

Child Passenger Safety in Newfoundland and Labrador

Position Paper



NEWFOUNDLAND AND LABRADOR
MEDICAL ASSOCIATION



Kids in Safe Seats, Inc.

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Executive Summary

The children of this province are our most valued resource. It is essential that we protect their health and well-being. As passengers in motor vehicles, children under the age of 12 are particularly susceptible to serious injury and fatality for a number of reasons:

- Specialized restraints are needed to protect a child in a Motor Vehicle Collision.
- There must be a restraint present in the vehicle and that restraint must be used correctly to be effective at preventing injury and death in a collision.¹
- Once the child is large enough to use the vehicle seat belt system (approximately age nine and 80 lbs), their skeleton and musculature still necessitate that they be transported in the back seat of the vehicle until age 12, away from the front seat airbags and the point of impact.²

Safety seats for infants and small children riding in motor vehicles are one of the most successful auto safety innovations.³ They are designed to hold children in place during a crash or sudden stop and/or prevent the child from being ejected from the passenger compartment. Moreover, they are specifically tailored to a child's anatomy and designed to restrain a child without applying dangerous forces to vulnerable body regions. Several provinces currently have booster seat legislation.^{4, 5, 6}

We make the following recommendations to government to ensure the health and safety of the children of Newfoundland and Labrador:

- 1. Develop and implement a province-wide health promotion program around the safe transportation of children under 12 years of age.**
- 2. Upgrade the current legislation to include and require booster seats up to 80 lbs, reflecting Transport Canada's "best practices" and the National Occupant Restraint Program's recommendations.**
- 3. Require mandatory child passenger safety certification by drivers professionally transporting children.**
- 4. Appropriately fund and dedicate resources to a multidisciplinary working group that consists of members from the public and private sectors with the objective of reducing injuries and fatalities of child passengers.**
- 5. Establish a lead agency within government, which is responsible and accountable for the implementation and ongoing evaluation of the aforementioned program to reduce injury and death for child passengers.**

Introduction

Motor Vehicle Collisions¹ (MVC) across Canada and the world are the leading cause of fatalities for all children under the age of 21.^{6, 7, 8, 9} Within the last two years, the World Health Organization (WHO) and UNICEF have both focused on Motor Vehicle Collisions as a growing concern for the children in developed and developing countries. In Canada, one can witness the growing interest in the prevention of unintentional injuries is reflected in the mushrooming number of injury prevention organizations and the inclusion of injury prevention within many public health organizations (i.e. Atlantic Injury Prevention Network, Newfoundland and Labrador Injury Prevention Coalition, IMPACT², Safe Kids Canada, Safe Communities). Many provincial, community and federal programs have focused, and continue to focus, primarily on the problem of falls causing injury and death. However, in examining age-stratified data, one can see that Motor Vehicle Collisions are a far greater concern for children and young people under the age of 21.^{10, 11, 12} Motor Vehicle Collisions are the leading cause of unintentional injury and rob many youth of their future and contributions to the community at large.^{13, 14}

Although Newfoundland and Labrador experiences a smaller number of fatalities than are seen in other provinces with higher populations, Newfoundland does have one of the highest rates per capita of traffic injury hospitalization in the country.¹⁵ According to the Honorable Diane Whalen, Minister of Government Services (personal communication, Aug 2004), over 70 children are seriously injured each year in this province in vehicular accidents. According to Newfoundland and Labrador Center for Health Information (personal communication; 2001,2003), hospitalization statistics show for the past six years, on average, 16 pediatric (0-12 yrs old) passengers are hospitalized every year in this province following a MVC. In some years the average length of hospitalization for these children is over 130 days. According to the RCMP, September to November 2004 saw an unprecedented rise in the traffic fatality numbers with 15 fatalities and over 100 injuries caused by MVC.¹⁶ In the short two weeks following their press release, there were three more fatalities in this province.^{17, 18}

Description of Problem

As passengers in motor vehicles children under the age of 12 are particularly susceptible to serious injury and fatality for a number of reasons:

- Specialized restraints are needed to protect a child in an MVC.
- There must be a restraint present in the vehicle and that restraint must be used correctly to be effective at preventing injury and death in a collision.¹⁹

¹ Please note that the term MVA (Motor Vehicle Accident) will not be used in this document. An accident is defined as an unpredictable and unpreventable event. The researched causes of Motor Vehicle "Accidents" are 85% driver error, 10 % road or environmental factors and 5% vehicle failure; therefore they do not fit the criteria to be deemed accidental. Injuries caused by Motor Vehicle Collisions, while unintentional, are still preventable through the addressing of the factors contributing to these injuries. Injuries caused within Motor Vehicle Collisions can be lessened considerably by the use of passive and active restraint systems within the vehicles (i.e. seatbelts, car seats and airbags)

² IMPACT is the injury prevention centre of Children's Hospital in Winnipeg, Manitoba, Canada. IMPACT was formed in 1995 to reduce the number of childhood and adolescent injuries in Manitoba.

- Once the child is large enough to use the vehicle seat belt system (approximately age nine and 80 lbs), their skeleton and musculature still necessitate that they be transported in the back seat of the vehicle until age 12, away from the front seat airbags and the point of impact.²⁰

Safety seats for infants and small children riding in motor vehicles are one of the most successful auto safety innovations.²¹ They are designed to hold children in place during a crash or sudden stop and/or prevent the child from being ejected from the passenger compartment. Moreover, they are specifically tailored to a child's anatomy and designed to restrain a child without applying dangerous forces to vulnerable body regions. By contrast, the lap and shoulder belts that come with the vehicle are designed for bodies over 5 ft tall and 105 lbs, and are inappropriate for small children.²² Statistics indicate that if children travel in a child restraint seat that is used correctly and appropriate to their height, weight and development, they are 70% less likely to suffer serious injuries and 90% less likely to die in the event of a crash.^{23, 24, 25, 26} Unrestrained or improperly restrained children have a four times greater risk of sustaining a head injury and twice the risk of sustaining any injury than children who are appropriately restrained.^{27, 28}

Parents and caregivers of children under 12 years of age, or any other adult involved in transporting children, e.g. taxi drivers, need appropriate education and training on safe transportation of these children. Research shows that many of these adults may not have the awareness, the skill, or the motivation to correctly use the right size of specialized restraint while transporting a child.^{29, 30, 31} Studies have shown parents are routinely aware of only 25% of the errors that they are making while using a car seat.³² Car seat manuals are difficult to understand and car seats are difficult to use correctly without assistance.^{33, 34, 35} The new LATCH system, introduced in 2002, was intended to make car seat usage and installation easier but in fact, certain car seats and vehicles remain incompatible and some installations are very difficult, if not impossible.³⁶ Health care professionals and physician awareness of the current best practices is also poor.^{37, 38, 39, 40, 41} Although overall seatbelt use has increased in the last 10 years, less than 28% of children between the ages of five and nine are currently being safely transported in a booster seat.^{42, 43} Less than 6 % of the child passenger restraints assessed at car seat inspection clinics in Newfoundland and Labrador are currently being used correctly and safely. Yet caregivers have routinely stated that they are sure or fairly sure that their car seat is correctly installed.⁴⁴

Background

Demographic

At the present time, the birth rate is falling in Newfoundland and Labrador, with the exception of the Avalon Peninsula. Even with the birth rate falling, there are roughly 50,000 children under the age of nine (car seat and booster seat age) living in this province.⁴⁵ Low-income children are more likely to suffer an unintentional injury than a child from mid to high-income family.^{46, 47,}⁴⁸ Market research shows that child passenger restraints cost from \$50 (for a small booster cushion) to \$350(for a 3-in-1 car seat designed for an infant of approximately 3-4 months old to a child at 80 lbs) each. Most children will require 2 to 4 restraints between birth and 80 lbs. There are currently no child passenger restraint loaner programs in Newfoundland and Labrador

for low-income families. Thirty five percent of the children age nine years and younger currently live in the Northeast Avalon region, an area where the average per capita family income is only \$21,800. Four of the five other Strategic Social planning regions have an average per family income of less than \$15,900/year.⁴⁹

