

A Systematic Review of Community Interventions to Improve Aboriginal Child Passenger Safety

We evaluated evidence of community interventions to improve Aboriginal child passenger safety (CPS) in terms of its scientific merit and cultural relevance.

We included studies if they reported interventions to improve CPS in Aboriginal communities, compared at least pre- and postintervention conditions, and evaluated rates and severity of child passenger injuries, child restraint use, or knowledge of CPS. We also appraised quality and cultural relevance of studies.

Study quality was associated with community participation and cultural relevance. Strong evidence showed that multicomponent interventions tailored to each community improves CPS. Interventions in Aboriginal communities should incorporate Aboriginal views of health, involve the community, and be multicomponent and tailored to the community's circumstances and culture. (*Am J Public Health*. 2014;104:e1–e8. doi:10.2105/AJPH.2013.301683)

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for Disease Control and Prevention in the United States, motor vehicle crash (MVC)–related injury is the leading cause of death among American Indian and Alaska Natives aged 19 years and younger.¹ In Canada, results from the First Nations Regional Longitudinal Health Survey indicated that MVC is the fourth most common cause of injury among First Nations children.² In New Zealand, MVC-related injuries are the fourth most common cause of death for Māori children aged 1 to 4 years and the second most common for children aged 5 to 14 years.³ Little is known about the prevalence of MVC injuries among Australian Aboriginal and Torres Strait Islander children; however, reports have indicated that these groups are particularly vulnerable to transport-related injuries because of poverty, geographical location, licensing, and nonuse of child restraints.^{4,5} Moreover, other studies have identified nonuse of child safety seats as an important risk factor for MVC injury among Aboriginal children in North America.^{6–8} Despite these figures, Aboriginal child passenger safety research is scarce and not readily available to researchers, policy-makers, and other professionals. In effect, previous comparable systematic reviews have not included studies with Aboriginal populations and have not mentioned Indigenous groups at all.^{9–15} (Note that for brevity, we use the terms “Aboriginal” or “Indigenous” to designate all First Nations, Inuit, Métis, Native Americans, Alaska

Natives, Australian Aboriginals, Torres Islanders, and Māori peoples. However, when we use these terms, we are not implying that these groups belong to the same ethnic group or race, and we recognize that wide historical, cultural, and racial diversity exists among and within these groups.)

This study we aimed to find, appraise, and synthesize all available evidence of community interventions to increase child safety seat use in Aboriginal populations. Specifically, we sought to answer 3 questions: (1) What are the best practices when conducting injury prevention research with Aboriginal communities? (2) How strong is the evidence that community interventions increase child safety seat use among Aboriginal passengers aged 0 to 12 years? and (3) How strong is the evidence that child safety seat laws increase use or reduce injuries among Aboriginal passengers aged 0 to 12 years? In addition, we set out to evaluate the cultural relevance of this evidence because we recognize that traditional systematic review methods are insufficient to evaluate Aboriginal research. Indeed, Indigenous views of legitimate knowledge and health differ from those of the Western scientific tradition.^{16–18} Because culturally relevant Indigenous research implies that communities participate in theoretical and methodological decisions,^{19,20} Aboriginal research that is culturally relevant is necessarily a distinct form of investigation. Consequently, we complemented Western standards of evidence

quality with 2 characteristics of Indigenous health research found in the literature.

First, the process is as important as the result. In Aboriginal research, the Western, result-focused approach of outcome evaluation should be extended to include the process: protocols of community engagement, relationships, and program dynamics.¹⁷ These process components are important in Aboriginal research not only because they have an impact on long-term outcomes but also because the concept of “process” is akin to the idea of change and adaptation to circumstances.¹⁷ In fact, Aboriginal programs are often described as a journey^{2,21,22} in which no sharp distinction is made between input and output and in which the process is as important as the result. Second, health extends beyond the physical well-being of individuals and includes the social, emotional, and cultural well-being of the communities to which they belong.^{5,18} This holistic view of health is prevalent across Indigenous peoples in North America and Oceania.^{18,23,24} We acknowledge that this approach differs substantially from current scientific practice. Thus, we encourage readers to keep an open mind and, more important, to avoid analogies or equivalencies between components or characteristics of Aboriginal and Western epistemologies.

