Comprehensive Report on Injuries in Nova Scotia

Executive Summary

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Background
A long weekend approaches. The police, paramedics and staff in local hospitals prepare for the inevitable—people injured or killed in car crashes, fires or as a result of recreational activities (e.g., snowmobiling, boating). And of course, there will be the usual assortment of sprains, cuts and broken bones. The public may hear of the deaths and serious injuries, but they will probably be forgotten by the morning coffee break by all, except for the loved ones of those killed or injured. Just more tragic ‘accidents’.

Injury has been referred to as the silent epidemic. The Canadian Public Health Association has recently identified injury as a public health priority.¹ Thousands of Canadians are injured every day. But, there is good news. Contrary to the popular belief that the injuries are the result of accidents, injuries are both predictable and preventable. This report is an important step in reducing injury in Nova Scotia.

Burden of Injury in Canada
Injury is the leading cause of death in the first four decades of life and the fourth leading cause of death for all ages in Canada.¹ Health Canada estimated that injuries cost Canadians and the healthcare system $14.3 billion every year. Moreover, injuries ranked third as having the highest total direct and indirect costs of all diagnostic categories. The table on the right shows the estimated costs for other common diseases in Canada.²

The purpose of this report is to describe the scope of the injury problem in Nova Scotia for persons 16 years or older.

Population-based data were obtained from the Population Health Research Unit at Dalhousie University. This included data on all injury-related deaths from 1990-1999 and hospitalizations from 1992-1999. A full technical report is available.

Injury Related Deaths in Nova Scotia
During the 10 years under study, close to 400 people over the age of 15 died every year from injury. The leading causes of death overall were suicide, motor vehicle collisions (MVCs) and unintentional falls. When the rates of death from all injury-related causes were examined by ages, the rates in those 65 years or older were double those in the younger age groups. The rates of death from unintentional falls in the oldest age group (≥65 years) were higher than in any other age group and from any other cause of injury. The following tables show the rates of death for per 100,000 population in Nova Scotia and the trends in rates over the 10 years, for all ages combined.
**Injury-related Hospitalizations in Nova Scotia 1992-1999**

There were approximately 7,600 hospital admissions for injury in Nova Scotia every year (on average 21 people, every day). The average length of stay for each admission to hospital was 8.7 (± 17.8) days. The leading causes of injury resulting in hospitalization were unintentional falls, MVCs and self inflicted injury.

When the hospitalization rates from all injury-related causes were examined by ages, the rates in those 65 years or older were more than double those in the younger age groups. The rates of hospitalization from unintentional falls in the oldest age group (≥65 years) were higher than in any other age group and from any other cause. The following tables show the hospitalization rates per 100,000 population in Nova Scotia and the trends in rates over the 8 years, for all ages combined.

The full technical report gives detailed information about the distribution of injury-related deaths and hospitalizations for different ages, genders and regions. The leading causes of injury in Nova Scotia are consistent with those established as priorities at a national level.  

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**Table 1: Hospitalization Rate/100,000 by Gender in N.S. 1992-1999**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls</td>
<td>500</td>
<td>400</td>
</tr>
<tr>
<td>MVCs</td>
<td>300</td>
<td>200</td>
</tr>
<tr>
<td>Self Injury</td>
<td>100</td>
<td>80</td>
</tr>
</tbody>
</table>

**Table 2: Trends in Hospitalization Rates/100,000 in N.S. 1992-1999**

<table>
<thead>
<tr>
<th>Year</th>
<th>Falls</th>
<th>MVCs</th>
<th>Self Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>600</td>
<td>300</td>
<td>100</td>
</tr>
<tr>
<td>1993</td>
<td>500</td>
<td>200</td>
<td>80</td>
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<td>1994</td>
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<td>40</td>
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<tr>
<td>1996</td>
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<td>30</td>
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<td>1997</td>
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<tr>
<td>1998</td>
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<td>1999</td>
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</table>
Nature of Injuries
More than 49,000 injuries resulting in hospital admission were reported over the 8 year period. Overall, the most common injuries reported were fractures of the lower and upper limbs, followed by open wounds, fractured spine, poisoning, fractured skull, sprains and dislocations. It’s important to note that this is just the tip of the iceberg, as it does not account for the hundreds of thousands of injuries treated in emergency departments and family doctor’s offices every year.

