

# A Framework for the Prevention of Unintentional Injury in New Brunswick



Office of the Chief Medical  
Officer of Health

New  Nouveau  
**Brunswick**

 NB Trauma Program  
Programme de  
traumatologie du NB

## **A Framework for the Prevention of Unintentional Injury in New Brunswick**

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## Message from the Chief Medical Officer of Health

A toddler stumbles into a swimming pool and drowns. A hockey player suffers a fatal concussion. A friend lets a friend drive drunk and pays with her life.

Such events regularly make the news headlines. Behind the headlines, many more men, women and children lose their lives due to injuries that are, for the most part, preventable. In New Brunswick, about 270 people die each year due to unintentional injuries, often stemming from everyday activities. Thousands more require medical attention to treat injuries. Some silently endure pain and other physical or psychological impacts without seeking care and treatment.

We can all take action to reduce the burden of injuries. Every day, professionals from the Department of Health, the New Brunswick Trauma Program, the Regional Health Authorities, and across the health sector are engaged in efforts to plan, deliver and monitor policies, programs and services to respond to injuries and to mitigate the risks of an injury occurring. While health-care resources are most directly impacted by injuries, the case for injury prevention extends well beyond the health sector, for example to the public safety, occupational safety, transportation, sport, wellness, environmental health, education, and early childhood sectors. As such, many public agencies are involved in injury prevention. Because some population groups may be more affected by injuries than others, New Brunswick's Aboriginal Affairs and Senior and Healthy Aging secretariats are also key public partners.

Meanwhile, many groups and individuals are working across our communities to change attitudes and behaviours, bring attention to injury hazards, raise funds for safety equipment, and champion safety as the personal, societal and environmental norm for New Brunswick.

Minimizing the risk of injury where we live, learn, work, play and heal is the reason for this framework. I hope this document will serve as a tool to guide a common vision for action among partners across the province, so that every New Brunswicker can benefit from effective injury prevention efforts, now and in the future.

We all have a role to play in raising awareness among our families, friends, colleagues and communities regarding the gravity and also the preventability of unintentional injury and in working together to reduce the risk of this human tragedy.

I would like to thank all those who have contributed to the preparation of this document, one which offers a strong starting point to better support effective, equitable and sustainable approaches to injury prevention in this province. Let's work together more strategically to ensure injury prevention is a shared responsibility.

Collectively we can make New Brunswick a healthier and safer place for us and our children.



Dr. Eilish Cleary  
Chief Medical Officer of Health  
Province of New Brunswick

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## Message from the Medical Director of the New Brunswick Trauma Program

It is often said that trauma is the neglected disease of the 21st century – a silent epidemic. New Brunswick is no exception. Unintentional injuries and trauma kill some 270 people and result in over 70,000 hospitalizations and emergency department visits in our province every year. While the health burden is clearly greatest among injured people and their families, the impacts on society are significant. Unintentional injuries are the number one cause of death among those aged one to 34 in New Brunswick. They account for over \$250 million in direct health-care costs annually. We also know that the vast majority of injuries are preventable. Despite these statistics, we continue to see injured patients every single day. Some of these patients will not survive. Many more will have their lives changed forever.

We need to shift the focus of our collective efforts toward prevention. This framework is an important milestone in this journey, and one that we hope encourages individuals and organizations across New Brunswick to become actively engaged in injury prevention.

The New Brunswick Trauma Program, established as a provincial partnership of Horizon Health Network, Vitalité Health Network, Ambulance NB and the NB Department of Health, provides leadership and coordination for injury prevention initiatives across New Brunswick. In 2010, the Program convened a provincial Injury Prevention Subcommittee, which identified three evidence-informed priorities: reducing falls among children, addressing risk-related behaviour among youth, and reducing falls among seniors. This committee, which includes representation from the Office of the Chief Medical Officer of Health and other government and non-government agencies, is working to ensure province-wide implementation, monitoring and continued improvement of targeted injury prevention programs to address each of these priorities.

By working together, prevention efforts can bring real improvements to injury rates and costs in our province. More importantly, we can help prevent the sadness and despair that severe injuries bring to individuals and their families.

We all have a role to play in reducing the burden of injury, whether it is through work on the three priorities noted above, or on other areas where evidence supports the need for enhanced injury prevention efforts. With our thanks to all those who have contributed and continue to be committed to our shared vision of reducing injuries in New Brunswick, we hope this framework encourages even more individuals and organizations to become further engaged in this incredibly important provincial effort. Together, we will save lives.



Dr. Marcel Martin  
Medical Director  
New Brunswick Trauma Program

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## Executive Summary

This framework is the result of a joint collaboration between the Office of the Chief Medical Officer of Health (OCMOH) and the New Brunswick Trauma Program. It is intended to be a starting point for discussion about enhancing and better coordinating provincial efforts to prevent unintentional injury in support of a healthier population. It looks at the risks and impacts of unintentional injuries in New Brunswick, and identifies opportunities to set in motion injury prevention priorities and actions.

Unintentional injury is one of the leading causes of disability, hospitalization and avoidable mortality among children, youth and seniors. The term covers a broad grouping of instances of immediate bodily harm to individuals where the circumstances of the event do not involve deliberate intention to harm self or others. Despite a prevailing attitude that such injuries are “accidental” (e.g. a result of chance, human error or random mechanical failure), they mostly result from events that are both predictable and preventable. Examples include injuries due to motor vehicle collisions, falls, burns and poisoning. Unintentional injury is a significant public health issue and comes with a cost – at the individual, family, community and societal levels. While injuries can occur at any time across the life span, some groups are more at risk than others.

