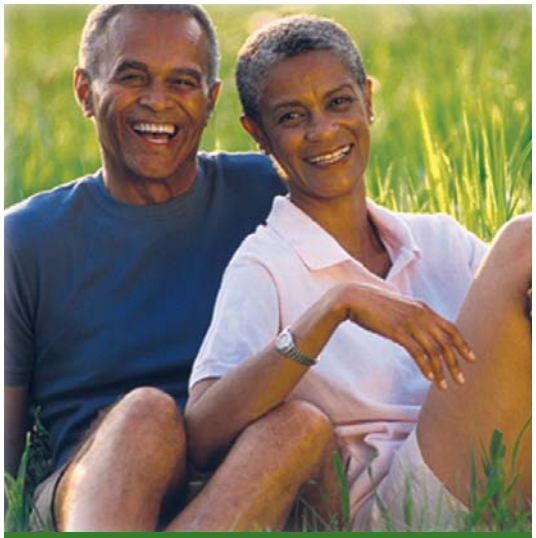

Preventing Fall-Related Injuries Among Older Nova Scotians

A STRATEGIC FRAMEWORK

NOVA SCOTIA
Health Promotion and Protection

Preventing Fall-Related Injuries Among Older Nova Scotians

A STRATEGIC FRAMEWORK

Department of Health Promotion and Protection

Designed by Laura Graham Design

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Acknowledgments

Preventing Fall-Related Injuries Among Older Nova Scotians: A Strategic Framework could not have been developed without the passion and commitment of numerous organizations, groups, and individuals who took the time to participate in the various forms of consultation. In particular, members of the Provincial Intersectoral Falls Prevention Committee have contributed many hours to the development and finalization of recommendations.

We would also like to acknowledge the work of the two consultants who assisted in the development of the Strategic Framework: Horizons Community Development Associates and Pyra Management Consultants.

During fall 2005, as we entered the final stage of the development of the Strategic Framework, the Public Health Agency of Canada (PHAC) released its Report on Seniors' Falls in Canada. This invaluable report has assisted us greatly in completing the Strategic Framework and accompanying background document. We are pleased that PHAC has granted permission for us to draw heavily upon sections of the Report on Seniors' Falls in Canada.

Preventing Fall-Related Injuries Among Older Nova Scotians: A Strategic Framework represents the efforts of many, and as we move forward to the implementation phase, we look forward to the continued dedication and engagement of all stakeholders.

Duff Montgomerie
Deputy Minister, Department of Health Promotion and Protection

Message from the Minister of Health Promotion and Protection

Most of us know an older person who has been injured by a fall, and have witnessed first-hand the devastating impact. It is not uncommon for an older person who has experienced a fall-related injury to lose mobility and independence, and suffer an overall decline in health that may result in death.

Beyond the devastating impact of falls on individuals and their families, this issue has a significant impact on our health care system. Many seniors who are injured by a fall require orthopedic surgery, lengthy hospitalization, and admission to a long-term care facility.

Seniors are the most rapidly growing population in Nova Scotia and, without intervention, the number of fall-related injuries among older persons will continue to increase. The good news is that many falls and the injuries that result from them can be prevented. The development of Preventing Fall-Related Injuries Among Older Nova Scotians: A Strategic Framework fulfils an important commitment this government made to Nova Scotians. As the Strategic Framework has developed, we have continued to make progress on falls and injury prevention and many new partners have joined us in this work. Now it is time to take further action and begin to implement the plan.

I am proud to endorse the Strategic Framework and look forward to working with my colleagues to support its implementation. As the Minister of Health Promotion and Protection, I know that the implementation of the Strategic Framework will move us closer to our department's goal of creating a healthier and safer province for all Nova Scotians. I recognize that this is a challenging undertaking; however, I know that the strong partnerships that have evolved through the development of the Strategic Framework and other falls prevention initiatives will ease this process. I am confident that with solid leadership and through the collective action of our partners we will be able to reduce fall-related injuries among older Nova Scotians, thus improving their quality of life and reducing some of the strain on our health system.

I want to thank all of our committed partners and stakeholders who have contributed to the development of the Strategic Framework. Your efforts have created a solid foundation on which we can continue to build. Working together, we will succeed in reducing falls and fall-related injuries among older Nova Scotians.

Honourable Barry Barnet
Minister, Department of Health Promotion and Protection

The Consequences of Seniors' Falls

Falls among our senior population is an under-recognized health issue in Nova Scotia, despite the fact that falls account for most of the injuries to older Nova Scotians and represent the third leading cause of injury-related death in our province. Each year one out of every three Nova Scotian seniors will fall, and more than half of these individuals will fall more than once. In our population of seniors age 80 years and older, 50 per cent will fall each year. Twenty per cent of hip fractures, a common fall-related injury, will result in death within one year.

A person does not need to be injured by a fall to have the experience impact his or her life. A so-called "near miss" often creates a fear of falling again, leading to a loss of self-confidence about partaking in social and physical activities. This in turn results in isolation and an overall decline in health.[1]

Beyond the impact of falls on individuals and their families, the economic burden on the provincial government is staggering. Based on 1999 data, falls among seniors cost Nova Scotians $72 million per year. As the rate of falls in the older population increases, so too will the associated economic costs.[2]

Preventing falls is one way government can stem the growing demand for health care resources. Preventing falls among older Nova Scotians will ease the stress on emergency departments, reduce surgical wait lists and wait times, and slow the demand for long-term care. This is supported by the knowledge that:

- Nearly all injuries are preventable. Injuries are not accidents.
- 61 per cent of Nova Scotia's injury-related hospital admissions are the result of seniors falling.[3]
- 90 per cent of all hip fractures are caused by falls, and 20 per cent of seniors who suffer a hip fracture will die within one year of their injury.[4]
- 40 per cent of admissions to long-term care facilities are precipitated by a fall.[5]
- Among seniors, fall-related hospitalizations result in a 40 per cent longer length of stay in hospital than all other causes of hospitalizations.[6]

Preventing even a small percentage of these falls will improve the lives of Nova Scotia's seniors and reduce the demand on our health resources.

Every month, 700 Nova Scotians celebrate their 65th birthday. Currently, there are more than 130,000 seniors living in Nova Scotia and this number is projected to reach 260,000 by 2025.[7] With an aging population, Nova Scotia cannot afford to be complacent about seniors' falls—we must act now to address this problem.

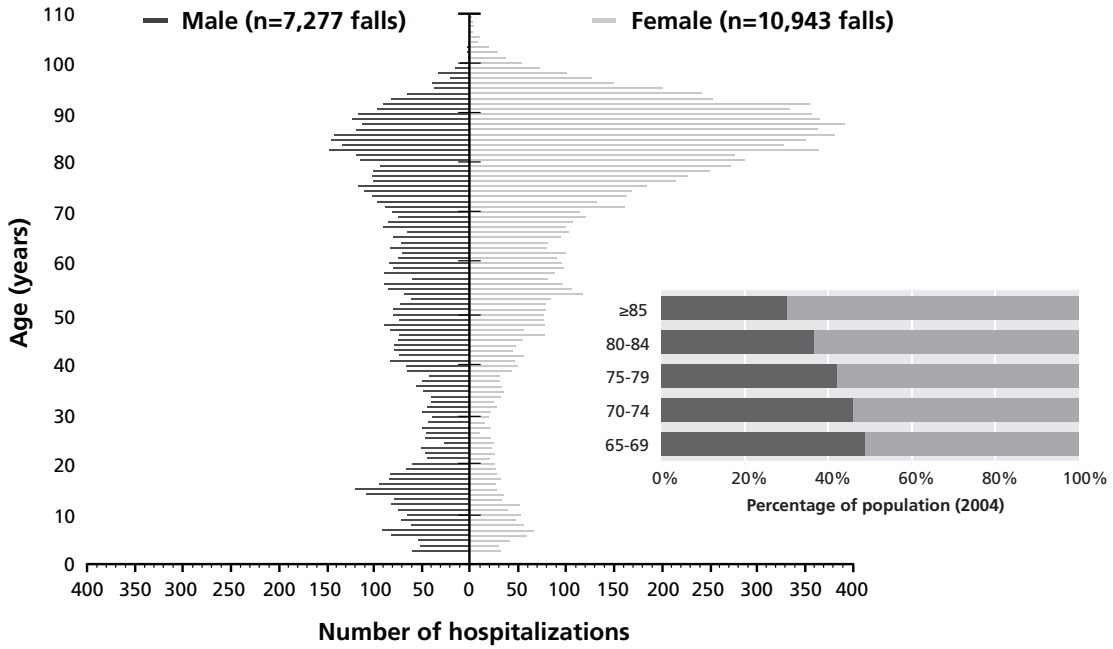
1 Public Health Agency of Canada (PHAC), 2005:6
2 Atlantic Network for Injury Prevention (ANIP), 2003:19
3 Canadian Institute of Health Information (CIHI), 2003:6
4 PHAC, 2005: 6
5 Ibid.,21
6 Ibid.,19
7 Seniors' Secretariat, 2005:15

Highlights from Nova Scotia's Seniors' Falls Injury Profile Report

During 2006 and early 2007, Nova Scotia's Department of Health Promotion and Protection worked with Dalhousie University's Population Health Research Unit to develop the Seniors' Falls Injury Profile Report. Below are highlights from this report. Summary data has also been developed for each District Health Authority.[8]

Between 2000 and 2004 there were 10,661 seniors' fall-related hospital separations in Nova Scotia, representing an annual average of 2,132 or an average rate of 16.71 per 1,000 seniors. The hospital separation rates were fairly consistent over the five-year period (Figure 2). The annual number of fall-related hospitalizations per 1,000 seniors was relatively low for the younger age groups: ≤6.3 for those aged 65–69 years, ≤10.4 for those aged 70–74 years, and 15.1 for those aged 75–79 years. By age 80–84 years, the annual rate increased substantially to between 22.0 and 29.2 per 1,000 seniors, depending on the year. For this age group, there was a slight decline in the rate of fall-related hospitalizations across the five study years. The annual rate of falls requiring hospitalization increased again for those aged 85 years and older; by this age, 47–53 out of every 1,000 seniors had experienced a fall-related hospitalization within a 12-month period.

