Safe KIDS CANADA

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Child Safety Good Practice Guide:

Good investments in unintentional child injury prevention and safety promotion – Canadian Edition

EUROPEAN child SAFETY ALLIANCE

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Safe Kids Canada's mission is to lead and inspire a culture of safety across the country in order to reduce unintentional injuries, the leading cause of death among children and youth in Canada. As a national leader, Safe Kids Canada uses a collaborative and innovative approach to develop partnerships, conduct research, raise awareness and advocate in order to prevent serious injuries among children, youth and their families. Our vision is Fewer Injuries. Healthier Children. A Safer Canada. Safe Kids Canada is the national injury prevention program of The Hospital for Sick Children.

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INTRODUCTION

The need for knowledge of what works is growing every day among those working to reduce the burden of unintentional injuries amongst Canada's children. Injury is the number one cause of death for children in Canada, accounting for 30% of all deaths and the largest environmental burden of disease, with an average of 300 deaths for children less than 14 years of age, every year.(1,2) That is to say 25 children die from injury every month, the equivalent of one classroom of children per month.

Injury prevention efforts in Europe that were supported by the European Union resulted in the publication of the original *Child Safety Good Practice Guide: Good investments in unintentional child injury prevention and safety promotion* (the European Guide). The European Guide was launched by the European Child Safety Alliance (the Alliance) to provide guidance on proven, effective injury prevention strategies. The need for Member States to develop national action plans to prevent injury increased the demand to deliver effective interventions at the national and local levels.(3-5) Good use of evidence is central to achieving this and knowing 'what works' is at the heart of developing good policy and programs.

Safe Kids Canada has formally partnered with the Alliance to bring a Child Safety Good Practice Guide to Canada. Safe Kids Canada is the national injury prevention program of The Hospital for Sick Children. Safe Kids Canada's mission is to lead and inspire a culture of safety across Canada in order to reduce unintentional injuries. Injuries to children could be significantly reduced if proven safety strategies were adopted and implemented across all provinces and territories in Canada.

The Canadian Edition of the Child Safety Good Practice Guide provides the first seminal comprehensive document in the country from which decision-makers, practitioners and legislators can base their work and recommendations. It will enable Canadian injury prevention practitioners to examine Canadian strategy options for unintentional child injury, move away from what has 'always been done' and move toward good investments - strategies that are known to work or have the greatest probability of success. Through the use of this Canadian Edition, efforts can be focused on those interventions that are most effective and can result in the reduction of injuries leading to hospitalization or death.

The value of 'good practice' is realized when the best available research evidence is combined with the practical expertise of professionals in the 'real world'. This approach requires that professionals are aware of both best evidence and practical aspects of transferring policies and programs from one setting to another. With so much to do to address the safety of Canadian children and so little time and limited resources, there is a need to focus on good investments, those strategies that are most likely to reduce childhood unintentional injuries.

For the purpose of this document 'good practice' is defined as:

- A prevention strategy that has been evaluated and found to be effective (either through a systematic review or at least one rigorous evaluation) OR
- A prevention strategy where rigorous evaluation is difficult but expert opinion supports the practice and data suggest it is an effective strategy (e.g., use of personal floatation devices (PFD) to prevent drowning) OR
- A prevention strategy where rigorous evaluation is difficult but expert opinion supports the practice and there is a clear link between the strategy and reduced risk but a less clear link between the strategy and reduced injuries (e.g., secure storage of poisonings) AND
- The strategy in question has been implemented in a real world setting so that the practicality of the intervention has also been examined.

This Canadian Edition builds on previous work by child safety researchers from around the globe and is a further step in supporting Canada in moving toward evidence-based good practice. It is acknowledged that knowing what worked in one setting is not enough and the transfer and implementation points and Canadian case studies included in this Canadian Edition are included as information to guide decision-making and illustrations of good practice in action. It is hoped that this information will begin to provide initial thoughts on why a strategy worked and provide some guidance for transfer to new settings. However, more work is needed to understand all the factors that influence the success of a strategy that is transferred from one setting to another.

Finally, the synthesis of existing knowledge compiled in the development of this resource also allows the identification of situations where there is a need to evaluate existing interventions and where good practice strategies do not exist.

CONTENTS of the GUIDE

This guide is divided into four sections to help injury stakeholders promote good practice in planning and implementing strategies to address child injury. Note that the terms child injury prevention and child safety are used interchangeably.

SECTION 1
Introduces the concept of good practice and discusses general approaches for policy and programs in the areas of child injury prevention and safety promotion.

SECTION 2
Provides a series of 'at-a-glance' tables that identify effective strategies (current good practice) in the following areas of child injury prevention and safety promotion:

- passenger safety
- pedestrian safety
- cyclist safety
- water safety
- fall prevention
- burn and scald prevention
- poisoning prevention
- choking/strangulation prevention
- general home safety (strategies not already covered in topics above)
- general community-based injury prevention (strategies not already covered in topics above)
- activities in the area of system leadership, infrastructure and capacity.

For each area, a table provides: 1] a series of evidence statements describing current good practice; 2] an indication of whether a case study for that particular strategy has been identified and included and 3] suggestions for transferring and implementing the strategy. Each example of good practice is also colour coded to provide an indication of which of the 3 "E"s of injury prevention is the focus;

> ENGINEERING (modification of a product/environment),

> ENFORCEMENT (policy/legislation and measures to ensure compliance), or

> EDUCATION (education/behaviour change strategies).

The traditional approach to the three "E"s of injury prevention has often been described in somewhat simplistic and limiting terms.(6) We encourage you to consider the "E"s of prevention in their broadest context, recognizing that they are tools for helping us establish large scale changes in healthy public policy and the creation of environments, both social and physical, which allow the safe behaviour to be the easy behaviour.

SECTION 3
Provides information about where in the planning cycle information on good practice can be applied and about selecting and transferring good practice from one setting to another. The importance of advocating for, building and maintaining, a culture of good practice is described and stressed.

SECTION 4
Describes in detail the methods used for developing case studies.

SECTION 5
Provides a series of case studies illustrating implementation of select 'at-a-glance' strategies in the field of child injury prevention and safety promotion and lessons learned from application of strategies in Canada.

SECTION 1

What do we know about good practice approaches to preventing unintentional injuries in children?

Prior to examining the actual good practice approaches to preventing unintentional injuries in children, it is important to note that preventing injury in this age group is unique for a number of reasons. To plan and implement truly effective strategies, it is essential to take these factors into account when selecting and transferring good practice. The uniqueness stems from:

- **Children as the focus of the work:** When talking about child injury prevention and safety promotion, children and their parents/caregivers are the primary target groups of interventions. Although a specific intervention might involve advocating for policy change with decision-makers, the main focus for child injury prevention and safety promotion is the children themselves and the adults who are their main caregivers.(5,7-12)

- **The importance of children's developmental stage:** The types of injuries that children experience are closely linked with their age and stage of development which involves physical, psychological and behavioural characteristics.(13) This needs to be taken into account when examining potential strategies and transferring them to new settings.

- **The fact that injuries disproportionately affect the most vulnerable children in society:** The likelihood of a child being killed or injured is associated with a variety of factors including single parenthood, low education among mothers, very young mothers, poor housing and parental drug or alcohol abuse.(14)

  Further economic and social factors that can influence health and injury include income, employment, food security, age, gender and social inclusion, often referred to as the social determinants of health. In early 2009, the WHO released a policy briefing, *Addressing the Socioeconomic Safety Divide*.(15) The briefing concluded that people with low socioeconomic status and those who live in poor neighbourhoods are more likely to die as a result of injury and violence than people who live in wealthy neighbourhoods. This applies to many of the leading causes of injury globally, including motor vehicle crashes, poisoning and burns. The WHO briefing was based on a systematic review of the literature on injury, and points to the importance of understanding and acting on the broad socioeconomic conditions in which injury occurs.

This uniqueness of children mandates the importance of knowing your target audience well and involving your target group early on in the project.(16, 17) Failing to involve your target group is likely to reduce the success of an intervention. Particularly when transferring a good practice from one setting to another, it is important to know your target group as rigorous evaluations, such as those used to support best evidence recommendations, typically have limited generalizability because of the specificity of their participants.

When broad approaches to child injury prevention and safety promotion are examined, there are seven that offer proven or promising strategies.(9) These seven approaches are described below but it is important to note that although they have been proposed as offering proven or promising strategies, actual strategies based on these approaches have not been evaluated in all areas of child injury prevention. Nonetheless, they provide a useful framework to consider for any type of childhood injury.

1) **Environmental modification** – children are particularly vulnerable to injury because they live in a world over which they have little control and which is built around the needs of adults.(15) Modification of the environment to make that world more 'child- or parent- friendly' is an accepted approach to reducing risk and can impact positively on everyone. These strategies are most effective when used in combination with legislation and educational activities.(9) Examples of this type of strategy in the 'at-a-glance' section include playground equipment design and installation and area-wide measures to reduce pedestrian and cyclist risk (e.g., traffic calming).

2) **Product modification** – similar to the issues in environmental modification, many products pose an added risk to children because they are designed around the needs of adults. Product modification is a more passive means than active adult supervision of reducing the risk around certain products.(18) These strategies also become more effective when used in conjunction with legislation and educational activities. Examples of this type of strategy in the 'at-a-glance' section include factory set temperatures on water heaters and child resistant lighters.

3) **Legislation, regulation and enforcement** – legislation has proven to be the most powerful tool in the prevention of injury.(9) Legislation is most effective when enforced and when used in combination with product or environmental modification and educational activities. Examples of this type of strategy in the 'at-a-glance' section include legislation around the use of child passenger restraints, bicycle helmets and child resistant packaging.

4) **Promoting the use of safety devices** – safety devices are promoted to reduce the risk of injury occurrence or minimize the impact in the event of an injury event.(9) Examples of this type of strategy in the 'at-a-glance' section include smoke detectors, bicycle helmets and child passenger restraints.

5) **Supportive home visits to families of young children** – although more evaluation is required of supportive home visits, early studies have found generally positive results for this approach. Supportive home visits are particularly effective if the information provided is age appropriate and visits are combined with provision of free safety equipment and broader promotional campaigns.(19)

6) **Community-based interventions** – these interventions, which focus on changing community values and behaviours and altering the physical environment of communities to reduce the risk of injury, may have particular relevance for children as interventions often target the safety awareness, attitudes, and behaviours of children and parents.(20) Community-based interventions employ a broad array of strategies that include education/behaviour change, product and environmental modification and legislation/enforcement, with the key difference that the strategy focuses on the community, not the individual. Examples of this type of strategy in the 'at-a-glance' section include community-based bicycle helmet and child passenger restraint promotional campaigns.

7) **Education and skills development** – the effectiveness of educational and skill development programs on their own is controversial and evidence is often lacking. However if they are well designed and take into account the target population, or if they are used in combination with other strategies, such as legislation or environmental or product modification, educational and skills development programs can be effective.(9) An example of this type of strategy in the 'at-a-glance' section includes pedestrian skills training.

These approaches include both active and passive interventions. Active interventions require action at the individual level for the intervention to be effective.(21) For example, a cyclist has to put on a helmet each time they ride a bike and a child has to be belted in a car seat each time they ride in a car. At the other end of the continuum, passive interventions provide automatic protection without requiring action from an individual (e.g., regulatory standards for playground equipment and legislation requiring child resistant packaging for pharmaceuticals).(21) Passive strategies are preferred over active strategies because they are automatic, protect everyone and require no action or cooperation from the individual. However, sometimes passive strategies cannot be used because there are insufficient resources, the proposed strategy is socially unacceptable and/or there is no passive strategy available. In practice, interventions developed are often a mix of passive and active. For example, comprehensive prevention of playground injuries requires passive interventions (installation of playground equipment that meets regulatory standards) and active interventions (maintenance of equipment/landing surfaces and adequate supervision by parents/caregivers).

Why should we focus on evidence-based good practice?

Transfer of knowledge can happen with both effective and ineffective practices and numerous ineffective strategies continue to be practiced across Canada despite evidence that they are not the best use of resources.

For example, bicycle skills fairs or "rodeos" as an educational strategy to address bicycle-related injuries have not been shown to be effective and as a solitary strategy are not considered good practice.(18) When combined with helmet giveaways or the offer of subsidized helmets, this intervention has shown more positive outcomes (22) but despite this evidence, the activity continues to be offered as a stand-alone intervention.

In the current environment of scarce resources and competing issues the injury prevention community needs to ensure that existing efforts and resources are focused on effective evidence-based good practice. It also needs to ensure that it systematically studies and understands why strategies work in one setting/context and not in others and it needs to learn to effectively transfer the good practice to other settings/contexts. If the injury prevention community does not make adopting evidence-based good practice a priority, policy makers will continue to invest resources in strategies that do not lead to reducing the burden of injury in children.

Why do we not implement good practice?

There are several reasons why, as a field, the injury prevention community fails to select and implement good practice:

- **Resistance to change**
  Resistance can come from government in the form of resistance to legislative or regulatory efforts, from the injury prevention community in terms of comfort with the way things are, personal investment in an existing unproven program or lack of awareness of a need to change. It can also come from the program developers and managers because producing an educational pamphlet as the sole intervention is easier, faster and more quantitative than advocating for legislation or environmental modifications or because funders may only be willing to provide funds for this purpose. The public itself can also play a role. If an activity is perceived by the public to be of value, even if it is actually not effective, then politicians and decision-makers often hesitate to stop investing. Understanding where resistance is likely to come from and planning accordingly to address it is part of good practice in transferring strategies from one setting to another.

- **Competing priorities**
  While the importance of keeping children alive and contributing to society seems inherently simple and essential, it also takes ongoing commitment. This usually requires more time, money or potential inconvenience for adults and as a result the ongoing commitment is not made. For example, sometimes what is safe for children is not perceived to be good for others (e.g., adults, industry, etc.). A product modification that is viewed as important to ensuring a reduced risk for child injury may be seen as being in conflict with what is best for industry. This is because industry tends to see the desired changes resulting in increased production costs, job losses, etc. This in turn can impact elected officials who attempt to balance perceived needs and may side with industry for fear of not being re-elected and loss of corporate support. Selecting and following through with good practice requires real commitment for the long term and beyond a single election cycle. Because in injury prevention a given strategy can affect multiple sectors, ministries, industry and partners it is important to understand the many viewpoints and to build the strongest case for the child-benefiting change. It is therefore important that the injury prevention field continues to build the evidence of effective strategies, including cost-effectiveness of strategies, so that data are available to support arguments for children's lives as the priority over other issues.

- **Failure to plan solutions effectively**
  If too little time is spent on up front planning then the steps of looking for good practice from other settings may be missed. Furthermore, once good practice is identified, failure to assess adequately the potential for successful transfer and to plan concrete steps to increase its likelihood can result in unsuccessful transfer and implementation. And unsuccessful transfer and implementation can have a negative impact on the field as a whole if it is interpreted as a failure of the strategy rather than a failure of the transfer and implementation. The amount of time, work and practical research required to obtain the necessary information and do a good job on these planning steps can be daunting. As the injury prevention field learns more about what works and why, resources such as this guide can help by identifying good practice and providing guidance for the decision to attempt transfer and steps to increase likelihood of success.

- **Lack of capacity or expertise**
  In some cases the individuals making the decisions do not have the information necessary to make the correct decision and choose good practice. There is therefore a role for injury prevention practitioners to educate decision-makers and to advocate for commitment and resources for strategies that will work. There is a role for lead organizations in the injury prevention and safety promotion field to support the efforts of injury prevention practitioners to advocate for good practice and also to address capacity building as a priority issue in the field.

In Canada in 2011, few people are employed with a mandate related only to injury prevention. We encourage you to consider yourself an injury prevention practitioner if you work or conduct research in the fields of health promotion, public health and safety, injury prevention, or if you facilitate activities that promote safety on a volunteer basis in your community.

Moreover, we recognize that good practice requires us to integrate our efforts among those working to create healthier and safer communities. If you work in the field of healthy living, substance abuse prevention, mental health, policing or social services to name a few, you do already make a meaningful contribution to the prevention of injuries. You are indeed, an injury prevention practitioner.

This guide is intended for all of you.

- **Lack of time or resources**
  Often practices that are not evidence-based can be appealing because they are quick and easy and give the impression that something is being done (e.g., distributing a pamphlet). To truly address child safety it will be necessary to select evidence-based good practice strategies that may cost more and/or take longer to achieve but in the end will achieve greater results. In an environment of scarce resources and limited time-frames for funding this will likely require collaboration between organizations and working smarter with government and industry to ensure they take up what works.

In summary, to implement good practice today the injury prevention community needs to take into account both the specific aspects of children as a target group and the seven broad approaches to child injury prevention and safety promotion that offer proven or promising strategies. It needs to keep in mind that these seven approaches are most effective when they work in combination, and to invest scarce resources into what is known to work. This will also require an understanding of the importance of using good practice and the reasons why it is not implemented more often. The next section provides more detail on the strategies based on the seven broad approaches that are considered current best investments.

SECTION 2

Good practice ‘at-a-glance’

Injuries are predictable and preventable. Research has shown that there are practices that reduce injury death and disability, most often through a comprehensive approach of education, engineering and enforcement measures. Action needs to be taken to adopt and implement what has been proven to work - the evidence-based good practices – while recognizing the interaction between individuals, communities, policies and the physical environment. Evidence regarding cost-effectiveness also exists for a number of these proven good practice strategies thus they provide a significant opportunity to save lives and money. For example; $1 spent on smoke alarms saves $15; $1 spent on bicycle helmets saves $30; $1 spent on child safety seats saves $31; $1 spent on road safety improvements saves $102; and $1 spent on prevention education by paediatricians saves $10.(23)

Potential good practice strategies for inclusion in the following ‘at-a-glance’ tables were identified through a review of existing systematic reviews, journal articles and policy documents, and in consultation with child injury prevention and safety promotion experts. Strategies focused on children between 0 - 14 years of age were then examined against the definition of good practice and resulting criteria developed for the purposes of this project. Evidence statements for strategies that met the criteria were developed and incorporated into the issue-specific good practice ‘at-a-glance’ tables. Transfer and implementation points were obtained from the same sources in addition to general textbooks dealing with injury prevention and safety promotion. The methodology for selection and write up of case studies is provided in Section 4.

Additional information on the most current injury prevention legislation in Canada can be found at www.safekidscanada.ca.

Good practice for child passenger safety

	EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
ENGINEERING	**Child passenger restraints lead to decreases in death and injury.**(24-27)	> When used properly child passenger restraints have been shown to reduce injury by 90-95% for rear-facing systems and 60% with forward facing systems.(28) Research from the USA estimates that when children are correctly installed in appropriate car seas the risk of death or serious injury is reduced by approximately 70%.(27) > Keeping children rear-facing longer has been shown to increase protection by 3-5 times.(29, 30) > Research has demonstrated that in children four to seven years of age, booster seats are estimated to reduce the risk of sustaining a clinically significant injury during a crash by 59%.(31-35) > Parental knowledge and availability, accessibility, cost and ease of use of child passenger restraints will impact their uptake.(36, 37)
	Rear seating position is the safest place location for child passengers regardless of whether or not there is a passenger-side air bag present.(31, 38-40)	> Children in the rear row(s) of the vehicle are one half to two thirds times less likely to sustain injury than those in the front.(40) > Uptake of rear seating position for children can be increased through community-based educational campaigns.(41, 42) > Research suggests efforts to encourage rear seating position for child passengers should address parents' experiences of pressure to relax seating rules and risk perception as well as provide strategies that support sound parental safety decisions.(43, 44)
ENFORCEMENT	**Legislation of safe child passenger restraints leads to increases in observed use.**(37, 45) **Case example:** Child Passenger Safety Promotion in Aboriginal Communities, Manitoba, Page 36.	> Level of enforcement will impact effectiveness by increasing usage.(46) > Legislation is most effective when supported by educational activities.(46)
EDUCATION	**Community-based intervention combining information dissemination on child passenger restraint safety with enhanced enforcement campaigns leads to increased use.** (36, 37, 45)	> Important elements of community-based approaches are long-term strategy, effective focused leadership, multi-agency collaboration, involvement of the local community, appropriate targeting and time to develop a range of local networks and programs.(20) > Enforcement campaigns supported by school-based promotional activities have shown large increases in observed seat belt use.(36)
	Community-based intervention combining child passenger restraint distribution, loaner programs or incentives with education programs leads to increased use.(36, 37, 45) **Case example:** Child Passenger Safety Promotion in Aboriginal Communities, Manitoba, Page 36.	> Important elements of community-based approaches are long-term strategy, effective focused leadership, multi-agency collaboration, involvement of the local community, appropriate targeting and time to develop a range of local networks and programs.(20) > More intensive programs involving multiple elements and communication mechanisms are associated with more positive results.(20) > A reliable, well-informed organization is required to run a loaner program given the technical and maintenance checks on car seats.(36)
ENGINEERING	**Seat belts lead to decreases in death and injury.** (24, 47-52)	> When used properly seat belts can reduce deaths by 40-50% and serious injury by 45-55%.(51) > Parental knowledge and seat belt availability and ease of use will impact their uptake.(36)
ENFORCEMENT	**Legislation requiring seat belt use in older children leads to increased use.**(36, 45, 53)	> Level of enforcement will impact effectiveness.(54) > Legislation is most effective when supported by educational activities.(46)

	EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
ENGINEERING	**Area-wide engineering solutions to reduce pedestrian risk (including pedestrian facilities and/or traffic calming infrastructure) lead to reduction in injuries and are cost effective.**(18, 45)	> Traffic calming has shown accident savings of 60% in 30 km/hour (18.6 mph) zones.(55) > Area-wide urban traffic calming schemes reduced the number of injury accidents by 15% (25% on residential streets and 10 % on main roads).(55) > Engineering modifications can be more effective when supported by educational and enforcement activities.(46)
	Vehicular modifications appear to reduce the risk of pedestrian fatalities.(18, 28)	> Modifications to car front design that take children into account result in a reduced number of child pedestrian fatalities.(28) > It is estimated that up to 2,100 deaths and 18,000 serious pedestrian and cyclist casualties of all ages could be prevented annually in the European Union with these modifications.(28)
ENFORCEMENT	**Legislation/policy reducing vehicle speeds in residential areas leads to reduced injuries and changes in driver behaviour.**(45)	> In the United Kingdom, introduction of 20 mph (32 km/hour) speed limit zones resulted in 70% reduction in fatal child pedestrian accidents.(56) > Level of enforcement will impact effectiveness.(54, 57, 58) > Legislation is most effective when supported by educational activities.(46)
	Enforcement of legislation/policy reducing vehicle speeds in residential areas leads to reduction in injuries and changes in driver behaviour.(57-59)	> Level of enforcement will impact effectiveness.(54, 57, 58) > Legislation is most effective when supported by educational activities.(46)
EDUCATION	**Community-based education/advocacy programs to prevent pedestrian injuries in children 0-14 years result in a reduction in injuries.**(60) **Case example:** Pace Car Program, Nova Scotia, Page 38.	> Effective programs have shown reductions ranging from 12%-54%.(60) > Programs offering a comprehensive package that includes educational, social and environmental strategies are more likely to be successful.(60) > Greater amounts of resources and community commitment afforded to programs allow more complex and comprehensive strategies to be used, which in turn lead to greater success.(60)
	Pedestrian skills training leads to improved child pedestrian crossing skills.(18)	> Multi-faceted programs and those that involve parents are more likely to be successful.(18) > Practical roadside experience is an essential ingredient of pedestrian skills training.(18)
ENFORCEMENT	**The countries with the best road safety record have national implementation plans which comprise a wide range of measures: low speed limits, speed reduction measures, promotion of secondary safety and publicity aimed at both children and their parents, and drivers.**(55, 61)	> Building on past policies or international agreements can lead to progress.(55) > Political commitment at the highest level is necessary to make road safety a priority for all in government and society.(55) > Media coverage is an important aspect of national safety campaigns.(54, 55) > A combination of engineering, enforcement and education is most effective.(54)

Good practice for child cyclist safety

	EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
ENGINEERING	**Use of bicycle helmets leads to reduction in injuries.**(45, 62, 63)	> Correctly fitted bicycle helmets reduce the risk of head and brain injury by as much as 85%.(45, 62, 63) > Parental knowledge and helmet availability, accessibility, cost and ease of use will impact both helmet use and proper use.(64) > Reducing costs of helmet through give-away programs and discounts facilitates uptake and use.(65)
	Area-wide engineering solutions and traffic calming measures (e.g., speed reduction zones) lead to reduction in child cyclist injuries and are cost effective.(45)	> Engineering modifications can be more effective when supported by educational and enforcement activities.(46)
	Area-wide engineering solutions to reduce cyclist risk (including cycling lanes and pathways) may lead to injury reductions.(18)	> Engineering modifications can be more effective when supported by educational and enforcement activities.(46)
ENFORCEMENT	**Legislation of bicycle helmets leads to increased use.**(18, 64) **Case example:** Operation Headway, Nova Scotia and Prince Edward Island, Page 40.	> Evaluation of mandatory bicycle helmet laws in Canada show a 45% reduction in the rates of bicycle-related head injury in provinces with legislation and in New Zealand there was a 19% reduction in head injuries among cyclists during the first three years of legislation.(55) > In several countries where legislation has been enacted it has not been done until high levels of helmet-wearing have been attained in the population.(65) > Legislation takes time to produce the desired effect following implementation (64) and legislation is most effective when supported by educational activities.(46) > The effect of legislation appears smaller in areas with a higher baseline proportion of helmet use and areas with high socioeconomic status.(64) > The effect of legislation is smaller when helmet law is not inclusive of all ages.(66) > Level of enforcement will impact effectiveness.(54) > Implementers of helmet legislation may wish to address concerns regarding decreased ridership following introduction of legislation as those not in favour of legislation have stated this as an argument against this strategy.(67) However, research from Canada suggests helmet legislation is not associated with a reduction in cycling.(66)
EDUCATION	**Community-based education/advocacy programs around child helmet wearing lead to increased helmet wearing.**(18, 20, 65, 68) **Case example:** Operation Headway, Nova Scotia and Prince Edward Island, Page 40.	> Important elements of community-based approaches are long-term strategy, effective focused leadership, multi-agency collaboration, involvement of the local community, appropriate targeting and time to develop a range of local networks and programs.(20) > Programs are more likely to be effective when they include provision of free helmets, are broad in scope as it relates to target audience and setting, involve parental participation and helmet wearing by riding partners (adults or other children).(65) > Younger children and girls show the greatest effect from campaigns.(45) > Successful interventions have included targeted and mass media education or children and parents, promotion and mandating of helmet-wearing, seizure of bicycles of cyclists not wearing helmets and discounting the price of helmets, however it is not possible to isolate the effectiveness of each intervention.(68)
	Cycling skills training has shown promise in increasing knowledge and improving observed riding skills in the children who received training.(18) **At this time there is no study directly linking skills training and reduction in injury.**	> For children to ride safely in traffic requires that they are knowledgeable about traffic rules, can read and interpret signs, and have the necessary cognitive and motor skills.(69) > The most comprehensive programs have all incorporated helmet education, traffic rules, safety guidelines, and on-bike training into their curricula.(18) > Interventions that repeat the message in different forms and contexts are also more likely to succeed. Therefore, community based education programs that allow for repetition of bicycle safety messages, several opportunities for practice, and parental involvement, may represent a more effective approach to improving bicycle safety in children.(70) > It is possible that young children (under 10 years) may not be able to master the basic cognitive and motor skills necessary for the complex task of riding a bicycle on the road.(70)

	EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
ENGINEERING	**Expert opinion states that the use of a personal floatation device (PFD) for boating and other water recreational activities is a recommended preventive strategy in the prevention of drowning.**(71) **Case example:** Personal Floatation Device Program, Manitoba, Page 42.	> It is estimated that 85% of annual boating-related drowning incidents could be prevented if the victim had been wearing a PFD.(72) > Level of enforcement will impact effectiveness.(54) > Legislation is most effective when supported by educational activities.(46)
	Expert opinion states that signs regarding safe behaviours displayed in clear and simple signage are an important preventive strategy in the prevention of drowning.(73)	> Signage is most effective when supported by educational activities.(73) > International standardization of symbols used on signs should help reduce tourist drowning incidents.(73)
ENFORCEMENT	**Legislation requiring isolation fencing with secure, self-latching gates for all pools (public, semi-public and private, including both newly constructed and existing pools) leads to a reduction in drowning when enforcement provisions are included.**(18, 74) **Case example:** Pool Fencing Bylaw, Ontario, Page 44.	> Private pools that are fenced provide 95% more protection against a drowning event.(18) > Level of enforcement will impact effectiveness.(54, 75) > Legislation is most effective when supported by educational activities.(46) > It is highly recommended that parents be strongly encouraged to continue close supervision of their children around pools; no protection system can replace parent supervision.(76)
	Safety standards for swimming pools may lead to a reduction in drowning.(73)	> Level of enforcement will impact effectiveness.(54) > Safety standards will be more effective when supported by educational activities.(46)
	Lifeguards, when adequately staffed, qualified, trained and equipped, seem to be an effective strategy to prevent drowning.(71)	> The presence of lifeguards may deter behaviours that could put swimmers at risk for drowning, such as horseplay or venturing into rough or deep water.(71) > Lifeguards should have appropriate training and hold a suitable current qualification. Re-qualification should be undertaken at regular intervals, and practical rescue and resuscitation skills should be practiced frequently.(71) It has been noted that initial introduction of lifeguard certification may impact availability of qualified lifeguards.(77) > Lifeguard observation points must have a clear and unobstructed view of the area of supervision including both the water and surrounding area.(71) > Lifeguards on duty should be easily identifiable at a distance and in a manner that sets them apart from others at the beach or water recreational facility.(71) > Lifeguard organizations should develop written “standard operating procedures” that include supervision requirements.(71)

EDUCATION

EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
Community-based education/advocacy around PFD use leads to increased use.(18)	> It is estimated that 85% of annual boating-related drownings could be prevented if the victim had been wearing a PFD.(72) > Important elements of community-based approaches are long-term strategy, effective focused leadership, multi-agency collaboration, involvement of the local community, appropriate targeting and time to develop a range of local networks and programs.(20)
Water safety skills training (including swimming lessons) improve swimming performance.(18) **Case example:** Swim to Survive, Ontario, Page 46.	> Swimming skills are just one potential prevention strategy that must be considered in the context of a multifaceted approach that includes effective barriers, appropriate adult supervision, and training in CPR.(78) In particular it is highly recommended that parents be strongly encouraged to continue close supervision of their children around water; ability to swim does not replace the need for close parent supervision.(76, 79) > Children are highly sensitive to training, are able to retain most skills if lessons are continued, and can use acquired skills in mastering more advanced swimming skills (e.g., diving).(18, 80) > The earliest age at which swimming lessons show improvement in swimming ability is 24 months, but their learning period is much longer than that of older children.(18, 21) > In the past it has been held that children are generally not developmentally ready for formal swimming lessons until after their fourth birthday.(21, 81) While recent evidence is insufficient to support a recommendation that all one to four year-old children receive swimming lessons, there is adequate evidence demonstrating that swimming lessons do not increase the risk of drowning in this age group.(78) > Aquatic programs for infants and toddlers should not be promoted as a way to decrease the risk of drowning.(21, 81)

	EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
ENGINEERING	**Window safety mechanisms to prevent children from opening windows, such as bars and position locking devices, are an effective strategy to prevent falls.**(18, 82)	> Window bars have been shown to reduce deaths from window falls by 35%.(18, 82) > Regulations requiring window safety mechanisms on rental housing appears to be most effective approach when working in areas of social deprivation.(18) > Parental knowledge and availability, accessibility, cost and ease of use of window safety mechanisms will impact their uptake.(83, 84)
	Stair gates have shown to assist in the reduction of falls down stairs to young children when used at the top of stairs in households.(45)	> Parental knowledge and stair gate availability, accessibility, cost and ease of use will impact their uptake.(45, 83, 84) > Pressure gates should not be used at the top of stairs.(85) > Inequalities in rates of uptake and use may be reduced if stair gates are both supplied and installed.(86, 87) However overcoming cost and installation barriers only partially addresses economic disparities, thus further research is required to identify and deal with additional barriers.(86)
	Surfacing materials such as sand or wood chips to a depth of 23-31 cm (9-12 inches) can be recommended as effective injury prevention strategies in preventing playground equipment-related injuries. Optimal equipment height to reduce risk of head injury is 1.5 m (5 feet).(18) **Case example:** Safer Play Equipment on Playgrounds, Ontario, Page 48.	> Level of enforcement will impact effectiveness.(54, 88) > Regular maintenance of surfacing materials is necessary to retain protective effect.(18, 89) > Standards are most effective when supported by educational activities.(46, 90, 91) > Surfacing depths in the Canadian Playground Standard require 15-30 cm (6-12 inches).(88, 92)
ENFORCEMENT	**Legislation banning baby walkers removes a larger portion of existing risk than parental supervision.**(18, 93)	> Level of enforcement will impact effectiveness.(54, 94) > Legislation is most effective when supported by educational activities.(46)
	Enforcement of standards requiring safe depth of specified types of surfacing materials and regular maintenance of those materials is more effective than standards alone in reducing playground equipment-related injuries.(18, 88)	> Level of enforcement impacts effectiveness.(54, 88) > Standards are most effective when supported by educational activities.(46, 90, 91) > Surfacing standards address risk of head injury, not injuries to arms and legs.(18, 95)
EDUCATION	**Educational programs encouraging use of fall prevention safety devices such as window safety mechanisms to prevent children from opening windows and down stairs increase use of equipment.**(18, 82, 84)	> Parental knowledge and availability, accessibility, cost, durability and ease of use of safety measures will impact their uptake.(83, 84, 96) > Provision and instalment of free equipment is more likely to increase use, particularly in lower income settings.(83, 84) > Effective provision of safety equipment involves ongoing support with installation and maintenance.(97) > Timing of education and developing materials and advice (style, language and examples) that suit target communities (e.g., low income, ethnic minority populations) are key to success.(97) > Existence of supporting legislation and adequate enforcement can increase availability of funding for equipment schemes and uptake of safety measures in the home.(97) > Uptake and success of interventions depends on adjusting interventions according to practical limitations and parents' cultural expectations. A particular barrier is parents' inability to modify rented or shared accommodation.(97)

	EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
ENGINEERING	**Product modification, specifically child resistant cigarette lighters, hearth gates and self-extinguishing cigarettes, are primary prevention strategies where the technologies have been developed, tested and found to be effective and which would prevent many fires from starting if adopted.**(18, 19, 98-101)	> In the U.S.A., fire deaths associated with cigarette lighters dropped 43% with the adoption of child resistant designs.(18) > Regulations requiring product modifications and their enforcement will increase availability of safe products.(19) > Parental knowledge and modified product availability, accessibility, cost and ease of use will impact their uptake.(83, 84)
ENFORCEMENT	**Legislation regulating the temperature of hot water from household taps is effective in reducing scald injuries.**(21)	> Safe temperatures for hot water from household taps can be achieved by reducing temperature at the water heater or through the use of thermostatic mixing valves (TMVs).(86, 102) > Level of enforcement will impact effectiveness.(54) > Legislation is most effective when supported by educational activities.(21, 46)
	Legislation requiring a safe pre-set temperature (49^{0}C) for all water heaters has proved a more effective method of reducing scalds than education to encourage parents to turn down water heaters.(18)	> Level of enforcement will impact effectiveness.(54, 102) > Legislation is most effective when supported by educational activities.(46, 103) > Cost-effectiveness estimates from Canada suggest that legislation to lower thermostat settings on domestic water heaters along with annual educational notices to utility customers would generate cost savings while reducing the morbidity from tap water scalds in children.(104)
	Legislation requiring installation of smoke detectors in new and existing housing when combined with multi-factorial community campaigns and reduced price coupons is an effective way to increase smoke detector use.(18, 105)	> Level of enforcement will impact effectiveness. (54) > Legislation is most effective when supported by educational activities.(46)
	Legislation regulating flammability of sleepwear is effective in reducing burn injuries when enforced.(18, 106)	> Legislation passed in the U.S.A. in 1972 resulted in a 75% reduction in burn unit admissions due to sleepwear related burns.(18, 106) > Level of enforcement will impact effectiveness.(54) > Legislation is most effective when supported by educational activities.(46)
	Legislation banning the manufacture and sale of fireworks combined with enforcement is the most effective way to restrict the supply.(18, 107) **At this time there is no study directly linking restricted supply to injury reduction.**	> Level of enforcement will impact effectiveness.(54) > Legislation is most effective when supported by educational activities.(46) > Supporting legislation is best targeted at primary and secondary school students and parents.(107)
EDUCATION	**Smoke detector giveaway programs have proven successful when high-risk neighbourhoods are targeted and multi-faceted community campaigns have the specific objective of installation of working smoke detectors.**(45)	> Important elements of community-based approaches are long-term strategy showing commitment to the issue, effective focused leadership, multi-agency collaboration, involvement of the local community, appropriate targeting and time to develop a range of local networks and programs.(20) > The distribution of smoke alarms alone is insufficient for improving installation rates; programs containing an education component showed more success.(87) > Existence of supporting legislation and adequate enforcement can increase availability of funding for equipment schemes and uptake of safety measures in the home.(97) > Addressing cost and installation only partially addresses economic disparities, more research is required to identify additional barriers.(86) > Timing of education and developing materials and advice (style, language and examples) that suit target communities (e.g., low income, ethnic minority populations) are key to success.(97) > Uptake and success of interventions depends on adjusting interventions according to practical limitations and parents' cultural expectations. A particular barrier is parents' inability to modify rented or shared accommodation.(97) > Interventions integrated into wider health programs, where trusting relationships with householders are cultivated and/or where specific safety issues identified by a community are responded to show greater success in increasing smoke alarm installation rates.(87)

EDUCATION

EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
Education/advocacy campaigns around fireworks are useful as supplemental efforts and can be used to build support for legislation.(18)	> Important elements of community-based approaches are long-term strategy showing commitment to the issue, effective focused leadership, multi-agency collaboration, involvement of the local community, appropriate targeting and time to develop a range of local networks and programs.(20)
Fire safety skills training increases knowledge and behaviour of both children and parents.(18, 108) **At this time there is no study directly linking training to injury reduction.**	> Programs using active participation by children in learning fire responses are more effective than those using passive methods.(108) > When evaluating programs, actual demonstration of skills is likely a more reliable marker of children's real response in fire situations than providing correct answers on a written test. (108) > The addition of fear reduction techniques and teaching the rationale supporting the use of correct fire response behaviours may significantly improve skill retention.(108) > Periodic repetition of material is required for maintenance of knowledge and skills.(108) > The use of figures of authority in fire safety skills training (e.g., fire fighters) may increase knowledge gain.(108)

Good practice for poisoning prevention in children

	EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
ENGINEERING	**Secure storage for poisons removes a larger portion of poisoning risk than parental supervision and may be an effective means of preventing poisoning injury.**(109, 110)	> Studies of how children access poisons suggest that the most vulnerable time is when the poisons are in use and that safe packaging alone cannot compensate for unsafe storage or use. This speaks to the need for improved safety of home storage of medications and improved home dispensing practice.(111, 112) > Changes to the fixed environment need to be supported by regulation and education for industry and the community, with clear labelling (and clear administration instructions) on the package, parental education and improved supervision, ongoing paediatric counselling, and increased accessibility and affordability.(111-113)
ENFORCEMENT	**Legislation of child resistant packaging reduces the incidence of poisonings.**(18, 45, 114)	> In the USA the use of child resistant packaging was associated with a 34% reduction in the aspirin related child mortality rate.(114) > Level of enforcement will impact effectiveness.(54) > Legislation is most effective when supported by educational activities.(46)
EDUCATION	**Poison control centres result in considerable medical savings if the public is well informed regarding the use of their local poison control centre.**(18)	> Parental knowledge and availability, accessibility and ease of use of poison control centres will impact their use. Educational activities may assist in increasing parental knowledge.(18)

ENFORCEMENT

EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
Product modification through legislation permanently removes a larger portion of existing choking/strangulation risk than parental supervision and is recommended for safe crib/cot design and other entrapment hazards.(18)	> Level of enforcement will impact effectiveness.(54) > Legislation is most effective when supported by educational activities.(46)
Product banning/regulation through legislation permanently removes a larger portion of existing choking/strangulation risk than parental supervision.(18, 115)	> Product banning/regulation through legislation is recommended for latex balloons, inedible material in food products, pull cords on window coverings (e.g., horizontal blinds) and drawstrings on children's clothing.(18) > Level of enforcement will impact effectiveness.(54) > Legislation is most effective when supported by educational activities.(46)
Legislation that requires product warning labels to include an explanation of the specific hazard is more effective than non-specific labels.(18)	> A label merely stating, "For children ages three and up," doesn't adequately explain the risk to the parent.(18) > Level of enforcement will impact effectiveness.(54) > Legislation is most effective when supported by educational activities.(46)

Good practice for general child home safety

	EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
ENFORCEMENT	**Non-voluntary building codes for new dwellings (legal standards to address hazards related to falls, fire injuries, other thermal injuries, collisions, entrapment, cutting and piercing, drowning, electrocution and poisoning [i.e., lockable cupboard]) leads to reduction in children's exposure to hazards.**(116-119)	> The quality and quantity of the evidence varies across different hazards types and for different ages of children. It is weaker in some areas, such as for electrocution, because of the small number of incidents. What is clear is that within each hazard type the direction of the evidence is consistent.(116-119) > Effectiveness of non-voluntary building codes is dependent on formulation, application and enforcement.(116-119) > Building codes fall within the mandate of the housing ministries but the formulation should involve collaboration between sectors including health.(116-119) > Need to consider capacity and mechanism for enforcement.(116-119) > Building codes should be hazard related regardless of the setting, take into account the special needs of children and be understandable to those applying and enforcing the codes.(116-119)
	Non-voluntary building codes for existing dwellings (legal standards to address hazards related to falls, fire injuries, other thermal injuries, collisions, entrapment, cutting and piercing, drowning, electrocution and poisoning i.e., lockable cupboard) leads to reduction in children's exposure to hazards.(116-119)	> Building codes that apply to only new dwellings are likely to miss the children most at risk, who are more likely to be living in older more hazardous buildings, thus it is better if building codes apply to **all dwellings**.(116-119) > The quality and quantity of the evidence varies across different hazards types and for different ages of children. It is weaker in some areas, for electrocution, because of the small number of incidents. What is clear is that within each hazard type the direction of the evidence is consistent.(116-119) > Effectiveness of non-voluntary building codes is dependent on formulation, application and enforcement.(116-119) > Building codes fall within the mandate of the housing ministries but the formulation should involve collaboration between sectors including health.(116-119) > Need to consider capacity and mechanism for enforcement.(116-119) > Building codes should be hazard related regardless of the setting, take into account the special needs of children and be understandable to those applying and enforcing the codes.(116-119)
EDUCATION	**Home safety counselling (addressing issues such as using window bars, stair gates, other home safety equipment and not using baby walkers, bath seats and other injury hazard producing equipment) can reduce the risk of child injury.**(45, 83, 84, 120, 121)	> Availability, accessibility, cost, durability and ease of use of items recommended during home safety checks will impact their uptake.(83, 84, 96, 121) > Providing free safety equipment increases use but evidence is less strong for discounted equipment.(84) > Effective provision of safety equipment involves ongoing support with installation and maintenance.(97) > Existence of supporting legislation and adequate enforcement can increase availability of funding for equipment schemes and uptake of safety measures in the home.(97) > Timing of education and developing materials and advice (style, language and examples) that suit target communities (e.g., low income, ethnic minority populations) are key to success.(97) > Uptake and success of interventions depends on adjusting interventions according to practical limitations and parents' cultural expectations. A particular barrier is parents' inability to modify rented or shared accommodation.(97)
	Home based social support, such as home visiting programs for new mothers, has the potential to significantly reduce rates of child injury.(122-125) **Case example:** Safety Kit Program, Quebec, Page 52.	> Supportive home visiting for families with young children can provide education regarding issues such as using window bars, stair gates, other home safety equipment and not using baby walkers, bath seats and other injury hazard-producing equipment.(122-125) > Availability, accessibility, cost, durability and ease of use of items recommended during home safety checks will impact their uptake.(83, 84, 96)
	There is indirect evidence that individual-level education/ counselling in the clinical setting are effective measures to reduce many childhood unintentional injuries.(83, 126-128) **Case example:** A Million Messages, Alberta, Page 50.	> Availability, accessibility, cost, durability and ease of use of items recommended during home safety checks will impact their uptake.(83, 126) > Those providing information also require initial and ongoing training to ensure content/material provided is up-to-date. (129, 130)