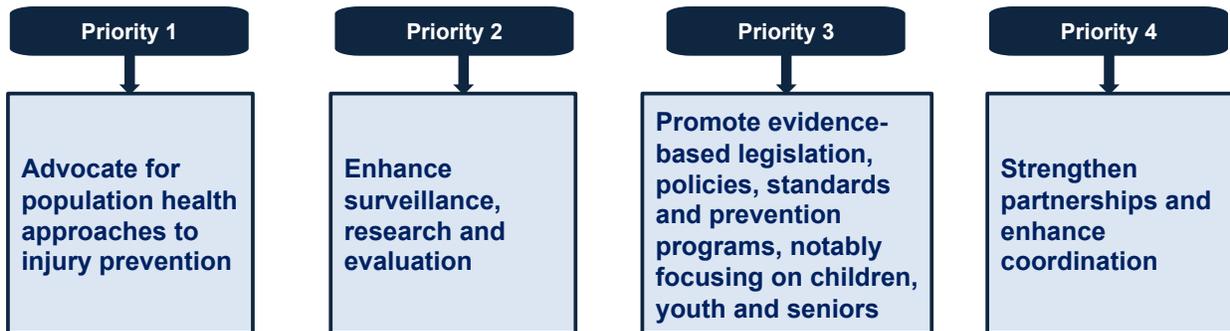
In recognition that effective interventions to prevent unintentional injury in New Brunswick require stronger linkages across stakeholders, this framework may be used as a working tool to achieve the following goals leading to a lower injury burden in the population and reduced health inequalities:

- To promote a common vision whereby all New Brunswickers contribute to the reduction of unintentional injuries;
- To build the evidence base on unintentional injury, its root causes and impacts;
- To promote the development of evidence-informed legislation, policies, programs and standards, with attention to population groups who may be at increased risk of unintentional injury;
- To strengthen partnerships among stakeholders from different sectors, thus better leveraging resources and efforts for optimal injury prevention results.

Evidence points to primary prevention (prevention of the occurrence of injury) and primordial prevention (risk factor reduction) as key to reducing the burden of unintentional injury. In alignment with the goals of this framework, the OCMOH and the NB Trauma Program’s Injury Prevention Subcommittee have identified the following priority actions for the period 2012-2015:

- To advocate for population health approaches to the prevention of unintentional injury in New Brunswick;
- To enhance surveillance, research and evaluation, including expanded provincial and pan-Canadian surveillance of injury and major trauma in the context of the National Trauma Registry and the Canadian Chronic Diseases Surveillance System;
- To promote evidence-based health and safety legislation, policies and standards, as well as primary prevention programs and services, notably focusing on children, youth and seniors;
- To strengthen partnerships and enhance coordination among stakeholders by sharing knowledge, preferred practices and lessons learned.

## The New Brunswick injury prevention framework at a glance.



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## **Acknowledgements**

This publication was prepared by members of the OCMOH's working group on the prevention of unintentional injuries: Dr. Denis Allard, Janice Campbell, Maurice Collette, Dr. Neeru Gupta and Gloria Merrithew. In addition, members of the New Brunswick Trauma Program's Injury Prevention Subcommittee provided input and information: Heather Oakley (committee chair), Sarah Black, Barbara Broom, Jean-Marc Dugas, Heather Gorman, Alice Hebert, Ann Hogan, Steve Olmstead, Andy Rauska, Deborah Van Den Hoonard, Bill Walker and Ian Watson. A number of people also provided feedback on earlier versions of the document, too numerous to name, but to whom we are grateful.

# 1. Introduction

Unintentional injury occurs from incidents leading to immediate physical damage to the human body where the circumstances of the event do not involve deliberate intention to harm self or others. The term covers a broad grouping of instances of harm that can occur at any age and in any place. Examples include injuries due to motor vehicle collisions, falls, drowning, suffocation, burns, cuts and poisoning (Box 1)<sup>1</sup>.

## Box 1: Main categories of unintentional injury in the International Classification of Diseases (ICD-10).

- **Transport incidents** – injury as a pedestrian, pedal cyclist, occupant of a motor vehicle or other land transport on a public highway or street (traffic incident) or elsewhere (non-traffic incident); water transport-related; other.
- **Falls** – from slipping, tripping or stumbling; involving ice or snow; from skates, skis, boards or blades; from stairs, ladders or scaffolding; from a tree or cliff; involving furniture; involving playground equipment; other.
- **Drowning and submersion** – in natural water, a swimming pool, bath tub or other.
- **Other unintentional threats to breathing** (e.g. choking on food or other objects).
- **Exposure to smoke, fire and flames.**
- **Exposure to inanimate mechanical forces** (e.g. struck by falling tree branch, contact with broken glass, firearm discharge).
- **Exposure to animate mechanical forces** (e.g. struck by another person in sport, bitten by dog).
- **Exposure to electric current, radiation and other environmental factors** (natural or man-made).
- **Unintentional poisoning.**
- **Other unintentional injuries and their sequelae.**

Source: Canadian Institute for Health Information.

Note: The ICD-10 is the main basis for categorizing and analyzing statistical information on the burden of different health conditions from clinical and medical services data and causes of death from vital statistics data in Canada and New Brunswick. Categories of unintentional injury are found under codes V01-X59 and Y85-Y86. Psychological harm and adverse events as a result of medical care are excluded.

Unintentional injuries range from minor bumps and bruises to severe trauma such as brain and spinal cord injuries resulting in lifelong disability or death (Figure 1). The health consequences for individuals may be seen as mostly physical but injuries also affect mental and social well-being. Families, workplaces and communities are impacted as well. Unintentional injuries affect everybody at some point in their lives and are, for the most part, preventable.

