TABLE OF CONTENTS

Executive Summary – Conference at a Glance ................................................................. 1
Introduction .......................................................................................................................... 3
   The Structure of the Report .......................................................................................... 4
Part I: Goals, Opportunities and Recommendations ....................................................... 5
   The Goals of the 2014 Conference ............................................................................... 5
   Opportunities ................................................................................................................ 5
       Gaps in Research and Programming ....................................................................... 5
       New/Innovative Initiatives, Research, Interventions and Promising Practices ............. 6
       Partnership Opportunities to Advance Fall Prevention Work in Canada ................... 7
   Conclusions and Recommendations ............................................................................ 9
Part II: Summary of Conference Proceedings ................................................................. 10
   The Structure of the Conference .................................................................................. 10
   Summary of Content by Conference Session and Themes .......................................... 11
       Plenary Sessions ........................................................................................................ 11
       Concurrent Sessions and Symposia by Theme ......................................................... 13
APPENDICES .................................................................................................................. 23
APPENDIX A. Final Program .......................................................................................... 23
APPENDIX B. Abstracts .................................................................................................... 26
   CONCURRENT SESSIONS 1 • MAY 27, 1:45 – 3:00 P.M. .............................................. 26
   CONCURRENT SESSIONS 2 • MAY 28, 9:30 – 10:45 A.M. ........................................... 30
   CONCURRENT SESSIONS 3 • MAY 28, 1:30 – 2:30 P.M. ............................................. 33
   SYMPOSIA 1 • MAY 27, 3:15 – 4:00 P.M. ................................................................. 36
   SYMPOSIA 2 • MAY 28, 2:40 – 3:30 P.M. ................................................................. 37
   POSTER SESSION 1 • MAY 27, 10:30 A.M. – 12:00 P.M. ............................................ 38
   POSTER SESSION 2 • MAY 28, 11:30 A.M. – 12:30 P.M. .......................................... 41
APPENDIX C. Key Contacts ............................................................................................ 43
APPENDIX D. Organizers, Staff and Volunteers ............................................................... 44

EXECUTIVE SUMMARY – Conference at a Glance

On May 27-28, 2014, over 400 delegates attended Watch Your Step: The 2014 National Fall Prevention Conference, at the Eaton Chelsea Hotel in Toronto, Ontario. This high-calibre event brought together experts from across Canada and around the world to share research excellence, clinical advances and policy innovations in fall and injury prevention among older adults. It was an exceptional opportunity for those who work with older adults in all settings.

Keynote speakers talked about research advances, implementation and practical steps to make a difference in fall prevention. There were 60 concurrent sessions that addressed the themes of exercise, environmental modifications, injury prevention equipment, risk assessment, fall prevention in community, hospital and residential care settings, building capacity for prevention, networking, education and training, and prevention among high-risk populations. There were also nine symposia that covered individual topics in greater detail, such as "Preventing Falls in ‘High Risk’ Environments in the Home and Community". The final conference program is presented in APPENDIX A. The full abstracts for each oral presentation, symposium and poster are presented in APPENDIX B. The main content of the conference was organized around twelve key themes. In brief, these were:

1. Move it! Older adults and exercise: How effective exercise programs help prevent falls
2. Take a good look around: The vital role our physical environment plays in fall prevention
3. Getting around: A close look at innovative solutions to common environmental risks
4. Effective fall prevention: How does it work and what are the results: A focus on Aboriginal communities
5. Going boldly into the primary care setting: Implementing new strategies and training tools for fall prevention
6. Being smart, staying safe: Risk factors and assessment in fall prevention
7. It happened so fast! Getting a good handle on how and why people fall
8. Fall prevention road shows: An in-depth look at fall prevention in community settings
9. The ever-growing learning curve: Capacity building, education and training in fall prevention
10. Feeling good! How enhancing well-being can help prevent falls
11. Watching your step while in care: The challenge of preventing falls in hospital and residential care settings
12. It takes a village! How collaboration and networking help propel the fall prevention agenda
A great deal has happened in the field of fall prevention in just the past few years. The Public Health Agency of Canada (formerly Health Canada), with the support of Veterans Affairs, launched the first national fall prevention initiative in 2000. That was the start of national collaborative efforts that have since resulted in numerous reports, guidelines and programs, including the 2001 Best Practices Guide for Fall Prevention, the 2005 Report on Seniors Falls in Canada, the development of the Canadian Falls Prevention Curriculum© in 2007, up to the present with the release of the new Seniors Falls in Canada: Second Report that delegates to this conference received in their conference bags. The Watch Your Step: 2014 National Fall Prevention Conference is itself a follow-up to the highly successful first National Fall Prevention Conference held in Vancouver, British Columbia in 2010.

Delegates at the 2014 conference left with a great deal of new information about developments in research, policy, programming and implementation both in Canada and internationally. They also left with a renewed sense of the challenges still ahead and a renewed commitment and energy to address those challenges. While work of particular organizations was highlighted during the conference, in numerous sessions it was stressed that in order to continue to advance the role of fall prevention across Canada we must strive to work together in a coordinated and strategic way to achieve meaningful reductions of the rate of falls and fall-related injuries among seniors.

Maximizing the ability of prevention partners to work together to approach fall prevention is an imperative public health issue. Successful approaches require a high level of collaboration among individuals, families, communities, non-governmental organizations, and all levels of government responsible for seniors’ health and safety, as well as involvement from sectors and stakeholders outside the traditional boundaries.

A number of key recommendations, opportunities and general conclusions surfaced during the conference through discussions at oral presentations, at targeted meetings and through the post-conference evaluation forms. In brief, these are:

- Effective fall prevention requires strong leadership. To support the health of individuals, communities and systems, strong leadership and shared responsibility must be cultivated at all levels. This requires shared national, provincial and local leadership to provide strategic advice, coordination, and support for fall prevention. Such leadership needs to be sustained and have the capacity to coordinate and support all aspects of prevention efforts.
- There must be commitment to change, and commitment to reduction targets of seniors’ falls and related injuries at the federal, provincial and territory levels.
- There is a need for increased coordination – through establishment of a national network on fall prevention such as the Canadian Fall Prevention Education Collaborative (CFPEC-comprised of provincial leads for the Canadian Falls Prevention Curriculum©), including the Alberta Finding Balance Network, the Ontario Falls Prevention Community of Practice and the Safer Health Care Now/RNAO collaborative as models and core members.
- There is a need to build on existing national collaborations (E.g., CFPEC and GSK-Safer Health Care Now/RNAO) to translate research evidence, spread pockets of excellence and support technical and industrial advances. Information of successful fall-prevention strategies needs to be shared in a systematic way, through education programs for health care providers, in-service training for clinical staff and through local and national events.
- There is a need to harmonize / standardize assessment and intervention – this should start with better access to information and an up-to-date directory of current initiatives.
- Enhance reach to under-serviced groups, e.g., Aboriginal elders, older adults living in rural and remote communities, those with dementia/cognitive impairments and those with osteoporosis.
- There is a need to identify priority research needs and creative solutions to meeting those needs. In general, and to reflect this priorities in increased research investment for fall and injury prevention for older adults.
- There is a need for greater integration of evidence into practice and integration of practice needs into the generation of new evidence.
- Priority should be given and resources should be committed to evaluation, specifically to creating monitoring processes to determine if change is being brought about in the way intended and if the outcomes of our interventions reflect their goals.
- Establish a national society for the planning of future conferences—which should be at least biennial in frequency.
Introduction

There is growing recognition that fall prevention is an important public health issue which can and should be addressed. A public health approach to fall prevention is evidence-based, relying on a careful analysis of the issue and its causes in order to develop practical and effective solutions.\(^1\) By improving monitoring and surveillance systems, identifying key risk factors, adopting evidence-based interventions, and continued integration of knowledge translation and evaluation, this approach can greatly contribute to reducing the negative impact of falls for individuals, family members, caregivers, staff and the health care system.

As identified in an environmental scan of fall prevention initiatives in British Columbia (BC),\(^2\) successful planning and implementation of fall prevention initiatives includes several key factors, including:

- examining preconditions and identifying the nature of the need;
- encouraging local champions;
- forming partnerships, such as coalitions and networks;
- securing sustainable funding;
- strong leadership with decision-making capacity; and
- gaining community or organizational buy-in.

In Canada, many successful fall prevention initiatives and strategies that reflect these factors are taking place in all provinces and territories and at the national level. Many have taken action to provide leadership for the development, implementation and coordination of policies and best practices for the reduction of falls and related injuries among older persons.

A great deal has happened in the field of fall prevention in just the past few years. The Public Health Agency of Canada (formerly Health Canada), with the support of Veterans Affairs, launched the first national fall prevention initiative in 2000. That was the start of national collaborative efforts that have since resulted in the development of numerous reports, guidelines and programs, including the 2001 \textit{Best Practices Guide for Fall Prevention}, the 2005 \textit{Report on Seniors’ Falls in Canada}, the development of the Canadian Falls Prevention Curriculum\(^6\) in 2007, up to the present with the release of the new \textit{Seniors’ Falls in Canada: Second Report} that delegates to this conference received.

Accreditation Canada has also had an enormous impact on the spread of standardized fall prevention plans for health care settings through their 2009 \textit{Required Organizational Practices (ROP)} on fall prevention. The Canadian Institutes of Health Research have in recent years targeted many of their granting opportunities with a focus on injury prevention and seniors’ safety. Many other leading organizations who were represented at this conference, including fall and injury prevention centres in provinces across Canada, Osteoporosis Canada, the Ontario Neurotrauma Foundation, Red Cross, and Safer Health Care Now, and many others have been making great strides in supporting this important issue. Many in industry and private business are developing new and better products to promote seniors’ safety and independence—a number of which offered support for the event, and in turn displayed their wares. The Watch Your Step: 2014 National Fall Prevention Conference, is itself a follow-up to the highly successful, “sold out” first National Fall Prevention Conference held in Vancouver, British Columbia in 2010\(^3\).

The many research and programming innovations presented at this conference are but the tip of the iceberg as new breakthroughs in evidence from Canada and around the world are continually happening. Pockets of excellence have arisen in clinical, community and policy settings both in Canada and internationally (See APPENDIX C for a few key contacts). However, there remains the need for enhanced mechanisms to spread this information and to facilitate its translation into effective practice. There have been innovations in technology and industry but there also remains the need to know what is supported by evidence and what is of practical relevance and feasibility.

---


\(^3\) Key findings presented at this conference are published in a special supplement of the Journal of Safety Research on seniors’ fall prevention.
THE STRUCTURE OF THE REPORT

This report is not intended to be either an exhaustive repetition of the conference nor is it an evaluation of the processes and intended outcomes of the conference. Rather, it is an attempt to summarize the highlights of the conference, in terms of key pieces of information presented, including promising practices, innovative interventions, ground breaking research, gaps identified in research and practice, and opportunities for programming and partnerships in the short to medium term.

The report presents thematic highlights as goals, opportunities, and recommendations in the first section of the document. The second section provides a brief overview of content from the program sessions. Content highlights from the keynote plenary presentations are followed by the concurrent sessions and symposia, grouped under the twelve conference themes. Due to the sheer number of the posters and the necessarily narrow focus of each, no attempt is made to summarize them.

The final conference program is presented in APPENDIX A. The full abstracts for each oral presentation, symposium and poster are presented in APPENDIX B. At the time of this report’s writing, the majority of the slides presented at the conference in either the plenary sessions or the breakout rooms were available for viewing on the conference website: http://watchyourstepcanada.com/program/. It is hoped, therefore, that those readers interested in a more in-depth description of a given presentation or topic than allowed for by the current paper, can follow up with the original authors of the presentation in question. APPENDIX C lists contact information for select innovative initiatives, interventions, and promising practices, beyond those available on the conference web site. APPENDIX D lists the individuals who gave generously of their time to make the conference possible.

Finally, acknowledgement must be made of the dedicated group of moderators and note takers who attended each concurrent session and provided this report’s author with detailed and insightful notes. My sincere thanks goes to these recorders: Mary Lou Boudreau, Stacie Carey, Patricia Cliche, Stephanie Cowle, Bonnie Fiala, Hélène Gagné, Monica Marquis, Monica Menecola, Alison Novak, Patricia Regier, Vicky Scott, Marguerite Thomas, Lindsay Toth, Yasmin Yassin, and Linda Yenssen. Without their efforts, this report would not have been possible. Any errors or omissions remain the responsibility of the principle author.
PART I: Goals, Opportunities and Recommendations

THE GOALS OF THE 2014 CONFERENCE


The Ontario Injury Prevention Resource Centre, housed at Parachute, the British Columbia Injury Research and Prevention Unit, and the Toronto Rehabilitation Institute at the University Health Network, were the co-hosts of the conference. The Co-Chairs of the conference were Ms. Linda Yenssen, Manager of the Ontario Injury Prevention Resource Centre, at Parachute, and Dr. Vicky Scott, Senior Advisor, Fall and Injury Prevention, BC Injury Research and Prevention Unit, Ministry of Health; Clinical Associate Professor, School of Population and Public Health, University of British Columbia. The conference was organized by a Steering Committee who provided overall direction and oversight, and a Program Planning Committee developed the structure of the conference (see APPENDIX D). Overall coordination and event planning was provided by Karin Ivand of Bay House Group Inc. A volunteer committee reviewed the abstracts submitted for the conference.

The event brought together experts from across Canada and around the world to share the latest research, clinical advances, community programs, and policy innovations in fall and injury prevention among older adults. The goal of the conference was to provide an exceptional opportunity for those who work with older adults in all settings: researchers, practitioners and policymakers in the field of seniors’ health and injury prevention, to network, exchange information, and build upon existing capacity to prevent falls. The conference also ran in partnership with and served as the venue for this year’s Falls & Mobility Network Meeting.

OPPORTUNITIES

Gaps in Research and Programming

In Canada, many successful fall prevention strategies are taking place at the national, provincial and local levels and many have taken action to become leaders in fall prevention.

While specific gaps and needs have been noted under each of them, several pertaining to both research and programming surfaced multiple times over the course of the conference, or were otherwise emphasized during the sessions in which they were raised. These are summarized here.

Research Gaps

- Additional research is needed in order to make concrete recommendations about flooring composition and thickness in institutional design.
- Additional research is needed to determine the optimal handrail heights for all ages and stages of users, in order to better inform building codes.
- There is a need for standardized dose/response information for different classes of physical activities. Including consistent point-estimates of the effects of exercise on falls, fractures and BMD.
- There is a need to develop consensus on the optimal rise and run of stairs for consistent recommendation for inclusion in building codes.
• There is a need for improved ecological validity in designing experiments on slips and trips—in particular researchers should make use of real winter weather conditions when testing for slips and trips on ice and other slippery surfaces.

• There is a need for improved surveillance data on falls in general, and in particular for falls among aboriginal, rural and remote populations.

• There is a need for assistance with improving both the uptake and proper use of existing surveillance products, such as the Seniors' Falls in Canada: Second Report from the Public Health Agency of Canada.

• The suggestion was made that within institutional settings, bathroom safety maybe the next high priority research area to address (safety for both caregivers and patients).

• Additional research is needed on the role of mood, emotional stake and beliefs such as fear of falling on incidence of falls and injury. There is also need for additional implementation evaluation of any proposed policies or procedures for addressing such impact.

• Improved cognitive screening tools are needed to support fall risk assessments.

• Additional research is required on the issue of variability in commitment to the use of hip protectors across the nursing home sector.

• Additional research is needed on the effectiveness of hip protectors for community dwelling seniors.

• There is a need for implementation science research on the best ways to get the most out of network models—bridging research and practice.

Programming Gaps

• There is a need for additional training for community support staff at various levels to provide safe and effective programs of physical activity for seniors, especially those that are frail.

• There is a need for effective maintenance programs to facilitate the retention of gains in knowledge and shifts in attitude from mobile clinics as well as behaviour changes from exercise programs.

• Given the growing recognition that making Age Friendly Communities is close to the goals of universal design—and a recognition that not only older Canadians are at risk of falls—there is a need to expand this approach to impact all ages and stages.

• There is a need for multidisciplinary teams, to bring public health and primary care together with a common base of knowledge.

• There is a need to overcome those barriers that still exist for physicians making use of the opportunity for assessment and management offered by annual check ups. An approach is needed to encourage referrals by General Practitioners (GP) to mobile fall clinics, and other disciplines for assessment and intervention opportunities. GPs need to ask about falls at regular check ups—but also need to check their patients’ perceptions of falls/falling.

• There is a need for a common language or taxonomy of events, for reporting to standardize and improve surveillance and etiological understanding of falls in long-term care.

• Strategies for falls that provide adequate incentive and support for effective work are needed in every jurisdiction (e.g., Federal, Provincial, Territorial, etc.).

• There is a need for increased commitment to fall prevention at all levels (e.g., Administrative involvement from organizations sending participants to the Canadian Fall Prevention Curriculum©, to ensure there is support for development/implementation of an intervention following the course.

• Given that enthusiastic & motivated staff members are more successful at compliance with older adults to wear hip protectors, and findings that LTC providers’ commitment is key, there is a need for an approach to improve commitment/enthusiasm/motivation for boards/management and staff at such facilities.

• There is a need for a safety culture to report on near misses in LTC and identify the gaps in each area of process documentation.

