Reducing Harm | Improving Healthcare | Protecting Canadians

REDUCING FALLS AND INJURIES FROM FALLS

Getting Started Kit

September 2010

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safer healthcare now!

Safer Healthcare Now!

We invite you to join *Safer Healthcare Now!* to help improve the safety of the Canadian healthcare system. *Safer Healthcare Now!* is a national program supporting Canadian healthcare organizations to improve safety through the use of quality improvement methods and the integration of evidence in practice.

To learn more about this intervention, to find out how to join *Safer Healthcare Now!* and to gain access to additional resources, contacts, and tools, visit our website at www.saferhealthcarenow.ca

This Getting Started Kit (GSK) has been written to help engage your interprofessional/interdisciplinary teams in a dynamic approach for improving quality and safety while providing a basis for getting started. The Getting Started Kit represents the most current evidence, knowledge and practice, as of the date of publication and includes what has been learned since the first kits were released in 2005. We remain open to working consultatively on updating the content, as more evidence emerges, as together we make healthcare safer in Canada.

Note:

The Quebec Campaign: *Together, let's improve healthcare safety!* works collaboratively with *Safer Healthcare Now!*. The Getting Started Kits for all interventions used in both *Safer Healthcare Now!* and the Quebec Campaign are the same and available in both French and English.

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Reducing Falls and Injuries from Falls
GSK Contributors

The Registered Nurses' Association of Ontario (RNAO) leads the falls and injury reduction intervention for *Safer Healthcare Now!* This Reducing Falls and Injury from Falls *Getting Started Kit* has been prepared by the Registered Nurses' Association of Ontario and contains falls related tools, resources and experiences that reflect long-term care, acute care and home health care practice. The insight and contributions of the National Collaborative for the Prevention of Falls in Long-Term Care (2008-2009) faculty and improvement teams are gratefully acknowledged.

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Falls Prevention and its Role in Health Care

Introduction

This *Safer Healthcare Now! Getting Started Kit*: *Reducing Falls and Injury from Falls* is intended to be a guide to assist healthcare professionals working across a range of sectors to implement falls prevention and injury reduction programs. It is recognized that this document is not a detailed compendium outlining all possible approaches, but rather highlights high impact, evidence-based strategies that will support improvement teams to initiate and enhance their quality improvement work in various settings.

Falls as a Priority Patient Safety Issue

Why are Falls such a Safety Concern for Canadians?

According to the Canadian Institute for Health Information, falls were the cause of 57% of all injury-related hospitalizations, and more than three quarters of all in-hospital deaths in those admitted for an injury.[1] Among Canadians age 65 or older, most injury hospitalizations followed a fall (77% for males, and 88% for females).[2]

Falls are also the second leading cause of both head and spinal cord injuries (35% and 37%, respectively).[3] The majority of specific fall-related hospitalizations for head injuries were falls on or from stairs or steps (25%), slipping, tripping or stumbling (17%) and falls from one level to another (11%).[4] Ninety percent of all hip fractures in seniors are the result of a fall, and 20% of those suffering such an injury die within a year of the fracture.[5] Families are often unable to provide care, and 40% of all nursing home admissions occur as a result of falls by older people.[6]

In addition to pain and suffering for individuals and their families, fall-related injuries result in a substantial economic burden to society.[7] Direct health care costs relating to falls among seniors are estimated at $1 billion every year.[8] The prevention of falls takes on even more importance as Canada's senior population is projected to grow to 5 million by 2011.

Identifying possible risk factors and falls prevention programs can eliminate the majority of falls. A twenty percent reduction in falls would translate to an estimated 7500 fewer hospitalizations and 1800 fewer permanently disabled elderly over the age of 65. The overall national savings could amount to $138 million annually.[9]

Falls and injury from falls have a significant impact on the individual, organizations providing health care services and the health care system overall.

. . . falls are the primary cause of injury admissions to Canada's acute care hospitals, accounting for 57% of all injury hospitalizations and more than three quarters of all in-hospital deaths for clients admitted for injuries.

Accreditation Canada has identified Falls Prevention as one of the seven areas of Required Organizational Practices (ROPs). An ROP is defined as an essential practice that organizations must have in place to enhance patient/client safety and minimize risk.

Accreditation Canada

Accreditation Canada has identified a Falls Prevention strategy as a Required Organizational Practice (ROP)[10]. Within the program of Accreditation Canada, a Required Organizational Practice is defined as an essential practice that organizations must have in place to enhance patient/client safety and minimize risk. The goal of this Required Organizational Practice is to reduce the risk of injuries resulting from falls. There are a number of tests for compliance, which include:

- The team has implemented a fall prevention strategy.
- The strategy identifies the population(s) at risk for falls.
- The strategy addresses the specific needs of the population at risk for falls.
- The team evaluates the fall prevention strategy on an ongoing basis to identify trends, causes and degree of injury.
- The team uses the evaluation information to make improvements to its fall prevention strategy.[11]

How to Use this Getting Started Kit

This *Getting Started Kit* is intended to support teams working in various practice settings to address the risk of falls injury by using quality improvement processes. It recognizes the unique challenges of implementing falls and injury reduction strategies within these various healthcare contexts.

