

## FALL PREVENTION AND OLDER ADULTS

Each year in Winnipeg, one in three adults over 65 years of age will experience a fall.<sup>1</sup> Approximately one **third** of people 65 years of age and older and one **half** of people 80 years of age and older will fall each year.<sup>5-12</sup> Older adults who fall once are more than twice as likely to fall again as people who have never fallen.<sup>12-13</sup> Almost all hip fractures in older adults are caused by a fall (95%).<sup>5</sup> Of these older adults who fracture their hip from falling, over one third will die within a year.<sup>15</sup> Many others will never be able to return to an independent lifestyle, with over one third of those having been hospitalized for a fall being discharged to a nursing home or long term care facility.<sup>1</sup>

### BURDEN

The Canadian population is aging at an unprecedented rate<sup>2</sup>. Among many threats to successful aging, falls are a major concern for people aged 65 years and older. Too often, a fall is the catalyst for a downward health spiral that is associated with activity restriction<sup>3</sup>, long term care admission<sup>4</sup> and even death<sup>5</sup>. Compared to the other Canadian provinces, Manitoba had 52% higher fall-related mortality compared to the national rate.<sup>7</sup>

Between the years 2000 to 2010 in the Winnipeg Health Region, falls were the leading cause of injury-related deaths (n = 914) and were responsible for 68% of all unintentional injury-related deaths among those 65 years of age and older. Most fall-related deaths were observed in adults 65 years of age and older (90%) and more female older-adults died due to falling compared to male older-adults. Most fall-related deaths within the older population occurred in adults 75 years of age and older (82%).<sup>6</sup>

Falls were the leading cause of injury-related hospitalizations in older adults within the Winnipeg Health Region between 2000 to 2010 and accounted for 68% of all fall-related hospitalizations (n = 18,116). As was the case with fall-related deaths, most of the fall-related hospitalizations were observed in older adults, typically females. The average length of hospital stay for a fall was 25.4 days, which is 4.5 days longer than the average length of hospital stay for admissions due to other unintentional injuries.<sup>6</sup>

The majority of falls that require hospitalization occur in the home.<sup>1</sup> Nearly half (44%) of falls that result in an injury occur due to minor slips, trips and stumbles. Other common mechanisms include falling when going up or down stairs (26%) or on ice or snow (20%).<sup>8</sup> Over two-thirds of individuals who fall will sustain a minor injury, whereas many others will experience a serious injury, such as a fracture, dislocation or laceration (between 13% and 24%).<sup>9</sup>

## ECONOMIC BURDEN

Fall-related injuries in Manitoba cost 4 million dollars in 2010 and accounted for nearly one-third (30%) of all total injury costs (\$1.2 billion). Overall, falls in 2010 cost \$345 million in total costs in Manitoba. Falls were the most expensive cause of injury in Manitoba with a per capita total cost of 283 dollars.<sup>7</sup>

Falls cause 95% of all hip fractures in Canadians 65 years of age and older, and Manitobans have the largest proportion/highest rate of in-hospital hip fractures in Canada<sup>1</sup>. More people 65 years of age and older in Manitoba sustain hip fractures while in hospitals than anywhere else in Canada with 1.1 hip fractures per 1000 discharges.<sup>14</sup> In 2006, one hip fracture cost the Manitoba healthcare system between \$13,111 and \$16,171 in direct medical costs.<sup>10</sup>

The Winnipeg Regional Health Authority (WRHA) defines a fall as “unintentionally coming to rest on the ground, floor or other lower level with or without injury”.

## EVIDENCE

### FALL RISK FACTORS

There are a number of **non-modifiable factors** that have been shown to increase an individual’s risk of falls. These include:

- **Age:** Fall-related hospital admissions increase with age. The rate of fall-related hospitalization is almost 7 times higher among people 85 year of age and older than those aged 65-74 years.<sup>11</sup>
- **Gender:** Hospital admissions due to falls are greater among females than males. In 2004, rates of hospitalized and non-hospitalized treatment for falls were over 1.6 times higher for females than males.
- **Previous falls:** Older adults who fall once are more than twice as likely to fall again as people who have never fallen.<sup>12-13</sup>

Interventions have been developed to address **modifiable risk factors** such as decreased balance and strength, insufficient vitamin D and osteoporosis, medications, impaired mobility, chronic health conditions, cognitive impairment, impaired vision and hazards in the home and community.

