

ONTARIO
NEUROTRAUMA
FOUNDATION

2004/2005 ANNUAL REPORT

ACHIEVING



RESULTS



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ONF ACHIEVES



RESULTS IN

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EXCELLENCE

ONF achieves excellence through strategic and careful choices of research programs and meticulous application of respected, expert funding practices.

RELEVANCE

ONF achieves relevance by striving to include consumers meaningfully in all aspects of the Foundation, through our keen awareness of the context for our research and by focusing on evidence-based best practices that can move research into practice.

INNOVATION

ONF achieves innovation by seeking new ways to solve old problems in a way that has an immediate impact on consumers' lives and by funding research according to comprehensive themes, not as isolated projects.

PARTNERSHIPS

ONF achieves partnerships and results by locating our research within larger contexts, by leveraging funds to expand capacity and reduce duplication, and by mobilizing research findings directly to those who can use them most effectively.

MESSAGE FROM THE CHAIRMAN AND EXECUTIVE DIRECTOR



Kent Bassett-Spiers
EXECUTIVE DIRECTOR, ONF



Daryl Rock
CHAIRMAN, ONF

Ontario Neurotrauma Foundation is *Achieving Results in Excellence, Relevance, Innovation and Partnerships*.

ONF's business is research and knowledge mobilization—this is what we do. At the heart of the Foundation is whom we do it for—people living with the effects of neurotrauma. Their success depends on executing strategies that focus on what works, what changes systems, what improves practice—and what does not.

Currently, in injury prevention, we are funding research on shaken baby syndrome, seniors' falls, sports injuries, and driving. To address the quality of life for people with spinal cord injuries, we are focusing on secondary complications and primary care. For people with acquired brain injury, we are focusing on affective disorders, inappropriate living situations, and community integration after injury.

The knowledge generated by this research contributes to solutions for clinicians, consumers and policy makers—that is, to knowledge mobilization. ONF defines KM as getting the right information to the right people in the right format at the right time so as to influence decision-making. Our model moves research into action and anticipates action as we set our research agenda. The Foundation's integrated mechanisms to mobilize knowledge are dissemination and publication; building KM capacity; and the placement of knowledge within the spheres of research and public policy, emphasizing the government's transformation agenda.

The province's investment in ONF is returned several times over: in leveraged funds that match ONF's investment, in reducing duplication, in forming partnerships to maximize the use of scarce resources, and in enriching policy development. We are proud of our work with the Rick Hansen Man in Motion Foundation, NeuroScience Canada, CanDRIVE, the CIHR Institute of Neuroscience, Mental Health and Addictions, and the International Collaboration on Repair Discoveries (ICORD).

Ours is an ambitious and necessary program to achieve the impact that we expect of ourselves and that others rightfully expect from their investments.

ONF's success depends on our collaborative relationship with the Ministry of Health and Long-Term Care. We thank our colleagues there, and in other areas of the provincial government, not only for their financial support, but also for their vital insights.

Our success also depends on a dedicated Board and many volunteers who help us get it right. We thank our Board members who volunteer their time. We also recognize and thank all the volunteers who sit on our committees, participate on adjudication panels, and provide the feedback that keeps us on the right course.

ONF's success also depends on a small but dedicated staff that focus our efforts in knowledge creation and knowledge mobilization, provide corporate support, and develop the partnerships and relationships we need to thrive. Thank you all.

Injuries to the brain or spinal cord are devastating and almost always preventable. This fact demands we use our energy to get results and move them into action to ensure all our citizens are engaged members of society. We are confident that this report shows how the Foundation is doing just that.

STAFF

Kent Bassett-Spiers, Executive Director

Corinne Kagan, Funding Program Coordinator

Bonnie Heath, Knowledge Mobilization Coordinator

M. Karen Campbell, Finance Coordinator

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“Ontarians with disabilities deserve to be treated with dignity and respect—and to have the opportunity to participate fully in the life of our province. We look forward to working with the Ontario Neurotrauma Foundation on these important objectives.”

Dalton McGuinty
Premier of Ontario

ONF ACHIEVES RESULTS IN EXCELLENCE

ADJUDICATING EXPERTLY AND EFFICIENTLY

The excellence of the Ontario Neurotrauma Foundation's research is rooted in our expert adjudication process. Expert review is as fundamental to ONF's research funding process as peer review is to the research publishing process.

For each of its funding initiatives, ONF takes the time to identify review panels with comprehensive expertise in the specific areas of research. Depending on the funding initiative, reviewers are selected for their experience and authority in research, academia, clinical care, policy-making and living with the effects of neurotrauma. Unless it is critical that reviewers understand Ontario's provincial context, ONF seeks members for its adjudication panels nationally and internationally to avoid conflict of interest. As such, ONF has taken a leadership position nationally and internationally within its unique mandate of funding applied research into neurotrauma.

When ONF determines that directed funding is the most appropriate way to address a research question, it may approach a group of researchers rather than initiating a competition. Proposals for directed funding are also subject



to expert review for scientific merit, comprehensiveness and ability to produce results that will meet ONF's objectives.

The careful selection of reviewers, the range of expertise on panels, the thoughtful and thorough debate during review, and the strict enforcement of confidentiality and conflict-of-interest policies that go into the adjudication process are the foundation of excellence at ONF. With this cornerstone firmly in place, ONF strategically funds research it can be confident is relevant to all our stakeholders, from those who are living with the effects of neurotrauma, to the organizations we are collaborating with, to our colleagues in the provincial government.

