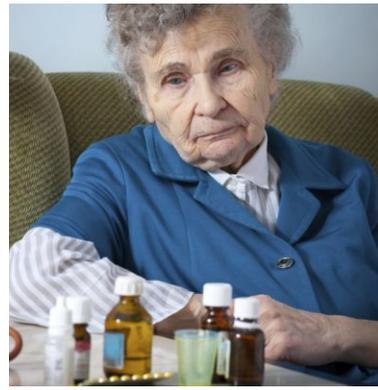


The Burden of Injury in Ottawa, 2010



Knowledge to Action Report

Fall 2010

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Preventing injury is key to improving our local health status and reducing the burden on the health care system.

In 2004 alone, injuries cost the Canadian economy \$19.8 billion. They resulted in nearly 14,000 deaths and more than 210,000 hospitalizations, taking a heavy social and economic toll. Yet the vast majority of injuries are preventable, whether they are *intentional* such as homicide, assault and self-harm or *unintentional*, including injuries resulting from falls, motor vehicle collisions, and sports and recreation activities.

To effectively address the issue in the nation's capital, Ottawa Public Health (OPH) broke new ground in the past two years as it undertook the first ever analysis to quantify and describe injuries at the local level.

The *Burden of Injury in Ottawa* report provides an in-depth assessment of the type and frequency of injuries affecting children, youth and adults in Ottawa. Data from emergency department visits (ER visits), hospitalizations and deaths from 2001 to 2008 help paint a picture of the injuries most affecting Ottawa residents.

Impact on Ottawans' health

Results show that the burden of injury in Ottawa is both immediate and substantial (Table 1):

- Falls, motor-vehicle traffic collisions (MVTC), and unintentional poisoning and substance misuse emerge as the most common *unintentional* injuries in Ottawa. About 156 Ottawa residents die annually from unintentional injuries.
- Self-harm and suicide add to the local burden of injury and account for 52 deaths each year on average.
- For every injury death, there are many more injuries leading to ER visits and hospitalizations:
 - ▶ **Falls** are the leading cause of hospitalization and ER visits among Ottawa residents, accounting for an average of 51 deaths and 20,927 ER visits a year between 2004 and 2008.
 - ▶ **MVTC** are also one of the city's leading causes of injuries, accounting for an average of 32 deaths and 4,054 ER visits annually.

Table 1 – Injuries in Ottawa

	Deaths Average per year (2001-2005)	Hospitalizations Average per year (2004-2008)	ER visits Average per year (2004-2008)
All unintentional injuries	156	–	–
Falls	51	2,438	20,927
Motor-vehicle traffic collisions	32	334	4,054
Pedestrian injuries*	7	65	356
Cycling injuries**	<5	95	1,473
Unintentional poisoning and substance misuse	19	92	846
Sport and recreation injuries	6	342	6,722
Burns and scalds	5	33	762
Drowning	5	9	22
Intentional injuries			
Self-harm and suicide ***	52	Excluded	1,304

Note: Categories overlap, therefore numbers should not be added up.

* 8% of Ottawa’s workforce or 31,000 residents use walking as mode of transportation to work

** 2% of Ottawa’s workforce or 9,000 residents use cycling as mode of transportation to work

*** More than one in 10 Ottawa residents report having considered suicide at one point in their life

- ▶ **Unintentional poisoning and substance misuse** lead to an average of 19 deaths and 846 ER visits every year. Related deaths went up among men from 1994 to 2005.
- ▶ **Self-harm and suicide** account for an average of 52 deaths and 1,304 ER visits every year. There are more ER visits for self-harm per capita in Ottawa than in Ontario overall – the only injury where Ottawa fares worse than the province.