To our knowledge, this systematic review is the first to evaluate population-level interventions to address child passenger safety in Aboriginal communities. Furthermore,

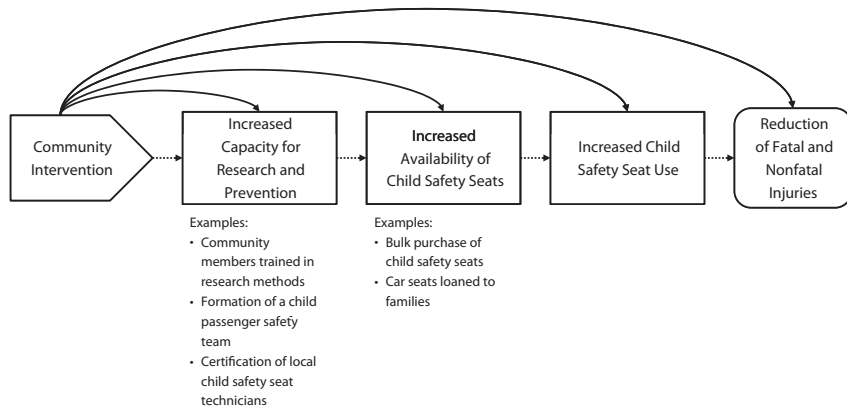


FIGURE 1—Conceptual approach interventions to improve child passenger safety in Aboriginal communities: published and unpublished documents in English; Canada and the United States; February 2011–November 2012.

this is the first time evidence-based interventions have been evaluated with a model that integrates Indigenous views of legitimate knowledge and health with the Western scientific tradition. In this way, we ensure that evidence is assessed not only for its scientific merit but also for its cultural relevance.

CONCEPTUAL APPROACH

To examine the strength of the evidence, we created a conceptual model for community interventions to improve child passenger safety, based on a previous systematic review and published methods (Figure 1).^{11,25} We focused only on studies that addressed 2 modifiable determinants of MVC injuries: populations (e.g., driving behaviors) and systems (e.g., legislation including enforcement). Specifically, we examined any evidence of relationships between interventions and the following outcomes: capacity building at the community level, increased availability of child safety seats, increased use of child safety seats, and reduction of fatal and nonfatal injuries to child passengers.

We also examined cultural relevance of the evidence, using the medicine wheel as a conceptual framework. The medicine wheel expresses a holistic view of health that is present, in one way or another, among North American and Australian Aboriginal, Torres Islander, and Māori peoples.^{18,23,24} The medicine wheel has been interpreted as a guide to healing across various Indigenous traditions in North America,¹⁸ and it has been proposed as a framework for project evaluation.²¹

As a holistic view, the medicine wheel framework applies to the entire life span of a project²¹ and, in this review, covers the main phases of a public health intervention. Figure 2 illustrates the 4 quadrants of the medicine wheel that we developed for this review. The spiritual quadrant represents the project’s childhood. It includes cultural protocols of engagement that are essential to establishing relationships with these specific communities.¹⁷ It also includes all efforts by researchers to understand the cultures, values, and mindset of the people they study.²⁶ The emotional quadrant represents the

project’s youth and refers to efforts by the community and the researchers to build relationships and trust. It focuses on opportunities for community members to come to know the researchers

better, to get used to seeing them and having them in the community, and to develop trust between them.¹⁹ The physical quadrant represents the project’s adulthood. It includes all activities to increase child safety seat use (community-wide education, targeted education, law enactment, and enhanced enforcement), evaluated with holistic outcome measures that include other quadrants of the medicine wheel (e.g., parents’ increased knowledge about or motivation to use child seats or whether the project brought the community together to work toward a common goal).²¹ The intellectual component represents the “elderhood” and the wisdom of the project. It includes all intervention activities to distribute written knowledge (e.g., pamphlets and posters) and, ideally, should be consistent with Aboriginal views of knowledge and wisdom

