Program Example - Child Passenger Safety

**Note:** We have created program examples for a number of injury issues that affect children 0-6. These examples are based on best practice and share activities that groups have done or could undertake. These follow the steps of Lesson 6 in the on-line course, Introduction to Child Injury Prevention. They are designed for people who want to develop programs that can be evaluated, or for people who need samples of Action Plans and Evaluation Plans for funding proposals. Other program examples, without this level of detail, but dealing with the same stories (for the most part), are available on the Parachute site, associated with Lesson 5 of the course.

Should you decide to work on this issue in your community, share your experience through our new child injury prevention listserv. You can subscribe by sending an email to: cipg-subscribe@lists.parachutecanada.org.

**Introduction:**

Why is child passenger safety important? In 2009 it was the leading cause of injury death for children 5 - 9. Nineteen (19) children age 0-4 and thirteen (13) age 5-9 died from motor vehicle related crashes in Canada in 2009. One hundred and forty (140) children age 0-4 and two hundred and thirteen (213) children age 5-9 were admitted to hospital as a result of a motor vehicle crash (2010/11). As stated in Lesson 1, Introduction to Child Injury Prevention, these admissions are just the tip of the iceberg as many of these children are only seen in the emergency room or at a clinic, and are not admitted to hospital.

Motor vehicle related injuries are preventable.

**Story:**

A father was looking after his two children aged 2 and 5. He needed to pick up milk at the store. He buckled the two year old into her car seat but realized the 5 year old’s booster seat was at the grandmother’s. He belted the child into an adult seatbelt in the back seat, beside his sister and headed to the store. The road was icy and he swerved off of it head-on into a telephone pole. The airbags deployed and he and the 2 year old were unhurt. However, even though he was still belted, the 5 year old said his tummy hurt. He was admitted to hospital and underwent surgery for a ruptured section of intestine. He recovered.

To begin a plan to address this injury, you need a short statement of the problem. For this story, it could be: Children are being injured in motor vehicle crashes in our community from non-use of booster seats.

Next, you need a goal:

**Goal:** to reduce the incidence of motor vehicle-related injuries to children in our region from non-use of booster seats.
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Next, you need to start to identify the key people who can help address this situation in your community.

*Potential partners:* injury prevention organization, police, Public Health, hospitals, health board, schools, caregivers\(^1\) and other community members.

You will want to discuss with the caregivers in your programs, whether they see this as an issue and what their thoughts are in ways to prevent the injury from happening. They need to “buy into” the idea that:

- Their children could be seriously injured in a crash, if not strapped into the appropriate seat for their height and weight.
- They can do something to ensure their children always travel safely in a vehicle.

Often caregivers believe that an injury won’t happen to their child, particularly if they are only putting the child in harm’s way for a moment. They also don’t realize how serious these injuries can be when they do happen. In fact we know that there are lots of things that influence whether that injury happens, and some of those things are in a caregiver’s control and some are not. A man named Haddon, from the United States, developed a process that illustrates all the factors that influence whether an injury will happen and how severe the impact of that injury could be. The approach captures all these ideas in the Haddon's Matrix. It is helpful for program planners to complete a Haddon’s Matrix to make sure they have thought of all the possible ways an injury could have been prevented, before they choose the approach they are going to take in their own setting.

The following table shows the risk and protective factors before, during and after a motor vehicle crash – note the table below is a more complete example than what was described in Lesson 5 of the Introduction to Child Injury Prevention course, but follows the approach in Lesson 6, Program Planning and Evaluation. It shows all the potential areas that you could address.

\(^1\) We are using the term caregiver to include parents, grandparents, foster parents and anyone else responsible for the care of a child.
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#### Haddon’s Matrix for Child Passenger Safety

