



Walking the Prevention Path: First Nations Injury Prevention

Atlantic Collaborative on Injury Prevention
Conference

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Presentation Outline

1

The Scope of the Injury Problem for First Nations People in Canada

2

Root Causes

3

What can we do?



Injury is the fastest growing and least researched of all modern epidemics

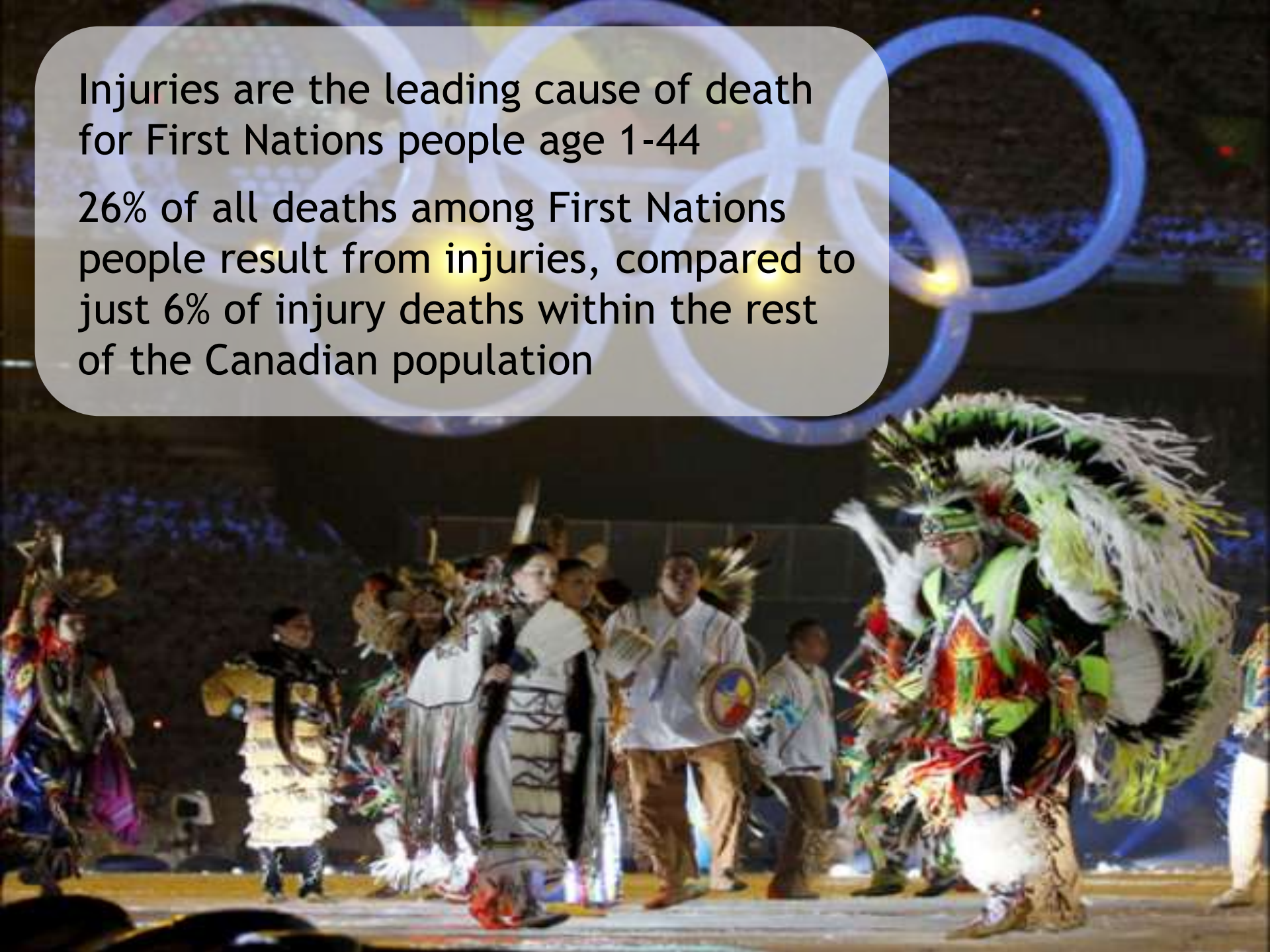
World Bank, 2008

Canada's Invisible Epidemic

SMARTRISK Foundation, 2005

Injuries are the leading cause of death for First Nations people age 1-44

26% of all deaths among First Nations people result from injuries, compared to just 6% of injury deaths within the rest of the Canadian population





1

The Scope of the Problem

*Silence will not cure a disease.
On the contrary; it will make it worse.*

Leo Tolstoy



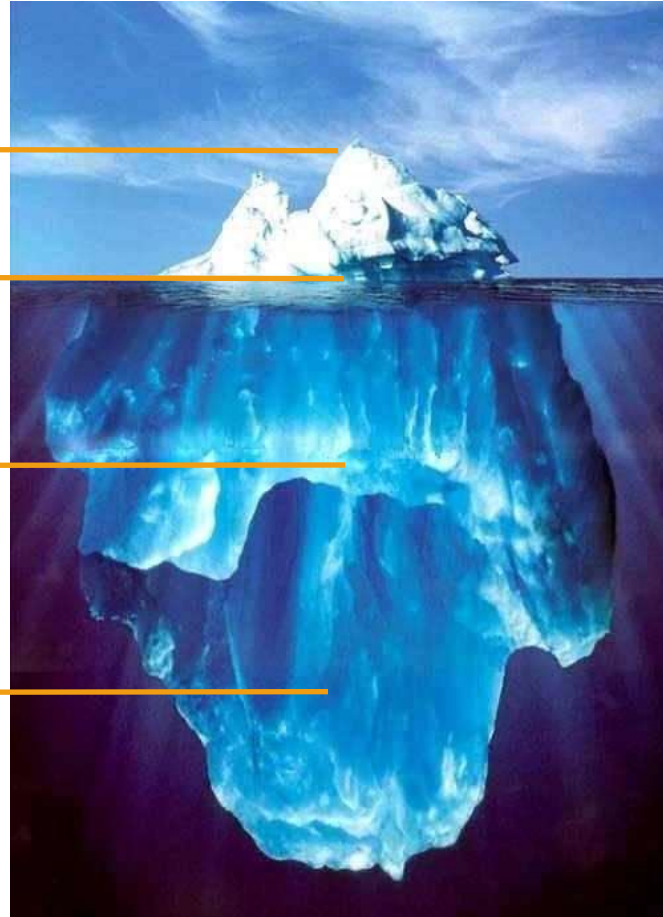
The Injury Iceberg

1 Death

45 Hospitalizations

1300 treated in
Emergency Rooms or
Physicians' Offices

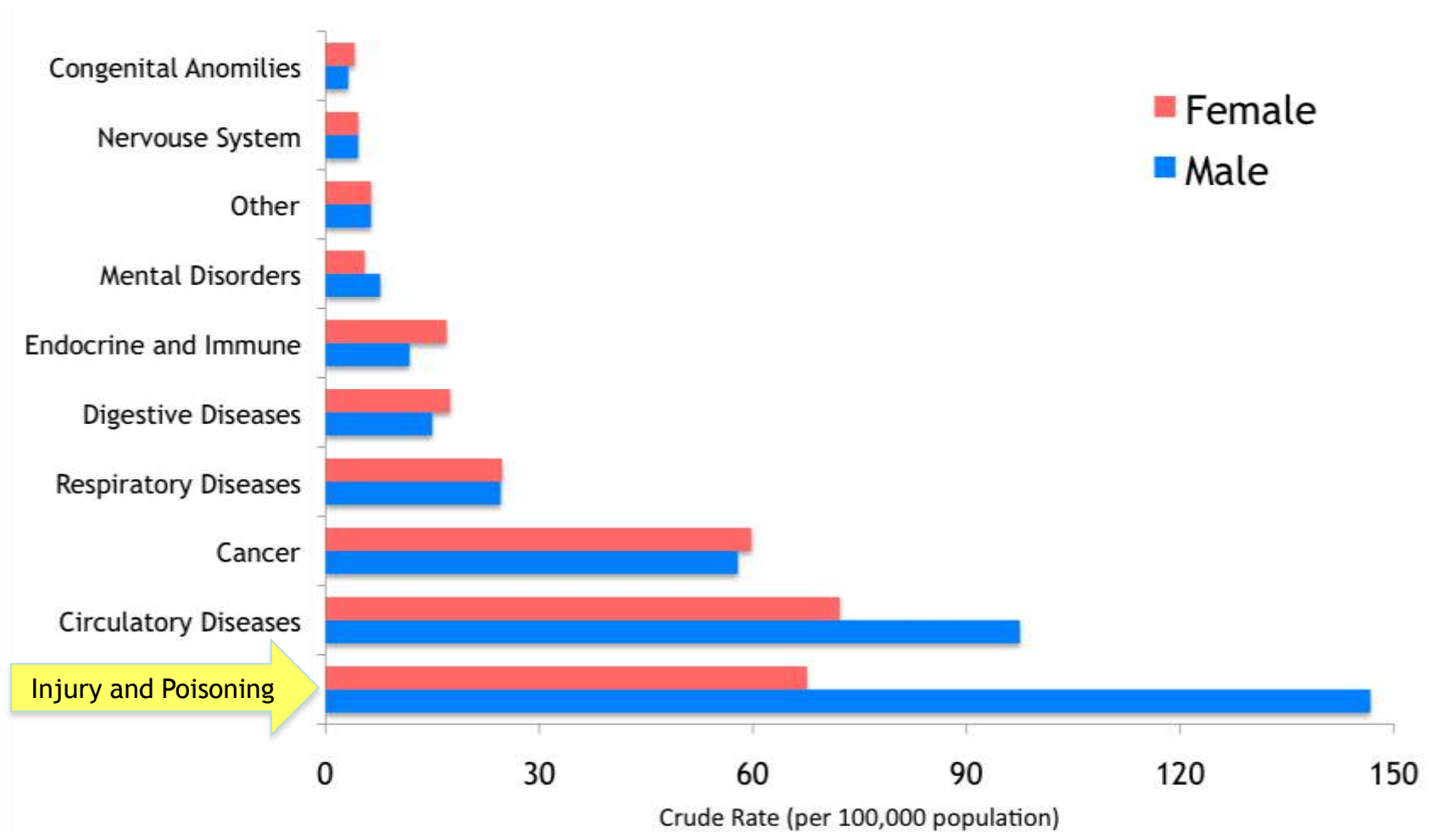
Treated elsewhere, at
home or never treated





Leading Causes of Death: First Nations

(Canada, 1999)





