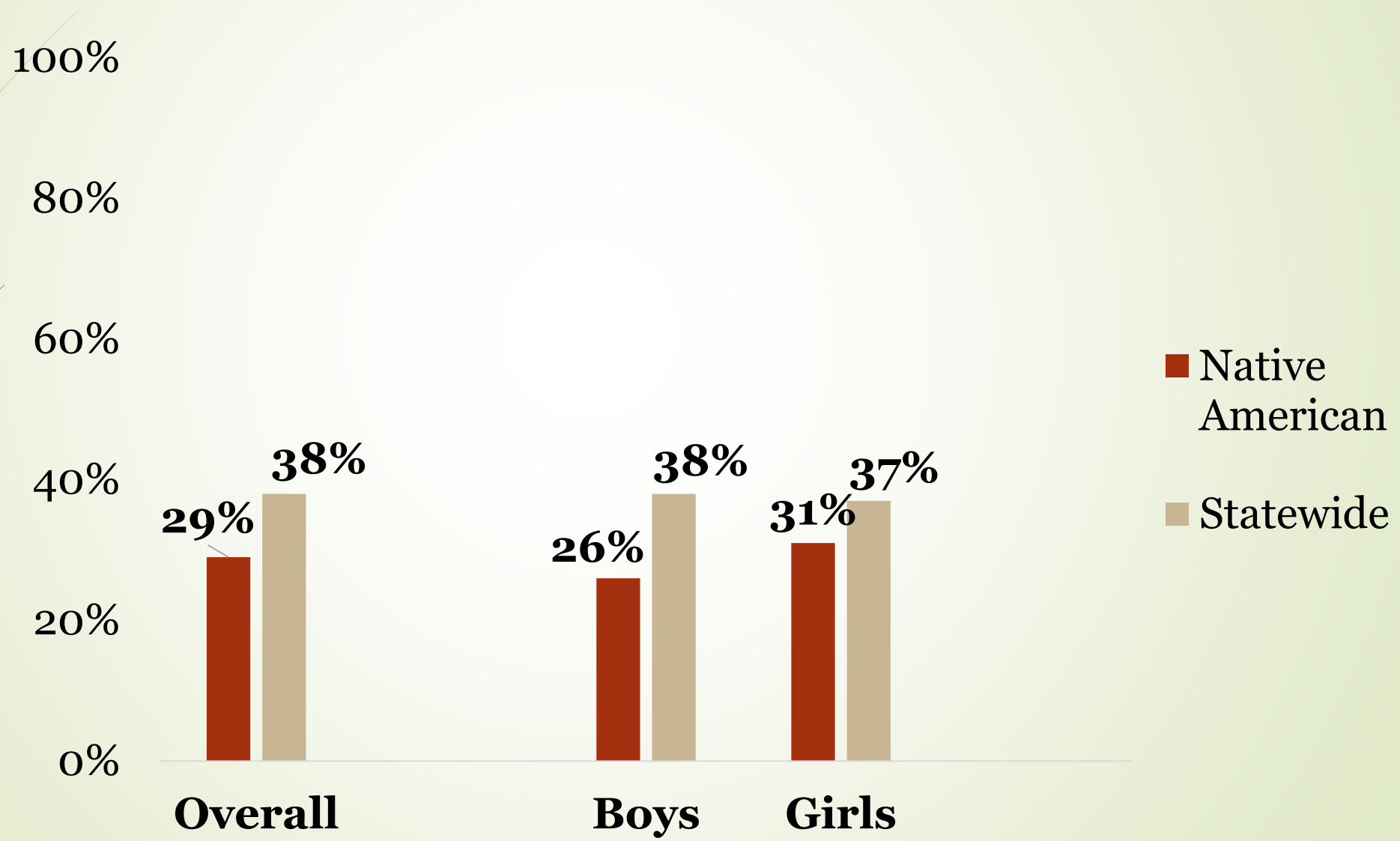
Data Sources: New Mexico Youth Risk & Resiliency Survey 2015 & Healthy Colorado Kids Survey 2015