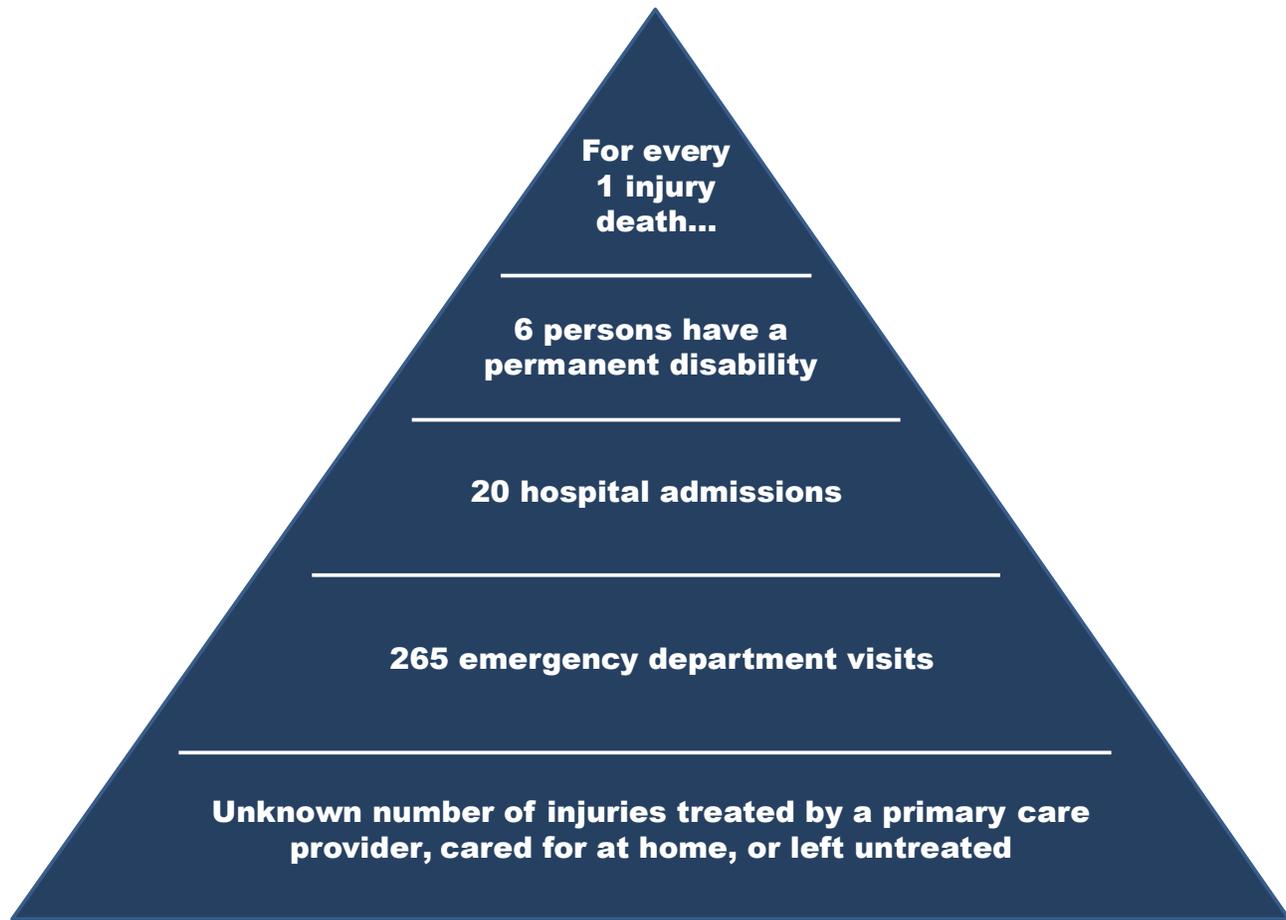
*Unintentional injuries affect individuals, families, workplaces and communities and are, for the most part, preventable.*

In New Brunswick, unintentional injury is one of the leading causes of disability, hospitalization and avoidable death among children, youth and seniors. It disproportionately impacts socially and economically disadvantaged groups, including First Nations communities. A recent issue of *New Brunswick Health Indicators* bulletin focusing on mortality cites unintentional injury as the fourth leading cause of death among males and the seventh leading cause of death among females of all ages in the province, representing some 270 deaths annually<sup>2</sup>. The economic burden of unintentional injury in New Brunswick was most recently estimated at \$388 million per year or approximately \$515 for every resident<sup>3</sup>. Two-thirds were direct costs to the health-care system (encompassing hospital, ambulatory, rehabilitation and home care) and one-third were indirect costs associated with reduced productivity from hospitalization, disability and premature death. A more detailed look at the risks and impacts of unintentional injury in New Brunswick is presented in the next section.

*Unintentional injuries claim some 270 lives in New Brunswick each year. The economic burden is estimated at \$515 annually for every resident.*

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**Figure 1. The pyramid of unintentional injury in New Brunswick.**



Source: Adapted from *The Economic Burden of Injury in Canada*, SMARTRISK, Toronto, 2009.

Reducing the burden of unintentional injury, and in particular minimizing the risk of an injury occurring, is a key component to improving overall health outcomes among New Brunswickers as well as enhancing the sustainability of our health-care system. A shared recognition of the Office of the Chief Medical Officer of Health (OCMOH) and the New Brunswick Trauma Program is that many of the solutions to reduce the injury burden require active collaboration with stakeholders within and outside the health sector in a wide variety of environments. These include numerous agencies and groups working at the local, provincial, regional and national levels on different injury prevention initiatives, such as children's safety, risk reduction among youth, road safety, occupational health and safety, and healthy ageing as well as surveillance and research. More information on the activities of the OCMOH and the NB Trauma Program is found in Annex A.

The World Health Organization advocates that an explicit health strategy or framework can achieve several things<sup>4</sup>. It can:

- define a vision for the future, which in turn helps to establish targets and points of reference for the short and medium term;
- outline priorities and the expected roles of different groups; and
- build consensus and inform people.

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Drawing on these global principles, prevention strategies and frameworks in other Canadian jurisdictions<sup>5</sup>, as well as the foundation that has been established in New Brunswick, it is intended that this framework will be used as a working tool to achieve the following injury prevention goals in New Brunswick:

- To promote a common vision whereby all New Brunswickers contribute to the reduction of unintentional injuries;
- To build the evidence base on unintentional injury, its root causes and impacts through enhanced surveillance, research and knowledge exchange;
- To promote the development of evidence-informed legislation, policies, programs and standards, with attention to population groups who may be at increased risk of unintentional injury including children, youth, seniors and First Nations;
- To strengthen partnerships among stakeholders from different sectors, thus better leveraging resources and efforts for optimal injury prevention results.