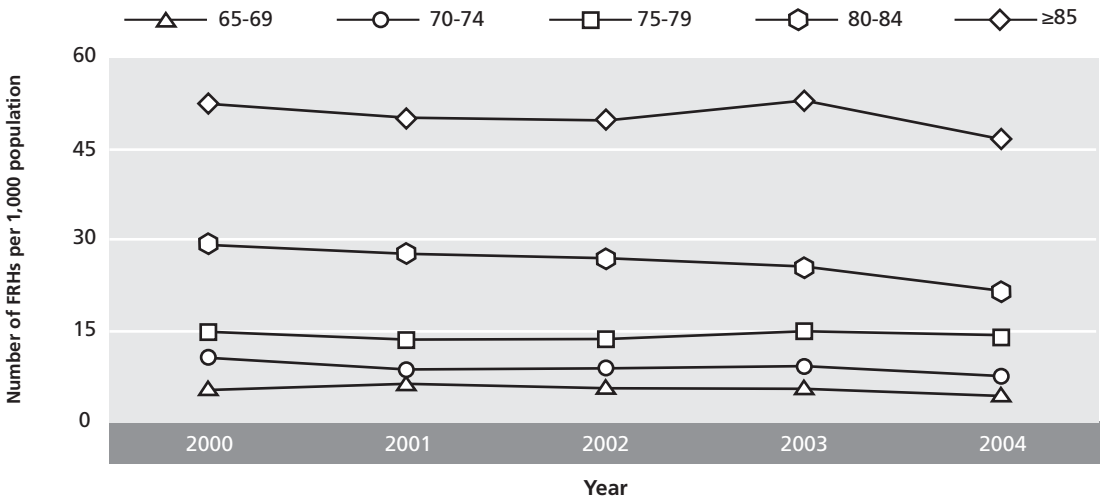
Figure 1: Fall-related hospitalization (FRH) rate per 1,000 population by age in Nova Scotia (2000–2004)



8 Nova Scotia Health Promotion and Protection, 2007

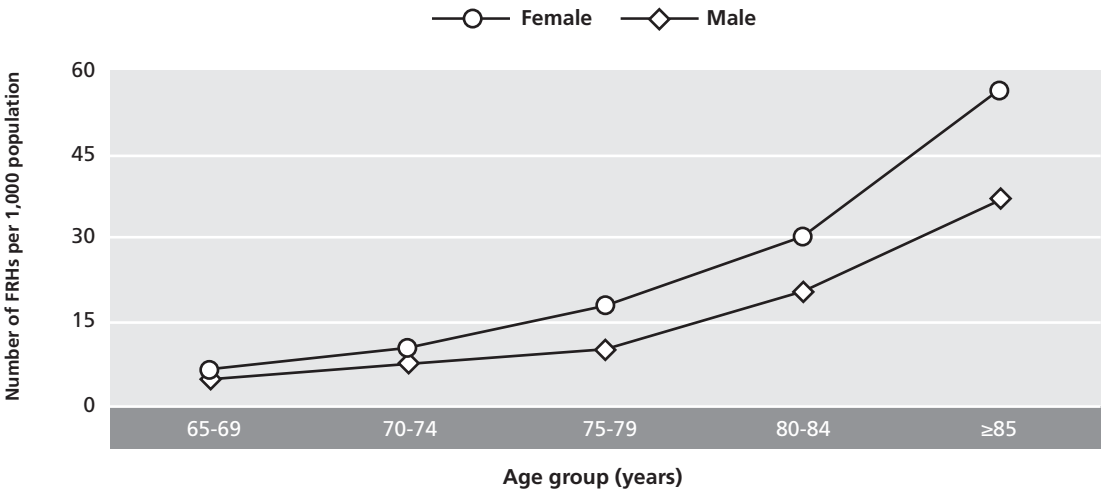
On average, the annual rate of fall-related hospitalizations was almost twice as high for females aged 65 years and older than for their male counterparts (OR=1.83, 95% CI=1.77, 1.95). The annual rate of fall-related hospitalization was about 6 per 1,000 population for females aged 65–69 years, increasing to 56 per 1,000 for those aged 85 years and older (Figure 3). For males aged 65–69 years, the annual rate of fall-related hospitalization (5 per 1,000) was similar to that of females; however, by age 85 years and older, the rate among males (37 per 1,000) was approximately 58% lower than that of females.

Figure 2: Fall-related hospitalization (FRH) rate per 1,000 population by age in Nova Scotia (2000–2004)



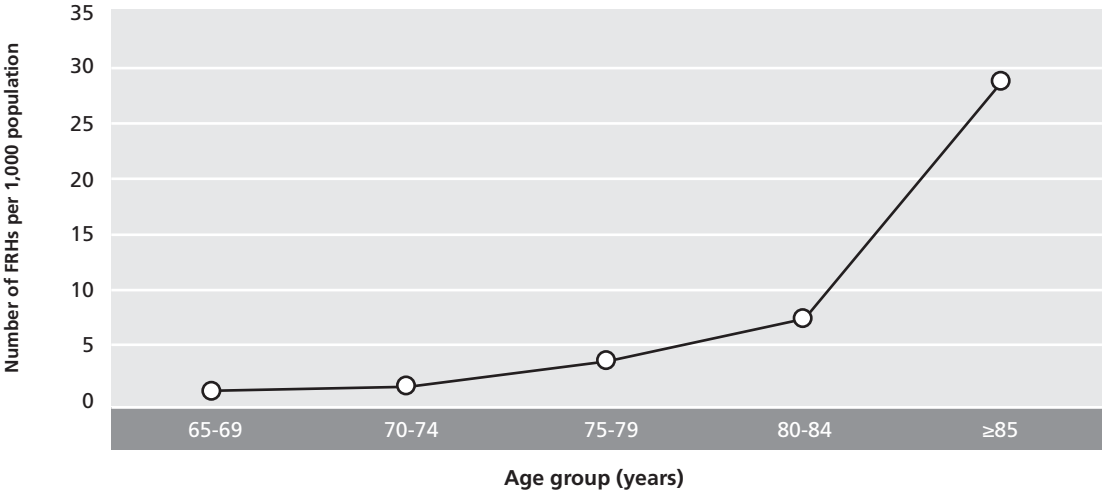
For both females and males, the annual rate of fall-related hospitalizations increased with age. Overall, the odds of having a fall-related hospitalization was 1.39 times higher for seniors aged 70–74 years than for those aged 65–69 years (95% CI=1.16,1.66). For seniors aged 75–79 years, the odds increased to 2.35 (95% CI=1.99, 2.78), and for those aged 80 years or older, the odds increased to 5.73 (95% CI=4.96, 6.61).

Figure 3: Annual fall-related hospitalization (FRH) rates by age and gender in Nova Scotia (2000–2004)



Between 2000 and 2004, there were 380 fall-related deaths among seniors in Nova Scotia. Of these deaths, 226 (59%) occurred among seniors aged 85 years or older. The annual number of falls resulting in death was low (≤85), making time trends difficult to interpret. As such, the annual death rates across the five years of study are presented below (Figure 4). The annual rate of fall-related deaths increased with age, especially for seniors aged 85 years and older. By age 85 years, the death rate resulting from falls increased threefold over that of seniors aged 80–84 years. On average, 29 out of every 10,000 seniors aged 85 years or older died as a result of a fall.