New/Innovative Initiatives, Research, Interventions and Promising Practices

The following initiatives were highlighted in various presentations throughout the conference. A review of each is beyond the scope of the current document. The interested reader is referred to the organization or individual responsible. Additional details are available through the presentations housed on the conference website, or through direct contact using the contact information that can be found in APPENDIX C:

• Osteofit (partnership opportunities in research and programming)

• STEADYFEET Balance and Mobility Program

• Building Balance Program of North Simcoe Muskoka Local Health Integration Network
HOMES Risk Assessment
Frost Clutter Image Rating Scale
Toolbox to assist communities in implementing WHO Age Friendly Communities Model
Three Step Home Stairway Evaluation
The Elder Safety Program
Strategies and Actions for Independent Living (SAIL) fall prevention program for publically funded home support clients
Canadian Falls Prevention Curriculum© (CFPC) and supporting text (www.canadianfallprevention.ca)
Getting Started Kit by Safer Health Care Now and the Registered Nurses Association of Ontario
FRAST Screening Assessment
SKIPS videos and KT Initiative
Perth District HU – “Exercises at the Kitchen Sink”
Finding Balance
STEADI (Stopping Elderly Accidents, Deaths and Injuries) Toolkit (US Centres for Disease Control)
Move and Walk
Create a National Fall Prevention Week for November
ProFouND
Grey Bruce Local Health Integration Network

Partnership Opportunities to Advance Fall Prevention Work in Canada

In addition to specific initiatives, the work of particular organizations was highlighted during the conference. In numerous sessions it was stressed that in order to continue to advance the role of fall prevention across Canada, we must strive to work together in a coordinated and strategic way in order to achieve the overall goal towards the reduction of the rate of falls and fall-related injuries among seniors.

Maximizing the ability of prevention partners to work together to approach fall prevention is an imperative public health issue. Successful fall prevention approaches require a high level of collaboration among individuals, families, communities, non-governmental organizations and all levels of government, as well as involvement from sectors and stakeholders outside the traditional boundaries.

To achieve success, it is important to identify key areas that provide support for fall prevention efforts through existing government and non-government initiatives. Again, the interested reader is referred to the organizations themselves, for further information:

- Various health authorities have established best practices in delivery of interventions ranging from mobile health clinics to community programs to enhance strength and balance. (E.g., Fraser Health Falls Prevention Mobile Clinic, Erie St. Clair Falls Prevention Mobile Clinic)
- Toronto Rehabilitation Institute
- University Health Network
- Canadian Fall Prevention Education Collaborative (CFPEC)
- GeniEDGE Task Force
- American Geriatrics Society
- YMCA / YWCA
- British Columbia Ministry of Health Falls Prevention
- Jackson Therapeutic Recreation
- Ontario Shores Centre for Mental Health Sciences
- Public Health Agency of Canada
- Osteoporosis Canada Clinical Practice Guidelines
- Ontario Falls Prevention Community of Practice, via Ontario Neurotrauma Foundation and Ontario Injury Prevention Resource Centre
- Alberta Centre for Injury Control and Research
- Canadian Institutes of Health Research Partnership in Health Systems Grants
- Municipal Parks and Recreation Organizations

Canadian Fall Prevention Education Collaborative

In addition to the program, the conference served as the location for a meeting of the Canadian Fall Prevention Education Collaborative (CFPEC) to discuss next steps for fall prevention across Canada. In an effort to continue to advance the role for fall prevention in Canada and gain an understanding of the various provincial fall prevention positions (both within and outside government), the CFPEC provincial leads from across the country, additional key stakeholders to the Canadian Fall Prevention Curriculum, and representatives from the Public Health Agency of Canada, met to discuss their roles and potential collaborations relating to their position. As a follow-up to this meeting, provincial fall
prevention leads from CFPEC were surveyed regarding the location and organizational affiliation related to their position to summarize their role for fall prevention the summary of this survey is available from British Columbia Injury Research and Prevention Unit at: www.injuryresearch.bc.ca.

As summarized in Table 1, overarching themes of CFPEC leads include providing expertise and leadership, development of strategic priorities; performance measurement, monitoring and surveillance; and building capacity for the promotion of evidence-based fall prevention across sectors.

Table 1: Overarching themes for role and purpose of CFPEC lead positions

<table>
<thead>
<tr>
<th>ROLE/PURPOSE</th>
<th>GOVERNMENT</th>
<th>NON-GOVERNMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provide expertise and leadership</strong></td>
<td>Advise government and key stakeholders on matters related to unintentional injury/seniors’ fall prevention</td>
<td>Provide expertise on the development and management of fall and fall-related prevention policies and initiatives designed to reduce the incidence and impact of falls</td>
</tr>
<tr>
<td></td>
<td>Provide advice and recommendations on legislation, policy and programs to senior management, Ministry executive and Government officials</td>
<td>Provide educational support and work as a liaison with partners from education, health, communities, government and their organizations</td>
</tr>
<tr>
<td><strong>Development and coordination of strategic priorities, programs and initiatives</strong></td>
<td>Liaise with other government departments and NGOs/community on seniors’ fall prevention issues and priority areas</td>
<td>Facilitate cross sectoral and multi-level strategy to reduce falls – includes effective governance; determining the appropriate level and types of assessment and intervention; inclusive local partnerships; local performance measurement</td>
</tr>
<tr>
<td></td>
<td>Develop and coordinate public awareness resources/campaigns for the province</td>
<td>Coordinate public awareness resources and other fall prevention initiatives and provides workshops/presentations to practitioners and seniors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coordinate provincial seniors’ falls prevention programs and the Canadian Falls Prevention Curriculum</td>
</tr>
<tr>
<td><strong>Performance measurement, monitoring and surveillance</strong></td>
<td>Oversee the implementation, monitoring and evaluation of provincial strategies and sub-strategies relating to falls and fall-related injury</td>
<td>Manage contracts/grants focused on seniors’ fall prevention</td>
</tr>
<tr>
<td></td>
<td>Support policy development and surveillance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oversee implementation, monitoring and evaluation of provincial strategic frameworks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oversee seniors’ fall prevention budget and grants to NGOs</td>
<td></td>
</tr>
<tr>
<td><strong>Building capacity across sectors</strong></td>
<td>Participate in stakeholder consultations for the promotion of evidence-based, sustainable seniors’ fall prevention interventions for the health system, external sectors and the community</td>
<td>Participate in inter/multi-sectoral fall prevention committees, networks, coalitions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Understand, support, develop and coordinate falls related activities to support seniors</td>
</tr>
</tbody>
</table>
CONCLUSIONS AND RECOMMENDATIONS

A number of general conclusions and recommendations surfaced as a result of the key points raised, needs and opportunities identified throughout the conference and through the post-conference evaluation forms. In brief, these are:

- Effective fall prevention requires strong leadership. Shared national, provincial and local leadership is required to provide strategic advice, coordination, and support for fall prevention. Sustained leadership and the capacity to coordinate and support all aspects are necessary. To support the health of individuals, communities and systems, strong leadership and shared responsibility must be cultivated at all levels.

- There must be commitment to change, and commitment to reduction targets at the federal, provincial and territory levels.

- There is a need for increased coordination – through establishment of a national network on fall prevention such as the Canadian Fall Prevention Education Collaborative (comprised of provincial leads for the Canadian Falls Prevention Curriculum©), including the Alberta Finding Balance network, the Ontario Falls Prevention Community of Practice and the Safer Health Care Now/RNAO collaborative as models and core members.

- There is a need to build on existing national collaborations (E.g., CFPEC and GSK-Safer Health Care Now/RNAO) to translate research evidence, spread pockets of excellence and support technical and industrial advances. Information of successful fall-prevention strategies needs to be shared in a systematic way, through education programs for health care providers, in-service training for clinical staff and through local and national events.

- There is a need to harmonize / standardize assessment and intervention – start with better access / directory of current initiatives.

- Enhance reach to under-serviced groups, e.g., Aboriginal elders, older adults living in rural and remote communities, those with dementia/cognitive impairments and those with osteoporosis.

- There is a need to identify priority research needs and creative solutions to meeting those needs. In general, increased research investment for fall and injury prevention for older adults is recommended.

- There is a need for greater integration of evidence into practice and integration of practice needs into the generation of new evidence.

- Priority should be given and resources should be committed to creating monitoring processes to determine if change is being brought about in the way intended and if the outcomes of our interventions reflect their goals.

- Establish a national society for the planning of future conferences—which should be at least biennial in frequency.
THE STRUCTURE OF THE CONFERENCE

The conference itself was opened on the morning of May 27, by a series of key speakers. Co-chairs Linda Yenssen, Manager of the Ontario Injury Prevention Resource Centre at Parachute, and Dr. Vicky Scott, Senior Advisor on Fall and Injury Prevention, BC Injury Research and Prevention Unit and the British Columbia Ministry of Health welcomed delegates and set the tone for the conference with a few well chosen remarks. Louise Logan, President & CEO of Parachute gave remarks as one of the co-hosting organizations. Steven Smith, Director of Marketing and Category Management at Shoppers Home Health Care then provided opening remarks as one of the valued partners of the conference and Dr. Philip Groff, of Creative Development Unlimited, served as Master of Ceremonies throughout the two days.

The main content of the conference was organized around the following twelve key themes:

1. Move it! Older adults and exercise: How effective exercise programs help prevent falls
2. Take a good look around: The vital role our physical environment plays in fall prevention
3. Getting around: A close look at innovative solutions to common environmental risks
4. Effective fall prevention: How does it work and what are the results: A focus on Aboriginal communities
5. Going boldly into the primary care setting: Implementing new strategies and training tools for fall prevention
6. Being smart, staying safe: Risk factors and assessment in fall prevention
7. It happened so fast! Getting a good handle on how and why people fall
8. Fall prevention road shows: An in-depth look at fall prevention in community settings
9. The ever-growing learning curve: Capacity building, education and training in fall prevention
10. Feeling good! How enhancing well-being can help prevent falls
11. Watching your step while in care: The challenge of preventing falls in hospital and residential care settings
12. It takes a village! How collaboration and networking help propel the fall prevention agenda

Each theme was represented by at least one concurrent session of four or five oral presentations, of 15 minutes in length, spread throughout six breakout rooms, on three separate occasions, one on the afternoon of May 27, and one each during the morning and afternoon of May 28.

In addition to these concurrent sessions, there were two sets of conference symposia, each addressing a single topic in greater detail. While not specifically listed in the conference program under the thematic headings like the concurrent sessions, these symposia were nonetheless selected to reflect these same conference themes.

Thirty poster presentations were made at the conference. These posters were displayed throughout the conference, but were also given a brief oral introduction by the authors, during one special, “minute madness” session, held on each day of the conference in the plenary room. A number of sponsors and exhibitors also had displays set up in public areas throughout the conference.
At the conclusion of the first day, conference delegates were invited to tour the Toronto Rehabilitation Institute, and in particular the Challenging Environment Assessment Laboratory (CEAL). This allowed all conference delegates to experience some of what occurred the day before the conference, when a “Thrills and Chills” experiential event was hosted at CEAL. This facility has state of the art “fall prevention laboratories” that mimic environmental hazards that cause falls. The goal of this event was to help raise awareness of the issue of fall prevention by inviting key “influencers” including local celebrities and members of the press to take part in a series of “experiences,” such as walking on the staircase, in the winter lab, home lab and on the moving platform and then encourage them to talk about and publicize fall prevention among their networks.

Finally, a closing panel invited a team of international researchers to briefly speculate on the future of the field of fall prevention, and to address questions from delegates.

At various times during plenary sessions, Clara Fitzgerald, Director of the Canadian Centre for Activity and Aging (CCAA) at Western University led stretching and energizing breaks. These sessions served the dual purpose of combating fatigue among conference participants, and also teaching some best practices in physical fitness promotion for older adults, as developed by Dr. Fitzgerald at the Centre. The Centre generously donated an exercise ball for each conference delegate, which was used during these sessions.

**SUMMARY OF CONTENT BY CONFERENCE SESSION AND THEMES**

**Plenary Sessions**

Four plenary sessions were presented throughout the conference, allowing all participants to hear from these particular keynote speakers. Dr. Marla Shapiro gave the opening keynote, on May 27. Dr. Dean Fixsen presented at the start of that afternoon. Dr. Stephen Robinovitch presented first thing in the morning on May 28, and Dr. Stephen Lord finished that morning.

Dr. Marla Shapiro gave a keynote entitled “Approaches to Improve Gait and Reduce the Risk of Falling in the Elderly.” Dr. Shapiro has been the health and medical expert for Canada AM on CTV since 2000. As such, she is regularly exposed to the latest information on a variety of health concerns. She opened her presentation by noting that falls are more prevalent than heart attack, stroke and breast cancer combined but less focus and awareness is placed on them in the media, the public mindset, and in health policy and clinical practice. Stating that this conference was crucial if we are to “understand today to prepare for tomorrow,” she reviewed some of the recent statistics on the incidence and prevalence of falls, and the burden of osteoporosis. She reflected on her own clinical practice and made strong recommendations to other practitioners. Specifically, she discussed the need for primary care physicians to take their role in fall prevention seriously, by conducting assessments with their patients including a short performance physical battery: Timed Up and Go, Gait Analysis, Functional Reach, Chair Stands, Side by Side, Semi Tandem Stands, Tandem Gait, 8 foot walk test, and Grip Strength (which she noted was a particularly useful indicator of overall wellness). She recommended primary care interventions focus on the annual check-up with the intent to prevent injuries. Physicians should ask their patients about falls, undertake medication reviews, recommend functional exercises, and explain to their patients the potential impact of fractures and how they can be prevented. She concluded by reminding the conference participants of the need for coordinated action; stating, “health care is a team sport.”

Dr. Dean Fixsen of the University of North Carolina at Chapel Hill introduced the National Implementation Research Network (NIRN) and gave an overview of “Implementation Science” in his plenary. As co-author of the highly regarded monograph, *Implementation Research: A Synthesis of the Literature* (http://nim.fmhi.usf.edu), he has served on numerous editorial boards and has advised federal, state, and local governments. Dr. Fixsen identified the role of implementation science in helping changes in policy and practice to happen, through such classic channels as dissemination, manuals, websites, laws, mandates, and organizational changes. Although he noted that without ongoing support, changes to process or outcomes will not happen. Putting money into a proven practice, without also offering good training, support, and good implementation does not produce the intended benefits. Indeed, his research has shown that without adequate support for implementation, even the best of evidence-informed practices will prove only 5%-15% effective. This is not to say that the quality of the intervention doesn’t matter, the intervention needs to be effective and evidence based, however, you then need an enabling context to produce socially significant outcomes. In order to achieve this, it is essential that we begin to do fidelity assessments, regularly checking that we are implementing best practices, as intended, and with full attention to a supportive context. Also, he emphasized the need to look at the quality of your coaches and where you have resources currently deployed. Coaching and leadership are often missing—yet needed for effectiveness. There is a need for organizational support, that implies that the organization needs to change to support the effectiveness of the innovation. A good intervention requires a good implementation team (minimum of 3 however, 4 or 5 is better) who have expertise and the ability to sustain movement of the practice despite turnover.
In short, coordinated action, is again key, as for successful implementation of a best practice, simultaneous, multi-level work is needed. Dr. Fixsen offered the resources of NIRT to assist with an implementation plan. He also noted that there is a Global Conference on Implementation Science planned for Ireland in 2015, and that he would hope we could bring the next biennial conference to Canada in 2017.

Dr. Stephen Robinovitch presented a talk entitled, “Moving forward in fall prevention by stepping back: Video evidence of the circumstances of falls in LTC.” This work – funded by a Canadian Institutes of Health Research grant – seeks to generate new understanding of the risk factors for injury and mobility impairment, and to develop and test novel interventions. He began the presentation with a brief overview of some data indicating that head injuries due to falls are increasing while injuries to hip and wrist are showing steady rates. The biomechanical perspective of his presentation emphasized that the fundamental problem in falls is the problem of managing energy during the fall—young people can manage it, while older adults typically don’t. He presented results from a study involving video recording of falls in Long Term Care homes in BC – involving 270 cameras placed in common areas—with consent for this filming obtained from each resident on admission. Overall findings are that 20% of falls lead to an injury, with nearly half of those (47%) being head injuries. The key factors involved in the majority of observed falls were incorrect weight transfer, followed by loss of support, slips and trips, collisions, and collapses. On the basis of these observations, his team has been developing three key interventions: an exercise program to avoid head impact during falls, a study of compliant floor-cells underneath hospital grade flooring that reduce injuries to the hip by 30% and to the head by 70%, and finally, hip protectors that work for people willing and able to wear them. He noted the potential of such naturalistic observation to inform future fall prevention efforts in other contexts.

Dr. Stephen Lord, Senior Principal Research Fellow at Neuroscience Research Australia in Sydney, Australia gave a keynote presentation on “Recent findings from NeuRA fall risk factor and intervention studies and Australian Knowledge Translation Initiatives.” Dr. Lord presented research with a focus on risk-taking involving prospective choices of routes to take on a timed course of varying perceived risk (based on the height of a beam the participant believed they would traverse on each course). The results revealed that men are greater risk takers, and that the oldest group tested tended to choose what was perceived to be the safest risks. While neither of these findings was surprising, what was interesting was that the behavioural risk and the individual’s self-assessment of their risk tolerance were not associated. People did not accurately predict how risk tolerant or adverse they behaved in practice.

This is important to consider when designing interventions for falls, because higher risk takers have been shown to have more falls. Dr. Lord also presented results from research on the impact of exercise programming on stepping and falls. In the initial research phase it was found that conflicting visual stimuli reduce the accuracy and speed of participants stepping. There is an important role for executive function in the determination of risk for falls. Exercises that specifically train up both of these executive functioning, as well as, physical gait and balance factors show promise—specifically an intervention based on a popular dance video game that challenges participants to follow a complex pattern of foot placement in both space and time. He concluded by stating the need for further investigation of risk taking and behavioural self-assessment as well as new research into the use of video game technology (e.g., the Wii, Dance Dance Revolution, etc.) to improve cognitive executive function, as well as reaction time and accuracy of stepping. For additional Knowledge Translation initiatives, Dr. Lord directed participants to the Australia and New Zealand Falls Prevention Society Conference upcoming in November 2014, the education committee under Australia/NZ Falls Prevention Society and the National Health and Medical Research Council. He also recommended the New South Wales Fall Prevention Website—Stepping On Program—that will be available up to 2015, at Neuroscience Research Australia.

