

# Injury Indicators for Children & Youth in Canada



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Atlantic Collaborative on Injury Prevention  
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# Acknowledgements

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Safe Kids Canada

SmartRisk Foundation

Canadian Collaborating  
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Public Health Agency of  
Canada

Canadian Institute for Health  
Information

Trauma Association of Canada

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# Overview of this Presentation

1. To review the development of Injury Indicators for Canadian Children and Youth
2. To obtain input on the look, feel and function of a Canadian Child and Youth Injury Indicators Dashboard





# Background

- Effective prevention and control of injuries requires a system of surveillance (Health Canada, 2003)
- *Listening for Direction on Injury* (2004) identified injury surveillance, capacity-building, and networking as national priorities
  - A set of national injury indicators that reflect and monitor identified prevention priorities





# Context

- Injuries are the leading cause of death among Canadian children, youth and young adults, ages 1 to 34 years

(Statistics Canada, accessed 2009)

- Each year in Canada, 25,500 children are hospitalized—and nearly 400 die—because of unintentional injury

(Safe Kids Canada, 2006)

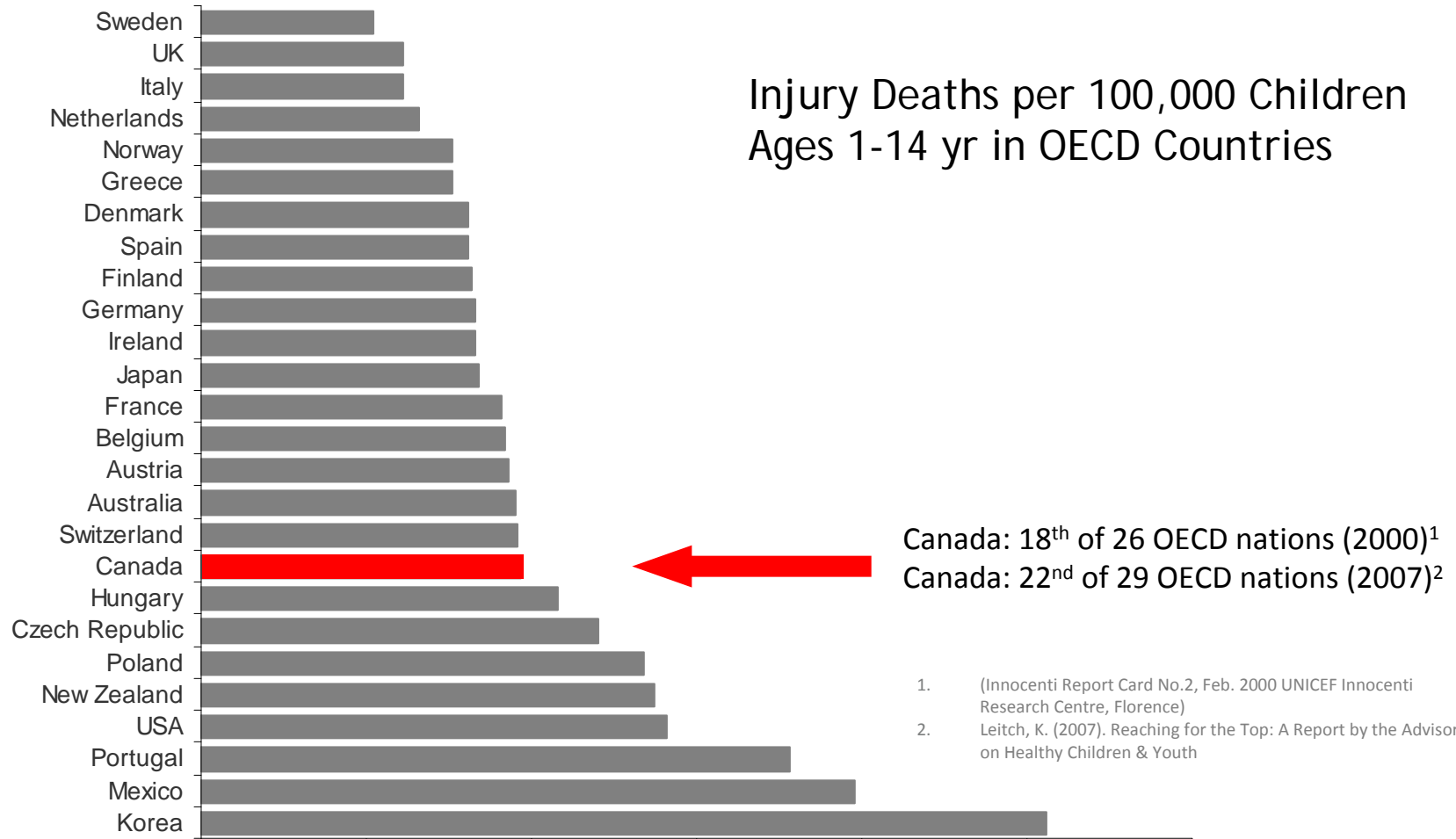
- In 2004, injuries cost approximately \$19.6 billion dollars in Canada, of which the cost of injuries to children and youth is estimated to be \$5.1B