EDUCATION

EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
School based injury prevention education has the potential to increase safety-related knowledge and behaviour.(131-133) **Case example:** TD ThinkFirst for Kids Curriculum, National, Page 54.	> Large-scale educational programs can require considerable ongoing funding.(134) > These types of programs have been successfully implemented with the support of community-wide coalitions.(134) > Large-scale system wide educational programs have great potential, particularly if endorsed by government, in that they can lead to longer-term sustainability than one-off programs.(133, 135) > It takes time to obtain buy-in and support from school administration and teachers.(134) > School-based programs are more effective if supported by policy change and environmental modification to support behaviour change.(131, 135, 136)
Interactive education and training approaches have a significant impact on children's safety related knowledge, attitudes and behaviours.(136-143)	> Large-scale educational programs can require considerable ongoing funding.(134, 137)

Good practice for system leadership, infrastructure and capacity to support child injury prevention

EVIDENCE STATEMENT	TRANSFER AND IMPLEMENTATION POINTS
Where capacity building activities, such as conferences, workshops and continuing education programs, have taken place significant benefits for injury prevention work have been found.(4, 144) **Case example:** Acquired Brain Injury Strategy, Saskatchewan, Page 56.	> Training and other support mechanisms can be essential to facilitating the uptake and implementation of national level policies at the local level.(145)
National leadership is needed to establish direction and develop a vision of the future, develop change strategies, align people, inspire, energize.(55, 145-147) **Case example:** Atlantic Collaborative on Injury Prevention, New Brunswick, Newfoundland and Labrador, Nova Scotia and Prince Edward Island, Page 58. **Case example:** Provincial Injury Prevention Strategy, Nova Scotia, Page 66. **Case example:** Safe Kids Week 2001: Prevention of Scald and Burn Injuries in Young Children, National, Page 68.	> Managing change requires good leadership – in order to draw together and coordinate the component parts of effective injury prevention infrastructure and the resulting prevention strategies and to integrate outputs to ensure goals are met.(145)
The collection and dissemination of data is vitally important in the monitoring and evaluation of injury prevention programs, and the development of policy and practice. (4, 46, 54, 55, 115, 146, 148, 149) **Case example:** Canadian Hospital Injury Reporting and Prevention Program, National, Page 60. **Case example:** Canadian Surveillance System for Water Related Fatalities, National, Page 62. **Case example:** Economic Burden of Injury in Canada Reports, National, Page 64.	> The use of local surveillance systems is essential to target interventions, motivate participants and evaluate interventions.(148, 149) > Data assists with the targeting of resources and activity to those identified with the greatest need.(46, 54) > Collecting data for all age groups may make more sense than a single age group as it may help ensure data are always seen as relevant.(149) > Building a data system on existing systems reduces workload.(148) > In settings where vital statistics and hospital-based data are non-existent or unreliable, community surveys may be the only source of information.(149) > Common barriers include lack of commitment by involved individuals and agencies, privacy issues, lack of resources, lack of documented definitions, problems with data collection and recording mechanisms.(54)
Paediatric death review processes provide a unique opportunity to identify risk factors and possible prevention measures.(150-152)	> Most effective if multi-disciplinary teams using data from multiple sources.(153) > Paediatric death review processes are most useful if resulting recommendations are specific, actionable and assigned to responsible stakeholder.(151) > Capacity building activities for death review committee members, including education regarding evidence-based practices, can enhance the value of reviews to prevention efforts.(151) > While useful to all child injury issues, paediatric death review may be particularly useful when examining drowning given the lack of information on incident circumstances from other data sources.(154)

SECTION 3

When and how should we use good practice in planning injury prevention strategies?

As noted previously in the section on why good practice is not implemented, failure to plan effectively is one reason why there is not more good practice in place. Knowledge of existing evidence-based good practice is crucial to effective planning and is useful at more than one point in the planning process.(155) In fact to ensure a plan has real impact and uses scarce resources effectively, knowledge of good practice is essential.

This model is comprised of three distinct components that all need to be considered when selecting and implementing good practice. As you move through the three components, keep in mind the importance of making the best use of resources by focusing on those strategies most likely to work in finding a good practice that has been proven to be effective.

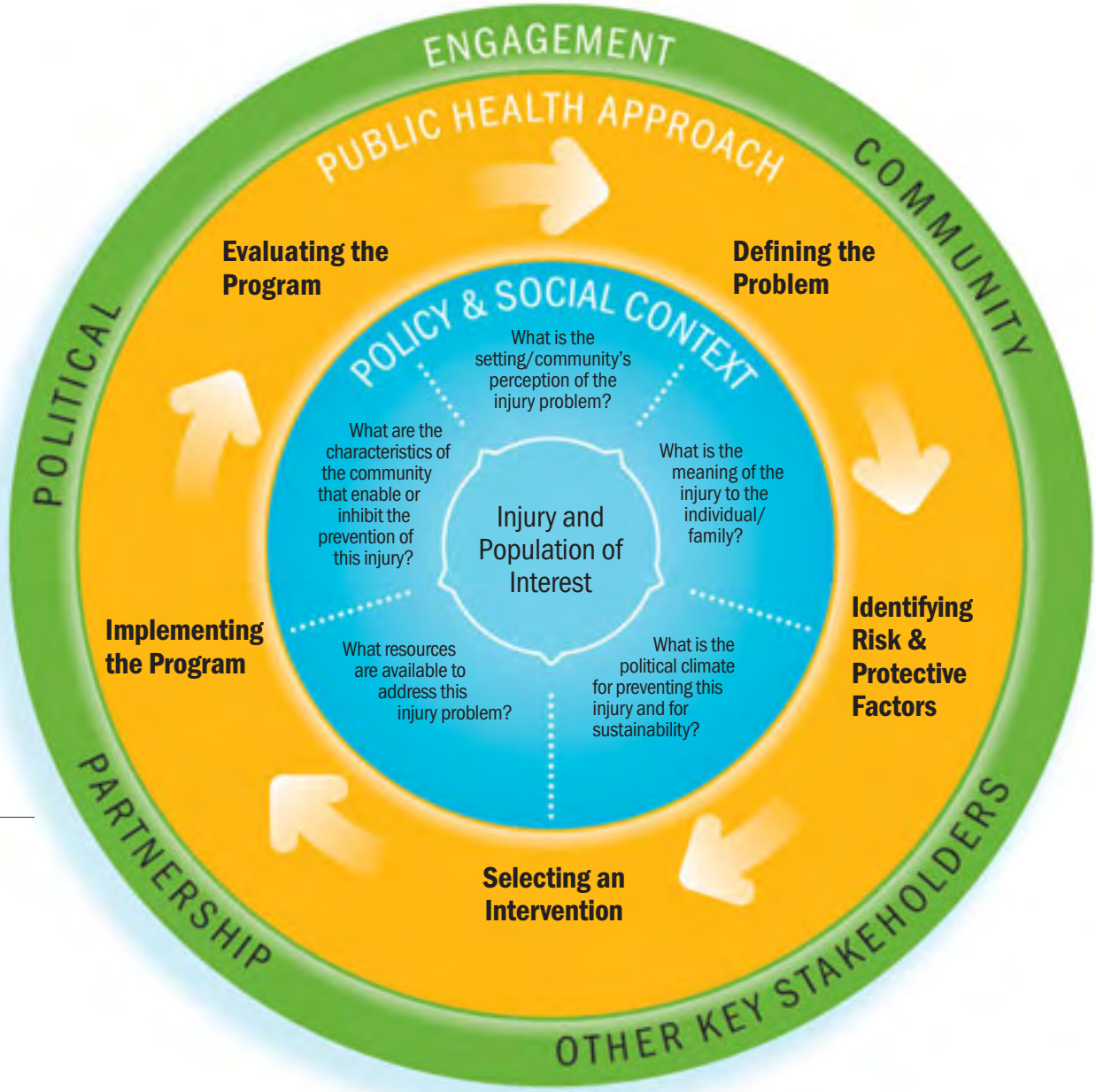

FIGURE 3.1
Using Good Practice to plan effective actions to prevent injury and promote safety. Adapted from the Canadian Injury Prevention Curriculum (158) and Injury prevention: meeting the challenge.(159)

Policy and Social Context

The policy and social context serves as the underpinning of this model. Considering each of the five questions posed by this component of the model will establish important information about the social and policy context in which you are working to select, implement and monitor evidence-based good practice. The answers to these questions will not only guide your selection of good practice interventions to address an injury issue, but will also shape the order in which you carry out specific strategies and the kinds of techniques you adopt as you implement the intervention.

For example, if the community and politicians in your municipality do not see playground injuries as an important safety issue, your strategy will require some advocacy and public awareness raising regarding the issue and the existence of evidence-based solutions before you are ready to push for the adoption of good practice playground safety interventions. Using techniques such as advocacy and public awareness will help you shift the social and policy context, establishing community and political support and securing resources that will create the necessary pre-conditions to advance your desired good practice intervention.

Assessing the policy and social context is not a one-time exercise. Good practitioners must continuously assess and monitor the context as they move through the steps of the public health approach and over the life of an intervention. This context will continuously shift and change over time. Ensuring an ongoing understanding of this context will allow you to be more effective and ultimately more successful in your injury prevention efforts.

Underpinning action through prevention planning is an in-depth understanding of the policy and social context in which you are working. Answering these questions will help you identify;

- whether individuals, families and the community, see this injury as an issue;
- whether they see the injury as preventable;
- whether there are champions to enlist or naysayers that will need to be convinced;
- what assets your community has that you can build upon; and
- whether you have the resources and political will to address the injury issue.

Public Health Approach

The second component of this model addresses the five steps of the public health approach to selecting, implementing and monitoring an evidence-based good practice. Each step builds on the previous and there are interrelationships between each of the steps. The steps are described below:

- **Defining the Problem** – collect information about the magnitude, scope, characteristics and consequences of the injury issue.
- **Identifying Risk & Protective Factors** – based on the defined problem, identify the factors that increase or decrease the risk for injury.
- **Selecting an Intervention** – consider factors that can be modified through interventions, based on your policy and social context; review the good practice literature on this issue and select the most appropriate intervention(s).
- **Implementing the Program** – plan the intervention(s) and implement in a variety of appropriate settings.
- **Evaluating the Program** – monitor the effects of the intervention(s); consider the impact and outcomes and overall cost effectiveness.

Remember that throughout the public health approach you should consider and reassess the policy and social context.

Engagement

This component is depicted as the outer ring of the model, demonstrating that engagement holds the model together. Engaging others as you assess the policy and social context and develop, implement and monitor an evidence-based intervention is fundamental to your success. Engagement of community, stakeholders, politicians, decision-makers and partners will not only aid you in shifting the policy and social context (establishing the required conditions for your success), it will also ensure a more collaborative approach to build capacity, tap into the knowledge and expertise of others, identify champions and bring new resources to the table.

By focusing collective efforts on evidence-based good practices, you can advocate for changes to policy, standards and legislation at all levels of government in order to keep children and youth safe where they live, play and learn. Advocacy is something that everyone can do by learning about the issues and working with local partners, the community and other key stakeholders to engage policy makers. Depending on the specific injury prevention or safety promotion area you focus on, other key stakeholders may be identified and engaged in these activities.

Other general things to keep in mind to ensure successful planning and implementation of evidence-based good practice strategies include the following:

- Accurate and reliable information must provide the basis for planning, monitoring and evaluation of policies and programs. Taking the time to obtain this information will increase the likelihood of success, support improvements along the way and facilitate sharing of transfer and implementation issues with others who may be interested in a similar approach.
- Development of policy or programs without implementation and evaluation is meaningless. The capacity and resources to deliver, monitor and evaluate must be considered when policy or programs are developed.
- Children, as the target audience, should be involved in designing policies and programs.
- Policy and programs objectives must be clear, unambiguous and measurable.
- Educational approaches alone are likely to be of limited effectiveness. They need to form part of a broader set of

initiatives that use the full set of policy instruments available to decision-makers such as environmental modification, standards, legislation, etc. Similarly, environmental modification, standards and legislation are less likely to be effective if they do not include supporting educational approaches.

- Although the health sector is important, it is only one partner in the search for injury reduction. Multi-sectoral action is essential and work needs to be coordinated across sectors and government ministries.

Consider each component of the model individually and then in an integrated approach to plan actions that effectively prevent injuries and promote safety. In the end, successful interventions;

- are created as part of comprehensive planning and are based on evidence and good practice;
- address both the broad determinants of injury (e.g., socio-economic status) and particular risk factors for child injury (e.g., exposure to a hazard);
- involve multi-sectoral, multifaceted and multi-level action by government and other stakeholders, using a variety of policy instruments; and
- target the populations in greatest need and are adapted to local needs, resources and circumstances.

What issues should be considered when selecting strategies?

There are three areas of information to be considered when selecting strategies during strategic and action planning.

#1 Is there evidence that the approach has been effective elsewhere?

Is the injury prevention strategy accepted as evidence-based good practice? If it is one can move on to examine the other areas of information that should be considered when selecting a strategy. If it is not, and a decision is made to proceed with using it, then from the perspective of responsible use of resources, it should be considered whether the necessary expertise, capacity, resources and methods to set up an evaluation of the strategy that will answer the effectiveness question, or at least add to the existing evidence are available or can be obtained.

#2 Is the current political and social environment ready and able to take on the injury prevention strategy?

This involves an assessment of the transferability of a strategy to a new setting. Transferability relates to the conditions that should be present to increase the likelihood of success of a strategy in a new setting. It includes things like adequate political support, strong leadership, stable infrastructure, adequate resources and capacity, social climate in favour of the strategy and time to take on and complete the strategy from planning to evaluation. These are higher level issues than the specifics for planning implementation of a strategy and are often overlooked and rarely, if ever, included in scientific papers reporting on strategy effectiveness.

#3 Is there a realistic and clear understanding of the process required to undertake the injury prevention strategy?

Actual transfer and implementation of any strategy will only be successful when a well thought-out process has been developed and acted upon. The process should realistically examine the specifics of who, what, where, when and how the strategy will be put into place. This information should be considered during strategic and action planning, although it is likely that all decisions may not be made until more detailed implementation and evaluation plans are developed. Like transferability, implementation issues are practical issues that are often overlooked and rarely included in scientific papers reporting on strategy effectiveness.

While the information required for the first question around effectiveness is reported in scientific journal articles and summary reviews, the information to assist planners in selecting potential strategies and answering questions #2 and #3 noted above can only be obtained by doing oneself or learning from the experience of others. This is why sharing of real life experience of transferring and putting strategies into practice is an essential addition to scientific studies looking at effectiveness when evaluating good practice. It also emphasizes the importance to the injury prevention field of documenting and sharing the processes of selection, transfer and implementation of strategies in addition to evaluation. This documentation is something that to date has either not been consistently done, or has been done only to end up in dusty filing cabinets never to be shared. This practice must change.

The examination of issues around transferability and implementation is a relatively new area of enquiry that will require additional research before these issues are truly understood. However as these issues are vital to success, a list of questions to work through during strategic and action planning is included (Table 3.1). These questions address issues around transferability and implementation and begin to get at the need for a more systematic approach to these issues. They should assist in identifying key factors that will increase the likelihood of successful transfer and uptake.

Obtaining the answers to these questions will be time consuming but their careful consideration during the planning process should increase the likelihood of successful transfer and implementation of evidence-based good practice.

Table 3.1 Questions to support good practice strategy selection.(158)

Does the strategy address one or more priority areas?

Will the anticipated outcome of the strategy move you toward one or more of your injury prevention goals? For example, improved injury surveillance data might address multiple goals and priority areas, whereas a specific piece of legislation might only address one. Regardless, the important focus here is to ensure that action is in line with priorities and goals.

Does the strategy involve a comprehensive approach, taking into account education, engineering and enforcement?

If not, is there an opportunity to build on the strategy so that it does? For example, ensuring that there is an educational component (e.g., an awareness campaign) to back-up new legislation.

Is transfer of the strategy/intervention practical and realistic?

1. Can it be reasonably implemented in the new setting proposed?	• Do you have the necessary organizational structure and processes? For example, do you have access to the target audience? If not, can the necessary structure and processes be established? Do you have a means of collecting the information necessary to evaluate your efforts? Is there a logical lead agency to make it all happen? • Do you have the necessary support from decision makers? If not, can this be obtained? Do you have champions who can assist you in doing this? • Does the strategy/intervention fit with or into any existing policy initiatives? For example, can you tie it to work being done to decrease obesity, social deprivation or environmental gas emissions? • Do you have the necessary resources to both establish and sustain the effort? If not, do you have promising ideas for how these might be obtained? • Do you have the necessary knowledge and skills? Are the right people at the planning table? If not, can this expertise be obtained? Is there a dedicated group of people to champion the issue and provide a critical mass? Is there an internal contact to the government or a professional group with the necessary technical expertise and key contacts?

Is transfer of the strategy/intervention practical and realistic?

2. What are the barriers to transferring the strategy/intervention?

- Do you understand the characteristics of the people and community, including knowledge of their culture, religion, history, etc.?
- Is the community ready to accept the strategy/intervention? For example, is the community in Alberta ready to accept bicycle helmet legislation?
- Who are the opponents of the introduction of the intervention? Are people willing or unwilling to work outside their organization's mandate or immediate scope?
- Is the strategy/intervention focused enough? Be clear on the job to be done and keep it doable.
- How big is the fight? Is it worth investing resources now or are there other strategies that provide an increased likelihood of success? How much do I invest versus what I am going to get out of it?
- Do you have enough time as it relates to political, policy or funding cycles or to demonstrate successful implementation? Can you obtain financial support for a long enough period to implement the strategy and follow it up to assess impact? For example, is there likely to be a change in government that might impact what you are trying to achieve?

3. Can barriers be overcome?

- Are there champions for injury prevention or children (e.g., individuals, celebrities, or NGOs)?
- Is there a bigger political/policy process you can link into (e.g., international declarations, charters or resolutions, national alcohol reduction policies or transportation strategies)?
- If the community is not ready to accept the strategy/intervention is there an earlier step that would increase community readiness (e.g., an awareness campaign)?
- Are there opportunities to involve the community and specific target audience in planning and implementing the strategy/intervention?
- Can you obtain political endorsement of the strategy to ensure life beyond a particular government?
- Can you obtain commitment to funding for a period long enough to demonstrate effectiveness in your setting?

Is the strategy appropriate to the target audience? If not, what adaptations need to be made to take the specific target group into consideration?

Do you have evidence of the strategy being used for your target audience in another setting or being used in your setting but on a different issue? What are the specific characteristics of your target audience that might have to be taken into account? For example, if looking at legislation requiring bicycle helmets you might need to examine issues of access to information, helmets or hazard reducing modifications for socially deprived neighbourhoods.

What else can be done to support a culture of good practice in child injury prevention and safety promotion?

The challenge with moving toward a culture of good practice in child injury prevention and safety promotion in Canada is that there is no systematic approach to the issue or a place to find best practices for a variety of injury issues. It is hoped that this guide will be a starting point of such an approach. The guide focuses on evidence-based good practice and best investments for having a real impact and is a tool to raise awareness and communicate those strategies/interventions that have an evidence-base. Furthermore, where available guidance on transfer and implementation and examples of 'real world' success in at least one setting in Canada have been described to provide a learning opportunity for those considering the strategy/intervention to keep in mind prior to selection, transfer and implementation.

The guide also tries to provide practical advice on how to use good practice in strategic and action planning for unintentional injury prevention and safety promotion and on the points in the process where knowledge of good practice is most useful. It also stresses the importance of taking the time to address transferability issues prior to final selection of strategies.

It is hoped that by ensuring awareness of effective strategies the injury prevention community (public health practitioners, emergency services, hospitals, etc.) can better encourage policy makers to adopt evidence-based good practice into their setting and begin work to implement those changes. However, if the injury prevention community is to make the best use of limited resources and have the greatest impact on the lives of Canadian children, action and commitment is required on many levels. Thus in closing the action and commitment needed by international organizations, Canadian non-governmental organizations and national/ provincial/ territorial governments, injury researchers and injury practitioners themselves is summarized.

International organizations can:

- Encourage and facilitate national governments and organizations to systematically exchange information on good practice and transferability issues for child injury prevention programs.
- Assist countries and regions in building capacity to address child injury using good practice.
- Work cooperatively with other international agencies to promote good practice in child injury prevention and safety promotion.
- Encourage evaluation of all child injury prevention initiatives in order to identify new examples of good practice and facilitate exchange of information on good practice between stakeholders.

National/ Provincial/ Territorial governments and Canadian non-governmental organizations can:

- Support and fund good practice injury prevention measures that reduce child injury deaths and serious injury in a combined approach of education, engineering and enforcement of standards and regulations, specifically through:
    - The exchange of information on good practice and transferability issues regarding child injury prevention programs.
    - Enhanced development and increased enforcement of child safety standards and other safety legislation.
    - Supporting a culture of good practice and ensuring evaluation of all child injury prevention initiatives.
    - Making and following through on commitments to adopt good practices.

Injury researchers can:

- Conduct research to better understand the processes by which strategies/interventions are identified, adopted, implemented and maintained; and to understand the facilitators and barriers of transferring good practice between settings.
- Evaluate the childhood injury prevention strategies that have not been proven effective or ineffective in order to build our knowledge of what is good practice.
- Conduct cost effectiveness studies to provide decision makers with more information to assist in making decisions between good practices.
- Work with knowledge translation experts/organizations to translate research results into key evidence statements that are easy to understand.
- Disseminate these evidence statements and take a more active role in advocating for policy choices that result in the transfer and implementation of good practice.