In most cases, the best approach to fall prevention among older adults includes a multifactorial falls risk assessment and a subsequent management program tailored to an individual's risk factors and setting. Single interventions such as balance and strength exercises have also been shown to be effective, particularly for healthier older adults who have a limited number of risk factors. Research suggests that falls in the community can be reduced with the following interventions:

- Initial risk assessment (ask older adults at least once a year about falls, the frequency of falling and any difficulties in gait and balance)
- Exercise programs (exercises completed at least 20 minutes per day that target balance, gait and strength training are most effective)
- Vitamin D supplementation (vitamin D improves the function of muscles, which in turn improves balance and decreases the likelihood of falling. Vitamin D is therefore doubly essential in helping protect against fractures and osteoporosis and is most profound when an older person is deficient in vitamin D)
- Medication review and modification (target appropriate medications that increase risk of falling such as those affecting balance, sleep, mood, etc.)

- Environmental intervention (include fall risks identified in the home, and evaluation of daily activities and interventions to promote their safe performance)
- Vision referral and correction
- Assistive devices and other protective equipment (hip protectors)

## AT IMPACT

We work with health services, groups and individuals in the community to develop evidenced-based policy and programs and increase public and professional knowledge about fall prevention in order to reduce fall-related injuries and fatalities.

## COMMUNICATIONS

- **Staying on Your Feet Resources**

IMPACT, the Injury Prevention Program of the WRHA, have recently completed a review of the falls prevention literature. The updated list of Staying On Your Feet resources include: a checklist to help prevent falls, a booklet to help you identify what is putting you at risk for falling and information on what you can do to reduce the risks, home balance and strength exercises, posters that address modifiable risk factors, an interactive home safety checklist and a Staying on Your Feet community presentation for older adults living in the community.

- **Website (interactive tools)**

[www.preventfalls.ca](http://www.preventfalls.ca) is the WRHA's website dedicated to falls prevention for older adults. Features include an interactive checklist to help identify personal fall risk factors, an interactive home safety checklist and an inventory of exercise programs that meet fall prevention criteria, searchable by postal code.

## REGIONAL WORK

- **Regional Falls Prevention Leadership Committee**

IMPACT is an active participant in the Falls Prevention Leadership Committee, a multi-disciplinary group from all sectors of the WRHA. This committee works to ensure there is consistency in falls prevention information, policies, resources and equipment standards across the region. A working group of this Committee developed the Falls Prevention and Management Clinical Practice Guidelines.

- **Regional Community and Ambulatory Care Working Group on Falls Prevention**

This committee works to ensure that all WRHA community and ambulatory care sites that work with the public have a consistent and evidence-based approach to fall prevention for clients receiving services in their home and those attending WRHA programs and sites.

## **Regional Community and Ambulatory Care Working Group on Falls Prevention continued Falls Risk Screening Tool**

The Falls Risk Screening Tool (FROP) has been adopted by the Winnipeg Regional Health Authority (WRHA) Community and Ambulatory Care Working Group to reduce falls in clients receiving services in their home and those attending our WRHA community sites and clinics. The FROP tool was modified for use in our community based and ambulatory care settings to help identify clients' risk of falling and provide management strategies to reduce those risks. The tool uses three strong predictors of future falls: history of falling, independence with activities of daily living, and balance, to determine if a client has a high risk of falling. The client is given a letter identifying their personal fall risk with recommendations on how to reduce the risk.

## **Environmental Checklist and Renovations/ Construction Checklist for Ambulatory Care Sites**

Two checklists were developed and piloted and are now being used by WRHA sites. One checklist is designed to help sites review their facility and maintenance in view of reducing environmental fall hazards. It is intended to be used at least annually but preferably with changing of seasons. The other checklist assists designers and site planners in considering how to reduce the risk of falls in new building construction or for renovations.

## **Community and Ambulatory Care Staff Training and Education Needs**

A survey was distributed to Community and Ambulatory Care staff to identify staff learning needs with respect to fall prevention and management. This survey provided a forum for those working with clients within Community and Ambulatory Care and was based on the information in the Falls Prevention and Management Regional Clinical Practice Guidelines. The responses will be used to guide the development of staff training modules for falls prevention and management.

## **EXERCISE FOR FALLS PREVENTION**

- **Exercise Inventory**

IMPACT used current research to identify criteria for exercise programs that would be effective for reducing falls. These criteria were used to develop an inventory of Winnipeg exercise programs that could help reduce falls. This listing is updated regularly and is available to the public at [www.preventfalls.ca](http://www.preventfalls.ca).

- **Research Project** - Balancing Act: Understanding Current Assessment and Program Design Practices in Community Older Adult Exercise Programs for Fall Prevention

Research has consistently shown that exercise that includes balance training reduces falls in community-dwelling older adults. To date, little is known about the nature of ongoing community exercise programs for older adults and what types of exercise they include or how participants are assessed. IMPACT is working with Kathryn Sibley, Assistant Professor in Community Health Sciences and a Scientist in the Knowledge Translation Platform at the Centre for Healthcare Innovation at the University of Manitoba to explore balance exercise design and assessment practices in older adult community exercise programs. The information learned from this study will provide the first data on older adult community exercise programs in the context of fall prevention, representing a critical step in ensuring research informs practice, and enhancing the delivery of effective fall prevention interventions.