Causes of Death: First Nations and Inuit

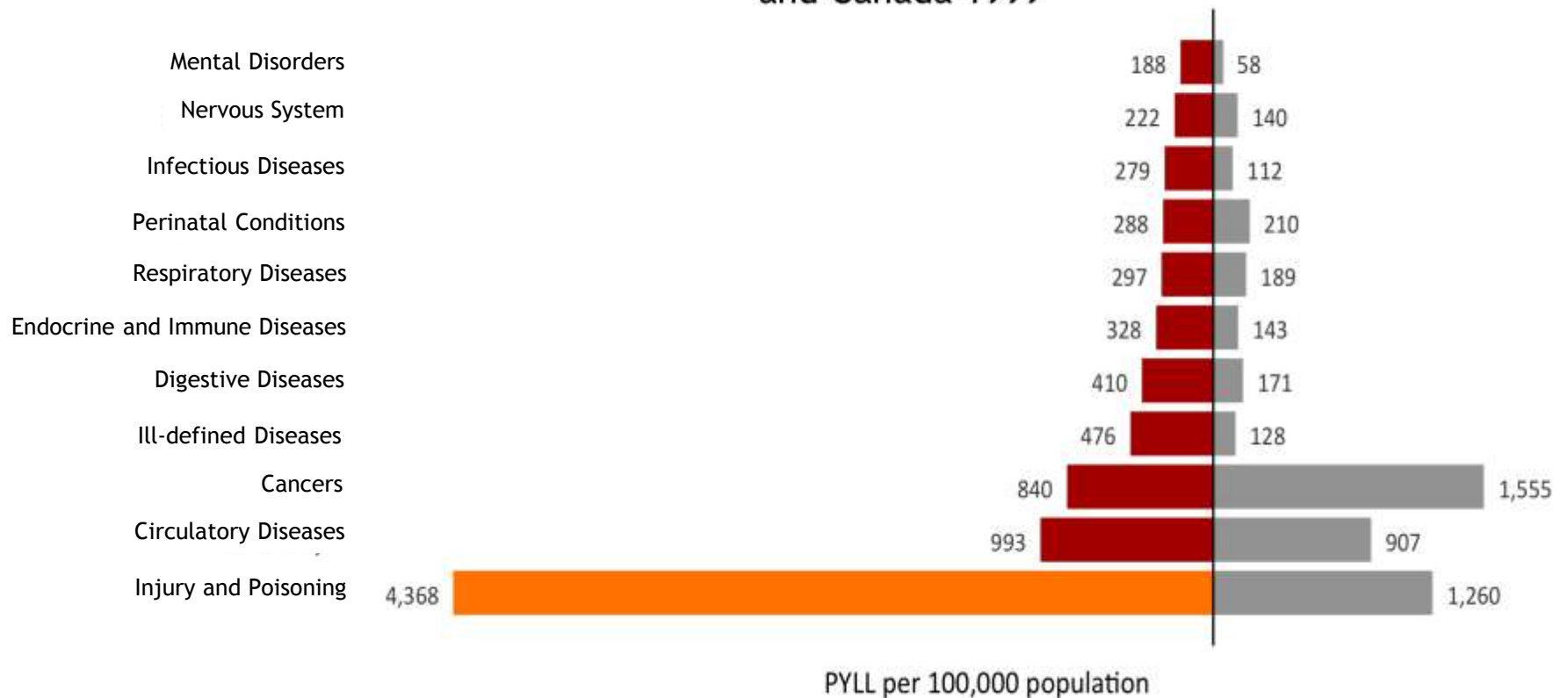
(Canada, 1991-1998)

Rank	Children (1-9 yr)	Children & Youth (10-19 yr)	Young Adults (20-44 yr)	Adults (25-64 yr)	Seniors (65+ yr)
1	Fire & Flames 26%	Suicide and Self-Inflicted Injury 38%	Suicide and Self-Inflicted Injury 23%	Unintentional Poisoning 31.5%	Falls 37.6%
2	Motor Vehicle Crashes 24%	Motor Vehicle Crashes 30%	Motor Vehicle Crashes 15%	Motor Vehicle Crashes 19.6%	Motor Vehicle Crashes 22.9%
3	Other Injuries 24%	Drowning and Submersion 10%	Homicide 7%	Suicide 18.9%	Fire and Flames 8.3%



Potential Years of Life Lost

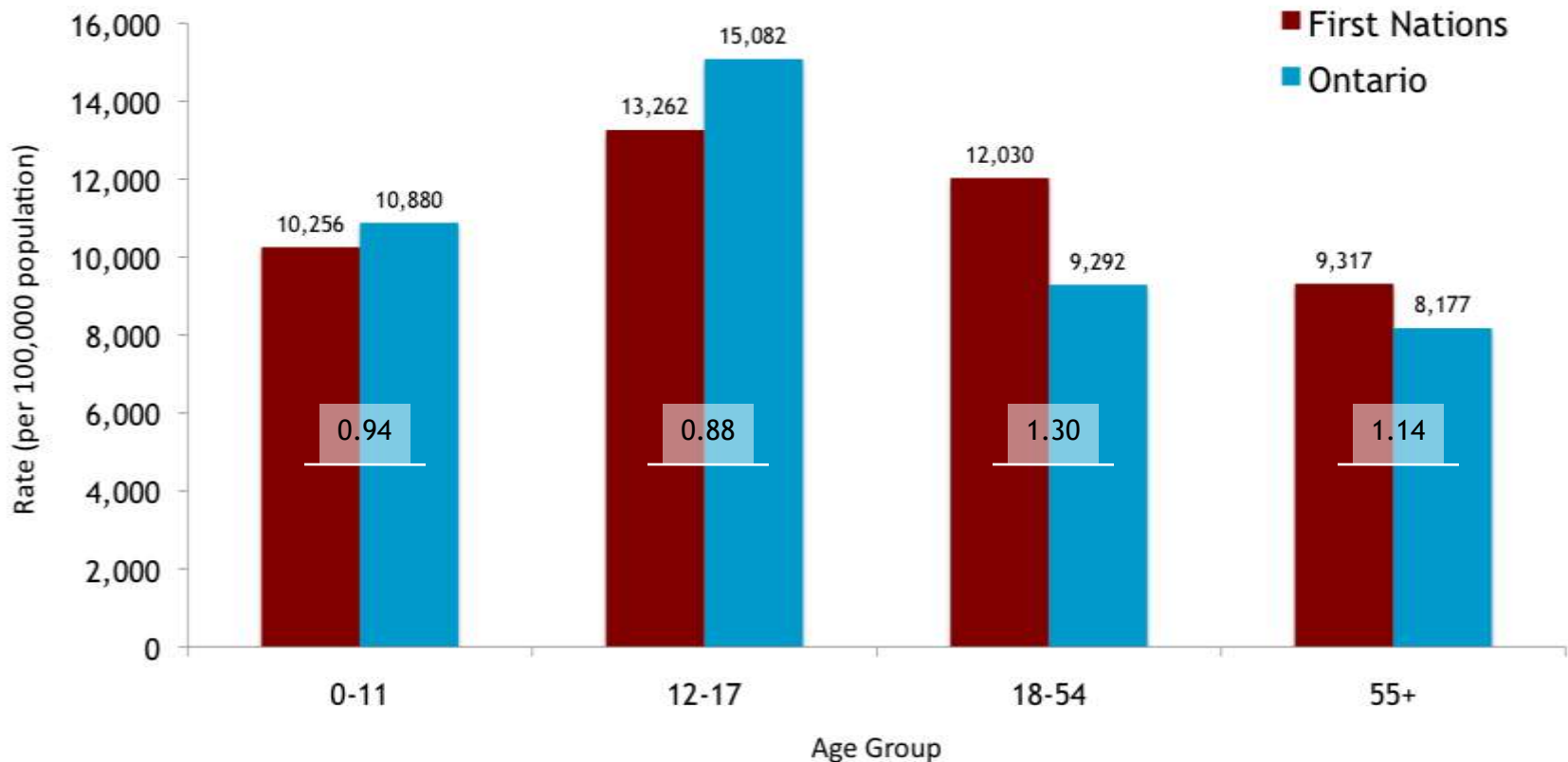
Potential Year of Life Lost (PYLL) by Cause of Death, First Nations 2000 and Canada 1999





Injury Rates: First Nations in Ontario

Injury Rates and Incidence Rate Ratios in First Nations vs general population in Ontario, 2006-2010





Motor Vehicle Crash Related Injuries

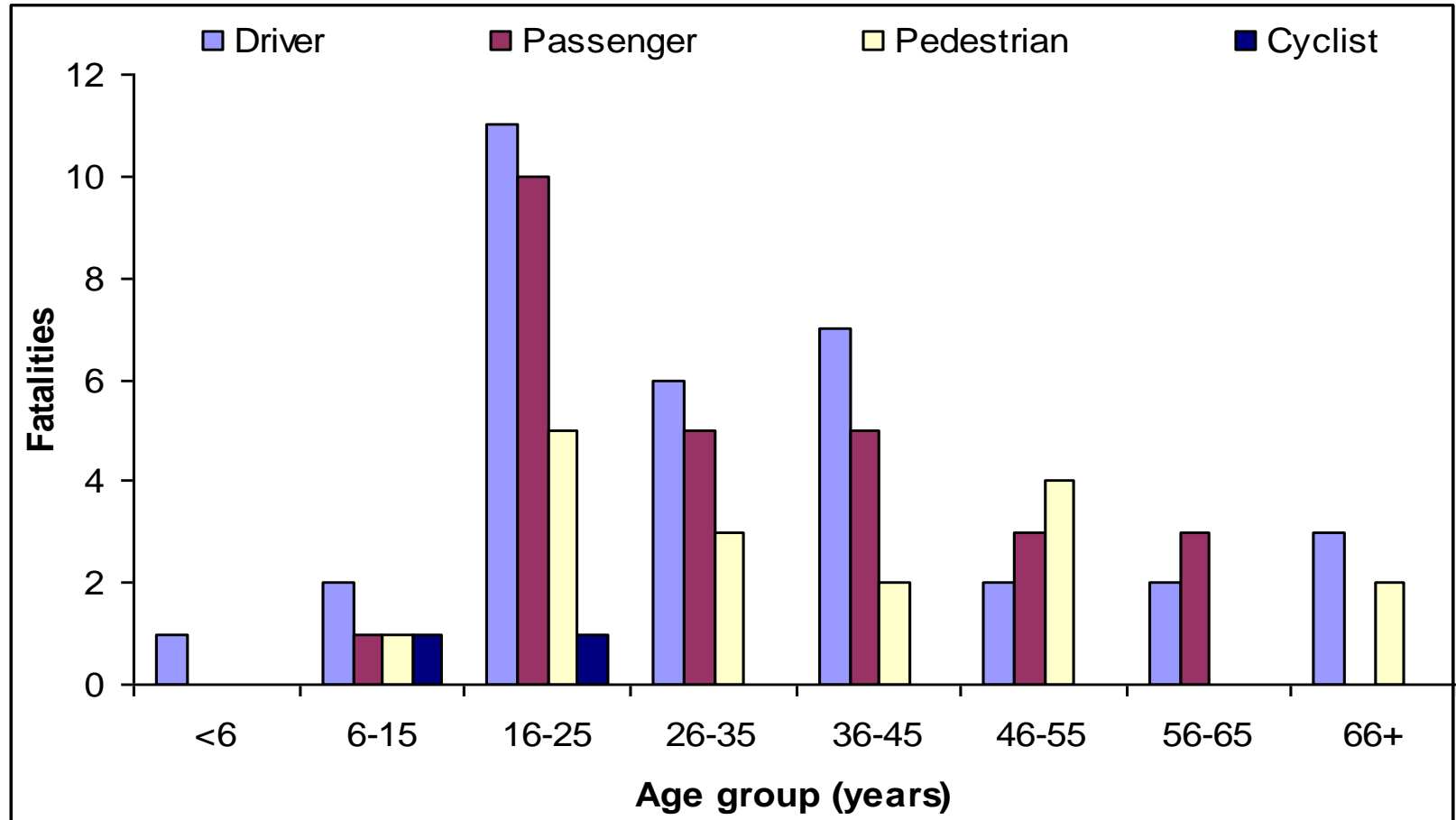
- First Nations people are at a higher risk of Motor Vehicle Crash:
 - greater distance they need to drive to daily and weekly activities
 - greater distance from an emergency medical facility when a crash occurs
 - heavy use of riskier vehicles like all-terrain vehicles (ATVs) and snowmobiles