As a result, the framework is intended to guide a coordinated approach to the planning, implementation and evaluation of injury prevention policies, programs and services across New Brunswick, based on consensus among stakeholders and supported by the latest evidence-based research and standards.

This framework will assist stakeholders working across the spectrum of injury prevention to better align and strengthen the collective effort toward injury reduction in New Brunswick. The result will be more efficient, mutually complementary and sustainable actions that address both the medical and non-medical determinants of health and injury.

*This framework is meant to assist stakeholders to better align and strengthen the collective effort toward injury reduction in New Brunswick.*

## 2. A look at unintentional injury in New Brunswick

Injuries can happen at any time and in any environment. Strategies to reduce the burden of unintentional injuries in the population require understanding and addressing their causes and consequences across the life course. Data from multiple sources – including clinical care records, death records, population-based surveys, and administrative records from government agencies, community groups and others – offer valuable information on unintentional injury, the main underlying risks, and the impacts on different groups from children to seniors.

*Reducing the burden of unintentional injuries requires understanding and addressing their causes and consequences across the life course, from children to seniors.*

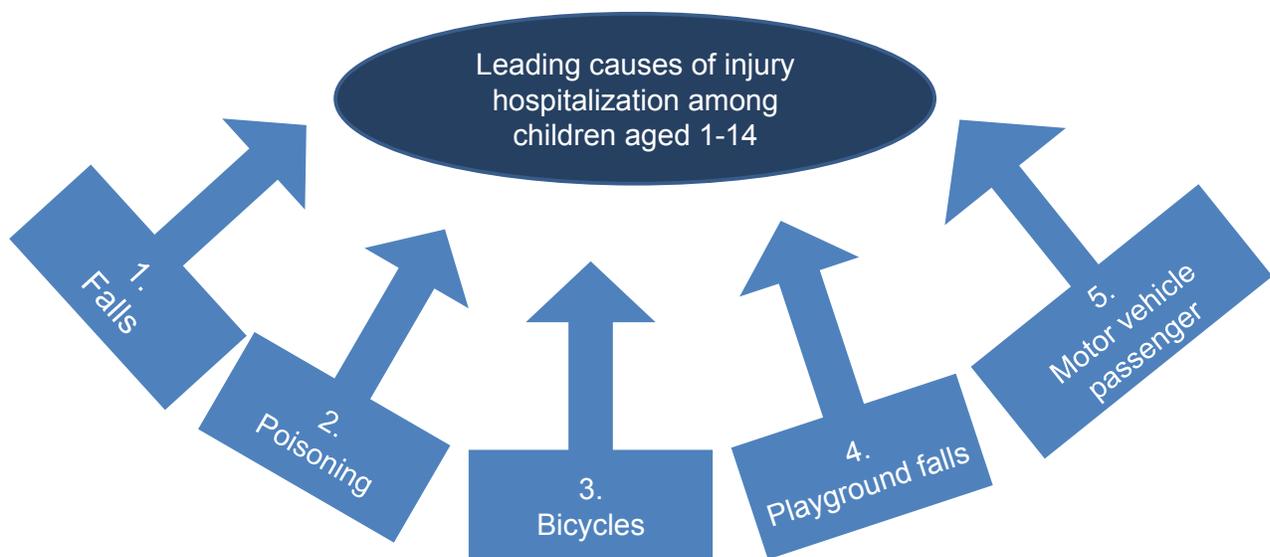
### Children

While the majority of Canadian children today are healthy, unintentional injury is the leading cause of death among Canadians aged 1-14 years, accounting for 22 per cent of all deaths in this group in 2009.<sup>6</sup> Epidemiological and population-based studies show that children are more susceptible than older age groups to morbidity and mortality due to unintentional injury.

Canada and New Brunswick have been successful in lowering rates of unintentional injury during childhood, although there is still room for improvement<sup>7</sup>. For instance, New Brunswick had the highest rate of injury-related hospitalizations for children aged 1-14 in Atlantic Canada in 1996-2005 (Figure 2).<sup>8</sup> The main injury categories among children include falls and transport incidents. The early years are also a time of risk for injury due to exposures to noxious chemicals and other poisonous substances at home and in the natural environment.

**Figure 2. Leading causes of injury hospitalization among children in New Brunswick.**

**The number one reason children are hospitalized in New Brunswick is because of a fall. Within Atlantic Canada, New Brunswick had the highest hospitalization rates among children for unintentional injuries related to falls, poisoning, bicycles, playground falls, motor vehicle traffic incidents, all-terrain vehicles and drowning in 1996-2005.**



Source: Adapted from *Child and Youth Unintentional Injury in Atlantic Canada: 10 Years in Review*, Safe Kids Canada and Atlantic Collaborative on Injury Prevention, Toronto, 2009.

Studies from across Canada show that children living in lower-income neighbourhoods generally have higher rates of hospitalization due to unintentional injuries than children in higher-income neighbourhoods. The Public Health Agency of Canada reports that Aboriginal children are at higher risk of unintentional injury and early death as a result of drowning and other causes.<sup>9</sup>

## Youth

Unintentional injury is the leading cause of death among youth in New Brunswick, accounting for 45 per cent of deaths among those aged 15-24 in 2009-2010, compared to 4 per cent of deaths for the total population.<sup>10</sup> This is partly due to the fact that adolescents and young adults experience fewer chronic conditions and lower mortality compared to older adults.