This document has been developed in order to highlight high impact, evidence-based approaches for reducing falls and injury from falls, and to provide tools and resources to support practice change. It has been structured to introduce a common discussion regarding the importance of each of these elements of care, followed by applicable sector specific content, which is identified by use of the following icons:

LONG TERM CARE

ACUTE CARE

HOME HEALTH CARE

Interventions for reducing falls and injury from falls are followed by a section on measurement for improvement. The appendices provide tools to support teams in their quality improvement work, and where these are sector specific, this is indicated by the use of the icons above. Teams are encouraged to consider the context of their practice setting and determine how best to use these resources. It is recognized that the terminology used to describe the recipients of care vary across sectors. For the purposes of this *Getting Started Kit*, the term **"patient"** will be used to refer to those receiving care in acute care, the term **"client"** will be used for those receiving home health care services, and the term **"resident"** will be used to describe those residing in a long-term care home.

For the purposes of this *Getting Started Kit*, the term **"patient"** will be used to refer to those receiving care in acute care, the term **"client"** will be used for those receiving home health care services, and the term **"resident"** will be used to described those residing in a long-term care home.

What is a Fall?

For the purpose of this *Getting Started Kit*, **a fall is defined as**:

an event that results in a person coming to rest inadvertently on the ground or floor or other lower level, with or without injury. [12]

This would include[13]:

- Unwitnessed falls where the patient/client/resident is unable to explain the events and there is evidence to support that a fall has occurred; and
- Near falls, where the patient/client/resident is eased to the floor by staff or family members.

Falls Intervention Strategies

There are four main approaches to falls intervention strategies where staff in long-term care, acute care and home health care can make a difference towards reducing falls and injury from falls in[14]. These include:

- Risk assessment
- Communication and education about falls risk
- Implementation of interventions for those at risk of falling
- Customization of interventions for those at highest risk of falls related injury

These interventions are summarized below and are illustrated in **Figure 1: Falls Intervention Model** which demonstrates the interaction of these strategies which are not intended to be linear and sequential, but rather an integrated approach to safe care.

A FALL is defined as:

"An event that results in a person coming to rest inadvertently on the ground or floor or other lower level, with or without injury".

Interventions for Reducing Falls and Injury from Falls

Interventions to Reduce the Incidence and Injury from Falls
1. Risk Assessment a) Assess all patients'/clients'/residents' falls risk on admission, following a significant change in status, following a fall, and on a regularly scheduled basis.
2. Communication and Education about Falls Risk a) Communicate the results of the falls risk assessment to the healthcare team, patient/client/resident, and the family. b) Educate all staff on the prevention of falls and fall injuries. c) Educate all patients/clients/residents and families of those who have been assessed at high risk for falling regarding their risk status.
3. **Implement Interventions for those at Risk of Falling** *Patient/Client/Resident level:* a) Develop an individualized care plan and interventions based on the results of the risk assessment. *Organizational level:* a) Develop organizational policies for falls prevention/reduction and management that includes roles and responsibilities of each care provider. b) Develop approaches for regular safety checks, and include environmental audits and modifications as a component of falls prevention strategies. c) Investigate each fall or near fall (near miss) to identify contributing factors and to prevent re-occurrence.
4. Customization of Interventions for those at Highest Risk of Falls Related Injury a) Identify those who are at high risk for injury and implement appropriate interventions. b) Modify the environment and provide personal devices to reduce risk of falls-related injury.

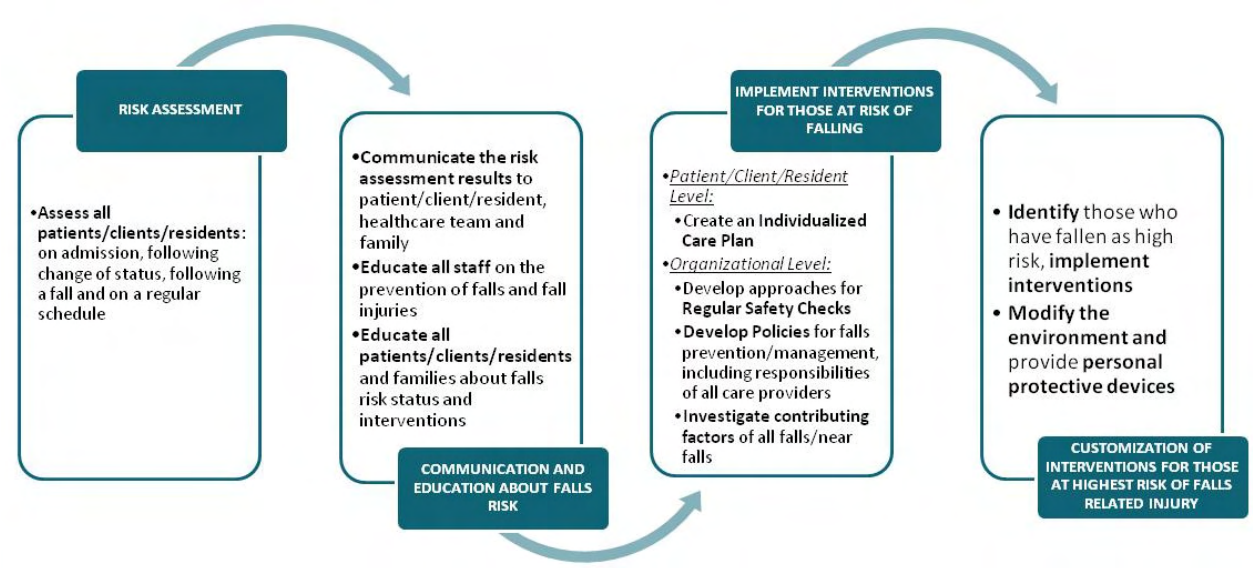
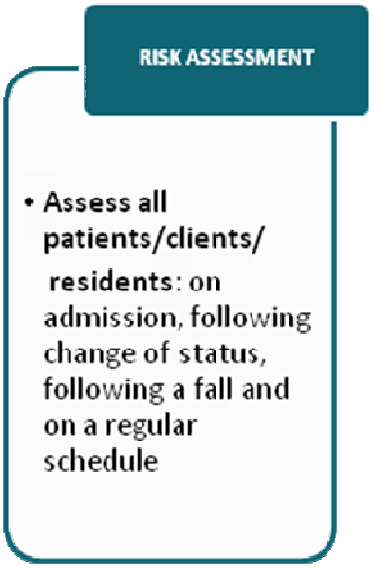