Injury practitioners can:

- Communicate the evidence/facts of what really works and show the examples of this success.
- Build and extend networks of collaboration with other NGO's with an interest in safety and with major stakeholders in business, government and academia in order to promote and facilitate the adoption of a culture of good practice in child injury prevention.
- Provide expertise in the field of child injury prevention on what works and on the implementation of effective good practice, standards and regulations in various settings and cultures.
- Act as advocates with government and industry for the implementation and evaluation of good practice in child injury prevention across all sectors.
- Evaluate all NGO-led child injury prevention initiatives in order to identify new good practice and facilitate exchange of information on good practice between stakeholders.

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SECTION 4

Methodology for case studies

We set out to provide a sampling of case studies to illustrate implementation examples of good practice and lessons learned to assist those considering implementing the strategy in their own setting. The case study examples included are considered to be a 'first round', as there were other examples that met our criteria and could have been included.

However, the reality is that many programs have not been examined with respect to their effectiveness and it is even less likely that they will have been evaluated using a rigorous research design that includes a comparison group and a look at behavioural and injury outcomes. As a result, many programs could not be included as case studies in this version, but it is anticipated that as more programs receive adequate evaluation additional examples can be added.

Case studies were sought and selected based on the following criteria:

- Example program addresses issues of priority within Canada (based on injury burden).
- Example program met our definition of good practice.
- Example program corresponds with one of the good practices identified.
- Example program has been implemented and evaluated (both process and outcome evaluations completed) in a Canadian setting and found to be effective.

In addition to the selection criteria, where possible we also attempted to select case study examples that reflected a range of resource intensities (e.g., a range of costs to implement) and implementation levels (e.g., national, provincial, regional or local). Case studies were also selected to try and reflect the efforts from as many areas of Canada as possible. Case study examples were sought through an initial consultation with the Expert Advisory Group (see Acknowledgements), which was made up of representatives from other child injury prevention and safety promotion organizations across Canada. In addition, contact with one organization led to the identification of a second case study.

For each potential case study selected, available documentation was examined to ascertain that the potential case study met the inclusion criteria. In a few cases, a standardized interview was conducted that sought and summarized this information before the draft was developed. A contact person was identified and case studies were sent to the contact person for review, clarification, and confirmation before being sent to the Expert Advisory Group for final review.

Each case study was developed using the following headings:

- Implementation level (at what level was the strategy focused – national, provincial, regional or local?).
- Strategy approach (which of the 3 "E"s was used – education, engineering, enforcement or a combination?).
- Setting (where did the intervention take place?).
- Target audience (at who was the intervention aimed?).
- Resource intensity* – an indication of the resource intensity required
    - $ = up to $30,000/year
    - $$ = $30,000-99,999/year
    - $$$ = $100,000-499,999/year
    - $$$$ = $500,000-999,999/year
    - $$$$$ = $1,000,000 plus/year.
- Background (including rationale, driving force, timeframe and major partners).
- Aim and objectives.
- Evaluation.
- Key steps/actions.
- Lessons learned (including barriers and facilitators, advice to others and issues around transferability).
- References/additional information.
- Contact information.
- Evidence statement supporting the strategy.

It is important to note that the case studies included in the following section are an initial attempt to illustrate examples of good practice. Similar programs may be occurring in provinces other than the ones used for the examples and additional examples addressing any of the particular injury issues in this Guide are welcomed for inclusion in future editions. Please forward case study ideas to safekids.web@sickkids.ca.

*The resource implications provided should be interpreted carefully. First they do not include in-kind support, which in many cases far outweighs the actual budget spent on the implementation of a strategy. Second although the resource intensity estimates provided come from the project personnel themselves, it is important to remember that costs vary by province for many things such as people's time, printing of resources, etc. As a result the resources required when looking at transferring a strategy from one setting to another may vary from what is reported here.

SECTION 5

Good Practice Case Studies from Canada

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In addition to the case studies provided in this Canadian Edition, we are pleased to provide the following links:

- For additional Canadian case studies, please visit http://www.safekidscanada.ca/Professionals/Tools-and-Resources/Guide/Good-Practice-Guide.aspx
- For European case studies, please visit http://www.childsafetyeurope.org

SECTION 5

Child Passenger Safety Promotion in Aboriginal Communities

Manitoba

Implementation level:	Local
Strategy approach:	Education
Setting:	Northern First Nations communities
Target audience:	Parents of children 12 and under
Resource intensity:	$

Background:

The initial Child Passenger Safety Promotion project (2006/07) had the support and guidance of the Manitoba First Nations Community Wellness Working group, the First Nations and Inuit Health Branch (FNIHB), Health Canada and Transport Canada, and received the appropriate ethics reviews before implementation. It is known that child restraint use is low in First Nations communities and it was hypothesized that barriers would include the selection, purchase and installation of car and booster seats.

Three communities that had recently participated in a community injury prevention demonstration project were selected. Local injury prevention committees coordinated the project at the community level, and the overall project was coordinated by the (then) provincial injury prevention centre - IMPACT. Selected community members completed two-day child restraint technician training and conducted baseline assessments of child passenger safety practices using roadside and parking lot surveys. Baseline focus groups were held to explore local beliefs, practices, barriers and solutions and to tailor the interventions. A brief intervention (correction of installation errors - straps too loose, tether straps not being used and chest clip too low, individual counselling and replacement of defective seats) was completed at the time of the parking lot survey.

A more comprehensive intervention was implemented in two of the communities, with the third serving as the control group. These strategies were community-led and tailored to local needs, and included education and hands-on car seat clinics with a multi-stage car seat available (either free or for a $20 fee). Each community chose different policy approaches: mandatory training for parents prior to getting a free seat OR $20 fee to receive seat OR signature on a parent contract stating the seat would be used and not sold (otherwise payment for the seat required). Communities used existing educational materials from Transport Canada and neighbouring provinces, rather than spending funds on creating new materials with an Aboriginal-specific approach. Three months following the intervention period, roadside and parking lot surveys and focus groups were repeated to evaluate the effectiveness of these interventions.

The program expanded to 14 communities in the following two years. The car seat project was part of a larger initiative called the Community Injury Prevention Program where a number of communities received training in injury prevention, including how to determine and act upon local injury issues. The other communities included in the expansion 14 were also ready to move forward as they had identified motor vehicle injuries as important issues to their communities. Under the leadership of IMPACT, funding was secured from the provincial government, FNIHB Ottawa and FNIH Manitoba Region to purchase about 650 seats from the manufacturer.

The Community Injury Prevention Program ended due to the transition of IMPACT from a provincial program to a Health Authority program, as well as a number of staffing changes at various levels. However, as of 2011, anecdotally at least four communities still have a car seat program and they use Brighter Futures /Building Healthy Communities funds (at the community level) to purchase new seats.

Aims and objectives:

The aim of this project was to improve current child passenger safety practices in three Manitoba First Nations communities, focusing on the correct use of car seats, booster seats, seat belts by children and their parents, riding in the rear seat for children 12 years and younger and not riding in the back of pickup trucks.

The primary objectives of this project were:

- To assess current child passenger safety practices in three Manitoba First Nations communities.
- To better understand the child passenger safety needs of these communities, including barriers to proper and consistent use of car seats, booster seats and seat belts.
- To compare the impact of a brief (parking lot) intervention and a more intensive community-based program on child passenger safety practices, including correct use of car seats, booster seats, seat belts by children and their parents, riding in the rear seat for children 12 years and younger and not riding in the back of pickup trucks.

Evaluation:

The evaluation of the pilot consisted of roadside and parking lot surveys of child passenger safety practices and content analysis of focus groups held with community members and interested groups before and three months after the intervention.

Results:

- The communities embraced the project and planned to continue child passenger safety activities.
- Feedback was positive from parents, coordinators, community groups and health practitioners.
- Thirteen individuals from the three communities participated in child restraint technician training; these communities previously had no trained individuals.
- The overall penetration of the pilot project was high. Ninety car seats were distributed through the program for community and personal use; this represents a substantial proportion of the population of children less than eight years of age.
- Child restraint use increased significantly in the largest community, but not in the other intervention community or the control community. Use increased substantially among infants and toddlers, but did not improve for booster seat and seat belts. Of note, the parents of young children were targeted, which may explain the differential impact on younger children.
- The roadside and parking lot surveys provided a very valuable summary of observed and reported child passenger safety practices in these communities.
- Policy changes were made at the organization level (e.g., Head Start van must have/use child seats or medical van must have/use seats).

Key steps/actions:

- Establish/identify a local injury prevention committee to coordinate the project at the community level.
- Establish a budget and ensure funding is in place for training, car seats and other resources.
- Identify and collect parent resources (from Transport Canada, Safe Kids Canada, etc.).
- Decide how, to whom, and at what cost (if any), multi-stage car seats will be distributed.
- Develop policy as needed to ensure seats are appropriately used and not sold.
- Decide what level of training is needed by whom. Identify community members to complete car seat technician training and conduct training. Identify which community members would benefit from a half-day training on car seats and conduct that training.
- Have trained people conduct baseline assessments of child passenger safety practices using roadside and parking lot surveys.
- Have trained people implement a brief intervention (correction of errors, individual counselling and replacement of defective seats) at the time of the parking lot survey.
- Conduct baseline focus groups to explore local beliefs, practices, barriers, and solutions and to tailor the interventions.
- Plan and implement more comprehensive interventions that may include education and hands-on car seat clinics as well as car seat distribution.
- Evaluate the intervention (e.g. three/six months following the intervention period, conduct roadside and parking lot surveys and repeat focus groups).

Lessons learned:

- Do not do this work in the winter! Three months is not long enough to deliver the program and evaluate its impact.
- If seats had been distributed to non-users as part of the brief intervention, a more significant impact may have been observed.
- Future programs should investigate the potential for the "brief" intervention (checkstops with correction of errors "on the spot" and distribution of car seats to non-users). Interaction with individual families in their vehicles may be the most promising method, and is possible with small communities such as these.
- This project served to raise awareness of the importance of child passenger safety and build community capacity to address the issue. The local expertise and infrastructure that was developed will be important to future success and essential for significant improvement in child passenger safety.
- Do not add the project lead costs and travel costs to the community's cost otherwise most of their budget goes to paying for someone to travel and leaves little for programming.

Barriers:

- The pilot project was only three months long – it needed a longer timeframe for greater success.
- Enforcement of non-use of child restraints is rare. Community members suggested warnings by police or incentives for compliance would increase usage.
- People had to travel to a central community for the two-day technician training.
- Scheduling meetings of the local Advisory Committees proved challenging.
- Staffing changes impacted the implementation of the program in some communities. Some communities are now embedding injury prevention roles into job descriptions.

Facilitators:

- Providing seats for use by the Aboriginal Head Start Program was seen as providing a very good role model for communities.
- Providing seats at low cost ($20) or free of charge encouraged use.
- Having the expertise of the provincial injury prevention centre staff was helpful.

Advice to others/issues around transferability:

- Undertake a process to determine community readiness.
- Ensure there is a dedicated person in the community to guide the program
- Move at the speed of the community and have a steering committee with representatives from the First Nations provincial body, the provincial government and federal government.
- Rather than the full technician training, a half-day hands on orientation proved more cost effective and could reach a larger number of critical people (e.g., HeadStart van drivers, medical van drivers).

Contact information:

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Evidence statement supporting strategy:

Legislation of safe child passenger restraints leads to increases in observed use. Community-based intervention combining child passenger restraint distribution, loaner programs or incentives with education programs leads to increased use.

Pace Car Program

Nova Scotia

Implementation level:	Local
Strategy approach:	Education, Environment
Setting:	Community
Target audience:	Drivers
Resource intensity:	$

Background:

The Pace Car program was invented by David Engwicht of Creative Communities International, Queensland, Australia. It uses a community-based social marketing approach to encourage behaviour change around speeding. It was first introduced into Canada in Nova Scotia by the Ecology Action Centre (EAC) in late 2006. The Insurance Bureau of Canada provided partial funding in the first three years.

The program is coordinated by the Active & Safe Routes to School program (ASRTS) of the EAC, with support from the Nova Scotia Department of Transportation and Infrastructure Renewal and the IWK Health Centre Foundation. Interested parties contact the EAC and receive free support, materials and a tool-kit. Community members recruit the Pace Car drivers.

The Pace Car program helps stop speeding on neighbourhood streets. Drivers in the community sign the Pace Car pledge, and then display the official Pace Car emblems on their cars. By agreeing to drive within the speed limit, cars become "mobile speed bumps," slowing the traffic behind them. Drivers also agree to be more aware of, and courteous to, other road users - especially pedestrians and cyclists. There are over 2,400 Pace Car drivers in 25 Nova Scotia communities. The more pace cars, the better the chance of speed reductions.

Aims and objectives:

The goal is to reduce speed, calm traffic and increase road safety in a community. The objective is to implement Pace Car programs in communities.

Evaluation:

Although evaluation mechanisms are in place, communities do not necessarily see the value in formal evaluation and, as this is mostly volunteer driven, they want to spend their time in recruitment and program promotion rather than evaluation. As a result, the response rate on the Pace Car Driver survey has been low but those who did respond feel the program does reduce speed. (Note: an evaluation of the program is being presented at the 21st Canadian Multidisciplinary Road Safety Conference in Halifax in May 2011.) A larger study is being proposed with implementation and control communities in two provinces that will include speed measurements.

The Pace Car program is an example of community-based social marketing, a concept developed by Doug McKenzie-Mohr and shown to be particularly effective in fostering sustainable behaviour. See reference below.

Voices from Pace Car Drivers:

"It has completely transformed a friend of mine who was a chronic speeder…once she put the (decal) on the back she felt morally obligated and now she can't speed even if she is late… this friend has been caught and fined for speeding a few times and this still didn't deter her like the (decal) has!"

"I know that all of us who are using (the decals) have decreased our speed…I think that is the best thing about the program…we notice how much we exceeded the speed limit in the past and are now challenged to keep a reduced speed."

Key steps/actions:

Below are the standard steps recommended to implement the program. (Taken from the *Pace Car Community Kit*.)

Step 1: Assemble a team.
Identify the Pace Car Champions in the community: parents, teachers, business owners, elected officials, police officers, etc. This team will be the driving force behind the local Pace Car program.

Step 2: Gather and Distribute Information.
Let the community know that a Pace Car program is starting in the community. In addition to the kit, other resources provided by Active & Safe Routes to School (ASRTS) include lawn signs, pamphlets, posters and clings (to put on the car).

Speed Data collection: ASRTS will assist in liaising with local police on collecting speed data on streets of concern before and after the launch.

Step 3: Implement and Celebrate.
The Launch: Use the Community Planning checklist provided by ASRTS to organize and plan your Pace Car community launch. Ideally, tag the launch onto another local event like a school carnival where many community members will be attending. Aim to get as many people as possible to sign up. Invite local media and heartily promote the program.

Maintain Continual Presence: Continue to sign up new Pace Car drivers at community events, festivals and sports games. Provide pledge forms, clings and information at local businesses, schools and libraries.

Step 4: Evaluation and Record Keeping.
To help ASRTS continue to improve the Pace Car program, they ask Pace Car drivers to participate in a short survey a few months after the program has started in their community. They also ask the Pace Car team to send the new pledges to ASRTS monthly, to be entered into our pledge database. These simple steps are crucial to the improvement and record-keeping of the Pace Car program.

Lessons learned:

- Pace Car programs will fizzle out without ongoing support from a central agency.

Barriers:

- It has proven difficult to obtain reliable speed data in communities to conduct pre and post intervention evaluation. Communities need support and encouragement to conduct evaluation.

Facilitators:

- A community champion is needed as well as some funding to be able to provide the materials free of cost.

Advice to others/issues around transferability:

- This program is very transferable as it has already spread from Australia to parts of North America and now into other regions of Canada.

- Safe Kids Canada (SKC) offered grants to fund Pace Car programs for Safe Kids Week 2008. Communities received stickers, pledge forms and step by step instructions on how to set-up their program for one year. They gave out 10 Pace Car grants in 2010 with financial support from FedEx Express Canada. Grants were awarded to community groups across Canada, in large and small centres, to educate their communities on the benefits of the Pace Car program and to elicit participation. In past and current years, SKC has offered pace car resources on their website. The outline of the program and resources such as the driver pledge, etc are available to anyone. Window clings and bumper stickers (up to 200 free) can be ordered online.

References/additional information:

- McKenzie-Mohr, Doug. Fostering Sustainable Behaviour: An Introduction to Community-Based Social Marketing. New Society Publishers, Gabriola Island, BC. 1999
- Pace Car website: www.pacecar.ca
- Safe Kids Canada: www.safekidscanada.ca
  Type Pace Car program into the Search box.

Contact information:

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www.saferoutesns.ca

Evidence statements supporting strategy:

Community-based education/advocacy programs to prevent pedestrian injuries in children 0-14 years result in a reduction in injuries.

Operation Headway

Nova Scotia and Prince Edward Island

Implementation level:	Local
Strategy approach:	Enforcement, Education
Setting:	Community
Target audience:	All cyclists
Resource intensity:	$-$$

Background:

In the early years post adoption of bike helmet legislation, "soft" enforcement was carried out through warnings to violators and a media campaign making people aware of the law. Nova Scotia (NS) began enforcing the law in the mid to late 90's with helmet wearing rates increasing and then levelling off at 83%. In Prince Edward Island (PEI), pre-intervention wearing rates in 2009 were 67.8%.

Operation Headway is a multi-partner program that combines enforcement of helmet legislation, education and economic penalty for not wearing helmets as well as rewards for wearing helmets. In 2004, it was developed in NS, whose population at the time was 940,000, with collaboration between Halifax Police, QEII Hospital Department of Neurosurgery and The Brain Injury Association of NS (BIANS). NS conducted the program eight times between 2004 and 2009 and continues to implement in various communities, as well as provide consultation to other provinces in Canada who wish to implement the program. In 2009, PEI (with a population of 143,000) ran the program in two areas before expanding province-wide in 2010.

The program relies heavily on the commitment of both Municipal Police and RCMP to actively enforce provincial helmet legislation. Both provinces have 'all ages' legislation with NS legislation extending to all wheeled activities (e.g., in-line skating, skateboarding). When riders are ticketed by police, they are given the option to either pay the fine or attend a one-time education session called Noggin' Knowledge. Designed for teens and adults, this is a two-hour graphic, hard-hitting, education session with the goal of understanding "why" wearing a helmet is so important, and the significance of brain injury to one's life. It is designed to teach individuals the risks associated with not wearing a helmet as well as to encourage them to comply with helmet safety laws and rules of the road. Police also have the option to give out rewards for persons wearing helmets and provide helmets gift cards for children and adults who cannot afford helmets. Bike helmet observations studies are conducted to monitor changes in rates of helmet use.

Partners for program delivery in NS include: the NS Department of Health and Wellness, hospitals, neurosurgeons, paramedics, nurses, Brain Injury Coalition partners, BIANS, Child Safety Link, the Canadian Paraplegic Association and Dalhousie University. Additional funding was provided by the Halifax Neurosurgeons for helmets and bike draws in NS for those years that governmental funding was not available.

In PEI, additional partners included Cycle PEI, Recreation PEI, Island Trails, the Department of Transportation and Public Works, the Dr. David Wong Research Foundation, members of the Medical Society of PEI and a number of ice cream and coffee shops who provided reward coupons.

Aims and objectives:

The goal is to reduce bike-related head injuries by increasing bike helmet use among all ages. The objectives are to:

- Increase awareness of provincial helmet legislation.
- Increase enforcement of helmet legislation.
- Increase compliance with helmet legislation.
- Increase awareness of the effects of bike-related head injuries.
- Sustain helmet use through continued enforcement and education.

Evaluation:

Includes yearly bike helmet observation studies, pre and post knowledge quizzes at Noggin' Knowledge and satisfaction questionnaires at Noggin' Knowledge and other events. A researcher from Dalhousie University provided input into the observation study design and provides data input, analysis and reports.

Results:

- In NS, enforcement and education continued in Halifax between 2004 and 2008 with statistically significant increases in helmet use rates from 82% (2006) to 92% (2008).
- In PEI, helmet wearing rates increased slightly in 2009 (67.8% to 69.9%) overall, with statistically significant gains in youth.
- Knowledge change: In both NS and PEI, knowledge levels increased between pre and post testing at the Noggin' Knowledge session.
- After the education session, 80-90% said that they would now wear a helmet.
- Feedback from participants noted that presentations from families affected by neuro-trauma, as well as stories from a neurosurgeon, were highly impactful.

Key steps/actions:

- A central coordinator of the ThinkFirst chapter, Division of Neurosurgery and/or the provincial injury prevention network initiates the program and obtains buy-in from the police.
- A local steering committee is established (see list of partners in Background section) that ensures rewards are obtained, Noggin Knowledge sessions for the end of the enforcement period are planned and the letter for violators with this information is given to the police.
- Police give rewards to those wearing helmets and tickets and the letter to those not wearing. Tickets are withdrawn for those who attend the Noggin' Knowledge session.
- Before, during and after the enforcement period, plan and conduct other education and helmet awareness events such as helmet fitting clinics, bike rodeos, TV panel discussions, health fairs, police week events and classroom presentations.
- Ensure public awareness through Public Service Announcements, media releases, letters to the editor, coverage of events, etc.

Lessons learned:

- Communities have to be ready to accept police ticketing for helmet infractions. Media campaigns and interviews with bike crash injury survivors and family members greatly enhance readiness.
- A champion is needed to ensure the program is coordinated each year.
- Some police jurisdictions have been reluctant to ticket but once seeing the Noggin' Knowledge presentation or meeting injury survivors, the hesitation decreases.
- Police/community relationships can be enhanced through Operation Headway. Children sought the officers out, particularly when cycling with their helmet on, hoping for a reward.

Barriers:

- Lack of funding and trained staff for the yearly bike helmet observations.
- Lack of community readiness – community members think police should not be wasting their time on this enforcement as there are other more pressing issues that need their attention.

Facilitators:

- Local champion to spearhead the program.
- Buy-in by the Police Chiefs and heads of detachments.

Advice to others/issues around transferability:

- The ease of program delivery and the flexibility to run as a low or high cost initiative makes the program very adaptable for many communities. ThinkFirst Canada is currently considering supporting the expansion of the Operation Headway Program for national distribution and has copies of all the materials for sharing.