- **Reviewing Fall Prevention Literature**

IMPACT is reviewing current evidence-based literature in the area of exercise and working with internal partners to explore options for making proven balance and exercise programs more affordable and accessible across Winnipeg. There are plans to reconvene an existing committee (Frail Elderly Exercise Committee) for this purpose.

## RESOURCES

- **Staying on Your Feet resources (2015)**

- **A Checklist to Help You Prevent Falls (2015)** helps you identify what is putting you at risk of falling.
- **Take Action To Prevent Falls Booklet (2015)** contains the above checklist to help you identify what is putting you at risk of falling and provides information on what you can do to reduce the risks as well as tools to help you make a plan.
- **Home Balance and Strength Exercises (2015)** contains pictures and step-by-step instructions of five exercises that you can do at home to improve your strength and balance.
- **Proper Footwear Can Help Prevent Falls** helps you choose the best footwear to decrease your risk of falling.
- **Exercise for Strength and Balance** – 11 x 17" poster
- **Vitamin D, Prevent Falls and Injuries** – 11 x 17" poster
- **Medications and Risk of Falling** – 11 x 17" poster
- **Proper Footwear Prevents Falls** – 11 x 17" poster
- **Interactive home safety checklist** helps you inspect your home for hazards that could lead to a fall. The checklist is located on this website or at [www.homesafetycheck.ca](http://www.homesafetycheck.ca).
- **A Staying on Your Feet Community Falls Prevention Presentation** is a public presentation that aims to promote healthy, active aging for older adults living in the community in order to reduce falls and fall-related injuries. Has been developed in consultation with community groups to ensure consistent fall prevention messages.
- [www.preventfalls.ca](http://www.preventfalls.ca) – website for older adults, their families, parents of young children and professionals. Website covers best practices for reducing falls risks; features an interactive checklists on personal falls risks and home safety and has a list of exercise programs in Winnipeg searchable by postal code.
- **You Can Prevent Falls standing floor display**
- IMPACT has developed a **Falls Risk Screening Tool** for use in community and ambulatory care settings. The tool uses three strong predictors of falling to determine if a client has a high risk of falling. Action plans to reduce the clients risk of a fall are then followed.
- **Community Falls Prevention Clinic Kit:** Older adults at high risk of falling received a comprehensive home safety assessment and attended the clinic to be screened for general health, nutrition, vision, medications, strength, balance and use of mobility aids. Clients were given personalized recommendations for reducing their falls risk. A series of follow-up phone calls and appointments helped people meet the recommendations. Evaluation showed a 71% uptake of recommendations.

## REFERENCES

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## **STRATEGIC PLAN 2015-2020**

### **INJURY SURVEILLANCE AND DATA**

- Develop user-friendly summary of Winnipeg Report falls chapter.
- Explore variance in WRHA Fall hospitalization length of stay and mortality trends.
- Monitor and communicate regional fall indicators.
- Explore additional falls surveillance sources (EDIS, EMS and CHIRPP).

### **LEADERSHIP AND COLLABORATION**

- Advocate for and support the development of regional fall prevention strategy in collaboration with all sectors and the WRHA Fall Prevention Leadership Committee.
- Lead the implementation of a sustainable fall prevention strategy the WRHA Community and Ambulatory Care programs and sites.
- Collaborate with Manitoba Government departments on provincial fall prevention strategies and programs. Lead on development of fall prevention training with various partners.
- Collaborate with internal partners to implement fall prevention strategies (i.e., community areas, programs, and sites).

### **COMMUNICATION**

- Promote current fall prevention guidelines to individuals, community partners and professionals.
- Develop and disseminate fall prevention community presentations.
- Monitor and communicate significant changes to fall prevention guidelines.

### **STRENGTHENING CAPACITY**

- Develop, implement and evaluate fall prevention training for community and ambulatory care staff.
- Support the development of fall prevention training for external partners.
- Develop online resource and training for professionals.

### **POLICY AND ADVOCACY**

- Advocate for programs and policies that address disparities in fall prevention for older adults.
- Lead the development of strategies and resources to assist regional programs and staff in meeting the Accreditation Canada Home Safety and Falls Prevention Required Organizational Practices.
- Take opportunities to address fall prevention issues through policy within the WRHA.

### **HEALTH EQUITY PROMOTION**

- Develop and evaluate fall prevention resources and approaches for frail and disadvantaged older adults.
- Advocate for accessible and affordable balance and strength exercise programs.
- Advocate for affordable fall prevention equipment and services.
- Advocate for programs and policies that address disparities in fall prevention for older adults.