Figure 1: Falls Intervention Model

Risk Assessment



Assess all patients/residents' falls risk:

- on admission
- following any change of status
- following a fall, and
- on a regularly scheduled basis.

An accurate and timely falls and injury risk assessment is an important step in the provision of safe, person-centred care. The results of the risk assessment provide direction for the development and implementation of individualized care plans to prevent falls and reduce the severity of falls related injuries.

Risk factors for falling:[15] [16] [17] [18]

Falls occur due to a loss of balance or an inability to recover balance. A range of risk factors influence whether people are likely to have falls, including biological and medical, behavioural, environmental , social and economic factors. Typically, the more risk factors a person has, the greater the risk of falling.

Risk Factors for Falling	
Biological and medical risk factors	• muscle weakness and reduced physical fitness • impaired balance and gait • vision impairment • chronic illness including arthritis and osteoporosis • physical disabilities • acute illnesses, dementia and depression • malnutrition and dehydration
Behavioural risk factors	• a history of previous falls, which is one of the best predictors of a future fall • taking certain medications and multiple prescriptions • drinking excessive amounts of alcohol • wearing unsafe/inappropriate footwear • inactivity
Environmental factors	• human and non-human environmental hazards • hazards in the home, community or institution, including poorly lit, narrow or high stairs • hazards such as loose rugs, clutter or cracked sidewalks
Social and economic factors	• inability to pay for home modifications or assistive devices • inability to purchase or prepare foods to meet nutritional requirements • inability to purchase proper footwear • poor family support • language barriers, etc.

Assess all patients'/residents' falls risk:

The selection of a standardized and reliable risk tool is a challenging decision, as practitioners need to consider the patient/client/resident population, ease of use/training, validity/reliability, potential for staff acceptance, etc. A repository of falls related assessment tools is available at www.injuryresearch.bc.ca to support the decision-making process.

Although there are many falls risk assessment scales in use in both long-term care and acute care settings, commonly used validated tools include:

- Morse Fall Scale
- STRATIFY Risk Assessment
- Hendrich II Fall Risk Model

Appendix A provides additional details regarding these three widely utilized falls risk assessment scales.

A range of risk factors influence whether people are likely to have falls, including:

- Biological and medical
- Behavioural
- Environmental
- Social and Economic

The frequency of a falls risk assessment on a "regularly scheduled basis" will be dependent on the setting. In long-term care homes, the frequency of this assessment will often be well established as part of the normal care practices, and linked to RAI-MDS assessment. In acute care, the need for regular reassessments may be determined by the patient's length of stay, and level of acuity (i.e. surgical, complex continuing care, rehabilitation).

Although there is no universally utilized, validated falls risk assessment tool specific to the home health care sector, the following risk factors for falls can be used to screen those at increased risk for falls in their homes[19]:

- History of falls
- History of recurrent falls
- Fear of falling
- Environmental hazards
- Mental status changes/behavioural issues, poor insight into physical limitations
- Decreased independence in activities of daily living
- Decreased independence in transfers
- Decreased independence in ambulation
- Decreased lower extremity strength
- Balance, impaired gait
- Use of assistive devices
- Limitations in lower extremity range of motion
- Decreased vision
- Incontinence
- Polypharmacy
- Malnutrition
- Chronic illness

Screening for Risk Factors

Screening for specific risk factors is appropriate in acute care, home health care and long-term care, based on the individual needs of the patient/client/resident. Of note, official provincial/territorial health ministry tools to evaluate the level of care required by patients/clients/residents in different settings (home supports, residence) do include screening and evaluation of risk factors. The following is a summary of screening parameters and related tools.