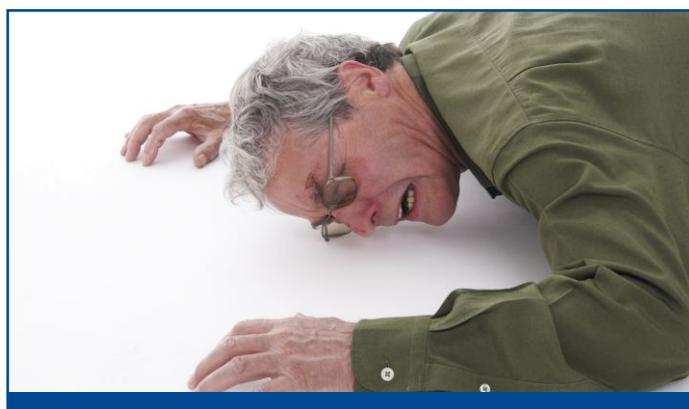
These deaths, hospitalizations and ER visits – combined with the majority of injuries that largely fall outside of the traditional health care system – constitute a significant local burden in terms of human suffering, lost productivity, health care costs, potential lifelong disabilities and years of life lost. Taken together, all unintentional injury deaths cause more potential years of life lost than suicide. Men have higher rates of premature mortality due to injury than women because they are more likely to die before the age of 75.

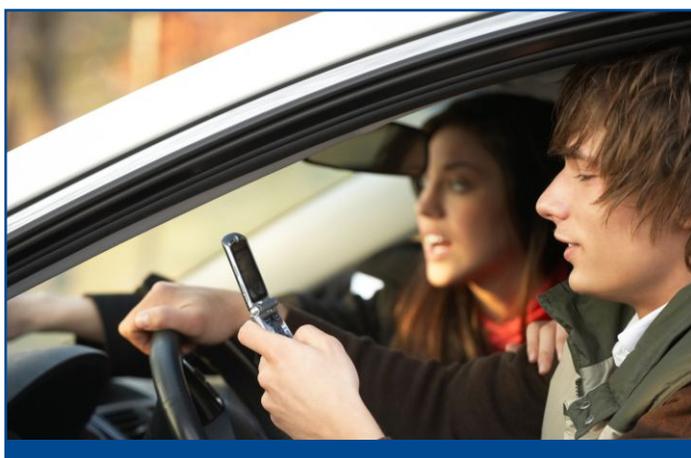
The most affected residents

Injuries do not strike randomly. Characteristics among individuals (e.g., age, sex) and environments (neighbourhoods, workplace, home) pose a higher risk for certain types of injuries.

In Ottawa, some injuries affect specific demographic groups (Table 2) and occur in predictable ways (Figure 1), indicating which population groups and settings to focus on to have the greatest impact in reducing the burden of injuries in Ottawa:

- **Falls** – There are more falls among young children and seniors, particularly elderly women. Indeed, falls are the leading cause of death due to injury for people 65 years and older. For seniors, most falls happen at home, often from slips, trips and tumbles, falls from beds, chairs and other furniture and falls involving stairs. For young children, falls leading to ER visits occur mostly from beds, chairs and other furniture.





This type of injury is the leading cause of death for Ottawans under the age of 45.

- MVTC** – Young adults aged 15 to 24 have the highest average rate of ER visits from MVTC, with young driver safety issues at play including distraction, hand-held devices and impairment. Young drivers are also the least likely of all age groups to wear seat belts. Seniors aged 65 and older are the age group most likely to be hospitalized from a MVTC.

- Unintentional poisoning and substance misuse** – Men aged 35 to 64 have the highest death rate from unintentional poisonings and substance misuse, with 52% of male adult deaths from narcotics and hallucinogens and 36% from other drugs and substances. Seniors have the highest rate of hospitalizations for unintentional poisonings and substance misuse, while children aged 5 and under have the highest number of ER visits. Unintentional poisonings and substance misuse is the main cause of unintentional injury death among 45-64 year-olds, followed closely by MVTC.
- Self-harm and suicide** – Adult men's suicide rate is double that of women, with the highest rate observed among men aged 50 to 64. Girls aged 15 to 19 have the highest rates for ER visits for self-harm incidents, including suicide attempts with drugs, medication and alcohol.