"The experience of serving on the adjudication panel for ONF stands out, largely due to the iterative critique and feedback process that allows applicants to make amendments before submitting their final proposals. This takes the mystery out of the process, and allows the applicants to focus on writing a scientifically sound proposal, rather than on trying to "second-guess" the panel. As a researcher, I wish I had this kind of interaction in the proposals I submit. I was also impressed by the blend of expertise selected for the panels that I participated on."

Nancy Carney, PhD

School of Medicine, Oregon Health & Science University
Director, Brain Trauma Foundation Center for Guidelines Management

ADJUDICATION EXPERTS

The Ontario Neurotrauma Foundation is honoured to have collaborated with these national and international experts who served as members of our adjudication panels in 2004/2005.

DR. TERESA ASHMAN
Mount Sinai School of Medicine (New York)

DR. JAN BARNSELEY
University of Toronto

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Toronto Community Care Access Centre

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SCI Consumer

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McGill University

DR. CYRIL SCHNEIDER
Laval University

MS. HAZEL SELF
Gage Transition to Independent Living
SCI Consumer

DR. CHRISTINE SHORT
Queen Elizabeth II Health Services Centre
Dalhousie University

DR. DERRYCK SMITH
University of British Columbia
Children and Women's Health Centre

DR. HEATHER STUART
Queens University

DR. WOLFRAM TETZLAFF
University of British Columbia

MENTORING TO BUILD CAPACITY

Another way that ONF achieves excellence is through its Mentorship Program in Injury Prevention. This capacity-building program has been successful at identifying and recruiting promising new researchers to the field of injury prevention. It has also had success attracting faculty

members from other disciplines to research in this field. ONF funded 16 outstanding mentor-student teams in the first two years of the program and launched the third cycle of the program this year. In the future, ONF plans to evaluate the program to determine its effectiveness in building capacity in a new research field.

ONF ACHIEVES RESULTS IN RELEVANCE

TRANSFORMING PRIMARY CARE

Are people with spinal cord injuries able to get the care they need from Ontario's family doctors? How has the shortage of family doctors affected them? What information do doctors need to provide the best care?

These are just some of the questions—highly relevant to the Ontario government's current aggressive renewal strategy for primary care—that are explored in a joint project of ONF and The Centre for Effective Practice. The aim of the project is to develop *A Comprehensive Research and Knowledge Mobilization Agenda on Primary Care for People with SCI in Ontario*.

Conceived in 2003, The Centre for Effective Practice addresses the gap between evidence and practice by using the scientific literature to define effective medical practices, identify barriers to effective practice, and develop strategies and materials to address them. Affiliated with the Department of Family and Community Medicine at the University of Toronto, The Centre for Effective Practice also has credibility with primary care professionals, medical specialists, academic researchers, and other important stakeholders involved in these complex issues.

Through a proven method for assessing the literature and health care environment, The Centre will work with ONF to detail the current primary care landscape for people with SCI, identify gaps in knowledge and outline research needs, while bridging ONF's relationships to key decision-makers in the transformation process. As such, this project provides an excellent example of the research and knowledge mobilization loop: as we conduct the research, we build the relationships with those who need to use the knowledge. The project will culminate with presentations to key decision-makers that will recommend strategies for improving access to care for people with spinal cord injuries and lessons for others with disabilities who experience barriers to access to primary care.



PREVENTING SHAKEN BABY SYNDROME

It's one of the most lethal forms of child abuse: shaken baby syndrome. Shaking a baby causes a cluster of brain and eye hemorrhages, and hurts or kills more children than any other kind of physical abuse. Better described as inflicted infant head injury, ONF-funded research in Canada showed the extensive personal and economic costs associated with the abuse. Children who survive being shaken often end up being permanently dependent on others for care. Even those who "recover" often have subtle learning and cognitive disorders. This lifelong care strains families financially, physically and emotionally, and it costs the health care system millions of dollars.

As ONF found in its review in 2003 of the evidence on the effectiveness of programs to prevent head and spinal cord injuries, the Shaken Baby Syndrome Education Project is the only program of its kind that has achieved the status of best practice. Although there are many shaken baby syndrome information programs, this one has shown an almost 45% reduction of incidence in a large population study. The program is now a legislated part of education about the syndrome in New York and many other states.

ONF is funding the evaluation of the Shaken Baby Syndrome Parent Education Program that was created in New York. Led by University of Toronto's Richard Volpe and McMaster University's Helen Thomas, the three-year project is a comprehensive evaluation of the program's implementation in Ontario. Findings will inform knowledge mobilization at ONF and education about shaken baby syndrome in Ontario.

The parent education program is remarkably simple and easy to add into the routines of busy health professionals. After the birth of a child, health care professionals show parents a brief video about shaken baby syndrome, give them pamphlets about babies' normal crying and how to manage anger, and have them sign a form saying their questions have been answered and they agree to participate in follow-up assessment.



Volpe and Thomas's study is an opportunity to study the parent education program in Ontario, to reduce the incidence of inflicted infant head injury, and to look at the role of the relationships between care providers and clients in health education.

Specifically, the study is striving to provide a standardized program for neonatal nurses starting in several hospitals and moving out into public health and community-based delivery. The study tracks people's compliance with the program and evaluates the program's success in reducing inflicted head injuries in infants. Changes in incidence over time are being plotted in other provinces and in New York and Pennsylvania. To look at the importance of the provider-client relationship to the success of the program, the researchers are profiling participating nurses for their relationship-building skills and backgrounds. Finally, they are analyzing the costs for treatment and long-term care related to shaken baby syndrome.

The initiative exemplifies true knowledge mobilization: moving information into action. Effective prevention, particularly of such a devastating injury, is highly relevant for Ontario's families and for Ontario's legal, social services and health care systems.