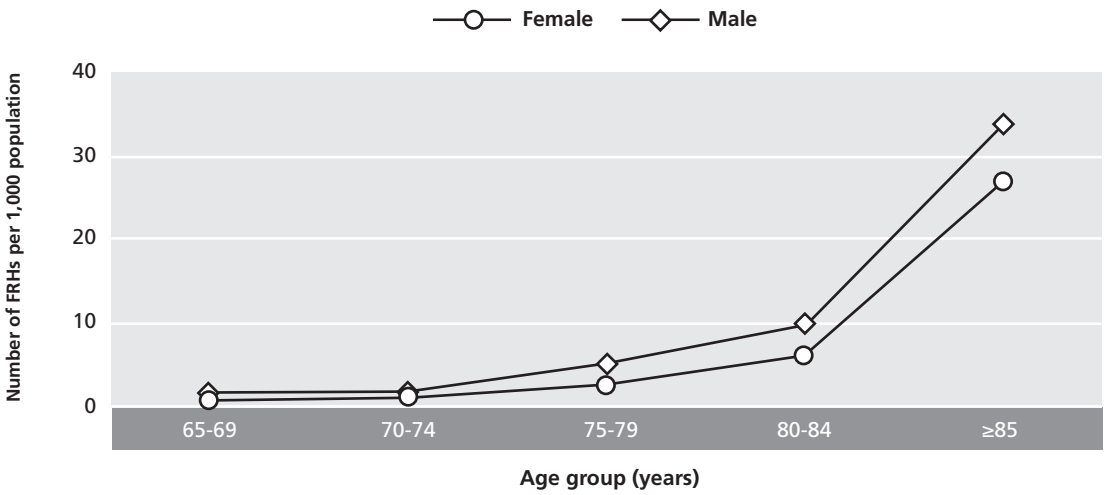
Figure 4: Annual fall-related death (FRD) rate by age in Nova Scotia (2000–2004)



The annual rate of fall-related deaths differed between males and females and across age groups (Figure 5). In contrast to the higher rates of fall-related hospitalizations among females, the rate of fall-related deaths was higher among males. The proportion of males who died as a result of a fall was three times higher than that of females for the youngest age group, ≥1.7 times higher for those aged 70–74 years and 75–79 years, and 1.3 times higher for those aged 85 years or older.

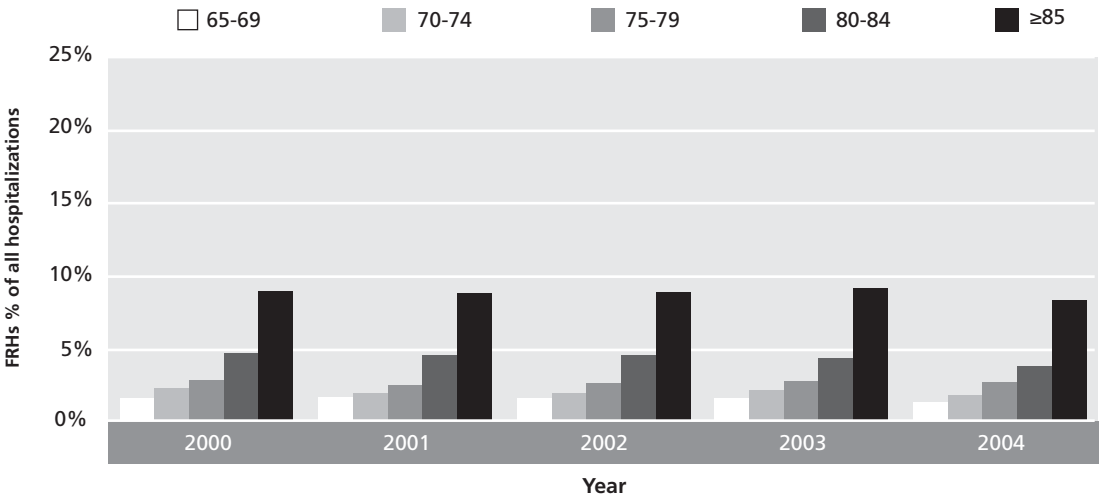
For both genders, the rate of fall-related deaths increased with age. The rates were quite low for the two youngest age groups (F≤0.9/10,000; M≤1.8/10,000). By age 75–79 years, these rates increased moderately to 2.4/10,000 for females and 5.1/10,000 for males; by age 80–84 years the rates increased again to 5.9 and 9.9 per 10,000 respectively. For those aged 85 years and older, the fall-related death rates more than quadrupled for females (26.8/10,000) and more than tripled for males (33.74/10,000).

Figure 5: Annual fall-related death (FRD) rate by age and gender in Nova Scotia (2000–2004)



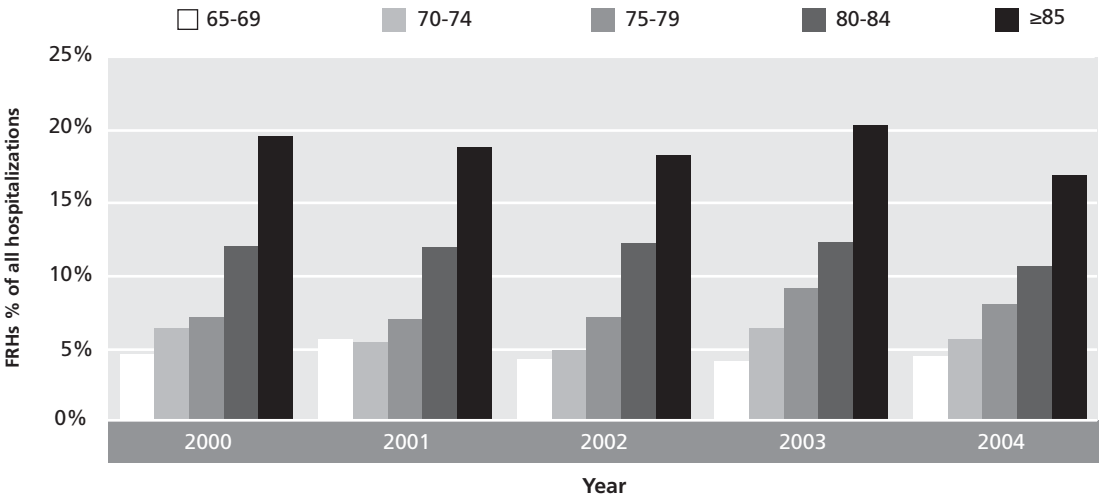
There were 315,642 records for hospitalizations among the senior population in Nova Scotia between 2000 and 2004; 10,661 (3.37%) of these were the result of a fall-related injury. The proportion of hospitalizations resulting from fall-related injuries increased with age (Figure 6). Among seniors aged 65 to 84 years, less than 5% of all hospitalizations were attributable to fall-related injuries. A substantial increase in this figure occurred by age 85 years, with about 8%–9% of all hospitalizations caused by fall-related injuries.

Figure 6: Fall-related hospitalizations (FRHs) as a percentage of all hospitalizations by age in Nova Scotia (2000–2004)



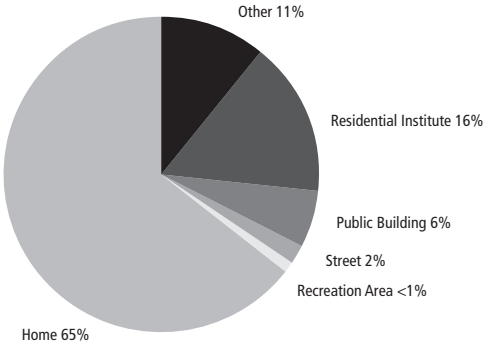
Between 2000 and 2004, more than 2.1 million hospital days were used by seniors in Nova Scotia, 10% of which were used by seniors who had a fall-related injury. An age trend was evident for the proportion of all hospital days accounted for by fall-related injuries (Figure 7). Fewer than 10% of hospital days used by seniors between the ages of 65 and 79 years were attributable to fall-related injuries; this proportion increased slightly to 10%–12% for those aged 80–84 years, and increased substantially to 15%–19% for those aged 85 years and older. A fall that requires hospitalization is by its very nature serious, almost always involving at least one broken bone and often involving multiple traumas. Frequently, orthopedic surgery and post-operative rehabilitation therapy are required to treat fall-related injuries; as such, hospital stays for falls tend to be longer than for non-fall-related hospitalizations.

