

THE  
**ECONOMIC  
BURDEN OF  
UNINTENTIONAL  
INJURY  
IN SASKATCHEWAN**

**A SUMMARY**

presented by

**SMARTRISK**



**SAUVE-QUI-PENSE**

in partnership with

Acquired Brain Injury  
Partnership Project



Saskatchewan  
Health

**SG IIII**



Saskatchewan  
Institute on  
Prevention of  
Handicaps

The Economic Burden of Unintentional Injury in Saskatchewan  
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Study conducted by Terry Albert and Eden Cloutier  
based on the study "The Economic Burden of Unintentional Injury in Canada" by The Hygeia Group.

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## THE ECONOMIC BURDEN OF UNINTENTIONAL INJURY IN SASKATCHEWAN

### INTRODUCTION

The government of Saskatchewan believes in proactive responses to preventable health problems. The people of Saskatchewan understand that injuries kill and disable people every day. They also understand that injuries cost money. But do the people of Saskatchewan know how much money is spent on injuries? Saskatchewan Health decided to conduct a study on *The Economic Burden of Unintentional Injury in Saskatchewan* to determine what it costs to treat unintentional injuries and to bring this public health threat to the forefront of health policy. There are two categories of injury: unintentional and intentional (murder, acts of violence and suicide). Unintentional injuries, which are very responsive to prevention include falls, motor vehicle crashes, railway and pedestrian injuries, drowning and suffocation, poisoning and fires.

The study determines what percentage of the total amount spent on unintentional injuries can be attributed to direct costs that cover hospital care, physician services, prescription drugs and home modification or vocational rehabilitation. The study also establishes the indirect cost of injury to society incurred by the losses in productive lifetime earnings caused by death or disability. These overall costs are then broken down into specific causes of injury.

The results highlight a crucial issue. If these injuries are largely preventable, then how much more money and how many more lives could Saskatchewan save by enhancing existing strategic prevention programs? To demonstrate, the study offers examples of prevention strategies showing the extent to which Saskatchewan could save money and lives.

### THE COST OF UNINTENTIONAL INJURIES

<b>Injury Deaths</b>	<b>Hospitalized Injuries</b>	<b>Non-Hospitalized Injuries</b>	<b>Total Injuries</b>	<b>Injuries Resulting in Partial Permanent Disability</b>	<b>Injuries Resulting in Total Permanent Disability</b>	<b>TOTAL ANNUAL COST</b>
329	9,848	166,884	177,061	3,429	263	<b>\$612 Million</b>

## TOTAL COSTS

In 1998 preventable injuries cost the people of Saskatchewan \$612 million or \$592 for every citizen. Falls accounted for \$212 million or 35 per cent of the total amount. Motor vehicle crashes cost \$135 million or roughly 22 per cent of the \$612 million. The remaining 43 per cent of total costs can be attributed to a combination of costs incurred by drowning, poisoning, fires, and a range of other injuries not specified by hospital classification systems (see fig. 1). On average, each injury generates \$3,500 in direct and indirect costs.

## DIRECT COSTS

Over 175,000 injuries in 1998 accounted for almost \$262 million in direct health care costs (See fig. 2). The most costly injuries were falls, totalling almost \$125 million or 48 per cent of total direct costs, and motor vehicle crashes at \$39 million or 15 per cent of direct costs (See fig. 3). The people of Saskatchewan spent \$10 million treating patients for poisoning.