MVC-related deaths among Aboriginal People by age group and type of victim

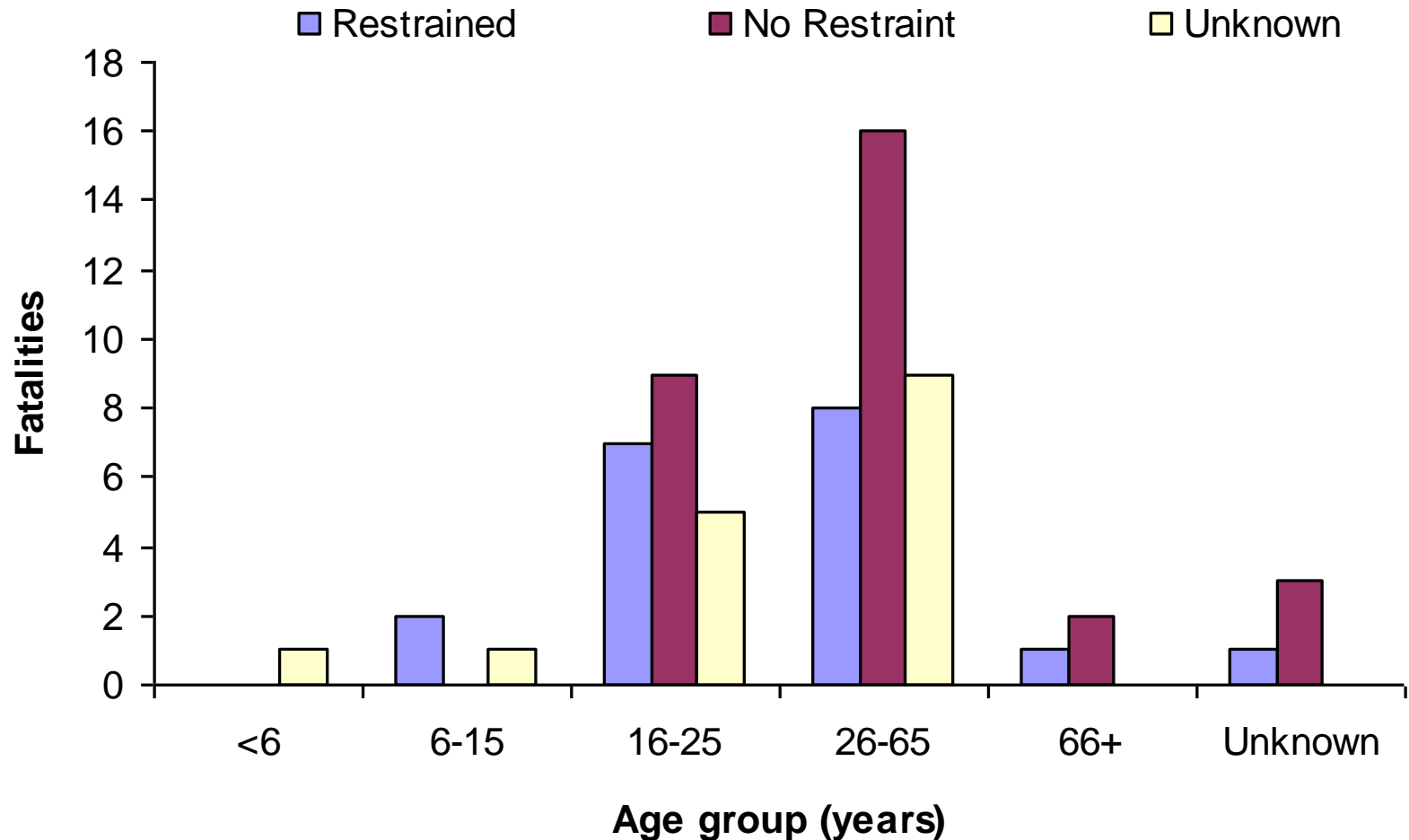
(British Columbia, 2003-2005)





Restraint use among Aboriginal Motor Vehicle Occupants by Age Group

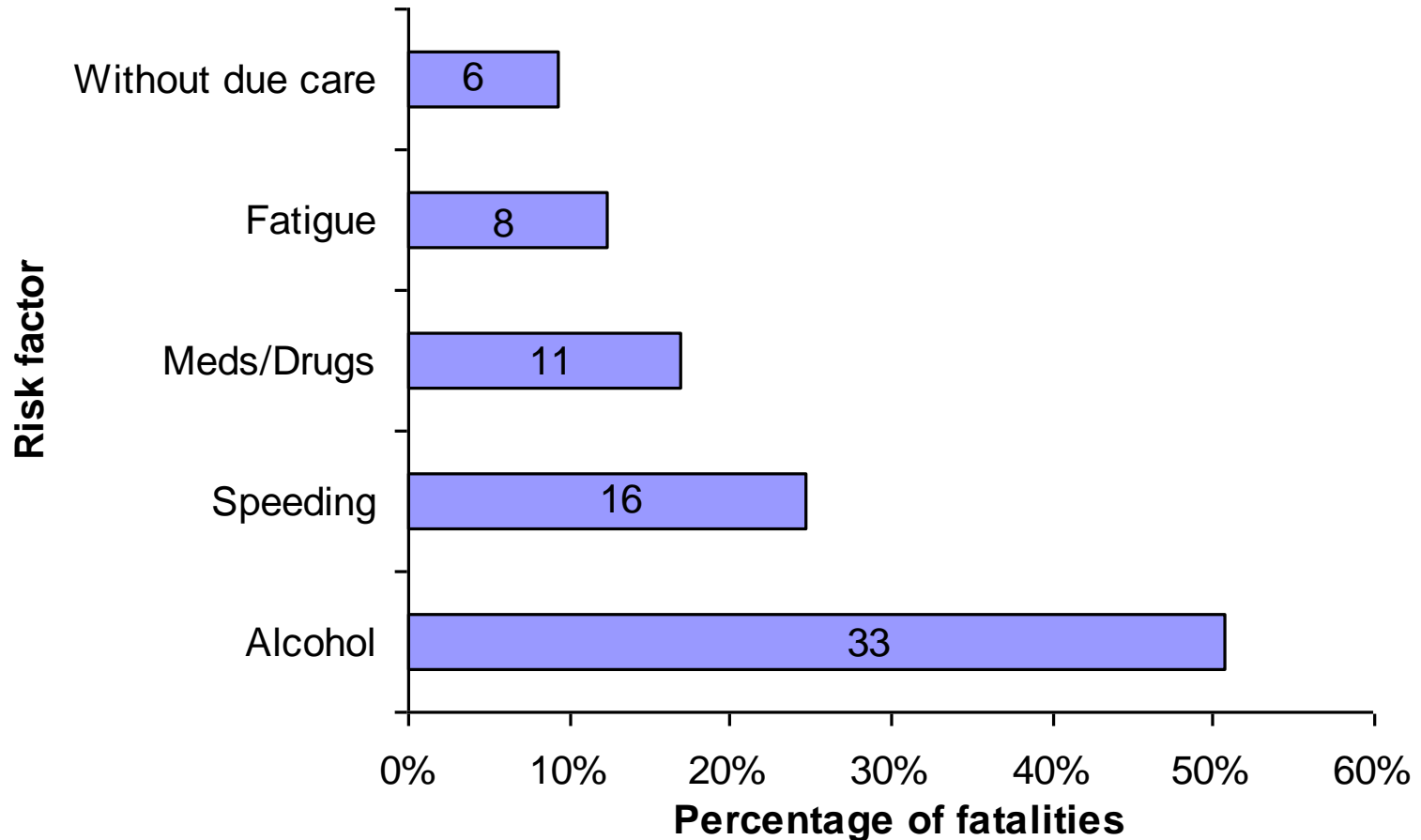
(British Columbia, 2003-2005)





Risk Factors Contributing to Aboriginal Motor Vehicle Crash Death

(British Columbia, 2003-2005)





Drowning and Submersions

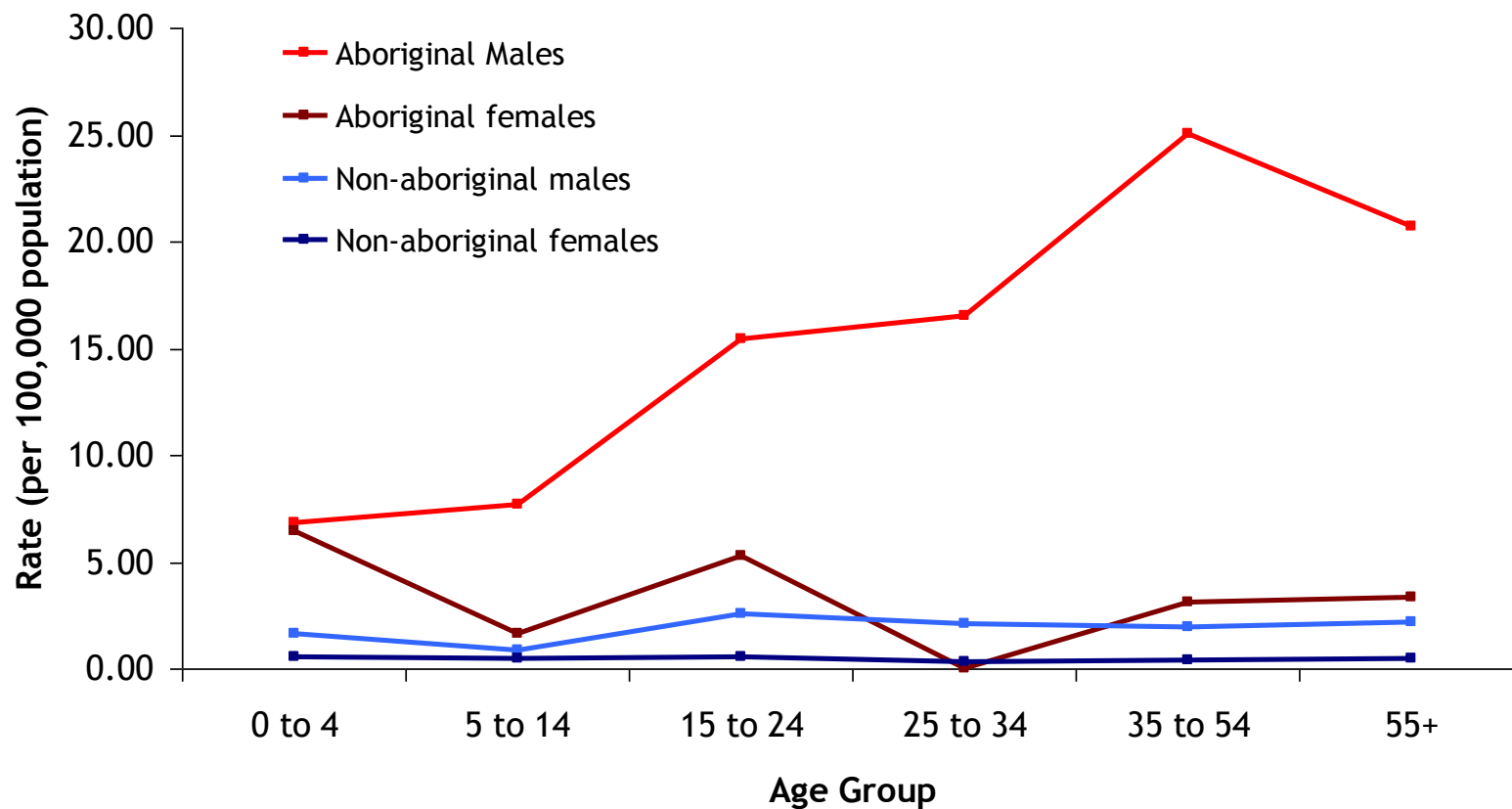
- Overall, drowning is the second most important cause of injury death in many Aboriginal communities
- Aboriginal people had a drowning rate 6 to 10 times higher than other Canadians
- The gap is even larger for children under age 5 years - Aboriginal children had a drowning rate 15 times higher than others