Figure 7: Fall-related hospital days (FRHDs) as a percentage of all hospital days by age in Nova Scotia (2000–2004)

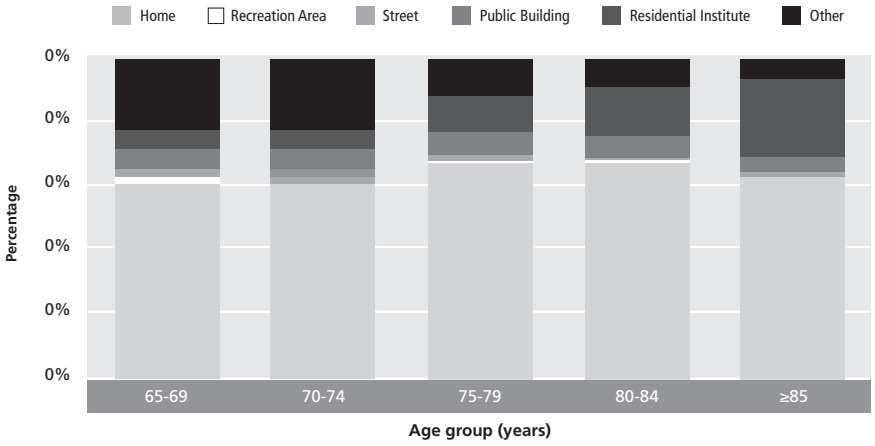


Almost two-thirds of the falls among seniors that required hospitalization occurred in or around the home (Figure 8a). Falls in residential institutions accounted for an additional 16% of the fall-related hospitalizations among seniors aged 65 years or more. The proportion of falls occurring in or around the home was relatively stable across age. The proportion of falls occurring in residential facilities increased with age, from 6% of falls among those aged 65–69 years to 24% of falls among those aged 85 years or older (Figure 8b). According to a 2001 Canadian Census report, approximately 9% of females and 5% of males aged 65 years or older lived in residential facilities1; yet 16% of fall-related hospitalizations for this age group occurred in such premises. One possible explanation for this apparent discrepancy may be that a disproportionate number of seniors aged 85 years or older live in residential care facilities.1 In addition, seniors who are living in residential care facilities are likely to have more health problems and to be more frail than their counterparts who are still living in their own home or in the home of family members.

Figure 8: Place of occurrence for falls requiring hospitalization in Nova Scotia (2000–2004)

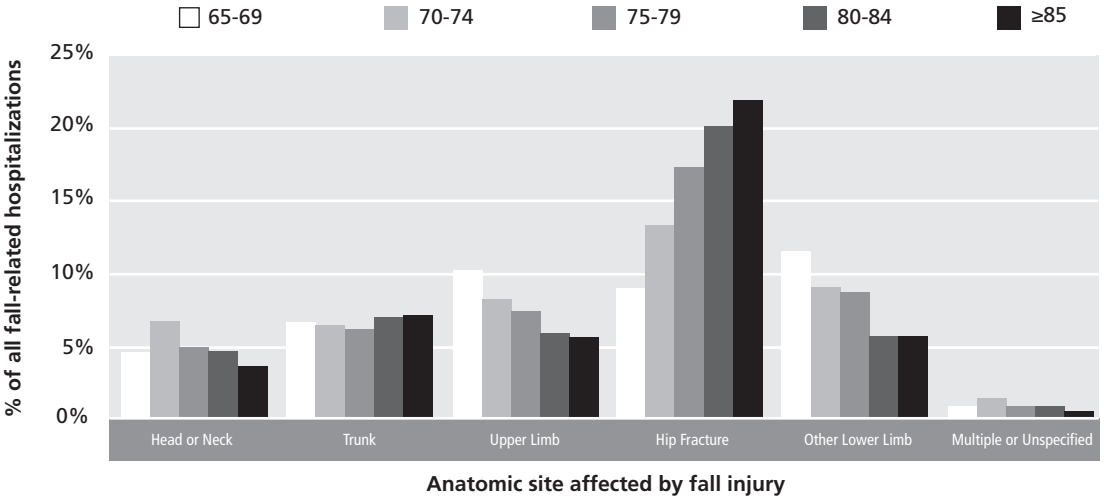


Home includes places of residence such as a house, apartment, boarding house, farm house, or other non-institutional dwelling as well as the areas outside the home such as the driveway, garage, garden, walkway, or swimming pool.



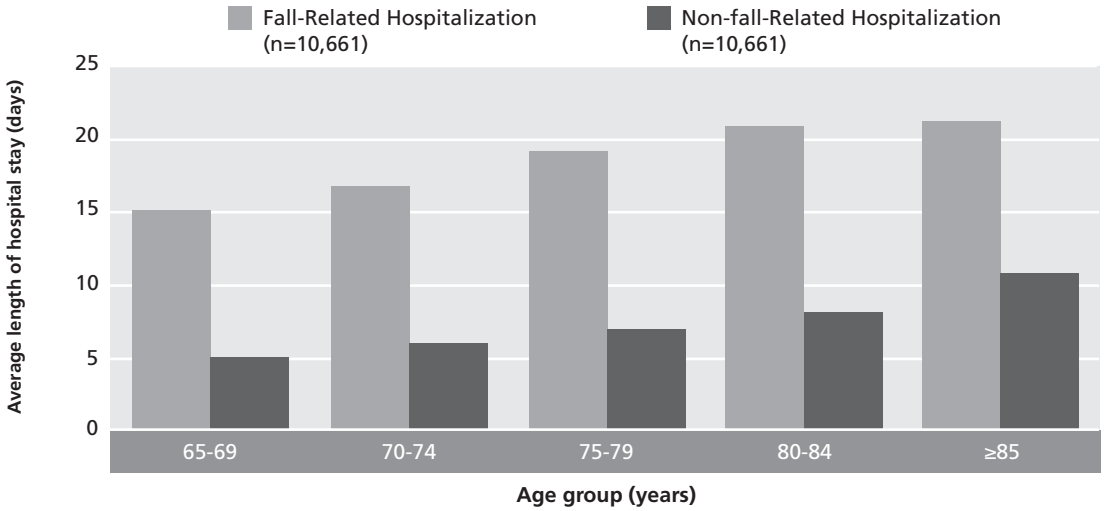
As illustrated on the next page, between 2001 and 2004, records for a total of 8,437 fall-related hospitalizations included information about the anatomic site of injury. Just under half of these hospitalizations were for hip fractures. Other areas of the body that were common sites for fall-related injuries included the upper limbs and lower limbs (excluding hip). The proportion of falls resulting in a hip fracture increased dramatically with age, from 22% at age 65–69 years to 53% at age 85 years or older.

Figure 9: Site of injury for falls requiring hospitalization in Nova Scotia (2001–2004)



In general, the average length of hospital stay resulting from a fall-related injury increased with age (Figure 10). For those aged 65–69 years, the average duration of a fall-related hospitalization was about 15 days, increasing to 21 days by the age of 85 years. It is important to note that the average length of stay for fall-related hospitalizations was about three times longer than for hospitalizations due to other non-fall-related causes for seniors aged 65–84 years and two times longer for those aged 85 years and older. The average length of hospital stay was stable across the five years of study for both fall-related and non-fall-related hospitalizations.

Figure 10: Average length of stay due to falls (versus all other causes) by age for hospitalizations in Nova Scotia (2000–2004)



Causes of Seniors' Falls

As is the case with most causes of injuries, falls are usually the result of a complex interaction of risk factors. The greater the number of risk factors present, the greater the likelihood that a fall and/or fall-related injury will occur. This relationship is described below:

> Falls are usually caused by a complex interaction between extrinsic hazards [something external, environmental risk factors – i.e., icy sidewalk, slippery floor] or precipitating medical event together with one or more intrinsic risk factors [something about the individual, personal risk factors – i.e., balance or frailty] that make an individual susceptible to this hazard or event... From a prevention standpoint, attention to minimizing risk factors is crucial.[9]

The risk factors associated with falling have been categorized in a number of ways. For the purposes of the *Strategic Framework*, these risk factors are organized according to biological and medical risk factors, behavioural risk factors, environmental risk factors, and socio-economic risk factors. Organizing the risk factors in this manner ensures consistency with recent publications from both the British Columbia Ministry of Health and the Public Health Agency of Canada.[10,11,12]

Biological and Medical Risk Factors

Biological and medical risk factors fall along a continuum that ranges from the effects of healthy aging to pathological conditions. Normal aging results in physical, cognitive, and affective changes that may contribute to an increased risk of falling. These include sensory, musculoskeletal, neurological, and metabolic changes.

Women fall more frequently than men and are more likely to suffer an injury when they fall, making gender a key risk factor.

In addition, as one ages, the risk of falling increases. People over the age of 80 are the most likely to fall and be injured as a result. However, it is not age per se that increases the risk; rather, it is the co-morbidity of aging related to physical, cognitive, and affective changes. Below is a summary of biological and medical risk factors:

- **Muscle weakness and diminished physical fitness** leads to a loss of strength, balance, flexibility, and coordination.
- **Impaired control of balance and gait** causes instability that may result in falls.
- **Vision factors** such as reduced vision, poor depth perception, and use of bifocal and multi-focal lenses increase the risk of falling.

9 Abernethy et al, 2003:6

10 Scott V., Peck S., & Kendall, P., 2004

11 PHAC, 2005:31

12 The descriptions and summaries of these risk factors that follow have been taken from PHAC, 2005:31–37 and Vancouver Coastal Health, 2005:13–16

- **Chronic and acute illness or conditions** such as arthritis, Parkinson's disease, multiple sclerosis, stroke, flu and infections increase the risk of falling. In addition, osteoporosis increases the risk that an injury will result from a fall.
- **Physical disabilities** linked to aging such as gait disorders, diminished touch and sensation in the limbs and feet, hearing loss, poor balance, dizziness, postural hypotension, foot problems, and injuries from a previous fall increase the risk of falls.
- **Cognitive impairments** such as confusion due to dementia and delirium increase the risk of falls.
- **Depression** has been shown to be associated with falls, but it may well be the result of a fall rather than the cause.