MOVING EVIDENCE TO THE FRONT LINE

Researchers from London, Ottawa and Toronto did a multi-centre, evidence-based review of the literature on rehabilitation interventions for moderate to severe acquired brain injury. The research team, led by Dr. Robert Teasell at Parkwood Hospital in London, Ontario, had two driving goals:

- to identify the priority areas in rehabilitation that lack strong evidence of effectiveness and need more research; and
- to identify the priority areas where the research evidence is strong and should be transferred quickly to improve programs and services for people with acquired brain injuries.

What appears to be a straightforward piece of research, funded by ONF in 2004 though to June 2005, shines as an example of relevant research that has practical outcomes and that incorporated solid knowledge mobilization principles from the outset.

First, this research is a multi-centre synthesis of evidence. As such, the results will have credibility with governments and clinicians. The research team expects that this

knowledge will provide the basis for the creation of education products for consumers, caregivers and service providers. This research will also produce an authoritative guide for the evaluation and development of programs and services. Finally, the comprehensive nature of this research provides a credible mechanism for setting the agenda for future research by identifying gaps in knowledge and ineffective practices.

This project engaged many clinicians in the review process. The clinicians said that contributing to the review led to greater insights into their practice. Their participation in the review process has also laid the foundation for them to change and improve their practice based on the evidence, thereby speeding the mobilization of knowledge from research to practice. The involvement of clinicians in this way is also an excellent way to improve research capacity.

Finding out what works in the rehabilitation of acquired brain injuries helps governments to fund effective practice, organizations to deliver effective programs, and providers to give effective care, all toward ensuring the best possible outcomes for those living with the effects of acquired brain injuries.

*“As a clinician and researcher, my involvement in the ONF-funded **Systematic Review of Rehabilitation Interventions for Persons With a Moderate to Severe Acquired Brain Injury** is important not only in identifying gaps in the evidence that will require specific attention, but, more importantly, in challenging my clinical thinking about how best to care for my patients. Work like this systematic review is key to our ability to provide the most effective rehabilitation therapies for Ontarians living with an ABI.”*

Dr. Mark Bayley

Clinical Director, ABI Program, Toronto Rehabilitation Institute

CONSUMERS AND RESEARCH: MAKING THE CONNECTION

Consumer involvement is key to ensuring that research is relevant. In 2004-05, ONF's Consumer Outreach Committee received the results of its commissioned research into best practices for involving consumers in research. One of the strongest messages was that consumers want to have *meaningful* role in research—and they need training and support to achieve it.

Consumers and Research: Making the Connection is a joint project of ONF and The Cochrane Collaboration that aims to provide this training and support. The Cochrane Collaboration is a respected, international, non-profit, voluntary organization that makes evidence about health care readily available around the world through a Web-based library. The Cochrane Collaboration brings together researchers, health care providers and consumers to produce systematic reviews about health care. As part of The Cochrane Collaboration, the Cochrane Consumer Network is a worldwide network of consumers that provides links for consumers to Cochrane review groups, develops training materials and workshops for consumers, has a Web site and publishes a newsletter. Consumers around the world contribute to the research of The Cochrane Collaboration by raising awareness, spreading information, and designing, translating and writing systematic reviews.



ONF has begun a series of consultations in various formats such as public meetings, patient education sessions and one-on-one interactions to determine the level of interest and training needs among consumers who would like to be involved in ONF's research activities.

Consumers and Research: Making the Connection will reach out to people affected by neurotrauma, including family and friends of those living with its effects, and leverage and perhaps, enhance, The Cochrane Collaboration's expertise in engaging consumers in health research.

Through consultation with consumers and partnerships such as this one with The Cochrane Collaboration, ONF aims to become a leader for best practices in consumer involvement in research.

ONF ACHIEVES RESULTS IN INNOVATION

TACKLING DEPRESSION IN TRAUMATIC BRAIN INJURY

Depression in people with traumatic brain injury is common and complex. People with brain injuries often must also deal with symptoms of depression that compound the challenge of having a brain injury. For example, survivors of brain insult can have trouble learning how to cope due to altered cognitive functioning. The reasons for depression are complicated, and include brain-based causes, but for brain injury survivors, it often emerges because they are keenly aware of how different their lives are. It's important to understand this overlap, as well as the biology of depression, to diagnose depression in people with brain injury correctly.

Even with an accurate diagnosis, treatments for people in the general population may not adequately address the needs of people with brain injuries. Recognizing this, ONF launched a call for research proposals that seek to address or expand treatment options.

A panel of expert adjudicators recommended four studies for funding. Each examines a different, yet important, intervention to advance the understanding of how best to treat depression in survivors of brain injury:

- *A mindfulness-based cognitive therapy intervention:* This pilot study aims to show how effective and portable this therapy is at reducing symptoms of depression in people with brain injuries. It will set the groundwork for a larger, randomized controlled trial.
- *An Internet-based intervention:* This pilot study aims to test the effectiveness and feasibility of delivering cognitive behaviour therapy over the Internet to people who have mild brain injuries and depression. If successful, it could get a targeted self-help treatment to countless people worldwide that don't seek or receive help for depression.



- *Antidepressant maintenance:* This randomized controlled trial aims to determine if being treated with antidepressants for one year lowers the risk of relapse of depression after a brain injury. Evidence suggests that being treated with antidepressants helps to prevent relapse of depression for people without brain injuries, but is it unknown if this is true for people with brain injuries.
- *A community-based intervention:* This study aims to refine and pilot a way to treat depression in people with Alzheimer's disease. People with moderate to severe brain injuries will enter the study with a treatment partner. The protocol will be adapted for use by the subject and partner together and will emphasize working together to develop goals to increase the number of pleasant events, address cognitive and behavioural patterns common after brain injury, and encourage the use of self-management strategies where appropriate.