References/additional information:

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- Macpherson, Alison, T To, C Macarthur, M Chipman, J Wright, P Parkin. Impact of Mandatory Helmet Legislation on Bicycle-Related Head Injuries in Children: A Population-Based Study. Pediatrics, 2002: 110: e60

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Evidence statements supporting strategy:

Legislation of bicycle helmets leads to increased use. Community-based education/advocacy programs around child helmet wearing lead to increased helmet wearing.

SECTION 5

Personal Flotation Device Loaner Program

Manitoba

Implementation level:	Local
Strategy approach:	Education
Setting:	Communities - particularly northern and remote
Target audience:	Toddlers, boaters, Aboriginals and males
Resource intensity:	$$

Background:

The Manitoba Coalition for Safer Waters, a coalition of over 30 organizations representing government, tourism, camping organizations, businesses, swimming and boating associations, youth organizations, Aboriginal organizations and service providers (Fire, Police, Paramedics), was formed in 1998. In 2005, the Manitoba Coalition for Safer Waters developed the Manitoba Water Safety and Drowning Prevention Strategy. The intent of this strategy was to provide overall direction for the coalition and create opportunity for cooperation. After three years of implementation, a review of the strategy was conducted for the Coalition and Manitoba Health and Healthy Living in 2008 by IMPACT (the provincial injury prevention centre at the time) and forms the basis of this case study on the Personal Flotation Device (PFD) Loaner Program component of the Strategy.

The PFD Loaner Program was a community-led project which loans PFDs (lifejackets) to individuals, families and community organizations at no cost. Based on the success of a Canadian Red Cross PFD loaner program in four northern communities, it was decided to use this model and expand to all northern and remote communities. A community first needed to identify that water safety was an important issue for them. Once they determined this, the community submitted an application to the Coalition to receive the loaner PFD's. IMPACT provided administrative support for the program, following up with the community and ensuring the PFD's and supporting educational material had been received.

Manitoba Healthy Living provided $50,000 per year to the Coalition to implement the program in 2006, 2007 and 2008, and purchased radio air time for water safety PSAs in 2006 and 2007. The program was advertised through locally made posters and word of mouth. Some communities only used the PFDs for school/youth programming and not for the community at large. The PFDs were used for swimming lessons, canoeing trips and boating (recreational and transportation). The PFDs were more often lent out to groups, rather than individuals. As of 2010, the PFD Loaner Program was still being offered.

Aims and objectives:

The PFD Loaner Program is directly linked to the goals, priorities and principles identified in the Manitoba drowning prevention strategy.

Goal:

- To increase the availability and promote the use of PFD's in high-risk regions of the province.

Objective:

- To make PFD's accessible in northern and remote parts of the province.

Evaluation:

Prior to 2005, the frequency of drowning deaths had remained constant at approximately 25-26 deaths per year. As of 2005, there has been a steady decline in the number of drowning deaths in Manitoba, with numbers dropping from 26 in 2004, to 22 in 2005, 17 in 2006 and eight in 2007. While these numbers were considered preliminary at the time the PFD program was evaluated and the decline in fatal drowning cannot be directly attributed to the program given that a number of drowning prevention initiatives were implemented at the same time, it is likely that the program has impacted drowning rates.

A program evaluation was conducted during the summer and fall of 2008 through telephone surveys with participating communities. Six of the 59 communities were unable to be contacted. Of the 53 communities that could be contacted, 44 still operated a PFD loaner program and eight of the remaining nine that did not indicated they either intended to start or re-start one in 2009. Over the three years of the program more than 1,800 PFDs were distributed to 59 communities, with the majority of communities rating the program as being very valuable. Thirty-nine of the 44 communities that still operated the PFD program also offered other water safety programs.

As of 2010 the PFD Loaner Program was still being run and has expanded/evolved to include hands-on boating safety and the Swim to Survive program.

Key steps/actions:

- Conduct research/seek out data on the number of drownings/near misses in the jurisdiction.
- Engage appropriate partners interested in/already addressing the drowning issue in the jurisdiction.
- Identify a lead agency to manage the project.
- Identify current drowning strategies/activities and gaps in programming (e.g., PFD Loaner Program).
- Identify the readiness to address the gaps and design interventions based on good practice (e.g., introduce a PFD Loaner Program).
- Identify a supplier and costs for bulk ordering, shipping and storage for PFD's.
- Develop a business case, if needed, and seek funding for programs.
- Engage and support local champions to help ensure programs are implemented as planned and are sustained.
- Monitor implementation and evaluate.

Lessons learned:

- Personal contact and a continued relationship with the community are very important. Staff changeover is high in the North and corporate memory can easily be lost for a program such as this as a result. The more people are engaged and feel supported, the better chance the program will be sustained.
- Having a lead organization to administer the program is imperative to ensure continuity and basic program standards are met. When planning the project budget include an appropriate portion of funds for shipping charges. In the

current project shipping was sometimes more expensive than the PFDs themselves. Storage of PFD's is a challenge as they are extremely bulky. The wholesaler was able tokeep the PFDs in their warehouse and, over the summer, drop ship them to communities when needed. Partnering the PFD loaner program with organizations delivering water safety training and or boating safety creates synergy and provides for a more efficient and effective way to administer the programs.

Barriers:

- Community contacts keep changing.
- Funding is year–to-year so it is difficult to plan long term.

Facilitators:

- Partnership is key to accessing resources, both financial and in kind (e.g., storage of PFD's, using existing pamphlets and videos from partners).

Advice to others/issues around transferability:

- An independent body (as IMPACT was, when it had a provincial mandate) acting as administrator helps to ensure potentially conflicting needs of coalition members can be managed. PFD loaner programs are being successfully offered in a number of other jurisdictions across the country through the Red Cross and Lifesaving Society (who were key partners on this project). Other partnerships can be crucial to the success of the project depending on the specific audience for the program (e.g., First Nations organizations, if working in First Nations communities). Any injury prevention coalition could run a PFD program.

References/additional information:

- Feely,S. Manitoba Water Safety and Drowning Prevention Strategy: Review 2008. June 2008. IMPACT, Winnipeg, Manitoba
- Feely, S. and W. French. Manitoba's PFD Loaner Program: Review 2006-2008. November 2008. IMPACT, Winnipeg, Manitoba
- The Manitoba Coalition for Safer Waters. Manitoba Water Safety and Drowning Prevention Strategy. 2006., Winnipeg, Manitoba

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Evidence statements supporting strategy:

Expert opinion states that the use of a personal flotation device (PFD) for boating and other water recreational activities is a recommended strategy in the prevention of drowning.

Pool Fencing Bylaw

Ontario

Implementation level:	Local
Strategy approach:	Enforcement
Setting:	Community
Target audience:	Pool owners and those planning to install an in-ground pool
Resource intensity:	$

Background:

In the summer of 2007, a Toronto City Councillor brought forward a motion to have staff report on improving the safety of private swimming pools, including the option of requiring four-sided pool enclosures. The subsequent report formed the basis of a four-sided fencing bylaw that was approved in November 2007 and came into effect on December 20, 2007. At the same time, City Council instructed the Licensing and Standards Committee to investigate alternatives to four-sided fencing with self-closing, self-latching devices for swimming pools. City Staff assessed a number of alternatives, including four-sided fencing and recommended that four-sided fencing offers the greatest protection to children younger than six years of age. They cited various academic reviews and studies, and publications from various governments. At a public meeting of the relevant Standing Committee in the spring of 2008 the report was approved. It was at this public meeting that The Lifesaving Society of Ontario became involved and, together with Safe Kids Canada and a physician from The Hospital for Sick Children, gave expert opinions. Of the approximately 25 in-person statements, these organizations were the only three in favour of the bylaw, (however four of six written communications received were in favour of the bylaw). The other in-person statements were from the pool and landscape industries and were very opposed to the bylaw, citing that the space constrictions in a great number of Toronto backyards would greatly restrict or even prohibit pool installation. The added cost of a four-sided fence was also cited as a prohibiting factor. City Council approved the report from staff in May 2008 and thus endorsed continuance of the bylaw provisions. It is the City's understanding that Toronto is the first major jurisdiction in Canada to enact a four-sided fencing bylaw.

Since the enactment of the bylaw, home owners applying for a pool enclosure permit for a pool must also submit their plans for the fencing. If a fence needs to be partially or completely replaced around an existing pool, then four-sided fencing needs to be built. An inspector checks the completed project to make sure there is compliance with the bylaw. If an infraction has occurred, a notice of violation is issued and a time-period given to achieve compliance. If the offender remains non-compliant, he or she may be served with a court summons.

Other jurisdictions are taking "softer" approaches at this point. For example, the City of Mississauga provides the DVD *Within Arms' Reach* to each applicant for a pool building permit. This DVD was produced by the Lifesaving Society in 2003, with sponsorship from the Stephanie Gaetz Keepsafe Foundation, founded by Barbara Underhill and Rick Gaetz (the $15 cost of the DVD is built into the permit cost by the City).

Aims and objectives:

The aim is to decrease the incidence of backyard pool drowning of children in Toronto through the introduction and enforcement of a bylaw requiring four-sided fencing.

Evaluation:

- While it is too early to evaluate whether the Toronto bylaw has resulted in fewer deaths (the bylaw was passed in 2008 and data are currently available only up until 2007), the City of Toronto reports that those installing new in-ground pools have been generally compliant with the new bylaw in the first two years it has been in existence.
- At this time, the City *only* issues new permits if requests are fully compliant with the four-sided pool fencing bylaw, and site inspections are conducted at the end of construction 100% of the time to ensure compliance with the requirements of the permit and, thus, the bylaw.
- A plan for monitoring of pool drowning of children in Toronto and the impact of the bylaw is underway using information collected from coroners offices by the Lifesaving Society and the Canadian Red Cross as part of the national water fatality database. The coroners' data, which includes information about the type of fencing in place (or not) and other circumstances around the drowning will be used to track the effectiveness of the bylaw over time.

Key steps/actions:

Currently in Canada pool fencing is a municipal issue. Often, the work towards a four-sided fencing bylaw begins with the water safety and medical community and buy-in needs to be sought from the municipal council and its various committees.

- Identify a group of stakeholders/home or pool owners that support four-sided fencing and invite them to learn more about the issue.
- Investigate your own jurisdiction – how many in-ground pools are already in existence, what type of fencing bylaw (if any) is currently in place, how many new pools are built each year, have there been any drowning or near-misses etc.
- Identify a champion(s) at the municipal Council and make sure this person knows the research on the effectiveness of this approach.
- Work with that Councillor to educate others around this issue. Work with the municipal recreation and other relevant staff to ensure support for the bylaw.
- Have a Councillor recommend that a report be brought forward around four-sided fencing, or the introduction of a bylaw (depending on current political and public support).
- Throughout the process, create media attention around this issue. Have parents of young children and community champions speak in favour of four-sided fencing. Create public and political will for this change.
- Be prepared to submit many expert opinions at a public hearing.
- Be prepared to address opposition, particularly from the pool industry and home owners not wanting to incur extra cost or have the government dictate what they can do on their own property.

Lessons learned:

- Even though it was still a challenge to have this bylaw enacted, due to the heavy opposition of industry and some city councillors, the fact that the initial recommendation came from a city councillor and had the support of the City's Licensing and Standards Committee greatly reduced the time and effort needed to have the bylaw enacted.

Barriers:

- Many in the pool industry felt that any discussion around drowning or other injuries around a pool is "bad for business" and traditionally have been reluctant to engage in partnerships with water safety organizations. The fencing and landscape industries also felt this can be "bad for business" in spite of pictures of aesthetically pleasing pools with four-sided fences presented by the Lifesaving Society in the *Within Arms' Reach* DVD.

Facilitators:

- There was a city councillor who was a champion for the issue and the City Licensing and Standards Committee and city staff recognized the significance of the research supporting four-sided fencing and kept re-affirming the recommendation for this bylaw.

Advice to others/issues around transferability:

- Other large municipalities have yet to have success in enacting a four-sided fencing bylaw due to the pressure from the industry and lack of political and public will to create one. Significant work still needs to be done to develop approaches that create affirmative political and public will on this issue. Drowning is overtaking motor vehicle crash deaths as the leading cause of injury-related death for children in some jurisdictions or is the second leading cause of injury death. Children under the age of five are more likely to drown in a backyard pool than any other age group. Jurisdictions generally want to do all they can to protect their children. Unfortunately, it often takes a tragic death to mobilize the community to take action.

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Evidence statements supporting strategy:

Legislation requiring isolation fencing with secure, self-latching gates for all pools (public, semi-private and private including both newly constructed and existing pools) leads to a reduction in drowning when enforcement provisions are included.

Swim to Survive
Ontario

Implementation level:	Provincial
Strategy approach:	Education
Setting:	Community
Target audience:	Grade three students (approximately age eight)
Resource intensity:	$$$$

Background:

Swim to Survive is a Lifesaving Society survival training program. It is different from swimming lessons and is not considered a replacement for them. Swim to Survive teaches just the essentials needed to survive an unexpected fall into deep water – an important first step to being safe around water. The Society has defined the minimum skills needed by all Canadians to survive an unexpected fall into deep water and has expressed these in a skill sequence in the Canadian Swim to Survive Standard: ROLL into deep water - TREAD water for one minute - SWIM 50 metres. Because their research shows that most drownings occur close to safety the Lifesaving Society believes that if every child in Canada could pass the Swim to Survive standard, it would reduce the number of drownings by half. The Lifesaving Society strongly encourages all parents to enrol their children in swimming lessons.

The Lifesaving Society's Swim to Survive Program consists of three in-water lessons of one hour each taught by Swim to Survive instructors (trained water safety instructors employed by the pool) and focusing on the sequence in the Canadian Swim to Survive Standard and three in-classroom water safety lessons 30-45 minutes long, taught by school teachers. At the end of the program children are tested on their ability to perform the skill sequence. Students in grades three or four are at a good age for this program as they are eager to learn, and independent with regards to dressing, etc, and have the strength to accomplish the swimming distance required.

The program was piloted in the York region of Ontario in the fall of 2005 with participation of 25% of grade three students from nine municipalities in the region. Children from homes with low socioeconomic status, as well as those who were new to Canada, were specifically targeted by the schools as they felt these children would have less access to traditional swimming lessons. Following the pilot, which was considered a success, media attention around a number of child drownings drew attention to the program and in 2006-7, the Ministry of Education invested $900,000 to enable province-wide delivery of the program. In some school boards this has involved targeting children with the highest need first before expanding to all grade three students, and in other Boards the program is universal. All children who are enrolled in a public school in Ontario are eligible (Catholic and public). Schools or school boards apply for funding together with their partners who provide the water for the lessons- i.e. municipalities, YMCAs etc.

The Grant program, administered by the Lifesaving Society, operates as a reimbursement for expenses once the achievement report and expenses are submitted. Eligible expenses include: transporting students to the pool, pool/instructor costs and aquatic facility rental costs. Often, some of the expenses are provided in-kind.

Aims and objectives:

To have every grade three student in Ontario achieve the Swim to Survive Standard.

Evaluation:

The program is monitored and to the end of 2010, 44% of the 329, 565 students who have participated have achieved the Canadian Swim to Survive Standard (i.e., are able to perform all three of the minimum skills). Surveys were given to teachers, parents and children for voluntary completion then were sent to the Lifesaving Society. Results indicated:

- Ninety-eight percent of parents whose children have taken the program would like to see this program become part of the grade three curriculum. Currently it is optional.
- Ninety-eight percent of the teachers who have participated in the program by teaching the in-class water safety component would like to see it become part of the grade three curriculum. Anecdotal feedback from the swim instructors teaching this course is amazement at the progress of the children in just three hours of in-pool time.

Key steps/actions:

- A single teacher and class, up to an entire school board, may apply for the school grant to deliver this program, or a local pool may initiate the grant on behalf of students in their area. All that is required is that the students have access to a pool (public, semi-private or private) with liability insurance.
- The Board of Education and pool owner/operators coordinate the timing and logistics of getting the students from the school to the pool. The pool facility arranges for the pool time and Swim to Survive instructors.
- The school board arranges student transportation and communication with, and permissions from, parents.
- The Lifesaving Society supplies instructor materials, teacher and parent materials and Swim to Survive certificates. They also ensure the instructors are trained to deliver the Swim to Survive modules.
- The Swim to Survive instructors submit a report to the Lifesaving Society following completion of the program that details the number of participants and the number that achieved the standard.

Lessons learned:

- It was serendipitous that the Lifesaving Society had piloted this program before the tragic drownings that drove media attention and a demand for action. It is unlikely that the Ministry of Education would have invested so quickly and heavily if these events had not occurred.

Barriers:

- A number of communities have no access to a local pool. Transportation costs therefore can become a barrier and some fundraising may be required.

Facilitators:

- A community champion willing to coordinate the program locally.
- An organization (The Lifesaving Society) to coordinate the program provincially.

Advice to others/issues around transferability:

- The program is very transferable and has been successfully delivered in rural and remote communities in Manitoba and Alberta. The key is to have partners that can facilitate access to a pool and instructors, as well as provide the costs for transportation. The actual program is available through the Lifesaving Society.

References:

- The National Drowning Report informed the development of the Standard which can be found at www.lifesavingsociety.com

Contact information:

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Evidence statements supporting strategy:

Water safety skills training (including swimming lessons) improve swimming performance.

Safer Play Equipment on Playgrounds

Ontario

Implementation level:	Local
Strategy approach:	Environment
Setting:	School playgrounds
Target audience:	School children, school boards
Resource intensity:	$-$$$$$

Background:

Changes were made to the Canadian Standards Association (CSA) standards for playground equipment in 1998 and new guidelines were introduced in 1999 to reduce the potential of injury to children. These changes prompted the removal of hazardous equipment from 136 elementary schools in Toronto in 2001-2002. This provided an opportunity to study the effectiveness of the new standards as data on playground injury incidents were routinely collected. Playgrounds were assessed by an independent, qualified playground consultant. The inspector identified whether the equipment in each case should be left as is; repaired or retrofitted; or removed and replaced. Two factors were considered in making the decision: the severity of injury that could result from using the equipment and, where equipment was noncompliant, the feasibility of achieving compliance through repair or retrofit.

The assessment identified 136 schools with playground equipment that represented a severe hazard (i.e., an imminent risk of serious and permanent injury, usually indicating risk of a fall from a height of more than 1.5 metres or a fall onto unsuitable surfacing), did not meet CSA standards and was impractical to retrofit to make safer. Eighty-six of these schools had the new equipment in place in time to be included in this study and became known as the intervention schools. Another 225 schools whose equipment did not require replacement (non-intervention schools) served as a natural control group for background injury rates during the study period. A total of 34,557 students attended the intervention schools and 88,417 students attended the non-intervention schools.

A database of incident reports from the Ontario School Board Insurance Exchange was used to identify injury events before the replacement of the equipment and after equipment was replaced – from January 1998 to December 2002. These reports were completed by school personnel whenever "medical or dental attention was required" and include those injury events attended to by a teacher or school staff as well as those in which the child went home or to a health facility. Playground injury rates (injuries per 1000 children per month) were compared at the intervention schools and the non-intervention schools before equipment removal and after equipment replacement.

Aims and objectives:

The objective was to determine whether applying the new CSA standards and replacing unsafe equipment with safe equipment reduced the number of school playground injuries.

Evaluation:

In Toronto injury rates, and in particular those that were specifically related to playground equipment, decreased after the new equipment was installed. Injury rates in the non-intervention schools increased overall and also in the equipment-specific incidents.

- The injury rate in the intervention schools decreased from 2.61 (95% CI 1.93-3.29) injuries per 1000 students per month before equipment removal to 1.68 (95% CI 1.31–2.05) per 1000 students per month after the equipment was replaced. This is statistically significant.
- Cases where playground equipment was explicitly mentioned as the cause of the injury accounted for roughly 25% of the injuries overall. In this sub-group, the equipment-related injury rate in the intervention schools decreased from 0.58 (95% CI 0.45–0.72) injuries per 1000 students per month before equipment removal to 0.44 (95% CI 0.31–0.57) per 1000 per month after the equipment was replaced. This is statistically significant.
- Injury rates in the non-intervention schools increased from 1.44 (95% CI 1.07–1.81) per 1000 per month before the intervention to 1.81 (95% CI 1.07–2.53) per 1000 per month after the intervention. This is statistically significant.
- Equipment-related injury rates in the non-intervention schools also increased, from 0.25 (95% CI 0.19–0.32) per 1000 per month before the intervention to 0.32 (95% CI 0.25–0.39) per 1000 per month after the intervention. This is statistically significant.

Key steps/actions:

- An independent qualified playground consultant assesses playground(s). Note: the Canadian Parks and Recreation Association offered the Canadian Playground Safety Institute to train inspectors to the CSA standards.
- The inspector identifies whether the equipment in each case should be left as is; repaired or retrofitted; or removed and replaced.
- From the assessment, identify the schools with playground equipment that represent a severe hazard and need to be replaced and schools that do not need new equipment. The latter will be the "non-intervention" for your assessment.
- Identify data sources in your jurisdiction that collect information on incidents to assess change before and after the new equipment is installed (e.g., School Board Insurance database, if available). Compare playground injury rates at the intervention schools and the non-intervention schools before equipment removal and after equipment replacement.

Lessons learned:

- The CSA standards were an effective tool in identifying hazardous playground equipment. Removal and replacement of unsafe equipment is an effective strategy for preventing playground injuries.

Barriers:

- There was no way to measure exposure. It is suspected that the novelty of the new equipment increased exposure. This may explain why the equipment-related injuries were still slightly higher in the intervention schools than in the non-intervention schools after the intervention. Supervision, which may also have changed, was not measured.

Facilitators:

- Because the school board was replacing a large number of playgrounds at the same time, this allowed for a population-based study with sufficient numbers to place confidence in the results.

Advice to others/issues around transferability:

- For those looking at replacing playground equipment to meet CSA standards, another related study sheds light on the preferable surfacing to be placed under equipment.(1) This study found that granite sand was preferable to wood fibre (Fibar). The number of arm fractures was identified from incidents where a fall from playground equipment took place in schools with each type of surfacing. The risk of an arm fracture from a fall off playground equipment onto the wood fibre surface was 4.9 times higher than on the granite sand surface.