<table>
<thead>
<tr>
<th></th>
<th>Person (Host)</th>
<th>Agent &amp; Carrier</th>
<th>Environment: Physical</th>
<th>Environment: Social</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-Event</strong></td>
<td>Five year old child</td>
<td>Braking mechanism and condition of tires</td>
<td>Road conditions, weather, signage, lighting, Other vehicles on roadway Type of roadway (highway, back lane) and presence of road markings and barriers</td>
<td>Driver’s attention, training, experience, impairment, Children distracting father, Speed limits and enforcement, Distracted driving laws, Impaired driving laws</td>
</tr>
<tr>
<td>Will the motor vehicle crash occur?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Event</strong></td>
<td>Age Health of child Physical size Seating position in vehicle</td>
<td>Speed, vehicle size, strength of vehicle frame to absorb the crash, Presence of side air bags, Positioning of seatbelt on child, Loose/correct installation of car seat and straps incorrectly/correctly done up.</td>
<td>Roadside obstacles (poles, breakaway poles, barriers), Other vehicles on roadway, Presence of paved or gravel shoulder, sidewalk, ditch</td>
<td>Social attitudes in the community around booster seat use – do caregivers see the need for the seat, Father’s lack of understanding of the risks of putting a child in an adult seatbelt, Child restraint legislation, Child restraint cost and access programs, Vehicle and road design standards</td>
</tr>
<tr>
<td>Will injury occur as a result of the crash?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Post-Event</strong></td>
<td>Age Health of child Physical size</td>
<td>Fuel leakage/potential for fire, Ability to safely extract the passengers</td>
<td>Proximity of medical care, EMS response time, Access to telephone, Access to trauma care</td>
<td>EMS and trauma systems, Access to rehabilitation programs, Caregiver’s ability to follow through on treatment instructions – short and long term.</td>
</tr>
<tr>
<td>What will the outcome be?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Once you have looked at all the risk and protective factors that could be involved in the injury event, choose which factors you have the capacity to influence and decide what changes you want to make with your program. Identify what best or promising practices are known to work with this injury situation and incorporate those into your approach.

Risk and Protective factors that you have the potential to change: caregivers’ knowledge about the effectiveness of booster seats; caregiver’s behavior towards the use of booster seats; caregiver’s access to booster seats; legislation on booster seats.

Best practices: The Child Safety Good Practice Guide has identified that correct use of child passenger restraints minimizes risk of injury in a crash. Legislation to regulate the use of child and booster seats is also effective. A combination of education for caregivers and enforcement of legislation is effective. Finally, education, combined with loaner or free child passenger restraints is also effective in reducing the chance of a child being injured in a motor vehicle crash.


Objectives:
The changes you want to make are then written as objectives, following this formula:

<table>
<thead>
<tr>
<th>Increase or decrease ...</th>
<th>By what amount</th>
<th>In what timeframe</th>
<th>With whom</th>
<th>What</th>
</tr>
</thead>
</table>

Objectives:
1) To increase by 50% over the next six months, the knowledge of caregivers in our parenting program, regarding the effectiveness of booster seats.
2) To increase by 50% over the next school year, the knowledge of Kindergarten to Gr 3 students, of the right child passenger restraint for their height and weight.
3) To ensure in the next year, that at least 10 families in our community not using booster seats have a booster seat for their child.

Once you have decided your objectives, then you need, with your committee, to decide what activities you will undertake in order for your changes to happen. You also need to decide how you will know if the change(s) happened (success indicators).

Here is a sample story of what a group could decide to do:

A local family resource centre had been conducting check stops with local police to help families understand the correct child passenger restraint system for their child. They noticed that most of the school age children were travelling in a regular seatbelt, not a booster seat. Parents seemed unaware of the importance of booster seats. Around the same time, through their car seat network, they heard about a new program to teach school age children about booster seats. (http://www.carsafetyandkids.ca/teachers/lesson-plan.html). They applied for a small wellness grant to

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cover the cost of materials for the program (sample booster seats, certificates and handouts for parents). Three of their car seat technicians then delivered the program to selected grades in larger schools (or k-3 in small schools). After each class received the presentation, a draw was held and a booster seat given away to a child. (The funds for this came from a regional wellness grant). At the Centre, they created a display of booster seats and children’s drawings showing correct placement of a seatbelt. In addition, they integrated the Parachute images into discussions at parenting and other caregiver gatherings. Through their links with their injury prevention organization, they were able to keep informed of changes to provincial legislation regarding booster seat and write letters of support. Finally, they learned of a provincial grant being offered to Centres for the purchase of car or booster seats. They applied and received $500 to be able to provide booster seats to a number of families in need.

The E’s that they decided to address were:
Education – assist caregivers and children in gaining the knowledge and enabling the behaviour change needed to ensure the children were safely transported in a vehicle.
Environment/Engineering – provide booster seats to families for whom the cost would be a barrier.
Enforcement – provide support for booster seat legislation.

Your objectives and activities can then be laid out in a project logic model format, or whatever template you currently use for program planning.

