

The Economic Burden of Injury in Canada

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SMARTRISK recently released its report *The Economic Burden of Injury in Canada*, which builds on and expands from their original economic burden study, *The Economic Burden of Unintentional Injury in Canada* (SMARTRISK, 1998).

The report stresses that the methodology draws on updated International Classification of Diseases (ICD) injury coding, examines intentional as well as unintentional injury, and offers provincial as well as national level data, thanks to the active involvement and support of governments and other partners in every province. While the greatest burden of injury is borne by those whose health, wellbeing, and life potential are directly diminished or destroyed by injury, economic burden studies enable us to calculate the broader societal burden injury imposes, with respect to cost pressures on our health care system and foregone human potential in terms of years of life lost and diminished labour market productivity and earnings.

The costs that emerge from this analysis are the costs of inaction – the price we all pay for failing to address injuries that are, in large part, both predictable and preventable.

The aims of producing this study are:

- The first is to equip and enable injury prevention champions, practitioners, and policy makers to appreciate the true extent of injury in Canada, to understand in detail who and where it strikes, and to develop effective strategies to stop it.
- The second is to quantify the costs of inaction, and therefore the urgency of the issue, for the broader community of policy makers in all orders of government who are tasked with establishing public priorities for investment and action.

The report emphasizes **that the costs that emerge from this analysis are the costs of inaction** – the price we all pay for failing to address injuries that are largely predictable and preventable.

In the period 1995-2004, Canada's injury death rate decreased by 10.9%. With growing government engagement and support for effective injury prevention programming, it should be possible to make even more significant gains in the decade ahead.

Some important facts from the report:

Injuries cost Canadians \$19.8 billion and 13,667 lives in 2004.

Injury deaths	Hospitalized treatment	Non-hospitalized treatment	Permanent partial disability	Permanent total disability	Total cost
13,667	211,768	3,134,025	62,563	5,023	\$19.8 billion

The total cost of injury to Canadian society can be divided into direct costs (health care costs arising from injuries) **and indirect costs** (costs related to reduced productivity from hospitalization, disability, and premature death).

The direct costs of injury in 2004 were \$10.72 billion or 54% of total injury costs. **The indirect costs were \$9.06 billion** or 46% of total costs arising from injury.

Injuries are generally classified as unintentional or intentional. Unintentional injuries include those related to: transportation, falls, drowning, fire/burns, unintentional poisoning, sport, and other unintentional causes. Intentional injuries include those resulting from suicide/self-harm and violence.

Unintentional injuries accounted for 81% of injury costs (\$16.0 billion). Intentional injuries accounted for a further 17% of total costs (\$3.3 billion) and injuries of undetermined intent for the remaining 2% (\$0.46 billion).

Suicide/self-harm was the leading cause of all injury deaths (3,616) in Canada in 2004, closely followed by transport incidents (3,067) and falls (2,225). Transport incidents were the leading cause of unintentional injury deaths (34%), followed by falls (25%), and other unintentional injuries (25%).

Falls accounted for 50% of all injuries resulting in hospitalization – followed by other unintentional injuries (16%) and transport incidents (15%) – and 58% of all unintentional injuries resulting in hospitalization, followed again by other unintentional injuries (19%), and transport incidents (17%).

Many injuries, while not requiring hospitalization, do involve emergency room visits for treatment. Other unintentional injuries were the leading cause of all injury related emergency room visits (53%) in 2004, followed by falls (28%), and transport incidents (9%).

Falls were the leading cause of injuries resulting in permanent partial disability (47%) and total permanent disability (50%). Falls were followed in both these cases by other unintentional injuries (24% of injuries leading to permanent partial disability and 22% of those leading to total permanent disability), and transport incidents (12% and 15% respectively).

By all measures of injury except indirect costs – hospitalizations, non-hospitalizations, permanent partial disability, total permanent disability, direct costs, and total costs of injury – **transport incidents and falls consistently ranked among the top three causes, ahead of suicide/self-harm.**

Number of injury deaths, hospitalizations, non-hospitalizations and related disability cases by cause, Canada, 2004

Description	Deaths	Hospitalizations	Non-hospitalizations	Permanent partial disability	Permanent total disability
Transportation	3,067	30,932	286,086	7,738	760
Falls	2,225	105,565	883,676	29,576	2,500
Drowning	245	238	865	34	<5
Fire/burns	233	2,002	44,778	996	51
Unintentional poisoning	944	7,060	54,741	1,677	106
Struck by/against sports equipment	<5	1,223	66,037	607	48
Other unintentional injuries	2,220	34,948	1,641,051	15,341	1,105
Suicide/self-harm	3,616	18,210	41,930	3,879	199
Violence	507	8,050	90,463	1,899	201
Undetermined intent/other	620	3,540	22,398	815	50
Total	13,667	211,768	3,132,025	62,562	5,024

Costs of injury by cause

Falls were the leading cause of overall injury costs in Canada in 2004, accounting for \$6.2 billion or 31% of total costs, followed by other unintentional injuries at \$4.8 billion (24%), transport incidents at \$3.7 billion (19%), and suicide/self-harm at \$2.4 billion (12%).