References/additional information:

1 Howard, A.W., C. Macarthur, L. Rothman, A. Willan, A.K. Macpherson. School Playground Surfacing and Arm Fractures in Children: A Cluster Randomized Trail Comparing Sand to Wood Chip Surfaces. PLoS Medicine. December 2009, Volume 6, Issue 12, e1000195. www.plosmedicine.org

See also:

- Howard, A.W., C. Macarthur, A. Willan, L. Rothman, A Moses-McKeag, A. K. Macpherson. The Effect of safer play equipment on playground injury rates among school children. CMAJ May 24, 2005; 172 (11), 1443-1446.

Contact information:

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Evidence statements supporting strategy:

Surfacing materials such as sand or wood chips to a depth of 23-31 cm (9-12 inches) can be recommended as effective injury prevention strategies in preventing playground equipment-related injuries. Optimal equipment height to reduce risk of head injury is 1.5 m (5 feet).

A Million Messages
Alberta

Implementation level:	Provincial
Strategy approach:	Education
Setting:	Community
Target audience:	Parents of young children
Resource intensity:	$-$$

Background:

A Million Messages was the result of a collaboration between two Capital Health programs in Edmonton, Alberta - Kidsafe Connection, Stollery Children's Hospital's paediatric injury prevention program, and Community Health Services, Primary Care Division. A multi-disciplinary committee was formed in the mid-90s to review child injuries and injury deaths to ascertain the key issues to be addressed. Once the injury issues were identified, and available resources reviewed for applicability, a "staff table" (print resource in a table format) was developed for each developmental stage of the child, the key messages for that stage and the list of optional resources, and A Million Messages (AMM) was launched. AMM provides developmentally appropriate, simple and consistent injury prevention messages to families with children between zero and six years of age in health regions of Alberta (now called "zones"). The messages are distributed by community health nurses, home visitors and hospital staff as part of their daily work. Home visitors also may have responsibility to implement environmental modifications, including outlet covers, door knob grips, devices to shorten blind cords, plastic ties for wrapping cords and stair gates. The program is embedded within public health agencies' already-established immunization schedules.

The program was piloted in the fall of 2001 in a number of Well Child Clinics in the Edmonton area. Program evaluation was positive and the program was extended and re-evaluated in 2003.

At each clinic or hospital visit, home visitors/nurses delivered a developmentally appropriate, consistent message about a relevant injury issue for that age group. Materials were provided to leave with parents.

The costs for the program are related to the following; 1) development and implementation; 2) planning staff time for training; and 3) printing of resources. Resource costs depend entirely on how many resources the program chooses to print as the files are available and shared at minimal costs.

Aims and objectives:

The goal is to achieve optimal early childhood development through decreased injuries occurring in the home.

Evaluation:

A number of evaluation methods were used in assessing the pilot and, later, the expanded AMM including pre and post data gathering from site managers, staff, community health nurses (CHNs), injury prevention nurses (IPNs), and parents/caregivers. Focus groups were held with new parents attending "baby talk "groups and IPNs. Telephone interviews were conducted with operation managers, teachers, and school nurses. Finally, an audit of Child Health Clinic records was completed.

- The pilot pre-findings indicated that staff was initially concerned that the inclusion of AMM into Well Child Clinics would lead to increased clinic time. Staff (n=24) found AMM extremely easy to implement in their daily routine, and it did not lead to an increase in time for appointments (30% said it added no time and 48% said it added only two to three minutes). For many staff it was actually a tool that allowed them to be more efficient in delivering consistent injury prevention messages. This is further corroborated by data that indicated that a larger portion of clients received injury prevention information after AMM implementation.(1)

Results of the expanded phase:(2)

- The repeated AMM messages are simple and reach their targeted audiences.
- Ninety-four percent of 541 parents/caregivers surveyed reported that they received injury prevention messages during their previous visit to the Child Health Clinic.
- Of these, 60% indicated they had learned something new and that this information has led to a self-reported change in behaviour for 46% of the parents/caregivers.
- Ninety-three percent of CHNs are trained in the AMM model and 91% find it easy to use and perceive AMM as a useful tool in delivering the injury messages.
- Eighty-three percent of parents/caregivers indicated they have noticed material and information about safety and injury prevention in the Public Health Centre (particularly while waiting post immunization).
- Operations managers have not experienced any difficulty in implementing or operationalizing the model. AMM is a promising initiative that furthers the services to parents/caregivers while simplifying the work process for the staff. All managers indicated the implementation had been easy and the model fit very well into the existing framework. Managers recognized the time restraints that the CHNs operate under during clinic time and that the additional immunizations that now take place leave very little time for other areas to be addressed. However, it was stressed that the AMM model works since it is simple and consistent in delivery and provides structure to the injury prevention messages. None of the managers indicated they had had any concerns or questions raised about AMM or how it impacted the delivery of services.

Key steps/actions:

- Obtain buy-in from key public health decision makers (e.g., detail the magnitude of the child injury problem, the nature of the types of injuries and the preventability of these injuries; develop a business case that shows the benefits versus the cost - this work can be integrated into existing positions and the materials are already developed and evaluated, and implemented in other jurisdictions).
- Ensure leadership support staff to attend AMM training and approve sufficient time for education.
- Obtain buy-in and train staff – note staff can include public health nurses, home visitors or hospital staff. Training can be through a web-based module, or as part of the orientation to all new nurses/home visitors.

- Obtain supplementary materials that give nurses the age appropriate message to deliver at the visit/clinic, with the appropriate materials to be left with the parents.
- Monitor program delivery.

Lessons learned:

- IPN's whose role is also to ensure that CHNs receive the most up to date information as it relates to injury prevention, have noticed a change in the overall acceptance and response to injury information given to staff. The credibility and validity of this type of information has increased among staff and the IPNs are viewed as key conduits between research and action.
- Practitioners and managers initially felt that the program would increase clinic time. This has not proven to be the case (see Evaluation).

Barriers:

- Language - The most important lesson learned in the pilot was that ESL (English as a Second Language) clients may not receive a clear message due to language issues. From that learning they tried to simplify their displays to provide a clear message with less than eight words per display. The picture tells the story. Translated resources are always welcome, but they must use simple language as many ESL individuals are not literate even in their own language.

Facilitators:

- Having IIPN's in the health zone facilitates uptake and maintains interest in the program.

Advice to others/issues around transferability:

- The program has already been transferred to parts of British Columbia and the First Nations and Inuit Health, Health Canada.
- Electronic copies of the files containing graphics and other resources are available.
- Areas wishing to use this concept and calling it "A Million Messages" must use the original artwork from the original graphic designer.
- A users agreement must be signed by users that includes the agreement for sharing any new resources developed to other areas implementing the program.

References/additional information:

1 Evaluation of the Model for "A Million Messages" A Pilot Project, Prepared by BIM Larsson & Associates. March 5, 2001

2 A Million Messages and Safety Resource Materials An Outcome Evaluation. Prepared by: BIM Larsson & Associates March 2003

See also:

- Website for AMM: http://www.albertahealthservices.ca . Once there, click on "Health Information" then "Health and Wellness" then "Injury Prevention and Safety"

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Evidence statements supporting strategy:

There is indirect evidence that individual-level education/ counselling in the clinical setting are effective measures to reduce many childhood unintentional injuries.

Safety Kit Program

Quebec

Implementation level:	Regional
Strategy approach:	Education
Setting:	Home
Target audience:	At-risk families with pre-school children
Resource intensity:	$-$$

Background:

In the 1990s, the Bas-Saint-Laurent (BSL) region of Quebec had one of the higher rates of hospitalization for injury to children. In 1998, the BSL region decided to use a new tool to help families to increase the safety of their homes. Nurses who were involved in the postnatal home visit program asked for a concrete tool, and safety kits were developed. The kits were worth approximately $35 and included simple preventive devices such as cupboard latches, electric outlet covers, door handle covers, a smoke detector, non-skid strips for the bath, a phone sticker with the number of the poison control centre, etc.

Results of the evaluation of this experiment were so positive that other regions adopted the strategy, using safety kits that are adapted to their specific needs. Since then the efficacy of this approach has been confirmed and it is being promoted as an evidence-based good practice internationally and it became an intervention recommended in a document of the National Public Health Institute (Quebec) published in 2009 named *Les traumatismes chez les enfants et les jeunes québécois ages de 18 ans et moins: état de situation.* To date, more than half of the 16 health regions in Quebec have adopted the program.

Aims and objectives:

The Quebec Public Health Program aims to reduce morbidity and mortality due to falls and injuries in the home. The main goal of the program is to encourage families to increase the safety of their homes by helping them to feel more competent to do so.

The objective is to integrate activities related to the prevention of injuries and other trauma in the home (whether caused by a fall, poisoning, choking, burns or drowning) into preventive home visit programs and activities related to early educational support (e.g., injury prevention kit).

Evaluation:

The pilot of this program was evaluated via a quasi-experimental before-and-after design, using a control group. The group receiving safety kits consisted of 50 families, while 46 families made up the control group who received counselling only. A standardized form was filled out during the first visit when the kit was given, and then repeated at the second visit eight weeks later. Changes in safety practices were noted on the second form. The results indicated that parents were happy with the kit and that there was a 77% change in safety practices (statistically significant). Parents often made changes beyond what was covered by the kit. A focus group of nurses revealed that they also were satisfied with the kit, which was described as a good introductory tool in home visits, as part of a systematic approach for preventing injuries. The nurses felt the kit made it easier to speak with families and helped them discuss the concept of safety in a positive and specific way. Nurses suggested that the kit be improved and less relevant items be removed. This program was replicated in a larger study outside Paris, France with the same positive effects.(1)

Injury hospitalizations are tracked by region. In 1997-8, injury hospitalization rates for children between zero and four years of age in the region were 3.22 versus 3.38 for all of Quebec. In 2008-9, the rates were 1.88 for BSL and 2.49 for Quebec.

Key steps/actions:

- Province/Territory or health region decides to implement a home safety kit program and decides how it will be financed.
- Regional health authority develops and organizes timing for distributing the kits and delivery mechanism. It may also be responsible for financing.
- Kits are given on a regular home visit by the nurse when the child is about six to nine months old, and the next visit is used to reinforce the messages and see if the kit was used appropriately.
- Monitoring and evaluation are embedded into the program.

Lessons learned:

- Most of the nurses felt more competent when they had the tools to use with families and are proud to enhance their role in injury prevention. As each region has control over the content of the kits, they feel more ownership of the program.

Barriers:

- Logistics (buying, stocking, distribution) - must be well planned.

Facilitators:

- Training provided to the nurses; items that are easy to use, concrete and colourful!

Advice to others/issues around transferability:

- A relationship of trust has to exist between the family and the visiting nurse.
- Nurses require orientation prior to the implementation, and their feedback should be regularly solicited about the intervention.
- Safety kits must be free and items easy to install.
- Families appreciate help with installation of safety measures.
- Follow-up visits must be planned weeks after the delivery of the kits to increase the motivation of the families.
- Another study in British Columbia (Baby Safe project) with families of infants younger than one year also showed some positive effects of the distribution of a home safety kit.

References/additional information:

1 Sznajder, M, Leduc S, Janvrin, MP, Bonnin MH, Aegerter, P, Baudier, F, Chevallier, B. Home delivery of an injury prevention kit for children in four French cities : a controlled randomized trial. Injury Prevention 2003 ; 9 :261-265

See also:

- Babul, S., Olsen, L., Janssen, P., McIntee, P., and Raina, P. (2007) 'A randomized trial to assess the effectiveness of an infant home safety programme', International Journal of Injury Control and Safety Promotion, 14:2, 109-117.
- Gagné M, Leduc S, Maurice P, Patry P. Les traumatismes chez les enfants et les jeunes québécois âgés de 18 ans et moins : état de situation. Institut national de santé publique du Québec, 2009.
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- Kendrick D, Coupland C, Mason-Jones AJ, Mulvaney C, Simpson J, Smith S, Sutton A, Watson M. Home safety education and provision of safety equipment for injury prevention. Cochrane Database of Systematic Reviews 2007, Issue 1.
- MacKay M, Vincenten J, Brussoni M, Towner L. Child Safety Good Practice Guide: Good investments in unintentional child injury prevention and safety promotion. Amsterdam: European Child Safety Alliance, Eurosafe; 2006.
- Sznajder, M, Leduc S, Janvrin, MP, Bonnin MH, Aegerter, P, Baudier, F, Chevallier, B. Home delivery of an injury prevention kit for children in four French cities : a controlled randomized trial. Injury Prevention 2003 ; 9 :261-265
- World Health Organization (2008). World Report on Child Injury Prevention. Geneva: World Health Organization

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Evidence statements supporting strategy:

Home based social support, such as home visiting programs for new mothers, has the potential to significantly reduce rates of child injury.

TD ThinkFirst for Kids Curriculum

National

Implementation level:	Local/provincial
Strategy approach:	Education
Setting:	School
Target audience:	School age children, grades junior kindergarten to eight
Resource intensity:	$

Background:

TD ThinkFirst For Kids (TD TFFK) is ThinkFirst Canada's school-based curriculum program for children in grades junior kindergarten (JK) to eight. It was adapted from the ThinkFirst USA curriculum that was designed and evaluated (grades one to three) in the 1990's.

Designed as a teacher's resource, TD TFFK addresses a variety of the curriculum requirements in all Canadian provinces and territories. The Canadian program was developed by a multi-disciplinary team including teachers, curriculum experts, doctors, neuroscientists, ThinkFirst staff, ThinkFirst Chapter leaders and volunteers, and teaches children how to think first and play safely to prevent brain and spinal cord injuries. In 2007, this program received the Safe Communities Sean Kells Award for Community Safety. Thousands of full curriculum sets are in use in schools and public health agencies across the country. TD TFFK is available as a four binder set divided by grade - Kindergarten Wonderers, Grades 1,2,3, Grades 4,5,6, and Grades 7,8 - and free of charge to all Canadian schools and public health agencies in both English and French. Funding for the development of the program, production of materials and recent updates, has come from the TD Bank Group.

Tying basic neuroanatomy to injury prevention through lessons that cover vehicular, pedestrian, cycling and playground safety, TD TFFK teaches students the importance of critical thinking and managing risks. After the brain and spinal cord modules are taught, the other modules can be taught at any time throughout the year. They can be integrated into other subjects or taught consecutively during a block of time. For each grade combination the program includes; user-friendly lesson plans; student handouts ready to be copied, songs, games and AV supplies (as appropriate); materials to send home to parents; and a list of accessible resources, potential local resources and evaluation materials. Information regarding curriculum expectations by province is also included so teachers can see where/how they can meet their province's curriculum goals through TD TFFK.

At the intermediate level (grades seven to eight), the modules focus on the importance of connections; understanding, making, breaking, keeping and managing them. Following a 'real life' video entitled *Dangerous Games*, an introductory module on understanding the brain and spinal cord is taught, setting the stage for the lessons that follow. It is more complex than the lesson materials used for younger children and is cross-curricular in nature.

The subsequent modules address the issues of drugs and hazardous substances, peer and societal pressures, violence, communication skills and decision-making. It finishes with an activity that includes independent research. The Intermediate Curriculum can be used with or without prior TD TFFK experience.

Aims and objectives:

The goal of the curriculum is to teach children about the wonder of their brains - how to think first and play safely to prevent brain and spinal cord injuries. It equips teachers with information on imparting this knowledge.

Evaluation:

The American TFFK 1-3 program was extensively evaluated and the results documented in published research (see references.) In Canada, the results of an evaluation of the Intermediate Curriculum in Ottawa, ON were published in 2009.(1) Knowledge acquisition was assessed quantitatively by an injury prevention test at baseline, at curriculum completion, and six weeks later. Participant experiences and behaviours were explored qualitatively by interviews and focus groups. Test scores improved from baseline (26.48 ±0.17, n=204), to completion (27.75±0.16, n=176), to six weeks post-completion (28.65±0.13, n=111) ($p<0.05$). Most students (70%) reported that their decision-making had changed when confronted with situations involving risky behaviours and 71% indicated that their behaviours had changed as a result of the curriculum.

Key steps/actions:

When trying to introduce TD TFFK into a school system:

- Identify which organizations currently go into schools to deliver safety presentations. Bring these organizations together to form a local coalition (if this is has not already happened) and engage them in advocating for a standard safety curriculum that has been demonstrated to increase knowledge, and in which they all can have a role.
- Ascertain whether the Department or Ministry of Education has an approved safety curriculum for the jurisdiction.
- If no, develop a business case for having a standard curriculum that would meet their needs - i.e., TD TFFK (easier for teachers, reinforcement of consistent messages, can more easily be tied to curriculum outcomes, current community groups can fit into the modules, etc.).
- If yes, develop a business case for how selected modules of the TD TFFK curriculum can complement the existing curriculum.
- Identify who in the Department or Ministry of Education or School Board makes curriculum resource decisions, and which areas would benefit from such a curriculum. Endorsement varies by jurisdiction and may start with the Ministry of Education, Health, Public Health and/or Sport and then move to the school boards and ultimately individual schools. Each province is slightly different and it's critical to have an understanding of the process of how curriculum resources get endorsed and ultimately used to identify the best entry point.
- Once the entry point has been identified, set up a meeting with the key official(s). Bring one or two key partners (police, fire etc.) to the meeting and present the curriculum, published evaluation results and your business case. It may take multiple meetings to make headway.
- Offer to work with a school on a pilot basis to introduce the curriculum and evaluate the response. Results can then be used to influence a decision to recommend TD TFFK as a curriculum resource. Share results with other school jurisdictions.

Lessons learned:

- Although some provinces have distributed the curriculum broadly, there is no guarantee that teachers will use it unless they have motivation to do so, exposure to injury/injury prevention, or a local connection with an injury prevention group. Often an injury prevention organization or one of its partners (police, fire, emergency medical services, brain injury association, cycling safety group, etc.) demonstrates to the school or school board, how the curriculum can be used and that local resource people are available to enhance the lessons.

Barriers:

- There are so many competing demands for lesson time from outside issue groups that even programs that are clearly linked to stated curriculum outcomes (levels of knowledge/skill that students are expected to achieve in a certain area) aren't used until someone makes it easy for schools to do so. Even then, it takes the commitment of school staff champions to ensure injury prevention is incorporated into the curriculum. Taking the time to develop these champions will help ensure the curriculum is used.
- Some school boards/Departments of Education have developed their own injury prevention resources, which sometimes have taken a more rules based approach and these jurisdictions do not see the advantages of moving to a critical thinking/assessing and managing risk approach. TD TFFK takes this latter approach and the skills learned can be applied to assessing other areas of risk.

Facilitators:

- The involvement of local ThinkFirst Chapters, neuroscience nurses and neurosurgeons, and other community champions can facilitate adoption and delivery of the program.
- School administrators, principals and teachers who see the benefit of teaching injury prevention within class time.

Advice to others; Issues around transferability:

- The curriculum is designed to be transferred anywhere in Canada. In addition, at least one ThinkFirst chapter (PEI) has expanded the bike safety component of the kindergarten curriculum into a stand alone module that has been evaluated (results have yet to be published) and is in the process of becoming a supplemental resource to TFFK nationally.

References/additional information:

1 Vassilyadi, M., C. Duquette, M.F. Shamji, S. Orders, S. Dagenais. Evaluation of the ThinkFirst for Kids Injury Prevention Curriculum for grades 7/8. Canadian Journal of Neurological Sciences 2009; 36: 761-768.

See also:

- Greene, A., P. Barnett, J. Crossen, G. Sexton, P. Ruzicka, and E. Neuwelt. Evaluation of the THINK FIRST for KIDS injury prevention curriculum for primary students. (Research Letter). Injury Prevention. 8.3 (Sept 2002): 257(2).
- Gresham L.S., D. L. Zirkle, S. Tolchin, C. Jones, A. Maroufi, J, Miranda. Partnering for Injury Prevention: Evaluation of a Curriculum-Based Intervention Program Among Elementary School Children. Journal of Pediatric Nursing, Vol 16, No 2 (April), 2001
- Vassilyadi, M., C. Duquette, M.F. Shamji, S. Orders, S. Dagenais. Evaluation of the ThinkFirst for Kids Injury Prevention Curriculum for grades 7/8. Canadian Journal of Neurological Sciences 2009; 36: 761-768.

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Evidence statements supporting strategy:

School based injury prevention education has the potential to increase safety-related knowledge and behaviour.

Acquired Brain Injury Strategy
Saskatchewan

Implementation level:	Provincial
Strategy approach:	Capacity building
Setting:	Various
Target audience:	Individuals with ABIs, families, community
Resource intensity:	$$$$

Background:

The Acquired Brain Injury (ABI) Partnership between Saskatchewan (SK) Health and Saskatchewan Government Insurance (SGI) began in 1996 as a result of recommendations from the Rehabilitation Advisory Board that had been formed by SGI. There was a definite recognition of the need for primary prevention, however, the overarching purpose of the partnership was to develop comprehensive and systematic services for clients with an ABI through increasing the capacity to be able to deliver primary and secondary prevention.

Capacity building occurred in a number of ways:

- There is a provincial Education and Prevention Coordinator position funded through the ABI Partnership and located within the Ministry of Health, Government of SK. The Partnership funds regional positions specific to injury prevention that are located in three health regions. As well, there is one position within the SK Prevention Institute that focuses solely on child injury prevention
- As part of the strategy, injury prevention programs have been funded throughout the province in an attempt to build the capacity to prevent brain injuries in SK.
- A community grant program was developed to enable groups to establish, enhance and/or deliver programs that address issues in their communities related to traffic safety and injury prevention. A Provincial Advisory Committee provides expertise and opinions to the ABI Partnership.

This case study will focus specifically on capacity building of injury prevention practitioners and the example used to illustrate this will be the child injury prevention work under the direction of the funded position at the SK Prevention Institute. The SK Prevention Institute, which houses one of the funded positions, organizes Child Passenger Safety (CPS) technician training throughout the province. Once trained, the participants are able to return to their communities and provide education to parents and caregivers on how to use their car seats properly.

Aims and objectives:

The overall goal of the ABI Partnership is "to reduce the number of ABIs in the province of Saskatchewan and to improve the ability of service providers, community, clients and their families to better cope with the impacts of their injuries." In order to achieve this, it was essential to build capacity within communities so they have access to effective ABI and prevention initiatives that promote safe lifestyle choices.