Table 2 – Most affected residents

	Males	Females	Age <5	5-9	10-19	45-64	65+
All unintentional injuries	D						
Falls			ER				D H ER women
Motor-vehicle traffic collisions	H				ER 15-24		H
Pedestrian injuries					H boys ER		H H women
Cycling injuries	ER			ER	H ER boys	H	
Unintentional poisoning and substance misuse			ER			D men 35-64	H
Sport and recreation injuries					H boys ER boys		
Burns and scalds	ER		H ER				
Drowning			ER				
Intentional injuries							
Self-harm and suicide		ER			ER girls 15-19	D men 50-64	

D = highest risk of death among age or sex groups
 H = highest risk of hospitalization
 ER = highest risk of ER visits

Figure 1 – Common causes of injuries in Ottawa

At home



Falls

Mostly at home

For seniors:

- Slips, trips, tumbles on same level
- Falls from bed, chair, other furniture
- Falls involving stairs

For young children:

- Falls from bed, chair, other furniture

All ages:

- Falls involving skates, skis, snowboarding, in-line skating

Burns and scalds

50% of hospitalizations are due to burns at home, mostly scalding from:

- Hot drinks, fats, cooking oils
- Hot fluids
- Hot tap water

Unintentional poisoning or substance misuse

Male deaths due to drug or medication poisoning:

- 52% from narcotics and hallucinogens
- 36% from other drugs and substances

Self-harm and suicide

Deaths mostly due to:

- Hanging or strangulation
- Drugs, medication and alcohol

Self-harm mostly due to:

- Drugs, medication and alcohol

Drowning

Most near-drownings occur at home and in natural settings such as lakes and beaches:

- 30% occur using watercraft
- 22% occur in home swimming pools

Factors contributing to near-drowning and drowning:

- lack of or inadequate adult supervision of children
- inability to swim or overestimation of swimming capabilities
- risk-taking behaviour (e.g., dares from friends, alcohol or drugs around water)

On the streets



Motor-vehicle traffic collisions

Nearly 16,000 reportable collisions in Ottawa in 2008

2.6% of collisions in Ottawa involved alcohol in 2007

Young driver safety issues include distraction, passengers, hand-held devices, drowsiness, impairment and least likely of all age groups to wear seat belts

Pedestrian injuries

Most involve collision with a car, pick-up truck or van

Risk factors for injury: high traffic volume, road speed limit above 40 km/h, high vehicle speed, darkness and rainy weather

Cycling injuries

Falling or thrown from bicycle

Collision with a motor vehicle

In recreational settings



Sport and recreation injuries

Hospitalizations due to injuries from:

- Cycling
- Skiing and snowboarding (teens 10-19, esp. males)
- Ice skating (children 10-14, girls 5-9, males 15-19)
- Playground equipment (children, esp. those developing balancing skills and those who like to experiment/challenge their abilities by using equipment in ways for which it was not intended)

ER visits due to injuries from:

- Cycling
- Hockey (males, esp. 10-19; 1/3 due to contact with another person, 1/5 due to sticks and pucks)
- Skiing and snowboarding (teens 10-19, esp. males)



How injuries occur

Understanding how injuries occur is important to developing targeted strategies to reduce and prevent injuries. Figure 1 suggests that most injuries occur in three key settings:

- **At home** – the main place for falls, unintentional poisonings and substance misuse, burns and scalds, and many drownings
- **On the streets** – for MVTC, cycling and pedestrian injuries
- **In recreational settings** – for sport and recreation injuries and many drownings

Many factors come into play when injuries occur. Attitudes toward safety are critical. The way everyday objects and structures are designed is also key to reducing all types of injury. Complex underlying social factors such as unemployment and poor living conditions can also play pivotal roles. For instance, mental health issues may be the main factor leading some people to harm themselves, but many other factors affect this behaviour – including poverty, unemployment, loss of loved ones, relationship problems, alcohol and drug abuse, past abuse, physical illness and social isolation.

Most of these factors are preventable. Much can be done through changes to products, behaviours and environments. Yet because injuries are the result of many complex factors, any effort to prevent or reduce the severity of injuries must involve many sectors, disciplines, jurisdictions and approaches.