Screening parameter	Screening Tool or Approach
Screen for physical and functional status	Examples of tools that could be used to screen for functional status include[20]: • Timed Up and Go (see **Appendix B**) • Berg Balance Scale (see **Appendix B-1**) • Tinetti Gait and Balance Instrument (see **Appendix B-2**)
Screen for cognitive impairment	Examples of tools that could be used to screen for cognitive impairment include[21]: • Mini-Mental Status Exam • Confusion Assessment Method Instrument (CAM)
Screen for osteoporosis	Osteoporosis screening and intervention should focus on the healthiest, more mobile, most functionally independent subset of patients/clients/residents who have more opportunities for unprotected falls and are at the greatest risk for fracture. Risk for osteoporosis and fractures[22]: age, low bone mineral density, height loss, history of falls, and family fracture history. **Physical findings:** signs of a previous spine fracture such as a curved back or kyphosis; a protuberant abdomen, loss of 6cm or more from adult height; less than 3 fingers space between the bottom rib and top of hip; and on the wall test, the back of the head is more than 6 cm from the wall.
Screen for hearing and visual acuity	Utilize standardized screening approaches for hearing and visual acuity. Ensure client has easy access to glasses of the correct prescription, as required.
Screen for malnutrition and dehydration	Malnutrition may result in muscle weakness and decreased physical activity. Assess current nutrition risk and health status. (see **Appendix C**)

Communication and Education about Falls Risk

Consistent and regular communication with patients/clients/residents, family members and the healthcare team is essential to reducing falls and injury from falls.[23].

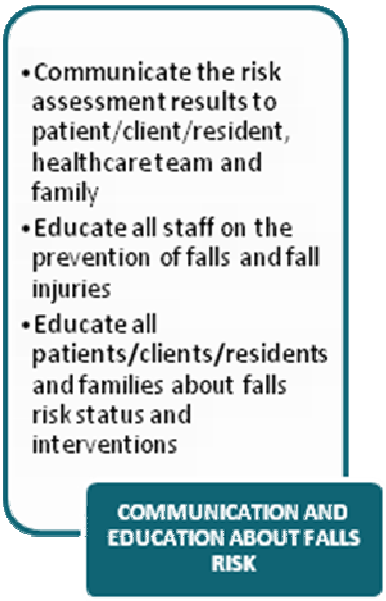
Communicate the results of the falls risk assessment to the healthcare team, patient/client/resident and the family.

Visual Identifiers

A variety of methods can be utilized to communicate falls risk. The use of visual indicators to quickly communicate with the care team and family members is an effective way of providing information about the patient's/client's/resident's risk of falls. The approach to the use of visual "identifiers" will be dependent on the needs of the patient/client/resident and the location of care provision. Some suggested approaches to using visual indicators include:

- Implement special coloured wristbands
- Signage such as bed/room signs (ex. falling leaf/falling star logo) and/or other visible identifiers
- Identifiers on mobility aids
- Identifiers on health care record

It is essential to maintain the individual's dignity and privacy related to the use of visual indicators.



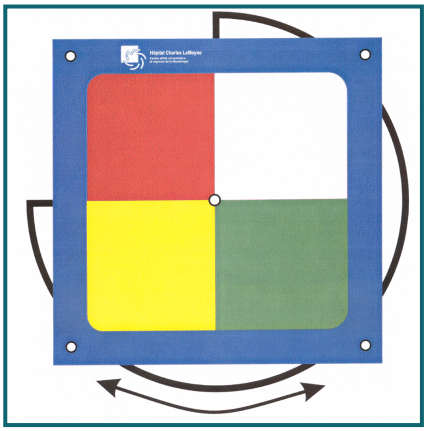
EXAMPLE: ***Long Term Care, Kristus Daraz Latvian Home, Ontario.***

Project Granny Smith

This logo (Granny Smith Apple) was used by staff at Krisus Daraz Latvian Home to communicate falls risk to staff and volunteers. The apple logo was placed on the chart, and within the room of those identified as at risk for falling. It was also used as a common image to identify all falls related educational information and other resources available to staff within their falls prevention program.

EXAMPLE: ***Acute Care, Hopital Charles Lemoyne, Montreal, Quebec***

This visual card, placed on the wall at the head of every bed, clearly depicts the patient's falls risk and need for assistance with transfers. The colour selected for display (green, yellow, red) indicates the level of falls risk for every patient admitted to the hospital. This increases the safety of both staff and patients.



Direct Communication between Providers



A key strategy to safe patient/client/resident care is ensuring that an individual's risk for falls is clearly and directly communicated. This may happen during "hand off" between staff at shift change, when transferring a patient/resident between units/departments within a hospital or long-term care home, at safety "huddles" and between care providers (including family care providers) in home health care.

- Document fall risk assessment results in the health record, care plan and kardex
- Include falls risk status at transfer of care (shift change), rounds and prior to outings with family
- Develop hand-over form/report which includes falls risk assessment
- Incorporate falls risk for those at high risk into discussion at all care conferences
- Communicate risk to the extended health care team, as appropriate, for those receiving home health care services
- Include information about potential for falls in patient/client/resident-family education

See **Appendix A** for an example of a screen from an electronic health care record that clearly documents falls risk, and **Appendix D** for a sample of a communication tool utilized in home health care.

