In the last issue of NeuroMatters we recognized our 20th anniversary with several reflections on the significant strides that have been made to prevent neurotrauma and improve the lives of those living the acquired brain and spinal cord injury.

Our research is grounded in the needs of the real world. Research supported by ONF and its partners is intimately connected to practice. In the early years, the focus was to understand and support the development and dissemination of effective acute care processes – the important healthcare needs following traumatic injury. Due in large part to the work of ONF, prevention, diagnosis, treatment and ongoing healthcare requirements of those living with neurotrauma have been given greater attention in the health care system to meet the clinical and personal needs of individuals.

ONF is taking a giant leap forward by imbedding implementation science into its work to reduce neurotrauma and improve care for those living with acquired brain and spinal cord injury – the outcomes of neurotrauma. This approach is based on the idea that unless there is a way to practically implement the outcomes of research, the research may have limited value. Using evidence to inform prevention and care practices leads to better results for everyone and, in this time of tight budgets, savings for the health care system.

Sharing knowledge is a critical component of implementation science and in this ONF is a leader, particularly during Fall Prevention Month each November. Recently we participated in two events that were grounded in knowledge exchange to improve neurotrauma prevention which you can read about in this issue of NeuroMatters. And finally, if you haven’t already had a chance to do so, please take a few minutes to check out the brief interviews on the ONF YouTube channel (https://www.youtube.com/channel/UCrNgDFW_ljAzxvUAftH02PA). We are grateful to our partners for sharing their perspectives on our work. It certainly makes it feel like the last 20 years has been worth the effort and offers the promise that great improvements are ahead for those living with acquired brain and spinal cord injury.

Kent Bassett-Spiers
CEO

In this issue of NeuroMatters...

ONF/CIHR Fellowship focuses on tools to help measure and share impact

2018 Conference Report
ONF/CIHR Fellowship focuses on tools to help measure and share impact

The Ontario Neurotrauma Foundation, in partnership with the Canadian Institutes of Health Research, have funded a fellowship that will focus on developing tools that will measure the impact of ONF community-based projects.

“There is a lot of data available that can help us understand the impact of the work,” says Jawad Chishtie, the recently funded Health System Impact Fellow (ONF/CHIR). “I am now coming to understand the range of data sources available and how they might be used to increase understanding and awareness of the longer-term impact of the work of ONF.” Jawad will be supervised by Dr. Tara Jeji at ONF (host organization) and Dr. Susan Jaglal at university of Toronto (academic site).

Jawad notes that ONF already has some very tangible outcomes that can be used to showcase its impact. For instance, the Kitchener Waterloo Mobility Clinic is a unique model and one which can now be piloted at other sites. The KW Mobility Clinic already has specific data on the number of patients accessing the service and the geographic area from which they travel to the clinic. The clinic differentiates itself in four major areas from the usual family practice clinic in Canada. This includes being physically accessible, and having a multidisciplinary team, equipped with specialised knowledge on treating and rehabilitating persons with physical
disabilities. This allows the clinic to offer a range of preventive and curative services under one roof.

The challenge for Jawad is to determine which pieces of data can be harnessed to create a tool or framework. “I am working on identifying the starting point that will eventually link all data sources, but would also capture and analyze the relevant information,” he says.

The framework, once completed, will allow analysis which will facilitate understanding of gaps in primary care, including for indigenous communities in terms of access to health care for those with spinal cord injury. Currently, there is limited data available on the different factors (location, service availability, etc.) in relation to Indigenous communities, particularly those in the remote northern areas of Ontario.

2018 Conference Report

End Falls, This Fall Conference

In late September, Fall Prevention experts including ONF’s Fall Prevention Project Coordinator, Mariel Ang and health care providers from across the province gathered in Muskoka for the annual End Falls, This Fall conference. Hosted by the Simcoe Muskoka Integrated Fall Strategy, the conference was purposed to support the systematic approach to fall prevention efforts. Keynote speaker Dr. Al Salmoni established the conference theme “It takes a village to prevent a fall”, to drive the notion that we all have a role to play in fall prevention.

ONF was privileged to have a booth at the conference to share initiatives and resources related to Fall Prevention Month and the Loop platform. In the interest of collaboration and aligning efforts, ONF was able to bridge a connection with The Canadian Deprescribing Network, after an engaging presentation by Dr. Amanda Gardhouse on new Deprescribing initiatives around algorithms for medications that affect falls. ONF will be hosting a webinar on February 13, 2019 in partnership with the Canadian Deprescribing Network, “A Team Approach to Deprescribing and Preventing Medication Related to Falls” focusing on ways health care providers can play a role in deprescribing.