In the closing panel of experts from Canada, the United States, Australia and Europe, a number of exciting and innovative recommendations were put forward for the future of fall prevention based on years of research and practical experience. Dr. Fabio Feldman, Fall and Injury Prevention Manager with the BC Fraser Health Authority, talked about the importance of collaborating and that great things will happen in the future if we keep this in mind. He placed an emphasis on the need for Osteoporosis Canada and those in fall prevention to work together to reduce falls and resulting fractures. One solution to this would be to hold a joint Fall and Fracture conference. Dr. Judy Stevens from the Unintentional Injury Prevention Division of the U.S. Centers for Disease Control talked about the importance of measuring other ways of staying fit. She felt there was room for research in looking at new approaches such as the effects of dance to enhance balance, mobility and overall fitness and that the future should include this aspect to reducing falls. Dr. Stephen Lord emphasized the importance of the role of cognitive impairments in fall risk and the need for specialized prevention strategies. He emphasized the need to implement exercises with a cognitive component such as electronic games that involve the mind and the body. Dr. Dawn Skelton, Professor of Ageing and Health at Glasgow Caledonian University and leader of a working group with the European Prevention of Falls Network for Dissemination (ProFouND), shared her
experience of working on a cascade training program for health professionals on older adult exercise to prevent falls. She stressed the importance of having qualified exercise trainers with the skills to overcome barriers to exercise and to initiate motivators to enhance uptake and adherence to evidence-based exercise to prevent falls.

**Concurrent Sessions and Symposia by Theme**

Full abstracts for each presentation and symposium can be found in APPENDIX B. The majority of the slides from the presentations are currently available at: [http://watchyourstepcanada.com/program/](http://watchyourstepcanada.com/program/)

**1. Move it! Older adults and exercise: How effective exercise programs help prevent falls**

This theme was addressed at two concurrent sessions. The first of these, held on May 27, 2014, consisted of five presentations:

- **STEADYFEET® Balance and Mobility Program:** Program overview
- **Introductory Osteofit Program Provides Effective Exercise Program for Seniors in Adult Day Program**
- **Building Balance: Lessons Learned From an Evidence-Based Fall Prevention Program for Community-Dwelling Seniors**
- **Fall Prevention Programs for Community-Dwelling Seniors Are An Effective Way to Increase Strength and Balance As Well As Perceived Physical Functioning**
- **Lessons Learned From the Provision of a Community-Based Falls Prevention Program for Frail Homebound Seniors**

The second concurrent session was held on May 28, 2014 and consisted of five additional presentations:

- **Physical Activity Patterns of Older Adults in Assisted Living Residences**
- **Exercise and Fall Prevention Education: A Collaborative Approach in the North Simcoe Muskoka LHIN**
- **Can Behaviour Change Strategies Increase Exercise Uptake Among Older Adults At Risk for Falls?**
- **Prevention as a Solution. Lappset is a New Preventative Exercise Approach Originating in Finland Now Offered in Canada**
- **Improve Key Factors Related to Falls – Safety, Posture & Balance: The Evidence-Proven and Innovative Use of Walking Poles**

Additionally, two symposia were held, one on each day, which addressed aspects of this theme. In chronological order, they were:

- **Safe Movement and Exercise Recommendations for Individuals at Risk of Falls & Fracture**
- **Pushing It to the Limit: Measuring and Training Rapid Balance Responses to Prevent Falls**

The presentations at the concurrent sessions offered a variety of recommendations for physical activity as interventions for reducing the risk of falls. The majority presented evidence of effective techniques for improving strength and balance in participants in a number of different contexts ranging from institutional settings to day programs for community dwelling seniors. A second set of presentations examined some of the barriers to uptake of increased physical activity. Finally, the symposia explored in some detail the recommendations for physical activity in individuals at risk for osteoporotic fracture, and of perturbation training to expose impairments not revealed in traditional assessments and strategies to improve confidence and performance in real world navigation.

**Key Points:**

- Sitting classes are less effective at improving functional fitness but are often the only alternative for frail seniors due to a lack of staff training for seniors with chronic health problems.
- Put the “fun” in functional. Less emphasis on exercise for its own sake, which was not part of the culture of most current seniors in their youth.
- PTs and PTAs can deliver safe and effective programs if funding and coordination are removed as barriers.
- Program retention best when adhering to 3 Fs: Free, Fun, and Food.
- Need to consider mechanical load on spine as well as balance for assessment of those at risk. Need to assess for functional risk for fracture if working with those at high risk of osteoporotic fracture.
- Emphasize moderate aerobic activity over vigorous intensity. Progressive training is also a key feature.
- Do not engage in aerobic training to the exclusion of resistance and balance training.
- Perturbation training significantly improves reactive balance and enhances confidence in negotiating the environment.
Gaps/Needs:
• Evaluation of standardized dosage of physical activity.
• Improved outcome measures for interventions increasing physical activity—scarce and inconsistent point estimates of the effects of exercise on falls, fractures, and bone mineral density (BMD).
• Additional resources needed to train trainers in various programs.
• Most Adult Day Program staff are not trained to deliver a safe and effective exercise program for frail seniors.
• After exercise classes are completed, need to develop maintenance programs to encourage continued activity.
• Turnover of Personal Support Worker (PSW) provider impacts on sustainability of programs.
• Need better tools to quantify the risks of exercise programs.
• Research is needed to evaluate balance in community dwelling seniors with chronic stroke.

Partnerships and Programs:
• Vancouver Coastal Health Authority, and Fraser Health Authority
• British Columbia Injury Research and Prevention Unit
• Centre for Hip Health and Mobility in British Columbia
• Osteofit (partnership opportunities in research and programming)
• STEADYFEET Balance and Mobility Program
• Building Balance Program of North Simcoe Muskoka Local Health Integration Network
• Stand Up Program
• Aging at Home Strategy funding
• Canadian Centre for Activity and Aging
• Safe Functional Motion (SFM) Test
• Toronto Rehabilitation Institute (TRI)
• University Health Network (UHN)

2. Take a good look around: The vital role our physical environment plays in fall prevention

This theme was addressed at a concurrent session on May 27, 2014. It consisted of four presentations:
• Biomechanical Effectiveness of Flooring Systems During Back-of-Head Impacts: Implications for Surface Selection in Residential and Institutional Environments
• Age-related differences in dynamic balance control during stair descent and effect of varying step geometry
• Beyond Scatter Rugs: How Excess Clutter Creates a Serious Health and Safety Risk
• Using the Age Friendly Communities Model to Address Falls Prevention among Seniors, Public Health Agency of Canada

The content of the presentations ranged from an investigation of the impact of energy absorbing flooring on injury outcomes through recommendations for universal design specifications for the rise and run of stairs, and strategies to address environmental clutter as a risk for falls, to discussion of the Age Friendly Communities Model.

Key Points:
• The greatest reduction in head injury severity resulting from falls in institutional environments was achieved by the combination of large energy absorbing mats on top of both traditional and energy absorbing flooring.
• The best rise and run configuration for stairs has been empirically determined to be 7” rise to 11” run. This facilitates balance and stability, with or without handrail use, and without the need to change behaviour of stair users.
• A harm reduction strategy is crucial in dealing with issues of environmental clutter in homes. Communication between care-providers and different services or sectors is important, as is good facilitation skills in dealing with clients as those living with clutter are often stuck in a pre-contemplation stage of readiness for change.
• Importance of viewing falls as other than just a behavioural issue. Without good design and supportive environments no amount of behavioural change will be sufficient to address the problem. The Cochrane Collaboration reviewed best practices for broad community changes through the Age Friendly Communities Model. Importance of involving whole community in making changes.
Gaps/Needs:

- Additional research to make concrete recommendations about flooring composition and thickness in institutional design.
- Ability to influence building codes to enforce best practice universal design elements in stairway construction for new and renovated buildings.
- Additional supports for dealing with the psychological and emotional state of hoarders and others who live with clutter.
- Recognition that making Age Friendly Communities is close to goals of universal design—not only older Canadians are at risk of falls. Need to expand this approach to impact all ages and stages.

Partnerships and Programs:

- HOMES risk Assessment
- Frost Clutter Image Rating Scale
- Toolbox to assist communities in implementing WHO Age Friendly Communities Model
- Model communities include Grey Bruce, Ontario; Gladstone, Manitoba; and Revelstoke, British Columbia.

3. Getting around: A close look at innovative solutions to common environmental risks

This theme was addressed at a concurrent session on May 27, 2014. It consisted of five presentations:

- Influence of Handrail Height on Reach-To-Grasp Balance Recovery Reactions on Level and Inclined Walkways: A Pilot Study
- Three-step, Home Stairway Evaluation for Fall Risk in One Minute Using Your Eyes, Hand, and the Most Simple Measurement Tool
- Effects of Slope and Contamination on the Perception of Ramp Slipperiness In Winter Conditions
- The Effects of Glass Stair Treads on Stair Users in a Retail Store
- Measuring Performance of Slip Resistant Winter Footwear on Snowy and Icy Slopes

In addition, this theme was addressed in a symposium held on May 27, 2014:

- Preventing Falls in ‘High Risk’ Environments in the Home and Community

The presentations ranged from a discussion of optimal handrail heights for stairs, through a simple assessment of home stairway risks, the additional risks posed by slippery surfaces on ramps, and the unintended consequences of artistic innovation in stairway construction, to a discussion of slip resistant winter footwear. The symposium presented recommendations on translating research into practice from work at Toronto Rehab Institute examining a number of ‘high risk’ environments including walking in winter, misaligned curb cuts, and falls on stairs and in bathrooms.

Key Points:

- Contrary to prediction, test subjects actually prefer a higher handrail than is currently permitted by code. Consideration should be given to models in other countries that allow double railings (Sweden, New Zealand).
- Population with highest growth of falls on stairs is aged 50-65, not older. Home stair design is a major factor that needs to be addressed through future changes to building codes.
- External ramps can pose significant hazards when slippery due to wetness. This varies somewhat by material, but in general no ramps should exceed 4.8 degrees of slope. Building codes need to change to reflect this.
- Study of architectural innovation of glass surfaces in spiral staircases reveals unanticipated additional risk factors. Glass increases risk of slipping and tripping, as does the choice of direction for spiraling, with counter-clockwise spirals increasing risk of falls.
- Research at Toronto Rehabilitation Institute has focused on better testing standards for winter footwear, intersections without curb cuts or with misaligned curb cuts and their particular interaction with winter weather conditions. Also the need to bridge health and building sectors to influence building codes for falls in stairs and in bathrooms (e.g., move to make grab bars mandatory in all new and renovated bathrooms in homes). Need to test on actual winter conditions to make best possible recommendations.

Gaps/Needs:

- To determine optimum handrail height or mix of heights for all ages and stages to better inform building codes.
- More research needed to confirm optimum rise and run of stairs, though 14” run seems optimal.
- Further research needed on how people perceive slipperiness.
- Information on ‘optimal angle’ for wheelchairs.
• Lack of diverse strategies to increase education on stairway safety design.
• Slip and fall studies rarely use real winter conditions and thus lack ecological validity.
• A label system for the 20-degree slope.
• A business model needs to be added to healthcare research on falls.
• Bathroom safety maybe the next high priority research area to address (safety for both caregivers and patients).
• More research is needed on the role of visual impairments in falls on stairs. In particular the potential of tactile warning surfaces to mitigate any additional risk for those with visual impairments.

Partnerships and Programs:
• Three Step Home Stairway Evaluation
• Engage architects (perhaps through schools of architecture) to get them to think about issues of safety in tandem with goals of innovative and attractive design features.
• Organizations such as Ontario Injury Prevention Resource Centre, British Columbia Injury Research and Prevention Unit, Parachute, Canadian Public Health Agency, and Ontario Neurotrauma Foundation could help to promote public review processes when modifying building codes.

4. Effective fall prevention: How does it work and what are the results: A focus on Aboriginal communities

This theme was addressed at a concurrent session on May 28, 2014. It consisted of four presentations:
• Systematic Review of Fall and Fall-Related Injury Studies Among Older Indigenous People in Australia, Canada, New Zealand, and the United States
• Elder Safety Program for fall and fire prevention for elders living on reserves who receive publicly funded home support services
• Survey and Site Visit of Fall Prevention Programs for Older Adults in Native American and Canadian Aboriginal Communities
• Effectiveness of Fall Prevention Interventions: A Systematic Review and Network Meta-Analysis

Presentations ranged from an international to a local perspective, and from basic questions of incidence and etiology of falls in aboriginal communities to evidence based approaches to prevention.

Key Points:
• Of the 34 studies included in the systematic review of falls and related injuries in aboriginal communities in four countries, only 4 specifically highlighted fall prevention.
• Falls and fires are serious problems among older adults in First Nations communities.
• See gaps and needs, as these were the primary points identified.

Gaps/Needs:
• Need for improved surveillance data. Currently little information is available on which to base recommendations.
• Had to rely on telephone survey methodology as other approaches were blocked due to government firewalls for on-line surveys.
• Hard to get this priority on the agenda. Challenges of travel and communication, as well as meeting basic needs of life dominate in the poorer communities
• Service delivery methods vary by country, region and even community
• Need to spend time developing significant level of trust with community before they are willing to work with you.

Partnerships and Programs:
• Linkages between developed nations with indigenous populations allows for sharing of information on common risks, as well as examples of building upon community capacity.
• Indian Health Service (IHS)) Program Development Fellowship (and Surveillance Fellowship) is an excellent model for advancing effective prevention with local partners
• The Elder Safety Program in B.C. will be further tested and then made more widely available
• Stay Active and Independent for Life (SAIL) resources used in site visit and plans are underway to adapt this program for use in Aboriginal communities
5. Going boldly into the primary care setting: Implementing new strategies and training tools for fall prevention

This theme was addressed at a concurrent session on May 28, 2014. It consisted of three presentations:

- Breaking New Ground: Fitting Fall Prevention into Primary Care
- Evaluation of an Evidence-Based Education Program for Health Professionals: The Canadian Falls Prevention Curriculum© (CFPC)
- A Comprehensive Multidisciplinary Falls Prevention Clinic in Primary Care: Lessons Learned

The presentations in this session focused on successful approaches to fall prevention strategies in a primary care context, with or without a team approach being in place, as well as an evaluation of a curriculum that has been used to successfully train those working in primary care, among others.

**Key Points:**

- There is a need for multidisciplinary teams to bring public health and primary care together with a common base of knowledge.
- Family health teams are a great opportunity for a multidisciplinary fall prevention assessment.
- A clinic approach is possible when teams are not in place and involve a Registered Nurse, Occupational Therapist, pharmacist stations, for 15-minute assessments. This led to 30% increase in falls awareness.

**Gaps/Needs:**

- Missing a cognitive screen—need to rely on self report.
- Need to adapt Canadian Falls Prevention Curriculum© to specific groups/sectors.
- Difficulty in getting physicians to refer patients to a fall prevention clinic.
- Follow up on recommended changes (e.g., medication review and reduction) needed.

**Partnerships and Programs:**

- Canadian Falls Prevention Curriculum© and supporting text
- The Fall Risk Assessment Screening Tool (FRAST)
- SKIPS videos and Knowledge Transfer Initiative
- Perth District Health Unit – “Exercises at the Kitchen Sink”
- Recruitment through flu clinics

6. Being smart, staying safe: Risk factors and assessment in fall prevention

This theme was addressed at a concurrent session on May 27, 2014. It consisted of five presentations:

- Working Together Towards Best Practice in Falls Risk Assessment and Management: A Successful Partnership Between Finding Balance and Alberta Health Services
- Prevalence of and Risk Factors for Falls in Older People in an Urban Community in South Africa
- Facilitating the Implementation of Evidence-based Falls Assessment and Management Guidelines into the Medical Practice of Family Doctors in Alberta
- Extending the Activities-Specific Balance Confidence (ABC) Scale to Capture Pedestrian and Transportation Related Situations: Psychometric Properties
- Using Knowledge Translation Theory to Optimize Balance Assessment Practices for Fall Prevention

There was also a symposium related to this theme, on May 27, 2014, entitled:

- Recommendations on Risk of Falling Assessment: Outcome of the GeriEDGE Workgroup

The presentations ranged from descriptions of falls risk factor profiles in various settings including Alberta and South Africa, through recommendations for best-practice in risk assessment at the community level, and in specific circumstances such as pedestrian and transportation situations, to evidence based, KT approaches in clinical decision making around the risk factor of balance. The symposium focused on evidence based recommendations for screening approaches from the perspective of physiotherapists (PTs).

**Key Points:**

- Expanded multidisciplinary fall risk management algorithm developed from UK and US models, provides consistent best-practice information to health practitioners in Alberta.
- Presentation on prevalence of and risk factors for falls in South Africa addresses prior gap in knowledge.
- Annual medical check- up provides opportunity for identification of falls risk and development of individualized management plan.
- Widely used Activities-Specific Balance Confidence (ABC) Scale can be adapted to pedestrian and other situations related to mobility in the community.
- Best practices in Knowledge Translation need to be employed for adoption of best practices in assessment.
Systematic review available with recommendations for physiotherapists on choosing the best tool for clinically relevant risk screening and assessment, based on population. Attempt to correct lack of standardization on evidence to practice so that health professionals know which tool is clinically sound, feasible, interpretable for risk screening (done by clinicians), assessment (for clinicians and patients), and reduction of risk (for patients).

Gaps/Needs:
- Barriers still exist for physicians making use of opportunity for assessment and management offered by annual check-ups.
- Need to adapt existing scales and tools to increase ecological validity in navigating “real world” situations.
- More work on best practices in Knowledge Translation for encouraging adoption of best practices in assessment in clinical setting.
- Systematic review reveals proliferation of screening and assessment tools, with lack of standardization around use in specific populations.