Rate of Drowning for Aboriginal and Non-Aboriginal People by Age Group and Sex

(Canada, 1999)

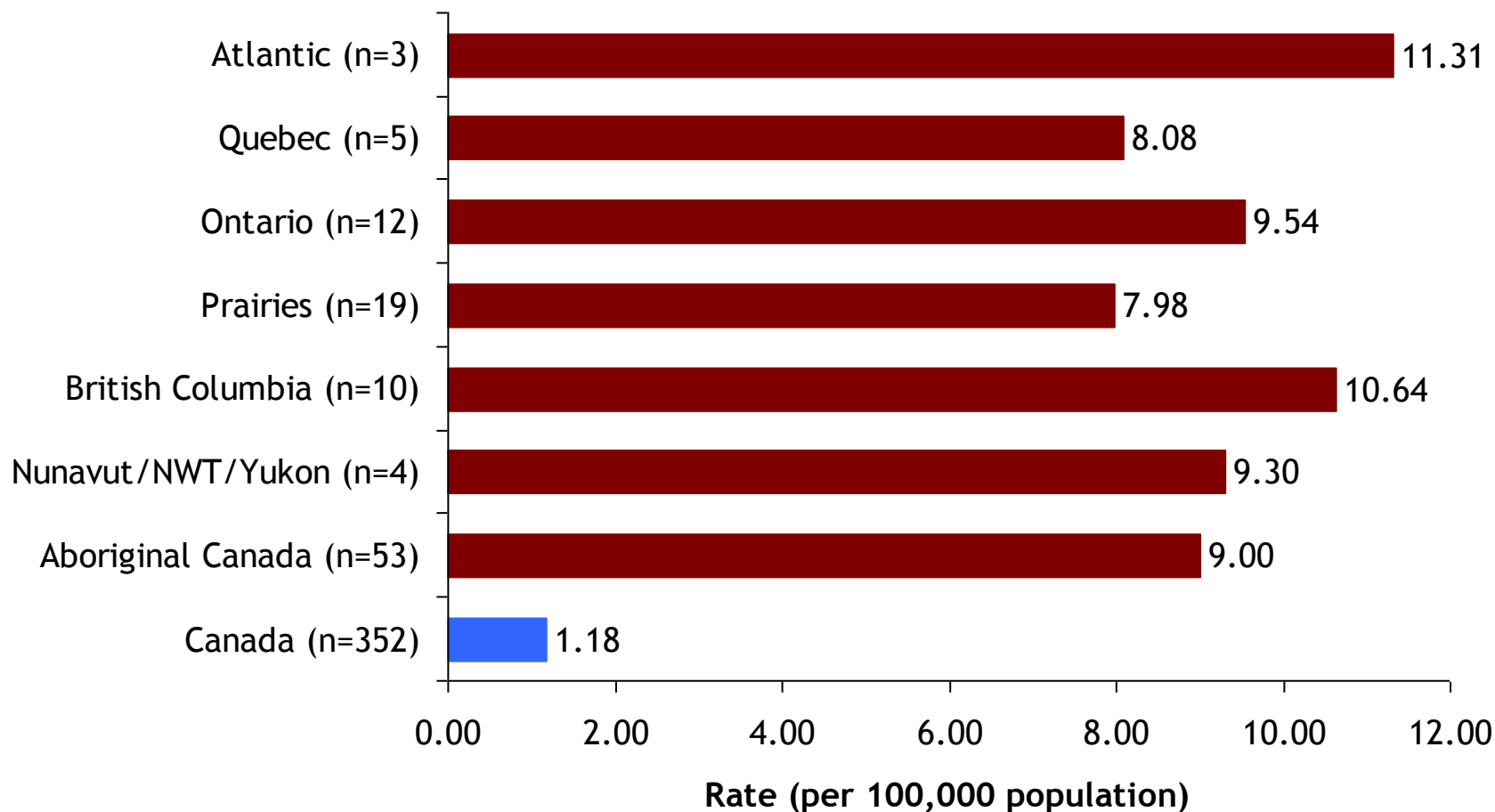


(N=405; 53 Aboriginal, 352 Non-aboriginal)



Rate of Drowning for Aboriginal and Non-Aboriginal People by Region

(Canada, 1999)





Drowning and Submersions

- Proximity of many Aboriginal communities to oceans, rivers & lakes
- Only 6% of Aboriginal drowning victims wore a flotation device
- 64% of drowning victims age 15 or older had a blood alcohol level above the legal limit, compared to 27% of their non-Aboriginal counterparts
- Drowning is especially high in northern areas:
 - low water temperatures - hypothermia
 - less access to swimming lessons and lifesaving training
- Boats, snowmobiles and ice present the greatest risk to adults, while the main risks for toddlers are boats and falls into open water





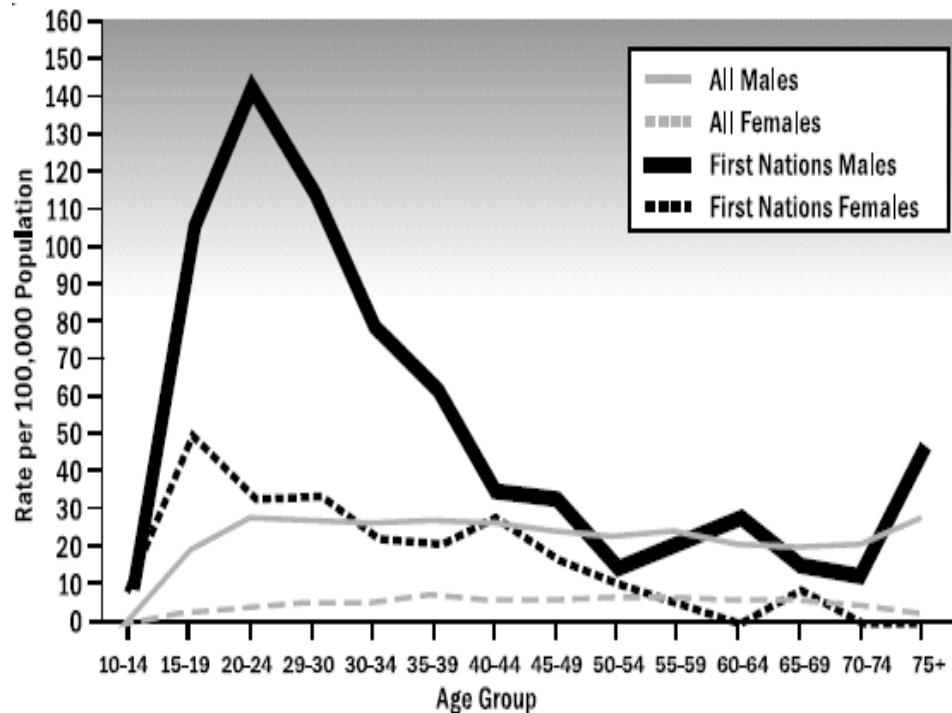
Fire and Flames



- 31% of all fire deaths in the Aboriginal population are children between the ages of 1 and 14 compared to an average of 16% in the total Canadian population
- Aboriginal children are 4 to 8 times more likely to die from fire than their non-Aboriginal counterpart
- Aboriginal people are at a greater risk because of their smoking habits, wood frame house construction and the low presence of smoke detectors



Suicide



- Overall, suicide rates in the Aboriginal population are more than twice the sex-specific rates, and three times the age-specific rates of non-Aboriginal Canadians
- 34.5% of First Nations on reserves, report that suicide is a problem in their community



Suicide

- The average youth suicide rate across Canada is 18 deaths per 100,000 youths compared to 108 per 100,000 among Aboriginal youth - six times higher
- Among Aboriginal males, the rate for the 15-24 year age group is more than double that for all Aboriginal males
- 60% of all Aboriginals who commit suicide are acutely intoxicated at the time, compared to 24% for non-Aboriginal people
- Aboriginal suicide rates are likely worse than the statistics indicate, because they typically do not include non-status Indians, Métis and Aboriginal People living off reserve

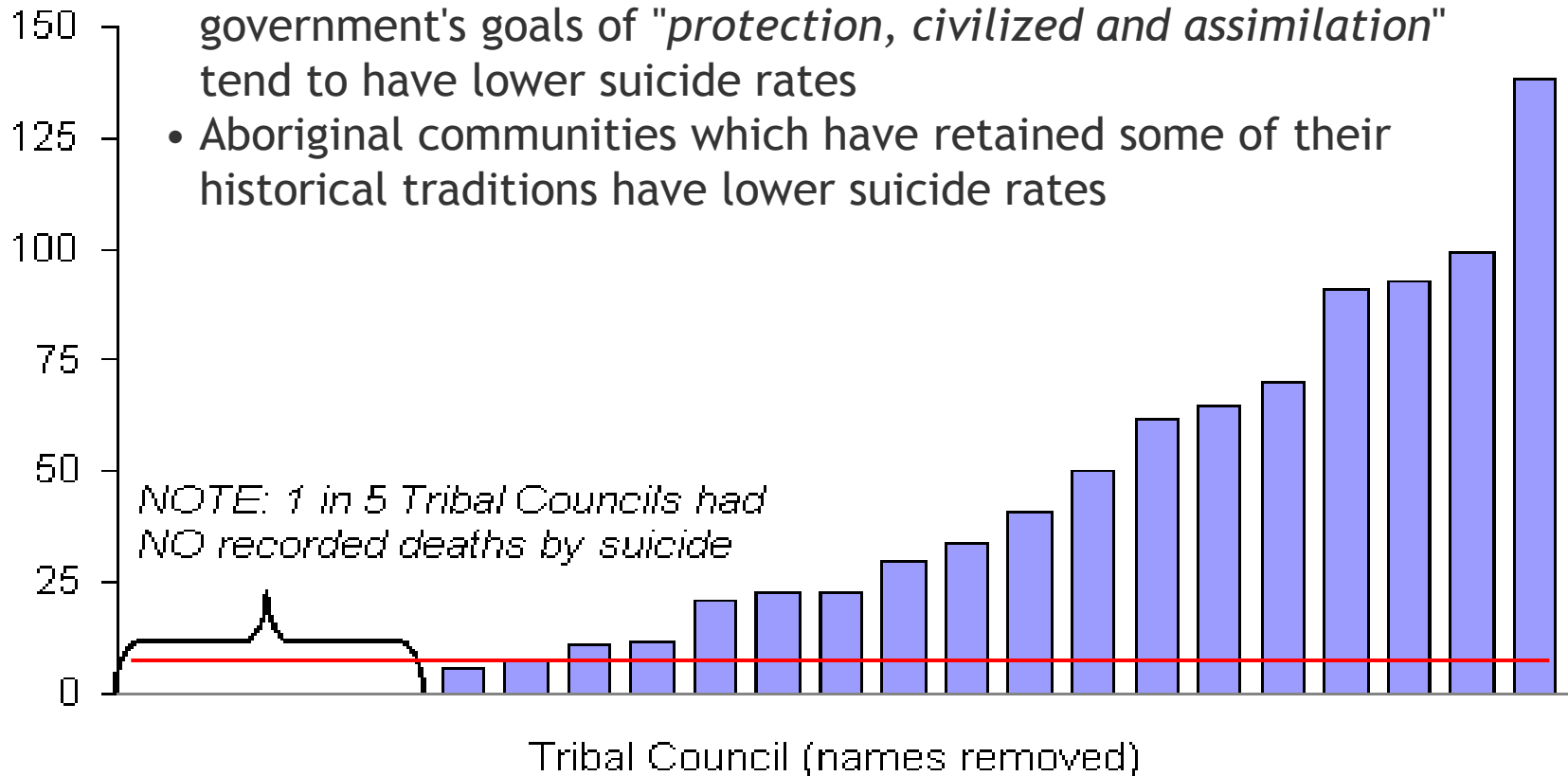




Suicide and Cultural Continuity

(Chandler MJ & Lalonde CE (1998). Cultural Continuity as a Hedge Against Suicide in Canada's First Nations. Transcultural Psychiatry, 35(2), 193-211)