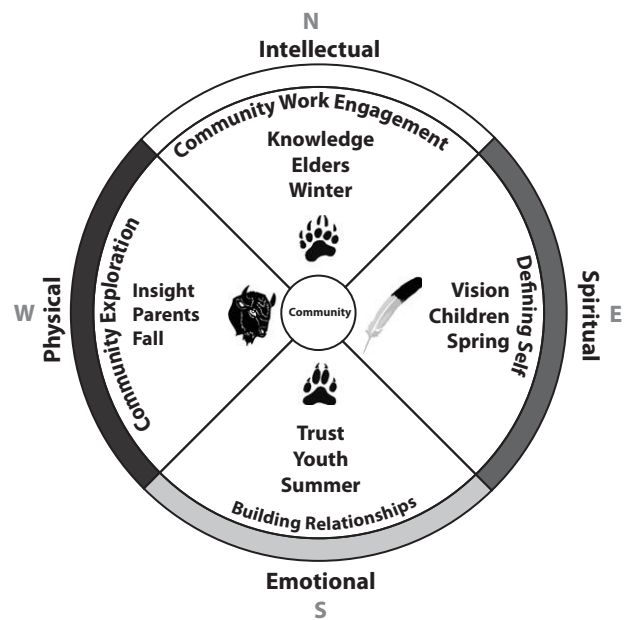


FIGURE 2—Medicine wheel: published and unpublished documents in English; Canada and the United States; February 2011–November 2012.

(e.g., knowledge distributed and kept in storytelling form). Our medicine wheel is based on general principles about respect of each community's traditions and values.^{16-18,21} We do not assume that there is (or should be) one particular set of traditions and values that applies to all Aboriginal communities.

METHODS

The protocol for this review is available online at <http://www.injuryresearch.bc.ca>.

Study Eligibility Criteria

We included published and unpublished documents (journal articles, institutional reports, conference presentations) if they (1) studied Aboriginal communities from any country, (2) evaluated community-level interventions to increase child safety seat use, (3) applied any study design that supported at least 1 comparison between intervention and non-intervention conditions, and (4) evaluated incidence or severity of child passenger injuries, rates of child restraint use, or knowledge of child passenger safety. We excluded interventions involving road design, signage, or vehicles.

Search Strategy

Because we anticipated that literature on Aboriginal child passenger safety would be mostly unpublished, we developed a search strategy for both published and unpublished documents, which was further refined by a librarian specializing in children's and women's health literature. The literature search covered mostly North America and Oceania. Between February and June 2011, we navigated relevant Web sites (Aboriginal organizations, non-profit organizations, crown corporations, government agencies) and

hand-searched conference proceedings and Aboriginal-specific journals from Canada, the United States, and Australia. We also searched relevant literature in the First Nations Periodical Index, Bibliography of Native North Americans, CINAHL, Education Research Complete, ERIC, MEDLINE, and PsycINFO. Search terms included "child passenger safety," "road safety," "occupant restraint," "seat," "occupant protection," "First Nations," "Aboriginal," "Indigenous," and "health." Between June 2011 and January 2012, we consulted experts and searched in personal files, specialized libraries and collections, and the digital repository of theses and dissertations at the University of British Columbia. This search was updated on September 17, 2012. The update included only those resources that successfully led to potentially relevant documents: *IHS Primary Care Provider* journal (we hand searched all issues between July 2011 and September 2012), the Bibliography of Native North Americans and the First Nations Periodical Index, and contact with experts (last document received on November 9, 2012). We did not limit the search by publication year, we searched any type of document (journal articles, institutional reports, conference presentations), and we included only documents written in English or Spanish. The search strategy and full list of resources included in this literature search is available at <http://www.injuryresearch.bc.ca>.

Study Selection

One author (T. I.) appraised each title for inclusion on the basis of abstracts or executive summaries, when they were provided. When abstracts or summaries were not provided, this author read the index and, if the document format

allowed it, searched relevant key words inside the document (e.g., child, seat) and read the contextual information to determine inclusion. Given that we initially identified only 12 titles, we selected and obtained full-text versions of all documents for further review.