Partnerships and Programs:
- Finding Balance
- STEADI Toolkit (US Centers for Disease Control)
- American Geriatrics Society
- GeniEDGE Task Force

7. It happened so fast! Getting a good handle on how and why people fall

This theme was addressed at a concurrent session on May 28, 2014. It consisted of five presentations:
- Help! I've Fallen! Post-falls Assessment Processes in Alberta Health Services (AHS)
- The Development and Implementation of a Post-Fall Protocol for Acute and Long-Term Care Settings
- Accuracy of Incident Report in Describing Fall Characteristics in Long-Term Care
- Emerging Complexity of Recurrent Falls in LTC: A Case Study Supported by Video
- Characteristics of Falls in Individuals with Parkinson’s Disease: Insights from Video Recordings of Actual Fall Events

It was further addressed by a symposium on May 27, 2014, entitled:
- HELPER (Health Evaluation Logging and Personal Emergency Response) System: Use of Technology to Detect Falls and Better Understand Precipitants

The presentations ranged from the motivation for and development of post-falls assessment procedures and response protocols in a number of jurisdictions, through assessment of incident reporting systems for validity, and a rich case study of the multiple, complex determinants of falls in a frequent faller, to specific risks seen in a population with Parkinson’s Disease (PD). The symposium provided an in depth overview of a particular application of near infrared technology to the problem of detecting falls.

Key Points:
- Head injuries are not always immediately apparent and thus may not be captured in post-falls assessments.
- Need to leave patient on floor after fall until properly assessed, as quickly as possible.
- 64% of falls in institutional settings are not witnessed, and many post fall assessments of cause are inaccurate as a result. There is a systematic over-reporting of slips and and under-reporting of incidents of loss of physical support.
- Environmental supports needed for patients with specific risk factors associated with Parkinson’s Disease (PD) (e.g., grab bars could prevent many falls).
- Cognitive impairments are underappreciated as a cause of falls, and in particular multiple falls.
- Technological innovations allow for detection of falls in the many situations where they normally are not witnessed (e.g., bathrooms). No call-centre necessary and signals only fall event, without intrusive filming of patient’s private time. Approach can reduce incidence of falls, or at least harm through recommendations for interventions such as hip protectors.

Gaps/Needs:
- A way to handle patients who leave before 24-hour, post-fall monitoring period is complete.
- Need for increased education for nursing staff about how to respond to a patient who has fallen.
- Need to ask fallers why they fell but also need to check their perceptions.
- Additional research needed on the causes of under-reporting.
• A common language, taxonomy of events, for reporting is needed to standardize and improve surveillance and etiological understanding of falls in long-term care.

• Need to better understand the role of timing of medication for PD as a risk factor for falls.

• Introduction of falls detection systems, balanced with patient fears of intrusion on privacy.

Partnerships and Programs:
• ONF Handout for head injury
• HELPER System

8. Fall prevention road shows: An In-Depth Look at Fall Prevention in Community Settings

This theme was addressed at a concurrent session on May 27, 2014. It consisted of five presentations:

• Evaluation of the Uptake and Adherence to the Recommendations from a Mobile Falls Prevention Clinic for Community Dwelling Seniors

• Engaging Community-Based Organizations in Fall Prevention for Older Adults: Moving Research into Action

• The Erie St. Clair Falls Prevention Mobile Clinic: A Collaborative Initiative Based on the Fraser Health Model in BC

• Developing a Fall Prevention Clinic: Findings from the Fraser Health Falls Prevention Mobile Clinic

• The Role of the CCAC Community Care Coordinator in Falls Prevention: Applied Tools and Education

In addition, a symposium held on May 28, 2014 also addressed this theme. It was entitled:

• Maximizing Public Health Impact by Integrating Older Adult Fall Prevention Programs

The presentations focused on the development and effectiveness of mobile fall prevention clinics in a number of jurisdictions, and the need for integration of community services to address falls effectively. The symposium addressed this latter issue in detailing the efforts of the Centre for Disease Control and Prevention (CDC) National Center for Injury Prevention and Control to promote effective community fall prevention initiatives.

Key Points:
• Mobile clinics are able to engage community-dwelling seniors and their caregivers. Proven models for their deployment exist. Vans are not a necessary feature, can often find donated space. Most communities have capacity to build upon. Need a collaborative model to tap into community infrastructure.

• BEECH model (from the Canadian Falls Prevention Curriculum) is an effective framework for clinics.

• Referrals are more effective than advertising in driving uptake of mobile clinic resources.

• Only 37% of community service providers feel confident that they could provide fall prevention programs or resources.

• Be prepared for patients who fall while at the clinic.

• Muscle weakness remains a key risk factor that needs to be addressed.

Gaps/Needs:
• Need to get General Practitioners (GP) to make referrals to mobile clinics.

• Provincial strategy for falls, and community service providers need more online resources.

• Need better post-clinic follow up.

• Exercise recommendations show the lowest retention of clinic interventions. Need to investigate barriers and develop strategy for sustainable change in these habits.

• Need changes to Resident Assessment Instrument (RAI) to facilitate ease of use in mobile setting.

Partnerships and Programs:
• Fraser Health Falls Prevention Mobile Clinic
• Erie St. Clair Falls Prevention Mobile Clinic
• Care partners and extended partners
• Community Care Access Centre Care Coordinator
• STEADI (Stopping Elderly Accidents, Deaths and Injuries) Toolkit
• YMCA
• Canadian Centre for Activity and Aging for exercise component
9. The ever-growing learning curve: Capacity Building, Education and Training in Fall Prevention

This theme was addressed at a concurrent session on May 28, 2014. It consisted of four presentations:

- Building Sustainable Community Capacity for Falls Prevention
- Primary Care Fall Prevention Multimedia Training Package: 2012 Evaluation
- Teach-Back and Health Literacy: a Core Competency for Health Care Professionals
- Fear of Falling Initiative

The presentations reviewed three educational initiatives to improve awareness of falls and uptake of best practices among different target audiences: an extended Canadian Falls Prevention Curriculum© (CFPC) paired with online coaching for a three month follow-up; The Primary Care Fall Prevention Multimedia Package; and an interactive theatre experience for health care professionals. In addition, an initiative specifically addressing the causes and potential interventions for fear of falling was presented.

Key Points:

- Extending the typical 2-day format of the CFPC to a one lesson a week over six weeks delivery, followed by three months of online coaching support shows promise as a way of increasing the likelihood of the curriculum resulting in the implementation of an intervention by a participant.
- Effective multimedia educational strategy to raise awareness among physicians is available in British Columbia on the Ministry of Health website
- 88% of Canadian seniors (and 60% of Canadians in general, including their caregivers) are health illiterate—unable to understand basic healthcare information presented to them. Teach Back method allows staff to assess the degree clients have understood the information they are receiving. Improved uptake and confidence result.
- Fear of falling is a significant contributor to risk of falls and injury. Effective communication strategies can be taught to increase confidence of caregivers and staff, as well as clients to reduce the fear of falling.

Gaps/Needs:

- Administrative involvement from organizations sending participants to the CFPC, to ensure there is support for development/implementation of an intervention following the course.
- Physicians overwhelmed by volume of material on fall prevention. Need to provide more concise recommendations.
- Additional work on assessing the impact of low health literacy on fall and injury rates, as well as further work on best practices to improve health literacy.
- Further work evaluating approaches to reducing fear of falling as part of a multifactorial approach to fall prevention.

Partnerships and Programs:

- External evaluation consultants can provide an objective lens on a training program.
- British Columbia Ministry of Health Falls Prevention
- Jackson Therapeutic Recreation

10. Feeling good! How enhancing well-being can help prevent falls

This theme was addressed at a concurrent session on May 28, 2014. It consisted of four presentations:

- The Effect of Depression on Outcome of Fear of Falling in a Falls Prevention Program
- Does Improving Incontinence Reduce Falls Incidence Among Community-Dwelling Older Women?
- Minding the Gap: Falls Prevention Strategy at a Mental Health Sciences Centre
- The new Seniors’ Falls in Canada: Second Report, Public Health Agency of Canada

The presentations explored issues ranging from the causal relationship between depression and fear of falling, through urinary urgency and incontinence, and the awareness of falls risk in a mental health population, to the presentation of a new comprehensive report on incidence of fall injuries and deaths, as well as risk factors and best practices, produced by the Public Health Agency of Canada.

Key Points:

- Baseline depression impedes improvement in fear of falling and falls efficacy in older adults attending a fall prevention program.
- Prevention of incontinence is an important component of fall prevention and healthy aging strategies.
- Falls remain the leading cause of injury among Canadians over the age of 65, with 20-30% of seniors experiencing one or more falls each year.
Gaps/Needs:

- Increased evidence for effective fall prevention strategies in a mental health care context.
- Uptake and impact of surveillance products such as the Seniors’ Falls in Canada: Second Report.
- Disconnect between impacts of initiatives on balance and incidence of falls, but not on fear of falling.

Partnerships and Programs:

- Ontario Shores Centre for Mental Health Sciences
- Public Health Agency of Canada

11. Watching Your Step While in Care: The Challenge of Preventing Falls in Hospital and Residential Care Settings

This theme was addressed at a concurrent session on May 27, 2014. It consisted of five presentations:

- Move and Walk: A Gerontological Norm
- Improve the Effectiveness of the Falls Prevention Strategies by Using LEAN Methodology Failure Mode Effects Analysis (FMEA)
- Fall Related Hospitalizations in Canada: Who is Slipping Into Alternative Level of Care?
- Factors That Influence Compliance with the Use of Wearable Hip Protectors in Long-Term Care: A Systematic Review
- Effectiveness and Safety of A High Dose Weekly Vitamin D (20000 IU) Protocol in Older Adults Living in Residential Care

In addition, two symposia addressed this theme, both on May 28, 2014. In chronological order, they were:

- Hip Protector Symposium: Understanding the Factors that Influence Clinical Effectiveness
- Recommendations for Osteoporosis Management and Fracture Prevention in Long-Term Care

The presentations ranged from the description of an initiative to create a nurse-led gerontological norm to assisting patients to get up to walk, through initiatives to improve effectiveness of strategies in long term care, increase compliance with use of hip protectors, to descriptions of resource utilization in long term care, and the effectiveness of a high dose weekly vitamin D protocol. The symposia examined in greater detail the issue of hip protector effectiveness and compliance, and management of osteoporosis to reduce fractures, respectively.

Key Points:

- It is everyone’s responsibility to enable the older adult to get up. We have created the outcome “fear of falling” because we measure it. We should measure good practice not outcome of poor practice. Never forget to ask the patient!
- Enthusiastic and motivated staff members are more successful at compliance with older adults to wear hip protectors, while occasional incontinence, cognitive impairments and wheelchair use all decreased compliance. LTC care provider (e.g., PSW) commitment is key!
- In studying episodes of care from 2006-2013, seniors who had falls were 4 times more likely to require alternative levels of care.
- High dose vitamin D can reduce fractures up to 20% in those with a deficiency.
- Clinical effectiveness of hip protectors requires two factors: user compliance and biomechanical effectiveness. If worn, protectors reduce fractures by 69-83%. Many common medications in long term care increase risk of fractures: Glucocorticoids such as Selective Serotonin-Receptor Inhibitors (SSRIs), Proton Pump Inhibitors (PPIs) increase fractures, as well as common conditions such as dementia. Need to respond with multifactorial approach including vitamin D and calcium supplementation, hip protectors, and exercise.

Gaps/Needs:

- A safety culture to report on near misses in Long Term Care and identify the gaps in each area of process documentation.
- Greater understanding is needed of increased resource utilization of seniors who have fallen versus others in the system. Role of falls in onset of alternative levels of care.
- Mixed protocols are currently being applied for vitamin D with unknown differences in impact.
- Why is commitment to protectors so variable across nursing home sector?
- Effectiveness of hip protectors for community dwelling seniors is under investigated.
- Staff training required on proper use of hip protectors.
- Few people on any treatment plan to prevent fracture at admission to LTC.
Partnerships and Programs:
• Move and Walk
• Failure Mode Effects Analysis (FMEA)
• Fraser Health Falls Prevention Mobile Clinic
• Fraser Health Authority
• Hip Impact Pendulum Test
• Osteoporosis Canada Clinical Practice Guidelines

12. It takes a village! How collaboration and networking help propel the fall prevention agenda

This theme was addressed at a concurrent session on May 28, 2014. It consisted of four presentations:
• A Network Analysis Approach to Understanding Falls Prevention Referral Pathways
• Community of Practice: Connecting with Others in Fall Prevention
• Twists and Turns on the Road to Finding Balance: Building on the Successes of a Six-Year Seniors’ Falls Prevention Program
• Reflections on Patient Engagement in an Integrated Community Based Falls Prevention Program

In addition, a symposium, on May 27, 2014 addressed this theme:
• Knowledge Translation for Fall Prevention

The presentations ranged from an examination of the referral linkages between fall prevention organizations in southern Ontario, through two provincial networks/communities of practice in Ontario and Alberta, to an examination of a fall prevention program from a patient’s perspective. The symposium describes the Strategies and Actions for Independent Living (SAIL) program that seeks to provide linkages between community health workers and home health professionals.

Key Points:
• Database development with electronic referral form to track patterns of referral among fall prevention organizations, in response to initial network analysis of these referral patterns.
• Community of practice is an effective model for sharing of information and referral among those stakeholders with an interest in fall prevention. However, it requires investment—a paid position to support this.
• Multilingual support for Alberta based network (e.g., multilingual campaign supports for Finding Balance).
• SAIL learning's: acknowledge role of community health workers, facilitate communication between stakeholders, integrate into regular practice/existing program, adapt for populations (e.g., elders living on reserve).

Gaps/Needs:
• Expansion of network of referrals.
• Expansion of communities of practice beyond Ontario and Alberta—perhaps these two could form the basis of a national network.
• Ways to get the most out of network models—bridging research and practice.
• Continuous evaluation—best practice for evaluation of collective action.
• Challenge of maintenance of program once the patient leaves the program setting.
• In applying evidence, issue is building infrastructure for socially significant outcomes.
• Conference participant said that a list of all programs/resources in Canada would be helpful.

Partnerships and Programs:
• University of Victoria, Brock University, Fall Prevention Network Niagara and Health Nexus
• Seniors Health Knowledge Network, Ontario Neurotrauma Foundation and Ontario Injury Prevention Resource Centre
• Alberta Centre for Injury Control and Research (ACICR)
• Strong and Steady Program, leads to Stronger and Steadier
• Parks and Recreation
• Create a National Fall Prevention Week for November
• ProFouND (Prevention of Falls Network for Dissemination in Europe)
• Canadian Institutes for Health Research Partnership in Health Systems Grants
# APPENDICES

## APPENDIX A. Final Program

### PROGRAM AT A GLANCE: 2014 NATIONAL FALL PREVENTION CONFERENCE

**Monday, May 26**

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00 – 8:00 p.m.</td>
<td>Registration</td>
<td>Churchill Court</td>
</tr>
</tbody>
</table>

**Tuesday, May 27**

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 – 8:30 a.m.</td>
<td>Breakfast <em>brought to you by</em> Philips Lifeline Registration</td>
<td>Churchill Court</td>
</tr>
</tbody>
</table>
| 8:30 – 9:00 a.m. | **Welcome & Opening Remarks**  
Linda Yenssen, *Manager, Ontario Injury Prevention Resource Centre*  
Dr. Vicky Scott, *Senior Advisor on Fall and Injury Prevention, BC Injury Research and Prevention Unit and the Ministry of Health*  
Louise Logan, *President & CEO, Parachute*  
Steven Smith, *Director of Marketing and Category Management, Shoppers Home Health Care* | Churchill Ballroom |
| 9:00 – 10:00 a.m. | **Dr. Marla Shapiro** *Canada A.M.’s Health and Medical Expert* | Churchill Ballroom |
| 10:00 – 10:05 a.m. | **Clara Fitzgerald**, *Director, Canadian Centre for Activity and Aging, Western University* | Churchill Ballroom |
| 10:05 – 10:30 a.m. | Refreshment Break *brought to you by* VON Exhibit Tables | Churchill Court |
| 10:30 a.m. – 12:00 p.m. | **Poster Session 1 in partnership with Osteoporosis Canada**  
‘Minute Madness’  
Posters will be on display in the Mountbatten Ballroom for the duration of the conference | Churchill Ballroom |
| 12:00 – 1:00 p.m. | Networking Lunch *brought to you by* Ontario Neurotrauma Foundation | Churchill Court |
| 1:00 – 1:45 p.m. | **Dr. Dean Fixsen** National Implementation Research Network | Churchill Ballroom |
| 1:45 – 3:00 p.m. | **Concurrent Sessions 1**  
*Presented by session themes (see Conference Session Descriptions on Page 9 for session names and presenters)*  
Move it! Older adults and exercise 1: *How effective exercise programs help prevent falls*  
Take a good look around: *The vital role our physical environment plays in fall prevention*  
Being smart, staying safe: *Risk factors and assessment in fall prevention*  
Fall prevention road shows: *An in-depth look at fall prevention in community settings*  
Watching your step while in care: *The challenge of preventing falls in hospital and residential care settings* | Breakout Rooms |

*Churchill Ballroom*
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:00 – 3:15 p.m.</td>
<td><strong>Refreshment Break brought to you by Seniors4Seniors</strong> Exhibit Tables</td>
<td>Churchill Court</td>
</tr>
<tr>
<td>3:15 – 4:00 p.m.</td>
<td><strong>Concurrent Symposia 1</strong></td>
<td>Breakout Rooms</td>
</tr>
<tr>
<td>3:15 – 4:00 p.m.</td>
<td>Preventing falls in ‘high risk’ environments in the home and community</td>
<td>Toronto Rehabilitation Institute (TRI) 550 University Avenue</td>
</tr>
<tr>
<td>3:15 – 4:00 p.m.</td>
<td>Knowledge Translation for Fall Prevention</td>
<td>Rosetti Room</td>
</tr>
<tr>
<td>3:15 – 4:00 p.m.</td>
<td>Safe movement and exercise recommendations for individuals at risk of falls and fracture</td>
<td>Wren Room</td>
</tr>
<tr>
<td>3:15 – 4:00 p.m.</td>
<td>HELPER (Health Evaluation Logging and Personal Emergency Response) System: Use of technology to detect falls and better understand precipitants</td>
<td>Scott Room</td>
</tr>
<tr>
<td>3:15 – 4:00 p.m.</td>
<td>Recommendations on Risk of Falling Assessment: Outcome of the GeriEDGE Workgroup</td>
<td>Carlyle Room</td>
</tr>
<tr>
<td>4:30 – 6:30 p.m.</td>
<td><strong>Thrills and Chills’ Reception and Tours</strong></td>
<td>Toronto Rehabilitation Institute (TRI) 550 University Avenue</td>
</tr>
<tr>
<td>4:30 – 6:30 p.m.</td>
<td>Sign up in advance at the registration table. Tours will leave in groups to go to TRI – about a five-minute walk. Please meet at the registration table.</td>
<td></td>
</tr>
</tbody>
</table>