These three types of injury - falls, motor vehicle crashes and poisoning - made up over 65 per cent of direct costs. Caring for the

FIGURE 1

### Total Costs by Injury Type (in Millions \$)

Total costs = \$612

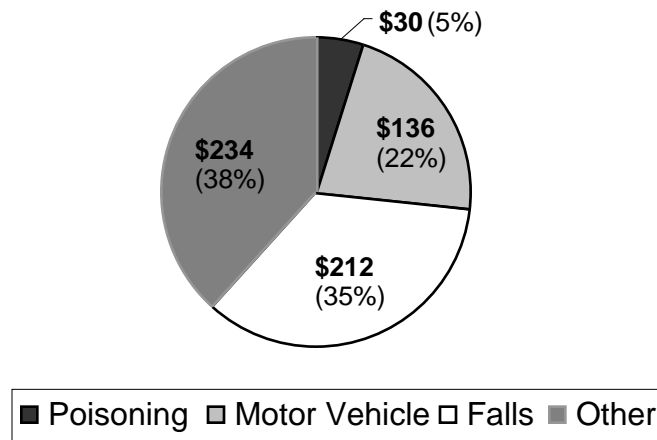


FIGURE 2

### Total Costs of Unintentional Injuries (in Millions \$)

Total costs = \$612

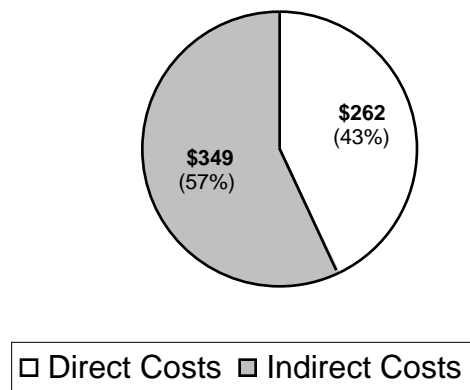
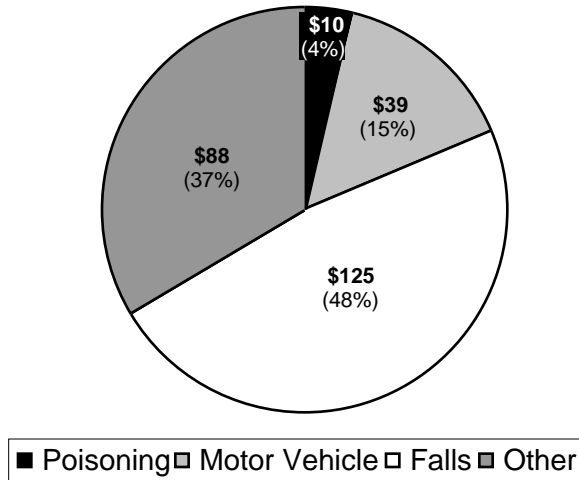


FIGURE 3

### Direct Costs by Injury Type (in Millions \$)

Total direct costs = \$262



injured elderly amounted to \$70 million or 27 per cent of the \$262 million in direct costs. Roughly \$56 million (80 per cent) of the direct cost of elder injuries is attributable to falls (See fig. 4) where 70 per cent of the costs (almost \$40 million) are generated by falls among elderly women (See fig. 5). Treating children and youth for falls cost almost \$32 million or 25 per cent of the total fall amount, with males representing 30 per cent more cases than females (See fig. 6 and 9).

Although only 6 per cent of patients injured ended up in hospital, the cost of hospitalization generated 12.5 per cent or nearly \$33 million of the \$262 million spent on direct costs. However, 94 per cent of the injuries assessed were not hospitalized, accounting for 87.5 per cent or an estimated \$229 million of the total direct costs.