Quality Appraisal

Following our conceptual approach, we appraised study quality in 2 ways: (1) methodological quality from the Western scientific point of view and (2) cultural relevance. We appraised selected studies for methodological quality using an assessment tool specifically developed for this review (Appendix A, available as a supplement to this article at <http://www.ajph.org>). We appraised studies on the basis of the information contained in the document. Two authors (T. I. and E. D.) independently assigned 1, 2, or 3 stars to each of the following 5 components:

- (1) the evidence or traditional knowledge used to develop the intervention,
- (2) the appropriateness of the statistical methods,
- (3) the extent to which the study design allowed for causal inferences,
- (4) the quality of the implementation, and
- (5) the reliability of outcome measures.

The number of stars was summed arithmetically, and the resulting score was then centered, so the lowest possible score was 0. This resulted in a 10-point rating scale on which studies with scores between 0 and 3, inclusive, were considered of low quality; studies with scores between 3 and 7 were considered of moderate quality; and studies with scores of 7 and higher were considered of high quality. We

included only moderate- and high-quality studies in the review. Disagreements in scores for each component were resolved by assigning the lower of the two.

We evaluated cultural relevance in 2 ways: quantitative and qualitative. Quantitative assessment of cultural relevance was independently appraised by 2 researchers (T. I. and E. O.) with experience in Aboriginal research for all but 1 study.²⁷ Said study was evaluated by 1 reviewer because we were given access to the full document 2 months after funding ended, and the second reviewer was no longer available to conduct this work. To preserve consistency, we chose not to involve a new researcher. Using the assessment tool specifically designed for this literature review, reviewers assigned 1, 2, or 3 stars for each component of the medicine wheel, depending on whether researchers (1) participated in activities that the community recognized as spiritual (e.g., a sweat lodge); (2) engaged in relationship and trust building (e.g., involving the community in the study); (3) addressed the physical component of health (e.g., car seat clinics); and (4) contextualized knowledge of child passenger safety within the community's views of health. We conducted appraisals on the basis of the information reported and using the tool developed for this review (Appendix B, available as a supplement to this article at <http://www.ajph.org>). When the 2 reviewers did not agree, we kept the lower scores. Individual scores for each component of the medicine wheel were considered separately. Qualitative assessment of cultural relevance involved attempting to gather details on how researchers engaged the community, who participated in the study and in what capacity, how cultural

practices were incorporated into the study, and what happened with relationships within the community during the course of the study. Because the studies included provided limited information of this kind and the end result was similar to the quantitative evaluation of cultural relevance, we did not pursue this analysis further.

Data Abstraction

We abstracted rates of child safety seat use, injury severity, and knowledge scores using a 1 × 2 form for measures before and after the intervention (available at <http://www.injuryresearch.bc.ca>). Only 1 reviewer (T.I.) abstracted these data because we were given access to the full document of the last included study after the funding ended, and the second reviewer was no longer available to conduct this work. To maintain consistency in the process, we decided not to involve a new researcher who would be unfamiliar with the study. Because only 1 study used 1 control and 2 intervention communities,²⁸ we preserved consistency across all studies by considering only before and after measures for the intervention communities. Given that 1 study included 14 communities with missing data points as a result of attrition, we kept outcome measures consistent by abstracting total rates of child safety seat use before and after intervention.²⁹ The principal outcome measure of interest in our systematic review was the observed difference between preintervention and postintervention rates of child safety seat use.

Evidence Synthesis

We were not able to combine studies for meta-analysis because of the high level of heterogeneity among participants, outcome

measures, and interventions. For this reason, we chose to synthesize evidence using a qualitative grading, based on previously published best-evidence guidelines.³⁰ This grading method evaluates the quantity and quality of the evidence available to support a relationship between variables—in our case, a relationship between community interventions and Aboriginal health outcomes. Appendix C (available as a supplement to this article at <http://www.ajph.org>) describes in detail the criteria to establish whether evidence was considered strong, moderate, or limited.