Economic Burden of Injury:

Unintentional injuries rank in the top 5 in terms of societal economic burden, even in comparison to chronic health conditions such as diabetes and cancer.⁵⁰ The Burden of Injury report (2002), compiled by the Atlantic Injury Prevention Network, calculated that the indirect and direct cost of Motor Vehicle Collisions cost this province 33 million dollars in the year 1999 alone. According to the Newfoundland and Labrador Center for Health Information (personal correspondence; 2001,2003) 17 children in 2000/2001 were hospitalized. One of whom was hospitalized for over 325 days. The hospitalization costs alone were over one half million dollars in that year for these children. As only 5 to 6 % of those who are injured are ever hospitalized, this one half million is approximately 13% of the total direct costs of the total collisions involving pediatric patients.⁵¹ Other direct costs include the care of the 95% of injured persons who are not hospitalized, who are seen in Doctor's offices or Emergency Departments, followed up by a physician or physiotherapist and released. Indirect costs would include lost parental work time, changes to school transportation, changes in education needs, police accident investigation time, and increased insurance costs.

The cost of providing emergency transportation for some of these children, as well as future specialized transportation costs, must be calculated. A child sustaining motor vehicle passenger injury is more likely to have future related health and education needs due to blindness, spinal cord injury or mental disability (See Appendix A).⁵² Other expenses that these children will continue to accumulate may be for specialized strollers, car seats and wheelchairs, nursing care, physiotherapy, occupational therapy, special needs educators and future hospitalizations for problems related to the original injury.

The Atlantic Injury Prevention Report (2002) concludes that for every \$1 spent on child passenger restraint prevention, \$32 is saved.⁵³ Sweden found that counties with preventative programs, safety seat loan schemes, and an organized safety program had a decrease in pediatric passenger deaths by 2.8% per year for a total of 76% over their 27-year study period. Hospital discharges fell by the same percentage. Those counties that experienced only the upgraded legislation in the middle of the research period experienced only a 0.4% decrease/year (less than 11% in total over 27-year research period).⁵⁴

Legislation and Regulation:

At the current time a number of government ministries are responsible for different aspects of child transportation from licensing vehicles, contracting services, enforcement and accident investigation (see Appendix E). The large number of ministries involved makes arriving at an acceptable and actionable solution more difficult as no one ministry "owns" the problem.

The legislation surrounding child restraints in Newfoundland was passed in 1981⁵⁵ and no longer reflects current "best practices" as described by Transport Canada.⁵⁶ The current legislation allows for children over 40 lbs or 5 years of age to occupy any passenger seat in the vehicle and

use the vehicle seat belts provided. According to Safe Kids in Canada (2004), seat belt use became mandatory in all Canadian regions in the 1970s and 80s and car seat laws soon followed for children under 40 lbs or 5 years of age. From 1997 to 2001, the death rate for children under age 5 dropped by 52%, and by 25 % for those age 10 to 14 years of age. It did not drop at all for children age 5 to 9 years of age (the booster seat age).⁵⁷ Only Quebec, Nova Scotia and Ontario currently have booster seat legislation.^{58, 59} While the booster seat legislation varies in each province, Ontario's legislation most closely follows the National Occupant Restraint Program guidelines by enforcing the use of booster seats for children up to 8 years of age, four feet nine inches tall or 80 lbs.⁶⁰ Fines for not having ones child in a car seat also vary across the country. In Manitoba, not having a child in the appropriate restraint will net you a fine of \$230 and 2 demerit points. These fines are negated when the family shows up at the RCMP station with proof of purchase and a car seat installed.⁶¹ The fine in Newfoundland is only \$100 with no demerits and no follow-up or negation of fines with correction of the situation.⁶²