Transport incidents and falls are the two most common causes of injury-related hospitalizations among youth nationally.<sup>11</sup> Alcohol is an important contributing factor to that burden. In New Brunswick, one in 20 surveyed adolescent students with a driver's licence drove a motor vehicle after consuming alcohol, and one in five was a passenger with an impaired driver within the previous twelve months.<sup>12</sup>

Evidence indicates that youth may be more vulnerable than adults to factors that can impair judgement, reaction time and motor skills, including alcohol use, drug use, distraction and fatigue leading to higher injury risks. Early research suggests that involving youth in planning and decision making regarding the development of injury prevention initiatives enhances the likelihood of success.<sup>13</sup> An example in New Brunswick is the Prevent Alcohol and Risk-related Trauma in Youth (PARTY) program, which uses interactive sessions to provide youth with more knowledge and engage them to review and reduce their risk of being injured by making healthier choices in their everyday life (Box 2). This program has been shown to effectively reduce the incidence of traumatic injuries among participants.<sup>14</sup>

*Unintentional injury is the leading cause of death among children (aged 1-14 years) and youth (15-24 years). The main categories include falls and transport-related injuries.*

### Box 2: Preventing risk-related injury and trauma among youth.

The PARTY (Prevent Alcohol and Risk-Related Trauma in Youth) Program was designed to reduce risk taking behaviours by changing attitudes and providing teens with more knowledge so they can make healthier choices to reduce their risk of injury.

PARTY teaches high school students:

- **Prevention** - increase understanding of the predictable and preventable nature of injuries;
- **Risk** - acknowledge that everyone takes risks, and they are everywhere;
- **Consequences** - the impacts on individuals, families, communities and beyond;
- **Choices** - having the power to reduce risk;
- **Change** - feeling motivated to change risk related behaviours.

Source: New Brunswick Trauma Program.

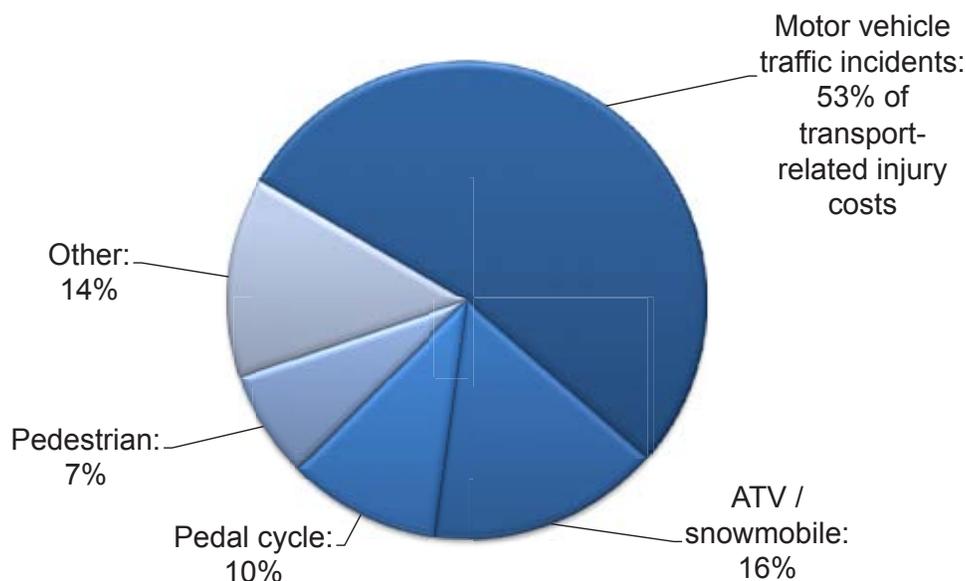
Note: The PARTY Program was initiated in 1986 by the Sunnybrook Health Sciences Centre in Toronto. The PARTY message has since been delivered to over one million young people across Canada and around the world. In New Brunswick, PARTY is offered through a partnership between the RCMP, Safety Services NB and the NB Trauma Program, with financial assistance from the Insurance Bureau of Canada.

## Adults

Unintentional injury continues to be one of the leading causes of morbidity and mortality among adults in their most economically productive years (20-64 years), in particular injury from transport-related incidents (Figure 3).

**Figure 3. The economic burden of transport-related injuries in New Brunswick.**

**The economic burden of transport incidents in New Brunswick is \$128 per capita each year, or 25 per cent of the total cost of unintentional injury. More than half of the cost of transport-related injuries is due to motor vehicle traffic incidents, followed by all-terrain vehicles and snowmobiles.**



Source: Adapted from *The Economic Burden of Injury in Canada*, SMARTRISK, Toronto, 2009.

Canada's national road safety strategy focuses on holistic approaches to improving public awareness, collaboration among stakeholders, enforcement, research and evaluation as the means to achieve safer road users, safer road infrastructure and safer vehicles.<sup>15</sup> In New Brunswick, a provincial committee coordinates activities under the national strategy for enhanced safety among drivers, passengers and other road users of all ages.

Recreational transport activities also present injury risks across the lifespan. Cycling, all-terrain vehicles and snowmobiles are common causes of serious injury, especially among males. The number of hospitalizations for injuries related to all-terrain vehicles, which are increasingly popular and also used as a primary means of transportation in rural areas, increased in Canada by almost three-fold from 1990 to 2008.<sup>16</sup>

Workplace injuries are another area of health and safety concern for adults. According to the Canadian Community Health Survey, nearly one in five (18 per cent) of activity-limiting injuries among adults of working age occurred while they were at a paid job or business.<sup>17</sup> Workers in trades, transport and equipment operation, processing or manufacturing, and primary industries are more likely to be injured relative to the total workforce.<sup>18</sup> The

*One-fifth of activity-limiting injuries among adults of working age occur while at a paid job or business.*

main mechanisms of occupational injuries are overexertion or strenuous movement, falls, cuts or piercing from a tool or sharp object, and being struck or crushed by a machine or other object.