With this thematic funding initiative, ONF is taking an innovative approach to research and knowledge mobilization. By considering the findings from these studies together, ONF plans for the results to inform one another and future research, and to move the findings into communities and settings where they can be used to maximal effect in patient care.

TRANSFERRING KNOWLEDGE TO COMMUNITIES

Building on the success of New Zealand's *Safe Waitakere Community Injury Prevention Project*, ONF is creating a similar injury prevention centre in North Bay, Ontario.

Waitakere is a multicultural city of over 150,000 people. Using an approach to injury prevention accredited by the World Health Organization, Waitakere was able to achieve documented decreases in child injury hospitalizations and increases in injury prevention awareness. The key to success in this model is community mobilization and integration, including active support from the city government, a multicultural approach, and co-ordination among injury prevention agencies all across age groups, populations and types of injuries.

ONF's project with the Nipissing/East Parry Partners in Trauma Prevention Committee combines the research methods of program evaluation with the community-building methods of knowledge mobilization. The implementation of the Waitakere approach will coordinate the work of existing community groups, local public health agencies and municipal governments as a way to integrate injury prevention programming into the community. Furthermore, the project will emphasize best practices in neurotrauma prevention identified in other ONF initiatives, such as the Stay on Your Feet program to prevent seniors' falls and the education program to prevent shaken baby syndrome.

The ultimate goal is to reduce the incidence and severity of injuries in this community through the application of evidence. However, the innovation of ONF's project is that this research will also identify the factors that support the implementation of this kind of coordinated program, as well as those factors that support the long-term sustainability of injury prevention programs in the community. The result will be an analysis of whether the approach can be applied to other communities and whether there are success factors for sustainability that can be generalized to improve injury prevention elsewhere.



ADVANCING NEW SOLUTIONS

Pressure sores, pressure ulcers, bed sores, decubiti and decubitus ulcers are terms that define damage to an area of skin that has been exposed to excessive pressure or force—and they are a leading and potentially dangerous secondary complication for people with spinal cord injuries.

A relatively new treatment for pressure sores is electrical stimulation therapy (EST). EST applies a low-level electrical current directly to the wound with specialized sterile electrodes and equipment. Good clinical research evidence shows that EST can speed closure of open pressure sores, and several panels of health care experts have recommended that it should be used in the management of this common secondary complication of spinal cord injuries. Yet EST is seldom used in the Canadian health care system. It requires careful monitoring and adjustment by only highly trained health care professionals, so is likely considered too cumbersome and expensive for widespread use. As such, EST is a classic example of knowledge in need of mobilization.

The Lawson Research Institute has partnered with the Community Care Access Centre of London and Middlesex and the Community Care Access Centre of Waterloo region to meet this challenge. Led by Dr. Pamela Houghton, the purpose of the randomized controlled trial is to determine if adding EST to the services offered in standard interdisciplinary wound care program, delivered in the community, will result in faster wound closure, improved quality of life and reduced cost of care of pressure ulcers.

People with spinal cord injuries who have developed pressure ulcers will be recruited from two sites linked to these Community Care Access Centres in Southwestern Ontario. They then will be randomly assigned to receive either standard wound care or standard wound care with EST for 3 months.



The therapy will be delivered with a specialized electrode and a small portable EST device. The device can automatically adjust output for each client and can switch on and off over an extended treatment period. Researchers will measure the changes in wound size, assess the quality life of the participants and calculate the costs of care before and after EST, and compare them with those of the group who received only standard wound care.

The innovation in this study is the delivery mechanisms: both the therapy and the setting. This novel technology requires fewer dressing changes and less time spent by the wound care nurse, and reduces the need for highly trained personnel to apply the treatment. In turn, these factors make it possible to deliver this therapy in the community through existing home care services. All of these factors could add up to improved outcomes and quality of life for people with spinal cord injuries and lower costs for home care agencies, CCACs and the Ontario Ministry of Health and Long-Term Care.

FUNDING INNOVATION

ONF defines knowledge mobilization (KM) as *getting the right information to the right people in the right format at the right time so as to influence decision-making.*

ONF's KM program saw rapid development in 2004-05. With the aid of the expert advice of the Knowledge Mobilization Committee, ONF has developed three main, and not entirely distinct, mechanisms to mobilize knowledge.

1. *Dissemination and publication:* The main vehicles for this dissemination and publication are self-generated publication activities among our researchers, ONF requirements to publish and disseminate in our funding agreements, and the ONF Web site. ONF is investing in Web site technology to increase access to ONF-funded research results, to organize results thematically and to promote a KM community of practice.
2. *Situating ONF-funded research into the contexts of various decision-makers:* The need to contextualize research is the primary driver behind all of ONF's KM activities. In addition to ONF's work to address the knowledge needs of policy-makers in the Ministry of Health and Long-Term Care and other provincial ministries, ONF's KM program has begun working with The Cochrane Collaboration to ensure that our research and KM efforts continue to be an integral part of the international neurotrauma research context.

3. *Building capacity in knowledge mobilization:*

On February 1, 2005, ONF launched its first *KM Innovation Grants Competition*. The purpose of this granting program is threefold: to bring attention to high-quality research results that address ONF's strategic priorities, to stimulate new ways of moving out knowledge and to inform the innovation of our own KM activities.

Grant teams must be multidisciplinary, include stakeholders such as consumers and community organizations, and include a "decision-maker" who can champion the KM process within an organization or community.