Educate all staff on the prevention of falls and falls injuries

A variety of approaches to enhance adult learning can be utilized to support the uptake of falls and falls related injury reduction strategies by health care providers. This education should be included in orientation of new staff, and provided as regular updates to existing staff. Education should include, at a minimum, the following key elements[24]:

- Definition of falls
- Falls statistics – frequency, outcomes and costs to the health care system
- Impact on quality of life, autonomy, "dignity of risk" – ethical dilemmas
- Falls risk assessment, including use of evidence-based falls assessment tools
- Risk factors – intrinsic and extrinsic – associated with falling
- Multi-factoral, interdisciplinary falls prevention/injury reduction strategies
- Alternatives to restraints
- Risk management including post-fall follow-up

An example of a creative, interactive educational approach to help staff identify risk factors for falls is provided below:

EXAMPLE: ***Long-Term Care: "Falls Risk Room" – Parkwood Hospital, Veteran's Services, London, Ontario***

A resident room was set up to display a range of falls risks commonly seen with this resident population and within this environment. Staff members from all departments were asked to enter the room, and identify all the falls risk factors within the room. Opportunities for education, discussion and problem-solving were provided to support staff in this fun, interactive learning experience.

A list of resources to support staff education can be found in **Appendix E**. **Appendix F** provides examples of staff education resources and knowledge assessments.

Educate all patients/clients/residents and families of those who have been assessed at high risk for falling regarding their risk status.

Engaging the patient/client/resident and family in their care is a foundational principle of person-centred care. Providing person-centred falls education has been found to reduce the fear of falling and improve self-efficacy.25 Education can be provided in a variety of ways, and in a variety of settings. Educational materials distributed to patients/clients/residents and family members should consider factors that are influenced by the aging process. Patient/client/resident educational programs may include the following content26:

- Falls risk, safety issues and activity limitations
- Safe transfer and position changes, and appropriate use of assistive devices
- Orientation to their room, unit and how to get assistance
- Discussion of treatment goals
- Strategies if unable to rise
- First aid
- Psychological issues
- Informed choice regarding risk
- Importance of keeping active and staying mobile, including appropriate footwear
- Osteoporosis and bone health
- Opportunities to improve nutritional status

Appendix E provides some examples of patient/client/resident educational resources.

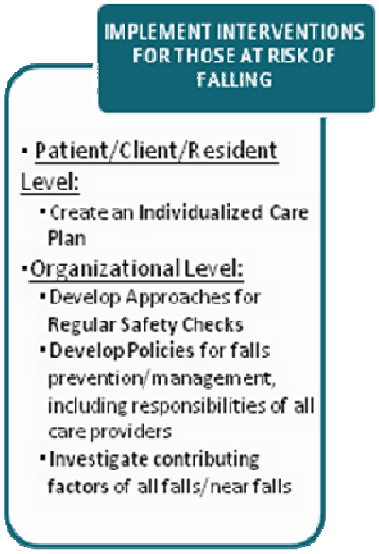
The Public Health Agency of Canada has a number of educational resources developed specifically for community dwelling seniors related to falls prevention. The key content areas addressed in these educational programs that impact on home health care include[27]:

- Minimizing risk
- Protect yourself – in the bathroom, living room, bedroom, kitchen and around stairways, and the exterior of your home
- Eat healthy meals
- Keep fit and stay active
- Use medication wisely
- Use safety aids
- What to do if you fall

The Public Health Agency of Canada (2006) Seniors and Aging: Prevention Falls in and Around Your Home:
www.hc-sc.gc.ca/hl-vs/alt_formats/pacrb-dgapcr/pdf/iyh-vsv/life-vie/fp-pc-eng.pdf

Implement Interventions for those at Risk of Falling

By assessing all patients/clients/residents the health care team can identify those that are at high risk for falling and sustaining injury. Interventions can then be put in place to create and maintain a safe environment for these high risk individuals.

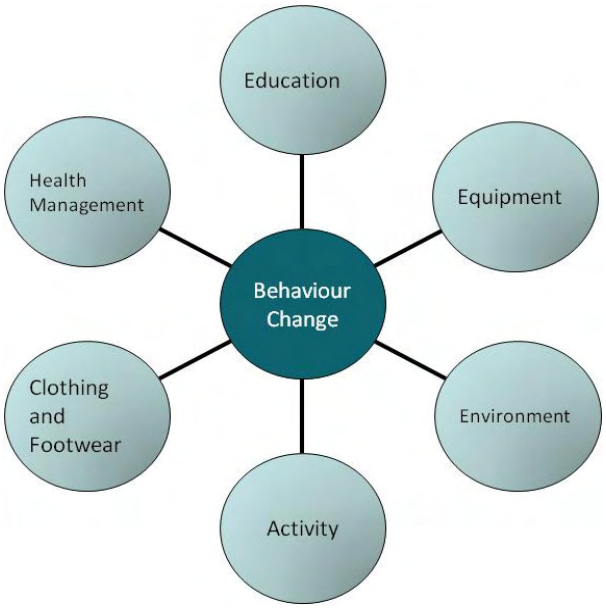


The Canadian Falls Prevention Curriculum[28] states that the most effective falls prevention interventions use a multifactorial approach targeting selected individuals or groups of older persons based on their risk profiles.

Taking into account the best available evidence, the Curriculum presents a comprehensive falls prevention model, using the acronym BEEEACH, which incorporates the following categories:

- **B**ehaviour change - a common goal of all strategies, targeting interventions to patients/clients/residents readiness for change
- **E**ducation - of program participants
- **E**quipment - appropriate use of mobility aids and assistive devices
- **E**nvironment - assessment and modification of the environmental hazards in the home and public places
- **A**ctivity - physical and social
- **C**lothing and footwear - appropriate for risk reduction
- **H**ealth management - including medication reviews, vision tests, bone health, healthy nutrition and hydration and chronic disease management.