Always Wear Seat Belt

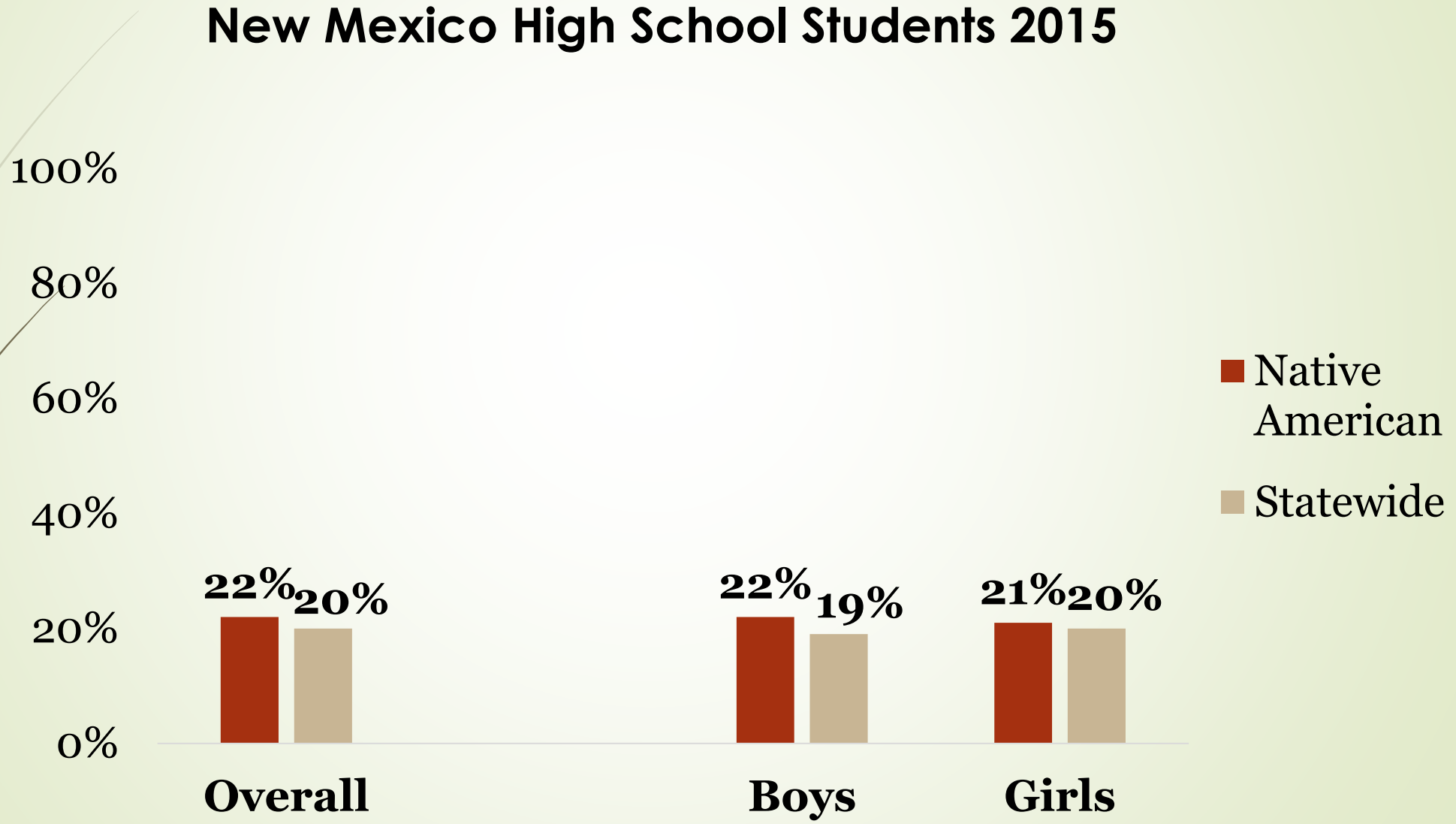
New Mexico High School Students 2015



Texted or emailed while driving a vehicle

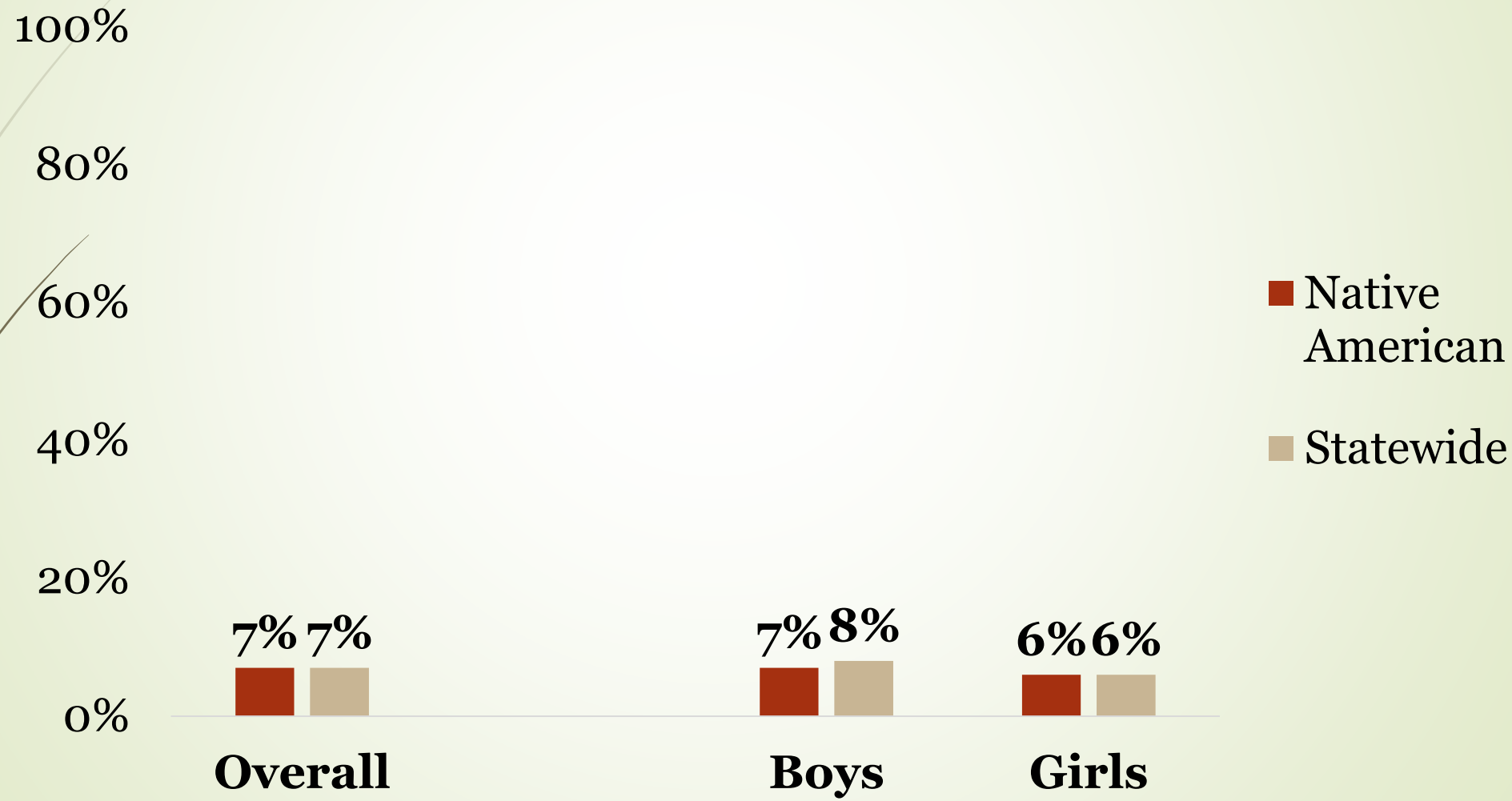


Rode in a car driven by someone who had been drinking alcohol



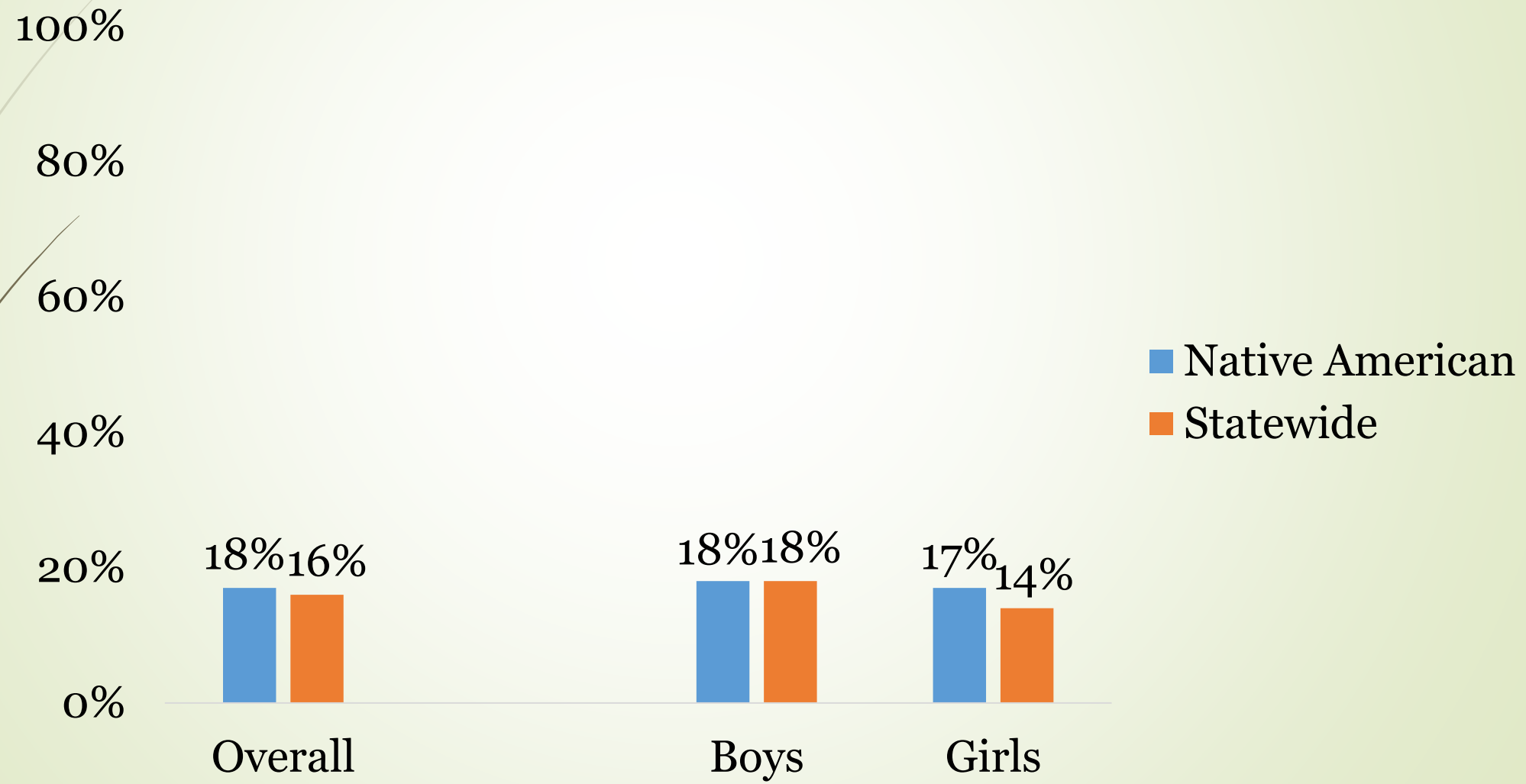
Drove a vehicle after drinking alcohol

New Mexico High School Students 2015



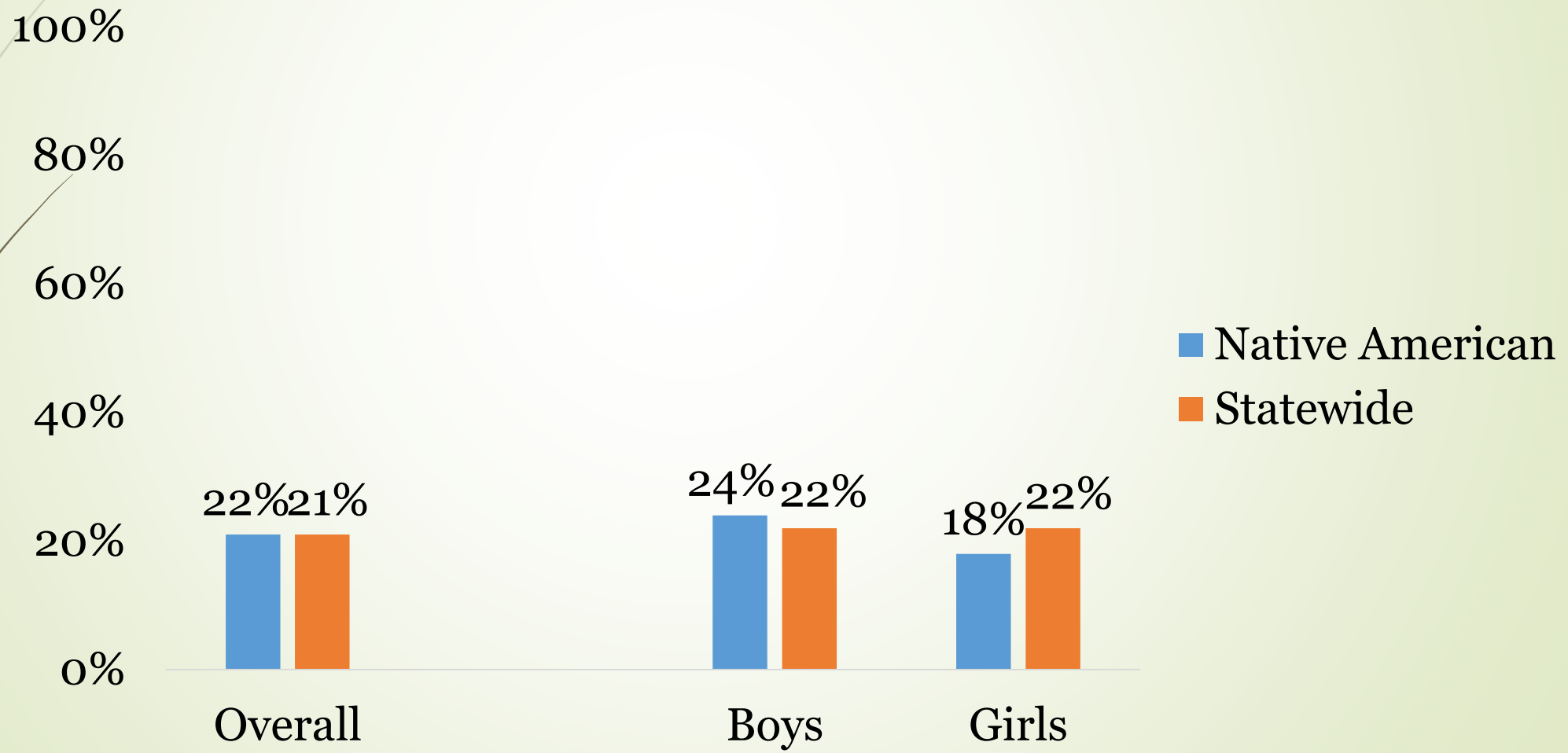
Drove a vehicle after using marijuana

Colorado High School Students 2015



Rode in a car driven by someone who had been using marijuana

Colorado High School Students 2015



Child Passenger Safety CPS

- Exploring the feasibility of embedding child safety seat clinics within the IHS Albuquerque Area Pueblo Cross Road Events.
- 16 run/walks and health fairs I Pueblo communities April-October
- Jerrod and 2 AASTEC staff are CPS certified