The ABI Partnership offers a Community Grant program of $100, 000 each year. Community-based organizations submit grant proposals for injury prevention activities at the local or provincial level. The availability of this funding affords community agencies the opportunity to hold educational activities, invite speakers, develop resources and conduct surveys and other small evaluations on a wide array of injury prevention, particularly ABI prevention topics. One of the initiatives funded was focused on child passenger safety. The aim of the child passenger safety initiative was to build capacity by increasing the number of certified technicians trained. Thus trained, the technicians worked in their communities to build the capacity of parents, enabling them to select the proper car seat and install it correctly.

Evaluation:

The overall ABI Partnership has been evaluated a number of times and found to be addressing its goals. (See link to the website below in References.) It is interesting to note that this Strategy is unique in Canada in that it addresses the program and support needs of persons with ABI and their families, the secondary prevention of injuries to this population group and the primary prevention of ABIs. In 2004, an analysis of hospital separations showed that hospitalizations for ABI and in particular, traumatic brain injury had declined. While this decline may be attributable to a number of factors, the increased activity around the prevention of ABI's may have played a role. In particular, the fact that there are now five injury prevention coordinators across the province providing research, education, promotion, community development and resources to communities, compared to none before, has had an impact.

In terms of the child passenger safety initiative by 2006 there were two Instructor Trainers, 21 Instructors and 201 Technicians in 65 communities in SK. Prior to 1997, there was one individual who provided training on child passenger safety in SK. These participants were asked to rate their perceived knowledge of car seats before and after the training on a scale of one to 10. Before the training, the average response was 4.5/10 and after the training it had increased to 8.6/10.

Another evaluated component of child passenger safety are car seat clinics. Car seat clinics consist of an educator teaching parents/ caregivers how to properly install their child's car seat, how to properly restrain their child in the car seat, and what car seat is appropriate for their child. The SK Prevention Institute conducted a one year follow-up phone survey with 150 clinic participants in 2004 to measure the perceived usefulness of the clinics and associated changes in knowledge and behaviours. The average response of those surveyed regarding the usefulness of the clinic was 4.7/5 (1 = not useful and 5 = very useful). A statistically significant increase in knowledge of car seats was also reported, with the average pre-clinic knowledge scores increasing from 6/10pre-clinic to 8.6/10 (p-value is less than .001) at the one year follow-up. Survey participants were also asked whether they had changed how they were installing the seat and/or securing their child in the seat as result of attending the clinic. Sixty- two percent indicated they had changed how they were installing the seat and 42.7% changed how they were securing the child.(1) The clinics have grown significantly over the years and in 2005, there were 2,799 seats checked in 64 communities either at one of 129 clinics or by appointment.

A third aspect of the CPS technicians' work is as a partner in the enforcement of child restraint laws. Technicians participate in

regular road side checks where tickets may be given for infractions and where technicians correct issues with child restraints if at all possible. Twice a year they also join with the Selective Traffic Enforcement Program (STEP) and hold traffic safety blitzes in different communities. Representatives from all of the traffic divisions in the province (both RCMP and Municipal forces) participate.

A more extensive evaluation of the child passenger safety program is currently in progress, however, it is clear that capacity has increased in terms of car seat technicians and resulted in additional capacity at the individual level.

Key steps/actions:

- SGI entered into agreement with the Ministry of Health, Government of Saskatchewan.
- Pilot project was conducted.
- Provincial ABI Advisory Group was formed.
- Funding was granted to health regions and non-government organizations.
- Collaborations and partnerships formed across the province.
- Data reports were generated to help communities determine priorities.
- Community grant program was implemented and funded child passenger safety activities, programs and events:
    - Car seat technicians were trained.
    - Technicians organized car seat checks in communities.
    - Technicians partnered with law enforcement to participate in road-side checks.
    - Phone survey was conducted with parents to determine perceived usefulness, knowledge and behaviour change.

Lessons learned:

- From an overall perspective, in order to achieve capacity building it is vital to have strong leadership at the provincial level and political will and buy-in in order to implement a program on this scale.
- Grants allowed communities to undertake injury prevention activities that are significant and pertinent to each individual community and much latitude has been given to customize programming.

Barriers:

- There has been difficulty in engagement in the northern, and perhaps most vulnerable, part of SK due to challenges in recruiting and retaining staff and challenges in making injury prevention an issue when basic needs are not always being met.
- The time required to set up and conduct car seat clinics.

Facilitators:

- Staff at Ministry of Health, SGI, health regions and non-governmental organizations.
- Partnerships with community organizations and law enforcement.
- Data to show need for interventions.

Advice to others/issues around transferability:

- Establishing a partnership between provincial government, health regions and non-government organizations, each of whom bring different attributes to the table (e.g., funding, infrastructure, expertise) sets the stage to transfer this experience.

References/additional information:

1 Acquired Brain Injury Partnership Project: Program Evaluation 2004 – 2006, Saskatchewan Health and SGI, no date.

See also:

- http://www.abipartnership.sk.ca/html/abi-resources-publications/index.cfm

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Evidence statements supporting strategy:

Where capacity building activities, such as conferences, workshops and continuing education programs, have taken place, significant benefits for injury prevention work have been found.

Atlantic Collaborative on Injury Prevention

New Brunswick, Newfoundland and Labrador, Nova Scotia and Prince Edward Island

Implementation level:	Regional
Strategy approach:	Leadership
Setting:	All
Target audience:	Injury prevention practitioners and policy makers
Resource intensity:	$$ - $$$

Background:

In the 1990's, when Health Canada held a number of consultations on child injury prevention, few of the Atlantic Canada attendees (one government, one non-government per province) had injury prevention as an integral aspect of their work. In addition, few seemed to know who was engaged in injury prevention work in the region. While other parts of the country were establishing/enhancing provincial injury prevention centres and programs, in Atlantic Canada there were a limited number of identified injury prevention generalists - one at the Janeway Children's Hospital in St John's, Newfoundland & Labrador (NL), for a limited period, and a part-time injury prevention coordinator at the IWK Children's Hospital in Halifax, Nova Scotia (NS), with a Maritime mandate.

In December 2000, 60 representatives from all areas of injury prevention and control from Atlantic Canada met at the IWK Health Centre in Halifax. This initial meeting was made possible through the support of SMARTRISK, Safe Kids Canada and the Safe Communities Foundation. As a result of that meeting, the Atlantic Network for Injury Prevention (ANIP), now called the Atlantic Collaborative on Injury Prevention (ACIP) was created and provides injury prevention leadership to the Atlantic Provinces.

From 2000 – 2008, ACIP had a part-time secretariat, funded by SMARTRISK. In 2007, NS and NL provided funding to supplement a diminished grant from SMARTRISK and in 2008 the network became incorporated as ACIP and approached the Deputy Ministers of Health of the four Atlantic Provinces for sustained funding. A business case was developed, showing the success of the Network and potential for future leadership, and each province agreed to provide funding. Shortly after, a full-time Executive Director (ED) was hired to lead the Collaborative.

Since ACIP has had core funding of $100,000 a year, enabling them to have a full time executive director and some resources, the ED has had the time and capacity to develop projects and seek additional funding from various sources. Since 2008, this additional funding has amounted to $600,000 and has been used for a variety of projects – in particular ones involving knowledge translation and dissemination, to build the capacity of Atlantic Canadian injury prevention practitioners. For the purposes of this case study, the focus will be on their leadership capacity.

ACIP serves as a forum to connect government and the academic and NGO communities for collaboration in the areas described in the next section. As a leader in injury prevention, it is instrumental in facilitating the development of healthy public policy and supportive environments across Atlantic Canada. It is guided by the Leadership Team, comprised of non-government and government members, with representation from all four Atlantic Provinces. Each province established its own provincial network/coalition (local ACIP chapter) to collaborate on local initiatives.

Aims and objectives:

- The goal of ACIP is to reduce the burden of injury in Atlantic Canada. ACIP facilitates and leads collaboration in injury prevention activities across Atlantic Canada in the following areas:
    - Atlantic/Interprovincial Leadership.
    - Surveillance/Research.
    - Policy Development.
    - Capacity Building.

Evaluation:

As a result of the Collaboration, the following results have been achieved:

- Membership has grown from the initial 60 to more than 200 subscribers to the listserv. Biweekly communication shares the latest in research, training opportunities and programs.
- In 2005, ANIP co-hosted the 3rd Canadian Injury Prevention and Safety Promotion conference in Halifax, NS. For the first time this brought national and international leaders and experts in injury prevention to Atlantic Canada offering a solid benefit to local practitioners. This was also the largest Canadian conference to date with over 600 attendees.
- ACIP began hosting a biennial conference in 2002. The venue rotates among the four provinces with an average of 100 attendees. Previous to ACIP, there were no multi-issue injury prevention conferences held in Atlantic Canada.
- ACIP has been an essential tool for translating the scope of individual provincial injury prevention initiatives to ones that can be implemented in all Atlantic Provinces. For example, the DVD version of PARTY (Prevention of Alcohol and Risk Related Trauma in Youth) program and the SMARTRISK No Regrets programs for teens began in two provinces and are now implemented in all four.
- Since 2009, ACIP offers a teleconference learning series two to three times a year and face-to-face training opportunities on relevant injury issues. After the release of the latest Economic Burden report, a teleconference was held to help stakeholders understand these data and the implications for their work in Atlantic Canada.
- Safe Kids Canada (SKC) approached ACIP and Child Safety Link as leaders to partner with the Alberta Centre for Injury Control and Research to develop the *Child and Youth Unintentional Injury in Atlantic Canada: 10 years in review* report in 2009. In addition, ACIP, Child Safety Link and SKC have partnered on a series of knowledge translation activities to facilitate use of the report by stakeholders.
- Government and non-government stakeholders approach ACIP to partner, particularly in the development of healthy public policy. The promotion of all-ages ski helmet legislation is a current example.
- ACIP has been an instrumental leader in helping to increase the capacity of provincial leads and partners in effective communications around good practices. For instance, after the release of the *Alcohol and Injury in Atlantic Canada: Creating A Culture of Safer Consumption* report in 2010, ACIP worked to build their partners' understanding of

the policy recommendations and how to strategically position efforts to address these in each province.

- Currently, ACIP is acting as a catalyst in bringing together provincial surveillance experts to share challenges and strategies for improving injury surveillance.
- Child injury prevention staffing has increased in the Atlantic provinces to seven positions within CSL alone, and three of the four provincial governments (except PEI) have a dedicated position for injury prevention, where none existed previously.

Key steps/actions:

- Identify a need for a regional organization, through a consultation or other process.
- Identify members and, through a visioning and strategic planning process, identify the mandate and objectives of the group.
- Create a core team of leaders in the area to provide guidance and direction for the group, and to ensure the work of the group is carried out.
- Solicit funding, particularly for a staff person to manage the work of the group.
- Provide leadership through capacity building, training and other benefits to members and funders.
- If sustained funding is not in place, demonstrate success through the group, build a business case and solicit sustained funding from government, corporate or other partners.
- Document your success including both quantitative and qualitative measures.

Lessons learned:

- ACIP has proved to be an excellent model for Atlantic leadership that facilitates collaboration involving both government and the non-profit sector. Much can be accomplished through a virtual organization. Team members are able to share information and challenges and use each other's experience and expertise to address injury issues in their province.

Barriers:

- The core of the ACIP funding stems from a four- province agreement that operates year to year. There is always a concern that with cutbacks, ACIP could be affected.

Facilitators:

- Dedicated individuals who are recognized/accepted as leaders in the field to get the ball rolling.
- Seed money to sustain development and support a (part-time) staff position.
- People with a vision of what could be, and willingness to stick with the process and issue over the long term.
- Annual government funding to support core operations and projects.
- Non-government and government staff that know how to work in a team. A real benefit of the ACIP Leadership Team is the wealth of information shared and the willingness to support each other in their injury prevention efforts.

Advice to others/issues around transferability:

- This approach could work well within a region of a province/territory or among a group of provinces/territories, if there is a need for such a collaborative.

References/additional information:

- www.acip.ca

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Evidence statements supporting strategy:

National leadership is needed to establish direction and develop a vision of the future, develop change strategies, align people, inspire, energize.

SECTION 5

Canadian Hospital Injury Reporting and Prevention Program

National

Implementation level:	National
Strategy approach:	Surveillance
Setting:	Emergency departments in select hospital sites from across Canada, including all major paediatric emergency departments
Target audience:	Injury prevention policy makers, researchers, practitioners
Resource intensity:	$$$$

Background:

The Canadian Hospital Injury Reporting and Prevention Program (CHIRPP) was established at Health Canada (now Public Health Agency of Canada - PHAC) in 1990. It was modeled on the Victoria Injury Surveillance System and was adapted with permission of the administrators of this Australian system. CHIRPP includes all 11 hospitals with dedicated paediatric emergency departments and four general hospitals. The number of records in the database has now passed two million.

CHIRPP collects data on injuries and poisonings presenting at the emergency department. A two-page form is completed - one page by the parent or patient, detailing the circumstances, activity involved and the place where the injury occurred, contributing factors and free text describing "what happened". The second page is completed by hospital staff with information on the nature of injury, body parts affected and the disposition which details hospital admission, extended observation or treatment and release. Disposition (admitted/not admitted) is used as the proxy for severity of injury.

CHIRPP is not meant to replace population-based data, rather it complements International Classification of Diseases (ICD) coded mortality and hospitalization data. The coding system used by CHIRPP is quite unique and very detailed. It can be mapped to groupings of International Classification of Diseases (ICD) external cause codes – but goes into much more detail. Based on the free text that parents/patients fill out, CHIRPP provides information on injuries related to sport and recreational activities, those associated with consumer products, and injuries in other circumstances not easily identified by ICD codes.

Information from CHIRPP is available at the national level and also at the local level for the communities served by CHIRPP participating hospitals. The data are used for the development of larger reports, issue-specific brief reports and one page "samplers". Internally, the data are used in briefings to senior management and the Minister of Health. Externally, the data are used in reports generated by other government departments, injury prevention organizations, researchers and the media to illustrate the circumstances of injuries that provides direction in determining effective interventions.

Aims and objectives:

To provide useful information on how injuries happen. To inform prevention efforts through policy and program development.

Evaluation:

- **Research:** at least 70 known peer-reviewed published papers about CHIRPP or that use CHIRPP data – approximately 50 of these deal with national data, the remaining involve data from specific hospitals.
- **Evidence supporting safety campaigns:** Safe Kids Canada has used CHIRPP data to inform the yearly Safe Kids Week themes since 2001, as well as programs such as home safety.
- **Assessment of risks:** the Product Safety Program, Health Canada, uses CHIRPP data to flag emerging issues and monitor trends.
- **Background for media articles:** reporters from the general media and writers for parenting and health publications often request background information from CHIRPP. On average CHIRPP receives one to two requests a week from media or stakeholders for data.
- **Evidence for policy and programs:** some examples include the recent new Canadian Consumer Product Safety Act, banning of baby walkers, the new CSA standards for playgrounds (see separate case study), new rules for body checking for children playing hockey, the changes to ATV legislation/regulations regarding children and youth, the move towards changing building codes to control maximum temperatures for hot tap water, etc.

Key steps/actions:

- Each hospital has a paid coordinator and an unpaid, physician director.
- Two-page form completed by the parent or patient and hospital staff in emergency department. Records not completed by parent/patient are often retrospectively completed from information in medical records.
- Forms are sent to Ottawa monthly for coding centrally.
- The national electronic database is held at PHAC, which entertains data requests from all over the country.
- Each hospital receives electronic updates of its own data.

Lessons learned:

- CHIRPP has been very useful for the planning of injury prevention activities as it gives great detail on the circumstances surrounding the injury – detail not accessible from other data systems that report on injuries. In order to collect, code and analyze data to this level of detail CHIRPP is more labour intensive than some of the surveillance systems. Hospitals are required to play an active role in data collection and data quality, and there needs to be sufficient resources at PHAC to support each hospital's efforts. Expanding the number of hospitals that participate in the CHIRPP network requires additional resources to process the increase in data. However, it is hoped that this capacity to take on additional hospitals as well as improve the processes to collect data and more effectively analyze and distribute the analysis produced, will grow. Currently data collection is paper-based, however, there are plans to address some of these issues in the near future by modernizing data capture techniques. This should improve the timeliness of data collection and knowledge translation, and may also facilitate the expansion of CHIRPP.

Barriers:

- The surveillance system and resulting data are not population-based, which makes rate estimates difficult.
- The nature of the sampling of participating hospitals results in underestimates of injuries among rural/remote populations.
- Intentional injury reporting within the system is unreliable as it relies on self-reporting by patients or caregivers who may be reluctant to disclose true intent and physicians who are cautious to report intentional injuries before a complete investigation has been conducted.
- Coding needs to be done centrally to ensure quality control. This leads to delays in sending data back to the reporting hospital for correction/verification.
- Data are currently collected using paper forms, mailed to PHAC and entered into the national database resulting in slower data entry times.

Facilitators:

- One needs a champion in the hospital to ensure the maximum number of records and amount of data are captured. The coordinator needs to be an integral and respected part of hospital staff. Local hospitals need to produce reports/fact sheets based on their own data to demonstrate the usefulness in collecting the data to the community at large and to the hospital administration who support ongoing participation.

Advice to others/issues around transferability:

- When setting up a surveillance system it is important to seek the guidance of experts who can help build a system utilizing available technology to efficiently handle the data entry and analysis needs. In addition, a modern surveillance system should be designed with sustainability in mind and include built-in expansion capabilities for the inevitable changes and growth which will occur over time. It is also critical to make use of the data collected to demonstrate the utility of having data to support policy-making, programming and evaluation. Failure to do this can lead to loss of support and funding for surveillance activities.

References/additional information:

- CHIRPP: Canada's principal injury surveillance program
  http://injuryprevention.bmj.com/content/5/3/208.short
- Evaluation of the quality of an injury surveillance system
  http://aje.oxfordjournals.org/content/149/6/586.abstract
- Injury surveillance in paediatric hospitals: The Canadian experience
  http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2721185
- Youth injury data in the Canadian Hospital Injury Reporting and Prevention Program: do they represent the Canadian experience?
  http://www.ncbi.nlm.nih.gov/pubmed/10728534

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Evidence statements supporting strategy:

The collection and dissemination of data is vitally important in the monitoring and evaluation of injury prevention programs and the development of policy and practice.

SECTION 5

Canadian Surveillance System for Water Related Fatalities

National

Implementation level: National

Strategy approach: Surveillance

Setting: Any water setting in which a person can drown (e.g., bathtubs, pools, lakes, rivers, oceans and industrial/farm settings)

Target audience: Governments, training agencies, injury prevention organizations, police forces, media etc.

Resource intensity: $$$

Background:

The Canadian Surveillance System for Water-Related Fatalities tracks drownings and other water-related injury deaths, including boating related deaths, and disseminates the information through public education. The water-related fatality databases are managed and maintained by; the Canadian Red Cross – a non-profit organization whose swimming and water safety mission is to improve the quality of life by giving people the skills to make safe choices, increase physical fitness, prevent injuries and act in emergency and rescue situations; and the Lifesaving Society of Canada – a national volunteer, charitable organization that works to prevent drownings through its training programs, public education, research, consultation and international liaison. The Canadian Surveillance System for Water-Related Fatalities is unique to Canada and the world. The database was developed in the late 1980s and data are available for Ontario since 1987, and all other provinces and nationally since 1990.

The main users of the data are the safety organizations themselves, all levels of government departments (including Health Canada, Public Health Agency of Canada, Transport Canada, Environment Canada, Canadian Coast Guard, etc.), training agencies, injury prevention organizations, police forces, boating manufacturers, decision makers, media and the public.

At the end of 2003 the database contained approximately 7,300 records. Since then the database has grown to over 8000 records. Verification and data entry for the years 2005-2008 has yet to be completed. Besides age, gender, province and nature of the drowning incident, personal factors (e.g., boating skill, swimming ability, blood alcohol level), equipment factors (e.g., type of boat, purpose of activity, use of personal floatation devices), and environmental factors (e.g., wind conditions, water temperature, type of body of water, accompanying person(s), type of rescue) are also recorded.

Aims and objectives:

The surveillance system provides a comprehensive fact base on the drowning "problem" to guide the Lifesaving Society, Canadian Red Cross and others in developing drowning prevention "solutions".

The primary purpose of this data source is to support prevention training programs, public education campaigns and drowning research projects. Surveillance contributes to the mission of the Canadian Red Cross and Lifesaving Society by ensuring programs, products and services are built upon a strong foundation of sound principles that can withstand scientific and/or legal scrutiny.

Evaluation:

The database is comprised of all closed files from the provincial coroner's offices and represents most annual fatal drownings. The data have been used to identify important skills and knowledge required to prevent drowning, inform boating policy on PFD use such as promotion of usage of lifejackets for all boaters, and the move towards four-sided fencing for backyard pools, for example.

Since the initiation of the data collection in the late 1980s, which coincided with an increase in prevention messaging, the number of drownings in Canada has declined, in particular in children under five years of age. The existence of a surveillance system has allowed the monitoring of trends, with a 54% drop in the rate of infant drowning between 1991-95 and 1996-2000 and a 25% drop in the rate for children one to four years of age.(1-2) Reports are downloaded and used by injury prevention organizations and governments (e.g., Transport Canada) and Canadian Red Cross receives approximately 15-25 data requests a year from media.

Key steps/actions:

The Lifesaving Society and Canadian Red Cross collect the data from the provincial coroner's offices. For each water-related fatality, the data collectors compile information on a 15-page paper-based questionnaire consisting of 48 questions. The data collectors are recruited, trained and managed by dedicated project managers in each province. The forms are verified by an external contractor and coded by an epidemiologist using a software-dependent internal classification and the World Health Organization E-codes. These data are categorized in accordance with WHO International Classification of Diseases (ICD) 9 and now ICD 10 classification systems. The Canadian Red Cross inputs the verified, corrected, and coded data into the Canadian Surveillance System for Water-Related Fatalities database using the Microsoft Access software. The management, verification and analysis are conducted by an external public health, medical injury specialist and a public health epidemiologist.

