Neurotrauma: This is our time

Neurotrauma is a significant public health issue that contributes to our collective need to focus on brain health as an objective for Ontario, Canada, and internationally. ONF is a leader in advancing research to practice, and making the changes necessary to prevent these injuries and improve quality of life for people living with a spinal cord or acquired brain injury. Our work is embedded within a developing national and international conscience that understands the burden of these injuries, their interconnection with other neurological disorders, and the compelling need to work collaboratively towards solutions.

Our annual report highlights the importance of understanding the impact of neurotrauma in Ontario, and our research and implementation activities, which improve outcomes. This year, we simplified our presentation and highlighted a few areas in order to provide the essence of what we do rather than chronicle all of our investments, and identify all our stakeholders and collaborators.

We are indebted to a robust research community: engaged clinical, consumer and stakeholder participants, our partners and collaborators, our Board, our staff and our volunteers, all who work tirelessly to advance our agenda and make a difference for Ontarians. We thank them all.

Our stewardship of public money and our accountability for achieving results galvanizes us to work together, and leverage other investments to make the differences we all expect and need. We are proud of our new alliance with the Canadian Spinal Research Organization. Our ongoing work with the Rick Hansen Institute, REPAR in Quebec, the Seniors Health Knowledge Network, the Canadian Institutes of Health Research and our participation in the International Traumatic Brain Injury Research Initiative brings new research funding to Ontario.

None of this good work would be possible without investments made by the Ministry of Research and Innovation. We thank the Ministry and the Ontario government for their ongoing support. This spring, the Ontario government launched the Ministry of Health’s Strategic Vision and Plan – Patients First. The vision resonates with ONF, as our work has always been created by and with individuals living with the effects of neurotrauma—those we refer to as our consumers. We are proud of the development of the Ontario Spinal Cord Injury Alliance to improve lives and reduce burden. This network of individuals living with a spinal cord injury as well as researchers, clinicians, policy makers and system administrators is a prime example of how we can work together to create evidence informed, clinically relevant and consumer supported solutions. We know our work will contribute to the success of the Ministry’s vision.

We encourage you to read our report and let the numbers speak for themselves. For more information, visit www.onf.org to find out about what we do and the difference we make.

This is our time. Thank you for helping us and being part of our exciting journey.

Barry Munro
Chair
Kent Budgett-Ferras
Chief Executive Officer

ONTARIO NEUROTRAUMA FOUNDATION
2014/2015 ANNUAL REPORT

Practical, results-focused research for real change

The Ontario Neurotrauma Foundation (ONF) funds practical, results-focused research in neurotrauma (acquired brain injury, spinal cord injury), and injury prevention. ONF’s bold approach focuses on collaboration and implementation to bridge gaps between research and practice. The result—sustainable change for improved quality of life.
Injuries Due to Falls in Ontario

30% of visits to Ontario emergency rooms for falls

57% of admissions to Ontario hospitals due to falls

38% of injury-related death in Ontario due to falls

Cost to Ontario for falls-related injuries: $2.8 billion

Injuries due to falls in Ontario increased from 2003 to 2010:
- 32% increase in the number of older Canadians who reported a fall-related injury (2003-2010)
- 6% increase in the number of visits to Ontario emergency rooms for falls
- 10% increase in the number of admissions to Ontario hospitals due to falls
- 256k increase in the number of injury-related death in Ontario due to falls
- 43% increase from 2003 to 2010

Falls in Older Adults

Most Common Causes of Falls

- Falling on same level: e.g., tripping (32%)
- Ladders/scaffolding (3%)
- Falls on stairs (10%)
- Skates/skis/boards/blades (2%)
- From furniture (6%)
- Playgrounds (1%)
- Other non-specific falls each less than 1%

*According to number of individuals hospitalized due to a fall

Injury Prevention

Brain and spinal cord injuries have life-long severity and consequences. Classified as neurotrauma, these result in a tremendous burden to individuals, their families and the healthcare system. Preventing such injuries is paramount particularly since most injuries are predictable and preventable. ONF’s current focus is the issue of falls across the lifespan, particularly in older adults—a priority based on the burden of injuries resulting from falls alone and the changing demographics in Ontario.