RESULTS

Figure 3 summarizes the results of the literature search. We identified a total of 2106 documents. After reviewing the abstract or executive summary (when

available), we further reviewed full-text versions of 13 documents for inclusion. We excluded 8 studies: 1 study was a review³¹; 1 was an evaluation of a scoring method, not an intervention³²; 1 evaluated only impaired driving³³; 2 were shortened versions of studies that had already been included^{34,35}; 1 reported a community intervention that was already included in another article^{29,36}; 1 was a slide presentation of an Aboriginal occupant restraint awareness campaign (unpublished data); and 1 was a commentary on a program in Australia with no evaluation of effectiveness.³⁷

Table 1 summarizes the characteristics of included studies. We found 5 articles published in 3 peer-reviewed journals and 2 institutional reports. Heterogeneity among studies was very high. The 5 studies had 4 different design types (before and after,

nonrandomized trial, cross-sectional, and ecological) and 2 different target populations (community facilitators and children); 1 of the studies did not specify target population. Moreover, they included 3 different outcome measures: rates of child seat use, knowledge of child passenger safety, and injury severity. The latter was measured with the Abbreviated Injury Scale, which is a standard measure of the severity of an injury or injuries sustained by 1 individual.⁴⁰

Interventions reported included 1 or more components: child seat loaner program or giveaways, child safety seat installation clinics, home visits, community-wide education campaigns, child safety seat technician training, and law enactment or enforcement. Most interventions involved the community in more than 1 way (not shown in the table): through local full-time project coordinators,

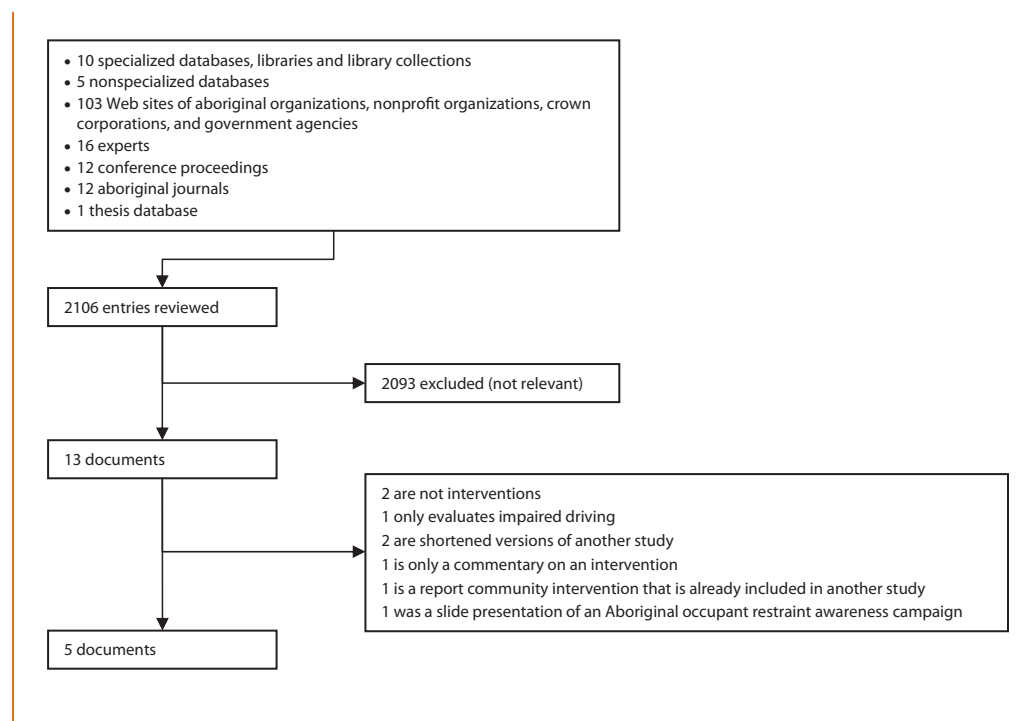


FIGURE 3—Search and study selection results: published and unpublished documents in English or Spanish; Canada, the United States, and Australia; February 2011–November 2012.