Canadian Falls Prevention Curriculum Model



Canadian Falls Prevention Curriculum Model

Implementing Falls Prevention Practices for Every Patient/Client/Resident

Develop an individualized care plan and interventions based on the results of the risk assessment.

The results of the risk assessment, as discussed previously, help to guide an individualized care plan, regardless of where individuals are receiving health care services. Organizations may wish to consider developing a range of available interventions which can be individualized based on the risk level of the patient/client/resident.

Key Risk Factors for Falls	Intervention Strategies for Individuals at Risk[29,30,31]
Age, over 80 years of age	
Fear of falling	Encourage the individual to verbalize feelings. Strengthen self-efficacy related to transfers and ambulation by providing verbal encouragement about capabilities and demonstrating to the individual their ability to perform safely.
History of previous falls	Identify the patient/client/resident as being at risk for falls. Communicate risk by use of a visual identifier. Address causes of falls based on past fall assessment.
Acute illness, such as UTI, pneumonia, etc.	Treat acute condition and re-evaluate risk factors.
Chronic illness, such as stroke, postural hypotension, depression, etc.	Treat chronic condition and re-evaluate risk factors.
Osteoporosis	Implement calcium and vitamin D regimens with an exercise program that incorporates weight bearing.
Cognitive impairment (Alzheimer's Disease, brain injury, etc)	Evaluate the individual for reversible causes of cognitive impairment/delirium and eliminate causes as relevant. Monitor those with cognitive impairment regularly with relocation of the patient/client/resident such that nursing staff/family caregivers can observe/monitor regularly. Utilize monitoring devices if accessible (i.e. Bed/chair or exit alarms). Implement a behavioural approach to manage impaired cognition.
Impaired strength and balance	Provide opportunities for strength and balance training
Hearing and vision impairment	Provide hearing and vision assessment and referral
Urinary/bowel – incontinence, urgency and frequency	Implement individualized bladder/bowel management programs, which may include regular voiding schedule. Monitor bowel function and encourage sufficient fluids and fiber. Utilize laxatives as appropriate.
Poor nutrition and hydration	Refer to dietician for full evaluation of the nutritional status and requirements and for nutritional care plan. Treat acute dehydration
Polypharmacy	Conduct medication review with modification and decrease as appropriate.
Restraints (physical, environmental, chemical)	Establish and monitor a least restraint policy.
Environmental hazards	Modify environment, remove environmental hazards
Clothing and footwear (inappropriate, no support, inadequate fit)	Ensure that clothing and shoes are appropriate and fit properly.

EXAMPLE: University *Health Network – Toronto Western Hospital, Toronto, Ontario*

The University Health Network in Toronto utilise the Morse Falls Scale and CAM Assessment on all the clients in their Orthopaedic/Rheumatology Unit. They use the Morse Falls Scale and the CAM Assessment on each patient to determine level of risk. The results provide staff with a quick, accurate identification of those at increased risk of falls, and the level of risk determines the extent of the interventions put in place.

Those with a Morse Falls Scale score of:

≤25 receive Standard Safety Measures

≥25 receive Standard Safety Measures + Additional Safety Measures

+ communication/collaboration with healthcare team and family

Standard Safety Measures:

- Call bell within reach
- Toileting devices/personal items within reach
- Obstacles removed from key pathways
- Frequent checks (q1h)
- Medication review

Additional Safety Measures:

- More frequent toileting
- Purple (colour coded) wristband
- Moving patient closer to nursing station
- Physiotherapy consult
- Bed exit alarms
- Non-skid slippers

Reported by Anthony Caines Ogini, RNAO Advanced Clinical Practice Fellowship (2009).

Manage polypharmacy and psychotropic medications

Medication reviews for all those receiving care in acute care, long-term care and home health care as well as medication reconciliation between transitions is an effective way of reducing the side-effects of medications, and potential falls risk. The medication profile should be considered both an extrinsic (related to the environment) and intrinsic (specific to the individual) contributor to the risk for falling. It has been demonstrated[32] that polypharmacy of greater than or equal to five medications among older adults leads to greater risk for falling.

The timing of the administration of medications should also be considered during the regular medication reviews. Consider the dosing schedules for medications such as the timing of laxatives and diruetics to cause the least interuption as possible to sleep patterns of the patient/client/resident.

Appendix G provides a summary of various drug classes, their impact on the potential for falling, and examples of common medications within the drug class. It also includes an example of a reminder for staff that can be adapted as a poster for medication rooms in acute care and long-term care settings or as a pocket reference for those working in home health care. Refer to the Medication Reconciliation Getting Started Kits, for approches to identifying the best possible medication history.[33]

Safer Healthcare Now! has a Getting Started Kit on medication reconciliation available at www.saferhealthcarenow.ca

Restraints are physical, chemical or environmental measures used to control the physical or behavioural activity of a person or a portion of his/her body.

Implementing Falls Prevention across the Organization

Develop organizational policies for falls prevention/reduction and management that includes roles and responsibilities of each care provider.