(SMARTRISK, 2005)





# Canada is Lagging Behind





# Purpose of the Project

- Form a multidisciplinary team/network and expert panels
- Establish national and international linkages
- Strengthen Canadian injury research and surveillance through capacity-building
- Establish national injury indicators within each of five domains
- Future applications to granting agencies





# What is an Injury Indicator?

## Definition:

- An injury indicator is a **summary measure** that denotes or reflects, directly or indirectly, variations and trends in injuries, or injury-related or injury control-related phenomena

(Cryer, et al., 2004)

- Indicators are **succinct summary measures** that describe as much about a system as possible

(Pencheon, 2008)

- Injury indicators provide a **clear signal** and help us understand what is happening; they allow us to **compare** the injury situation between groups and places, and over time
- Indicators are more than measures and signals; they must also **drive decision and action** (i.e. they inform policy, practice and research)





# Indicators are Like a Dashboard

- Car Dashboard has several indicators that are measures that tell you your speed, how much gas you have, engine temp., what gear you are in, engine revs., etc.



Ready reference – easily understood ?

Clear signal ?

Prompt action ?

Monitor the situation and any changes ?



There are hundreds of indicators - What ones are most useful?





# Criteria for Selection

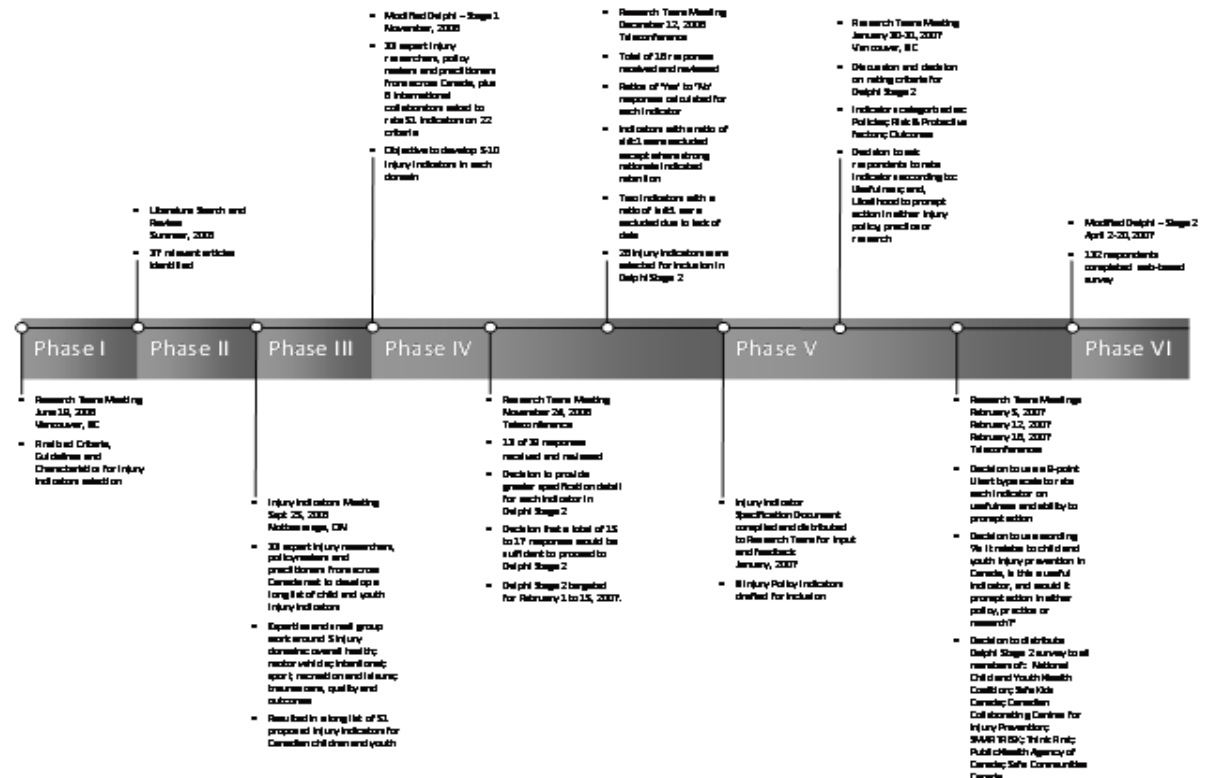
- Evidence-based, underpinned by research
- Significant burden to society, the family and the individual
- Representative of significant population groups
- Data availability
- Topic amenable to effective action
- Understandable to broad audience
- Regularity and repeatability to enable trend analysis