Reducing injuries in Ottawa

To reduce both the rate and the severity of injuries in Ottawa – along with the burden downstream on the health care system – change must happen on three fronts:

- Educational and behavioural
- Engineering and technological
- Legislation, policy and enforcement

Reducing injuries in our community will therefore require a comprehensive health promotion strategy combining existing skill-building and awareness-raising activities with the development of public health policy, the creation of supportive environments, the strengthening of community action and the re-orientation of health services to better meet community needs.

Build skills

Locally, many OPH train-the-trainer programs have enabled teachers and volunteers to educate school children and community groups on preventing injuries in specific activities and environments. Skill building among youth has harnessed the influence of peers in areas ranging from tobacco use to the prevention of bullying.

Given the injury profile in Ottawa, future community education and skill development could continue to emphasize:

- Training “falls prevention advisors” to discuss key issues
- Instructing older adults to lead gentle exercise classes
- Training and hiring older adults as medication workshop leaders
- Teaching young adults safe driving skills
- Building skills in communication, problem solving, conflict resolution and distress management, especially among teenage girls and adult men



- Teaching sport-specific skills (e.g., Swim to Survive, CanBike cycling course), as well as how to properly fit helmets

Raise awareness

Likewise, public education through media campaigns, community events, displays and articles in community newspapers has helped raise awareness about specific injuries in Ottawa. Going forward, OPH and local planners and educators can review their efforts on the major types of injuries (and affected groups) in Ottawa:

- Educating the public about the large incidence of falls – and how to prevent them, at home and at play, among seniors and young children
- Revamping campaigns designed to increase motor vehicle safety across all age groups, particularly among young drivers and those over 65
- Considering new approaches for lowering the risk of unintentional poisoning and substance misuse among young children, seniors and middle-aged men
- Planning interventions targeting the skill levels and risk-taking behaviours of teenage boys with respect to many sport and recreation activities
- Planning interventions that increase parents' and caregivers' knowledge about injuries and developmental stages



Create supportive environments

In addition to behaviour change, environmental and technological/engineering changes are essential for creating an environment that will reduce the frequency and severity of injuries. These broader interventions require strong leadership and partnerships at the local level – as well as the necessary involvement of policy-makers and decision-makers across sectors.

Creating supportive environments may take the form of:

- Building, designing and maintaining safe and sustainable infrastructure. For instance, road design affects MVTC, and structure, height and surfacing affect risk of injury on playground equipment
- Engaging diverse groups in the community to create a social environment that promotes safety across cultures, socio-economic conditions, physical disabilities and age groups

Develop public health policy

Policy development with respect to injury prevention must rely on evidence such as this study and best practices identified in the literature and through practice. It may involve:

- Ensuring that communities are pedestrian friendly and support active living

- Offering environmental assessment and modifications in and around the home to enhance safety, accessibility and performance of daily activities
- Improving standards for injury prevention in recreation and sports, for example the mandatory use of protective equipment
- Continuing to enforce current legislation requiring fencing and self-latching gates to reduce unintentional access to swimming pools

Strengthen community action

Influences on broader societal changes are the responsibility of many parties. Changing behaviours, products and environments requires the involvement of many professionals – nurses, pediatricians, coaches, playground designers, product engineers, criminologists, politicians and first responders, to name a few.

As the partnership list on the back shows, several players are already involved in addressing key areas of injury in Ottawa. Going forward, we need to strengthen and expand these partnerships and collaboration opportunities to adopt a coordinated approach to injury prevention in Ottawa. Ultimately, we aim to integrate efforts and leverage local capacity to reduce injuries related to falls, MVTC, unintentional poisoning and substance misuse, and self-harm and suicide.

Partnerships worth exploring and expanding include stakeholders in:

- The health sector
- Home safety

- Road safety
- Recreational safety

Re-orient health services to better meet community needs

Stakeholder consultations will help OPH assess the capacity and readiness of existing and potential partners to coordinate interventions. This exercise could also help develop a systematic inventory of injury prevention services in the community and identify gaps in services. Changes to health policies and programs can then be made.