**Wednesday, May 28**

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 – 8:30 a.m.</td>
<td>Breakfast brought to you by Public Health Ontario Registration</td>
<td>Churchill Court</td>
</tr>
<tr>
<td>8:30 – 8:45 a.m.</td>
<td><strong>Day Two Opening</strong></td>
<td>Churchill Ballroom</td>
</tr>
<tr>
<td>8:30 – 8:45 a.m.</td>
<td>Dr. Geoff Fernie, Director, Research Institute, University Health Network</td>
<td>Churchill Ballroom</td>
</tr>
<tr>
<td>8:45 – 9:30 a.m.</td>
<td><strong>Dr. Stephen Robinovitch, Simon Fraser University</strong></td>
<td>Churchill Ballroom</td>
</tr>
<tr>
<td>9:30 – 10:45 a.m.</td>
<td><strong>Concurrent Sessions 2</strong></td>
<td>Breakout Rooms</td>
</tr>
<tr>
<td>9:30 – 10:45 a.m.</td>
<td>Presented by session themes (see Conference Session Descriptions on Page 14 for session names and presenters)</td>
<td></td>
</tr>
<tr>
<td>9:30 – 10:45 a.m.</td>
<td>Move it! Older adults and exercise 2: Enlightening education, prevention and strategies for fall prevention</td>
<td>Scott Room</td>
</tr>
<tr>
<td>9:30 – 10:45 a.m.</td>
<td>Getting around: A close look at innovative solutions to common environmental risks</td>
<td>Wren Room</td>
</tr>
<tr>
<td>9:30 – 10:45 a.m.</td>
<td>It happened so fast! Getting a good handle on how and why people fall</td>
<td>Carlyle Room</td>
</tr>
<tr>
<td>9:30 – 10:45 a.m.</td>
<td>The ever-growing learning curve: Capacity building, education and training in fall prevention</td>
<td>Rosetti Room</td>
</tr>
<tr>
<td>10:45 – 11:00 a.m.</td>
<td><strong>Refreshment Break brought to you by Accreditation Canada</strong> Exhibit Tables</td>
<td>Churchill Court</td>
</tr>
<tr>
<td>11:00 – 11:30 a.m.</td>
<td><strong>Dr. Stephen Lord, Professor, Neuroscience Research Australia</strong></td>
<td>Churchill Ballroom</td>
</tr>
<tr>
<td>TIME</td>
<td>SESSION</td>
<td>LOCATION</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>11:30 a.m. – 12:30 p.m.</td>
<td><strong>Poster Session 2</strong>&lt;br&gt;‘Minute Madness’&lt;br&gt;Posters will be on display in the Mountbatten Ballroom for the duration of the conference</td>
<td>Churchill Ballroom</td>
</tr>
<tr>
<td>12:30 – 1:30 p.m.</td>
<td>Networking Lunch <em>brought to you by the Canadian Red Cross</em></td>
<td>Churchill Court</td>
</tr>
<tr>
<td></td>
<td><strong>Ontario Falls Prevention Community of Practice ‘Meet and Greet’</strong>&lt;br&gt;<em>Pick up your lunch and join the Ontario Falls Prevention Community of Practice for a ‘meet and greet’.</em></td>
<td>Rosetti Room</td>
</tr>
<tr>
<td>1:30 – 2:30 p.m.</td>
<td><strong>Concurrent Sessions 3</strong>&lt;br&gt;<em>Presented by session themes (see Conference Session Descriptions on Page 18 for session names and presenters)</em></td>
<td>Breakout Rooms</td>
</tr>
<tr>
<td></td>
<td>Effective fall prevention. <em>How does it work and what are the results: A focus on Aboriginal Communities</em></td>
<td>Wren Room</td>
</tr>
<tr>
<td></td>
<td>Going boldly into the primary care setting: <em>Implementing new strategies and training tools for fall prevention</em></td>
<td>Carlyle Room</td>
</tr>
<tr>
<td></td>
<td>Feeling good! <em>How enhancing well-being can help prevent falls</em></td>
<td>Scott Room</td>
</tr>
<tr>
<td></td>
<td>It takes a village! <em>How collaboration and networking help propel the fall prevention agenda</em></td>
<td>Rosetti Room</td>
</tr>
<tr>
<td>2:30 – 2:40 p.m.</td>
<td><strong>Grab 'n Go Refreshment Break</strong></td>
<td></td>
</tr>
<tr>
<td>2:40 – 3:30 p.m.</td>
<td><strong>Concurrent Symposia 2</strong></td>
<td>Breakout Rooms</td>
</tr>
<tr>
<td></td>
<td>Hip Protector Symposium: <em>Understanding the factors that influence clinical effectiveness</em></td>
<td>Wren Room</td>
</tr>
<tr>
<td></td>
<td>Maximizing Public Health Impact by Integrating Older Adult Fall Prevention Programs</td>
<td>Rosetti Room</td>
</tr>
<tr>
<td></td>
<td>Pushing it to the Limit: <em>Measuring and training rapid balance responses to prevent falls</em></td>
<td>Scott Room</td>
</tr>
<tr>
<td></td>
<td>Recommendations for Osteoporosis Management and Fracture</td>
<td>Carlyle Room</td>
</tr>
<tr>
<td>3:40 – 4:20 p.m.</td>
<td>Dr. Brian Maki, <em>Director, Falls &amp; Mobility Network</em>&lt;br&gt;<strong>Closing Panel Discussion</strong>&lt;br&gt;<em>What in the World is Next for Fall Prevention: Perspectives from leaders in Australia, Canada, Europe and the United States</em>&lt;br&gt;Dr. Stephen Lord, Dr. Fabio Feldman, Dr. Dawn Skelton, Dr. Judy Stevens&lt;br&gt;Moderator: Dr. Vicky Scott</td>
<td>Churchill Ballroom</td>
</tr>
<tr>
<td>4:20 – 4:30 p.m.</td>
<td><strong>Closing Remarks</strong>&lt;br&gt;Dr. Vicky Scott, <em>Senior Advisor on Fall and Injury Prevention, BC Injury Research and Prevention Unit and the Ministry of Health</em>&lt;br&gt;Linda Yenssens, <em>Manager, Ontario Injury Prevention Resource Centre</em></td>
<td>Churchill Ballroom</td>
</tr>
</tbody>
</table>
APPENDIX B. Abstracts

CONCURRENT SESSIONS 1 • MAY 27, 1:45 – 3:00 P.M.

Theme: Move it! Older Adults and Exercise I: How Effective Exercise Programs Help Prevent Falls

**STANDYFEET® Balance and Mobility Program: Program overview**

Author: Tanya J. Dunne, Vancouver Coastal Health Authority

SteadyFeet® is a standardized, evidence and outcome supported balance and mobility program specially designed to be safe for older adults. The goal is to improve functional fitness and reduce fall risk and/or falls for vulnerable older adults living independently in the community.

**Introductory Osteofit Program Provides Effective Exercise Program for Seniors in Adult Day Program**

Authors: Pet Ming Leung, Fraser Health Authority; Fabio Feldman, Fraser Health Authority; Debbie Cheong, BC Women’s Hospital and Health Centre

Adult Day Programs (ADP) present the perfect setting for providing exercise programs to improve the clients’ functional ability. Yet, most ADP staff are not trained to deliver a safe and effective exercise program for frail seniors. As a consequence, exercise programs at ADP sites are seated and done without any progression or not designed to safely manage frail seniors. Therefore, this project aimed to fill a gap by training ADP staff to deliver a specialized exercise program for frail seniors.

**Building Balance: Lessons Learned From an Evidence-Based Fall Prevention Program for Community-Dwelling Seniors**

Author: Marci Janecek, South Georgian Bay Community Health Centre

The North Simcoe Muskoka (NSM) LHIN reported more hospital admissions due to falls and subsequent hip fractures than any other region in Ontario (2009/10). The Building Balance Program is an evidence-based fall prevention program that targets community-dwelling seniors at risk for falls. It provides fall risk assessment, intervention and education to prevent hospitalization from injuries associated with falls.

**Fall Prevention Programs for Community-dwelling Seniors Are an Effective Way to Increase Strength and Balance As Well As Perceived Physical Functioning**

Author: Kristen Parise, Saint Elizabeth

Falls in community dwelling seniors are common causes of morbidity and functional decline. Over the past five years, the program has evaluated the effectiveness of our fall prevention program and has observed significant changes in multiple standardized performance based outcome measures. This evaluation looked at whether these changes in performance based outcomes translated into perceived improvements in function and reduced disability.

**Lessons Learned From the Provision of a Community-Based Falls Prevention Program for Frail Homebound Seniors**

Author: Anne Murphy-Turliuk, McMaster University

In the Burlington area of the HNHB LHIN, Aging at Home funding was made available to provide a Fall Prevention Program (Home Support Exercise Program) using a “train the trainer” model utilizing existing PSW personnel in conjunction with the Canadian Center for Activity and Aging. The process, successes, challenges and client testimonials from the program will be described.

Theme: Take a Good Look Around: The Vital Role Our Physical Environment Plays in Fall Prevention

**Biomechanical Effectiveness of Flooring Systems During Back-of-Head Impacts: Implications for Surface Selection in Residential and Institutional Environments**

Authors: Iris C. Levine, Meagan J. Warnica, Andrew C. Laing

University of Waterloo

Back-of-head impacts represent the highest-mechanical-risk head orientation during falls. The energy absorption and low stiffness of safety flooring systems have been cited as mechanisms that decrease the risk of fall-related head injuries. However, the protective capacity of safety floors has not been characterized at clinically-relevant impact velocities. We investigated the mechanical properties of three categories
of impact surfaces during simulated back-of-head impacts: commercially-available resilient rolled sheeting and carpet, dual-stiffness ‘safety floors’ marketed to reduce the risk of fall-related injuries, and bedside mats.

**Age-Related Differences in Dynamic Balance Control During Stair Descent and Effect of Varying Step Geometry**

Authors: Alison C. Novak, Vicki Komisar, Brian E. Maki, Geoff Fernie Toronto Rehabilitation Institute – University Health Network

Age-related declines in lower limb strength and muscular output limit the ability of many older adults to safely control the body’s centre of mass while walking down stairs, placing them at greater risk of falls during stair descent. Given these behavioural alterations, it has been emphasized that stair injuries can be prevented by improved stair design. The purpose of the current study was to investigate age-related differences in dynamic balance control during stair descent and the effect of varying step geometry.

**Beyond Scatter Rugs: How Excess Clutter Creates a Serious Health and Safety Risk**

Authors: Catherine Chater, Cheryl Perera, Sandra McKay VHA Home HealthCare

Home safety assessments in situations where extreme clutter is present can identify a profound health and safety challenge to individuals who live and work in these environments. Appropriately assessing and responding effectively to these difficult situations is critical to ensuring the safety of individuals and care providers in the home. Attendees will be introduced to best practice literature, assessments, education and resource materials, practical suggestions and appropriate community linkages for individuals in these ethically challenging and complicated living situations.

**Using the Age Friendly Communities Model to Address Falls Prevention Among Seniors, Public Health Agency of Canada**

Authors: Simone Powell, Natasha Kuran, Joanne Veninga, Public Health Agency of Canada

This presentation will highlight the evidence demonstrating that the Age-Friendly Communities (AFC) model can be used to address fall prevention among seniors. The AFC model will be discussed in the context of seniors’ injury prevention as well as the physical and mental health of seniors and caregivers.

**Theme: Being Smart, Staying Safe: Risk Factors and Assessment in Fall Prevention**

**Working Together Towards Best Practice in Falls Risk Assessment and Management: A Successful Partnership Between Finding Balance and Alberta Health Services**

Authors: Lynda McPhee, Rosalie Freund-Heritage Alberta Centre for Injury Control & Research

In 2008, an interactive online version of an older adult fall risk assessment and management algorithm for primary care physicians in Alberta was developed based on the American and British Societies and American Academy of Orthopaedic Surgeons algorithm. Recognizing the need for consistent best practice information required by all health practitioners, an expanded multidisciplinary fall risk management algorithm was created. The algorithm is part of the Finding Balance program, designed to provide the latest information and resources to prevent a fall.

**Prevalence of and Risk Factors for Falls in Older People in an Urban Community in South Africa**

Authors: Sebastiana Z. Kalula, University of Cape Town Monica Ferreira, University of Cape Town George H. Swingler, University of Cape Town Avan Aihie Sayer, University of Southampton

Falls are a major cause of disability and mortality in older people. Little is known of the extent and gravity of the problem in South Africa. This study examines the prevalence of and risk factors for falls in older people in South Africa.

**Facilitating the Implementation of Evidence-based Falls Assessment and Management Guidelines into the Medical Practice of Family Doctors in Alberta**

Authors: Kamran Golmohammadi, University of Alberta Lynda McPhee, Alberta Centre for Injury Control & Research

In Alberta, most seniors living in the community see their family doctors at least once every year. This provides the ideal opportunity to identify seniors at risk for falls and to implement an individualized management plan. The main purpose of this initiative is to identify barriers and facilitate participation of family doctors in fall assessment and management.
Extending the Activities-Specific Balance Confidence (ABC) Scale to Capture Pedestrian and Transportation Related Situations: Psychometric Properties

Authors: Anita M. Myers, Alexander M. Crizzle, Spencer Gooderham, Sarah T. Sousa, Courtney Janssen-Grieve University of Waterloo

The purpose was to extend the widely used 16-item ABC Scale to capture situations that may increase the risk of pedestrian accidents (e.g., stepping on or off sidewalk curbs or medians, crossing streets with and without signaled crosswalks) and falls when getting around the community (e.g., getting off and on a bus, standing on a bus or train when it starts or stops, walking outside when it is very windy or on uneven paths or sidewalks).

Using Knowledge Translation Theory to Optimize Balance Assessment Practices for Fall Prevention

Authors: Kathryn M. Sibley, Toronto Rehabilitation Institute - University Health Network Nancy M. Salbach, University of Toronto Sharon E. Strau, University of Toronto

Elizabeth L. Inness, University of Toronto Tanner Gervais, University of Toronto Marla K. Beauchamp, University of Toronto Susan B. Jaglal, University of Toronto

Knowledge Translation (KT) is an emerging discipline with a focus on implementing evidence in clinical decision-making and practice. The purpose of this presentation is to describe how one prominent KT theory ‘the Knowledge-to-Action (KTA) Framework’ is being applied to research focusing on optimizing balance assessment among physiotherapists, a group of healthcare providers for whom balance assessment and treatment are major foci of practice.

The Erie St. Clair Falls Prevention Mobile Clinic: A Collaborative Initiative Based on the Fraser Health Model in BC

Authors: Laurel A. Cammaart, Chatham Kent Public Health Unit Karine Pepin, Windsor Essex Community Health Centre

In order to reduce the high incidence of falls for community dwelling older adults in the Erie St. Clair (ESC), the Fraser Health Falls Prevention Mobile Clinic model from British Columbia was reviewed and identified as an effective model that could help reduce falls in our communities. A collaborative approach was applied to the Fraser Health model as a way to build on our existing funding and delivery of service structure.

Theme: Fall Prevention Road Shows: An In-Depth Look at Fall Prevention in Community Settings

Evaluation of the Uptake and Adherence to the Recommendations from a Mobile Falls Prevention Clinic for Community Dwelling Seniors

Authors: Ashley Collins, Sonia Singh, Fabio Feldman, Ming Leung, Kathleen Friesen Fraser Health Authority

This prospective cohort study evaluated 479 research participants during a twelve month follow-up period to investigate the predictors of uptake and adherence to the Fraser Health Falls Prevention Mobile Clinic recommendations. Changes in fall risk score as measured by the Physiological Profile Approach (PPA) were evaluated throughout the study to determine if good uptake and adherence to recommendations correlates with improved PPA scores. The results provide valuable information about the provision and uptake of fall prevention recommendations from a multi-disciplinary clinic.

Engaging Community-Based Organizations in Fall Prevention for Older Adults: Moving Research into Action

Authors: Maureen Markle-Reid, Jennifer McGugan, Cathy Dykeman, Lorna Boratto, Sarah Orr-Shaw, Susan Bonomo, Chris Bowes McMaster University; Halton Region Health Department

The objectives of our study were to determine community service providers’ attitudes toward, and knowledge and use of, evidence-based fall prevention (FP) practices for older adults, and perceived barriers to and effective strategies for the adoption, implementation, and sustainability of these practices, within and across diverse senior-serving organizations in Ontario.

Developing a Fall Prevention Clinic: Findings from the Fraser Health Falls Prevention Mobile Clinic

Authors: Ashley Collins, Fabio Feldman, Ming Leung Fraser Health Authority

The Fraser Health Falls Prevention Mobile Clinic (FPMC) is a multi-disciplinary clinic that offers seniors free access to assessments by a Nurse, Pharmacist, Kinesiologist and Physiotherapist. Various aspects of an individual’s fall risk are discussed and all participants are provided with a list of individualized recommendations to reduce their fall risk and improve overall health.
The Role of the CCAC Community Care Coordinator in Falls Prevention: Applied Tools and Education

Author: Willemien J. Stanger, Toronto Central CCAC

The CCAC Care Coordinator is in a unique position to address the multifactorial nature of falls in the community. Given the multifactorial nature of falls and the increasing complexity of the community clients we serve, the need for a focused education approach, encompassing all the variables is required.