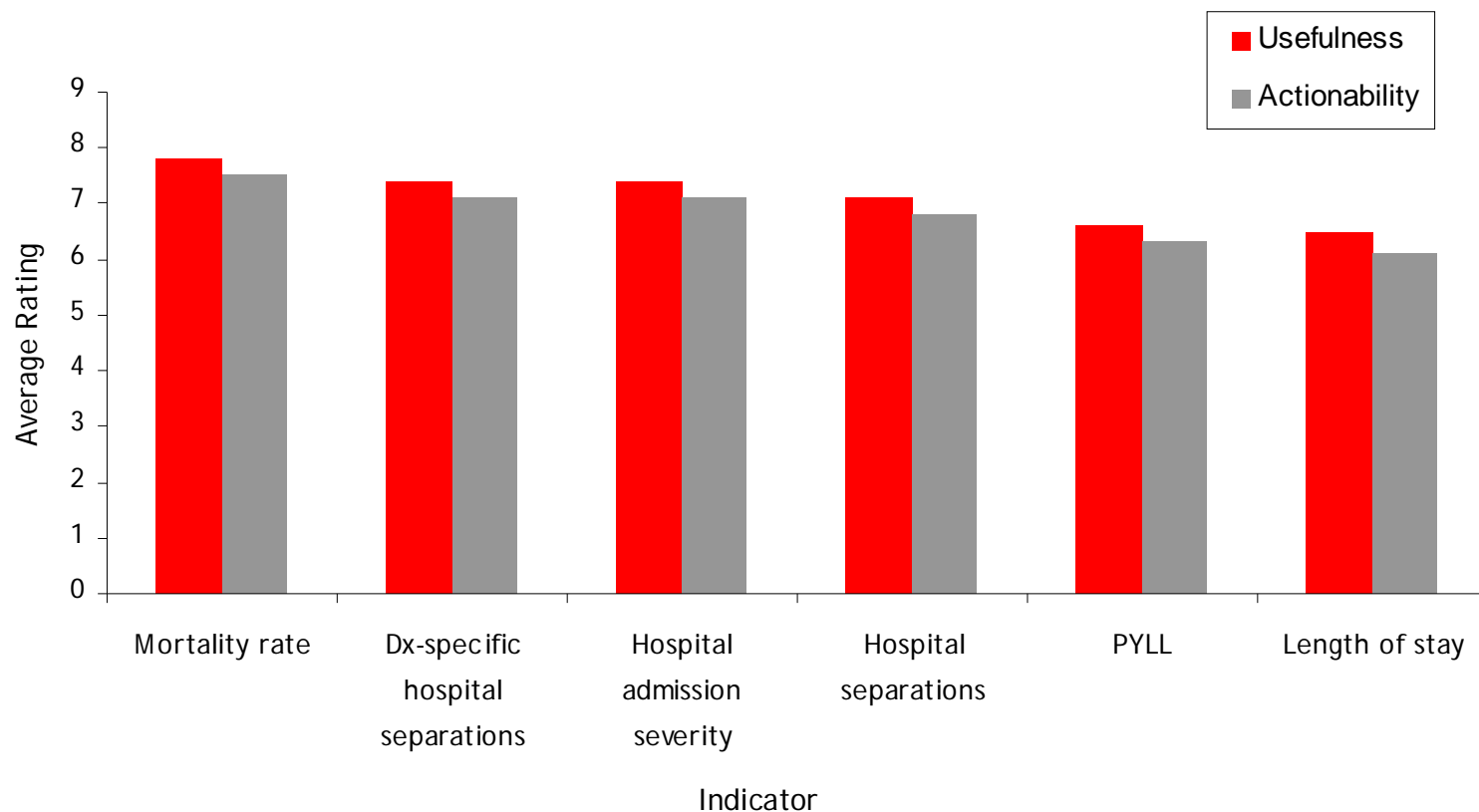
# Methods

- **Phase I:** Defining Criteria and Establishing Domains
- **Phase II:** Literature Review
- **Phase III:** Selection of existing indicators and creation of new ones: Expert panel meeting
- **Phase IV:** Modified-Delphi Process – Stage 1: Expert input
- **Phase V:** Specification of Indicators
- **Phase VI:** Modified-Delphi Process – Stage 2: Broader input through survey