Activities:

Child Passenger Safety Logic Model:

<table>
<thead>
<tr>
<th>Goal</th>
<th>Objectives</th>
<th>Activities</th>
<th>Outputs</th>
<th>Short Term Outcome</th>
<th>Intermediate Outcome</th>
<th>Long Term Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the incidence of motor vehicle-related injuries to children in our region from non-use of booster seats.</td>
<td>Increase by 50% in the next 12 months, the knowledge of caregivers in our programs regarding the effective use of booster seats.</td>
<td>Create committee&lt;br&gt;Create interactive displays of booster&lt;br&gt;Educate caregivers using resources from Parachute&lt;br&gt;Educate staff</td>
<td>Committee is meeting and providing direction&lt;br&gt;Number of caregivers educated</td>
<td>Increase in knowledge about effective use of booster seats</td>
<td>Caregivers report their child is using a booster seat</td>
<td>Reduction in the number of motor-vehicle related injuries in children from non-use of booster seats</td>
</tr>
<tr>
<td>To increase by 50% over the next</td>
<td>Create process with School</td>
<td>Schools identified</td>
<td>Increase in knowledge about</td>
<td>Caregivers report their child is using</td>
<td>Reduction in the number of motor-vehicle related injuries in children from non-use of booster seats</td>
<td></td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Actions/ Activities What we will do and how will we do it</th>
<th>Target Group Who are we trying to influence</th>
<th>Responsibilities and Timeline Who will do it and when will it be completed</th>
<th>Resources What will we need to do it</th>
<th>Success Indicators How will we know if we have done it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify the key people to be on the committee. Create committee to oversee project (all objectives)</td>
<td>Internal and external partners</td>
<td>Manager Week 1</td>
<td>Time</td>
<td>A committee is in place including Centre staff, injury prevention organization and key community people (health board, School councils?)</td>
</tr>
<tr>
<td>Find funding to pay for booster seats</td>
<td>Local businesses and funders</td>
<td>Staff Month 1</td>
<td>Staff Time,</td>
<td>Funding secured</td>
</tr>
<tr>
<td>Prevention images and</td>
<td>Caregivers</td>
<td>Staff</td>
<td>Time, print copies of</td>
<td></td>
</tr>
</tbody>
</table>

Here are their activities and success indicators, written in a format that could be used in a funding proposal. In this approach, the group has indicated their success indicators – the things they will measure to show their results.

**Child Passenger Safety Action Plan:**

- Identify the key people to be on the committee. Create committee to oversee project (all objectives).
- Find funding to pay for booster seats.
- Prevention images and materials.

**Board/schools for delivery of booster seat program:**
Deliver program in schools.

**People to deliver the program have been identified:**
Number of children that have received the program.

**Effective use of booster seats:**
A booster seat.

**Vehicle related injuries in children from non-use of booster seats:**

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<table>
<thead>
<tr>
<th>Messages downloaded and delivered in parenting program (obj 1)</th>
<th>Caregivers</th>
<th>Month 1-6</th>
<th>Staff</th>
<th>Images</th>
<th>Number of caregivers attending, increase in knowledge measured pre and post attending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create visual displays and interactive activities demonstrating the effectiveness of booster seats (obj 1)</td>
<td>Staff</td>
<td>Month 1-6</td>
<td></td>
<td>Time, cost of sample seats</td>
<td>Self reports regarding changes in behaviour.</td>
</tr>
<tr>
<td>Create process to work with the schools to be able to deliver the booster seat lesson to the appropriate grades (obj 2)</td>
<td>School administrators</td>
<td>Staff/committee</td>
<td>Month 1-3</td>
<td>Staff time</td>
<td>Process in place</td>
</tr>
<tr>
<td>Deliver booster seat program to schools (obj 2)</td>
<td>Students in K-3</td>
<td>Car seat technicians</td>
<td>Month 3-12</td>
<td>Staff time</td>
<td>Number of students that have participated</td>
</tr>
<tr>
<td>Process developed for storage and distribution of booster seats (obj 3)</td>
<td>Caregivers</td>
<td>Month 2-12</td>
<td>Booster seats, storage space</td>
<td>Time to participate in check stops</td>
<td>Number of seats given out if possible: change in observed use at check stops</td>
</tr>
</tbody>
</table>

Evaluation:

Finally, you need to think about how you are evaluating what you are doing. This is very important because too often you know something is working (or not working) but haven’t built in a way to measure the success (or pinpoint the problem). If we don’t have concrete evaluations of programs, it is harder to share your learning with colleagues. There are different types of evaluations and the list below shows how you use each of them in your planning process.

Evaluation Plan

Needs Assessment: establishing a need
Q: Is there a need for motor vehicle related injury prevention? Yes, every year children needlessly die or are injured in motor vehicle crashes. Motor vehicle related injuries are the leading cause of injury deaths for children nationally.
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**Developmental evaluation:** identifying best practices
Q: Are there programs already in existence for this target audience that increase the knowledge of caregivers about motor vehicle related injury prevention? Yes – there are a number of programs across Canada that target this issue. See resource list below for some.

**Formative evaluation:** testing program plans, messages, materials, modifications, strengths or weaknesses before they are put into effect.
Q: Do caregivers understand how seriously a child can be injured in a motor vehicle crash, if not properly restrained? There are credible resources from Parachute and other organizations.