TABLE 1—Studies Included in Systematic Review: Published and Unpublished Documents in English; Canada and the United States; February 2011–November 2012

Reference	Design (Type of Document)	Interventions	Target Population	No. of Communities	Outcome Measure and Follow-Up Period	Quality of Evidence	Medicine Wheel Components
Jones-Keeshig et al. ^{27,a}	Before-after (report)	Information, child seat giveaways, capacity-building, child seat clinics, and demonstrations	Community facilitators	5	Parent-reported increased use of child seats, knowledge about child passenger safety after training	High	Moderate in emotional, high in physical and intellectual
IMPACT ²⁸	Nonrandomized trial (report)	Parking lot check and feedback, information, child seat giveaways, capacity-building, child seat clinics, and demonstrations	Children aged 0–12 y	2 ^b	Observation surveys of child seat use, parking lot check 3 mo after the end of the intervention	High	Moderate in physical and intellectual
Letourneau et al. ²⁹	Cross-sectional (journal article)	Child seat giveaways, information, capacity-building, and educational visit	Children aged 2–5 y	14	Observation surveys of child seat use over 4 y	High	Moderate in physical and intellectual
Williams ³⁸	Before-after (journal article)	Media campaign, coupons, child seat giveaways, and draws	Not specified	1	Observation surveys of child seat use soon after the end of the campaign	Moderate	Moderate in intellectual
Pheilan ³⁹	Ecological (journal article)	Law enactment	Children and youths aged 0–19 y	1	Injury rates and injury severity scores 5 y after	Moderate	Low in all

^aThis version of the article was appraised for consistency with Aboriginal views by 1 author (T.I.).

^bThis study included a third community as a control group.

training of local child passenger safety technicians, community participation in research activities, input from community members (e.g., focus groups, meetings, surveys), or involvement of a local official organization (e.g., tribal council, Head Start clinic, local police).

Study Quality

Studies were appraised for quality in terms of their cultural relevance and their methodological strength. Figure 4 summarizes the results of study quality appraisal. The y-axis indicates the strength of the evidence, and the x-axis lists each included study. The circles in the plot represent the cultural relevance of the study, measured as the extent to which each intervention addressed each of the 4 dimensions of our medicine wheel: spiritual, emotional, physical, and intellectual. We found that the studies with the strongest methodological quality were the ones that covered more elements of the medicine wheel. In other words, the studies that provided the strongest evidence were also more culturally relevant. Studies that incorporated 2 or more elements of the medicine wheel were, interestingly, unpublished reports, whereas studies that addressed 1 or fewer components were published in refereed journals.

Multicomponent Interventions

Table 2 describes each multicomponent intervention and its associated change in the outcome measure of interest. Although almost all multicomponent interventions were unique in the specific activities, most included 4 general components: (1) distribution of child safety seats (e.g., loaner program or giveaways); (2) child safety seat installation clinics, home visits, and other forms of education targeted to parents; (3) community-wide education campaigns; and (4) child

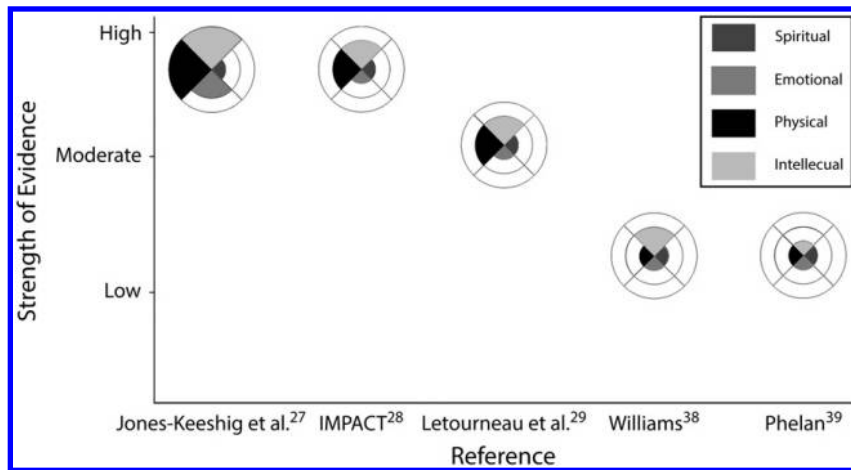


FIGURE 4—Study quality and cultural relevance: published and unpublished documents in English; Canada and the United States; February 2011–November 2012.

safety seat technician training. One intervention focused on community-wide education campaigns (through radio advertising) and an incentive program.³⁸

Effectiveness. All multicomponent interventions consistently reported

improvement in outcome measures: increments in the rates of child restraint use among studies, assessed through observational surveys, ranged between 33.9% and 51.0%. Results in other outcome measures are presented in Table 2.