Many agencies and employers across the province recognize the importance of creating a culture of healthy, safe lifestyles on and off the job. Different continuing and complementary strategies are needed to increase and sustain levels of compliance of employers and workers regarding safety measures. For example, since 2009 WorkSafeNB has partnered with the New Brunswick Community College system to deliver occupational health and safety education to approximately 6,500 college students each year, in order to build safety skills before entering the workforce.<sup>19</sup>

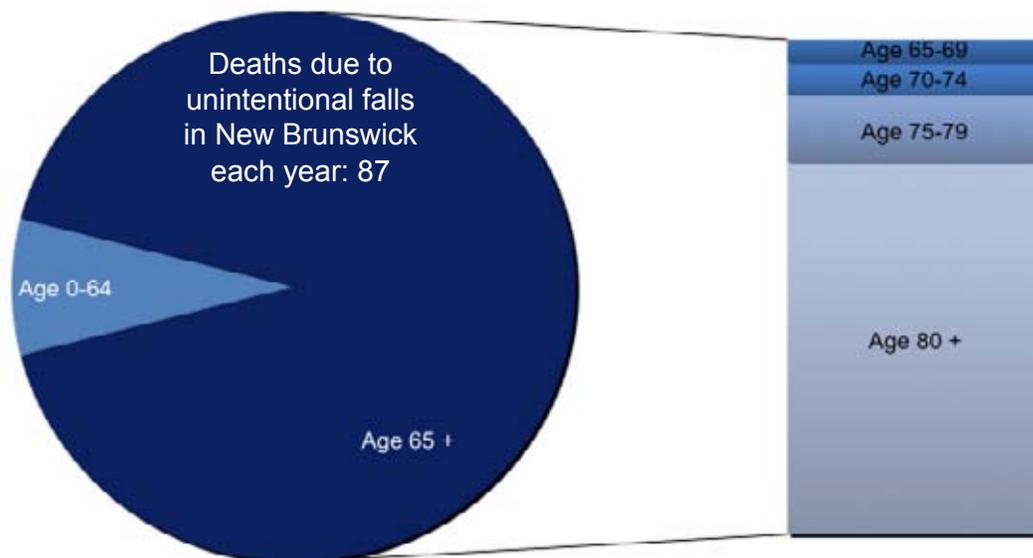
## Seniors

Fall-related injuries are a significant cause of morbidity, loss of independence and mortality in older populations (Figure 4). One in three persons aged 65 and over is likely to fall at least once every year.<sup>20</sup> Approximately a third of fall-related hospitalizations among seniors involve a hip fracture.<sup>21</sup> Muscle weakness and decreased physical function are important risk factors, increasing the risk of falling by four to five times. Other risk factors include chronic illnesses, decreased visual acuity, cognitive impairment and certain medications.

*One in three seniors is expected to fall at least once every year.*

**Figure 4. Age distribution of deaths due to unintentional falls in New Brunswick.**

**The burden of fall-related injuries increases with age. Over 90 per cent of fatal injuries from falls in New Brunswick are among seniors, three-quarters of which are among those aged 80 and over.**



Source: Office of Chief Medical Officer of Health, drawing on mortality data from New Brunswick Vital Statistics for 2006-2008.

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With the demographic ageing of the population, the burden of unintentional falls may magnify. Between 2010 and 2036, based on Statistics Canada's medium-growth projection scenario, the number of New Brunswickers aged 65 and older is expected to nearly double (96 per cent increase) versus an overall population growth of 2 per cent.<sup>22</sup>

Socio-economic factors can influence injury risks among seniors, such as the inability to make home modifications or purchase personal safety devices (e.g. hip protectors, appropriate footwear), poor diet and limited opportunities for physical activity.

*Enhanced efforts for the prevention of unintentional injuries entails addressing a broad set of physical, behavioural, environmental, social and economic factors.*

Development of validated tools to assess risk of falls and other unintentional injuries among older adults may help to direct resources more effectively for prevention activities. For instance, the Canadian Falls Prevention Curriculum applies an evidence-based approach to enhance knowledge and skills among those working with seniors in health-care and community settings for the prevention of fall-related injuries by addressing a broad set of risk factors including physical, behavioural, environmental, social and economic factors.<sup>23</sup>

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### 3. Working together in injury prevention

Many interventions have shown success in reducing adverse injury-related health outcomes in New Brunswick, Canada and around the world, including education and awareness initiatives, legislation, and consumer product standards and guidelines. There is good evidence that educational campaigns and legislative change can achieve positive effects on risk-related behaviours, especially when coupled with area-wide environmental changes.

Most unintentional injuries are not the result of a single factor, but rather the result of the interaction of multiple factors, many of which can be changed. Different opportunities exist to prevent an injury from occurring or reduce the harm done. A comprehensive framework for the prevention of unintentional injury spans across the prevention spectrum, from primordial to tertiary prevention:

- **Primordial prevention:** actions and measures that aim to avoid the emergence of the underlying environmental, economic, social, cultural and behavioural conditions that are known to increase the risk of poor health outcomes (e.g. improving living conditions among children at greater risk for injury caused by hazards in the home and community).
- **Primary prevention:** focuses on reducing modifiable risk factors or risk behaviours (such as impaired driving, speeding, and unsafe work practices) and increasing protective factors (e.g. education about proper seatbelt and helmet use, reduced speed zones, reduced alcohol tolerance among drivers, legislation on childproof containers, installation of pool fencing and child safety gates) prior to the occurrence of an injury.
- **Secondary prevention:** includes, for example, screening for client history and identification of risk behaviours, arresting further risk, and preventing re-injury through effective primary care, trauma care and rehabilitation practices; providing suitably modified work and education on proper lifting technique for injured workers.
- **Tertiary prevention:** focuses on reducing disability and restoring functionality to people already affected by injury (which may include chronic pain management programs and patient support groups).

Together, public health and formalized trauma systems can play a valuable role in identifying opportunities and setting in motion priorities and actions for the planning, delivery and evaluation of both primordial and primary injury prevention programs. Primary and primordial prevention interventions tend to receive less attention and public financing compared to secondary and tertiary injury prevention and clinical treatment of injuries. Until recently, this may have been partly due to limited availability and use of comprehensive data and evidence on the impact of unintentional injuries on population health outcomes, and partly due to a lack of awareness among health-care providers, decision makers and other stakeholders. Yet, addressing the impacts of injuries once they have occurred (secondary and tertiary prevention) is more expensive and less effective than primary prevention through population health approaches.