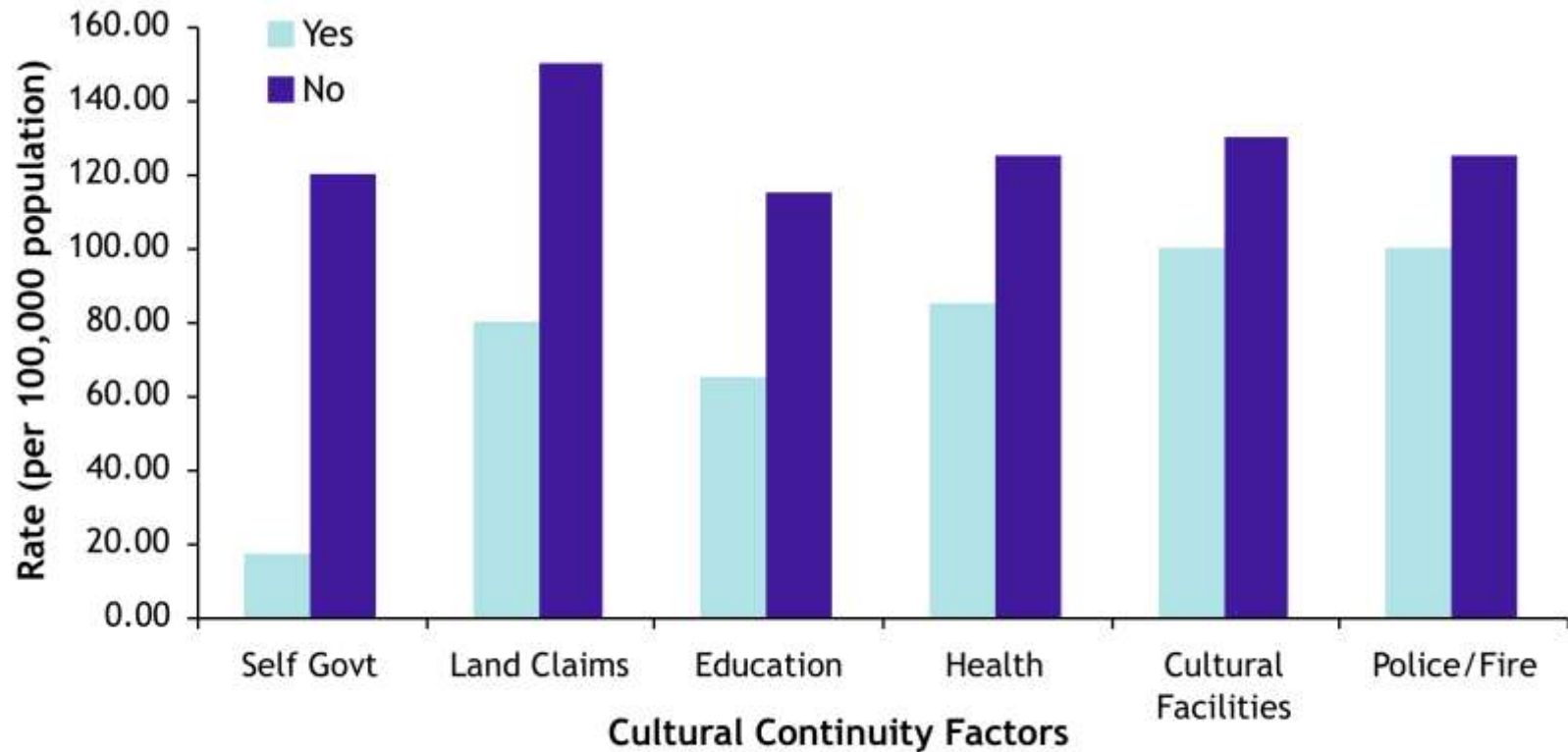
- However, many Aboriginal communities have suicide rates equal to or lower than the general population
- Communities which have been less seriously affected by the government's goals of "*protection, civilized and assimilation*" tend to have lower suicide rates
- Aboriginal communities which have retained some of their historical traditions have lower suicide rates





Suicide and Cultural Continuity

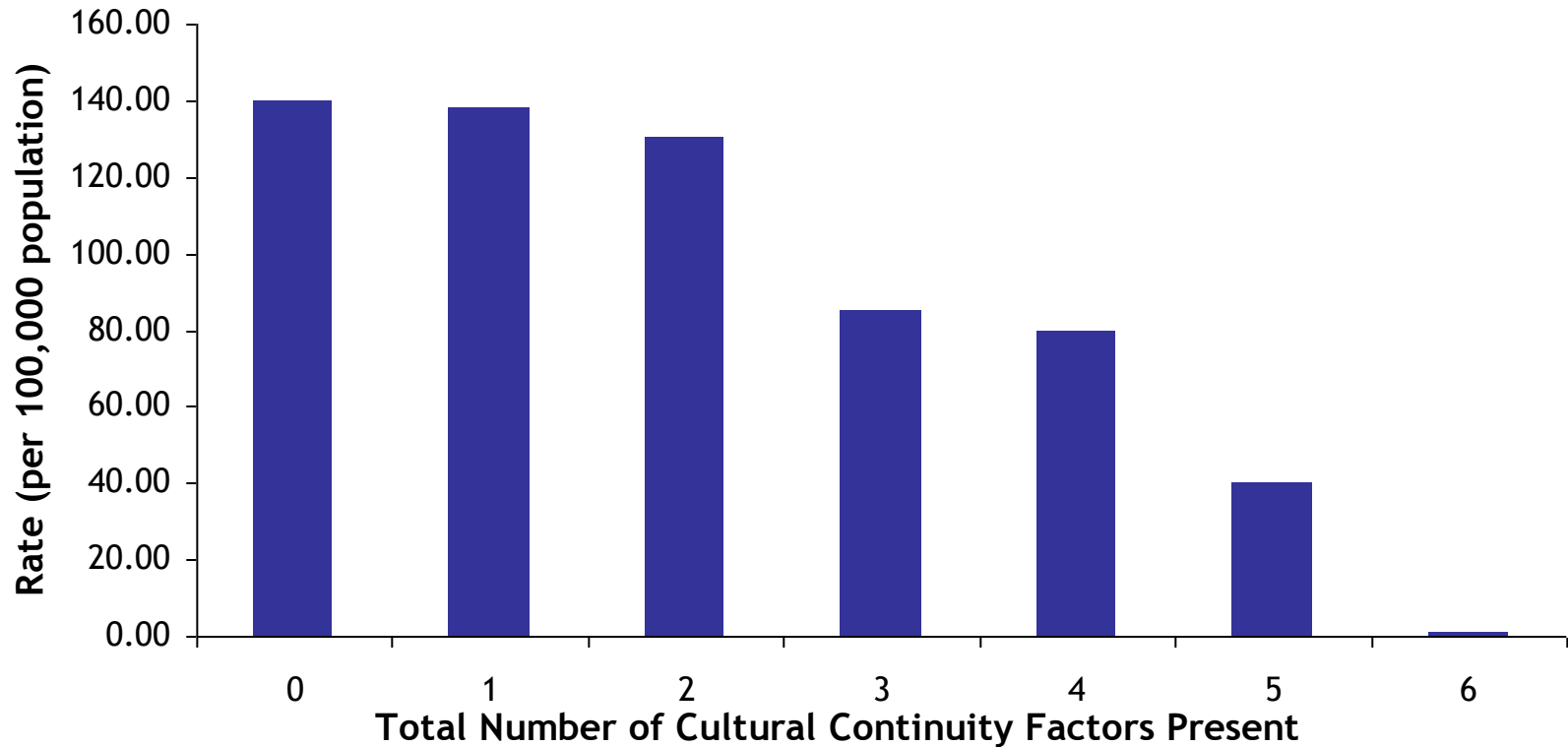
(Chandler MJ & Lalonde CE (1998). Cultural Continuity as a Hedge Against Suicide in Canada's First Nations. Transcultural Psychiatry, 35(2), 193-211)





Suicide and Cultural Continuity

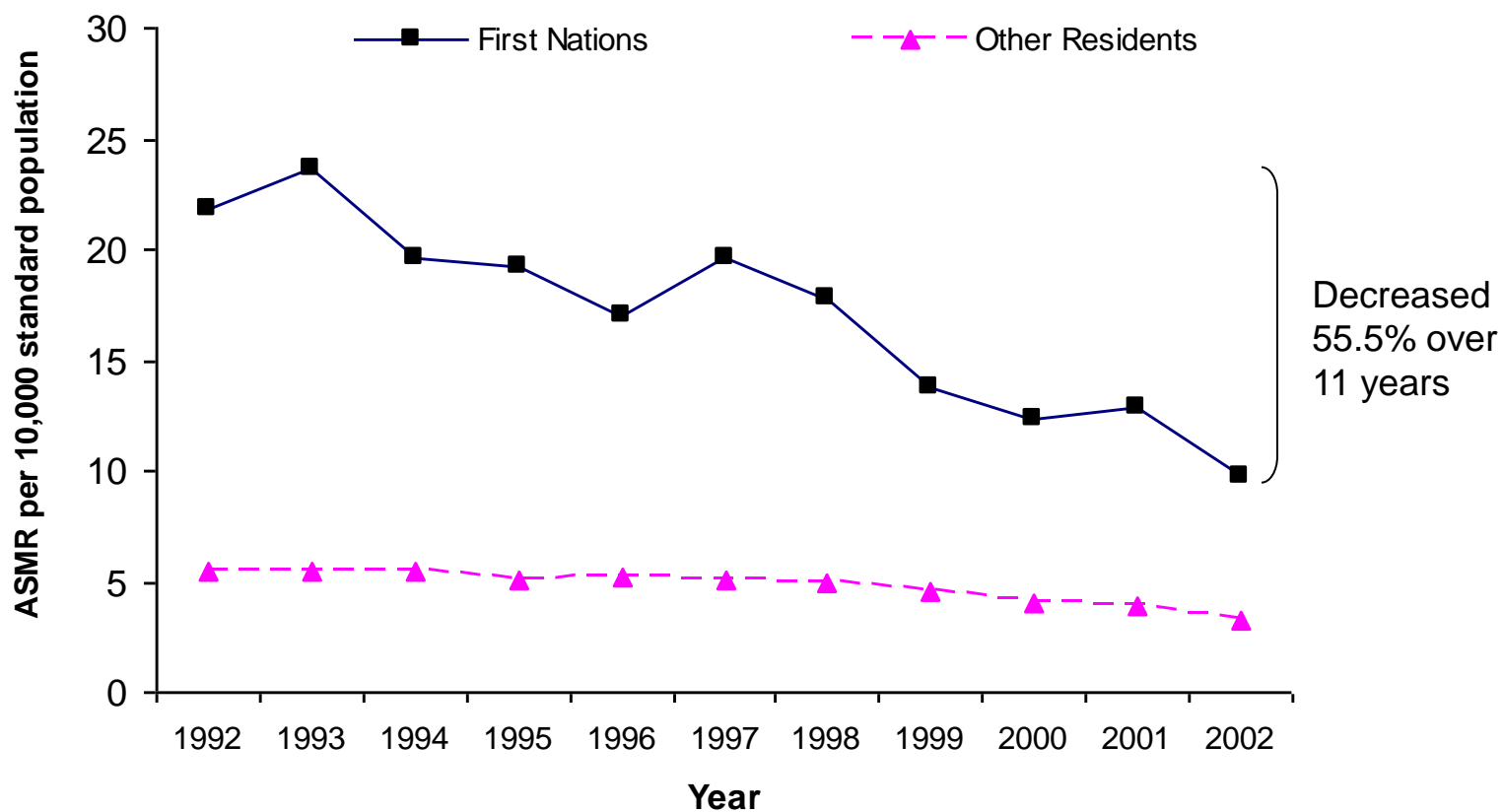
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There is Good News!