Theme: Watching Your Step While in Care: The Challenge of Preventing Falls in Hospital and Residential Care Settings

Move and Walk: A Gerontological Norm

Authors: Sarah M. Gibbens, Maryanne Brown, Northumberland Hills Hospital

Safe mobility is crucial for the prevention of falls. The purpose of this initiative was to create a nurse-led gerontological norm on acute care, where seniors are assisted to get up and walk as they would at home, as soon as possible after admission.

Improve the Effectiveness of the Falls Prevention Strategies by Using LEAN Methodology Failure Mode Effects Analysis (FMEA)

Authors: Eileen Chang, Clara Tsang, Jemini Abraham, Fall Prevention Task Force, Rouge Valley Health System

The FMEA approach is frequently used to evaluate possible failures in a process, design or service and then systematically prioritizes the concerns to drive practical solutions. Issues are prioritized according to how serious their consequences are, and how often they occur and how easily they can be detected. This presentation will describe the FMEA methodology, and also its application to the Falls Prevention Program at RVHS, including key findings and recommendations.

Fall Related Hospitalizations in Canada: Who is Slipping Into Alternative Level of Care?

Authors: Brandon Wagar, Nancy Gault, Keith Denny, Canadian Institute for Health Information (CIHI)

This study asked the following questions: 1) What is the impact of falls on hospitals? 2) Are patient pathways (i.e., following patients from where they fell to where they ended up following their hospitalization) related to resource demands? 3) Are specific patient characteristics related to resource demands? Fall related hospitalizations constitute a disproportionately high use of ALC days in hospitals across Canada. To better understand ALC demands among FRH patients, we identified patient pathways and patient characteristics associated with this increased demand on hospitals across Canada.

Factors That Influence Compliance with the Use of Wearable Hip Protectors in Long-Term Care: A Systematic Review

Authors: Alexandra M.B. Korall, Simon Fraser University, Fabio Feldman, Simon Fraser University, Fraser Health Authority, Vicky J. Scott, BC Injury Research and Prevention Unit, University of British Columbia, Michael Wasdell, Fraser Health Authority, Roslyn Gillan, Vancouver Island Health Authority, Donna Ross, Vancouver Island Health Authority, Tracey Thompson-Franson, Vancouver Island Health Authority, Pet-Ming Leung, Fraser Health Authority, Lisa Lin, Simon Fraser University, Fraser Health Authority

The purpose of this systematic review is threefold: (1) synthesize available research evidence to identify factors that influence compliance with the use of wearable hip protectors in long-term care (LTC); (2) interpret the findings to identify strategies to overcome perceived barriers and improve compliance; and (3) package and disseminate the findings in a form that is relevant, practical and easily interpreted by knowledge users and decision makers. Outcomes provide decision makers, health professionals, and caregivers with greater awareness of strategies to enhance compliance with the use of wearable hip protectors in LTC.

Effectiveness and Safety of A High Dose Weekly Vitamin D (20000 IU) Protocol in Older Adults Living in Residential Care

Authors: Fabio Feldman, Fraser Health Authority, Sonia Singh, Fraser Health Authority, Liz da Silva, Fraser Health Authority, Gina Gaspard, Fraser Health Authority, Larry Gustafson, Fraser Health Authority, Timothy J. Green, University of British Columbia, Wangyang Li, University of British Columbia

Poor vitamin D status may increase the risk of falls and fractures in the elderly. Institutionalized elderly are at increased risk of poor vitamin D status due to insufficient sunlight exposure and poor dietary intake. In 2011, The Fraser Health Authority implemented a weekly 20000 IU oral vitamin D protocol for older adults in residential care. Here we report the 25 hydroxyvitamin D (25OHD) concentrations, the best indicator of vitamin D status, in a group of these residents 1 year after this protocol commenced.
Theme: Move it! Older Adults and Exercise II: Enlightening Education, Prevention and Strategies for Fall Prevention

Physical Activity Patterns of Older Adults in Assisted Living Residences

Authors: Pet-Ming Leung, Fraser Health Authority Fabio Feldman, Fraser Health Authority Maureen Ashe, Department of Family Practice, University of British Columbia, Stephen Robinovitch, Simon Fraser University

Physical activity (PA) is known to enhance independence and health outcomes in this population. There is growing recognition that low levels of PA, and in particular, prolonged periods of sedentary behaviour, predict declines in mobility and health decline for older adults. Therefore, interventions to increase PA levels should be provided in order to enhance independence and health outcomes in this population.

Exercise and Fall Prevention Education: A Collaborative Approach in the North Simcoe Muskoka LHIN

Authors: Ryan M. Miller, Orillia Soldiers Memorial Hospital Ulla Rose, Victorian Order of Nurses, Simcoe County

In late June of 2013 the VON and IRFP embarked on a journey to deliver exercise and fall prevention education classes to more than 5400 seniors in the NSM LHIN. By late August 39 local retirement homes were receiving bi weekly exercise classes and weekly education classes. By March 31st 2014 it is expected that 170 different locations (including the 39 retirement homes) will be hosts to bi weekly exercise classes and weekly education classes. The integration of two existing programs to lead a new and exciting challenge has been a unique and rewarding experience. As the program continues to grow and expand, only time will tell the true picture of the models, success, challenges and potential.

Can Behaviour Change Strategies Increase Exercise Uptake Among Older Adults At Risk for Falls?

Authors: Ashley Collins, Fabio Feldman, Pet-Ming Leung Fraser Health Authority

Research indicates that although exercise recommendations, such as those provided in fall prevention programs, can decrease falls and injuries among older adults, the effectiveness of these exercise recommendations depends on whether or not older adults implement the suggested interventions, which can vary greatly. This pilot study examines whether behaviour change interventions, namely intention setting, self monitoring and social support strategies, can increase the uptake of exercise recommendations as compared to providing recommendations as information only, which is the current practice for standard care in many healthcare settings.

Prevention as a Solution. Lappset is a New Preventative Exercise Approach Originating in Finland Now Offered in Canada

Author: Katherine A. Hirsch, Recreation Play Systems

The Lappset Active Aging approach to fall prevention was developed in Finland in close collaboration with exercise professionals and research conducted as part of the Moto+ project at the Rovaniemi Polytechnic School of Sports and Leisure in Finland. Drawing upon global research on the elderly, falls, mobility and risk management; this unique approach to physical performance and fall prevention addresses environmental, behavioural (fear of falling), biological and socio-economic risk factors affecting falls in older adults.

Improve Key Factors Related to Falls – Safety, Posture & Balance: The Evidence-Proven and Innovative Use of Walking Poles

Authors: Mandy Shintani, Urban Polling Dr. Agnes Coutinho, Humber College Institute of Technology and Advanced Learning

Participants will learn how the ACTIVATOR poles address the key areas of fall prevention by improving balance, stability, core strength and importantly how they build walking tolerance and confidence for their clients, ultimately improving quality of life. A comprehensive sitting, standing and pre-gait exercise program using the ACTIVATOR poles will be highlighted. Workshop participants will have a hands-on opportunity to experience the benefits of the ACTIVATOR walking poles and the modified walking technique. The session will cover basic concepts for designing effective indoor/outdoor exercises and walking programs for less active adults, with a focus on safety.

Theme: Getting Around: A Close Look at Innovative Solutions to Common Environmental Risks

Influence of Handrail Height on Reach-To-Grasp Balance Recovery Reactions on Level and Inclined Walkways: A Pilot Study

Authors: Vicki Komisar, Toronto Rehabilitation Institute Emily C. King, Toronto Rehabilitation Institute, MIE, University of Toronto Alison C. Novak, Toronto Rehabilitation Institute – University Health Network Brian E. Maki, Toronto Rehabilitation Institute – University Health Network Karl F. Zabjek, Toronto Rehabilitation Institute – University Health Network Geoff R. Fernie, Toronto Rehabilitation Institute – University Health Network

Well-designed handrails can increase the likelihood that a user can recover from balance loss and avert a fall, by allowing the user to quickly and accurately grasp the rail and apply the high forces and moments needed to stabilize his/her centre of mass (COM). Installation height affects the maximum voluntary forces and moments that a person can generate on a handrail while standing, and should similarly influence how quickly and
accurately a person can grasp the rail; however this has not been explored in dynamic conditions. This study investigates how handrail installation height affects the ability of young adults to recover from balance loss during level walking and ramp descent.

**Three-Step, Home Stairway Evaluation for Fall Risk in One Minute Using Your Eyes, Hand, and the Most Simple Measurement Tool**

*Author: Jake L. Pauls, Jake Pauls Consulting Services*

Home stairway step geometry has been repeatedly implicated, by research studies used in evidence-based, guidance literature, as the most potent factor in missteps and falls resulting in injuries. This presentation will describe the Three-Step, Home Stairway Evaluation for Fall Risk in One Minute Using Your Eyes, Hand, and the Most Simple Measurement Tool.

**Effects of Slope and Contamination on the Perception of Ramp Slipperiness In Winter Conditions**

*Authors: Yue Li, Toronto Rehabilitation Institute* Tilak Dutta, Toronto Rehabilitation Institute Geoff R. Fernie, Toronto Rehabilitation Institute Adam Katchky, University of Toronto

Slip resistance is an important factor in the safety and usability of ramps; it is affected by shoe material, surface material, and surface contamination; it is particularly important in cold weather climates where ramps can be contaminated by rain, mud, ice, and snow. This study examines accessibility guidelines for slopes and the usability of different walking surface characteristics for older people.

**The Effects of Glass Stair Treads on Stair Users in a Retail Store**

*Authors: Karen Kim, Edward Steinfeld, University at Buffalo*

Stair safety is a top priority for building users in public buildings. Although stairways present fall risks and usability issues for people of all ages, architects are introducing innovative design features into public stairway design that have many potential hazardous features. The purpose of this study was to assess the safety of an innovative stairway in a major chain retail store by observing the behaviour of stair users and to identify issues that should be studied in a laboratory setting.

**Measuring Performance of Slip Resistant Winter Footwear on Snowy and Icy Slopes**

*Authors: Jennifer A. Hsu, Yue Li, Tilak Dutta, Geoff R. Fernie*

Toronto Rehabilitation Institute – University Health Network

The presence of ice and snow can make maintaining balance and stability while walking outdoors extremely challenging. Pedestrian injury rates have been seen to double in the winter months and in Nordic countries, snowy conditions contribute to 37% of all injuries to pedestrians over the age of 60. Slip resistant footwear is recognized to be important for the prevention of slips and falls, however, few studies have incorporated ice, and in particular snow, in the determination of footwear performance because such conditions are difficult to simulate realistically and reproducibly. This study is the first of its kind to measure the impact of icy and snowy conditions on the performance of a range of footwear and their effects on human gait characteristics.

**Theme: It happened so fast! Getting a Good Handle on How and Why People Fall**

**Help! I’ve Fallen! Post-Falls Assessment Processes in Alberta Health Services (AHS)**

*Author: Rosalie I. Freund-Heritage, Alberta Health Services*

Post-falls processes are routine practices to follow after a fall has occurred. A scan of existing practices elicited scant information. The development of a post-falls assessment for AHS required some specialization dependent on setting. This was a challenge particularly with supportive living settings and sites operated by national organizations that have their own policies.

**The Development and Implementation of a Post-Fall Protocol for Acute and Long-Term Care Settings**

*Authors: Sandy MacLeod, Trudy Robertson, Fabio Feldman, Pet-Ming Leung Fraser Health Authority*

Falls account for a significant portion of injuries in hospitalized patients and residents from long-term care facilities including most traumatic brain injuries (TBI). Although many guidelines for fall prevention exist, most are lacking a comprehensive post-fall assessment leaving much to the discretion of each clinician. Therefore, the purpose of this project was to develop a post-fall protocol for acute care and long-term care facilities to guide care and treatment and to identify potential complications after a patient has fallen.

**Accuracy of Incident Report in Describing Fall Characteristics in Long-Term Care**

*Authors: Yijian Y. Yang, Simon Fraser University Stephen Robinovitch, Simon Fraser University Fabio Feldman, Fraser Health Authority Pet-Ming Leung, Fraser Health Authority*

Fall incident reports in long-term care (LTC) are used to guide intervention efforts. However, the validity of these data is poorly understood. This study examined agreement on fall characteristics between fall incident reports and information from video footage of real-life falls in LTC.
Emerging Complexity of Recurrent Falls in LTC: A Case Study Supported by Video

Authors: Aleksandra A. Zecevic, Western University Ryan Woolrych, Simon Fraser University Stephen Robinovitch, Simon Fraser University Andrew Sixsmith, Simon Fraser University Joanie Sims-Gould, Centre for Hip Health and Mobility Fabio Feldman, Fraser Health Authority

The purpose of this comprehensive case study was to identify causes and contributing factors to falls of a long term care resident who fell 33 times in seven months. This rich case study of a multiple faller provides an example of the diversity of contributing factors and complexity of their interactions that result in falls. To safely care for residents with high care needs who experience recurrent falls, LTC homes require better scheduling to assure constant supervision, enhanced training in resident safety and processes to learn from previous falls and implement meaningful change.

Characteristics of Falls in Individuals with Parkinson's Disease: Insights from Video Recordings of Actual Fall Events

Authors: Tyler B. Weaver, University of Waterloo Yijian Yang, Simon Fraser University Stephen Robinovitch, Simon Fraser University Andrew C. Laing, Simon Fraser University

Currently, little is known about real-life fall scenarios in individuals with Parkinson’s disease (PD). More information is needed regarding the causes and circumstances of falls in individuals with PD, due to the high rates of fall-related injury in these individuals. The purpose of this study was to begin addressing this knowledge gap through the analysis of real-life falls captured on video.

Theme: The Ever-Growing Learning Curve: Capacity Building, Education and Training in Fall Prevention

Building Sustainable Community Capacity for Falls Prevention

Authors: Mary Lou Boudreau, Ontario Falls Prevention Community of Practice Rhonda Lovell, Kingston, Frontenac, Lennox and Addington Public Health Unit Rosemary Brand, Centre for Study of Aging and Health, Providence Care John Puxty, Centre for Study of Aging and Health, Providence Care Lindsay Delima, Centre for Study of Aging and Health, Providence Care Gail Hawley-Knowles, Centre for Study of Aging and Health, Providence Care Phileen Dickinson, Centre for Study of Aging and Health, Providence Care

The purpose of this initiative was to create a supportive community in KFL&A to promote fall prevention through offering a baseline body of knowledge in fall prevention to support the development of fall prevention strategies, and facilitating ongoing coaching and support for the implementation and sustainability of these strategies.

Primary Care Fall Prevention Multimedia Training Package: 2012 Evaluation

Authors: Vicky J. Scott, BC Injury Research and Prevention Unit Bonnie Fiala, BC Ministry of Health JoAnn Miller, Hollander Analytical Services Ltd.

The presentation presents an evaluation of the Primary Care Fall Prevention (PCFP) Multimedia Package for primary care physicians in British Columbia (BC). The goal of the PCFP is to engage primary care physicians in evidence based fall prevention for older adults through a training package based on a case study representing community-dwelling seniors at high risk for falls and fractures.

Teach-Back and Health Literacy: a Core Competency for Health Care Professionals

Authors: Anne Stephens, Kelly Clarke Toronto Central CCAC

Learn how educational symposia, using an interactive theatre experience, are used to change the conversation with health care professionals to promote client safety, fall risk reduction and improve outcomes.

Fear of Falling Initiative

Author: Christine Wolff, Jackson’s Therapeutic Recreation

The presentation will review the current research compiled from our literature review, the multifactorial design and outcomes of the fear of falling program completed in 2013 including: definition, causes, effects, and interventions to reduce the fear of falling and reduce the likelihood of living with negative health consequences associated to the risks pronounced by fear of falling.
CONCURRENT SESSIONS 3 • MAY 28, 1:30 – 2:30 P.M.

Theme: Effective Fall Prevention: How Does it Work and What are the Results? A Focus on Aboriginal Communities

Systematic Review of Fall and Fall-Related Injury Studies Among Older Indigenous People in Australia, Canada, New Zealand, and the United States

Authors: Vicky J. Scott, BC Injury Research & Prevention Unit and Ministry of Health Yasmin Yassin, BC Injury Research & Prevention Unit and Ministry of Health

Sarah Metcalfe, Fraser Health Authority

Little is known about falls among Indigenous elderly and there are no reviews of fall prevention in this population. This systematic review identifies peer-reviewed published literature with epidemiology and prevention evidence on the topic of falls and fall-related injury among older Indigenous people in Australia, Canada, New Zealand and the United States.

Elder Safety Program

Authors: Vicky J. Scott, BC Injury Research & Prevention Unit Yasmin Yassin, BC Injury Research & Prevention Unit Elaine M. Gallagher, Gerotech Research Associates

Falls and fires are a serious problem among older adults and tend to be more frequent among those in First Nations communities. To address this issue the Elder Safety Program (ESP) was developed to reflect traditional and scientific approaches to the reduction of risk for falls and fires among frail elders living on reserves.

Survey and Site Visit of Fall Prevention Programs for Older Adults in Native American and Canadian Aboriginal Communities

Authors: Vicky J. Scott, Yasmin Yassin
BC Injury Research & Prevention Unit

The purpose of this study was to determine the scope and successful attributes of fall prevention programming for older adults in Canadian Aboriginal (CA) communities and Native American/Alaska Natives (NA/AN). Outcomes provide decision makers, health professionals, and care givers with greater awareness of strategies to enhance compliance with the use of wearable hip protectors in long-term care. Ultimately, this has the potential to improve the quality and safety of care of institutionalized older adults.

Effectiveness of Fall Prevention Interventions: A Systematic Review and Network Meta-Analysis

Authors: Andrea C. Tricco, Li Ka Shing Knowledge Institute, St. Michael's Hospital Elise Cogo, Li Ka Shing Knowledge Institute, St. Michael's Hospital Lisa Strifler, Li Ka Shing Knowledge Institute, St. Michael's Hospital Joseph Beyene, University of Toronto

Jayna Holroyd-Leduc, University of Calgary Kathryn M. Sibley, University Health Network – Toronto Rehabilitation Institute Fabio Feldman, Fraser Health Authority

This study identified the most effective fall prevention interventions through a systematic review and network meta-analysis (NMA). NMA permits comparing interventions that have not been examined in head-to-head trials, as well as ranking the effectiveness of interventions. Exercise and exercise combined with patient education ranked as the most effective fall prevention interventions for older people.