*Addressing the impacts of unintentional injuries once they have occurred is more expensive than primary prevention through population health approaches.*

A population health approach aims to improve the health and well-being of the entire population and reduce health inequities. Key factors examined in a population health approach include: social determinants of health and injury (e.g. income and social status, social support networks, healthy child development, education and literacy, employment and working conditions, gender, and culture); personal characteristics and lifestyles (e.g. personal health practices and coping skills; biology and genetic endowment); health services (the continuum of care including treatment and secondary prevention); social policy; physical environments, including the natural environment (e.g. quality of air, water, food and soil) and the built environment (e.g. housing, transportation, design of communities); and globalization (e.g. production and consumption of consumer goods).<sup>24</sup> The population health approach is congruent with injury prevention interventions based on education, engineering and enforcement (also known as the 3 Es); such an approach can facilitate the uptake and success of primary and other prevention activities.

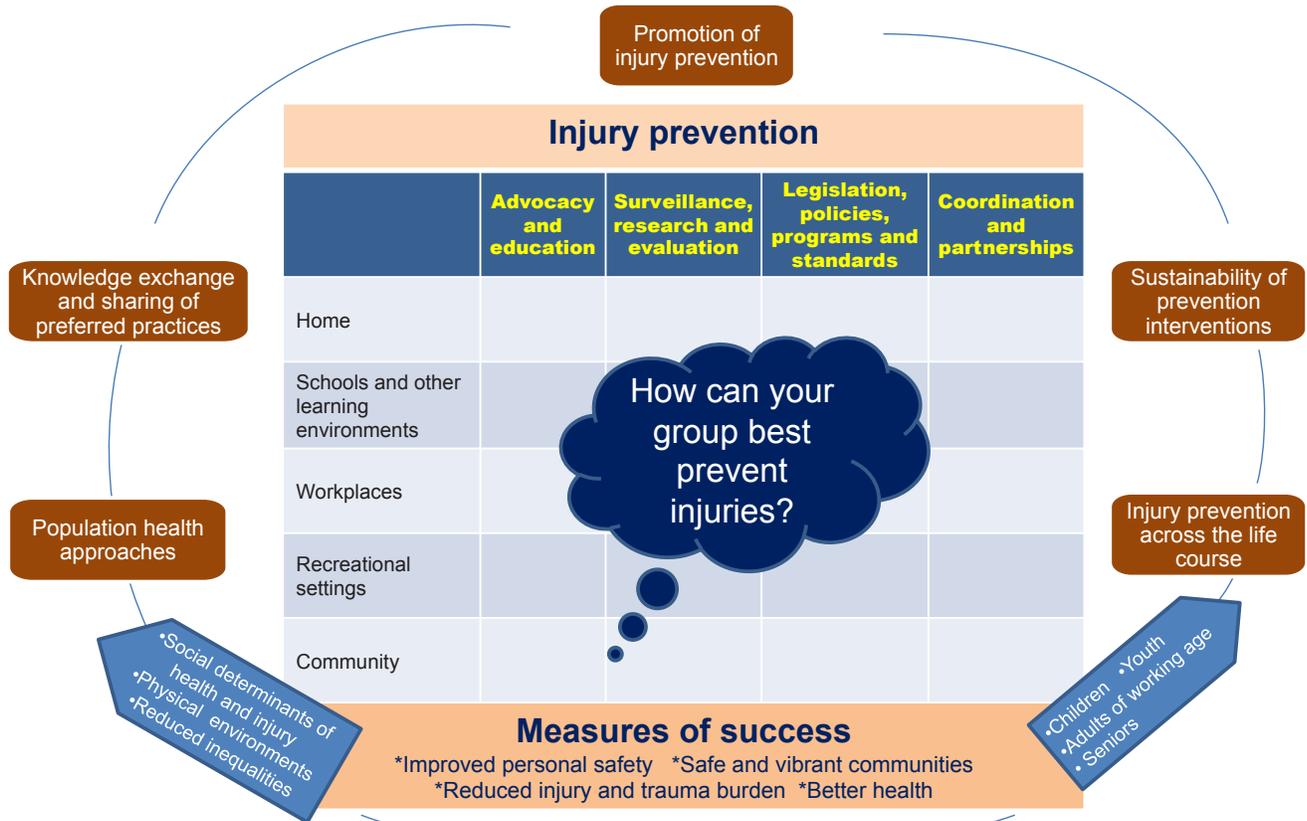
It is increasingly advocated that the most effective prevention programs are those woven into the fabric of communities, including the social and economic structures. For example, Sweden is often recognized as having progressed from having one of the highest rates of child and youth unintentional injuries in the 1950s to one of the lowest today, largely by being the first country to tackle the issue in a coordinated manner.<sup>25</sup> Drawing on recommendations from the World Health Organization, Sweden recognized that injury prevention should be based on population health approaches – requiring the involvement of all sectors and prioritizing health and safety in all policies, infrastructure designs and public awareness messaging; and informed by ongoing surveillance, research and evaluation.

There has been a concentrated effort to develop a national injury prevention strategy in Canada over the past 15 years. In New Brunswick, injury prevention is being addressed by numerous stakeholders and through various initiatives. This framework aims to promote seamless integration of injury prevention interventions using evidence-based practices at the population level in a wide range of settings. Moving forward to enhance injury prevention means responsibility for the injury problem is taken by all stakeholders and consensus is reached on priorities and targets.

*Moving forward to enhance injury prevention means stakeholders from different sectors assume a shared responsibility.*

A matrix is an effective tool to illustrate the complex dimensions of injury prevention in a systematic manner. The matrix presented in Figure 5 is designed to assist stakeholders in identifying gaps and setting priorities that will support their strategic plans for injury prevention, in alignment with the goals of this framework.

**Figure 5. Matrix for the prevention of unintentional injury in New Brunswick.**



Source: Adapted from “Journey of an idea: matrix for research activities,” New Brunswick Trauma Program – Research Provincial Subcommittee, November 2011 (unpublished).