Conduct training and webinar focused on Injury Prevention

IHS Injury Prevention

- Level 1 & 2 training facilitation team with IHS partners
- Help facilitate Child Passenger Safety (CPS) course to become instructor

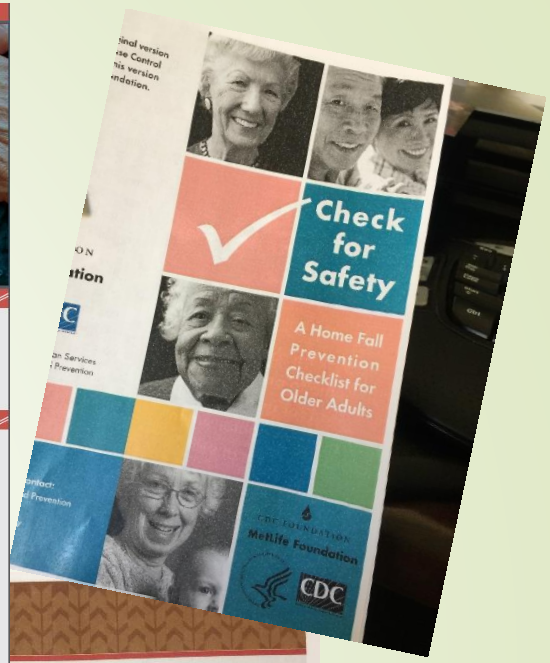
NM & Tribal Injury Prevention

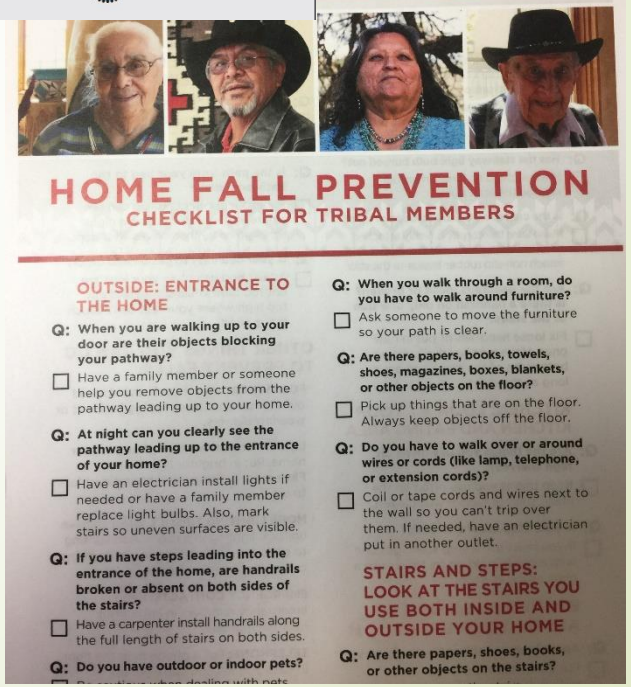
- A Matter of Balance
- Tai Ji Quan: Moving for Better Balance Training
- Remembering When

Develop Media Products

Fall Prevention

- Developed factsheet and home checklist
  - Distributed home fall prevention checklist to senior center staff and CHR directors
  - Factsheet was sent out to hospital CEO's, CHR directors, Senior Center managers and health fairs
  - Also "Santa Fe Indian Day"





Provide Technical Assistance For IP Programs

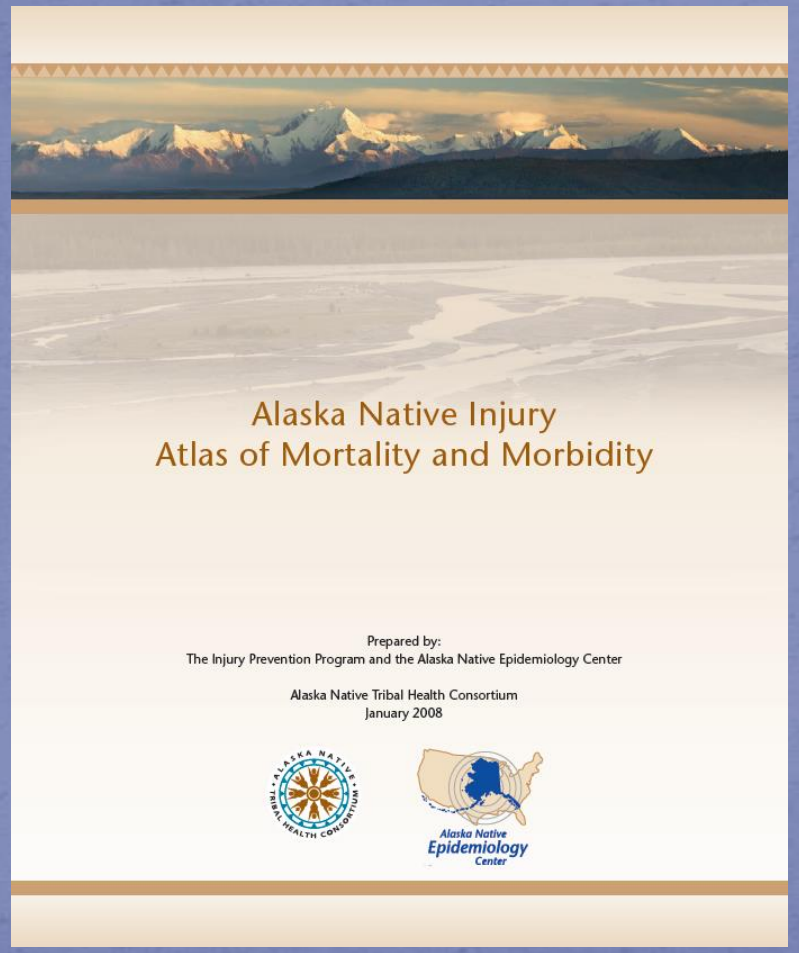
- Attended tribal safety meeting
- Conducted site visits with existing tribal injury prevention programs
- Resource needs included:
  - *lack of car seats*
  - *the need for more culturally appropriate educational materials on child safety seat use*
  - *tai chi instructor training*
  - *Designing electronic data system*
  - *The need for greater senior technician availability in our region to observe tribal car seat clinics and ensure that tribal staff can obtain their necessary CEU units.*