Behavioural Risk Factors

Behavioural risk factors include the choices of individuals (e.g., risk-taking), their personal habits and lifestyles (e.g., exercise and diet), and their own beliefs about their potential risk for falling. These behavioural risk factors are summarized below:

- **History of previous falls** is one of the strongest predictors of a future fall, resulting in a threefold increase in the risk for another fall. This is due to the loss of mobility that may result from a fall and its impact on strength and balance, as well as feelings of fear and helplessness that may follow a fall.
- **Risk-taking behaviours** that result from not acknowledging changes in physical ability can lead to falls. Examples include climbing ladders or standing on chairs, reaching and bending, rushing, or not using an assistive device such as a cane or walker.
- **Certain medications and multiple prescriptions** are a significant factor in many falls. Older people often take more medications and as people age, they do not metabolize and digest drugs in the same way. Medications can increase the risk of falling by affecting alertness, judgement, coordination, balance, and perception of obstacles, and by causing weakness or stiffness. In addition, some drugs increase postural hypotension, which can result in dizziness.

  Polypharmacy, a situation in which an individual is taking five or more medications, is also a significant factor in many falls.

  Benzodiazepines are often prescribed to assist seniors with sleep problems and anxiety. These drugs, used even for short periods, are associated with an increased risk of falls and fall-related injuries.

  Psychotropic medications are often prescribed to seniors to treat depression. Patients taking these drugs appear to have a two-fold increased risk of falls and fractures, compared to those not taking them.

  Anticoagulant therapy increases the risk of a fall-related injury in the elderly, as these drugs impair the blood's ability to clot. A fall that involves trauma to the head may be potentially devastating when bleeding in the brain and brain cavity occurs.

- **Excessive alcohol consumption** impairs balance, gait, and awareness, and may interact with other drugs, thus increasing the risk of falling.

- **Footwear, clothing, and carrying handbags or other objects** can contribute to falls. Loose-fitting shoes, slippery or thick soles, high heels, and a change in sole styles can contribute to falls. As an individual's height and posture change with age, pants and dressing gowns that no longer fit well may become tripping hazards. Carrying handbags, laundry baskets, and other objects can impair balance, hinder one's recovery mechanisms, and affect how an individual who is falling might self-protect (e.g., by grabbing a railing).

- **Inactivity and inadequate diet** increase the risk of falls and fall-related injuries. Inadequate exercise and inactivity result in reduced strength, decreased bone density, and poor balance. Poor diet can impair optimum health, resulting in weakness, poor fall recovery, and increased injury. In addition, deficiencies in vitamin D and calcium intake will weaken bone health and increase the risk of fracture from a fall.

- **Fear of falling** can restrict one's activity level, contributing to muscle weakness, decreased flexibility and balance, and increased risk of falling. Furthermore, a fear of falling can lead to social isolation, and loss of self-esteem and confidence.

Environmental Factors

Between 25 per cent and 75 per cent of falls among older people involve a factor related to the physical environment. When combined with other risk factors, environmental factors such as hazards present in the home and in public places may increase the risk of falls and fall-related injuries. These environmental risk factors are summarized below:

- **Stairs** have many inherent characteristics that increase the potential for falls, including uneven or excessively high or narrow steps; slippery surfaces; unmarked edges (poor contrast markings); discontinuous or poorly-fitted handrails, and inadequate or excessive lighting.

- **Factors in and around the home** that contribute to falls include loose or uneven carpets and rugs; an absence of night lights; an absence of accessible light switches at room entrances; hazardous shower stalls, baths and toilets; lack of grab bars or handrails around the home; appliance cords and other obstacles; items stored in high cupboards; and low furniture (e.g., beds and chairs). Hazards outside the home include garden paths and walkways that are uneven or slippery, and poor lighting of entrances and stairs at night. Even pets can pose a tripping hazard.

- **Factors in the public environment**, like those in the home, can cause an individual to fall. Poor building design, inadequate building maintenance, cracked or uneven sidewalks, unmarked obstacles, slippery surfaces, poor lighting, and lengthy distances to sitting areas and public restrooms are some of the hazards in public spaces.

- **Hazards in long-term care settings and hospitals** have also been identified. These include chair and bed heights, floor surfaces, lighting, and lack of rest areas. The physical structure of beds in institutional settings can also be a hazard. For example, when bed rails are in the lower position, it is difficult for individuals to plant their feet on the floor under the bed so that they have proper footing and balance when they stand up.

- **Assistive devices** can promote independence and mobility and, when used properly, may prevent falls. However, the tips of walking canes can become worn, making them unsafe. Walkers with wheels as well as wheelchairs may pose a hazard if they lack a functioning locking device. In some situations, the use of canes or walkers can interfere with an individual's ability to maintain balance. In addition, some seniors may find the physical demands of using these devices to be excessive. There is also stigma associated with using assistive devices, which may make some seniors reluctant to use them.

Socio-economic factors

While it is important to address the factors associated with the physical setting, it is also crucial to consider all of the determinants of health and how these factors interact to influence other risk factors. Income, education and literacy levels, housing, and social connectedness all affect a person's general health and, therefore, his or her risk of falling. It is important to consider these factors when developing interventions, as they may influence the accessibility of prevention measures and how readily seniors adopt new practices.

Best Practice Approaches to Falls Prevention

The most effective practices to prevent falls and fall-related injuries involve multiple intervention strategies and target a range of risk factors. A comprehensive approach to preventing falls among seniors typically includes assessment combined with interventions such as exercise programs, behaviour change, medication review and modification, treatment of contributing health conditions, assistive and protective devices, environmental modifications, and education.[13]

In this context it will be important that the *Strategic Framework* take into account all of the factors associated with falls and identify interventions that not only target individual seniors but also include interventions that respect the policies and practices of organizations and government.

While these best practices are listed below as single interventions, it is critical that they are applied in combination with others, and that they are tailored to the needs of an individual or target population at risk. This demands a multidisciplinary and intersectoral approach to addressing the issue of preventing seniors' falls.

The following is a summary of best practice interventions for preventing falls and fall-related injuries.[14]

Brief Risk Assessment

A brief risk assessment is an effective tool for identifying those at higher risk of falling. Once an individual at higher risk is identified, a more comprehensive fall-related assessment and treatment plan can be initiated. Brief risk assessments should identify these factors: lower limb disability, lower extremity weakness, worse memory than peers, one or more family doctor visits in the past month, taking four or more medications, physical inactivity, and serious foot problems.

These brief risk assessment tools should be appropriate to the setting in which they are used—community, hospital, or long-term care facility. Brief assessments can be self-administered or adapted for use by various health professionals, including paramedics, primary care practitioners, physiotherapists, occupational therapists, and paraprofessionals such as home support workers.

13 Abernethy et al, 2003:10

14 Adapted from PHAC, 2005:39 and Vancouver Coastal Health, 2005:12–16

Comprehensive Clinical Assessment and Intervention

A comprehensive clinical risk assessment should be performed by a competent clinician with appropriate skills and experience. The assessment should include a review of the history and circumstances of prior falls, as well as an assessment of gait, balance, mobility, muscle weakness and osteoporosis risk. The individual's self-perception of functional ability and fear of falling should be determined; and visual impairment, effects of corrective eyewear, and urinary incontinence should be assessed. Home hazards should be identified and the individual should have a cardiovascular exam and medication review.

Based on the results of these assessments, an individually prescribed set of interventions should be applied to reduce the senior's risk of falling.

Exercise Programs

Exercise can improve bone density, muscle strength, endurance, balance, and reaction time. Exercise programs to help prevent falls typically address cardiovascular endurance, muscle strength, flexibility, and balance. Individual exercise programs prescribed by a health professional have been shown to be effective in reducing falls. Group Tai Chi has also been shown to be effective.

Clinical Management of Chronic and Acute Illness

A number of chronic illnesses and conditions that increase the risk of falling have been identified. These include arthritis, Parkinson's disease, stroke, urinary incontinence, sudden drop in blood pressure on rising, arrhythmia, and other cardiovascular conditions. Regrettably, the increased risk of falls associated with these conditions may be heightened by the additional risks related to the medications used to treat them.