Theme: Going Boldly into the Primary Care Setting: Implementing New Strategies and Training Tools for Fall Prevention

Breaking New Ground: Fitting Fall Prevention into Primary Care

Authors: Mary Lou Boudreau, Ontario Falls Prevention Community of Practice Catherine Donnelly, Queen's University Lori Letts, McMaster University
Rhonda Lovell, Kingston, Frontenac, Lennox and Addington Public Health Unit

Falling is a common problem in older adults. In Ontario 66% of injury related ER visits and 85% of hospital admissions for adults over 65 are related to falls. To date, there is little literature that describes or evaluates fall prevention programs in primary care. The purpose of the presentation is to describe the creation and implementation of a fall prevention program in three family health teams in Eastern Ontario.
Evaluation of an Evidence-Based Education Program for Health Professionals: The Canadian Falls Prevention Curriculum© (CFPC)

Authors: Bobbi Symes, Simon Fraser University Vicky Scott, BC Ministry of Health Anne Higginson, Victoria, BC, Canada Fahra Rajabali, BC Injury Research and Prevention Unit Elaine Gallagher, University of Victoria, Centre on Aging Sarah Metcalfe, University of British Columbia, School of Population and Public Health

This presentation describes a staged, mixed methods approach to the evaluation of an evidence-based education program (Canadian Falls Prevention Curriculum© - CFPC) for health professionals and community leaders on how to design, implement and evaluate a fall prevention program. Stages of evaluation included: 1) Pre-development; 2) Development; 3) Pilot Testing; 4) Impact on practice and 5) On-going evaluation and improvement.

A Comprehensive Multidisciplinary Falls Prevention Clinic in Primary Care: Lessons Learned

Authors: Shellie Buckley, CNO, RNAO Lisa Murray, Ontario College of Pharmacists Nancy Rheume, Ontario College of Occupational Therapists

This presentation describes the Healthy, Safe and Strong Clinic implemented in a primary care setting in Stratford. Evaluation findings will be presented and discussed.

Theme: Feeling good! How Enhancing Well-Being Can Help Prevent Falls

The Effect of Depression on Outcome of Fear of Falling in a Falls Prevention Program

Authors: Andrea Iaboni, University Health Network and University of Toronto Carol Banez, Seniors Wellness Clinic, University Health Network Robert Lam, Department of Family Medicine, University Health Network and University of Toronto

Simon A. Jones, Toronto Rehabilitation Institute Brian E. Maki, Toronto Rehabilitation Institute Barbara A. Liu, University of Toronto Alastair J. Flint, University of Toronto

Fall prevention programs (FPPs) are modestly successful at improving balance and preventing falls but have minimal impact on fear of falling. Depression in older adults is associated with fear of falling and activity avoidance. The aim of this study was to test the hypothesis that baseline depression impedes improvement in fear of falling and falls efficacy in older adults attending a fall prevention program (FPP).

Does Improving Incontinence Reduce Falls Incidence Among Community-Dwelling Older Women?

Authors: Cara Tannenbaum, Centre de Recherche de l’Institut Universitaire de Gériatrie de Montréal, Simone Powell, Public Health Agency of Canada, Adrian Wagg, University of Alberta

This research will test the effectiveness of an evidence-based incontinence promotion intervention (i.e., CACTUS-D) to improve incontinence in women with a minimum frequency of twice-weekly incontinence. This research will also determine whether improved urinary symptoms are associated with a reduction in falls incidence among older adults who rush to the toilet with urinary urgency. Conclusions will focus on the relevance of incontinence promotion interventions to prevent falls among seniors within the context of increasing healthy life expectancy.

Minding the Gap: Falls Prevention Strategy at a Mental Health Sciences Centre

Authors: Kim Ritchie, Maria Ahmed, Linna Tam-Seto, Sheryl Bernard, Laurel Cyr, Ontario Shores Centre for Mental Health Sciences

There is a significant gap in the literature to support fall prevention best practices in a mental health care context, although it is recognized falls are one of the top four types of patient safety occurrences in mental health. The purpose of this initiative was to increase awareness concerning fall risk in a mental health population and to develop a comprehensive fall strategy that aims to ensure consistency in care processes that will lead to improved patient outcomes in fall related injuries.

The new Seniors’ Falls in Canada: Second Report, Public Health Agency of Canada

Authors: Simone Powell, Natasha Kuran, Arne Stinchcombe Public Health Agency of Canada

Falls are the leading cause of injury among Canadians over the age of 65, with approximately 20-30% of seniors experiencing one or more falls each year. To support prevention efforts, the Public Health Agency of Canada has developed the new Seniors’ Falls in Canada: Second Report, which presents comprehensive data on fall injuries and death among older Canadians, as well as evidence on risk factors and best practices for prevention.
Theme: It takes a village! How Collaboration and Networking Help Propel the Fall Prevention Agenda

A Network Analysis Approach to Understanding Falls Prevention Referral Pathways

Authors: Phuc Dang, University of Victoria Madelyn P. Law, Brock University Laura Cousens, Brock University Miya Narushima, Brock University

The purpose of this study was to understand the referral linkages that exist among fall prevention organizations in a southern Ontario region using network analysis theory. Limited research studies have been conducted on referral pathways of public health programs and no studies to date have investigated fall prevention referral pathways using network analysis.

Community of Practice: Connecting with Others in Fall Prevention

Authors: Mary Lou Boudreau, Hélène Gagné, Alan Salmoni, Marguerite Thomas, Rhonda Lovell, Susan Bonomo, Monica Marquis Ontario Fall Prevention Community of Practice

A Community of Practice (CoP) can bring a variety of stakeholders together to facilitate the exchange of information and practices, updates on research, identification of learning needs and planning of educational events. This presentation will discuss the evaluation findings for the Ontario Falls Prevention Community of Practice.

Twists and Turns on the Road to Finding Balance: Building on the Successes of a Six-Year Seniors’ Falls Prevention Program

Author: Lynda A. McPhee, Alberta Centre for Injury Control & Research

Finding Balance is a seniors’ fall prevention program developed and coordinated by the Alberta Centre for Injury Control & Research in partnership with health professionals across the province. The program includes a public awareness campaign, a practitioner network and an interactive fall risk assessment and management algorithm. The program and evaluation findings will be discussed.

Reflections on Patient Engagement in an Integrated Community Based Falls Prevention Program

Authors: Laurie Bernick, Andrea Brown-Strachan, Georgina Krillis, Anne McKye, Sanjin Mujkic, Trillium Health Partners

The purpose of this paper is to capture the patients’ perspective on the impact of a multi-service fall prevention program. The participants’ views on fear of falling, exercise participation and activity engagement and how the program improved their confidence and well-being will be shared.
SYMPOSIA 1 • MAY 27, 3:15 – 4:00 P.M.

Preventing Falls in ‘High Risk’ Environments in the Home and Community

Authors: Geoff Fernie, Tilak Dutta, Yue Li, Alison C. Novak
Toronto Rehabilitation Institute

The purpose of this symposium is to explore the challenges and opportunities when addressing falls in high-risk environments in the home or community. Strategies to bridge knowledge and practice, develop novel products, implement policy changes and identify key research priorities will be the focus.

Knowledge Translation for Fall Prevention

Authors: Vicky Scott, BC Injury Research and Prevention Unit, BC Ministry of Health
Dean Fixsen, National Implementation Research Network
Dawn Skelton, Glasgow Caledonian University

The purpose of this session is to discuss the definition, practice, and uses of knowledge translation (KT) and to further illustrate these aims through the use of fall prevention programming in British Columbia as a successful model of KT: the Strategies and Actions for Independent Living Program (SAIL). The SAIL program is an evidence based fall prevention program designed for community health workers (CHWs) and home health professionals (HHPs) who provide support to clients who receive publicly funded home support services.

Safe Movement and Exercise Recommendations for Individuals at Risk of Falls & Fracture

Authors: Norma MacIntyre, McMaster University
Lora Giangregorio, University of Waterloo
Judi Laprade, University of Toronto

The purpose of the symposium is to share best practices and leading research on exercise recommendations and safe movement for those individuals with or at risk for osteoporotic fracture. The symposium will provide healthcare professionals with evidence-based methods for assessing and intervening to ensure safe performance of physical activities and exercise programs for those individuals with or at risk for osteoporotic fractures.

Recommendations on Risk of Falling Assessment: Outcome of the GeriEDGE Workgroup

Authors: Mindy O. Renfro, Mariana Wingwood
University of Montana – Missoula; Central Vermont Medical Centre

The GeriEDGE Task Force (GETF) on Risk of Falling Assessment was charged by the American Physical Therapy Association (APTA) to identify key risk assessment and outcome measures to be used for: Screening for falls risk for older adults across the continuum of care; Assessing outcomes of interventions aimed at improving balance; Providing guidance on interpreting measures for severity coding.

Upon completion of this seminar, participants will be able to:

1. Use current evidence about clinometric properties to select the most appropriate measure of risk of falling and balance capacity for the older adults they care for in their practice setting.

2. Interpret established indicators of risk of falling (e.g., sensitivity and specificity, likelihood ratio, relative and absolute risk) to identify older adults in need of preventative interventions.

3. Select the most appropriate measures to determine risk reduction after physical therapy intervention for the older adults in their practice setting.

4. Interpret scores on risk of falling and balance capacity measures to be used as indicators of severity classification in documentation.

HELPER (Health Evaluation Logging and Personal Emergency Response) System: Use of Technology to Detect Falls and Better Understand Precipitants

Authors: Lisa Van Bussel, St. Joseph’s Healthcare London and Western University
Alex Mihailidus, University of Toronto, Toronto Rehabilitation Institute
Tom Ross, St. Joseph’s Healthcare London

The HELPER (Health Evaluation Logging and Personal Emergency Response) System uses near infrared technology to detect when a person has fallen. The objectives of this session are:

1. To describe the current state of fall assessment in geriatric psychiatry.

2. To describe current fall detection technology and its role in early detection and prevention of falls.

3. To share a case study to illustrate the use of this technology.

4. To describe the feasibility and efficacy of HELPER in a hospital setting.

5. To provide some preliminary data on fall precipitants and factors contributing to injury.
SYMPOSIA 2 • MAY 28, 2:40 – 3:30 P.M.

Hip Protector Symposium: Understanding the Factors that Influence Clinical Effectiveness

Authors: Fabio Feldman, Fraser Health Authority Vicky Scott, BC Injury Research and Prevention Unit Alex Korall, Simon Fraser University Emily O’Hearn, Simon Fraser University

The purpose of this symposium is to present research related to the biomechanical effectiveness of hip protectors as well as the results of a systematic review related to strategies to overcome perceived barriers and improve acceptance and adherence with the use of hip protectors.

The workshop would consist of 4 panel speakers (1) Dr. Fabio Feldman will present an overview of results from clinical trials of hip protectors and on the biomechanical effectiveness of hip protectors; (2) Alex Korall (PhD Candidate) will present on the barriers and facilitators with the use of hip protectors; (3) Dr. Vicky Scott will present on implementation of a hip protector program; and (4) Emily O’Hearn (MSc Candidate) will present on a new design hip protector for acute care patients. The presentations will be followed by a time for questions and discussion with the audience.

This presentation will provide great information for practitioners wanting to evaluate the evidence base for hip protectors. It will also be of interest to decision makers who must have a good understanding of the benefits of providing these types of technologies.

Maximizing Public Health Impact by Integrating Older Adult Fall Prevention Programs

Authors: Erin Parker, Centres for Disease Control Judy Stevens, Centers for Disease Control Lisa Shields, Oregon Department of Human Services, Public Health Division Harrison A. Moss, New York State Department of Health

The purpose of this symposium is to describe the ongoing efforts by the CDC's National Center for Injury Prevention and Control (Injury Center) and state health departments to reduce the number and consequences of falls by promoting the widespread adoption of evidence-based fall prevention programs. Specific objectives for this symposium are to:

1. Explain CDC's approach to developing and implementing effective fall prevention strategies.
2. Describe four medical provider resources in STEADI (Stopping Elderly Accidents, Deaths and Injuries) that can support fall risk assessment and treatment.
3. Describe two health department strategies that organizations can use to implement community-based fall prevention programs.

Pushing It to the Limit: Measuring and Training Rapid Balance Responses to Prevent Falls

Authors: Elizabeth L. Inness, Avril Mansfield, Irene Antunes, Elizabeth Baker, Louis Biasin, Vivien Poon Toronto Rehabilitation Institute

This workshop will share our experiences at Toronto Rehab-UHN in the implementation and evaluation of clinical programming that uses both novel assessments and training to identify and treat underlying reactive balance control issues that can contribute to falls. The specific objectives are to:

1. Review emerging research related to reactive balance control, its link to fall risk and relevance to rehabilitation within both the elderly and neurological patient populations.
2. Review our clinical approach to measuring reactive balance control using a ‘lean-and-release’ balance perturbation methodology, force plate technology, and safety harness, to assess this aspect of balance control in a safe, standardized and quantifiable manner.
3. Present the development, implementation and evaluation of a novel ‘balance perturbation’ training program to target specific features of reactive stepping and, in turn, reduce fall risk and improve balance confidence and mobility.

Recommendations for Osteoporosis Management and Fracture Prevention in Long-Term Care

Authors: Alexandra Papaioannou, McMaster University Mary-Lou van der Horst, Schlegel Centre for Learning, Research and Innovation in Long-Term Care Paul Katz, Baycrest Hospital Nancy Santesso, McMaster University

With the advent of the 2010 Osteoporosis Canada Clinical Practice guidelines, and in light of many new therapeutic options, establishing a clear consensus document for managing osteoporosis and fracture prevention in LTC is urgently needed. These are the first guidelines developed for LTC and therapeutic care of osteoporosis and fracture prevention using the GRADE approach.

The specific objectives of the session are:

1. Understand how to use and apply the GRADE process for guideline development.
2. Develop an understanding of the new Osteoporosis Canada Fracture Prevention Guidelines in Long-Term Care. Guideline sections include: pharmacotherapy, Calcium and vitamin D, hip protectors and exercise and multifactorial interventions.
3. Review strategies for guideline implementation and tools for the prevention of falls and fractures.
2 Achieving Improvements in an Inpatient Falls Prevention Program

Authors: Cindy Archibald, Kim Kohlberger, Lynn Budgell
Halton Healthcare Services

This presentation will focus on Halton Healthcare’s work to enhance/sustain improvements in fall prevention including: a central location for staff to order supplies/resources; automation of data measurement (alignment of Meditech and incident reporting data); full implementation of safety crosses for visual tracking by staff; implementation of sensory-based approaches to managing cognitively impaired behaviours; further extension of the falls coordinator role and evaluation in spring 2014 through use of staff and patients/families focus groups to help guide next steps.

3 Do Falls Experienced During In-Patient Stroke Rehabilitation Affect Length of Stay and Functional Status?

Authors: Jennifer S. Wong, University of Toronto Dina Brooks, University of Toronto Avril Mansfield, Toronto Rehabilitation Institute

Falls are common post-stroke and have significant physical and psychosocial consequences. Falls experienced during in-patient rehabilitation could influence stroke recovery, as those who fall may have longer lengths of stay and/or worse functional outcomes at discharge than those who do not fall. The objective of this study is to determine the impact of falls on length of stay (LOS) and functional status of individuals receiving rehabilitation.

4 Examining Mobility Related Factors by Fall Status in Retirement Living Residences

Authors: Spencer E. Gooderham, Alexander M. Crizzle, Anita M. Myers, Sarah T. Sousa, Courtney Janssen-Grieve University of Waterloo

The purpose of this study was to examine differences in clinical measures and balance confidence among single, recurrent and non-fallers. Results show fallers are more likely to have low balance confidence, mobility difficulties and lower community engagement. Retirement homes should develop assistance programs for residents with mobility restrictions and/or poor balance confidence to improve access to services and amenities in the community.

5 Fall Prevention in Seniors in the Greater St. John’s Area: A Qualitative and Quantitative Examination of a Fall Prevention Program

Authors: Megan Cummings, Rebecca Lau, Jeannette M. Byrne
Memorial University of Newfoundland

This research aimed to examine the effectiveness of a 10-week exercise program on both quantitative and qualitative balance and confidence outcomes in individuals over the age of 65. Preliminary results of this research suggest that benefits of fall prevention training extend far beyond balance and fall risk. Many participants in the current study reported positive lifestyle changes not directly related to the purpose of the study.

7 Impact of a Case Finding Intervention on Fracture Risk Reduction Outcomes Following Fragility Fractures

Authors: Dorcas Beaton, St. Michael’s Hospital M Mamdani, St. Michael’s Hospital H Zheng, Institute for Clinical Evaluative Studies Susan Jaglal, University of Toronto
Suzanne Cadarette, University of Toronto Ravi Jain, Osteoporosis Canada Joanna Sale, St. Michael’s Hospital

The purpose of this study was to use administrative billing data to evaluate the impact of the system-wide coordinator based program in terms of key osteoporosis indicators. Interrupted time series analysis found changes in BMD testing at population level after initiation of a province wide screening program. Effect appears specific to those confirmed having interacted with the coordinator. Secondary outcomes showed favorable results.