Current evidence suggests that injury prevention works best when it:

- Addresses the multiple factors that contribute to injury
- Encourages environmental and behavioural change
- Engages the people who are most at risk
- Involves action across sectors (e.g., health, police, education)
- Is sustained and reinforced over time

Ottawa stands to reap significant economic and social benefits as it advances its injury prevention strategy. The *Burden of Injury in Ottawa* sheds light on the actions we need to take to create a less burdened health care system, a productive workforce for businesses and service organizations, and a high quality of life for individuals and families who live injury-free.



Ottawa
City services
Services municipaux
3-1-1
TTY/ATS
613-580-2401
ottawa.ca

Speeding costs you
A tag with a price too high
La vitesse, à quel prix?
La vitesse a un prix

ATTENTION

Ottawa partners in injury prevention

A number of Ottawa Public Health programs help to reduce injuries; many activities are done in collaboration with community partners. We thank our partners and commit to continuing to strive to meet our common goal of reducing the individual suffering and societal burden of preventable injuries in our community.

Falls

Alzheimer's Society of Ottawa
Bruyère Continuing Care
Carefor Health & Community Services
Centre de services Guigues
Champlain Local Health Integration Network
Community Health Centres
Community Health Research Unit
Conval-Aid
Geriatric Assessment Unit
HealthCraft Products
Home Health Care Agencies
Montfort Hospital
OC Transpo
Osteoporosis Society of Ottawa
Ottawa Hospital
Parish Nurses
Parkinson Society of Ottawa
Queensway-Carleton Hospital
The Council on Aging of Ottawa
The Good Companions
VHA Rehab Solutions

Road safety

CAA North & East Ontario
Citizens for Safe Cycling
Fire Services Branch, City of Ottawa
Green Communities Canada
Insurance Bureau of Canada
MADD Ottawa
National Capital Commission
Ontario Federation of Anglers and Hunters
Ontario Ministry of Transportation
Ontario Provincial Police
Ontario Road Builders Association
Ottawa Paramedic Service, City of Ottawa
Ottawa Police Service
Ottawa Safety Council

Ottawa-Carleton Wildlife Centre
Public Works Department, City of Ottawa
Royal Canadian Mounted Police
Safe Kids Canada
ThinkFirst – Ottawa Chapter
Young Drivers of Canada

Unintentional poisoning and substance misuse

Algonquin College
Boys and Girls Club of Ottawa
CAA North & East Ontario
Canadian Association of Mental Health – Ottawa Branch
Carleton University
Carlington Community Health Centre
CHEO – Plan it Safe
Dave Smith Centre
La Cité collégiale
MADD Ottawa
Maison Fraternité
Ministry of Transportation
Ontario Provincial Police
Ottawa-Carleton District School Board
Ottawa Hospital
Ottawa Police Service
Rideauwood Addiction and Family Services
Royal Canadian Mounted Police
Sexual Assault Partner Abuse Care Program
University of Ottawa

Self-harm and suicide prevention

Bereaved Families of Ontario, Ottawa Chapter
Canadian Mental Health Association, Ottawa Branch
CHEO – Youth Net
Conseil des écoles catholiques du Centre-Est
Conseil des écoles publiques de l'Est de l'Ontario

Distress Centre of Ottawa and Region
Ottawa-Carleton District School Board
Ottawa Catholic School Board
Ottawa Hospital, Civic Campus Psychiatry
Ottawa Police Service
Ottawa Police Service, Victims Crisis Unit
Pinecrest-Queensway Community Health Centre
Suicide Prevention Coalition
Youth Net/ Réseau Ado
Youth Services Bureau

Sports and recreation

Active Ottawa Actif
CHEO
Parks and Recreation Department, City of Ottawa (CAN-BIKE program and skating program)
Lafleur Skate Patrollers
National Capital Commission
Pathway Patrol
ThinkFirst – Ottawa Chapter

Burns and scalds

Fire Services Branch, City of Ottawa

Drowning prevention

Canadian Red Cross, Ottawa Branch
CHEO – Plan it Safe
Dovercourt Recreational Centre
Fire Services Branch, City of Ottawa
Lifesaving Society
Ottawa Paramedic Service, City of Ottawa
Ottawa Police Service
Parks and Recreation Department, City of Ottawa