FIGURE 4

### Costs for Treating the Injured Elderly (in Millions \$)

Total costs for treating the injured elderly = \$70

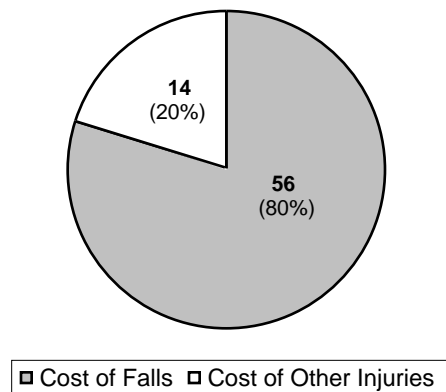


FIGURE 5

### Total Costs of Falls by Gender (in Millions \$)

Total costs of falls = \$212

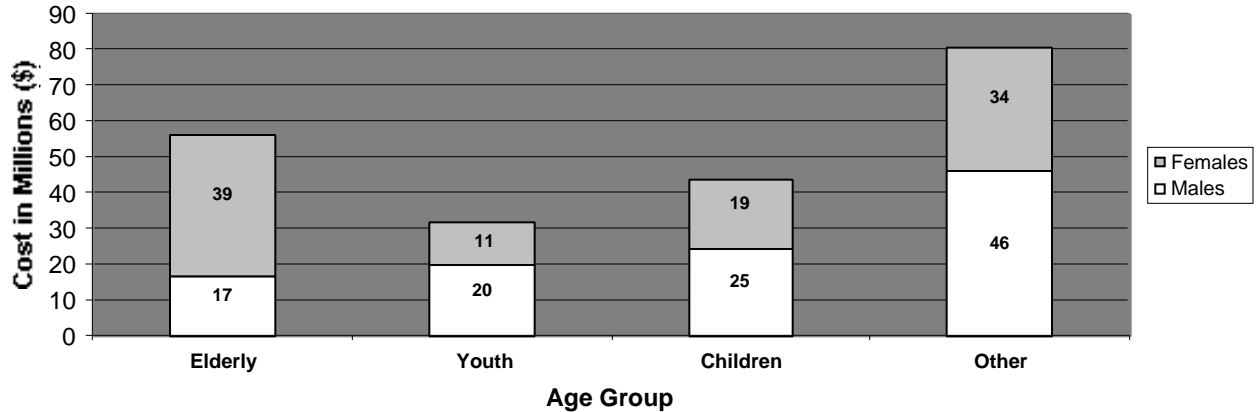
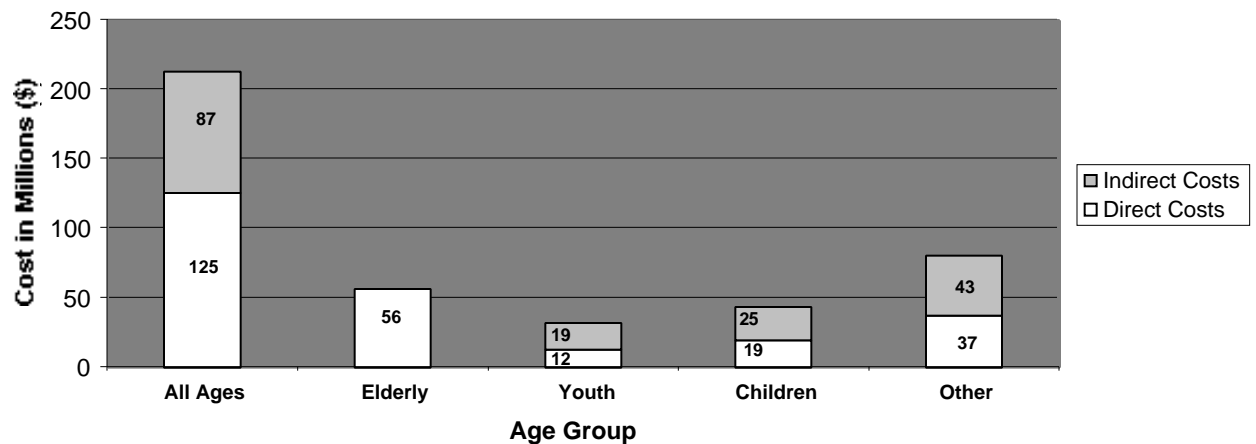


FIGURE 6

### Direct and indirect Costs of Falls by Age Group (in Millions \$)

Total costs of falls = \$212



## INDIRECT COSTS

The 4,021 injuries that led to permanent disability or death amount to \$350 million in indirect costs (See fig. 2). Permanent disability caused the greatest losses in productivity, amounting to over \$262 million or 75 per cent of indirect costs. Injuries causing death accounted for almost \$86 million of the \$350 million total (See fig. 7).