The primary criteria for the evaluation of these grants are the likely impact of the KM activity and the originality and creativity of the KM approach. The second criterion means that ONF adjudicators will not be sure what they are looking for until they see it: a definite departure for a granting process! For the purposes of this funding program, however, ONF characterizes innovation as novel approaches to KM or traditional approaches used in new ways.

ONF looks forward to sharing the lessons learned from the fruits of funding innovation with all those engaged in knowledge mobilization.

"We know from research that knowledge transfer and exchange works best when organizations devote specific resources for that purpose. We are delighted to have ONF join the emerging knowledge exchange community with the addition of your knowledge mobilization program."

Jane Brenneman Gibson
Director, Knowledge Transfer & Exchange
Institute for Work and Health
Toronto, Ontario

ONF ACHIEVES RESULTS IN PARTNERSHIPS

THE ONTARIO BRAIN INJURY ASSOCIATION

ONF's project, *Best Practices for the Development of a Provincial Network of Support for People Living with the Effects of Acquired Brain Injury*, arose from concerns in the brain injury community that the structures of their organizations might be hindering their effectiveness.

The best practices research concluded that a model called a "linked charity" offered a way for the community associations to remain autonomous while participating in province-wide programs that they saw could meet their local needs. Within this model, the community associations focus on identifying the needs of people with acquired brain injury and their families locally, and choose either to opt into provincial programs or to create local programs to meet those needs. OBIA's role is to support the development of capacity in the associations and to seek appropriate funding and advocate for the associations provincially.

Key to the success of this research was ONF's facilitation of a knowledge exchange day between OBIA and over 85% of the community associations. Researcher James Wegg presented draft agreements for the linked-charity model, and the meeting ended with 12 of the 18 associations ready to sign model agreements and definite interest from the other three who wanted to consult their local boards first.

Indispensable to the success of this research were the practical and compelling evidence it produced and the ONF-OBIA partnership that brought people together.

"With the help of ONF in bringing so many associations together, we have the start of a truly provincial brain injury movement. This is a new beginning with tremendous promise for effectively supporting those living with acquired brain injuries."

John Kumpf, Executive Director, OBIA



PLAY IT COOL: A MULTI-LEVEL PARTNERSHIP AND COLLABORATION

The Play it Cool project is a result of collaborations and partnerships on many levels. ONF partnered with the Canadian Spinal Research Organization (CSRO) to identify an expert research team to undertake this research project. CSRO had an existing partnership with Mitron Sports Enterprises Inc. and other partners to begin the development of a curriculum for skills training for young hockey players.

The research team, led by William Montelpare from Lakehead University, is a multi-centre collaboration. Participating are researchers, administrators and professors from Lakehead University, University of Waterloo, Sir Wilfred Laurier University, University of Toronto, Brock University, York University, Laurentian University, Health Sciences North, University of Ottawa, Children's Hospital of Eastern Ontario and the Ontario Hockey Federation.

This project is directed at atom-level minor hockey coaches. In the first phase, coaches will be trained with an interactive curriculum. In the second phase, the trained coaches will hand out program materials to their teams and incorporate the Play it Cool skills and drills into their practices.

Through the commitment and collaboration of all the partners and the expertise of the research team, this project promises to make playing hockey safer for kids. More to the point, it could drastically reduce the number of young hockey players who each year receive a catastrophic—and preventable—head and spinal injury.

“NeuroScience Canada welcomes our partnership with the Ontario Neurotrauma Foundation in support of our Brain Repair Program. It is through our collaborative efforts that we can enable some of Canada’s best researchers to come together to accelerate the pace of discovery and get to new and better treatments. ONF’s support of the chronic pain research team led by Dr. Michael Salter in understanding and developing effective treatments for chronic pain is an important start to an exciting and productive relationship.”

Michael Wilson
Chair, NeuroScience Canada

Left to right: Michael Wilson, Mark Krembil, Inez Jabalpurwala, Rick Riopelle and Kent Bassett-Spiers

NEUROSCIENCE CANADA

One of ONF’s partners is NeuroScience Canada, a national, non-profit organization that develops and supports collaborative, multidisciplinary research across the neurosciences. ONF has supported the Brain Repair Program, a research fund with the goal of accelerating brain repair research that can be translated into improved patient care. Since supporting the Brain Repair Program, ONF and NeuroScience Canada have developed a formal partnership.

In 2003-04, ONF joined with NeuroScience Canada to provide \$250,000 toward a \$1.5 million grant for the translational research project, *Transforming Research on Chronic Neuropathic Pain*. Led by Dr. Michael Salter over five years, this project will take place at The Hospital for Sick Children and bring together researchers from three universities: Karen Davis (University of Toronto), Yves De Koninck (Laval University), Jeffrey Mogil (McGill University) and Min Zhuo (University of Toronto).

ONF and NeuroScience Canada are strengthening their partnership to enable the future development of joint research activities and knowledge exchange events.

ONTARIO REHABILITATION RESEARCH ADVISORY NETWORK

To craft a relevant research rehabilitation agenda, ONF collaborates with the Mental Health and Rehabilitation Policy Unit within Integrated Policy and Planning at the Ministry of Health and Long-Term Care. A key player in this partnership is the Ontario Rehabilitation Research Advisory Network. ONF supports the work of the Network by participating in its planning sessions and providing ongoing financial support. The Ministry, ONF, and the Network held a planning session in November 2004 to



identify important areas for research that will advance rehabilitation practice and the government’s transformation agenda.

In 2004-05, ONF allocated \$450,000 of its budget for Ministry-directed research to support the following six requests for proposals.