As part of developing a multi-factorial falls prevention program, it is important that organizational policies reflect a culture where all healthcare providers have a role to play in ensuring falls prevention and patient/client/resident safety is an element of everyone's practice. This includes making reducing falls and injury from falls an explicit and important aspect of the organization's planning and budget allocation, as well as promoting a culture of falls prevention. Such systems may include:[34]

- Establishment of procedures for multi-factorial falls prevention assessment and care planning that is fully understood and implemented by all staff
- Appointment of an individual or champion who can support prevention initiatives
- Inclusion of the interdisciplinary team in falls prevention initiatives

Policies reflecting a "minimal restraint approach" should also be in place at the organizational level as part of a comprehensive falls prevention strategy. Provincial and territorial legislation should be reviewed to ensure restraint policies reflect the jurisdiction's expectations related to restraint use.

Restraints that restrict movement or result in immobility may lead to increased confusion and physical agitation, as well as decreased range of motion and strength. This has the potential to result in impairment in transferring and gait, which can lead to an increased risk for falls.[35] There is no evidence that the use or removal of restraints will reduce falls; however, more serious injuries are associated with use of restraints. Studies have indicated that in those individuals falling for the first time, those who were restrained were 14 times more likely to fall than those who were not.[36]

Some interventions to consider:

- Least restraint is best practice
- Investigate alternatives to restraints (e.g., bed and chair alarm systems, low beds, moving the patient/resident closer to the nursing station, increased monitoring, regular toileting, assistance from family, etc.)
- Address behaviours prior to considering the use of restraints – if the individual is restless/agitated determine if they are cold, need to toilet, dehydrated, lonely, in pain, frightened, have an infection, started on new medication etc.
- Individualize the care plan to address any unmet needs as above
- Engage all team members, including family, using an interdisciplinary approach

Develop approaches for regular safety checks, and include environmental audits and modifications as a component of falls prevention strategies.

Loss of balance, trips or slips resulting in a fall are more likely to occur in unsafe environments or with equipment and assistive devices that are not properly maintained.

Within hosptials and long-term care homes, a "walk through" with a team that has representation from administration, support staff (environmental management and risk management) and clinical staff can be an effective way of identifying needed equipment, eliminating hazards and identifying potential renovations required. These types of collaborative rounds provide a range of perspectives and ideas to improve patient/resident safety.[37] **Appendix H** provides a sample checklist that can be modified to meet the needs of different practice settings.

Most falls occur in and around the home and research indicates that home assessments and modifications may be effective in reduction of fall risk. An assessment of the home environment is intended to enhance accessibility, safety and performance of daily living activities.38 The Public Health Agency of Canada's Safe Living Guide includes a validated home safety checklist (**Appendix I**), which can be completed by seniors themselves, family members or healthcare providers.

Investigate each fall or near fall (near miss) to identify contributing factors and to prevent re-occurrence.

Post-fall policies and procedures are recommended for post-fall management. Post-fall management should include,[39], [40]:

- Assessment of potential injury assocciated with the fall
- Immediate treatment following the fall
- Determination of contributing factors, location, time and related activity
- Post-fall problem solving conferences.

Post-fall assessments following a patient/client/resident fall should be initiated within 24 hours of a fall in order to identify possible falls causes. Post-fall assessment and follow-up should include[41]:

- A history of the fall provided by the patient/client/resident or witness. Exploring in a helpful manner and eliciting their concerns about their experience enhances motivation for behaviour change. Ask the inidividual, "What is your understanding of the fall?"
- Note the circumstances of the fall: location, activity, time of day, and any significant symptoms
- Review of underlying illness and problems
- Review medications
- Assess functional, sensory, nutritional and psychological status
- Evaluate environmental conditions
- Review risk factors for falling

Post-fall "huddles" in acute and long-term care are an effective way of having a quick, interprofessional review of the fall incident which provides opportunity for immediate changes to the plan of care, in consulation with the patient/resident.

Appendix J provides an example of a post-fall assessment checklist that could be modified for sector specific care, and a screen shot of an electronic health record that documents post-fall assessment data.

Customization of Interventions for those at Highest Risk of Falls Related Injury

Identify those who are at high risk for injury and implement appropriate interventions.

Obviously, falls resulting in moderate or severe injury are the ones that are most important to prevent. Injury prevention is important for all patients/clients/residents at risk for falls, whether in health care facilities or home health care, however those at highest risk of falls related injury require additional targeted interventions.

In 2005/2006, there were 28,200 hospitalizations for hip fractures in Canada. Hip fractures reduce quality of life, result in chronic pain, and affect the ability to perform activities of daily living. In 2005/2006, approximately seven percent of seniors admitted to hospital for a hip fracture died within 30 days. The one year mortality rate following hip fracture is approximately 20%.[42]

Most at risk for injury after sustaining a fall[43]	Most at risk* for hip fracture[44]
• Age - those ≥85 years old • Those who are frail due to a clinical condition • Those with bone conditions, including osteoporosis, a previous fracture, prolonged steroid use, or metastatic bone cancer • Those with bleeding disorders, either through the use of anticoagulants or underlying clinical conditions • Post surgical patients, especially those who have had a recent lower limb amputation or recent, major abdominal or thoracic surgery	• Those who have fallen previously • Those with unsteady gait • Those using and ambulation aid • Those who smoke tobacco • Those who have malnutrition • Those with cognitive impairment • Those with osteoporosis. *This study used routinely collected data in home health care within Ontario to idenitfy risk for hip fracture.