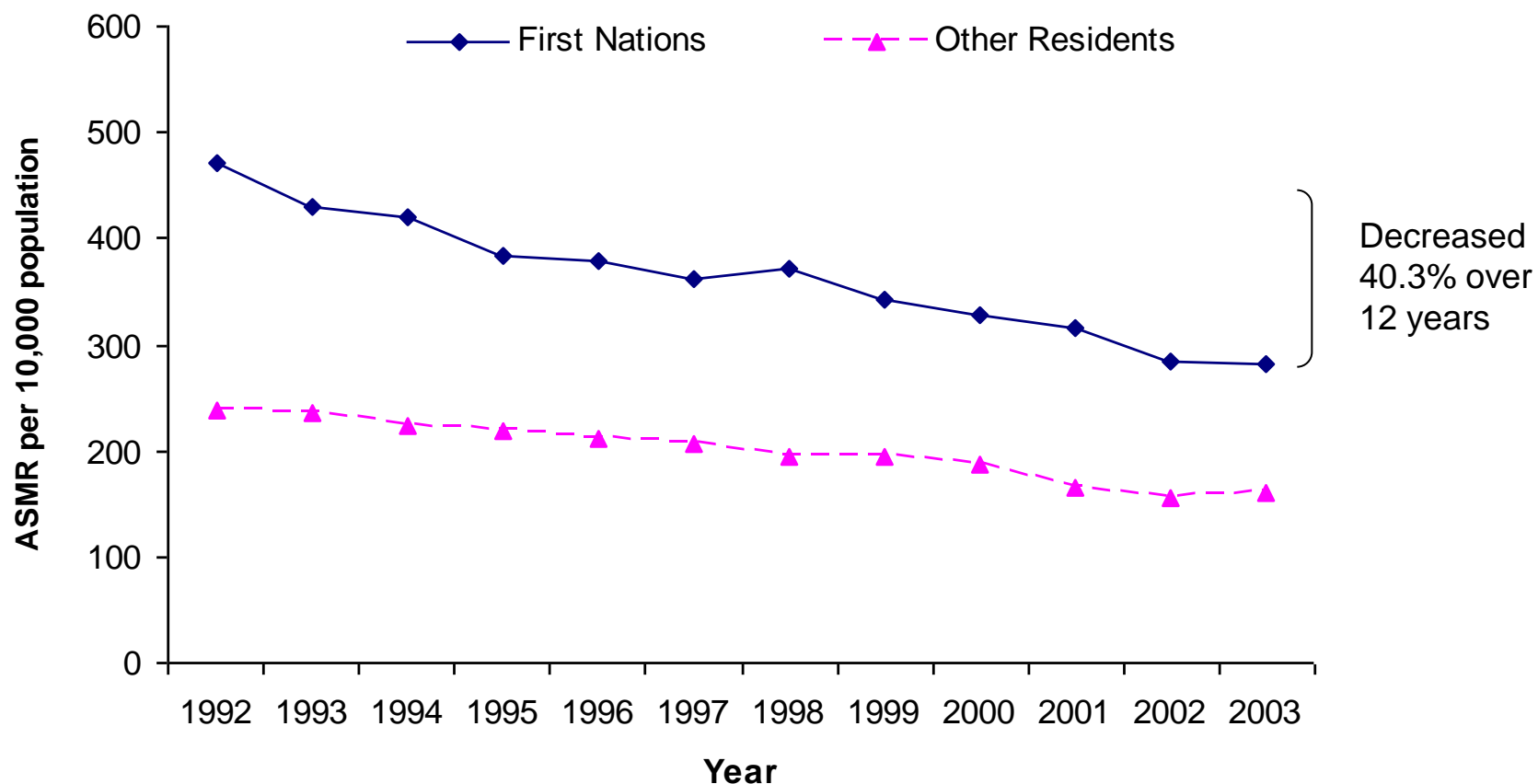
ASMR of injury deaths in BC, 1992-2002





There is Good News!

ASMR of injury hospitalization in BC, 1992-2003





2

Root Causes

Social determinants require social remedies and those social remedies have to come in the form of policy.

Dr. Jeff Reading



Root Causes

“Present-day Aboriginal hardship has its roots in a failed government policy which was aimed at assimilating Natives into the rest of society. The historical Native tribal society was to be dismantled; its subsistence-based economy was to be replaced by agriculture. But restrictions applied by the government guaranteed that the policy would fail, leaving Native communities without a method of supporting themselves.”

Coulthard, G. "Colonization, Indian policy, suicide and Aboriginal peoples,"
at: <http://www.ualberta.ca/~pimohte/>



Root causes of illness, disease, & injury

(National Collaborating Centre for Aboriginal Health)

Colonization affected:

- language
- culture
- land rights and
- self-determination

Resulting in:

- Poverty ▶
- Substandard housing and overcrowding ▶
- Inadequate water & sewer facilities ▶
- Barriers to education: one estimate states that 45% of all status Indians living on reserve are illiterate ▶





Socio-economic Factors and Injury

- Injuries are the *main source* of socio-economic disparities in overall mortality for children and youth (Mare, AMJPH 1982)
- Canadians in the *lowest income quintiles have 2.15 greater risk* of injury death than highest income quintiles (Birken CS et al. CMAJ 2006;175:867)
- *Children in lowest SES groups are more likely to die from injury* compared to highest SES groups (Edwards et al. BMJ 2006; 333:119)
 - 37.7 times more likely due to smoke, fire, flames
 - 27.5 times more likely as cyclists
 - 20.6 times more likely as pedestrians
 - 16.7 times more likely due to suffocation
 - 5.5 times more likely as car occupants



What Can We Do?

Injury Prevention is not for a day, a week, or a 10-week program; but for a lifetime.

If we think or say there is no solution, then we don't look for one.

First Nations Elder



What Can We Do?

We see a Canada where injury is understood to be predictable and preventable; where governments, business and non-profit leaders, and academics work together to ensure healthy public policy, enhance community capacity, support individual skills, and take all appropriate action to reduce the likelihood of injury and death.

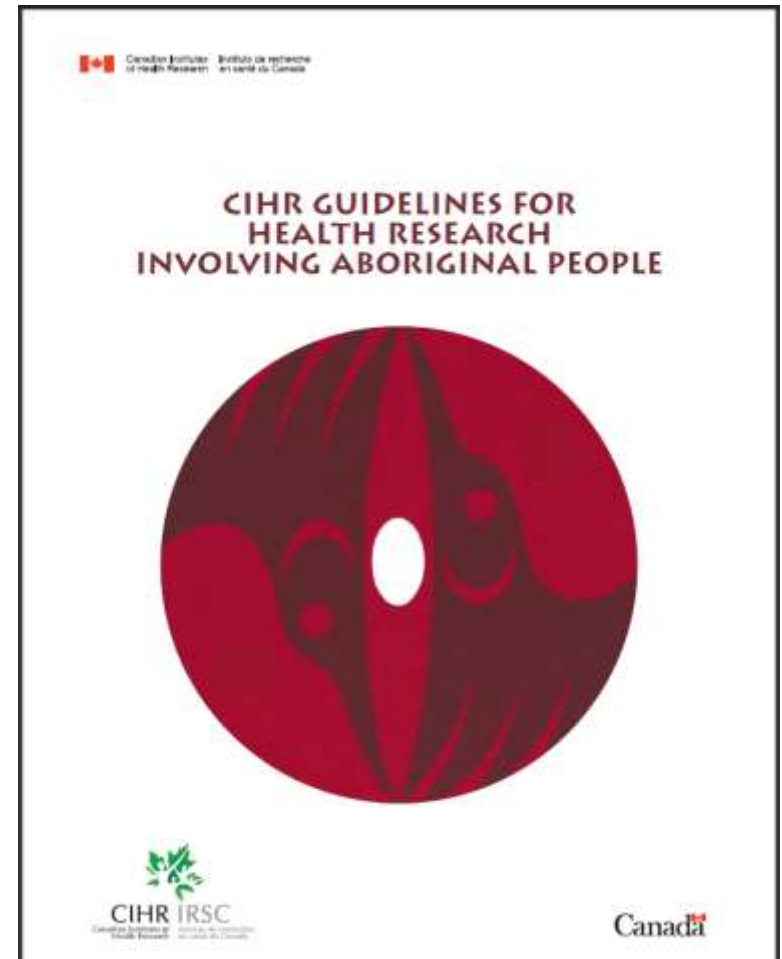
Injury Prevention Task Group

Vision without action is merely a dream



What Can We Do?