Follow the link to register for the webinar: [https://cc.callinfo.com/registration/#/?meeting=lap10oj4v10r2&campaign=10ks3l4j9kt](https://cc.callinfo.com/registration/#/?meeting=lap10oj4v10r2&campaign=10ks3l4j9kt)

Dr. Jennifer Campos from Toronto Rehab presented their Challenging Environment Assessment Lab (CEAL) research that simulates everyday challenges. The ONF prevention team has partnered with researcher Tilak Dutta from CEAL’s Winter Lab on their work analyzing the risk of falls on ice; this study informed a webinar hosted by the Loop Fall Prevention CoP.

Follow the link to view the Reduce the risk of falls on ice by a factor of 3 with winter footwear: [https://www.youtube.com/watch?v=MmFsLZda0tg&t=2372s](https://www.youtube.com/watch?v=MmFsLZda0tg&t=2372s)
The End Falls, This Fall 2018 conference provided great insight into the continuum of fall prevention initiatives from research to implementation. ONF was a proud contributor and participant of the annual conference and looks forward to the knowledge sharing that continues to emerge from the partnerships sustained during these expert meetings.

Neurotrauma 2018
http://www.neurotrauma2018.com/

More than 1,000 researchers, health care professionals and those living with neurotrauma from around the world gathered in Toronto to explore and share information about the most recent developments in the diagnosis, care and treatment for acquired brain and spinal cord injuries at Neurotrauma 2018. The Ontario Neurotrauma Foundation through its partnership with the Rick Hansen Institute was a major sponsor and participant in this conference.

ONF Senior Program Director Acquired Brain Injury Corinne Kagan and SCI Program Director Tara Jeji along with Barry Munro (Chief Development Officer, Canadian Spinal Research Organization) participated in a panel discussion, sharing their perspectives on behalf of those who live with acquired brain and spinal cord injury.
This annual conference brought more than 1,200 participants from around the world together in Toronto in August. While not a focus for the conference itself, falls, fall prevention and related topics could be found across the three-day program. The International Federation on Ageing is an international non-governmental organization with a membership that includes government and non-governmental organizations (NGOs), academics, industry, and individuals in 70 countries. The ONF Prevention efforts are aligned to two of the major IFA areas of work: Age-friendly Environments and Towards Health Ageing. The ONF was one of the collaborating organizations. Prevention Program Director Hélène Gagné and Program Co-ordinator Mariel Ang participated in a pre-conference workshop that reviewed integrated approaches to health and social services for older adults.
Forum on Spinal Cord Injury and Brain Regeneration
https://brainhealth.uottawa.ca/

The University of Ottawa hosted a five-day event in October that brought together researchers and others involved in or care about advances in neuroscience research and the treatment.
Presentations and panel discussions covered a wide range of brain health and spinal cord injury issues and were open to the public. “Bridging the Translational Divide: From Spinal Mechanisms to Potential New Therapeutic Approaches”, a panel discussion included ONF’s Dr. Tara Jeji as well as researcher Dr. Eve Tsai (featured in in the fall 2017 edition of NeuroMatters http://onf.org/documents/neuromatters-newsletter/neuromatters-fall-2017-edition) discussed the latest developments in SCI and brain regeneration and specifically pain in spinal cord injury. “I call my presentation ‘Hope, Pain, Grit’” says Tara, who speaks from personal experience as well as her work as the SCI Program Director at ONF.

Working2Walk 2018
https://medium.com/@u2fp/working-2-walk-2018-thank-you-d2854f03d6f9

The annual meeting of the growing North American-wide conference, Working2Walk, centered around creating opportunities for input and advocacy on issues that matter to those living with spinal cord injury (SCI). Working2Walk seeks to find cures for paralysis, recognize the leadership and voice of those with SCI, identify ways to influence meaningful research and improve co-operation between organizations serving and supporting those with SCI. This year’s meeting was held in Vancouver in late October. The meeting was well attended with 200+ participants including ONF’s SCI Program Director Tara Jeji. “The meeting truly delivered on the agenda,” says Tara. “The update on Spinal Cord Epidural Electrical Stimulation proved to be engaging and helpful in bringing out ideas and new directions.”