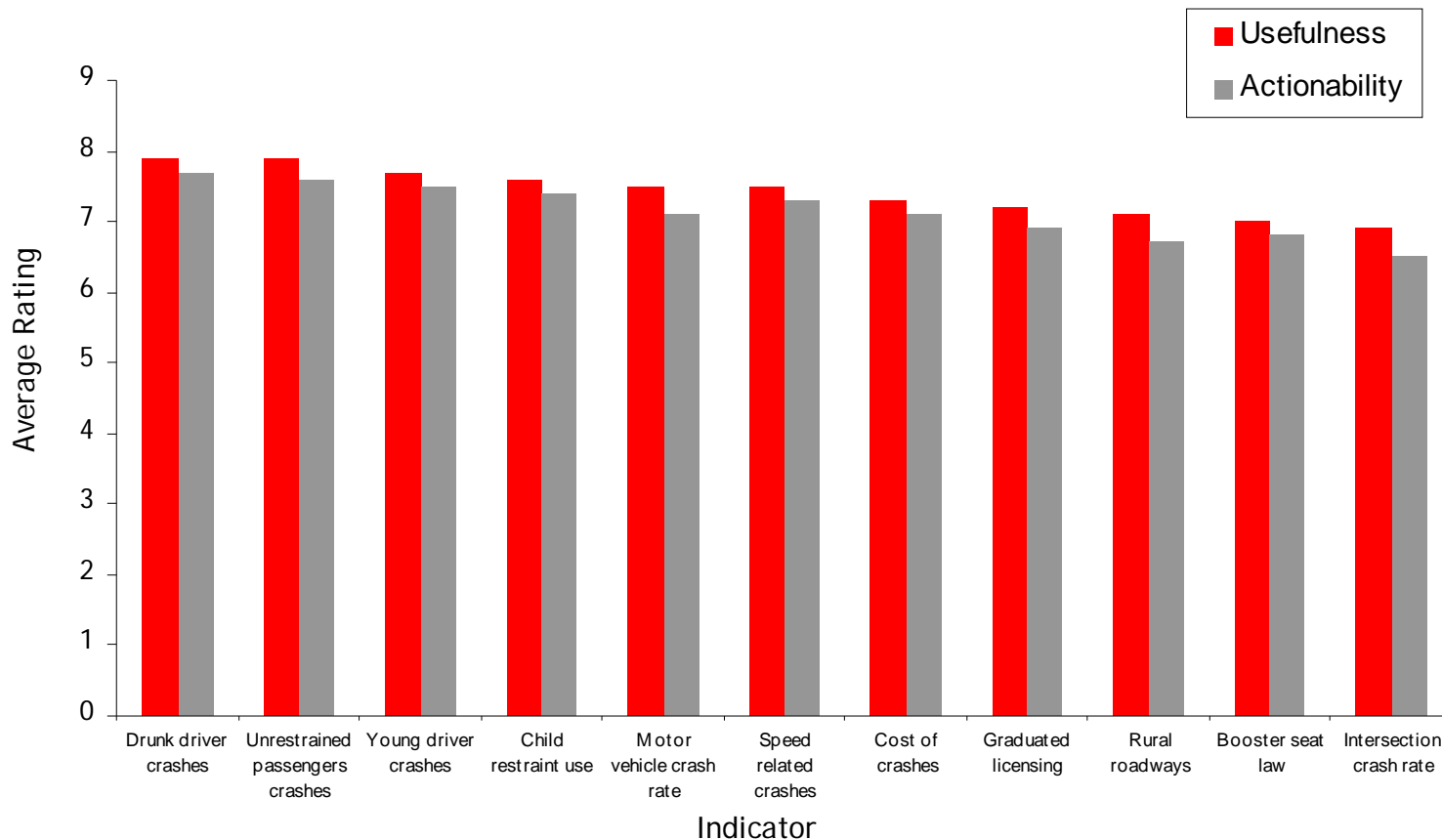


# Results: Overall Indicators rating



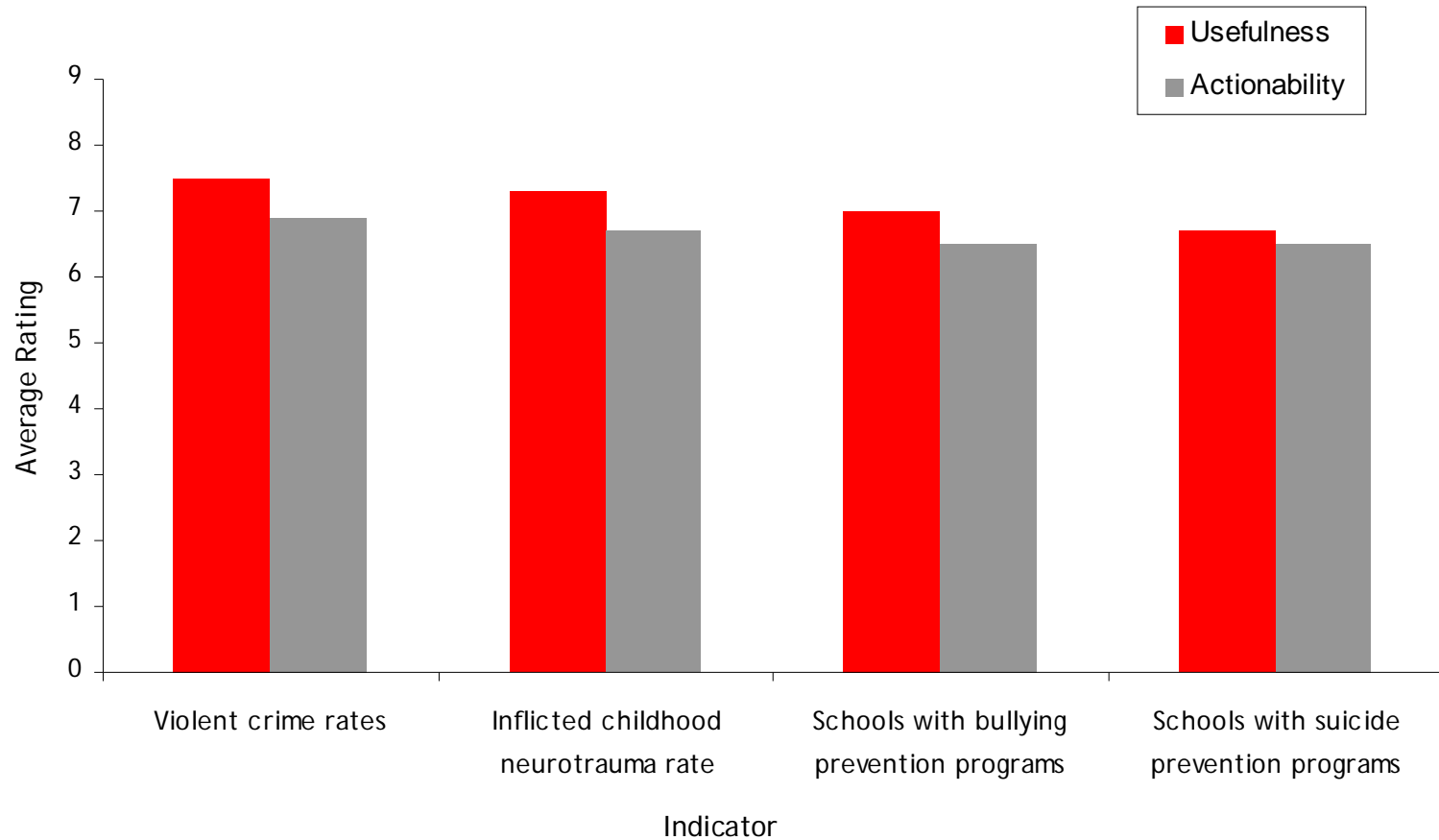


# Results: Motor Vehicle Indicators rating



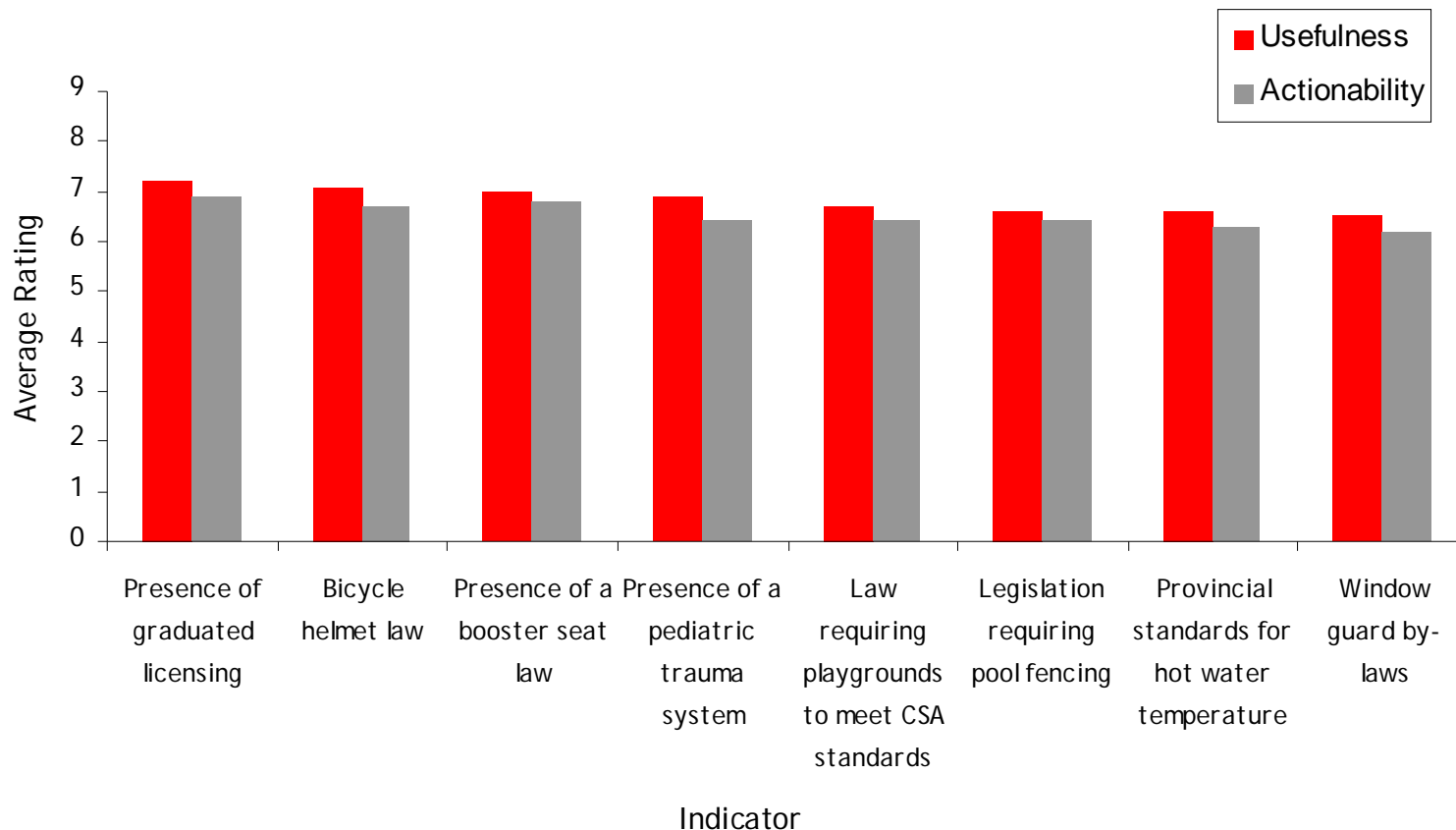


# Results: Violence Indicators rating





# Results: Policy