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To begin filling in the matrix, the OCMOH and the NB Trauma Program's Injury Prevention Subcommittee have identified the following priority action areas:

- To advocate for population health approaches to the prevention of unintentional injury in New Brunswick;
- To enhance surveillance, research and evaluation, including expanded provincial and pan-Canadian surveillance of injury and major trauma in the context of the National Trauma Registry and the Canadian Chronic Diseases Surveillance System;
- To promote evidence-based health and safety legislation, policies and standards, as well as primary prevention programs and services that focus on groups at higher risk of injury, notably, children, youth and seniors;
- To strengthen partnerships and enhance coordination among stakeholders by sharing knowledge, preferred practices and lessons learned.

Specific actions for the period 2012-2015 are found in Annex B. Identification of such actions is intended to catalyse further engagement for the prevention of unintentional injury across the province.

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## 4. Conclusion

Injury prevention in New Brunswick, as elsewhere, is everyone's responsibility. Central to prevention efforts is changing the prevailing attitude that injuries are "accidental" (e.g. a result of chance, human error or random mechanical failure) and moving towards discussion on their "unintentional" nature as events that are predictable and preventable.

Building a culture of safety takes time and requires commitment from policy makers, program planners, health practitioners, community organizations, the private sector and other stakeholders. Success in prevention of unintentional injuries for all population groups requires a combination of universal and targeted prevention programs, including action on the broader determinants of health and injury.

Strengthening partnerships among stakeholders will assist in better leveraging each others' resources and maximizing the scope, effectiveness and appropriateness of injury prevention efforts.

*Success in injury prevention requires a combination of universal and targeted programs, including action on the broader determinants of health and injury.*

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## **Annex A**

### ***About the Office of the Chief Medical Officer of Health***

The Office of the Chief Medical Officer of Health is a division of the New Brunswick Department of Health. In accordance with the Public Health Act, the OCMOH works to improve, promote and protect the health of the people of New Brunswick by planning and supporting implementation of public health policies, programs and services; facilitating public awareness of health issues and needs for the prevention of disease and injury; and monitoring progress towards goals for the health of the population. In April 2011, a working group was established within the OCMOH to support the development of evidence-informed public health strategies for injury prevention. The OCMOH works with the Regional Health Authorities (Horizon Health Network and Vitalité Health Network) to set provincial standards and provide a range of public health programs and services. It also works with health agencies in other jurisdictions across Canada in support of healthy people, communities and environments.

### ***About the New Brunswick Trauma Program***

The NB Trauma Program is a formalized partnership of Horizon Health Network, Vitalité Health Network, Ambulance NB and the NB Department of Health. It has a mandate for leadership and coordination of clinical care, research, education and prevention related to injury and trauma. It is recognized as the province's lead agency for the coordination of primary injury prevention activities. In 2010, the program established a provincial Injury Prevention Subcommittee with broad representation from injury prevention stakeholders across New Brunswick, including the OCMOH as well as Ambulance NB, WorkSafe NB, Safety Services NB, Department of Public Safety, University of New Brunswick, St. Thomas University, and stakeholders from the youth, senior and First Nations communities. The Subcommittee identified three priority areas for targeted primary prevention programs: (i) falls among children; (ii) risk-related behaviour in youth; and (iii) falls among seniors. Working groups have been established to develop a strategy to address each priority. To address other components of the program's mandate, the NB Trauma Program has also established provincial subcommittees in the areas of research, trauma care policy and standards, clinical education and quality improvement.

## Annex B

The Office of the Chief Medical Officer of Health and the NB Trauma Program's Injury Prevention Subcommittee have identified the actions described below as priorities for the period 2012-2015.

<b>Action plan for prevention of unintentional injury in New Brunswick, 2012-2015</b>	
<b>GOALS:</b>	<ul style="list-style-type: none"> <li>• To promote a common vision for prevention of unintentional injury;</li> <li>• To build the evidence base on unintentional injury, its root causes and impacts;</li> <li>• To promote the development of evidence-informed legislation, policies, programs and standards;</li> <li>• To strengthen partnerships among stakeholders.</li> </ul>
<b>PRIORITY ACTIONS:</b>	
<b>Advocacy and education</b>	<ul style="list-style-type: none"> <li>• Promote health and safety in our communities as everybody's responsibility;</li> <li>• Promote a common terminology for the preventable nature of injuries and the vision of reduced injury burden in New Brunswick;</li> <li>• Advocate for population health approaches to injury prevention;</li> <li>• Enhance knowledge translation and mutual learning to accelerate actions.</li> </ul>
<b>Surveillance, research and evaluation</b>	<ul style="list-style-type: none"> <li>• Enhance reporting and analysis of unintentional injury in New Brunswick;</li> <li>• Monitor progress of performance indicators for injury prevention programs and actions;</li> <li>• Strengthen surveillance and research capacity, including engagement of the NB Trauma Program's Research Subcommittee;</li> <li>• Enhance the NB Trauma Registry and expand data contribution to the National Trauma Registry;</li> <li>• Collaborate with the Public Health Agency of Canada and other provincial and territorial health agencies to integrate injury surveillance within the Canadian Chronic Disease Surveillance System;</li> <li>• Use data as evidence for the development of innovative policies and programs.</li> </ul>
<b>Legislation, policies, programs and standards</b>	<ul style="list-style-type: none"> <li>• Support public health programs that focus on early childhood to enhance injury prevention knowledge and skills among parents and caregivers according to the child's developmental stage, using both targeted and universal approaches;</li> <li>• Implement an evidence-based training curriculum for reducing the risk of unintentional falls among children;</li> <li>• Expand the PARTY program to all Grade 9 students in New Brunswick;</li> <li>• Support the NB Highway Safety Committee to strengthen road safety initiatives;</li> <li>• Support implementation of the Canadian Falls Prevention Curriculum in acute-care and community settings across the province to build knowledge and skills in preventing falls among seniors;</li> <li>• Review the latest evidence relevant to provincial health and safety legislation;</li> <li>• Review standards and guidelines for injury risk mitigation.</li> </ul>
<b>Partnerships and coordination</b>	<ul style="list-style-type: none"> <li>• Maintain and strengthen partnerships among stakeholders engaged in primary injury prevention activities across the province and nationally;</li> <li>• Create and support new partnerships to expand awareness, education and coordinated actions.</li> </ul>