North American Spinal Cord Injury Consortium
https://nasciconsortium.org/annual-meeting-vancouver-2018/

The North American Spinal Cord Injury Consortium (NASCIC) held its second annual meeting in Vancouver in late October, following the Working2Walk meetings. NASCIC founders initiated the discussion about the need for a consortium at an informal gathering two years ago. At its inaugural meeting last fall a formal governance structure and charter were approved with membership officially opening in January 2018. Barry Munro, founding member and Chief Development Officer of ONF (partner Canadian Spinal Research Organization, CSRO), has been re-elected as Treasurer.
ONF Partner Profile: Ontario Spinal Cord Injury Solutions Alliance

History
The Ontario Spinal Cord Injury Solutions Alliance (“the Alliance”) is a collaborative network established in 2006 by Spinal Cord Injury Ontario (SCIO) and the Ontario Neurotrauma Foundation. Alliance members include more than 70 organizations and 250 members including people living with SCI, researchers, policy makers, service providers and others dedicated to addressing and resolving systemic barriers that impact the quality of life of Ontarians living with SCI.

Discussion with Peter Athanasopolous, Executive Director of the Alliance:
The purpose for developing the Ontario SCI Alliance was to ensure the right people were at the table to address the complexities of system changes in Ontario. Often when our community works together, we gain many perspectives from people with SCI and service providers. However, what makes the Alliance unique is the inclusion of researchers and policy makers working collaboratively with people living with SCI on common goals. This framework offers greater opportunity for research to be put into practice and for policy makers to be more informed of the day-to-day challenges that people living with SCI face and raise awareness of policy reforms that reflect the day-to-day challenges.

The Alliance celebrated its 10th anniversary last year. Over the course of the decade this network has had tremendous impact.
**Alliance achievements**

The Alliance has had strides in improving respiratory supports, increasing annualized resources for attendant services, has organized a primary care network, addressed distance and transportation gaps in the health care system, and supported an implementation science approach across the province. To name a few.

The partnership with ONF in particular has ensured this is a co-ordinated effort and that we have an agreed-upon process that ensures all voices are heard across the SCI sectors and mechanisms to amplify our community’s voice when necessary. The Alliance also works closely with SCIO’s public policy program where we have peer activists engaged with MPPs in 74 of 144 Ontario ridings.

Collectively by having the right people at the table discussing issues and a system where we can reach the majority of MPPs across the province to discuss these issues makes the Alliance a very powerful voice.

Specifically, Alliance successes include:

- Securing $30-million new dollars for in-home attendant services. Although this was just a start to what is needed.
- There are evidence-informed resources, developed using the ONF research networks, to help in the prevention of pressure sores as well as funding to get people with severe pressure sores living at home with access to surgery.
- Through the ONF investment in the Kitchener-Waterloo Mobility Clinic was developed and supported by the Alliance is ready to be replicated across the province in a variety of different forms. We want every family practitioner to have access to the expertise and information they need to feel comfortable in working with SCI patients.
- The Alliance worked with the Financial Services Commission of Ontario to change the definition of catastrophic impairment under the automobile act specific to spinal cord injury.
- The Alliance worked with the Assistive Devices program to reduce the cost of wheelchairs sold in Ontario by 20 per cent.
- SCI Ontario and the Alliance worked with Toronto City Council and Uber Canada to develop the first wheelchair accessible Uber ride sharing system that today is recognized as the best Uber wheelchair accessible service in the world.

**The SCIO and ONF**

ONF is a catalyst for change and the relationship between ONF and SCIO is co-dependent. This reliance underlies the work and strength that two organizations have been able to achieve through the Alliance. ONF has the relationships in research globally to develop the best practises and SCIO works with various community stakeholder groups and individuals. Through our organizations’ collective networks the Alliance has a readership of more than 9,000 across Ontario.

This partnership has worked hard to engage people in a very meaningful way. We follow a consistent process which is unique in Canada to bring issues and opportunities forward and
create and encourage meaningful knowledge translation. We have a process that works and provides an example for others and we are happy to share it.

**Researcher Profile: Dr. Alan Salmoni**  
**University of Western Ontario**

Dr. Alan Salmoni is a Professor in the School of Kinesiology at Western University. His research interests span two fields of inquiry: gerontology and ergonomics with a major focus on injury prevention in the older adult population. Dr. Salmoni was one of the first members of the Ontario Neurotrauma Foundation Prevention Committee. Recently he was the keynote speaker at the 2018 End Falls this Fall Conference in Orillia. Alan was served as a Core Team member for the Fall Prevention Community of Practice for several years.