Indicators rating







# Results: Summary

- From the initial list of 51 indicators, a refined list of 34 indicators was established ▶
- Indicators were grouped into Policy Indicators, Risk Factor Indicators, and Outcome indicators
- In general, indicators related to motor vehicle crashes and overall injury indicators ranked the highest
- Indicators related to violence and trauma care were ranked somewhat lower for usefulness and ability to prompt action





# Conclusions

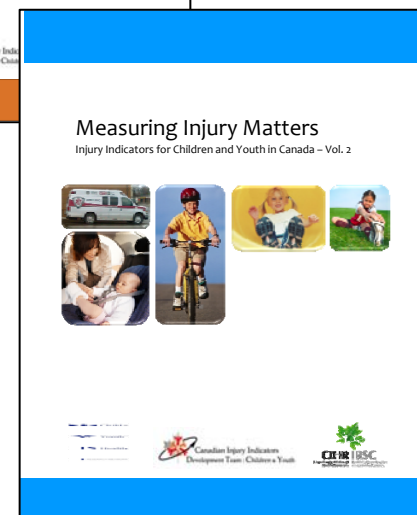
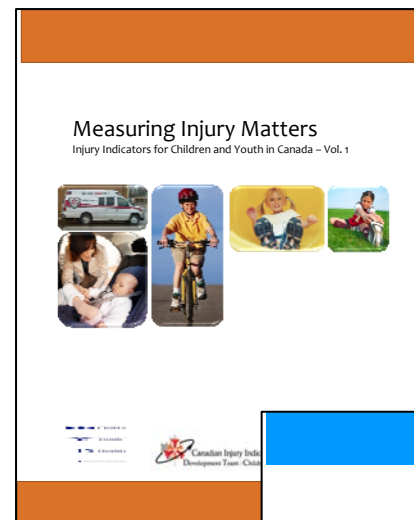