Falls Prevention Practices Implemented for Success

Evidence-informed (best) practices are key to knowing what works best in falls prevention. However, best practices work only when they are well implemented. In 2014, ONF continued to provide implementation science expertise and support to those working on the front lines of falls prevention and other injury prevention topics. These include regional partners such as the LHINs, and provincial networks such as the Injury Prevention Managers Alliance and regional network chairs.

Power of Positive Linking—The Falls Prevention Community of Practice

There is no shortage of information about fall prevention in older adults. The challenge for health practitioners and decision makers is making the best use of what is available, and then applying the most appropriate information, tools and implementation processes. The Fall Prevention Community of Practice, sponsored by ONF in partnership with the Seniors’ Health Knowledge Network (SHKN), connects over 1700 members who work in fall prevention. By sharing with each other the most effective tools, knowledge and implementation practices, new skills are developed and best practices put into use.

Public Awareness as Older Adult Falls Increase

Based on the burden of injuries resulting from falls in older adults, 15 provincial and national organizations are working together to coordinate education and awareness raising efforts. A collective fall prevention campaign is planned for November 2015. As a catalyst, ONF is uniquely suited to coordinating the various perspectives and partners in order to present a consistent message about the incidence, impact and prevention. With research telling us that injuries in older adults have increased in Canada by 43% this is a timely effort for raising the profile of healthy aging and fall prevention in older adults.

2014-15 Highlights

- 43% increase from 2003 to 2010
- 178k increase from 2003 to 2005
- 198k increase from 2009 to 2010

HalTraffic in Ontario: 5% of people with brain injury live with acquired brain injury. 


**Concussions** can have a more serious effect on a young, developing brain and need to be addressed correctly. In 2014, ONF released the world’s first comprehensive pediatric guidelines, researched and compiled by 30 experts across North America. The Guidelines for Diagnosing and Managing Pediatric Concussion is described as “an indispensable resource for caregivers.” The French version is being released this spring.

**Improved outcomes in brain injury rehabilitation**

Brain injury rehabilitation should begin as early as possible as therapy at the hospital. An ONF-funded study looking at more intense therapies during inpatient rehabilitation found that length of stay and the overall number of hours of therapy had a significant impact on functional recovery. At a time when financial pressures mean shorter in-patient stays, these results underscore that longer and more therapeutically intensive in-patient stays result in better immediate and medium-term gains.

**Better measurement of injury severity**

**Traumatic brain injuries** vary in degree of cognitive, physical and psychosocial consequences. Several studies funded by ONF on older adults and children have provided important new information to help in understanding the course of recovery. Findings can serve to help inform clinical prediction. Healthcare professionals can determine when, what and how patients need to receive management for their TBI and which patients may be at higher or lower risk for good or poor prognosis.

**2014-15 Highlights**

**Demonstrating links between acquired brain injury and addiction**

ONF funded research showed that approximately 1/3 of those seeking care for addictions also reported a history of brain injury. Unfortunately, individuals with co-existing conditions do not always receive the specific treatment and support they require. Research is leading to better integration of healthcare services between service providers who work in either addictions or brain injury. Improved integration means co-existing conditions can be identified sooner and treatment models adapted to serve patients better.

**Ontarians living with a brain injury**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>95% Memory</td>
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<tr>
<td>91% Executive decisions</td>
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<tr>
<td>93% Trouble concentrating</td>
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<tr>
<td>71% Dizziness</td>
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<tr>
<td>91% Fatigue</td>
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<tr>
<td>79% Anxiety</td>
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<tr>
<td>76% Depression</td>
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**Concussions by age group**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Per 1000</th>
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<tbody>
<tr>
<td>Under 5</td>
<td>54</td>
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<tr>
<td>5-12</td>
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<td>8</td>
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<tr>
<td>Over 65</td>
<td>39</td>
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**Ontarians living with a brain injury**

Productivity losses from working-age disability and death are the highest for TBI than any other neurological condition, across all age groups.

**Impact of a Brain Injury**

If everyone with an ABI joined hands, the line would stretch from Toronto to Montreal.