Medication Review and Modification

Pharmacists must communicate clearly with both clients and physicians concerning the relationship between medications and falls. Particular attention should be given to seniors who are taking more than four drugs. The use of sedatives and tranquillizers should be reduced and appropriate guidelines adopted.[15] According to the British Columbia Provincial Health Officer, it is recommended that pharmacists promote the use of assistive devices (e.g., hip protectors and walking aids), use warning labels to clearly identify medications known to increase the risk of falls, and ensure that drug instructions are written in a large font and are clearly understood by the client.[16]

15 New South Wales Health Department, 2001:13

16 British Columbia Ministry of Health, 2006

Vision Referral and Correction

Many vision problems can be identified through proper screening and corrected with appropriate lenses. It is recommended that older adults not switch from bifocal to progressive lenses or vice versa. It is also recommended that eye care professionals warn older patients that they are at higher risk of falling when they are adjusting to new lenses. Cost is noted as a barrier to regular eye exams and purchase of corrective lenses.

Assistive Devices and Other Protective Equipment

Mobility and Transfer Aids

While there is no empirical evidence to suggest that mobility and transfer aids such as canes, walkers, grab bars, and bed poles prevent falls or fall-related injuries, they do increase seniors' confidence, mobility, and independence. One area of concern may be over-prescription of these devices and the lack of training in using them safely. Some of these devices may pose a hazard themselves.

Stigma

Stigma associated with assistive devices creates a barrier to their use. As a result, it may be necessary to focus educational measures on normalizing and de-stigmatizing the appropriate use of such devices as walkers and grab rails. Recent focus group research in Nova Scotia revealed that most seniors did not understand what was meant by "assistive devices." This finding suggests the need to use other or more specific terminology when communicating with seniors about such devices.[17]

Hip Protectors

Hip protectors have been shown to be highly effective in reducing hip fractures by as much as 80 per cent to 95 per cent. These may be of greatest benefit when used by older, frail seniors living in residential care facilities.

Alarms and Call Devices

Systems that alert care providers when an individual becomes mobile (e.g., gets out of bed on his or her own at night), may reduce the risk of falls. Emergency call devices, while not effective in preventing a fall, can quickly activate emergency assistance and reduce the seriousness of injury complications.

Nutrition and Supplements

There is limited but promising research that suggests improved nutrition and dietary supplements may be effective in preventing falls and minimizing injury. These include increasing dietary calcium, and taking calcium and vitamin D supplements. Seniors in institutions may benefit the most from vitamin D supplements as they have diminished exposure to sunlight.

17 Nova Scotia Health Promotion and Protection internal research, 2006

Underweight and malnourished seniors are also more susceptible to fall-related injuries as they have less fat to protect their bones and may suffer from weakness and poor reaction time. Improved oral health and dentures may be an effective population health approach to address this issue.

Environment Assessment and Modification

Home Modifications

A home assessment can target enhancements to accessibility, safety, and daily living activities. Assessments and modifications should target the home safety hazards previously identified in this document. Education and counselling about risk factors that interact with environmental hazards, along with subsequent modifications, can be effective in reducing falls. These programs must take into account many seniors' need for financial and/or manual assistance, and target those most willing to make changes, especially those who have previously fallen. Effective programs use the skills and training of occupational therapists, who are best suited to assess seniors' environment and ability to function in that setting.

Improving Public Spaces

When adequately enforced, building codes and standards can play a crucial role in creating healthy environments that reduce fall hazards. Particular emphasis should be placed on stairs, floors, and steps, as they pose the greatest risk. The Canadian Standards Association has produced "B659-01: Design for Aging" as a guide for developing products, services, and environments for an aging population.[18] This document serves as an important guide for designing safe environments for seniors.

Of additional note is the STEPS (Study to Promote Environmental Safety) program in British Columbia. Bringing together government officials, seniors, city maintenance workers, and building owners, this program adopted an intersectoral approach to identifying and reducing fall hazards in the community. The program encouraged people to report hazards, leading to corrective action.[19]

Education

While education alone does little to reduce the risk of injury, it is almost always an important aspect of any intervention. As a result, education should be considered an essential component that must be integrated into interventions and, depending on the specific circumstances, must target the appropriate audiences: individuals, family care providers, professionals, even entire communities. Education can empower seniors and their care providers to take action that will reduce the risk of falls and fall-related injuries, and strengthen the skills and practices of professionals and community members.

18 Canadian Standards Association, 2001

19 Gallagher, E. and Scott, V., 1997:129–33

Addressing Fear of Falling

Post-fall interventions, designed to prevent subsequent falls and reduce the fear of falling, are an important component of falls prevention strategies. Group sessions are the most promising intervention to reduce the fear of falling among seniors with lower levels of physical impairment. The evidence also suggests that interventions for people who are being treated for a fall should try to not arouse fear. Increased social support has also been shown to reduce the fear of falling. There is sound evidence supporting interventions that take aim at remediable individual and environmental risk factors for falls, as well as those that are integrated into a range of services including prevention and management, acute care, rehabilitation, home care, and long-term support.

Evidence for a Settings-Based Approach to Falls Prevention

The needs and issues related to falls prevention vary widely among individuals as well as groups. Strategies that address the needs of a healthy senior who is living independently will be very different than those for a frail older senior living in a long-term care facility. A settings-based approach will help determine appropriate interventions that are based on the general characteristics of the target population and that address the specific needs of individuals.

In keeping with the Report on Seniors' Falls in Canada, these settings have been divided into Community, Institutions, and Hospitals.[20]

Community Settings

For seniors who reside in the community, falls prevention interventions must be consistent with each individual's level of frailty and general state of health. Seniors who are healthy tend to be concerned about diet and exercise, but do not necessarily view behaviour related to these lifestyle choices as a means to prevent falling. Frail seniors, on the other hand, tend to focus on maintaining independence but underestimate their risk of falling.

Providing seniors in community settings with appropriate information, delivered by the right professional, can be persuasive in encouraging them to modify their behaviour and environment to reduce their risk of falling. Notably, seniors who live in community settings but require the support of others for their care tend to have a heightened fear of falling, and thus may be quite open to education and intervention.

Institutional Settings

A recently identified strategy is promising for seniors living in long-term care facilities. Individualized assessments are combined with interventions that target the environment and personal safety—such as lighting, flooring, and footwear; wheelchair use and maintenance; medication review and recommendations for change (e.g., psychotropic drugs); transfer and ambulation—and interventions that target the facility, such as training for staff. Also promising is a falls surveillance program for long-term care facilities; after data about falls is collected, problems can be identified and interventions implemented.

20 Adapted from PHAC, 2005:45

Hospital Settings

Strategies to address seniors' falls in hospital include training and educating staff, orienting patients to the unfamiliar environment, and reviewing prior falls in the setting. Environmental changes such as removing obstacles, improving lighting, installing appropriate grab bars, lowering bed rails, and adjusting bed height are also effective. Additional interventions may target mobility and transfer issues through routine ambulatory and physical therapy, as well as use of appropriate footwear (e.g., non-skid socks). Minimizing bed rest in general not only will help patients maintain their strength but also have a positive impact on other complications that may develop during a hospital stay. Strategies specific to cognitively impaired seniors include educating their families, minimizing use of sedatives, and positioning these patients closer to nursing staff for monitoring purposes.

Evidence for Fall Recovery Interventions

As previously stated, one of the strongest predictors of a fall is a previous fall. Strategies aimed at preventing another fall and general post-fall recovery strategies should be considered.[21]

In addition to treatment and care of any injuries related to a fall, a comprehensive approach to post-fall management that involves individual assessment and specific interventions is recommended. The introduction of a guideline to help professionals manage patients who have had a fall, whether or not they present with an injury, may strengthen patient management. Post-fall guidelines could be used by a variety of care providers, including physicians, nurses, health workers in community and long-term care settings, physiotherapists, and occupational therapists.

Delirium, which is experienced by 35 per cent to 65 per cent of older patients who have had surgery for hip fracture, and post-fall depression can have a negative impact on rehabilitation and recovery efforts.

Issues of Compliance

As with any health promotion or prevention strategy, understanding the underlying motivators of behaviour and behaviour change is critical to development of effective strategies to prevent seniors from falling. Research is available on this issue and should be considered as part of any falls prevention intervention.

21 Adapted from PHAC, 2005:46

Developing a Strategic Framework to Address Falls Among Nova Scotia's Seniors

Purpose of the Strategic Framework

Effective falls prevention strategies require a wide-ranging, multifaceted approach. The *Strategic Framework* provides a comprehensive long-term plan for reducing falls and fall-related injuries among older Nova Scotians. The intended audience for the *Strategic Framework* includes professionals, policy makers, and community leaders in many sectors who are working together to address this issue. The *Strategic Framework* includes vision and mission statements, guiding principles, and five strategic goals and their corresponding objectives. Drawing on a population health/health promotion approach, the *Strategic Framework* considers:

- including the whole or large subsections of the population;
- addressing the determinants of health and underlying causes for falls;
- applying evidence-based interventions;
- using multiple strategies;
- working with partners across sectors;
- incorporating input from stakeholders and those directly impacted by falls; and
- building in accountability for outcomes.

The purpose of the *Strategic Framework* is to establish a guide for policy makers, district health authorities, communities, and professionals to work together to address the issue of seniors' falls.