1. A broad-based modified Delphi method can be used to generate useful and actionable child and youth injury indicators
2. All 34 indicators were considered useful. This suggests that the modified Delphi approach was successful in highlighting indicators that will track the progress of injuries in Canadian children and youth.



# Knowledge Translation

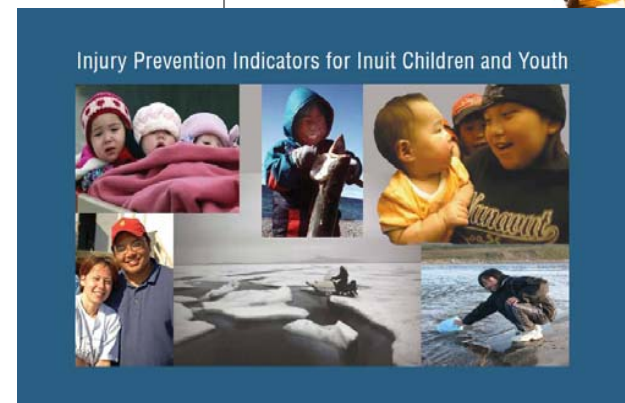
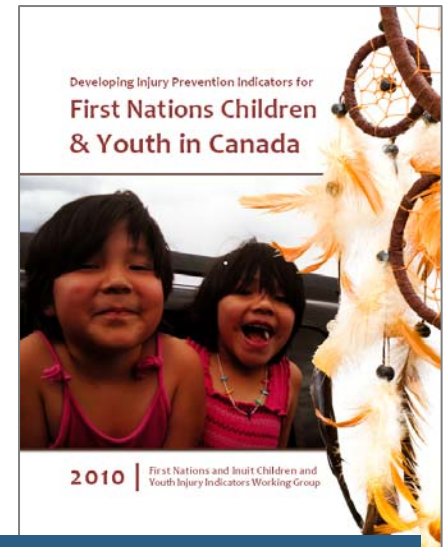
- Journal article - in press: *Injury Prevention*
- Conference presentations
- *Measuring Injury Matters* 2 Volume Technical Report
- Develop Injury Indicator dashboards and information portals
- Workshops and meetings

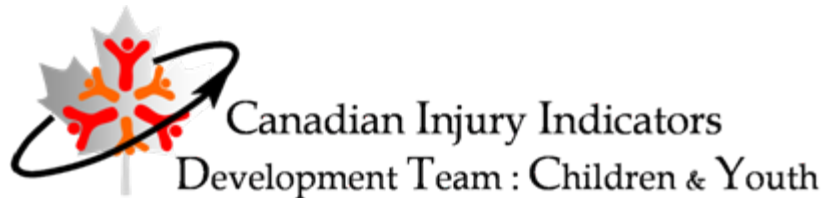




# Next Steps

- First Nations and Inuit Child and Youth Injury Indicators Technical Reports
- French Translation of *Measuring Injury Matters*
- French and Inuktitut translations of First Nations and Inuit Reports
- Journal article - First Nations and Inuit Injury Indicators for Children and Youth
- Conference presentations
- Injury Indicator dashboards and information portals
- Workshops and meetings





# Injury Indicators for Children & Youth in Canada: Developing an Indicators Dashboard



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# Developing a Dashboard

- What does an injury dashboard look like?
  - What information does it provide?
  - How does it work?
  - Where is it located / How do you access it?
- 
- At your tables work together to design an injury indicators dashboard. Please provide a design mock up and a list of the key points related to the look, function, feel and location of the dashboard



# Developing a Dashboard

## First Nations and Inuit Child & Youth Injury Dashboard

### Indicators Measured Across All Injury Areas

5-year average	Indicator	Current Year
	Mortality Rate	
	Number of Hospitalizations	
	Self-reported Alcohol Use	

### Community Training/Response System

5-year average	Indicator	Current Year
	Proportion of Community Members with Injury Prevention Training	
	Presence of a Community Emergency Preparedness Plan	
	Availability of Community Fire & Ambulance Services	