Injury Prevention & Control
The science of injury prevention and control has demonstrated that injuries are both predictable and preventable. “While the exact moment of any injury event may not be predictable, injuries generally result from combinations of adverse environmental conditions, equipment, behaviour and personal risk factors, any or all of which can be changed.” 4 (p. 9) Injury prevention and control covers a continuum from the prevention of the injury-producing event through to minimizing the effects of injury once it has occurred (control). This is perhaps best illustrated with an example.

Car crashes are a common occurrence. They are routinely referred to as ‘accidents’, but can be systematically examined in three phases: before the crash even happens (pre-event), the actual crash (event) and after the crash (post-event). Reduced highway speed limits, enforcement of laws surrounding alcohol and driving, improved highway construction and lighting all contribute to the prevention of car crashes. In the event that a crash occurs, there are other opportunities for intervening to minimize the effects of injury. Consider the reduction in road traffic deaths that have been realized by engineering changes to motor vehicles (e.g., seat belts, air bags). Advanced EMS (ambulance/paramedics) systems and integrated trauma care ensure that the injured receive life-saving care in a timely fashion. And finally, there are interventions that can be effective in facilitating a return to optimal functioning for the injured individual, particularly if a person has been seriously injured. Rehabilitation, vocational re-training and community services are components of the post-event phase. The development of a coordinated strategy to reduce the burden of injury in Nova Scotia must consider all phases of the event. To do so will involve expertise, collaboration and commitment from several areas including transportation, education, health care, industry (engineering and manufacturing), councils for standards and legislative bodies.

The example illustrates the complexity of injury and the need for a comprehensive and coordinated approach to reducing the burden of injury. Cancer Care Nova Scotia is a notable example of success in the application of a coordinated, strategic approach to a complex disease.

For injury, there are significant impediments to be overcome, not the least of which is the lack of awareness with regard to the extent of the problem and its cost to society. However, there is a growing impetus for change in Nova Scotia and Atlantic Canada. Emergency Health Services, a branch in the Nova Scotia Department of Health established the Nova Scotia Trauma Program in 1997 to facilitate the provision of optimal trauma care. Also in 1997, the IWK Grace Health Centre in partnership with Nova Scotia Power, initiated the Nova Scotia Child Safety and Injury Prevention Program. The Atlantic Network for Injury Prevention (ANIP)
was formed in 2000. It is a network of approximately 80 individuals/organizations committed to reducing the burden of injury in Atlantic Canada. In the fall of 2001, the first regional conference on injury prevention was held in Halifax. Several communities in Nova Scotia are currently working towards participation in the Safe Communities Foundation—a national organization dedicated to making our communities safer. Researchers at universities in Nova Scotia are conducting injury-related research on a broad range of topics (e.g., vehicle and child restraint safety, falls prevention, farm safety etc.). A study to determine the economic burden of unintentional injury is underway in Atlantic Canada in collaboration with SMARTISK. The results of the study will help the public and policymakers appreciate the costs of injury to our society and the benefits that can be achieved by reducing injury. Internationally, injury prevention and control efforts are supported by a growing body of scientific evidence identifying effective interventions and strategies. The evidence can and should be used to guide the best practices.

Although there are several important injury prevention and control initiatives in Nova Scotia, there is currently no coordinated and integrated provincial strategy for the development, implementation and evaluation of evidence-based injury prevention and control initiatives across all ages for both unintentional and intentional injury.

What Needs to be Done?
Resources must be invested in injury prevention and control in order to reduce the enormous financial, personal and societal burden of injury. Resource allocation ought to be proportional to its respective contribution to the overall burden of disease, however, chronic fiscal restraint makes allocation decisions extremely difficult.

What are the investments that need to be made in order reduce injury in Nova Scotia? The intent of the report is to demonstrate the importance of one of the fundamental building blocks in a coordinated injury prevention and control strategy, namely, data. Timely data, as well as the systems that generate and deliver the data, are critical in order to identify populations at risk, establish priorities, measure whether or not specific interventions are working and inform public policy. Rigorous and sustained research is necessary to build the body of knowledge required to develop best practices. Evidence-based practices make the best use of scarce resources. Coordination of the ongoing efforts of disparate organizations will strengthen the community response to injury and minimize duplication.

Finally, and most importantly, communities and the government that represents those communities must be willing to make a difference. In the public sector it is critical to involve legislators, educators, healthcare providers, researchers and personnel from law enforcement, public health, labour and transportation. Private sector partners include manufacturing, industry and insurers. Engagement from diverse, multi-sectoral stakeholders underscores the imperative for a comprehensive and coordinated approach to injury prevention and control in Nova Scotia.

References