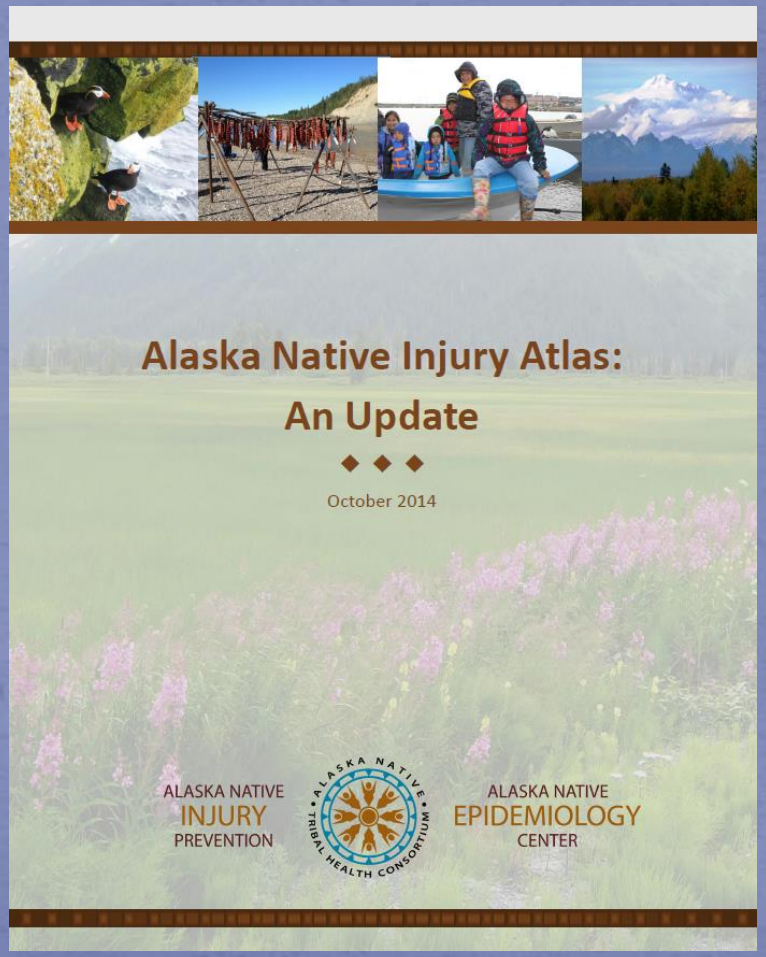
Questions?

Alaska Native Injury Atlas

ANTHC Injury Prevention Program and
Alaska Native Epidemiology Center

Alaska Native Injury Atlases





What we wanted to do

- ID the most frequent causes of injuries
- Compare injury rates
- Highlight injury topics of interest
- Provide a resource

Data Sources

- Alaska Bureau of Vital Statistics
- Alaska State Trauma Registry
- Alaska Department of Labor

Staff Involved

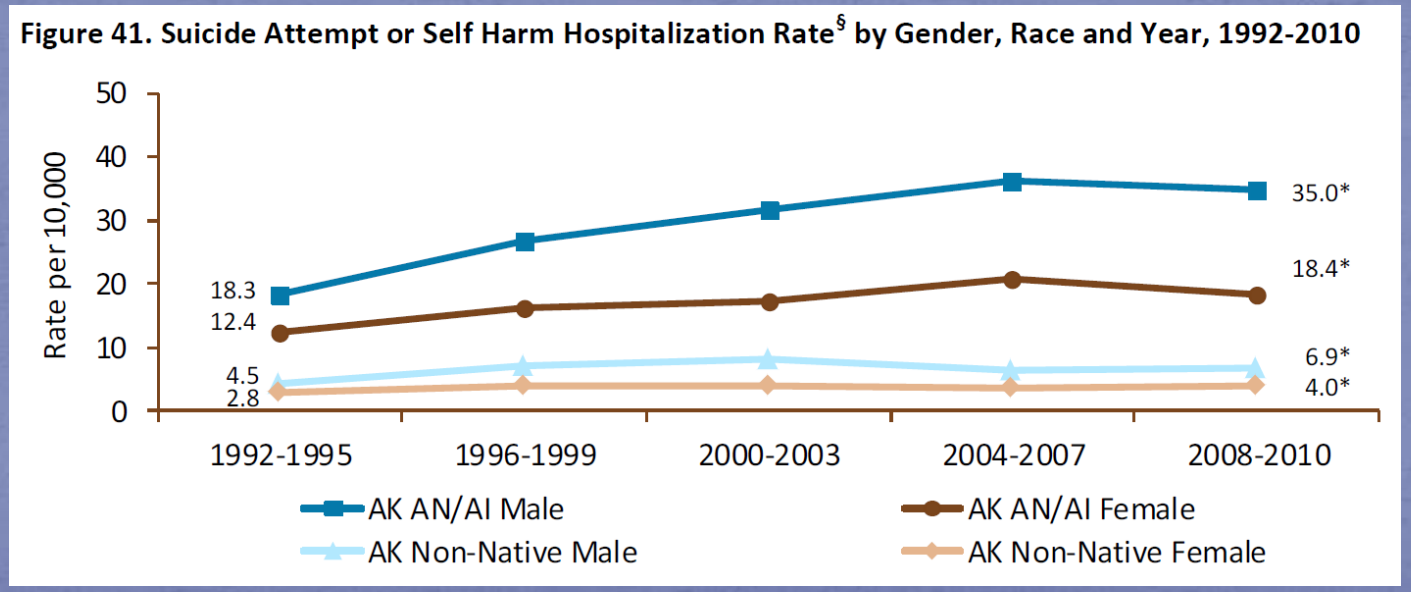
- EpiCenter Director
- 2 Epidemiologists
- Senior statistician
- Graphic Designer
- Injury Prevention staff