**Process evaluation:** tests whether the program’s procedures for reaching the target are working as planned.
Q: Are the caregivers still attending the program? – tracking attendance. Caregivers are participating in the discussion/problems solving around barriers to ensuring their children are correctly restrained every time they are in a vehicle.

**Impact evaluation:** assess the program’s progress towards its goal i.e. measuring changes in target audience’s knowledge, attitudes and beliefs that may lead to injury-prevention behaviour.
Q: Do the caregivers retain the knowledge? The pre/post tests will show any change.

**Outcome evaluation:** measures changes in preventive behaviours and injury-related morbidity and death.
Q: Will this program ultimately reduce motor vehicle injuries in this population? That would be the intent but the program would have to be on a large scale in order to be confident that any reduction in motor vehicle related injuries could be attributed to your program.

Q: Do the caregivers self-report changes in their behaviour? Is there any way to verify these changes? Self-reports alone are unreliable as caregivers may just tell you what they think you want to hear (and what they would like to be true). If the group is already conducting check stops with police, they may be able to document a change in booster seat use over time.

**Collecting the information:**

Since you have already thought about how you would measure success through your success indicators, you now can design a plan to make sure the information is collected in a way that works for your program. For instance, track numbers of caregivers attending sessions, and number of booster seats given out. Conduct a simple pre-test to find out caregivers’ current knowledge and behaviour, conduct a post after the program is finished. Sample pre and post questionnaires are downloadable from [www.parachutecanada.org/child-injury-prevention](http://www.parachutecanada.org/child-injury-prevention). Staff delivering the program will do the tracking and conduct the pre/post surveys. If check stops are conducted with police, track observed booster seat use.
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Share the results of your evaluation with others working with caregivers. Even if you find that your program did not make any change, this is good information to know and you can work with your committee to figure out why the program did not work, and make changes to future programs.

**Evaluation Plan:**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Activities</th>
<th>Outputs</th>
<th>Measurement Tool</th>
<th>Outcomes</th>
<th>Success Indicators/Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>To increase by 50% over the next six months, the knowledge of caregivers in our parenting program, regarding the effectiveness of booster seats</td>
<td>Identify the people to be on the committee and Create committee to oversee project</td>
<td>Committee formed and operational</td>
<td>Notes from meetings</td>
<td>Committee has undertaken all activities of the project</td>
<td>Program has been delivered to caregivers</td>
</tr>
<tr>
<td></td>
<td>Prevention images and messages downloaded and delivered in parenting program Displays and interactive activities created and conducted.</td>
<td>Booster images printed and topic integrated into the parenting program schedule</td>
<td>Pre and post knowledge quiz</td>
<td>Caregivers more knowledgeable about correct child passenger restraint use</td>
<td>50% increase in the knowledge of caregivers regarding the effectiveness of booster seats</td>
</tr>
<tr>
<td>To increase by 50% over the next school year, the knowledge of K-Gr 3 students of the right child passenger restraint for their height and weight.</td>
<td>Process developed to work with the schools</td>
<td>Process is working</td>
<td>Number of schools requesting program</td>
<td>Students more knowledgeable about who should use a booster seat</td>
<td>50% increase in the knowledge of students regarding the effectiveness of booster seats</td>
</tr>
<tr>
<td>To ensure in the next year, that at least 10</td>
<td>Booster seats purchased and distributed</td>
<td>Booster seats distributed</td>
<td>Number of booster seats distributed.</td>
<td>More caregivers consistently using</td>
<td>At least 10 families now are using a</td>
</tr>
</tbody>
</table>

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families in our community not using booster seats have a booster seat for their child. | families made aware of their availability. | Number of self/reports or observations of use. | booster seats to transport their children | booster seat for their child.

**Other resources:**

- Car Safety and Kids [www.carsafetyandkids.ca](http://www.carsafetyandkids.ca)
- Parachute website – child injury prevention resources [www.parachutecanada.org/child-injury-prevention](http://www.parachutecanada.org/child-injury-prevention) lists other resources for child passenger safety and where to obtain car seat technician training
- The Alberta Occupant Restraint Program has a number of resources in a number of languages: [http://www.albertaseatbelts.ca/printable_resources.php](http://www.albertaseatbelts.ca/printable_resources.php)
- Information on a range of injury topics can be found in A Million Messages: [http://www.albertahealthservices.ca/7607.asp](http://www.albertahealthservices.ca/7607.asp) Your province/territory may have adapted these messages for your region.
- Preventable.ca is always increasing its range of topics. Check it out at [www.preventable.ca](http://www.preventable.ca).