Although Newfoundland's legislation does not meet current "best practice guidelines" most parents associate "legal" with "safe". Studies show that 9 out of 10 parents believe that if their child is riding legally, they are in the appropriate and safe restraint and justify their actions based on the law.^{63, 64} A 2001 study in Georgia (with similar legislation to NL at that time) found that 77% of the children riding at risk were riding legally according to the state laws.⁶⁵ The National Occupant Restraint Program (NORP) is composed of a number of Canadian government agencies and concerned organizations and it has been occupied for the past 2 years in developing model legislation to ensure that provincial laws reflect current knowledge.^{66, 67}

The costs to the stakeholders have not been fully examined in the literature, yet most parents are in favor of expanded legislation that mandates the appropriate restraint in the back seat for children.^{68, 69} The cost of buying a booster seat has been mentioned in the literature as a possible deterrent to both parents and daycare owner/operators but other factors (lack of knowledge of the risks of using the seat belt only, lack of laws to guide them, situational problems with the storage or the characteristics of the trip planned, inconvenience, child behaviors and difficulty in use of the restraints) were mentioned more often than the cost.^{70, 71} In a large study of violators of the California Child Restraint laws, in only 6% of the situations was there no restraint owned.⁷² Additionally, there is a trend towards the purchasing of 3-in-1 restraints, when the infants outgrow their infant carriers that safely restrain an infant to a child of 70-80 lbs.

Concerns have been raised about liability of a car seat technician or a car seat educator in the event of a child being injured in an accident due to faulty installation. To date there has been no such lawsuit in Canada. There has been one successful lawsuit in the USA against a hospital. Parents, following the out of date instructional video shown to them numerous times by the hospital, placed their infant's car seat in front of an airbag.^{68, 69} Having certified technicians and instructors within the agencies that currently counsel parents and caregivers or transport children would decrease the risk of out of date or inaccurate information being used. Technicians must remain current and continue to document car seat inspections to maintain their Canadian certificate in Child Passenger Safety.⁷³

Planning for the Future

Motor Vehicle Collision causing injury and death in children is a multifaceted problem and therefore, requires a multidimensional solution and approach. A program that involves education, awareness, and legislation with enforcement is proven to be more effective than one that focuses on one aspect of this triad.^{74, 75, 76, 77, 78} In April 2002 IMPACT produced a research document indicating six factors common to a number of successful injury prevention programs⁷⁹. Those factors are:

- 1) A designated injury prevention and control program with the mandate of long-term injury reduction for the province
- 2) A lead agency is identified
- 3) Secure and adequate long-term funding
- 4) A comprehensive program (all injuries, all regions)
- 5) The program that ensures coordination, collaboration, and cooperation of sectors, government departments, partner organizations, and disciplines
- 6) Full-time staff who are mandated to direct, support, and coordinate a provincial injury reduction strategy

Conclusion:

In conclusion, the effect of Motor Vehicle Collisions on children is a serious and costly issue. Children are best protected using vehicle-seating practices that are endorsed by various government and non-governmental agencies as “best practice guidelines”. Caregivers typically look to the letter of the law to judge safety. The laws in Newfoundland and Labrador are over 25 years out of date. The cost of the correct car seat or booster seat has not been shown to be the large detractor to parents and caregivers. Knowledge of the best practices, inconvenience and situational problems with storage and use are. Other provinces have taken the lead and are working towards the inclusion of the current best practices in their regulations and statutes. With the large number of ministries involved in this province in various aspects of transporting children, arriving at a solution to these concerns becomes more difficult. Making the issue the responsibility of a particular Minister would allow ownership of the issue and promote a more coordinated plan of attack.