Collaborators

- Behavioral Health staff
- Regional Tribal Injury Prevention staff
- Non-Tribal Injury Prevention partners

Process Concerns

- Data access
- Data security
- Quality assurance
- Prioritization



Data Challenges

- Code ≠ Injury cause description
- Wrong region/community match
- Blending generations of coding

Appendix C. Injury Mechanisms with Corresponding ICD-9 and ICD-10 Codes

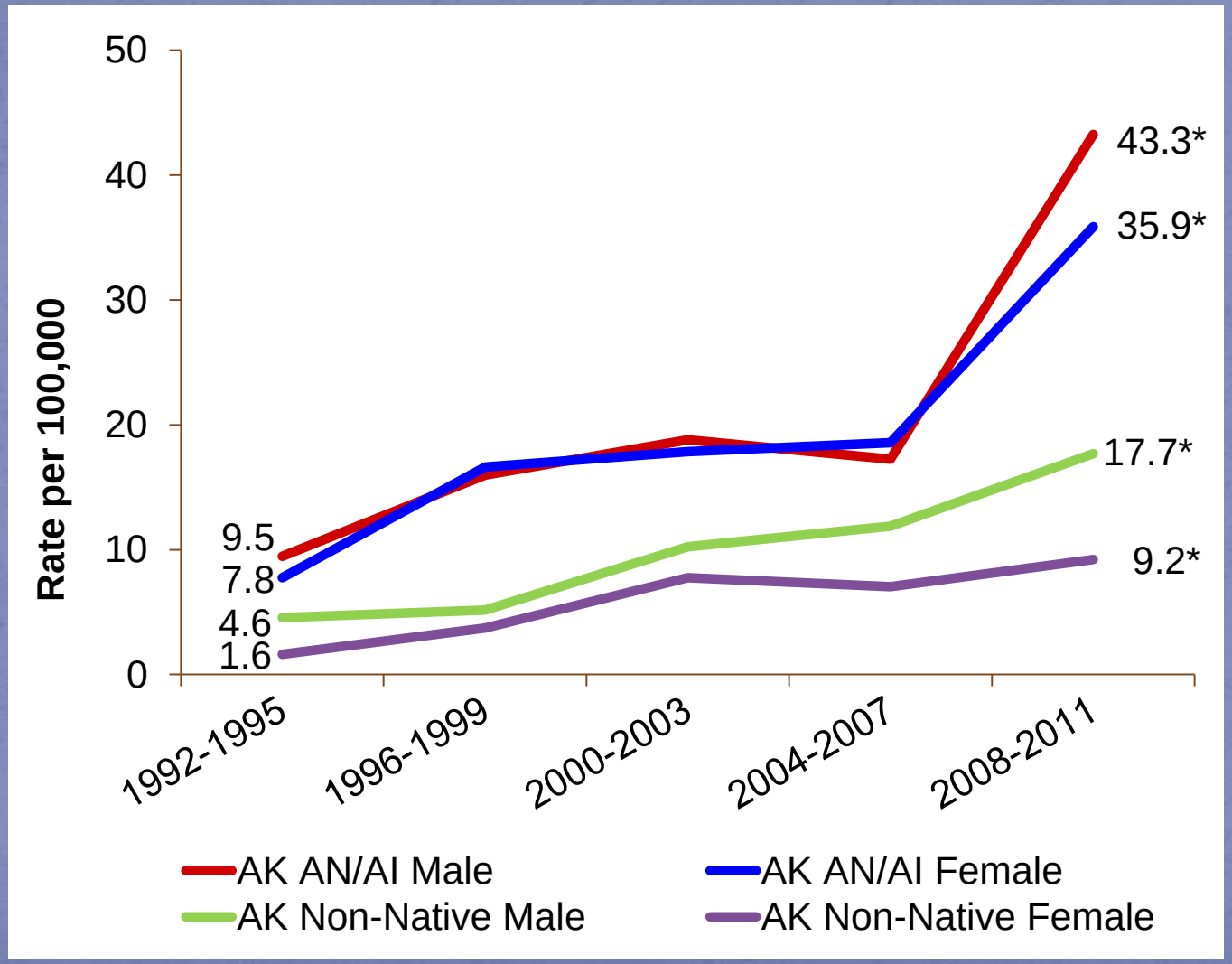
This table identifies the ICD-9 and -10 codes assigned to each injury mechanism as described in this report. In a few areas as noted the categorization differed between injury deaths and hospitalizations, based on injury frequency differences between the two data sets. ICD code assignments were applied to both data sets unless otherwise notated.

Data set involved	Mechanism	ICD-9 codes assigned	ICD-10 codes assigned
(Hospitalizations)	ATV	E821.0-821.9	
(Hospitalizations)	Cut, Pierce	E920	
(Deaths)	Drowning	E830.0 - E830.9, E832.0 - E833.9, E910.0 - E910.9	V90.0 - V90.9, V92.0 - V92.9, W65.0 - W74.9
(Deaths)	Excessive Cold	E901.0 - E901.9	X31.0 - X31.9
	Fall	E880.0 - E881.9, E882, E883.0 - E886.9, E888.0 - E888.9	W00.0 - W19.9

Case Identification Issues

- Hospitalized fatalities:
  under-reporting vs. over-reporting
- Cases with unknown parameters
- Region: occurrence vs. residence
- Rural vs. urban