The *Strategic Framework* will maximize our collective ability to reduce both the human and economic impact of falls by Nova Scotia's seniors.

History and Process

In 2003 the provincial government announced its commitment to develop a strategy to address the growing concern about falls among Nova Scotia's senior population.

Later that same year, Nova Scotia became the first province in Canada to have a government-led and -funded injury prevention strategy. The Nova Scotia Injury Prevention Strategy identified several priority issues, including the need to address fall-related injuries among seniors, and since 2003 considerable efforts have been under way.

Late in 2004, Nova Scotia Health Promotion and Protection established a Provincial Intersectoral Falls Prevention Committee. There were two primary reasons for establishing this committee. First, a 2004 evaluation of "Preventing Falls Together," a community-based falls prevention initiative, revealed that there was good work under way at the community level but the lack of provincial policy coordination and engagement of key government organizations was impeding progress and limiting the opportunities for solid results. Second, a number of organizations active in falls prevention recognized that a more coordinated provincial effort would be required to identify falls prevention priorities, prevent duplication of efforts, and address any policy barriers.

As the work of the Provincial Intersectoral Falls Prevention Committee began to unfold, it was quickly evident that a provincial falls prevention strategy was required to inform and coordinate the work of this committee, its various members, and the countless other organizations who have a role to play in preventing falls in Nova Scotia.

In March 2005, Nova Scotia Health Promotion and Protection began the work to develop *Preventing Fall-Related Injuries Among Older Nova Scotians:* A *Strategic Framework*. This work unfolded in several stages, as outlined below.

Stage 1

Stage 1 involved an international scan to identify any existing comprehensive seniors' falls prevention strategies (e.g., strategic plans or frameworks) that were provincial, state, or national in scope.

Stage 2

Stage 2 involved the development and administration of a web survey that was conducted with Nova Scotia's falls prevention stakeholders, including seniors' organizations and their members. The purpose of the web survey was to gather existing knowledge and expertise on the issue of falls, and to seek input that would inform the development of a draft falls prevention *Strategic Framework*.

Respondents to the web survey were asked for their feedback related to various risk factors for falls, and invited to provide input on the relevance of the existing Nova Scotia Injury Prevention Strategy's vision, mission, and guiding principles for a falls prevention strategy. Respondents also were asked to share information about falls prevention activities of which they were aware. Of the nearly 500 surveys distributed, 58 per cent were returned for analysis.

Based on these activities and following population health/health promotion principles, a draft *Strategic Framework* that included a mission statement, guiding principles, and strategic goals was developed.

Stage 3

In June 2005 the draft *Strategic Framework* was presented to a gathering of falls prevention stakeholders who represented a wide variety of sectors and interests. Participants reviewed the draft *Strategic Framework* and provided feedback and suggestions to improve it. The results of this session were compiled in a report to the Provincial Intersectoral Falls Prevention Committee.

Stage 4

Further modifications were made to the *Strategic Framework* by the Provincial Intersectoral Falls Prevention Committee during fall/winter 2005–2006. This group also helped develop recommendations and potential actions. A small team of partners was then assembled to finalize the draft *Strategic Framework*.

Stage 5

In summer 2006 Dr. Vicky Scott and Bonnie Lillies were contracted by Nova Scotia Health Promotion and Protection to provide an expert review and feedback on the *Strategic Framework*. The overall purpose of the expert review was to identify any gaps associated with best practices as well as the goals, objectives, and actions for consideration. Final changes to the *Strategic Framework* were completed in fall 2006.

Strategic Alignments

The success of the *Strategic Framework* depends largely on an integrated and strategic approach to the issue of falls among seniors. A number of mechanisms must be established to continue to ensure that the identified goals and objectives are achieved. These critical mechanisms are described below.

Provincial Leadership – Nova Scotia Health Promotion and Protection

Nova Scotia Health Promotion and Protection is responsible for providing overall leadership and coordination for implementation of the *Strategic Framework*. It must be clear, however, that the accountability for implementation rests with all falls prevention partners. Given the diverse and multisectoral nature of evidence-based falls prevention strategies that are identified in this document, all partners will need to collaborate where necessary, and continue to strengthen their individual organization's efforts.

Provincial Leadership – Department of Health

The Nova Scotia Department of Health plays an essential role in establishing policies, program supports, and standards that address the issue of seniors' falls. Recent initiatives include

- establishment of funding mechanisms for calcium and vitamin D supplements for residents of long-term care facilities
- development of the Falls Assessment Framework to help the home care, acute care, and long-term care sectors establish falls risk assessment tools and management plans
- establishment of a team of health professionals to guide organizations and sectors in implementing falls risk assessment and management plans

It will be important for the Department of Health to continue monitoring existing practices and to develop new policies, program supports, and standards that will ensure the adoption of best practice falls prevention interventions across Nova Scotia's health care system.

Cross-Sectoral Integration – Provincial Intersectoral Falls Prevention Committee

The Provincial Intersectoral Falls Prevention Committee, established in fall 2004, guides the implementation and ongoing development of the *Strategic Framework* and serves as a forum for networking and sharing information regarding seniors' falls prevention activities among provincial partners. The Committee ensures that the collective falls prevention activities of government, community organizations, and others are integrated and coordinated.

Following a population health approach, the Committee is made up of people who represent various organizations, policy makers, individuals, and settings/environments that influence or have an impact on falls prevention strategies. By championing the issue the Committee strives to positively influence the physical and social environments in a manner that contributes to the prevention of falls among seniors.

Community-Based Partners – Community Links' "Preventing Falls Together"

Community Links, with a membership of nearly 200 seniors' organizations across the province, helps rural seniors and volunteers share effective ways of meeting the needs and priorities of older Nova Scotians and promotes healthy communities. Building on the strengths of rural communities while capitalizing on the experience and caring of senior volunteers and organizers, Community Links promotes community development, health promotion, and volunteer development.

"Preventing Falls Together" is an initiative of Community Links that receives funding from Nova Scotia Health Promotion and Protection. Playing a central role in implementation of the *Strategic Framework*, "Preventing Falls Together" will continue to build on its five-year history of developing community-based coalitions and partnerships that focus on falls prevention. These coalitions and partnerships are instrumental in undertaking falls prevention activities, developing local strategies, and integrating falls prevention efforts.

Community Links will continue to co-chair the Provincial Intersectoral Falls Prevention Committee, ensuring that a strong link exists between this Committee and community-based seniors' organizations.

District Leadership – District Health Authorities

Involvement and leadership from Nova Scotia's District Health Authorities (DHAs) is essential to the success of the *Strategic Framework*. DHAs need to consider the development of district-based strategies to ensure that falls prevention and management activities are coordinated and horizontally integrated at the local level. DHAs also are uniquely positioned to ensure vertical integration of falls prevention activities between the provincial and local levels.

A critical component of any DHA framework will be the development of falls risk assessment and management plans for all health settings (community, acute care, and long-term care). As previously mentioned, the Department of Health has established a team of health professionals who will provide expert support and advice to help DHAs develop their own falls risk assessment and management plans.

Nova Scotia Strategy for Positive Aging

Following consultation with more than 1,000 people from across the province, the *Strategy for Positive Aging in Nova Scotia* was released by the Nova Scotia Seniors' Secretariat in December 2005.[22] The *Strategy For Positive Aging* developed by seniors and the organizations that serve them is designed to help all sectors respond to Nova Scotia's aging population over the long term. Nine key goals and 190 societal actions aimed at achieving these goals are identified in the Strategy for Positive Aging. The nine goals are: Celebrating Seniors; Financial Security; Health and Well-Being; Maximizing Independence; Housing Options; Transportation; Respecting Diversity; Employment and Life Transitions; and Supportive Communities.

It is important that Nova Scotia Health Promotion and Protection works with the Seniors' Secretariat to align and integrate the falls prevention *Strategic Framework* with the implementation of the *Strategy for Positive Aging*. This approach will strengthen the efforts of both agencies to work with Nova Scotians to address the health and well-being of seniors. A number of societal actions in the *Strategy for Positive Aging* intersect well with the falls prevention *Strategic Framework*, including these health promotion, disease and injury prevention initiatives:

- engaging seniors and partner organizations in developing and implementing population health strategies that address the determinants of health and promote the overall health and well-being of seniors; encouraging individuals and families to plan and prepare for aging and its impact; and supporting their efforts to live healthy, active and productive lives
- encouraging government departments, district health authorities, and agencies at all levels to collaborate and engage partners and stakeholders in providing opportunities for seniors to be as healthy and independent as possible
- developing and improving access to programs that promote healthy living, especially in rural areas
- partnering with community organizations and the private sector to offer health promotion programs, services, and activities that augment formal health care services
- providing an infrastructure to encourage volunteering as a meaningful approach to expand the capacity of communities to support health promotion, and disease and injury prevention activities
- developing a long-term communication strategy that uses a variety of media to communicate information about health promotion, and disease and injury prevention to seniors and their support networks
- ensuring that health information for seniors is age- and gender-appropriate, and that it takes into account varying literacy levels, languages, and other barriers to comprehension

22 Seniors' Secretariat, 2005:10

Federal Leadership – Public Health Agency of Canada

Addressing the issue of seniors' falls has been identified as a priority in a number of Canadian provinces. There has been considerable momentum on this issue over the past 10 years and many research projects and intervention programs are under way across the country. The *Report on Seniors' Falls in Canada*, developed by the Public Health Agency of Canada (PHAC), demonstrated the value of federal support and coordination in addressing this issue. Presently Canada has neither an organized national system nor a process for provincial governments to work together and share falls prevention research and intervention successes.