- Community Engagement
 - Trust, respect, humility, shared vision and goals
- Community Agreements
- Community Leadership, Ownership and Control (OCAP)





The Evidence - Motor Vehicle Crash Injury Reduction (MMWR, 1992)

Members of the Navajo Nation

- Campaign with tribal leaders
- Enactment of a primary enforcement safety belt law
- Public information campaign about the new law
- Enforcement of the new law

Outcomes:

- **Safety belt use:** Increased from 14% to 60%
- **Motor vehicle crash hospitalization rates:**
- Decreased by 46% (females) and 14% (males)
- Decreased overall by 28.5%





The Evidence - Motor Vehicle Crash Injury Reduction (Phelan, 2002)

Children aged 0-19 years from the Navajo Nation

- 1988 - enactment of primary safety belt laws and a child restraint law
- 1990 - enforcement of laws and area-wide campaigns

Decreased hospitalization rates for motor vehicle injury per 100,000

- 62.2 to 28.0 - ages 0-4 years*
- 55.3 to 26.0 - ages 5-11 years*
- 139.0 to 68.0 - ages 12-19 years*
- 81.7 to 41.3 - ages < 20 years*

(* = $p \leq 0.0001$)





The Evidence - Child Passenger Safety

(Jones-Keeshig, 2012)

- Ontario First Nations *Injury Prevention Strategy, Action Plan and Business Case for program resources*
- **Securing Our Future - Ontario First Nations Child Car Restraint Project** - the first project to be implemented
 - Children are perceived as sacred, a blessing of new life, the promise of hope and the future
- 5 Community Demonstration Sites
- 10-15 families with children 0-8 years of age
- 9 Community Demonstration Site Facilitators trained
 - certified Car Seat Technicians
 - research, evaluation and ethics
- **Goal - Reduce the occurrence of injuries & fatalities among First Nations children in automobile collisions**

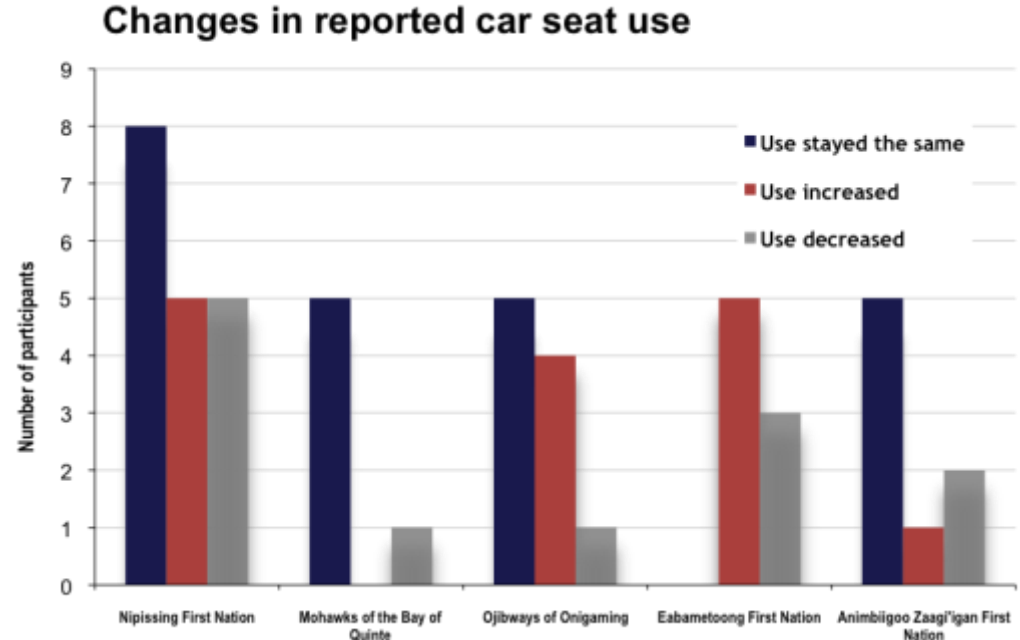




The Evidence - Child Passenger Safety

(Jones-Keeshig, 2012)

- Increase in child passenger safety and child car restraint knowledge
- Increase in frequency of child car seats and tether straps use
- Knowledge was not related to years of formal education
- Recommendation to establish partnerships with automobile manufacturers and auto service companies to facilitate the provision and installation of anchors in older vehicles





The Evidence - Alcohol-Related Injury Reduction (Landen, 1997)



Alaskans aged 15 yr and older who resided in remote villages of fewer than 1000 persons

- Compared restrictive (“dry community”) and non-restrictive (“wet community”) alcohol laws in 150 study villages

Injury mortality rate among Native Alaskans:

- Injury rate ratio of 1.6 for wet communities (95% confidence intervals [CI], 1.3-2.1)

Alcohol-related injury deaths among Native Alaskans:

- Injury rate ratio of 2.7 for wet communities (95% confidence intervals [CI], 1.9-3.8)



The Evidence - Suicide & Violence Prevention Programming (Fox, 1984)

Residents of Manitoulin Island Indian Reserve

- **Alcohol recovery:** inclusion of family members within program
- **Community feasts:** entertainment & tradition - no alcohol
- **Youth service programs:** youth babysitting training, community clean up
- **Youth Self-esteem:** school education program by school counsellors
- **Organized mental health improvement strategies**





The Evidence - Suicide & Violence Prevention Programming (Fox, 1984)

Suicide:

- The rate in 1971-1974 was 267 per 100,000 population
- The rate in 1976-1980 was 26.7 per 100,000 population

Violent deaths:

- The rate in 1965-1970 was 89 per 100,000 population (n=16)
- The rate in 1971-1975 was 253 per 100,000 population (n=38)
- The rate in 1976-1980 was 127 per 100,000 population (n=19)

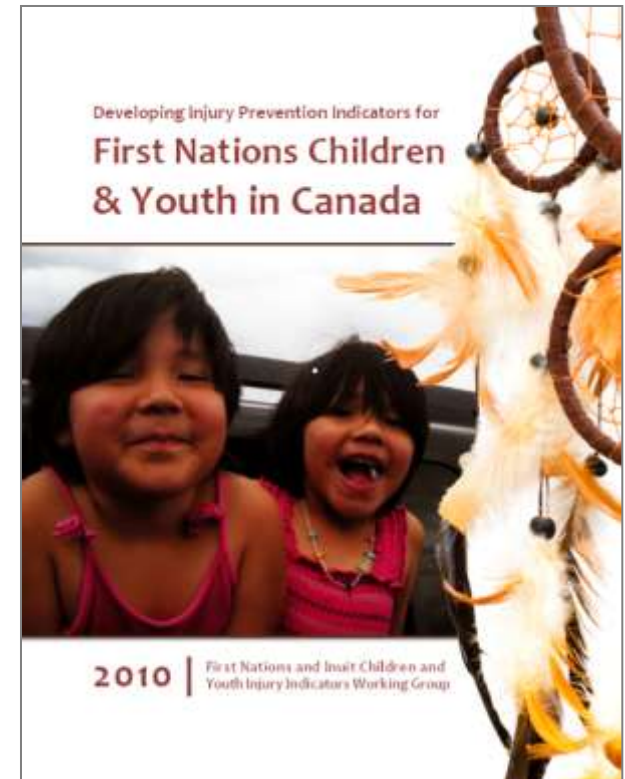
Suicide attempts:

- From 1975 to 1981, the rate decreased from 1170 to 430 per 100,000 population



Example: Injury Indicators for First Nations Children and Youth

- First Nations Child and Youth Injury Indicators Technical Report
- Journal article - First Nations Injury Indicators for Children and Youth
- Released at the AFN RHS Conference, Summer, 2011





Example: The Voices of First Nations and Inuit Children and Youth

Objectives:

1. Enable communities to conduct injury data gathering
2. Support communities to take action to reduce injury
3. Meet community needs with regards to all methods and procedures
4. Decrease injury burden, increase capacity, increase safety within the population health framework (holistic approach)





What Can We Do?

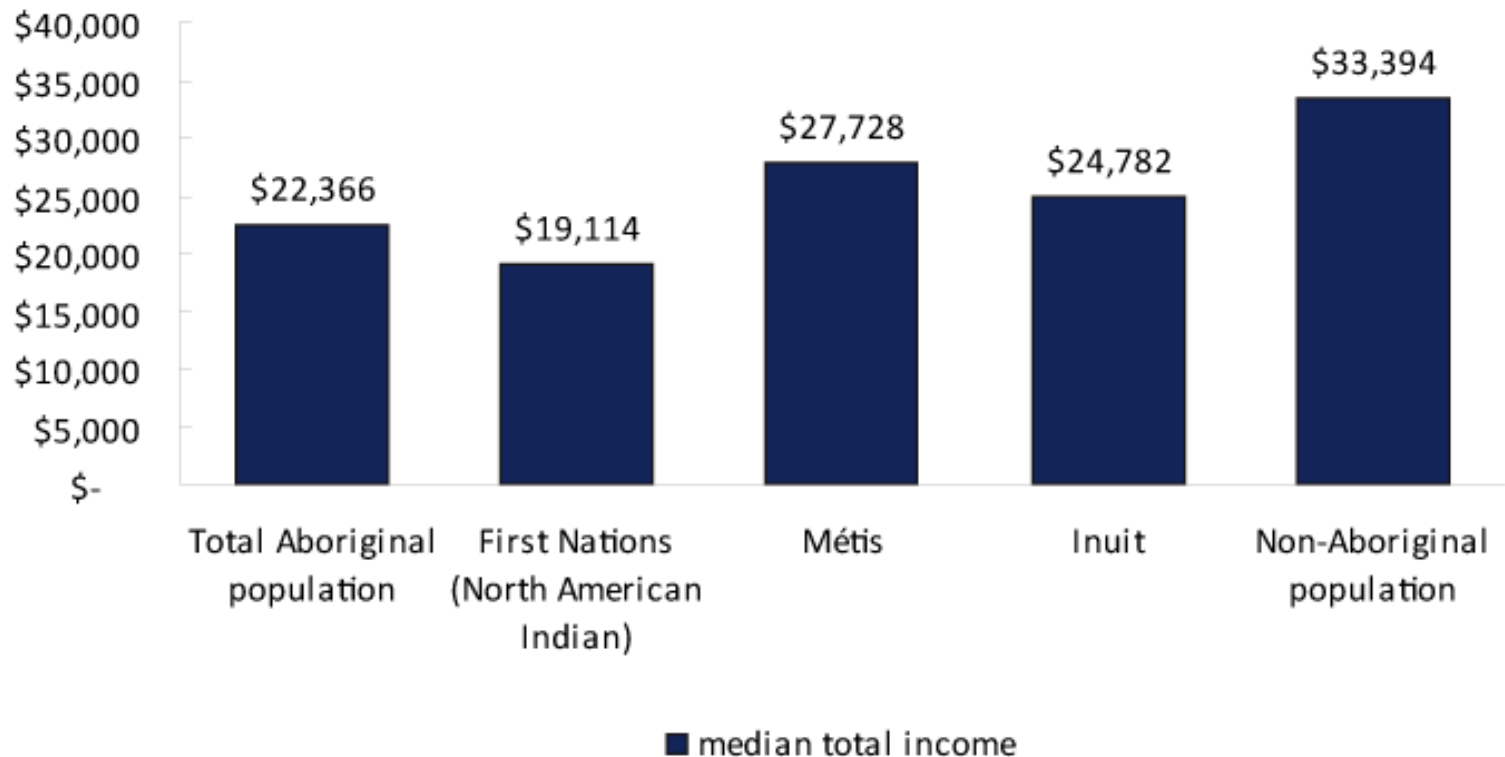
- Share generously
 - Offer all of our knowledge, experience and wisdom
- Listen carefully
 - Obtain information, understand, learn, enjoy
- Think creatively and strategically
 - Creativity is the most important human resource of all. Without it, there would be no progress
- Be open to possibilities and opportunities
 - Look for alignment of vision and mission
- Seek to understand
 - Asking questions is OK and welcomed
- Remember why we are all here
 - Reduce injury death and disability, and the loss of potential among all Canadians