The two most significant types of injury causing permanent disability were falls and motor vehicle crashes generating over \$132 million in indirect costs. Falls accounted for \$85 million (32 per cent). Motor vehicle crashes cost \$47 million (18 per cent) of the total disability-related indirect costs (See fig. 8).

FIGURE 7

### Sources of indirect Costs (in Millions \$)

Total indirect costs = \$212

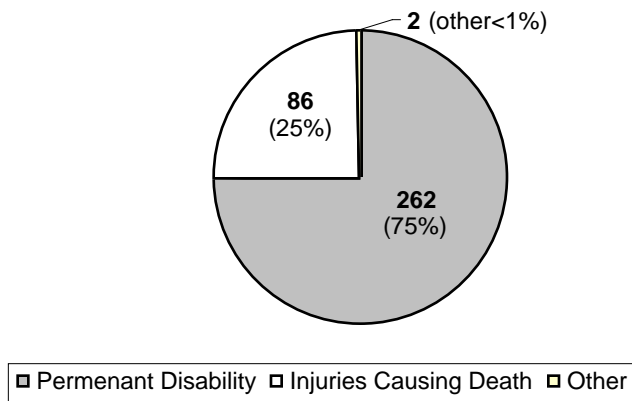
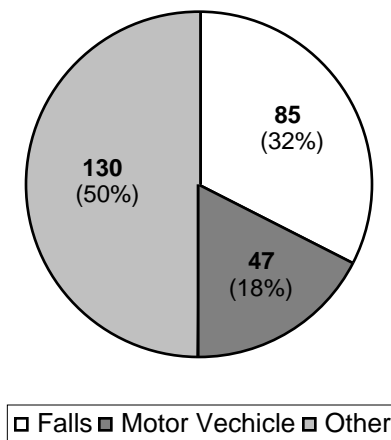


FIGURE 8

### Indirect Disability Costs by Injury Type (in Millions \$)

Total indirect disability costs = \$262



## THE COST OF A SILENT EPIDEMIC

The staggering costs determined by this study prove that Saskatchewan is suffering from an injury epidemic that is more pronounced than the situation in other provinces and overall in Canada. Compared to national figures, the injury hospitalization rate is over two times higher in Saskatchewan and the death rate from injury is 1.4 times higher. But it is a silent epidemic because, generally, people do not see the risk in their everyday lives. If they do not see the risk, they cannot take measures to navigate that risk in order to prevent potential injury. Why can't we see the risk in our lives?

The problem stems from a universal misunderstanding and misuse of the word 'accident.' Injuries sustained by falls or motor vehicle crashes are not seen as the result of predictable events but rather to be the result of 'accidents' or 'acts of fate'. Yet when someone suffers from heart disease or cancer, high cholesterol and smoking are identified as possible predictable causes. The government of Saskatchewan believes that health policy must first acknowledge that injuries are predictable and preventable. Injuries are not accidents, and investing in injury prevention can save money and lives. The people of Saskatchewan do not need to spend over half

a billion dollars each year on nearly 180,000 injuries that could have been largely prevented in the first place.

### INJURY PREVENTION CUTS COSTS

Saskatchewan Health has invested in programs and in strategies to tackle the injury problem. How much money could enhancement of current injury prevention programs save the people of Saskatchewan? The following scenarios illustrate how targeting the most costly causes of injury combined with the most vulnerable population groups can generate real savings. Combined, these conservative injury reduction targets could produce \$56 million in savings annually.

#### Falls among the elderly

This study has shown that over \$56 million of the \$125 million in direct costs spent on falls was devoted to treating falls among the elderly (see fig. 9). It is estimated that about 40 per cent of falls leading to hospitalization are the result of hip fractures, and that the number of hip fractures in Canada will increase dramatically from 23,375 in 1993 to over 88,000 cases by the year 2041 as the Canadian population ages.