There is a strong need and desire among falls prevention stakeholders across the country to work more closely together and build on each other's success. PHAC is ideally suited to assume this leadership role. Without it, efforts across Canada to prevent falls will remain disjointed, uncoordinated, and highly inefficient.

Strategic Framework

Vision

Working together to reduce the rate of fall-related injuries among Nova Scotia's seniors, making our province a safe and healthy place to age.

Mission

The *Strategic Framework* guides the efforts of Nova Scotians to address seniors' falls.

Guiding Principles

The provincial falls prevention strategy will be guided by the following principles:

1. The strategy will be an action-focused, living document that incorporates best practices in falls prevention strategies and initiatives, and that is monitored, measured, evaluated, reviewed, and updated continuously.

2. It will recognize and address the risks for falls and the adverse effect of falls, and identify appropriate culturally competent interventions to prevent falls and fall-related injuries.

3. It will be guided by an evidence-based, comprehensive approach that addresses the broad set of factors that contribute to the risk of falls and fall-related injuries, and identifies proven strategies for reducing that risk.

4. It will be relevant to the needs of seniors and based on priorities developed through surveillance and research.

5. It will recognize the diversity of stakeholders and foster opportunities for cooperation and collaboration among them.

6. It will support and participate in existing linkages and collaborative efforts at the community, district, and provincial levels.

7. It will be guided by a population health approach.

8. It will be adequately resourced.

Strategic Goals and Objectives

The vision for the *Strategic Framework* will be realized through the accomplishment of the five strategic goals. For each strategic goal, a series of objectives and recommendations/potential actions has been identified. These strategic goals, objectives, and recommendations/potential actions serve as Nova Scotia's guide to preventing seniors' falls and fall-related injuries.

Strategic Goal 1 – Leadership, Infrastructure, and Partnership

Appropriate and adequate leadership, infrastructure, and partnerships sustain all aspects of the *Strategic Framework*.

Objectives

1.1. To establish leadership and support structures at the provincial, district, and community levels that facilitate implementation of the *Strategic Framework*.

1.2. To develop and support collaborative intersectoral partnerships at the provincial, district, and local levels to ensure the implementation of a comprehensive and integrated approach to falls prevention.

1.3. To increase the capacity of communities, organizations, and individuals to engage in falls prevention activities and initiatives.

Recommendations and Potential Actions

- Nova Scotia Health Promotion and Protection leads the ongoing development, implementation, monitoring, and evaluation of the *Strategic Framework*.

- The Provincial Intersectoral Falls Prevention Committee continues to serve as a strategic advisory committee for the implementation of the *Strategic Framework* and establishes any task teams required to support specific components of the Strategic Framework.

- District Health Authorities develop and implement district-based falls prevention strategies and initiatives designed to meet the unique needs of the populations they serve.

- Nova Scotia Health Promotion and Protection continues to support and fund Community Links to deliver the "Preventing Falls Together" initiative as the primary mechanism to increase the capacity of communities, organizations, and individuals to engage in falls prevention activities and initiatives.

- District Health Authorities integrate their falls prevention efforts with and engage the regional falls coalitions ("Preventing Falls Together" initiative).

Strategic Goal 2 – Awareness and Understanding

Nova Scotians are aware of the issue of seniors' falls and fall-related injuries and understand how to prevent them.

Objectives

2.1 To increase Nova Scotians' awareness and understanding of the impact of falls and the associated personal and environmental risk factors.

2.2 To increase policy makers' and decision makers' awareness and understanding of the significant impact of seniors' falls on individuals and our province's health and social systems.

Recommendations and Potential Actions

- Work across government at the provincial and local levels, and with DHAs and community-based organizations, to ensure appropriate policy makers support the implementation of the *Strategic Framework*.

- Develop, implement, and evaluate an evidence-based and targeted strategic communications plan to raise awareness of falls and provide appropriate preventative information. The plan should address the specific information needs of the public, care and service providers, policy makers, and others.

- Continue to proclaim an annual Seniors' Falls Prevention Day to serve as a catalyst for collaboratively promoting falls prevention on an ongoing basis.

- Identify key policy makers and decision makers who can influence falls prevention initiatives at the federal, provincial, district, and local levels.

- Disseminate falls prevention communication and advocacy strategies among stakeholders.

- Advocate for the development and implementation of policies that support the implementation of the *Strategic Framework*.

- Organize forums with public policy stakeholders to advocate for implementation of falls prevention initiatives.

Strategic Goal 3 – Education

Seniors, care providers, organizations, and communities have the skills and knowledge to reduce the risk of falls and fall-related injuries.

Objectives

3.1 To empower seniors to reduce their risk of falling and sustaining fall-related injuries by disseminating best practice tools, resources, and information through individuals, organizations, and care providers who work with seniors.

3.2 To develop and enhance falls prevention and risk management training and skill development for individuals and organizations who care for and/or work with seniors.

3.3 To increase sharing of information among care and service providers on falls prevention and risk management.

Recommendations and Potential Actions

- Identify currently available evidence-based falls prevention tools and resources that can be utilized by individuals and organizations that work with seniors and their care providers.

- Determine any gaps in the falls prevention tools available in Nova Scotia and develop new tools as required.

- Ensure a seamless, integrated system that will allow community and health care providers to access falls prevention resources and tools.

- Liaise with training institutions (e.g., universities, colleges) to ensure health professionals and care providers receive training in falls prevention and risk management.

- Develop and support opportunities for continuing education related to falls prevention and management.

- In conjunction with Community Links, host an annual falls prevention forum/conference and invite all interested stakeholders to participate.

- Support the implementation of the Canadian Falls Prevention Curriculum in Nova Scotia when it is released in summer 2007.

- Identify and capitalize on opportunities to introduce more care and service providers to the issues of seniors' falls, injuries related to falls, and to evidence-based prevention practices.

Strategic Goal 4 – Supportive Environments

Supportive environments are created and nurtured by healthy public policies that promote health and reduce the risk of falls and fall-related injuries.

Objectives

4.1 To increase the ability of institutions and organizations serving seniors to create healthy and supportive environments that will minimize the risk of falls and fall-related injuries.

4.2 To increase the number of organizations, institutions, and District Health Authorities that have initiated evidence-based standardized risk assessment and falls prevention management plans.

4.3 To identify and address public policies that are known to reduce or increase the risk of falls and fall-related injuries among seniors.

Recommendations and Potential Actions

- Develop settings-based falls prevention and risk management strategies.
- Support the implementation of the Provincial Falls Assessment Framework developed by the Department of Health.
- Incorporate falls prevention planning and risk assessment as a requirement for licensing of residential care facilities and other housing environments for seniors.
- Incorporate falls prevention planning within community organizations that provide services to seniors.
- Identify and work with non-traditional partners to create healthier and safer environments for seniors (e.g., home buildings, Department of Energy LED night lights project).
- Enforce existing standards and building codes, or adopt new standards based on research and evidence, to ensure safe environments for older adults.
- Complete an environmental scan to identify gaps and to determine which public policies have a positive or negative impact on the risk of falls and fall-related injuries for Nova Scotian seniors.
- Continuously identify and promote best practice public policies that decrease the risk of seniors' falls and fall-related injuries.

Strategic Goal 5 – Knowledge Development and Transfer

Community action and the decisions of policy makers are informed by timely collection, analysis, and dissemination of data and research on seniors' falls.

Objectives

5.1 To promote and support seniors' falls prevention research, surveillance, and evaluation.

5.2 To develop and enhance data collection, analysis, and reporting systems that support strategies for seniors' falls prevention.

5.3 To share information gathered through surveillance and research with communities and policy makers to inform action and decision making.

Recommendations and Potential Actions

- Partner with academic institutions and falls prevention experts across Canada to facilitate falls prevention surveillance and research.
- Establish a working group to ensure the development and implementation of a comprehensive evaluation of the *Strategic Framework*.
- Integrate falls prevention work with the Nova Scotia Injury Surveillance Strategy and public health surveillance activities.
- Identify existing databases and systems relevant to falls prevention and identify gaps in data collection systems that could inform falls prevention.
- Implement data collection systems to address the identified gaps in falls prevention data.
- Develop profile reports on fall-related issues for various audiences to provide evidence that informs policy development.
- Identify and implement effective strategies to share falls prevention research with relevant stakeholders.

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