1. *Feasibility Study on Public-Sector Costs of Rehabilitation in Ontario*
2. *Rehabilitation Care Pathways: Hip and Knee Joint Replacement*
3. *Primary Health Care*
4. *Best Practice Models of Rehabilitation Services Across the Continuum of Care*
5. *Demand for Rehabilitative Services*
6. *Impact of Social Determinants in Rehabilitative Services*

Launched on February 1, 2005, the results of the competition yielded 14 responses, and the adjudication process is underway.

Next November will see another planning day as ONF and ORRAN work with the Ministry to engage ministries from across the provincial government in discussion about rehabilitation research. ONF’s work with the Ministry and the Network is a link to the research needs of policy makers and to the broader context for our rehabilitation research.

RESEARCH COMMITTEE

DR. RICK RIOPELLE
(CHAIR)
Montreal Neurological
Institute
McGill University

DR. PHILIP GROFF
SMARTRISK Foundation

DR. JOHN LEWKO
Laurentian University

DR. DOROTHY PRINGLE
University of Toronto

DR. KEITH HAYES
Parkwood Hospital
University of Western
Ontario

DR. SHAWN MARSHALL
The Rehabilitation Centre
Elisabeth Bruyère
Research Institute

SUBCOMMITTEES

Neurotrauma Prevention

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Kingston General Hospital

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Hamilton Social and Public
Health Services Department

DR. RICHARD VOLPE
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MR. TERRY ALBERT
Canadian Medical Association

MS. BARB SULZENKO-LAURIE
Insurance Bureau of Canada

Quality of Life for Persons With Acquired Brain Injury

DR. SHAWN MARSHALL
(CHAIR)
The Rehabilitation Centre
Elisabeth Bruyère
Research Institute

MS. BARBARA BAPTISE
Rehabilitation Management Inc.
Private Practice

MS. MELISSA FELTEAU
Lakehead University

DR. SCOTT MCCULLAGH
University of Toronto
Sunnybrook and Women's
College Health Sciences Centre

DR. ANDREW BAKER
St. Michael's Hospital

MS. ANN FITZHENRY BEDARD
Private Practice
(occupational therapy)

DR. JAMES S. HUTCHISON
Hospital for Sick Children
and HSC Research Institute

DR. DIANA VELIKONJA
Hamilton Health Sciences
McMaster University

DR. DAVID CASSIDY
Toronto Western
Research Institute

MS. PATTI LEONARD
Hamilton Health Sciences

Quality of Life for Persons With Spinal Cord Injury

DR. KEITH HAYES (CHAIR)
Parkwood Hospital
University of Western Ontario

MS. LINDA KENNY
Canadian Paraplegic
Association Ontario

MR. BARRY MUNRO
Canadian and American
Spinal Research Organization

PROF. MOLLY VERRIER
University of Toronto

DR. MICHAEL FEHLINGS
Toronto Western Hospital
University of Toronto

MS. NATHALIE LAPIERRE
Ottawa Hospital

DR. MARY ANN MCCOLL
Queen's University

FINANCE COMMITTEE

MR. JOHN A. F. CRICHTON
(TREASURER)

MR. MARK KREMBIL
The Krembil Foundation

MR. GREG MCRAE
KPMG

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KNOWLEDGE MOBILIZATION COMMITTEE

MR. PETER LEVESQUE (CHAIR)
Knowledge Exchange Centre,
The Provincial Centre of
Excellence for Child and
Youth Mental Health at CHEO

MS. KATHRYN EVEREST
IBM Canada Ltd.

MR. DARYL ROCK
Canadian Council
on Learning

MR. DARRYL STURTEVANT
Ministry of Children
and Youth Services

DR. JANE GILLETT
Hamilton Health Sciences

NEW FUNDING AWARDED

Quality of Life for Persons With Acquired Brain Injury

Systematic review of rehabilitation interventions for persons with moderate to severe ABI

R. Teasell, S. Marshall, N. Cullen, M. Bayley, J. Jutai, L. Rees, A. McCormick, and M. Speechley
Parkwood Hospital – Lawson Health Research Institute, The Rehabilitation Centre, and Toronto Rehabilitation Institute - \$149,506 over 14 months

The nature and extent of inappropriate living environments for adults with moderate to severe ABI

A. Colantonio, S. Hwang, P. Coyte, A. LaPorte, B. Christensen, B. Kirsh, C. Levy, T. Chiu, D. Clarke, and C. Abramowitz
Toronto Rehabilitation Institute, University of Toronto, St. Michael's Hospital Inner City Health Research Unit, the Institute for Clinical and Evaluative Services, the Centre for Addiction and Mental Health, the Toronto Acquired Brain Injury Network, and Comprehensive Rehabilitation and Mental Health Services - \$150,000 over 14 months

An Internet-based intervention for depression in mild traumatic brain injury patients

J. Topolovec-Vranic, M. Andrews,

S. Bhalerao, N. Cullen, M. D. Cusimano, V. Gilmore, C. Masanic, A. McCutcheon, A. Michalak, and D. Ouchterlony
St. Michael's Hospital
\$95,990 over 2 years

A mindfulness-based cognitive therapy intervention for treating depression in a traumatic brain injury population

M. Bédard, M. Felteau, A. Moustgaard, S. Marshall, A. Carswell, R. Kapitany, D. Hunt, B. Parker, S. Dubois, B. Weaver, and C. Gibbons
Lakehead University and The Rehabilitation Centre - \$50,090 over 1 year

Community-based intervention for major depression in adults with moderate to severe traumatic brain injury