Applicability. Multicomponent interventions that are negotiated and tailored to the community’s needs and circumstances are applicable in other communities. The 5 studies included in this review evaluated interventions in 23

different communities in Canada and the United States. Moreover, the interventions included in this review targeted a wide age range, from 0 to 19 years. One study, however, did not specify age groups.³⁸

Other positive or negative effects. No negative effects were reported. Positive effects reported included research capacity building^{27,28} and increased police efforts at occupant protection.³⁸

Barriers to intervention implementation. Two specific barriers to implementation were described in the literature: first, scheduling half-hour slots for child safety clinics was reported to be difficult because some parents would arrive early or late. Second, limiting the distribution program to 1 child safety seat per family made it difficult to ensure consistent use because children in some of these communities were often transported by extended family and friends.

Conclusions. On the basis of the best evidence-synthesis guidelines previously used in public health,³⁰ the evidence is strong that multicomponent interventions that are negotiated and tailored to the community’s needs and circumstances improved child safety seat use in the short term: we found 3 high-quality studies and 1 moderate-quality study that reported increased child safety seat use in their earliest postintervention assessment. However, the evidence that this change was sustained was limited because only 1 high-quality study reported follow-up assessment as long as 4 years after intervention.

Child Safety Seat Laws

Child safety seat laws require that children traveling in vehicles be restrained in government-approved child safety seats according to the child’s age and size.

TABLE 2—Effectiveness of Interventions to Increase Child Passenger Safety: Published and Unpublished Documents in English; Canada and the United States; February 2011–November 2012

Outcomes	No. of Studies	No. of Communities	Overall Change, %
Multiple components: distribution (loaner program, giveaways), targeted education, community-wide education campaigns, CPS technician training			
Rates of child seat use (observational)			
Earliest postintervention assessment	2 ^{28,29}	16	33.9 to 41.0
Follow-up assessment (4 y)	1 ²⁸	14	24.2
Parent-reported increased use of child seats: earliest postintervention assessment	1 ²⁷	5	31.2
Rates of children aged ≤ 14 y in the back seat: postintervention assessment	1 ²⁸	2	12.4
Multiple components: community-wide education campaigns and incentives (coupons for compliant drivers)			
Rates of child seat use (observational): postintervention assessment	1 ³⁸	1	35.0 to 51.0 ^a
Law enactment only			
Hospital discharge rates	1 ³⁹	1	-34.2 to -29.3 ^b
Median AIS score			-0.5 to 0.0 ^b

Note. AIS = Abbreviated Injury Scale; CPS = child passenger safety.

Source. Jones-Keeshigh et al.,²⁷ IMPACT,²⁸ Letourneau et al.,²⁹ Williams,³⁸ and Phelan.³⁹

^aThe report provides separate CPS rates for sedan/station wagon and 4-wheel drive/vans. Because total observations in each group were not reported and no total can be calculated, results for sedan/station wagon and 4-wheel drive/vans, respectively, are presented.

^bSeparate rates were reported for children aged 0–4 years and 5–11 years, respectively.

Because most Aboriginal communities are located in sovereign territories, state or provincial laws do not necessarily apply to them. For this reason, it is important to evaluate the evidence for the effectiveness of child safety seat laws adopted or enacted by Aboriginal communities. We found only 1 study that evaluated the effectiveness of a primary enforcement law requiring child safety seat use.

Effectiveness. This 1 study demonstrated that, after enactment of a primary enforcement law, hospital discharge rates decreased by 34.2% and 29.3% among children aged 0 to 4 years and 5 to 11 years, respectively. However, the median injury severity measured with the Abbreviated Injury Scale did not change significantly.

Applicability. Adoption or enactment of child safety seat laws is applicable in other Aboriginal communities. As sovereign nations, Aboriginal communities can adopt the laws of the province, territory, or state in which they are located, or they can enact their own laws.

Other positive or negative effects. No studies reported other positive or negative effects.

Barriers to intervention implementation. No studies reported barriers to intervention implementation.

Conclusions. On the basis of the best evidence-based public health guidelines,³⁰ we found limited evidence (1 study of moderate quality) indicating that child safety law enactment or adoption improved child safety seat use, hospital discharge rates, or median injury severity scores in Aboriginal communities.