9 Fall Prevention in the Emergency Department

Authors: Naudea Mair, Petal Samuel
University Health Network –Toronto Western Hospital

Falls are an increasing problem for hospitalized patients, and are now being recognized as an issue in the emergency department (ED). This study evaluated a multidisciplinary fall prevention program in the ED. Implementation considerations and results will be discussed.
10 A Paramedic and Community Falls Prevention Collaborative Project  
Authors: Patricia Regier, Community Support Services of Niagara, Karen Lutz, Emergency Medical Services Niagara  
This presentation will discuss the development of a new collaborative program, training and referral process, along with current results of this new initiative thus far. This collaborative project involves a relationship between Niagara Emergency Medical Services (EMS) Community Response Unit (CRU) and Community Support Services of Niagara’s (CSSN) established Safety at Home (SAH) program, to build a fall prevention pilot initiative in a small community. The program objective intends to fill a gap for the elderly patients who experience frequent falls and are repeat 911 callers, but do not always choose to go to the hospital.

12 Falls Prevention Training and Education in College Programs: Utilizing Community Partnerships to Support a Sustainable Fall Prevention Strategy in Grey Bruce  
Authors: Amber Schieck, Sarah Milne, Lynda Bumstead  
Grey Bruce Health Unit  
The Grey Bruce Falls Prevention and Intervention Program (GBFPIP) aims to address the needs of older adults who are at various risk levels of falling, through an integrated system of evidence-based services in Grey Bruce, Ontario. The implementation of fall prevention initiatives and services has included a component of fall prevention education and training. Training for frontline care providers is important, as they have a key role in the prevention of falls among older adults.

14 Fall Prevention in Ambulatory Care and Community Health Settings: Environmental Checklist and Checklist for Construction or Renovation  
Authors: Michelle Smith, Jacquie Habing, Yvonne Morier, Kate Dubberley  
IMPACT, Winnipeg Regional Health Authority  
Fall prevention is a Required Organizational Practice of Accreditation Canada. The Community and Ambulatory Care Falls Prevention Working Group identified a need to identify environmental factors that may increase the risk of falls among clients attending community and ambulatory care clinics within the Winnipeg Regional Health Authority (WRHA). The development and implementation of an Environmental Checklist will be discussed.

15 The Development of a Disposable Stick-on Hip protector for the Prevention of Hip Fractures in Hospitalized Patients  
Emily O’Hearn, Simon Fraser University  
Colin Russell, Simon Fraser University  
Stephen Robinovitch, Simon Fraser University  
Fabio Feldman, Fraser Health Authority  
Nearly 1 in 1000 elderly patients will suffer a hip fracture as a result of a fall after admission to a Canadian acute care hospital and almost 50% of patients will die within one year of the fracture. Hip protectors have been promoted as a method for preventing hip fractures, however compliance among patients and staff is low. A potential solution to this problem is the development of a disposable ‘stick-on’ hip protector pad, which may offer many advantages over traditional garment models including: a) increased protection; b) no shifting; c) continuous protection including during toileting; d) decrease staff workload; e) no laundry requirements; and f) no need for different sizes or male/female models.

17 Ottawa Public Health Older Adults Falls Prevention Survey  
Authors: Jacqueline Willmore, Ginette F. Asselin  
Ottawa Public Health  
In 2012, Ottawa Public Health developed the Older Adults Falls Prevention Survey to fill a gap in local data on fall prevention knowledge and behaviours. The survey assessed Ottawa Public Health recommendations to older adults based on the current evidence: annual review of medications, annual vision and regular medical check-ups, physical activity including strength and balance exercises, eating calcium rich foods, taking a vitamin D supplement, and modifying home hazards.

19 Reduction in Falls Demonstrated During Trial of Low-rise Beds: A Component of a Multi-dimensional Fall Prevention Strategy  
Authors: Karen Coleman, Mary-Lynn Peters, Theresa Ferrari, Cynthia Welton, Leona Graham  
Trillium Health Partners  
Fall rates at Trillium Health Partners have exceeded the organizational target of 4 per 1000 patient days. The use of low-rise beds has been identified as best practice by the Registered Nurses’ Association of Ontario, as part of a multi-dimensional fall prevention program. A trial of low rise beds was initiated in May 2013 to determine the effectiveness of low-rise beds on reducing the number of falls.
21 Effects of Planning Time and Practice on the Obstacle Avoidance Strategies of Older Adults
Authors: Joshua J. Fisher, University of Guelph; Melissa D. Gurney, University of Guelph; Rebecca J. Reed Jones, University of Prince Edward Island; Lori A. Vallis, University of Guelph, Schlegel-UW Research Institute for Aging

Dynamic obstacles are encountered during tasks of daily living and may contribute to fall risk in older adults. We investigated the obstacle avoidance strategies used by young and older adults for dynamic and static obstacles, and examined the effects of reduced planning times and practice on these strategies. Findings suggest that practicing obstacle avoidance tasks may help older adults to modify and potentially improve their obstacle avoidance strategies.

22 Evaluation of Bone FitTM Workshops
Authors: Barbara Beauchamp, Osteoporosis Canada; Ravi Jain, Osteoporosis Canada; Judi Laprade, University of Toronto; Sarah Khan, Osteoporosis Canada

In 2010, Osteoporosis Canada developed Bone FitTM, an evidence-informed exercise training workshop for health professionals. This research evaluated the efficacy of Bone FitTM as a knowledge translation tool in clinical and community exercise practices. This research will inform if Bone FitTM trained individuals changed their knowledge, practice and attitudes towards osteoporosis, fracture risk and safe exercises.

23 An Evaluation of the OsteoCircuit© Building Better Bones Exercise and Education Program
Authors: Tracy Tan, Caitlin Goodfellow, Polina Provad, Rachel Puccia, Kimberley Rowe, Bonny O’Hare, Esther J. Waugh, University of Toronto; Pro Motion Physiotherapy

The OsteoCircuit© program is an evidence-based physiotherapy exercise and education program for women with low bone density in a private practice clinical setting. The purpose of this study was to evaluate the processes and outcomes of this program; specifically to i) determine if there was an improvement in physical performance measures in a 3 month period; ii) determine adherence and key correlates of adherence.

24 A Multi-sectorial Approach to a Multi-factorial Issue: An Algorithm for Falls Prevention for use in Primary and Community Care
Authors: Christine Bidmead, Jane Adams, Regional Geriatric Program of Eastern Ontario Champlain LHIN

As part of the development of a regional fall prevention strategy, it was determined that Primary and Community Care would be the starting point for the planning process and serve as a foundation for the regional structure. A survey of providers in early 2013 identified issues that were adopted as deliverables for the committee. The need for coordination and consistency were key response themes, which included the requirement for a common algorithm, as well as standardized tools for assessment and measurement to be used across the continuum.

25 Best Practice in Performance Measurement of Fall Prevention Training: Toronto Public Health’s Step Ahead Program for Health Care Providers and Caregivers to Older Adults
Authors: Susan Plante, Margaret Dewitt, Toronto Public Health

This presentation shares early results of our experience in implementing performance measurement of Toronto Public Health’s Step Ahead Program. Step Ahead is a full-day fall prevention workshop on age related changes and modifiable risks as well as training on the Home Support Exercise Program (HSEP).

27 The Use of Mobility Sheets to Prevent Falls in an Acute Care Community Hospital
Authors: Diane E. Hagarty, Kristina M. Joyce, Guelph General Hospital

Members of the interdisciplinary team identified the need to develop a way to communicate a patient’s mobility status, which was consistent and useful for staff providing care to the patients in our organization. The purpose of the Mobility Sheets is to clearly communicate a patient’s mobility status to all members of the interdisciplinary staff in a consistent, standardized and easy way that allows for updates as the patient’s abilities and needs change.
29 Mortality Trend by Falls in Mexico from 1979 to 2010
Authors: Alfredo Celis, Universidad de Guadalajara and Julio Davalos, Doctorado en Ciencias de la Salud Publica

The purpose of this study was to analyze the mortality trend by accidental falls in Mexico, from 1979 to 2010. This is the first study in Mexico that showed the descending trend of mortality in accidental falls in the last two decades. This descending mortality was present in all age groups, both sexes and almost all states of Mexico.

30 Prevalence by Accidental Falls and Associated Factors for Hip and Wrist Fracture in Elderly People from Jalisco, Mexico
Authors: Maria Orozco, Universidad de Guadalajara and Ana Mendez, Doctorado en Ciencias de la Salud Publica

The purpose of this study was to describe the prevalence by falls and associated factors to the hip and wrist fractures in elderly from Jalisco, Mexico at 2010. Accidental falls occurred in one third of the population, and those affect mainly women over 75 years old, 49% higher risk compared with men. The growth of elderly population in Mexico is necessary to design and implement well-being and activation programs, which reduce this problem and its complications.

31 The Available Coefficient of Friction Associated with Different Slip Probabilities for Level Straight Walking
Authors: Wen-Ruey Chang, Simon Matz, Chien-Chi Chang

Liberty Mutual Research Institute for Safety

This study investigated different slip probabilities for level straight walking obtained when comparing a given available coefficient of friction (ACOF) value with the stochastic distribution of the required coefficient of friction (RCOF). In an early study, data from both feet of 48 participants were pooled to construct a normal distribution for the RCOF without considering the potential effects of different factors. In the current study, the effects of the walking speed, footwear type, age and gender on the ACOF associated with given slip probabilities were investigated.

32 Putting it Into Practice: Implementing a Fall Prevention Best Practice Initiative in the Home Care Setting
Authors: Katharina Sidhu, Sandra McKay

VHA Home HealthCare

This project investigates the clinical uptake of a comprehensive fall risk management best practice initiative into routine care delivery of health providers in the home care setting. Implementation and evaluation findings will be discussed.

8 Home Adaptation and Maintenance Program
Author: Leslie A. Briggs, CHATS – Community & Home Assistance to Seniors

CHATS Home Adaptation and Maintenance Program (HAMP) is a unique program funded by the Central LHIN to help seniors remain living in their own home for as long as possible. We help by adapting and/or maintaining the home with regular maintenance services that the senior can no longer undertake. Our main purpose revolves around fall prevention. Our goal is to reduce the number of unnecessary ER visits due to falls, reduce the numbers waiting for LTC facilities and to ease the burden on caregivers.

11 Integrated Regional Falls Program in the North Simcoe Muskoka Local Health Integrated Network (LHIN)
Authors: Ryan M. Miller, Orillia Soldiers Memorial Hospital, Monica Menecia, Osteoporosis Canada

The North Simcoe Muskoka (NSM) LHIN reported more hospital admissions due to falls and subsequent hip fractures than any other region in Ontario (2009/10). The Building Balance Program is an evidence-based fall prevention program that targets community-dwelling seniors at risk for falls. It provides fall risk assessment, intervention and education to prevent hospitalization from injuries associated with falls.
13 Health Care Solutions: Falls Prevention Initiative
Authors: Suzanne M. Baker, Steven A. Carrigan, Thomas A. Dobson, Patricia McDermott
South Shore Health; Emergency Health Services Nova Scotia
The overall purpose of the program is to prevent admissions to the hospital due to a fall and identify those at risk of falling and increase access and utilization of existing fall prevention programs/resources by having EHS join the fall prevention efforts. The District Health Authorities recognize that the EHS front line team is in a unique position to fill a growing gap in identifying individuals who repeatedly fall and for those also at risk.

16 How is Your Inter-professional Staff Connected to Your Fall Prevention Program Initiatives?
Authors: Dania Versailles, Suzanne Heebner, Marie Claude Poirier
Organization: Hopital Monfort
The purpose of this study was to measure the effectiveness of staff response after an integrated bed alarm was activated and to reinforce key strategies to prevent or manage falls at the point of care on a medicine unit at an acute community hospital. Evaluation and implementation findings will be discussed.

20 Listening While Walking: Assessing Dual-Task Costs in Older and Younger Adults Using Advanced Virtual Reality Technologies
Authors: Sin-Tung S. Lau, Toronto Rehabilitation Institute – University Health Network Victoria V. Nieborowska, Concordia University Linda L. Truong, Ryerson University
Alison A. Novak, Toronto Rehabilitation Institute – University Health Network M. Kathleen Pichora-Fuller, Toronto Rehabilitation Institute – University Health Network, Ryerson University
Karen K. Li, Concordia University Jennifer J. Campos, Toronto Rehabilitation Institute – University Health Network, University of Toronto
Age-related hearing loss has been linked to an increased risk of falls in older adults. The present study investigated this relationship by comparing healthy older and younger adults on a common, mobility-relevant, dual-task; listening while walking.

28 Creating Fall Prevention Recommendations for Home Care
Authors: Robin M. Hurst, Karen Pental, Jackie Matson, Helene Lacroix, Karen Ray, Gail Mulzer, Lorraine McLaughlin
Saint Elizabeth
A collaborative, multidisciplinary committee was created to develop a Fall Prevention program based on recommendations for the home care environment. The committee reviewed international, national and provincial best practice guidelines for Fall Prevention and recommended education, practice changes, risk reporting, monitoring and the use of the Plan Do Study Act (PDSA) evaluation framework. The recommendations resulted in the creation of an Environmental and Fall Risk assessment tool and exercises designed to maintain client mobility, strength and balance.

6 Exercise Programs for Fall Prevention in Winnipeg
Authors: Michelle Smith, Lynne Warda, Jacque Habing, Wendy French, Kate Dubberley
IMPACT, Winnipeg Regional Health Authority
This project investigated the number and characteristics of community-based exercise programs in Winnipeg that meet fall prevention physical activity guidelines. Methods and findings will be discussed.

1 Evaluation of a BMD “Fast Track” Program: The Impact of Adding a Medical Directive for the Ordering of a BMD Test
Authors: Dorcas Beaton, St. Michael’s Hospital Marjan Vidmar, St. Michael’s Hospital Rebeka Sujic, St. Michael’s Hospital Earl Bogoch, St. Michael’s Hospital
Ravi Jain, Osteoporosis Canada
The purpose of this study was to evaluate the impact of a Bone Mineral Density (BMD) ‘fast track’ program on patient outcomes within a post-fracture osteoporosis screening initiative, the Fracture Clinic Screening Program (FCSP). Findings indicate patients screened through ‘fast track’ are more likely to complete a BMD, discuss the results, know the results indicated osteoporosis, osteopenia or low bone density and more likely to be prescribed osteoporosis medications than comparable patients not screened through this program.
APPENDIX C. Key Contacts

Osteofit (partnership opportunities in research and programming)
http://www.osteofit.org

STEADYFEET Balance and Mobility Program
http://steadyfeet.vch.ca

Building Balance Program of North Simcoe Muskoka Local Health Integration Network

HOMES risk Assessment
http://vet.tufts.edu/hoarding/pubs/HOMES_SCALE.pdf

Frost Clutter Image Rating Scale

Toolbox to assist communities in implementing WHO Age Friendly Communities Model
http://afc.uwaterloo.ca

Strategies and Actions for Independent Living (SAIL)
http://www.health.gov.bc.ca/prevention/fallhome.html

Canadian Falls Prevention Curriculum© and supporting text
http://www.canadianfallprevention.ca

FRAST Screening Assessment
http://www.co.missoula.mt.us/healthpromo/FallPrevention/PDF/FRASTComplete2011.pdf

Supporting Knowledge for Injury Prevention in Seniors (SKIPS) videos and KT Initiative
http://www.sfu.ca/tips/research/knowledge-exchange/skips/

Finding Balance
http://www.findingbalancealberta.ca

STEADI (Stopping Elderly Accidents, Deaths and Injuries) Toolkit (US Centers for Disease Control)
http://www.cdc.gov/homeandrecreationalsafety/Falls/steadi/about.html

Ontario Falls Prevention Community of Practice
http://seniorshealthknowledgenetwork.ca/community/falls-prevention-community-practice
APPENDIX D. Organizers, Staff and Volunteers

Conference Co-Chairs
Linda Yenssen, Ontario Injury Prevention Resource Centre
Vicky Scott, British Columbia Injury Research and Prevention Unit

Steering Committee
Linda Yenssen, Ontario Injury Prevention Resource Centre
Vicky Scott, British Columbia Injury Research and Prevention Unit
Stacie Carey, Parachute
Geoff Fernie, University Health Network – Toronto Rehabilitation Institute
Pamela Fuselli, Parachute
Hélène Gagné, Ontario Neurotrauma Foundation
Michelle Hakvoort, (formerly with) Public Health Ontario
Heather Little, Canadian Red Cross
Melody Roberts, Public Health Ontario
Joanne Veninga, Public Health Agency of Canada

Conference Event Manager
Karin Ivand, Bay House Group Inc.

Program Planning Committee
Linda Yenssen, Ontario Injury Prevention Resource Centre
Vicky Scott, British Columbia Injury Research and Prevention Unit
Stacie Carey, Parachute
Karin Ivand, Bay House Group Inc.
Monica Marquis, Ontario Falls Prevention Community of Practice
Monica Menecola, Osteoporosis Canada
Bridgette Murphy, University Health Network – Toronto Rehabilitation Institute
Naomi O’Brien, Niagara Region (Community Services)
Patricia Regier, Community Support Services of Niagara
Jeanie Zabukovec, University Health Network – Toronto Rehabilitation Institute

Stretching and Energizing Breaks
Clara Fitzgerald, Canadian Centre for Activity and Aging (CCAA), Western University

Conference Master of Ceremonies
Philip Groff, Creative Development Unlimited

Our thanks as well to the Abstract Review Committee and to the many other dedicated volunteers who provided their time and expertise to make this conference a reality.
Watch Your Step: 2014 National Fall Prevention Conference was presented in partnership with the Falls & Mobility Network Meeting and co-hosted by:

- **Ontario Injury Prevention Resource Centre**
- **BC Injury Research and Prevention Unit**
- **Parachute**
- **UHN Toronto Rehabilitation Institute**

THANK YOU TO OUR VALUED PARTNERS

**STRATEGIC PARTNER:**

- **Shoppers HomeHealthCare**

**PLATINUM PARTNER:**

- **Osteoporosis Canada**

**GOLD PARTNERS:**

- **Public Health Ontario**
- **Santé publique Ontario**
- **Ontario Neurotrauma Foundation**
- **Ontario Falls Prevention Community of Practice**

**SILVER PARTNERS:**

- **Philips Lifeline**
- **Canadian Red Cross**

**BRONZE PARTNERS:**

- **Accreditation Canada**
- **Seniors for Seniors**