C. Lemsky, C. Brandys, C. Seyone and C. Smith
Community Head Injury Resource Services
\$117,360 over 2 years

A randomized controlled trial of antidepressant maintenance in major depression following mild traumatic brain injury

M. Rapoport, K. Lanctot, S. McCullagh, and A. Feinstein

Sunnybrook and Women's College Health Sciences Centre
\$175,185 over 3 years

Establishing valid criteria for classification of mild traumatic brain injury in children

C. DeMatteo, S. Hanna, M. Law, L. Scott, A. Newman, B. Mahoney, R. Hollenberg, and F. Sylvestro
McMaster University and McMaster Children's Hospital
\$48,806 over 1 year

Occupational mild traumatic brain injury in Ontario: identification, prognosis and health care utilization
P. Côté, V. Kristman, S. Hogg-Johnson, J. D. Cassidy, R. Wennberg, and C. Tator
Institute for Work and Health
\$76,625 over 20 months

Development of a provincial ABI registry – Phase 1

Provincial Task Force: R. Vanderlaan, S. Bester, D. St-Pierre, C. Levy, P. Johnson, and J. Dumas
\$20,000 over 10 months for initial facilitation

Quality of Life for Persons With Spinal Cord Injury

Chronic neuropathic pain

M. Salter, K. Davis, Y. De Koninck, J. Mogil, and M. Zhuo
Research to take place at the Hospital for Sick Children, University of Toronto, Laval University, and McGill University
\$250,000 in partnership with Neuroscience Canada over 5 years

Management of pressure ulcers in community dwelling individuals with spinal cord injury: demonstration of a CCAC driven model of delivery of electrical stimulation therapy

P. Houghton, I. Graham, K. Hayes, D. H. Keast, P. Potter, G. Woodbury, K. Campbell, C. Harris, and D. Lesperance
University of Western Ontario, Lawson Health Research Institute, and London Middlesex and Waterloo Region Community Care Access Centres
\$150,000 over 3 years

Functional electrical-stimulation-assisted walking: reduction of secondary complications due to spinal cord injury

M. R. Popovic, B. C. Craven, K. Boshen, A. Thrasher, L. Giangregorio, M. Tonack, and M. Johnson
Toronto Rehabilitation Institute
\$150,000 over 3 years

Effects of an extended duration activity-based exercise program on secondary complications and immune function in persons with spinal cord injury

K. C. Hayes, J. W. McDonald, L. Hoffman-Goetz, G. A. Dekaban, K. A. Sequiera, and C. Fraser
Parkwood Hospital – Lawson Health Research Institute, University of Western Ontario, and Robarts Research Institute
\$150,000 over 3 years

Coping with neuropathic pain following spinal cord injury

M. Perugini, J. D'Eon, K. Wilson, P. Henwood, J. Blackmer, and L. Grenier
The Rehabilitation Centre
\$24,348 over 3 years

Bisphosphonate therapy for treatment of patients with sublesional osteoporosis after spinal cord injury: a retrospective cohort study

B. C. Craven, A. M. Davis, G. A. Hawker, J. M. Bugaresti, S. A. Jamal, A. Kaiser, and P. Dawson
Toronto Rehabilitation Institute
\$23,359 over 14 months

NEW FUNDING AWARDED (CONTINUED)

Quality of Life for Persons With Spinal Cord Injury CONTINUED

Bisphosphonate therapy for treatment of patients with sublesional osteoporosis after spinal cord injury: a retrospective cohort study

B. C. Craven, A. M. Davis, G. A. Hawker, J. M. Bugaresti, S. A. Jamal, A. Kaiser, and P. Dawson
Toronto Rehabilitation Institute
\$23,359 over 14 months

Spinal cord injury evidence-based review of the scientific literature (SCILit)

J. Eng, W. Miller, R. Teasell, J. Jutai, K. Sequiera, and A. Townson
Parkwood Hospital, University of British Columbia and the GF Strong Rehabilitation Centre
\$50,000 in partnership with the International Collaboration on Repair Discoveries (ICORD) over 18 months

Implementation of the National Spinal Cord Injury Registry in pilot sites in Ontario

M. Verrier
Toronto Rehabilitation Institute
\$300,000 over 2.5 years

Cell adhesive tubular constructs and neural stem cells for SCI repair, remyelination and regeneration

V. Scanga (studentship)
University of Toronto
\$40,000 over 2 years

Secondary complications: immune-mediated channelopathy and neurological function in individuals with long-standing SCI

A. L. Davies (studentship)
Lawson Health Research Institute
\$40,000 over 2 years

Development of the Quadriplegia Hand Assessment Tool for cervical SCI individuals: a discriminative and evaluative approach

S. Kalsi-Ryan (studentship)
University of Toronto
\$40,000 over 2 years

Characterization of the neuroprotective effects of soluble Fas receptor following acute SCI

S. Robins (studentship)
University Health Network
\$40,000 over 2 years

Use of assistive devices by parents with SCI: a preliminary investigation from a user's perspective

A. Kaiser (studentship)
Toronto Rehabilitation Institute
\$40,000 over 2 years

Characterization of the human cellular inflammatory response after SCI

J. Fleming (studentship)
Robarts Research Institute
\$40,000 over 2 years

Novel strategies for functional recovery after complete spinal cord transection based on the implantation of synthetic hydrogel tubes

H. Nomura (fellowship)
University Health Network
\$77,000 over 2 years

Repair of the chronically injured spinal cord: use of neural stem cell transplantation

S. Karimi-Abdolrezaee (fellowship)
University Health Network
\$77,000 over 2 years

Suppression of excitotoxic neuronal death using novel SRC Kinase Inhibitors

Y. Dong (fellowship)
The Hospital for Sick Children
\$77,000 over 2 years

Development project for a SCI model system in the Hamilton Niagara Haldimand Brant local health integrated network