### Animal Bites

5-year average	Indicator	Current Year
	Rate of Dog Bite and Mauling Injuries	
	Number of Communities with Animal Control Services	

### Hypothermia/Frostbite

5-year average	Indicator	Current Year
	Rate of Hypothermia or Frostbite Cases	

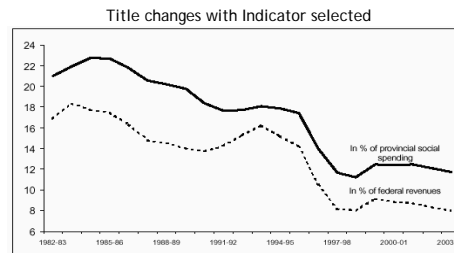
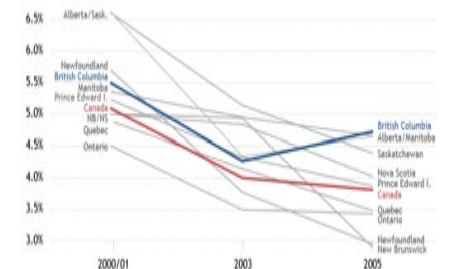
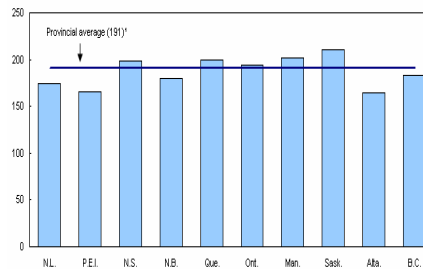
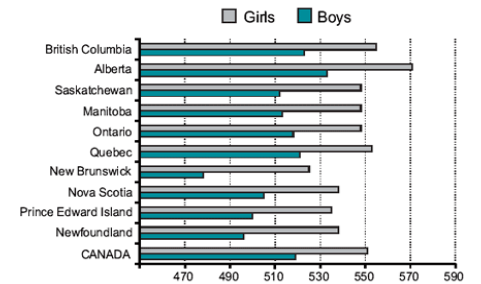
### Violent/Inflicted Injury

5-year average	Indicator	Current Year
	Rate of Police Response to Calls and Charges Related to Specific Causes	
	Proportion of Self-reported Burns and Circumstantial Details	
	Location of Self-reported Falls	

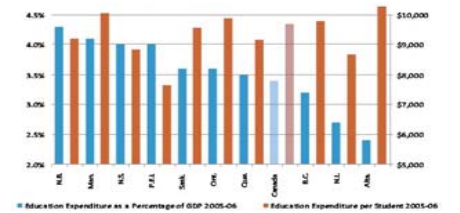
### Drowning

5-year average	Indicator	Current Year
	Availability of Emergency Response Teams	
	Number of Communities with Access to Water Safety Education/Programs	
	Number of Drowning Cases in each Type of Water Type (pool, bath, lake, etc.)	

(Data as of March 31, 2008)



Title changes with Indicator selected





# Injury Indicators for Children and Youth

<b>All Domains Indicators</b>	Mortality Rate
	Years of Life Lost
	Hospital Separations Rate
<b>Overall Health Service Implications Indicators</b>	Diagnosis-Specific Hospital Separations
	Hospital Admission, Injury Severity 1
	Hospital Admission, Injury Severity 2
	Length of Stay in Hospital
<b>Motor Vehicle Injury Indicators</b>	Cost of Motor Vehicle Injuries
	Crash Rate
	Intersection Crash Rate
	Rural Roadways
	Drunk Driving
	Speed
	Young Drivers
	Graduated Driver Licensing
	Child Restraints
	Unrestrained Injuries
	Child Restraint Laws

<b>Sport, Recreation, and Leisure Injury Indicators</b>	Bicycle Helmet Laws
	Cost of Sport and Recreation Injuries
	Percentage of Sport Specific Injuries (Participation Rates)
	Requirements that Playgrounds Meet CSA Standards
	Legislation Requiring Pool Fencing
<b>Other Policy Indicators</b>	Window Guard By-law
	Provincial Stand for Hot Water Tap Temp
	Violent Crime Rate
	Inflicted Childhood Neurotrauma Rate
	Suicide Prevention
	Anti-Violence/Anti-Bullying Policies
<b>Trauma Care, Quality and Outcomes Indicators</b>	Access to Pediatric Level I Trauma Care/Centre (PTC)
	Appropriate Use of Pediatric Level I Trauma Care/Centre (PTC)
	Quality of Trauma System
	Pre-hospital Transport Time
	Presence of a Coordinated Pediatric Trauma System