These are falls that can be prevented by recognizing risk factors such as a history of falls, impairment related to cognition, balance

and gait, low body mass index, the misuse of medications and hazards in the home. By targeting these risk factors through prevention programs, setting a hospitalization reduction target of 20 per cent could lead to 2,400 fewer hospital stays and 145 fewer elderly people of Saskatchewan permanently disabled. The overall savings could amount to almost \$8 million annually.

#### Childhood falls

Injuries from childhood falls cost the people of Saskatchewan \$44 million every year (see fig. 10). These are falls that can be prevented by redesigning the structure of playgrounds, targeting hazards in the home and by simply teaching children how to fall.

If these types of prevention strategies reduce the incidence of falls by 20 per cent for children aged 0-9, there would be over 100 fewer hospitalized children in Saskatchewan, almost 1,000 fewer non-hospitalized injuries, and 40 fewer injuries leading to permanent disability. The net savings could total \$9 million every year.

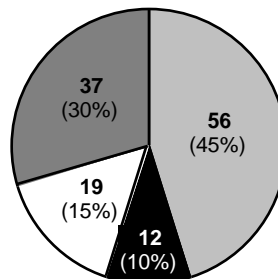
#### Preventing motor vehicle crashes

Wearing seat belts and installing air bags can reduce motor vehicle injuries by 61 per cent. Drinking and driving is responsible for about 40 per cent of all fatal motor vehicle crashes. It is estimated that mortality can be reduced

FIGURE 9

### Direct Costs of Falls by Age Group (in Millions \$)

Total indirect disability costs = \$125

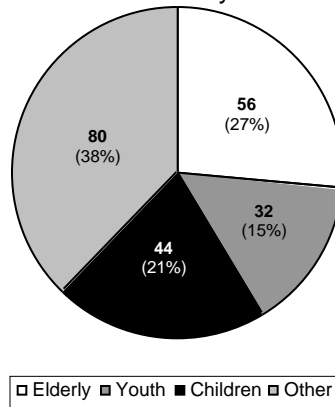


■ Elderly ■ Youth ■ Children ■ Other

FIGURE 10

### Total Costs of Falls by Age Group (in Millions \$)

Total indirect disability costs = \$212



by 20 per cent through a reduction in drunk driving. Reducing speed limits by 10 km an hour could lead to a 15 per cent decrease in mortality, with the number of deaths lowered and severity of injury reduced.

With a 10 per cent reduction in crashes caused by poor road design and maintenance, and based on the assumption that 20 per cent of those injured end up in hospital, there would be about 50 fewer deaths each year. By implementing a prevention strategy based on buckling up, driving sober, slowing down and looking first on the roads, there would also be almost 350 fewer hospitalizations, over 2,300 fewer injuries treated outside a hospital setting and over 250 fewer injuries leading to permanent disability. The net savings to the people of Saskatchewan would amount to \$39 million annually.

#### PUTTING A PRICE TAG ON PREVENTION

Preventing injuries saves money and lives. The goal of reducing costs and human suffering can be reached by integrating existing government and community-based programs into a provincial injury prevention strategy. A recent study estimated that diabetes costs the Canadian economy \$1.1 billion annually. In response, governments and non-governmental organizations devised and funded a five year, \$115 million

Canadian Diabetes Strategy. This adds to the list of several national strategies for various health conditions. A key question emerges: are the economic costs of unintentional injury comparable to other priority areas?

Nationally, the annual societal costs for unintentional injury amount to almost \$9 billion. In comparison to other health conditions, unintentional injury would rank in the top five in terms of societal economic burden. In Britain, unintentional injury was established as one of the top five national health priorities. The issue is not investing in one health problem at the expense of another. Rather, the key issue is the funding and formulation of a strategy. We know that strategies are essential to the control of many health problems.