**What prompted your interest and obvious commitment to teaching and research in the area of neurotrauma prevention?**

Early on in my career I became interested in ergonomics, I thought of it as one way to prevent injuries in the work environment. If you address ergonomics you often prevent injuries. I was drawn to ONF almost 20 years ago as a result of the participation of a friend/colleague on the Prevention Committee.

The Prevention Committee was focused on best practices in preventing neurotrauma. As a group we asked, “what are the areas where best practices could be applied?” It was not the mandate of the committee to do the research to create best practices but to focus on knowledge translation and knowledge generation (funding research). How do we take evidence and get it into the community, to caregivers and those who work with those at risk of injury? My interest in preventing neurotrauma in older adults emerged during this time and in particular a specific focus on preventing falls.

My participation on the ONF Prevention Committee was a lot of fun. We looked at so many things. Pool safety, hockey, playgrounds, bike riding, shaken baby syndrome – there was no mandated limit to the topics the ONF Prevention committee could focus on, but rather was directed by a search for best practices that could be used to prevent neurotrauma. Everyone on the committee had expertise and we were encouraged to explore these interests through our research and provide support to other research projects.

In retrospect the broad approach meant we couldn’t get as much traction on all mechanisms of neurotrauma injury. Falls are the number one cause of neurotrauma. The current ONF focus on fall prevention provides the best opportunity for impact to prevent falls in older adults. This fits nicely with my interest in gerontology as well and even though I am no longer a member of the ONF committee I support its work and focus on fall prevention.
What has been the focus of your own research?
ONF provides research funding for neurotrauma prevention. At the time, the committee adjudicated project funding. Sometimes the research was done through the committee members, most of whom had graduate students who were able to do the work as part of their course of study. This was another way we increased the number of researchers and academics with knowledge of neurotrauma prevention.

Can you talk a bit about what you consider to be the breakthroughs in fall prevention?
I think the “ah ha” moment for me was coming to understand just how difficult it was to transfer evidence to the real world. As someone who works with evidence and facts it didn’t occur to me in the early years how much safety culture norms impact the ability to change routines and thinking. It is harder to transfer the knowledge than just finding the evidence to support a change in behaviour. Hockey, for instance, is an example of how much effort has to be spent to change thinking and practice. We have not made as much progress as we should have because there was a need to change the attitude of the game to more of a “safety first culture”.

It’s hard work because you need to convince the leaders who, in turn, will influence others to change and in many areas such as hockey this has been happening very slowly. There have been changes but they are slow and significant neurotrauma injuries continue to happen in many professional sports.

The belief and value systems in some sports affect how the evidence is received. I believe there is an acknowledgement of the need but a “who cares” attitude is still evident. I see some changes though and they are encouraging. For instance, today there is a lot more receptivity to the messages around safety culture and concussion prevention in hockey for children and youth. My grandsons play hockey and I see a more positive safety culture is more evident in the game at their level.

How do you believe your efforts in neurotrauma prevention have changed lives?
I think that when it comes to things like pedestrian safety or concussions it has been the dramatic incidents and outcomes that have helped to bring a focus on communicating the need to change habits. This has reduced the incidence of neurotrauma over time.

It’s not just the evidence, there is a need to find the change agents to encourage and sustain change, particularly when resources are required. Perhaps the biggest question is how to effectively communicate the need for change and then how to make change sustainable.

We need to influence policy changes that also include a sustainability component. How can we encourage our politicians and policy makers to take up some of these causes? They are the influencers and how to engage them is a continuing challenge.

Do you have a message for those who establish policy that support neurotrauma prevention?
If you are trying to prevent neurotrauma or injuries – there are two models: top-down such as policy changes at the government level, and then there is what I call the one-person-at-a-time model. For most of us, we won’t change policy but we can affect one person at a time and this
approach widens the circle of change more slowly but more sustainably. This is why the Fall Prevention Community of Practice and its Loop platform are so important. Each member of the COP has the opportunity to support and encourage change.

NeuroMatters Fall 2018 News & Events

Preventing Falls in Partnership with Change Day Ontario

Each year our Prevention team looks for new ways to engage audiences around Fall Prevention Month; this year we had the unique opportunity to team up with Change Day Ontario to expand the reach of the 2018 campaign. Change Day Ontario is a grassroots movement designed to empower people within the health system to make positive changes to improve the quality of care across the province. Through individual or group pledges, participants commit to overcome barriers and inspire others to make changes to better the health care experience for patients and providers alike.