Poisoning Fatalities



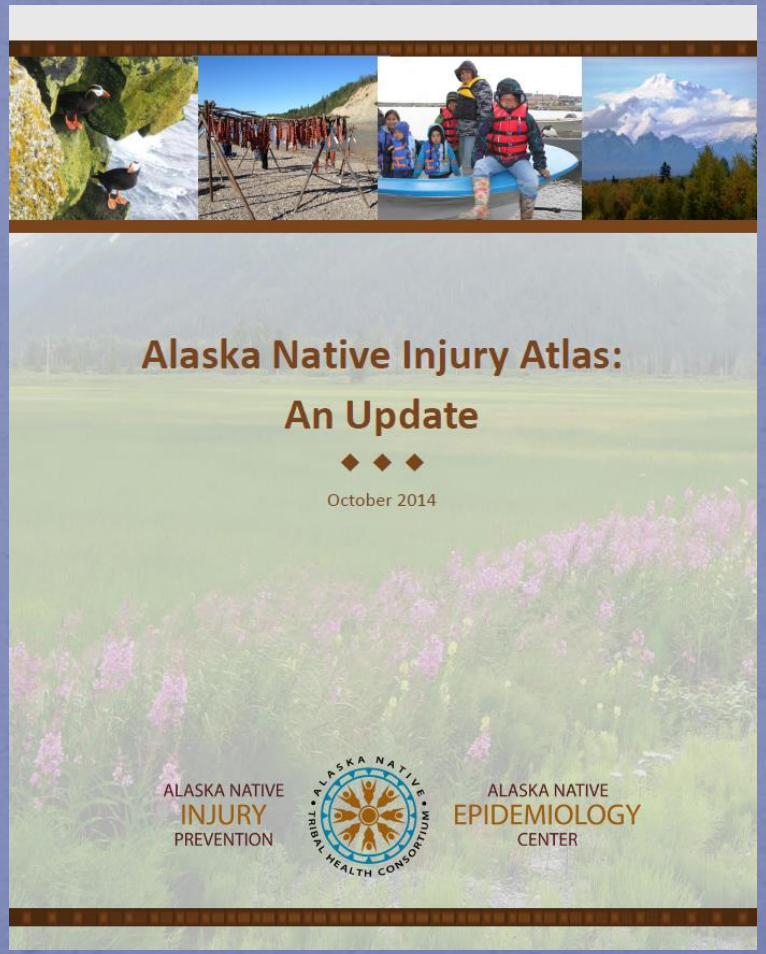
Case Counts: Alcohol Poisoning

YEAR	ICD10 X45	ICD10 F10	ICD10 F10 + X45
2002-2006	12	215	227
2007-2011	102	101	203

Challenges

- Traumatic Brain Injury
- Domestic violence, abuse
- Safety gear use

What's in an Atlas?



Atlas: Success stories

Atlas: Fatalities

Figure 2. Leading Causes of Injury Death by Region, Alaska Native People, 2002-2011

Data Source: Alaska Bureau of Vital Statistics

	Aleutians & Pribilofs	Anchorage & MatSu	Arctic Slope	Bristol Bay	Copper River/PWS	Interior	Kenai Peninsula	Kodiak	Northwest Arctic	Norton Sound	Southeast	Yukon-Kuskokwim	Total
1	§§	Poisoning 135	Suicide 28	Drowning 19	Suicide 6	Suicide 54	Suicide 13	Suicide 5	Suicide 48	Suicide 64	Suicide 28	Suicide 130	Suicide 478
2		Suicide 86	Off-Road Vehicle 9	Poisoning 14	Motor Vehicle 6	Poisoning 32	Motor Vehicle 13	§§	Drowning 17	Poisoning 14	Poisoning 28	Drowning 57	Poisoning 276
3		Motor Vehicle 70	Drowning 8	Suicide 12	§§	Motor Vehicle 20	Poisoning 9		Off-Road Vehicle 11	Drowning 14	Drowning 17	Off-Road Vehicle 28	Drowning 168*
4		Homicide 51	Motor Vehicle 5	Off-Road Vehicle 11		Excessive Cold 20	§§		Excessive Cold 10	Motor Vehicle 11	Homicide 12	Homicide 26	Motor Vehicle 158
5		Excessive Cold 21	§§	Excessive Cold 7		Drowning 18			Poisoning 10	Homicide 11	Motor Vehicle 10	Poisoning 25	Homicide 125
Total	22	491	61	97	25	199	51	20	117	154	134	346	1,718*

Atlas: Hospitalizations

Figure 28. Leading Causes of Injury Hospitalization by Age Group, All Alaska Native People, 2002 -2011

Data Source: Alaska Trauma Registry

	0 to 9 years	10 to 19 years	20 to 29 years	30 to 39 years	40 to 49 years	50 to 59 years	60 to 69 years	70 years and older	Total
1	Falls 541	Suicide Attempts 914	Suicide Attempts 997	Suicide Attempts 495	Falls 694	Falls 697	Falls 568	Falls 1013	Falls* 4,807
2	Submersion or Suffocation 109	Falls 417	Assault 709	Falls 430	Assault 420	Assault 176	Motor Vehide 51	Motor Vehide 52	Suicide Attempts 3,022
3	Poisoning 109	Motor Vehide 314	Falls 447	Assault 422	Suicide Attempts 404	Suicide Attempts 155	Suicide Attempts 35	ATV 38	Assault 2,047
4	Other Vehide 97	ATV 267	Motor Vehide 344	Motor Vehide 194	Motor Vehide 191	Motor Vehide 136	Snowmachine 31	Snowmachine 24	Motor Vehicle 1,375
5	Motor Vehide 96	Assault 230	Snowmachine 219	Snowmachine 110	Snowmachine 91	Other Vehide 46	Assault 30	Assault 19	ATV 774
6	ATV 75	Poisoning 211	ATV 169	ATV 99	Other Vehide 88	Snowmachine 45	Natural or Environmental 29	Struck by Object 18	Snowmachine 749
Total	1,422	3,131	3,430	2,158	2,355	1,520	865	1,257	16,141*