Recommendations to Government:

- 1. Develop and implement a province-wide health promotion program around the safe transportation of children under 12 years of age.**
- 2. Upgrade the current legislation to include and require booster seats up to 80 lbs, reflecting Transport Canada’s “best practices” and the National Occupant Restraint Program’s recommendations.**
- 3. Require mandatory child passenger safety certification by drivers professionally transporting children.**
- 4. Appropriately fund and dedicate resources to a multidisciplinary working group that consists of members from the public and private sectors with the objective of reducing injuries and fatalities of child passengers.**
- 5. Establish a lead agency within government, which is responsible and accountable for the implementation and ongoing evaluation of the aforementioned program to reduce injury and death for child passengers.**

Appendix A

Acute Care Hospitalizations due to MVC

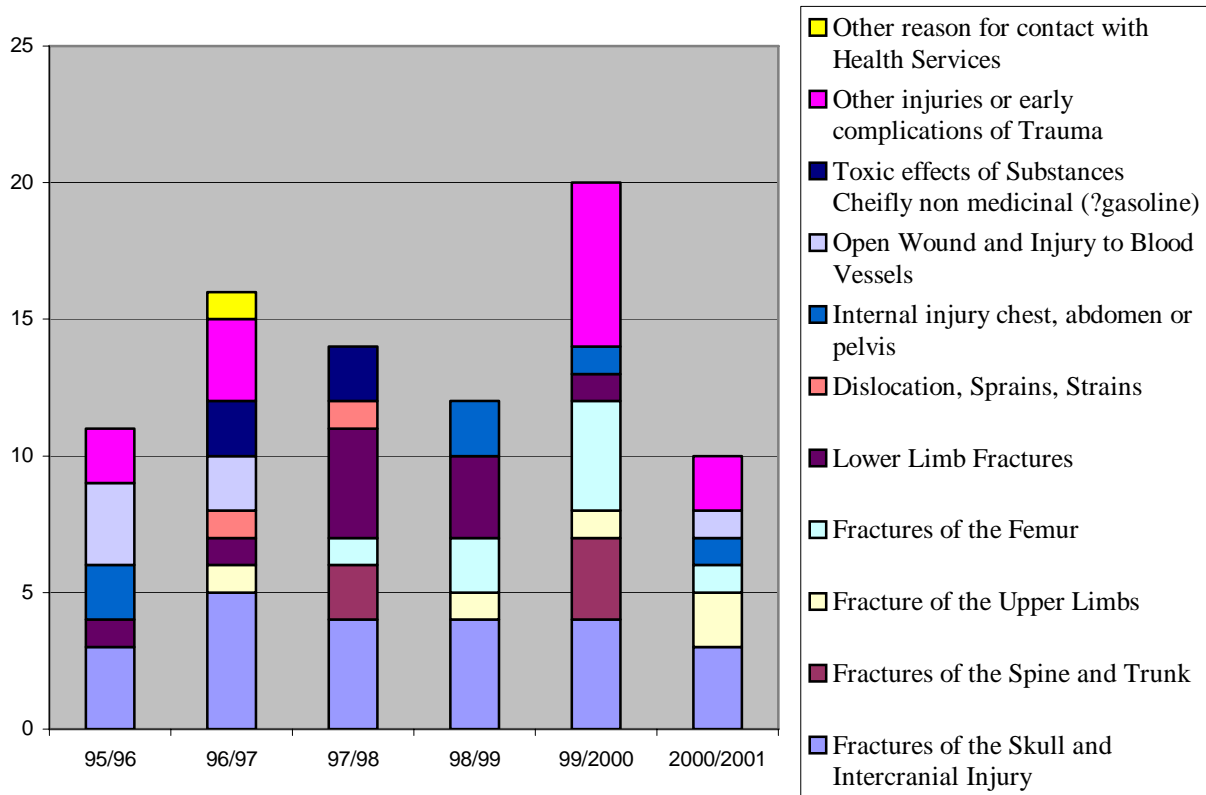


Chart 1: The chart shows the types of injuries and numbers of acute care hospitalizations in Newfoundland and Labrador over the period 1995—2001. For most years, the most common injury was fractures of the skull and intercranial injuries (direct communication {2001, 2003}, Newfoundland Labrador Centre for Health Information).

