

# Child Passenger Safety Lit Review

## ***Background***

Aboriginal peoples are amongst the most disadvantaged population in developed countries. In Australia, for instance, Aboriginal people live 18 to 20 years less than their Caucasian counterparts and are more likely to die than their non-Aboriginal counterparts at any age.<sup>1</sup>

In British Columbia, infant mortality rates are two to three times higher among First Nations and Inuit communities than among the rest of the population. Further, aboriginal children are more likely to sustain unintentional injuries and early deaths than the rest of population.<sup>2</sup>

Literature about Child Passenger Safety among Aboriginal communities is scarce. Although many CPS programs have been developed and deployed in Canada and abroad, there are few formal reports available and little is known about child passenger practices in these populations, let alone relevant statistics and indicators.

Because this review extended to Australia, United States, and Latin America the term “Aboriginal” will be used to refer to all First Nations, Métis, Inuit, Native Americans, Australian Aboriginals, Torres Strait Islanders, and Indigenous people in Latin America, without implying that they are the same, and acknowledging that there is great diversity between and within them.

Because it was anticipated that literature would be scarce and mostly grey, we first conducted a preliminary search of the available literature, using a comprehensive search strategy that covered relevant websites, journals, data bases, and conference proceedings. Based on this preliminary search, and considering the quality and quantity of the available data, we decided to conduct a systematic review and formulated this research protocol.

The preliminary scan was very broad and covered the following general topics:

- Working with First Nations communities
- Injury prevention
- Child and youth
- Child passenger safety
- Participatory research
- Participatory Photomapping
- Visual Storytelling
- Voice Thread

## **Objectives**

- To identify knowledge gaps in Aboriginal Child Passenger Safety; specifically, surveillance, programs, and their corresponding evaluation.

## **Eligibility criteria**

In order to manage the diversity of topics and documentation, we formulated two sets of eligibility criteria: intervention and non-intervention reports.

### ***Eligibility criteria for intervention literature***

- Participants: Aboriginal communities in any country OR of marginalized, ethnical or racial minority groups
- Intervention: Community-level programs that attempt to change unsafe practices around child passenger safety (incorrect use of child restraint seats, 12 year old or younger occupants riding in the front seats or riding in the back of pick up trucks).
- Comparisons: At least one baseline measure compared against one post-intervention measure, using the same methodology and instrument.
- Outcomes: increased rates of child passenger seat use and decreased incidence of unsafe child passenger practices (incorrect use or installation of child restraints, and riding on the back of a pickup truck or in the front seat).
- Study Design: any study design that supports at least one comparison between intervention and non-intervention conditions.

*Only reports written in English language; no time limits.*

### ***Eligibility Criteria for non-intervention literature***

Distinct eligibility criteria were defined for each of the two non-intervention literature topics:

1. Participatory methods: resources or papers are eligible if they:
  - a. Provide information as to how or why these methods are more appropriate for research conducted with Aboriginal populations, OR
  - b. Describe in detail the use of Participatory Photo Mapping, Visual Story Telling or Voice thread with children participants, OR
  - c. Explain or provide information on how to conduct qualitative analysis of narrative content.

Preference is given to injury prevention programs.

2. Working with First Nations communities: resources or papers are eligible if they provide information on legal, ethical and cross-cultural aspects of Aboriginal research in the Canadian context.

Only documents written in English and Spanish, and published within the past 10 years.

## Updates

*May 5<sup>th</sup> 2011. Added an analytic framework based on The community guide*

### *Analytic Framework*

This systematic review followed the guidelines developed by the U.S. Task force on Community Preventive Services<sup>3</sup>. As such, a logic framework was adopted with some minor modifications that apply to aboriginal communities. The modifications are marked with the symbol \*.

Pathway by which child passengers are injured<sup>3</sup>

- People have access to and use vehicles.
- Some are involved in a crash.
- Energy is transferred from vehicles to the child occupant.
- Injuries occur when the energy transferred is greater than the child's physiological and anatomical capacity.

Modifiable determinants of child passenger injuries

- Population: awareness, knowledge and skill for child safety seat installation, behaviors, etc.
- Social determinants of health\* like poverty<sup>3</sup>, self-determination<sup>3</sup>, and cultural identity
- Characteristics of public health, health care, legislation and enforcement
- Physical environment (roads and infrastructure in general)
- Vehicle factors (age of the vehicle, presence of seatbelt\*, presence of anchors to secure child seats, etc.)

*May 5<sup>th</sup> 2011. Refined inclusion criteria*

Since interventions on the environment, the vehicles or the economy are not directly related to primary health, these three determinants were excluded from this review.

*April 18, 2011. Refined inclusion criteria: Interventions and outcomes*

- Intervention: Community-level initiatives that attempt to change unsafe practices around child passenger safety (incorrect use of child restraint seats, 12 year old or younger occupants riding in the front seats or riding in the back of pick up trucks), by implementing changes in the legislative system (including enforcement) or by deploying educational programs.

- Outcomes: rates of child passenger seat use and safe behaviors around child passengers (correct use of child restraints and children 12 years or younger riding in the back seat and not riding on the beds of pick up truck).

*August 4, 2011. Deleted non intervention studies*

*March 15, 2012. Refined inclusion criteria: outcomes*

(d) evaluate incidence of child passenger injuries, rates of child restraint use, or observed frequency of children riding in front seats or on the bed of pickup trucks

*July 3, 2012. Refined Objectives*

- Identify knowledge gaps
- Appraise the quality of current research
- Identify best practices in conducting injury prevention research with First Nations communities.

*September 25, 2012:*

*Refined objectives into specific questions*

a) what are the best practices when conducting injury prevention research with Aboriginal communities? (b) How strong is the evidence that community interventions increase child safety seat use among Aboriginal passengers 0 to 12 years old? (b) How strong is the evidence that child safety seat laws increase use or reduce injuries among Aboriginal passengers 0 to 12 years old?

*Refined inclusion criteria based on literature found: outcomes*

(d) evaluated incidence or severity of child passenger injuries, rates of child restraint use, or knowledge of child passenger safety.

*September 1<sup>st</sup>, 2013*

a) Added Aboriginal lens as second objective (suggested by reviewer): to evaluate the cultural relevance of available evidence of community interventions to improve child passenger safety in Indigenous communities.