Atlas: Maps

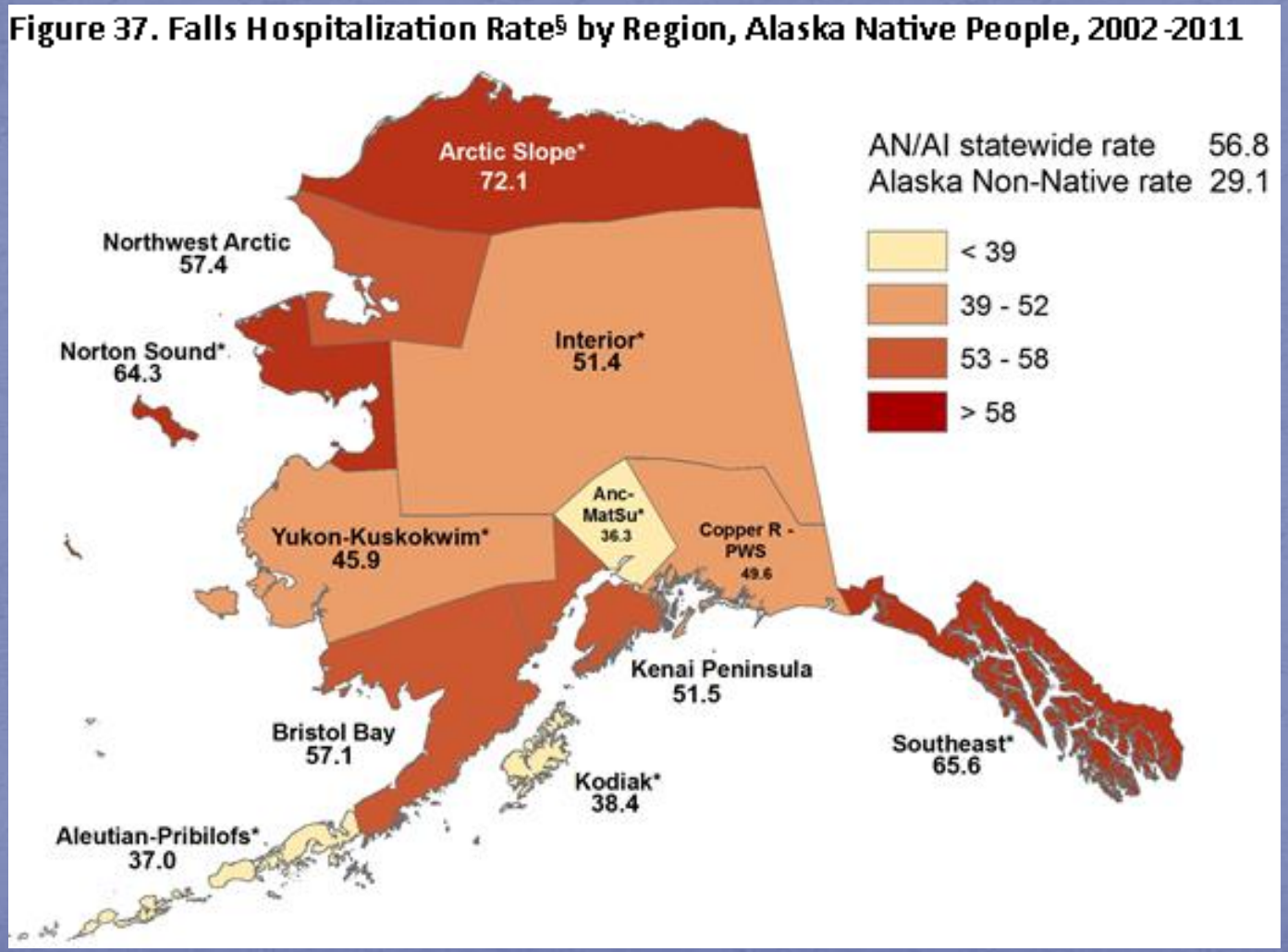
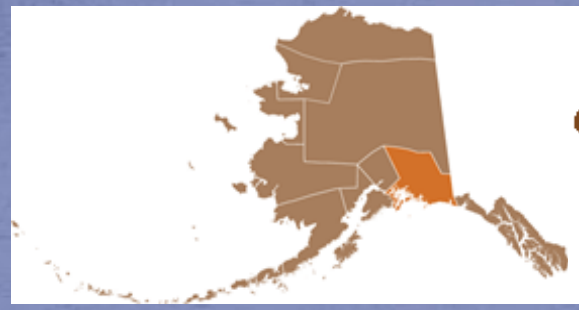


Figure 37. Falls Hospitalization Rate§ by Region, Alaska Native People, 2002-2011
Arctic Slope*
72.1
Northwest Arctic
57.4
Norton Sound*
64.3
Interior*
51.4
Yukon-Kuskokwim*
45.9
Anc-MatSu*
36.3
Copper R - PWS
49.6
Kenai Peninsula
51.5
Bristol Bay
57.1
Kodiak*
38.4
Aleutian-Pribilofs*
37.0
Southeast*
65.6
AN/AI statewide rate 56.8
Alaska Non-Native rate 29.1
< 39
39 - 52
53 - 58
> 58

Atlas: Regional Info



Copper River/Prince William Sound Region

Injury Hospitalizations

Table 11. Leading Causes of Copper River/Prince William Sound Injury Deaths, 1992 -2011

Data Source: Alaska Bureau of Vital Statistics

Mechanism of Injury	n	%	Rate ++	CR/PWS AN/AI vs. Alaska AN/AI [1]
Suicide	8	16.3%	¶	n/a
Homicide	5	10.2%	¶	n/a
Total Intentional Injuries	**13**	**26.5%**	**47.9**	**0.9**
Motor Vehicle	17	34.7%	56.6**	3.2*
Other	19	38.8%	n/a	n/a
Total Unintentional Injuries	**36**	**73.5%**	**127.1**	**1.1***
Total	**49**	**100.0%**	**175.0**	**1.0**

Atlas: Special Topics

- Alcohol and drugs
- Access to Care

Appendices

Review

- Data sources
- ANTHC staff
- Regional staff

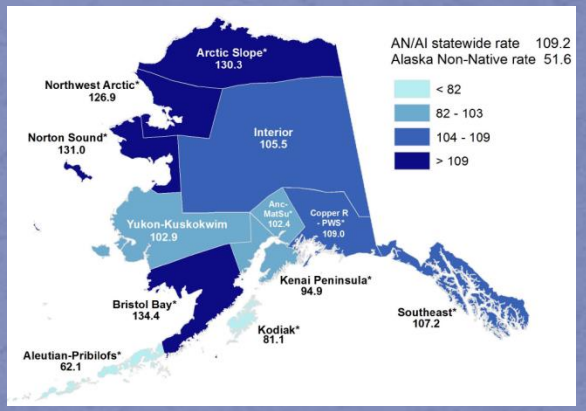
Dissemination

- Tribal IP and Epi staff
- Tribal Administrators, Boards
- Non-tribal partners
- Conferences and workshops
- ANTHC EpiCenter website:

  http://anthctoday.org/epicenter/publications/injury_atlas/

Going Forward

- Better understanding of process
- TBI
- Hospital discharge data?
- Atlas update every 5 years?



ANTHC
INJURY PREVENTION PROGRAM

Hillary Strayer, Senior IP Specialist
hdstrayer@anthc.org

Ingrid Stevens, IP Program Manager
iwstevens@anthc.org

Thank You