The McMaster University Institute for Research on Aging and ONF partnered to present a discussion on ‘Fall Prevention for older adults with cognitive impairment’, at this event the prevention team was able promote the Change Day Ontario campaign and even take pledges from a few of the panel participants. The Prevention team also urged all ONF staff to make pledges that would reduce the risk of falls in their own lives; to put to practice the initiatives we work toward everyday.
The ever-growing Loop Fall Prevention Community of Practice (CoP) has embarked on its third year since launch and shows no signs of slowing down. The need for this type of platform for practitioners working on childhood falls was identified and in September 2018 ONF launched Loop Junior. Loop Junior is for health practitioners, researchers, and care givers who work specifically with children. Loop Junior provides access to all the same great features as its parent site Loop, including networking, knowledge sharing, and tools for collaboration. These bilingual platforms are targeted toward interdisciplinary contributors in fall prevention to incite knowledge mobilization and further advance the field of fall prevention across the lifespan. Through discussion boards, webinars, newsletters and the Knowledge Centre, users can engage with content and network more effectively. As the Childhood Fall Prevention CoP grows, we hope to see continued engagement as we cultivate and support this network.
Pediatric Concussion Clinical Practice Guideline Consensus Meeting

The Ontario Neurotrauma Foundation (ONF) had the privilege of supporting the Pediatric Concussion Clinical Practice Guideline (CPG) Consensus Meeting held at Holland Bloorview Kids Rehab (HBKR) October 29 and 30, 2018. The consensus meeting, led in partnership with the Children’s Hospital of Eastern Ontario (CHEO), was purposed around updating the ONF Pediatric Concussion Guideline through review of evidence published since the original version was released in 2014. Pediatric concussion clinical research experts, representing a wide-variety of healthcare disciplines from across Canada and the US came together to analyze the evidence and make recommendations to inform the updated Guideline set for release Spring 2019.

“We are so happy to have dedicated clinicians like Roger Zemek and Nick Reed as leaders on this project. A lot of progress has been made in the field, and this will be the first Living Concussion Guideline to maintain a continual evidence review process, meaning that it will always be current. We look forward to this and strategically planning for implementation thereafter.” says Program Director, Corinne Kagan.

In the next phase of development, the team from HBKR and CHEO will be holding focus groups with parents and youth with lived experience, educators, clinicians and other stakeholders to better understand the needs with regard to both content and format within the Guideline.
RHI/ONF Fellow announced

Dr. Cindy Gauthier is the recipient of the first Rick and Amanda Hansen Fellowship, a partnership between the Ontario Neurotrauma Foundation and the Rick Hansen Institute (see NeuroMatters, Fall 2017 http://onf.org/documents/neuromatters-newsletter/welcome-to-the-fall-2017-edition-of-neuromatters/neuromatters-news). She will conduct a research project entitled “Assessment of orthotic and therapeutic effects of functional project: Electrical stimulation during meaningful functional tasks training program in people with spinal cord injury” under the mentorship of Dr. Kristin Musselman. Dr. Gauthier, a physical therapist who graduated from the Université de Montréal. She has many years of experience in spinal cord injury research including several publications and manuscripts. The fellowship is overseen through the Department of Physical Therapy at the University of Toronto
Upcoming Conferences

2019 Annual Conference – Best Start Resource Centre  
*February 12-14, 2019*

In February 2019 the Prevention team will attend the Annual Best Start Resource Centre Conference. This will be ONF’s first year attending the conference that is purposed to support those who work in early child development and education. With childhood falls accounting for over 53,000 ER/ hospitalization visits in 2017, the Prevention team is eager to engage this network to support in minimizing the risk of childhood falls. By aligning efforts with health promoters, health care providers, policy makers and knowledge brokers, ONF looks forward to building new connections and initiating collaborations within this network to support the Loop Junior CoP.

International Brain Injury Association’s World Congress on Brain Injury  
*March 13-16, 2019*

The largest gathering of international professionals working in the field of brain injury, IBIA 2019 will be held here in Toronto early next year. The aim of the 13th World Congress on Brain Injury is to provide an opportunity for establishing collegial relationships with international professionals focused on care and/or service of persons with acquired brain injury and/or the science of brain injury research. No stranger to the international conversation on brain injury research and knowledge mobilization, the ONF ABI team will be attending and hope to showcase the great work that we are facilitating across the province with respect to implementation and building the Provincial Stakeholder Engagement Network.