**Concussions by age group**

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**Acquired Brain Injury (ABI) dramatically impacts people’s lives.** It can happen to anyone in an instant and although early rehabilitation improves chances of recovery of function, symptoms can be permanent. Individuals experience changes in how they think, feel and behave as well as how they move. Through research findings, individuals with ABI, their families and caregivers have hope that their loved ones can and will have an improved quality of life.
Causes of SCI

**MOTOR VEHICLE COLLISIONS**

45% most common for ages 30-40

**FALLS**

43% most common for ages 65 and over

14% sports, violence and others

Economic Burden of SCI

Ontarians live with spinal cord injury: 33,140

New spinal cord injuries every year in Ontario: 600

**THERE ARE**

$1.5 TO 3.0 MILLION (depending on level and completeness of injury)

**EACH SCI COST**

Hospitalization alone of people with SCI costs Ontario’s health care system an estimated $500,000,000 each year

**DIRECT COSTS INCLUDE HOSPITALIZATIONS, DOCTORS’ VISITS, PERSONAL CARE ATTENDANTS, MEDICATIONS, ASSISTIVE DEVICES.**

Rate of Employment

Time it takes on average to attain sufficient independence following a spinal cord injury: 2-3 years

Employment rate following an SCI: <30%

Providing primary care

Timely access to primary care for an individual with SCI means better health, fewer visits to the emergency department and less frequent hospitalizations. The Mobility Clinic in Kitchener Waterloo, supported by ONF since 2010, is a model for such primary care. In 2014, the clinic expanded services by:

- Partnering with the local Health Link, giving complex care patients access to the clinic.
- Adding an Ontario Telemedicine Network E-consultation service so family physicians can consult a physiatrist via the Internet.
- Setting up a SCI assessment protocol. Those at risk for mental health issues, i.e. depression or anxiety, now are screened at regular clinics.
- Developing self-management supports and resources.

Reducing the burden and cost of secondary health conditions

Neuropathic bowel dysfunction and management is a daily, challenging routine after SCI. ONF supported research shows this common secondary complication costs approximately $8,000 annually (per individual) in resource utilization, including visits to healthcare professionals. The research has contributed to much needed knowledge for developing bowel management programs—knowledge that assists in proper healthcare resource utilization and improves quality of life.

Consumer engagement

By engaging consumers through the Ontario SCI Solutions Alliance, ONF ensures that those living with SCI have a voice in determining research priorities and the best possible health outcomes. The Alliance has over 100 members, including consumers, clinicians, researchers, administrators and policy makers. It identifies research gaps, funding priorities and channels for implementing new knowledge and best practices—crucial elements for making long term, successful change.

Getting complex research into everyday practice

ONF continues to disseminate new knowledge in pragmatic ways so individuals with SCI and their caregivers can manage their own health better. The 2015 consumer guide, Preventing and Treating Pressure Sores: A Guide for People with Spinal Cord Injuries released in March is a plain language version of a more complex best practice document, with needed direction for managing this common secondary complication.
Recovery Research

Institute for Safety, and Innovation
Ministry of Health and
Provincial System Support
Discoveries
Collaboration on Repair
Mental Health
•
Institute of Neurosciences,
Canadian Institutes of
Health Research
•
Canadian Spinal Research
Association
•
AO Spine North America

with a neurotrauma injury and address strategies over sixteen years. Through combined research, and collaborations developed and nurtured ONF’s agenda is made possible through partnerships research knowledge partners and Y outh Health Development, Child Mental Health and Addiction
•
Toronto ABI Network
St. Michael’s Hospital
Ontario (SCI Ontario)
Seniors Health Knowledge
Rick Hansen Institute
Rick Hansen Foundation
réadaptation
Public Health Ontario
Parachute
Ontario SCI Solutions Alliance
Paraplegic
Public Health Agency of Canada
Public Health Ontario

in our audit is performing procedures to obtain audit evidence about the assets and liabilities in the financial statements. The procedures selected depend on the auditors’ judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity’s preparation and presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity’s internal control. As audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained in our audit is sufficient and appropriate to provide a basis for our audit opinion.

In our opinion, the financial statements present fairly, in all material respects, the financial position of Ontario Neurotrauma Foundation as at March 31, 2015 and the statements of revenue and expenses, changes in net assets and cash for the year then ended, and a summary of significant accounting policies and other explanatory information.

The board of directors is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not for profit organizations, and for such internal control as management determines is necessary to enable the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards. Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

This statement reflects on the effectiveness of the entity’s internal control. As audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained in our audit is sufficient and appropriate to provide a basis for our audit opinion.

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