Appendix B

Number of Hospitalizations in NL

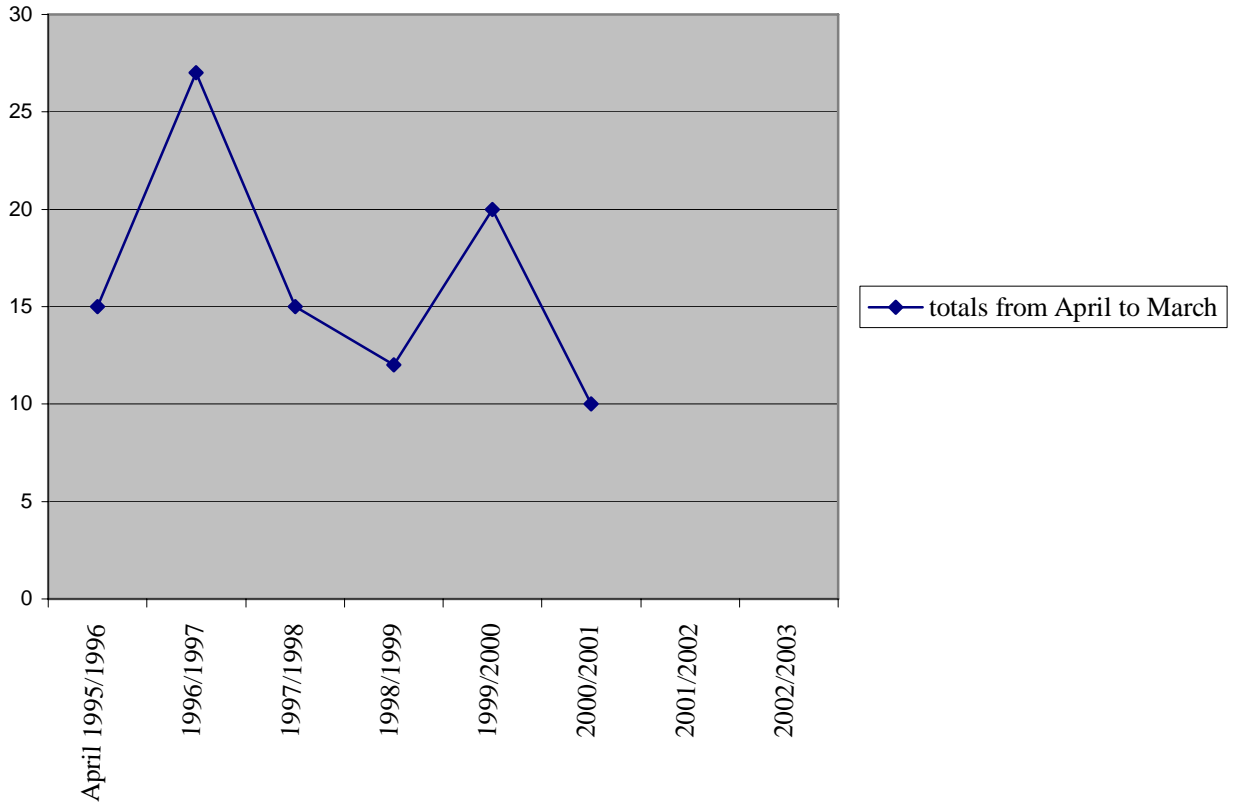


Chart 2: The chart shows the number of actual pediatric hospitalizations in NL due to Motor Vehicle Collisions for the period 1995—2001 (direct communication {2001, 2003}, Newfoundland Labrador Centre for Health Information).