DISCUSSION

To our knowledge, this is the first systematic review of community

interventions to improve child passenger safety in Aboriginal communities. In our review, we were able to identify 3 key best practices specific to Aboriginal health research: (1) establishing an authentic collaborative relationship with the community based on trust, (2) inviting community members to actively participate in the study, and (3) ensuring the project is culturally relevant. To Aboriginal people and Aboriginal health researchers, these findings may be obvious. In fact, Aboriginal researchers have commented on it for years.^{16,17,19,20,23,26,41–45} Nevertheless, this is the first time that these ideas have been demonstrated through a systematic review of evidence.

Our review also indicates that multicomponent interventions that are developed by and tailored to the community's culture, needs, and circumstances can effectively increase child safety seat use. However, we found limited evidence of sustained change. It is important to note that limited evidence should not be interpreted as evidence of ineffectiveness.

We found limited evidence that child safety seat laws increased child safety seat use or reduced injuries. More research on this type of intervention is needed. Child safety seat laws are effective in the general population,¹¹ but in Aboriginal communities several complicating factors have been reported in the literature: (1) federal, state, or provincial laws do not necessarily apply on Aboriginal territories; (2) some communities depend on state, provincial, or county police for enforcement of laws; and (3) in some cases, tribal police do not have sufficient resources to enforce child safety seat use.^{28,29,38,39}

Despite our comprehensive search strategy, we were not able

to include studies from Australia or New Zealand. We found 1 document describing an Australian intervention but excluded this report because it did not report outcome measures or statistical analysis.³⁷ The results presented in this article should be interpreted in light of this limitation.

We found that cultural relevance of studies was generally low. Overall, the physical and intellectual dimensions were addressed most often. We acknowledge that researchers may not have reported all of their efforts to make their study culturally relevant because of the need to fit their document to Western publication formats. In fact, we found that the more culturally relevant a study was, the more likely it was to be unpublished. This is concerning because policymakers who rely on published evidence are likely to make decisions on the basis of evidence that lacks a component that is associated with evidence quality: cultural relevance. For this reason, we encourage researchers to report any effort to ensure their study is culturally relevant. Similarly, we encourage journal editors to require that manuscripts reporting Aboriginal research be evaluated for their cultural relevance as well as their scientific merit.

A positive effect reported in the literature was the increased research capacity that results from having members of the community participate in research activities. Two of the studies, however, reported some accuracy issues in observational surveys.^{28,29} These issues were explained as the result of the learning process and should not discourage other researchers to involve community members in research activities.

Observed use of child safety seats is the preferred method for

evaluating interventions to improve child passenger safety.¹¹ Nevertheless, in Aboriginal research, observational surveys can be challenging. Because many Indigenous communities are located in remote areas with very low traffic, some studies reported very few total observations. Consequently, when conducting observational surveys, researchers should consider, for example, using longer time intervals or increased total duration of the observation phase of the project.

Finally, and most important, we acknowledge that our own Aboriginal approach may fall short of completely capturing the complexities of Aboriginal health and Aboriginal health research. For this reason, we encourage researchers and practitioners to engage in constant dialogue with communities about how to make their study more culturally relevant. ■

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Contributors

T. Ishikawa led the study, wrote the article, conducted the literature search, reviewed documents for inclusion, composed all figures, co-developed the 2 study quality assessment tools used in this review, appraised study quality, abstracted and summarized data, and suggested that studies should be evaluated from an Aboriginal perspective. E. Oudie conceptualized the medicine wheel as a way to conceptualize Aboriginal research projects, co-developed 1 of the 2 study quality assessment tools used in this review, reviewed these titles for

inclusion, appraised the quality of studies, and abstracted and summarized data. E. Desapriya co-developed the 2 study quality assessment tools used in this review, appraised the quality of studies, and reviewed the article. K. Turcotte coordinated the study and assisted in study identification and the development of the quality assessment tool used in this review. I. Pike was principal investigator for this project and suggested using the medicine wheel to evaluate study quality.

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Human Participant Protection

This is a review of the literature and therefore was not subject to research ethics review.

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