The findings of this study point to the pay-offs that Saskatchewan could reap through investing in a provincial injury prevention strategy. Importantly, a provincial strategy could be substantially enhanced through integration with a national strategy. At this point in time, Canada does not have a national strategy for injury prevention and control.

## THE POLICY CONTEXT

Progress towards developing a national injury prevention strategy has been made in the past. But it has not moved forward. For example, strategists working in 1991 on a project entitled *A Safer Canada: Year 2000 Injury Control Objectives* developed a series of prevention objectives. They recommended that the Government of Canada recognize injuries as a major cause of death and disability that requires a national prevention strategy. They encouraged the development of national injury control objectives for the purpose of stimulating projects across the country. They also called for the establishment of a national injury surveillance system.

None of the recommendations has been fully realized. Saskatchewan can again become a leader. The results of *The Economic Burden of Unintentional Injury in Saskatchewan* demonstrate that a provincial injury prevention strategy is not only essential, it is integral to the fight against this silent epidemic.

## RECOMMENDING A PROVINCIAL INJURY PREVENTION STRATEGY

It is time for the people of Saskatchewan to see the risk, reduce the risk, and ultimately manage the risk in their lives. Preventable injuries harm and end the lives of many people in Saskatchewan and exact a heavy toll on the province's limited health and financial resources. A Provincial Injury Prevention Strategy in concert with a coordinated National Injury Prevention Strategy would be ideal.

This strategy must be guided by strong leadership and supported by varied collaborative efforts across injury prevention groups. Collaboration will guarantee the establishment of priorities and will ensure diverse and innovative approaches to prevention. Injury prevention strategies usually incorporate three main components:

### 1. Comprehensive Programming

- Innovative communications strategies designed to show the people of Saskatchewan the risks in their everyday lives, and ultimately enabling them to take smart risks.
- Community mobilization and outreach programs that will distribute the message and reduce the risks.
- Engineering strategies designed to reduce the likelihood of injury.
- The development of age-specific educational initiatives.
- An extension of injury prevention networks and coalitions.
- The design and implementation of programming initiatives that will put injury prevention at the top of the province's public policy agenda.
- Legislative and regulatory initiatives at all government levels.

### 2. Provincial Injury Surveillance System

Data is the lifeline of any Injury Prevention Strategy. Surveillance is akin to "switching on the lights". Saskatchewan currently has some of the components necessary to support the implementation of a comprehensive provincial injury surveillance system that would ideally be connected to a national system. In order to prevent an injury, members of a provincial strategy coalition must know who is getting injured. They also need to know how they are getting injured and what happens to them after they are hurt. They must know the age, sex, and the socio-economic status of the injured person. These variables will influence specific injury prevention strategies targeting high-risk population groups as well as the most common and costly causes of injury.

### 3. Research

Finally, this study points to the urgent need for further research into all aspects of preventing injuries including the epidemiology of preventable injury as well as ongoing evaluation of prevention initiatives. Cost-benefit projections for proposed cost-cutting prevention strategies need to be

developed as well as cost-benefit evaluation for programs already in place.

The Provincial Injury Prevention Strategy will provide leadership harnessed by strong collaboration, supported by excellent data and surveillance systems, and kept alive by sophisticated research and evaluation programs. By investing in an Injury Prevention Strategy, Saskatchewan will no longer be able to call the injury epidemic 'silent'. People will begin to see the risks in their lives. They will begin to understand how to take smart risks, ultimately saving both money and lives.

## **CONCLUSION**

Every hour of every day, 20 people in Saskatchewan are unintentionally injured (over 485/day), roughly one person in Saskatchewan dies daily from these injuries and almost 3,700 are disabled every year. Overall, over 177,000 residents of Saskatchewan are injured each year.

The rationale is clear. The government of Saskatchewan views this both as an opportunity and challenge in enhancing the core existing injury prevention programs and policies to ultimately improve the quality of life of the people of Saskatchewan.

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