Appendix C

Pediatric Patient days due to Motor Vehicle Collisions while a passenger

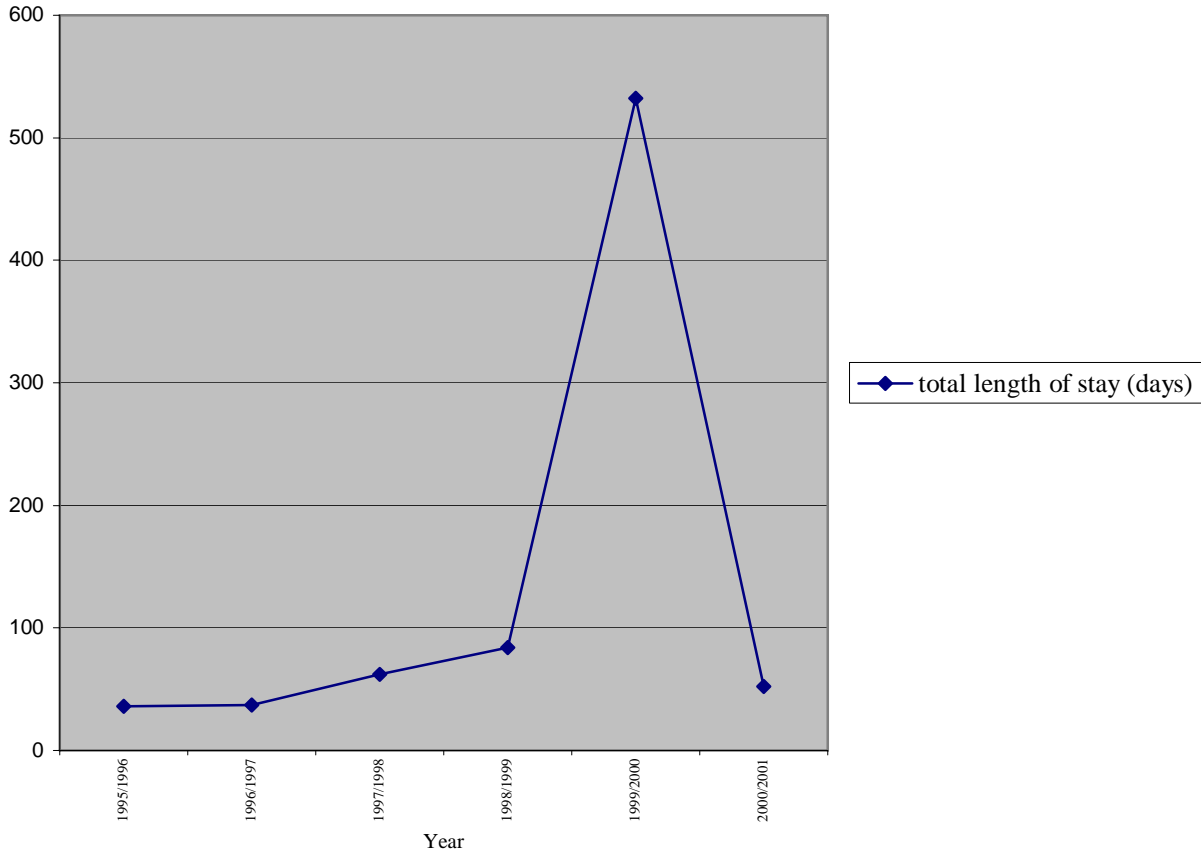


Chart 3: The chart shows the number of pediatric patient days spent in hospital due to Motor Vehicle Collisions for the period 1995—2001. The large increase in 1999/2000 is due to a severe injury to a single child (direct communication {2001, 2003}, Newfoundland Labrador Centre for Health Information).