In generating the Canadian Red Cross National Report, other data from Statistics Canada (including population trends and rate calculations) and the Canadian Institute of Health Information are used. The Canadian Red Cross database has focussed on immediate reporting but also cumulative reporting to identify circumstances of all categories of water-related injury deaths, not only the most frequent ones, and also on long-term trends to assess the impact of prevention. The Lifesaving Society takes the collected coroners' data and inputs it into their own, separate, database that is used for annual reporting. Each organization independently summarizes, analyzes and reports on the data, releasing prevention messaging and data in conjunction with their respective safety campaigns. A comprehensive trends report called *Drownings and Other Water-Related Injuries in Canada, 1991-2000*, was produced by the Canadian Red Cross in 2006. The Lifesaving Society published their most recent Drowning Report in 2008.

Periodically special reports are released and in the past have covered topics such as boating and boating related incidents, toddler drownings, recreational boating related fatalities and drowning among swimmers. Other reports can be generated upon request.

Lessons learned:

Barriers:

- Data are entered into the database when the coroners files are closed, which can range from one to three years after the fatal injury event occurred, thus there can be delays in the data. (Some provinces close their files sooner than others.)

- The strengths of the database are the completeness, depth and longevity of the data – 20 plus years. The weakness is the lack of timeliness - specifically the delay between when the files are closed and when the data are available for reporting (in some cases three or more years). Users of the data, and in particular the media, are often not interested in data that is three or more years old.
- Decisions in some jurisdictions to restrict access to coroner's reports impede timely data collection.

Facilitators:

- Dedicated members of Canadian Red Cross and Lifesaving Society that collect the data yearly.

Advice to others/issues around transferability:

- This type of approach can be and is used for other issue areas (e.g., Canadian Agricultural Injury Reporting. Data sharing agreements and protocols need to be in place with each provincial/territorial coroner's office. Depending on the injury issue, issues of consistent definitions would need to be worked out as each province has its own system and definitions. Efforts are almost completed for a national coroner's database that will be housed at Statistics Canada and may eventually make this type of data extraction less labour intensive, but will not contain the breadth and depth of information that the drowning database contains.

References/additional information:

- Canadian Red Cross. Drownings and Other Water-related Injuries in Canada, 10 Years of Research. 2006.
- Lifesaving Society, the Drowning Report 2008 Edition. http://www.lifesavingsociety.com/default.asp?PageId=90
- For all the Canadian Red Cross Drowning and Trends reports go to: http://www.redcross.ca/article.asp?id=17352&tid=024

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Evidence statements supporting strategy:

The collection and dissemination of data is vitally important in the monitoring and evaluation of injury prevention programs, and the development of policy and practice.

SECTION 5

Economic Burden of Injury in Canada reports

National

Implementation level:	Provincial, national
Strategy approach:	Education
Setting:	Province/nation
Target audience:	Public health policy-makers, practitioners, researchers
Resource intensity:	$-$$

Background:

Policy-makers and the public were largely unaware of the human and economic burden associated with preventable injury, and this most critical health problem was not being addressed commensurate to the burden. As stated in *Ending Canada's Invisible Epidemic*.(1) "To ensure the sustainability of Canada's public health care system, policy makers can no longer afford to ignore injury prevention; it is one of the most promising means to significantly reduce hospitalizations, wait times, and related health care costs without compromising the accessibility and quality of care that Canadians want".

To address this lack of awareness of the magnitude and associated costs of injury, SMARTRISK contracted the Ottawa-based Hygeia Group in 1998, in partnership with Health Canada; the Emergency Health Services Branch-Ministry of Health Ontario; and the Kingston, Frontenac and Lennox & Addington Health Unit, to produce *The Economic Burden of Unintentional Injury in Canada*. Subsequent studies were released in subsequent years for the provinces of Ontario, British Columbia, Saskatchewan, Alberta, Manitoba, the Atlantic Provinces (New Brunswick, Newfoundland and Labrador, Nova Scotia and Prince Edward Island), Ontario (revised), and ultimately a revised national study, with chapters for each province, covering all injuries in 2009.

Aims and objectives:

In 1997 SMARTRISK decided that in order to raise the profile of unintentional injury in public policy debate, it needed to use language in its communications that was universally understood – the language of economics.

Evaluation:

Although no formal evaluation had been included in the development of these Economic Burden reports, tracking of their use and uptake has been monitored. Three main uses of the reports have been:

1) To advance the development of a national injury prevention strategy (e.g., Economic Burden data has been used in a number of business cases and reports recommending a national injury prevention strategy. The report was also tabled, and received during testimony before the Standing Committee on Health, December 2, 2010).

2) To advance provincial and regional strategies (e.g., Nova Scotia launched the development of its provincial injury prevention strategy in direct response to the release of the *Economic Burden of Unintentional Injury Report in Atlantic Canada* in 2003. Similarly, following the publication of the initial Ontario report in 1999, the government made an investment of $5 million over five years for the development of a provincial strategy. Following the 2006 revised Ontario report, a formal injury prevention strategy document was released, and injury prevention became part of the mandatory public health standards in 2008).

3) To raise public awareness of the issue of injury through extensive press coverage, particularly of the most recent, revised national report. SMARTRISK sent a press release to all media over Canada Newswire and an embargoed release to provincial partners the week before. Circulation numbers are not published for all media outlets, particularly Internet news sources. Counting only those who do publish figures, Burden coverage was circulated to more than three million Canadians. Highlights of coverage include; a feature article in *The Globe and Mail*; two lengthy articles in the *New Brunswick Telegraph-Journal*, including one on the front page; in-depth articles in the *Waterloo Region Record* and *Nova Scotia Chronicle Herald*; interviews with eight radio stations, including *CFRB* in Toronto, *CBC Radio 1's Here & Now* program and an eight-minute report on *Radio Canada International*; a quick clip on *CBC TV's The National* during a report about H1N1 and other public health threats; widespread coverage on Internet news sites after pickup by All Headline News service; and coverage in such publications as the *Canadian Health Reference Guide* and the *Injury Control Alberta* newsletter.

Key steps/action in intervention:

- A review of health service costing methodology was conducted and a decision made to use an incidence costing, human capital approach. That is, the population of Canadian residents injured in 2004 was costed over the lifetime of injured individuals.
- A tool called ERAT (Electronic Resource Allocation Tool) was developed to formulate the lifetime costs per injury. The tool provides a classification and costing framework based on existing provincial injury data and data available from the injury costing literature. The tool is flexible in that it can be updated as new data becomes available and according to changes in population, injury incidence, and treatment patterns and costs. Initial development of the ERAT for a specific jurisdiction, set of injury categories and age/sex breakdowns costs approximately $100,000. Subsequent analysis with the tool, in the same or a closely related jurisdiction can be accomplished for approximately $15,000 as long as no new coefficients are required.
- Hospital separation data from the Canadian Institute of Health Information and Statistics Canada mortality data were obtained.
- The initial report not only profiled the burden of unintentional injury for each age group but gave cost savings if a 20% reduction was obtained in a number of specific injury prevention scenarios.
- Subsequent provincial/regional reports followed the same methodology.

Lessons learned:

- Determining the lead for the project (i.e., government or non-government) may affect the time frames for development (e.g., access to data) and levels of approvals needed for release.

Barriers:

- Besides the usual issues around data ownership and access, the fact that Canada is a federation adds additional jurisdictional challenges with multiple data owners impacting timeliness of access and the need to negotiate individually with data owners.

Facilitators:

- Using the same methodology ensures comparability between reports.
- The most recent national report was funded by a coalition of 16 NGOs and government departments from across the country, which in turn served as an advisory committee providing oversight to the project and sharing in dissemination and translation of its results. Engaging partners in each province/region has strengthened this network.
- The credibility of injury as an important public health issue has been enhanced by having economic burden data.

Advice to others/issues around transferability:

- Training on the methodology/tool helps to increase comfort with it and decreases reliance on the central agency for support in its use. The viewpoint for cost-of-illness studies has a bearing on the schedule of costs to be included. The perspective for the approach used for these reports was societal. For example, from a societal perspective, transfer payments such as Canada Pension Plan (CPP), disability, and social assistance are not considered costs since they are a reallocation of resources and the net effect of the transfer to society is zero. Others argue that personal transfers should be included as a cost since, if illness did not occur, then transfer payments could be used for other purposes such as reducing the deficit. It should be noted that if this study were conducted from the perspective of the federal government, then transfer payments would be considered a cost. Similarly, other perspectives can be adopted such as that of the patient, the insurer, or even the trauma surgeon, each of which will impact on what are considered costs.
- Detailed injury data are available for deaths, hospitalized cases and persons who are treated in the emergency/outpatient department. Injuries that are not treated in a hospital are not captured or reported through a central body. Furthermore, there is a large data gap for hospitalized injuries that require ongoing care outside a hospital setting for either a short period or for a longer term due to permanent disability.
- Overall, the data gaps point towards two key analytical challenges:
    - Estimating the type, number, and cost of non-hospitalized injuries.
    - Building the full episode of care from pre-hospitalisation to ongoing care outside the hospital setting and associated costs for hospitalized injuries that result in short-term and long-term disabilities.
- The analytic strategy used to address these methodological problems involved an extensive search through scientific literature to find numbers and ratios that could be used to fill the data gaps. After having obtained these, the full episode of injury has been evaluated to include estimates of permanent disability and non-hospitalized cases as well as population size and mix. Once adjusted, the tool calculates total costs as well as costs for each injury type. The resource tool has been designed to allow for constant updating of current injury and cost information, though such updating is best performed by an economist familiar with health data from the relevant juridiction.

References/additional information:

- SMARTRISK Ending Canada's Invisible Epidemic, A Strategy for Injury Prevention. Toronto, Ontario, 2005.

Contact information:

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Website to access reports:
http://www.smartrisk.ca/index.php/burden

Evidence statements supporting strategy:

The collection and dissemination of data is vitally important in the monitoring and evaluation of injury prevention programmes, the development of policy and practice.

Provincial Injury Prevention Strategy
Nova Scotia

Implementation level:	Local, regional and provincial
Strategy approach:	Leadership
Setting:	Schools, workplaces, homes, communities, roads and streets, health care settings, recreation and leisure settings
Target audience:	Policy makers, injury prevention practitioners, all Nova Scotians
Resource intensity:	$$$$

Background:

The Nova Scotia (NS) Injury Prevention Strategy (the Strategy) was launched in 2004 as a plan for maximizing the ability of prevention partners to work together to tackle injury prevention as a public health issue. The Strategy was developed through a consultation process with stakeholders. Funding was made available for capacity building (programming, community based initiatives, research and surveillance, advocacy, infrastructure, etc.) in injury prevention across the province.

The Strategy has three main priorities based on surveillance, research and consultation that guide injury prevention planning and resource allocation; seniors' falls; road safety; and suicide/attempted suicide. Priority populations are children and youth, older Nova Scotians and other populations at increased risk of injury. The Strategy was renewed in 2009, after an extensive consultation process. Integration; leadership and capacity building; surveillance, research and evaluation; and advocacy are the strategic directions of the renewed Strategy. Collaboration, a central theme in the initial Strategy, remains so in the renewed Strategy.

The Strategy also focuses on supporting the broader vision of healthy communities, with linkages made between injury prevention and:

- chronic disease prevention,
- mental health promotion,
- physical activity promotion,
- promotion of safe alternative and sustainable transportation,
- reduction of substance abuse, and
- health disparities.

Aims and objectives:

Vision: Everyone in NS working together to create healthy and safe communities.

Purpose: The strategy serves as an integrated and comprehensive guide for collective efforts to create healthy communities and thereby reduce injuries.

Short-term Measures:

- Increased collaboration and linkages among and across sectors.
- Stronger leadership and capacity at provincial and local levels.
- Greater use of evidence in policies and programs.
- Increased co-operation and collaboration among injury prevention stakeholders.
- Integration of efforts with other initiatives to address the root causes of injuries.

Intermediate-term Measures:

- Greater integration of efforts across sectors, settings, populations, and issues.
- Increased use of healthy public policy to reduce injuries at the provincial, local, and organizational levels.
- Stronger systems for monitoring disparities in injury.
- Stronger systems for monitoring the root causes of injury.

Long-term Measures:

- Fewer and less severe injuries.
- Less injury-related disability.
- Less overall risk of injury among Nova Scotians.
- Reduction in the social and economic impacts of injury.

Key steps/actions:

- Injury data from NS were analyzed to identify the key causes of injury and death for various age groups.
- Literature reviews were conducted to identify evidence-based practices in addressing these injury areas.
- Stakeholders were identified and invited to engage in a consultation process.
- Consultation meetings were conducted. At these meetings, injury data and evidence-based practices were presented and a process conducted to distil the key priority areas and approaches.
- A Strategy document was developed and widely disseminated.
- Funding was allocated to key community partners to work on the priorities (priority issues, populations and settings). Capacity building has also been a key focus through the delivery of training sessions (i.e., Canadian Injury Prevention Curriculum and the Canadian Falls Prevention Curriculum, workshops, conferences and the development of communities of practice.
- The original and renewed strategies continue to guide the efforts of the provincial government, and their partners and stakeholders to reduce injury and create healthy communities.

Evaluation:

As a result of the strategy:

- The Department of Health Promotion and Protection has invested more than $6.5 million in the strategy (2004 to 2011).
- New injury prevention initiatives have been developed across government and at the community level, including:
  - Seniors falls prevention programs and services.
  - Car seat safety programs and services at the community level.
  - Suicide prevention and mental health promotion initiatives.

    - Helmet safety research and programs (wheeled activities, snow sports, etc.).
    - Surveillance projects.
- The development of new organizations and partnerships dedicated to addressing injuries, including:
    - Preventing Falls Together initiative.
    - Communities Addressing Suicide Together initiative.
    - A unique version of the PARTY Program.
    - Engagement of non-traditional partners in injury prevention (i.e., sport and recreation, substance abuse prevention, mental health, etc.).
- A series of sub-strategies and actions in the areas of seniors' falls prevention, suicide, and road safety have been developed.
- There have been improvements in injury prevention infrastructure, leadership, and advocacy , including:
    - Core funding for several community partner organizations.
    - Creation of provincial coordinating and collaborating bodies (Provincial Intersectoral Falls Prevention Committee, Strategic Framework to Address Suicide Steering Committee, Care Seat Safety Strategy Committee).
    - Creation of Injury Free NS, an injury prevention stakeholder organization dedicated to injury prevention advocacy.
- New policies and legislation have been established, including:
    - Enhanced car seat/booster seat legislation.
    - All-ages helmet legislation for cycling, skateboarding, scooters, roller-skates and in-line skates.
    - Provincial and local policies to support seniors falls prevention.
    - Improvements to voluntary snow sport helmet policies in collaboration with industry.

Lessons learned:

- The need to improve knowledge translation and dissemination was identified and has been addressed through a variety of activities.
- A strategy is integral to maintaining a sharp focus on priority issues.
- It is an advantage to pursue the prevention of injuries as part of a broader strategy to create healthy communities through healthy public policy and the creation of supportive environments.

Barriers:

- The level of funding can be affected in times of fiscal restraint.

Facilitators:

- Strong central leadership for healthy public policy and supportive environments.
- Financial supports to community-based organizations to deliver programs and services as well as participate in advocacy.

Advice to others/issues around transferability:

- The approach has served NS well and can be easily adapted in other jurisdictions. Having an Injury Prevention Strategy in NS has ensured that a stable, long term approach to injury prevention is in place, and less vulnerable to changes in the political climate. For jurisdictions looking to develop an Injury Prevention Strategy, NS stakeholders found the following two points to be critical:
    1) If you do not already have a champion with your government bureaucracy, then stakeholders need to develop that champion by ensuring they have timely access to key injury data and good practices.
    2) Once the champion is in place, it is critical that government bureaucrats and community stakeholders work together to develop a collective vision and strategic priorities that then can be used to secure funding to develop the strategy.

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Evidence statements supporting strategy:

National leadership is needed to establish direction and develop a vision of the future, develop change strategies, align people, inspire, energize.

SECTION 5

Safe Kids Week 2001 – Prevention of Scald and Burn Injuries in Young Children

National

Implementation level:	Local and national
Strategy approach:	Education
Setting:	Home
Target audience:	Parents of children under nine years of age
Resource intensity:	$$$$

Background:

Safe Kids Canada (SKC) is the national injury prevention program of The Hospital for Sick Children in Toronto. Its vision is: *Fewer Injuries. Healthier Children. A Safer Canada.* Each year since 1995, sponsor Johnson & Johnson and SKC have joined forces to run a major national campaign called Safe Kids Week (SKW). The SKW campaign raises awareness about a specific type of injury, and educates the public about prevention strategies. A different safety issue is chosen as the focus each year. Themes are chosen based on the leading causes of unintentional injury deaths and hospitalizations to children. In 2001, SKC chose the theme of preventing scalds and burns to young children which are severe and life-altering if not high from an overall number perspective.

During SKW 2001 (May 28-June 3), burn safety information was disseminated to parents via the media and retail stores, as well as through community partners. The media campaign consisted of TV, radio and print stories. Approximately 5,000 retail stores carried prominent displays, point-of-purchase information booklets and free thermometer cards to test hot water temperature. Posters, flyers and a guide on how to increase public and media awareness were distributed to the community partners. Partners were offered hot water testing cards at cost.

All three components (media, retail and community partners) shared four key messages: 1) Lower your water temperature; hot tap water could burn your child! 2) Make sure your child is safe in the kitchen. 3) Keep hot drinks away from your child. 4) Check your smoke alarms regularly.

Aims and objectives:

The objective was to coordinate a national media awareness campaign to capture public interest on the burns and scalds issue and to provide public education messages.

SKC aimed to provide support for community campaigns with downloadable educational materials and grants to assist organizations running local campaigns on the topic during SKW 2001.

Evaluation:

- The 2001 media campaign generated 35 million unpaid media impressions.
- Approximately 5,000 retail stores carried prominent displays, point-of-purchase information booklets (1 million) and free thermometer cards (500,000) to test the hot water temperature.
- There were 348 communities who were partners for SKW.
- The impact of SKW was evaluated through a national random digit dial telephone survey, conducted three to five weeks after the campaign. (Reference to this study is below). The purpose was to gather information on parental knowledge and behaviour in relation to scald and burn injury. Parents or guardians of children under the age of nine were included. Exposure to SKW 2001 was defined as "having seen, heard, or read anything about scald and burn prevention during the period May 28 to June 3, 2001". Detailed data from two groups of parents – those "exposed" and those "unexposed" to the SKW campaign were collected via telephone interviews conducted by trained interviewers using a standardized questionnaire.
- Results:
    - Fourteen percent of parents of children under the age of nine years recalled seeing, hearing or reading about scald and burn prevention during the period May 28 to June 3, 2001
    - Parents exposed to SKW were one and a half to five times more likely to be aware of key campaign messages, compared to the unexposed group.
    - Exposed parents were also two to three times more likely to test and lower the water heater temperature, compared with unexposed parents.
    - All parents in the survey reported at least one smoke alarm, and that they changed the batteries yearly. Only one third, however, checked the functionality monthly.

Key steps/actions:

- SKW theme for the year is announced and community partners sign up on SKC website to receive information, updates and materials. If grants are available that year, partners apply via the website.
- Community partners gather their own partners together to conduct educational sessions, media blitzes, advocate for legislative change (if applicable), distribute safety devices or engage in other activities appropriate to the theme.
- Each community group evaluates the impact of their own activities.
- National, provincial, territorial and local media engagement is conducted.

Lessons learned:

- A national organization, working through partnerships with community groups, is an efficient mechanism to conduct major awareness campaigns at the local and national levels. Corporate sponsorship enhances the scope of the campaign and provided the funding for activation.

Barriers:

- It is an ongoing communications issue to ensure potential partners learn about the week and sign up.
- With a tightened economy, corporate sponsorship of this level is becoming increasingly more challenging to obtain.

Facilitators:

- Long-term sponsor relationship; enthusiastic local groups; community grants; public relations efforts; central coordination through SKC.

Advice to others/issues around transferability:

- SKW is easily applied in/customized for any community.
- *A note on advocacy efforts around hot water scald prevention:* The engineering and enforcement component that compliments the SKW education activities involves SKC leading a national effort to change building codes so that new hot water heaters are pre-set at a safe temperature before installation. There has been much opposition from various groups within the industry to this effort as some feel there are health risks if the water is set at this lower temperature while others say that the changes are too expensive for consumers. It is a long process to change building and plumbing codes and it involves the engagement of stakeholders from many sectors (e.g., building, heating, injury prevention experts, infectious disease specialists and others in the medical community and governments). Engaging likeminded organizations that focus on other populations (e.g., seniors and people with diabetes) who are at higher risk of scalds from hot water and who would benefit from the changes proposed is helpful. Significant resources are required to invest in the time it takes to attend meetings, conduct background and ongoing research as well as engage this broad stakeholder group. The work continues!

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See also related to burn prevention:

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Evidence statements supporting strategy:

National leadership is needed to establish direction and develop a vision of the future, develop change strategies, align people, inspire, energize.

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Child Safety Good Practice Guide:

Good investments in unintentional child injury prevention and safety promotion – Canadian Edition

The need for knowledge of what works is growing every day among those working to reduce the burden of unintentional injuries amongst Canada's children. Good use of evidence is central to achieving this and knowing 'what works' is at the heart of developing good policy and programs.

The Canadian Edition of the Child Safety Good Practice Guide provides the first seminal comprehensive document in the country from which decision-makers, practitioners and legislators can base their work and recommendations. It will enable Canadian injury prevention practitioners to examine Canadian strategy options for unintentional child injury, move away from what has 'always been done' and move toward good investments - strategies that are known to work or have the greatest probability of success. These are highlighted in "at-a-glance" tables which provide referenced evidence statements and strategy transfer and implementation points. Arranged by injury category and the 3 "E"s (engineering, enforcement and education), the tables allow readers to quickly identify evidence-based good practice and best investments for having a real impact on childhood injury. As such the guide also serves as a tool to raise awareness and communicate those strategies/interventions that have an evidence-base. It also provides practical advice on how to use good practice in strategic and action planning for unintentional injury prevention and safety promotion and stresses the importance of taking the time to address transferability issues prior to final selection of strategies. Further, where available, examples of 'real world' success in at least one setting in Canada are provided as learning tools for those considering uptake, transfer and implementation of select strategies/interventions.

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