Thank you!
Questions



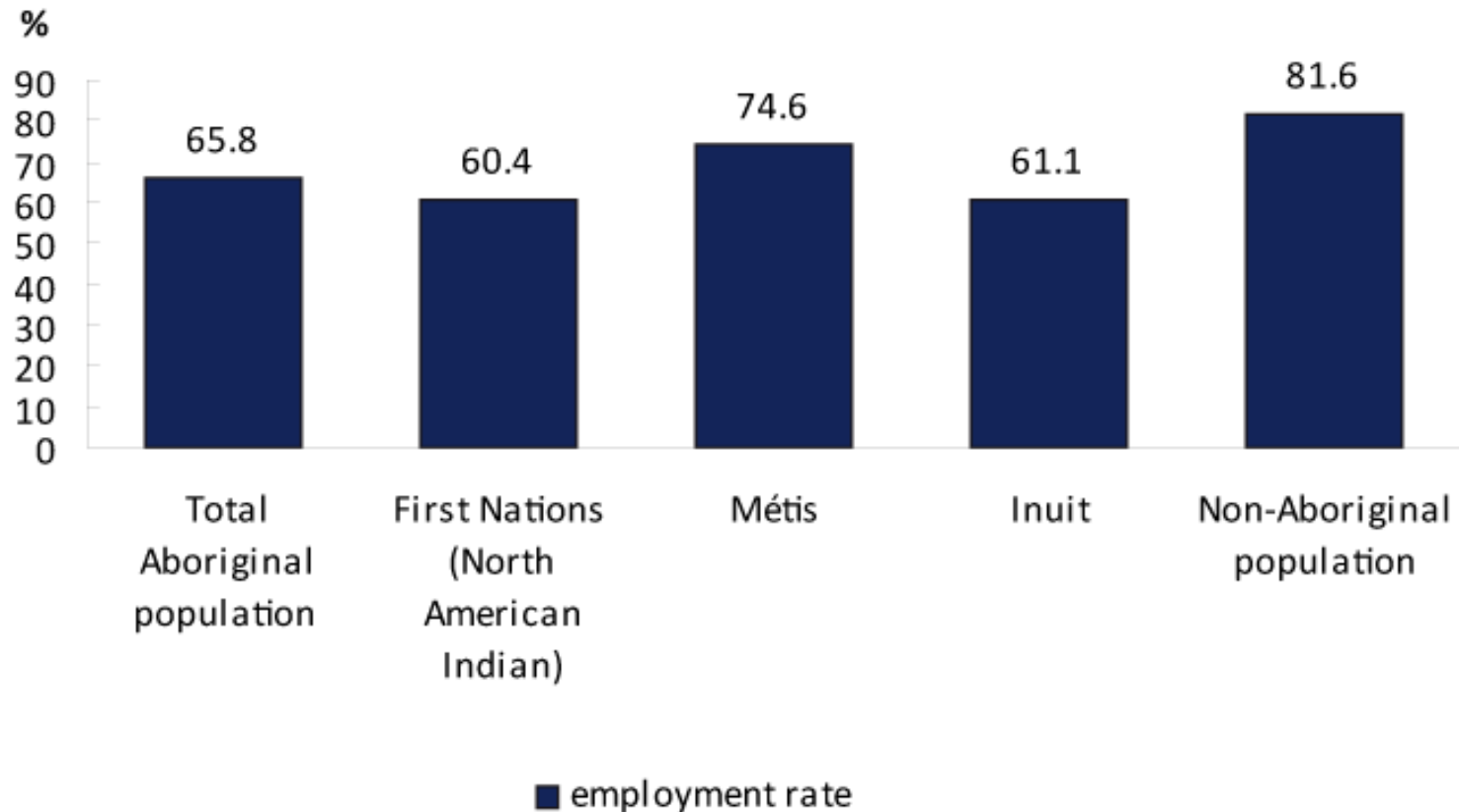
Median total income in 2005 by Aboriginal identity, population aged 25 to 54



Source: Statistics Canada, Census of Population, 2006.



Employment rate by Aboriginal identity, population aged 25 to 54, 2006

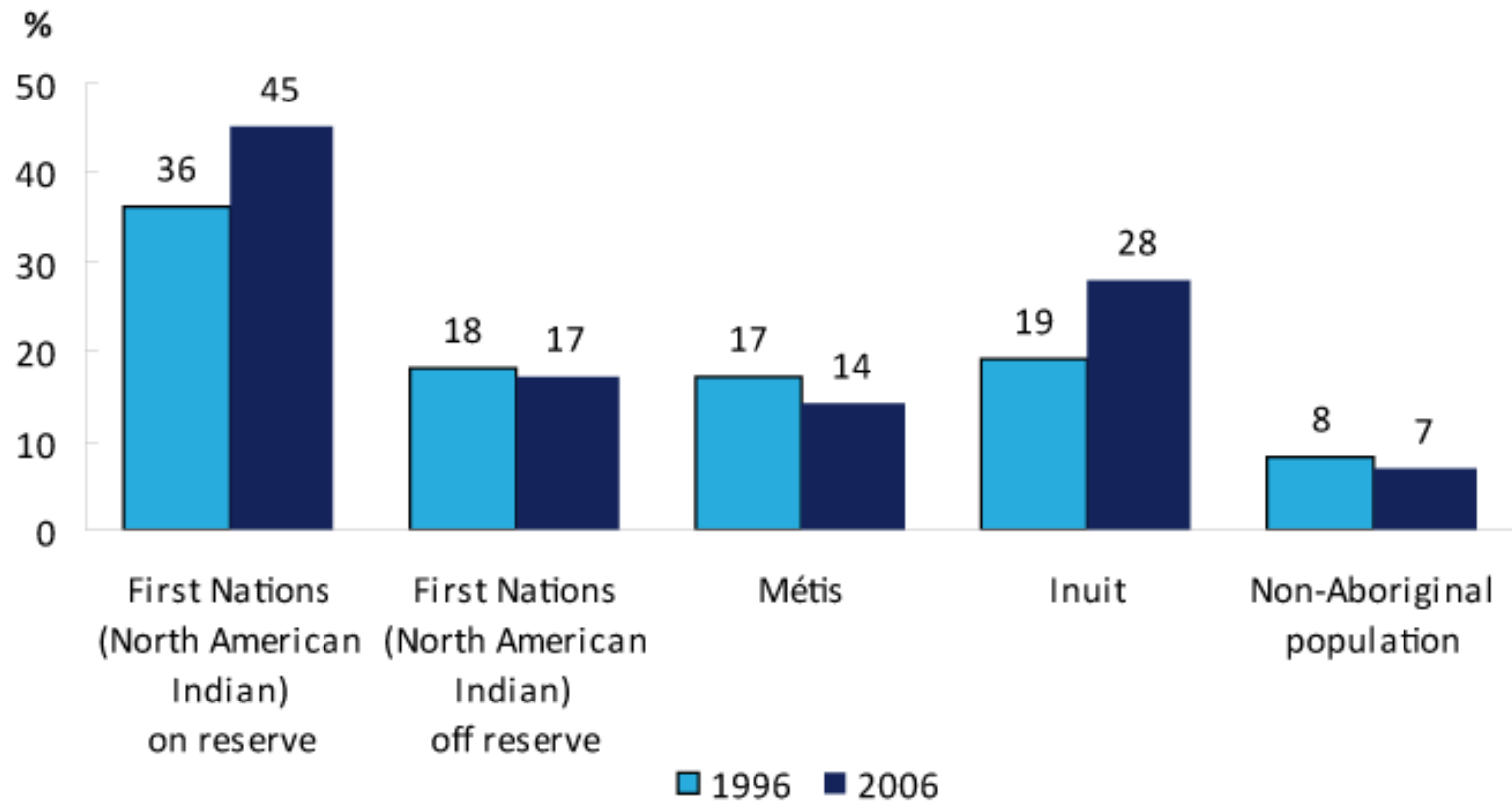


Source: Statistics Canada, Census of Population, 2006.





Proportion of dwellings in need of major repairs by Aboriginal identity



Source: Statistics Canada, Censuses of Population, 1996 and 2006.



Drinking Water Advisories

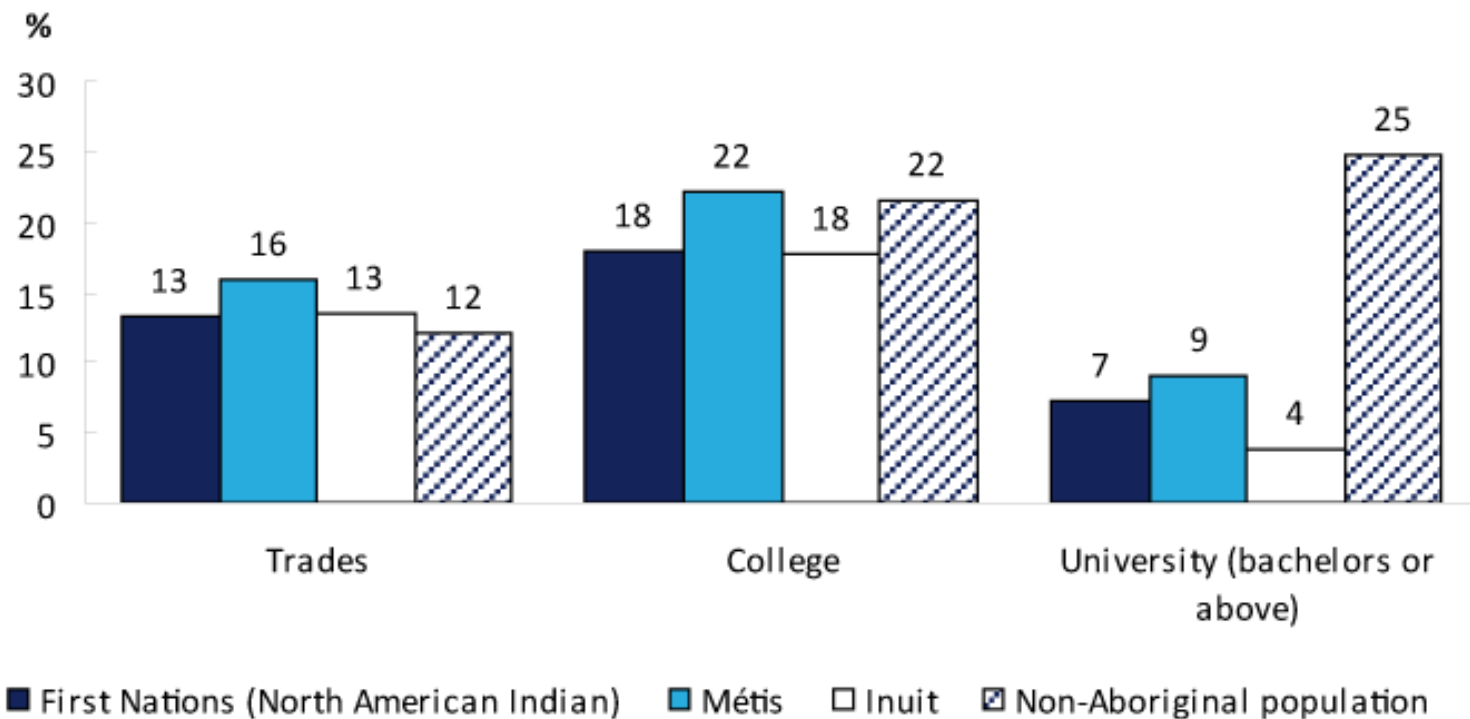


- About 15% of advisories are lifted in any given year
- 85% of advisories continue into the year(s) following the year in which the advisories were set
- Between 1995 and 2007, a total of 162 advisories had been in effect for longer than one year
- As of **October 31, 2010**, there were **116 First Nations communities** across Canada under a Drinking Water Advisory

http://www.hc-sc.gc.ca/fniah-spnia/alt_formats/pdf/pubs/promotion/enviro/2009_water-qualit-eau-canada/2009_water-qualit-eau-canada-eng.pdf



Postsecondary educational attainment by Aboriginal identity, population aged 25-54



Source: Statistics Canada, census of population, 2006.