Total, direct, and indirect costs of injury by cause, Canada, 2004

Description	Total costs (\$millions)	Direct costs (\$millions)	Indirect costs (\$millions)
Transportation incidents	\$3,699	\$1,603	\$2,096
Falls	\$6,155	\$4,457	\$1,698
Drowning	\$106	\$8	\$98
Fire/burns	\$290	\$118	\$172
Unintentional poisoning	\$771	\$281	\$490
Struck by/against sports equipment	\$188	\$97	\$91
Other unintentional injuries	\$4,801	\$2,918	\$1,882
Suicide/self-harm	\$2,442	\$707	\$1,735
Violence	\$871	\$381	\$490
Undetermined intent/other	\$456	\$145	\$311
Total	\$19,781	\$10,716	\$9,065

Falls accounted for \$4.5 billion or 42% of direct costs of injury in 2004, followed by other unintentional injuries at \$2.92 billion (27%), and transport incidents at \$1.6 billion (15%).

Transport incidents were the leading cause of indirect costs of injury, accounting for \$2.1 billion or 23% of total indirect costs, followed by other unintentional injuries at \$1.9 billion (21%), suicide/self harm at \$1.7 billion (19%), and falls at \$1.7 billion (19%).

Conclusion

Through this report, SMARTRISK has attempted to quantify the tremendous annual burden that injury places on Canadians, our health care system, and Canadian society overall:

- **13,677 deaths**
- **Over 211,000 Canadians hospitalized**
- **Over 3 million emergency room visits**
- **Over 67,000 Canadians permanently disabled**
- **\$10.7 billion in health care costs**
- **\$19.8 billion in total economic costs.**

Main Messages to take forward:

- 1. The vast majority of the injuries described in this report are both predictable and preventable.** We know when they strike and under what conditions. We know who is at risk and who is not, and we increasingly know what works and what does not with respect to prevention.
- 2. As our capacity to monitor, report on, and coordinate effective action to prevent injury grows, our rationale for inaction diminishes.**
- 3. In the period 1995-2004, Canada's annual death rate from injury decreased 10.9%.**
- 4. A comprehensive national injury prevention strategy and complementary provincial strategies can yield immediate and longer-term savings in both dollars and lives.** With enhanced leadership, we have the capacity, across Canada, to develop, implement, and demonstrate the impact of such strategies.

SMARTRISK encourages policy makers at all levels of government to consider the costs of current inaction against the backdrop of Canada's aging population, shrinking labour force, and over burdened health care system. Effective action to prevent injury will not eliminate these challenges but it can help to alleviate their impacts and the costly human and economic burden we all currently bear.

Injuries can be prevented, lives saved, and a significant drain on our public resources stopped.

The following table provides an overview of the non-natural deaths that have occurred in Peterborough County for the combined years of 2005 to 2007. The most significant category is accidental falls, followed by trauma due to motor vehicle-related collisions.

**Non-Natural Deaths in Peterborough County
for the Combined Years 2005 - 2007**

DEATHFACTOR	ACCIDENT	SUICIDE	HOMICIDE	UNDETERMINED	TOTAL
Alcohol Toxicity - other alcohols				1	1
Asphyxia - Airway Obstruction	2	1			3
Asphyxia - Chest Compression	2				2
Asphyxia - Environmental - Anoxic Environment	1	3			4
Asphyxia - Hanging		20			20
Asphyxia - Positional Restraint	2				2
Burns - Heat	2				2
Category Not Ascertained	1			3	4
Crushed and /or Buried	1				1
Drowning - Bathtub, whirlpool, hottub	1				1
Drowning - Lakes, ponds, rivers, streams etc.	7			1	8
Drug Toxicity (Acute)	21	11		6	38
Drugs & Alcohol Toxicity (Acute)	3			2	5
Explosion	1				1
Fall or Jump - Different Level/Height	7	1			8
Fall or Jump- Same Level	72				72
Fire - Smoke Inhalation	3				3
Fire - Thermal Injury	1				1
Shooting - Handgun		1			1
Shooting - Rifle		6			6
Shooting - Shotgun		2	1		3
Shooting - Weapon not specified		1			1
Sudden Unexpected Death (SUD)				1	1
Trauma - Cuts and Stabs		2			2
Trauma - Blunt Force	6				6
Trauma - Motor Vehicle, Vehicle/Pedestrian Collision	47				47
Total	180	48	1	14	243

Source: Coroner Information System, The Office of the Chief for Ontario.

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