Appendix D

Combined Data Hospitalization and Total Length of Stay

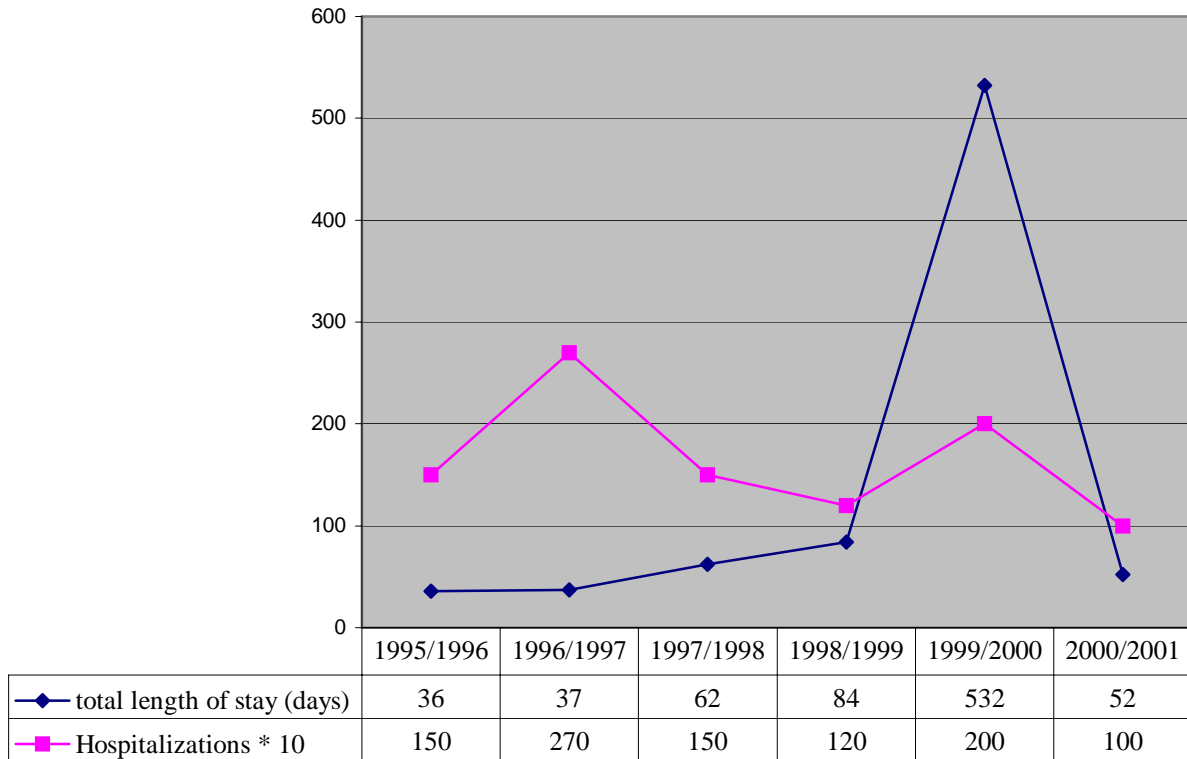


Chart 4: The chart combines the information from Charts 2 and 3 to show the lack of relationship between number hospitalizations and total length of stay for pediatric patients due to Motor Vehicle Collisions for the period 1995—2001. The number of hospitalizations has been scaled by a factor of 10 so that the lines are appropriately superimposed for illustrative (direct communication {2001, 2003}, Newfoundland Labrador Centre for Health Information).

Appendix E

Government involvement in the issue of child passenger safety:

- 1) The Ministry of Government Services:
 - a) Registers all passenger vehicles yearly as well as completing yearly inspections on daycare vehicles, buses, ambulances and taxis.
 - b) Investigates Motor Vehicle Collisions and, attends crash sites.
 - c) Compiles statistics on Motor Vehicle Collisions and their details.
 - d) Registers all motor vehicle drivers and their class of license.

- 2) The Ministry of Health and Community Services:
 - a) Contracts out transportation needs for various programs such as the Healthy Beginnings program and transportation of pediatric patients to specialty appointments.
 - b) Employs Social Workers to transport children when apprehended or attending supervised visitations.
 - c) Approves daycares and day homes and set standards for the same, many of which transport children to some degree.
 - d) Finances the acute care and rehabilitation of those injured in Motor Vehicle Collisions.
 - e) States the number of day care workers in a vehicle and training required for day care drivers and child transportation.

- 3) The Ministry of Education:
 - a) Contracts out transportation needs for various programs, and field trips, sometimes these involve the use of taxis.

- 4) The Ministry of Justice:
 - a) Responsible for the enforcement of the legislation through the Royal Newfoundland Constabulary
 - b) Responsible for the judicial process of those charged with not transporting children in the correct manner.

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