P. Leonard and W. Adair
Hamilton Health Sciences and The Canadian Paraplegic Association Ontario
\$50,000 over six months

Neurotrauma Prevention

Shaken baby syndrome prevention project

R. Volpe and H. Thomas
University of Toronto and McMaster University
\$300,000 over 3 years

Development and evaluation of a hockey skills training program aimed at reducing spinal cord injuries

In partnership with the Canadian Spinal Research Organization
W. J. Montelpare, P. Bishop, P. Corey, B. Faught, A. MacPherson, N. Lavoie, S. Grenier, M. Keightley, M. MacKay, P. McKee, M. McPherson, M. Nystrom, T. Taha, and J. Baker
Lakehead University, University of Waterloo, Sir Wilfred Laurier University, University of Toronto, Brock University, York University, Laurentian University,

Health Sciences North, University of Ottawa, Children's Hospital of Eastern Ontario, and the Ontario Hockey Federation
\$200,000 over 3 years

Three capacity inventory research projects

J. Lewko
Laurentian University
\$50,000 over 1 year

Creating a high-intensity injury prevention centre through community partnerships in North Bay

P. Cliché, J. Griffith, J. Humble, Y. Montcalm, and numerous community partners
The Corporation of the City of North Bay and North Bay Partnerships for Injury Prevention
\$200,000 over 2 years

Full costing of neurotrauma

H. Blanco
Laurentian University, in collaboration with Sunnybrook and Women's College Health Science Centre, and the Workplace Safety and Insurance Board
\$70,576 over 1 year

Casebook II on neurotrauma prevention

R. Volpe
University of Toronto
\$97,000 over 18 months

AUDITOR'S REPORT

To the Directors of ONTARIO NEUROTRAUMA FOUNDATION

We have audited the statement of financial position of Ontario Neurotrauma Foundation as at March 31, 2005 and the statements of revenue and expenses, changes in net assets and cash flow for the year then ended. These financial statements are the responsibility of the foundation's management. 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 plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial

statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the foundation as at March 31, 2005 and the results of its operations and cash flow for the year then ended in accordance with Canadian generally accepted accounting principles.

Stern Cohen LLP
Chartered Accountants
Toronto, Canada
April 15, 2005

STATEMENT OF REVENUE AND EXPENSES

For the year ended March 31,	2005 \$	2004 \$
Revenue		
Ministry of Health funding	4,961,878	3,892,294
Interest and sundry	13,050	136,902
	4,974,928	4,029,196
Expenses		
Research project funding (Note 5)	4,422,890	3,403,841
Administrative salaries and benefits	293,022	236,594
Communications	14,435	28,771
Professional fees	9,321	8,680
Occupancy costs	65,620	62,600
Travel and meetings	57,926	84,025
Insurance	2,171	2,006
Office and general	53,674	54,254
Bank charges	1	1,858
Amortization	42,818	9,665
	4,961,878	3,892,294
Excess of revenue over expenses for the year	13,050	136,902

See accompanying notes.

STATEMENT OF CHANGES IN NET ASSETS

For the year ended March 31,	2005			Total \$	2004 Total \$
	Invested in capital assets \$	Contingency Fund \$	Unrestricted \$		
Beginning of year	25,111	500,000	2,767	527,878	390,976
Excess (deficiency) of revenue over expenses for the year	(42,818)	12,500	43,368	13,050	136,902
Investment in capital assets	79,924	-	(79,924)	-	-
End of year	62,217	512,500	(33,789)	540,928	527,878

See accompanying notes.

AUDITOR'S REPORT (CONTINUED)

STATEMENT OF CASH FLOW

For the year ended March 31,

	2005 \$	2004 \$
Operating activities		
Excess of revenue over expenses for the year	13,050	136,902
Items not involving cash		
Amortization	42,818	9,665
Working capital from operations	55,868	146,567
Change in non-cash working capital balances related to operations		
Deferred grants	38,122	1,407,706
Deferred interest revenue	170,948	-
Funding awards payable	1,367,385	1,524,275
Other	(11,865)	7,697
Cash from operations	1,620,458	3,086,245
Investing activities		
Purchase of property and equipment, net	(79,924)	(16,645)
Purchase of short-term investments	(1,488,045)	(2,751,318)
	(1,567,969)	(2,767,963)
Change in cash during the year	52,489	318,282
Cash (bank indebtedness)		
Beginning of year	51,722	(266,560)
End of year	104,211	51,722

See accompanying notes.

STATEMENT OF FINANCIAL POSITION

For the year ended March 31,

	2005 \$	2004 \$
ASSETS		
Current assets		
Cash	104,211	51,722
Short-term investments	8,617,454	7,129,409
Goods and services tax recoverable	13,779	9,639
Prepaid expenses and deposits	5,380	5,380
	8,740,824	7,196,150
Property and equipment (Note 2)	62,217	25,111
	8,803,041	7,221,261
LIABILITIES		
Current liabilities		
Accounts payable	22,062	29,787
Deferred grants (Note 4)	5,177,443	5,139,321
Deferred interest revenue (Note 5)	170,948	-
Funding awards payable	2,891,660	1,524,275
	8,262,113	6,693,383
NET ASSETS		
Invested in capital assets	62,217	25,111
Contingency fund (Note 6)	512,500	500,000
Unrestricted	(33,789)	2,767
	540,928	527,878
	8,803,041	7,221,261

The full financial statements, including the notes referenced above, are available upon request at the office of the Ontario Neurotrauma Foundation.