A mnemonic to assist staff in identifying those at risk for falls-related injury is:

A – Age or frailty

B – Bones

C – Coagulation

s – recent surgery

Interventions to Prevent Falls-Related Injuries

Injury Assessment[45]	Interventions	
AGE ≥ 85		
BONES	1. Height adjustable bed 2. Mat on floor 2. Safe exit 3. Hip protectors	CONSIDER: 1. Bedside commode
COAGULATION	1. Height adjustable bed 2. Mat on floor 3. Safe exit 4. Education on anticoagulation safety	CONSIDER: 1. Bedside commode
SURGERY	1. Height adjustable bed 2. Mat on floor 3. Arrange furniture to ensure a safe exit	CONSIDER: 1. Bedside commode

Strategies to prevent hip fractures among those at risk for falls-related injury usually consist of[46]:

- Prevention and treatment of osteoporosis
- Prevention of fractures with injury site protection

Prevention and Treatment of Osteoporosis:

Osteoporosis is a factor for increased risk of fall-related injury due to decreased bone strength, which results in an increased risk for spontaneous fractures and fractures related to low energy trauma. A program that addresses osteoporosis risk should include the following interventions:

- Calcium and Vitamin D supplementation
- Individualized exercise programs that incorporate weight bearing activities

Calcium and Vitamin D Supplementation	Supplementation with Calcium and Vitamin D in combination have been shown to significantly reduce falls and hip and non-vertebral fractures, especially in older women, and improve neuromuscular function. However, there is emerging evidence regarding the potential adverse effects of high-dose calcium supplementation (500mg or more daily of elemental calcium) on cardiovascular events, and further research in this area is required before recommending a level of intake for calcium. Refer to their care team to receive recommendations adapted to their needs.[47] Several studies suggest that both men and women can benefit from Calcium and Vitamin D supplementation to: • improve muscle function (improve body sway • reduce risk of falling, especially for female long-term care residents • reduce debilitating effects from osteoporosis • improve bone mineral density.[48] Vitamin D is an important part of fractures and falls prevention, particularly in long-term care settings. • Daily Vitamin D supplementation (700-1000 IU) has been shown to reduce falls by approximately 20% • Vitamin D supplementation has been shown to reduce fractures by 43%
Individualized Exercise Program	Exercise can improve balance, mobility and reaction time. It can increase bone mineral density in post-menopausal women and in people over 70 years of age. A falls exercise program generally aims to improve cardiovascular endurance, muscle strength, flexibility and balance.[49] **Type of Exercise**[50] *Endurance* • Improves stamina of the heart and lungs. • Strengthens bones and reduces risk of fractures *Strength* • Makes muscles stronger and improves balance *Balance* • Improves posture, stability and coordination *Flexibility* • Improves flexibility and joint range of motion

Injury site protection

Injury site protection, specifically protection of the hips, can be achieved through the use of hip protectors. This protective underwear-type garment has a soft or hard shell over the hip area. Although the literature has not been consistent related to effectiveness of hip protectors, new reviews indicate that hip protectors appear to be effective at reducing the risk of hip fractures in long-term care residents[51] when instituted as part of a falls management program. There is not clear evidence related to the use of hip protectors in acute care or community settings.

Adherence has been recognized as a very important issue in hip protector research and implementation. Hip protectors cannot work if they are not worn. Appropriate selection of residents to determine if they are motivated to use this strategy for injury reduction is an important first step.

Potential Barriers to Hip Protector Use[52]	Supports for Adherence
• Discomfort • Appearance and distortion of body image • Cost • Skin irritation • Dressing and toileting difficulties • Inadequate resident/family instruction and orientation on use	• Education and promotion of hip protectors to long-term care staff, residents and their families • Efforts by manufacturers to improve comfort, design and appearance while maintaining safety and efficacy • Inclusion of unregulated care staff in hip protector education and decision-making • Provision of hip protectors at reduced or no cost to residents

Measuring the Success of Reducing Falls and Injury from Falls

Safer Healthcare Now! measures improvement by focusing on a consistent set of core measures. This represents the minimum measures required to evaluate the success of reducing falls and injury from falls improvement efforts. Healthcare facilities may add additional measures that they track internally to evaluate improvement for their specific setting and patient/client/resident population.

- On an ongoing basis, progress should be measured to evaluate your falls prevention progress.
- Define improvement (what is your improvement aim?).
- To ensure consistency we encourage all participating teams to report data on the core falls measures to the Central Measurement Team of *SHN!* This data should also be presented to the organization's senior leadership on a regular basis to monitor ongoing progress related to Quality Improvement initiatives.
- Start by collecting baseline data. (See 'Collect Baseline Data' section below).
- Subsequently, patients/clients/residents charts within the intervention population should be reviewed for data collection each month.
- If measures do not reflect improvement, your team should investigate the reason why (e.g., processes which are not working, non-adherence to these processes and/or barriers exist which prevent the process from working effectively etc.).

Types of Measures[53]

This *Getting Started Kit* suggests using three types of measures to monitor your organization's quality improvement efforts related to reducing falls and injury from falls. These include outcome measures, process measures and balancing measures.

An **Outcome Measure** tracks how the system is performing. These measures tell you whether changes are actually leading to improvement — that is, helping to achieve the overall aim of reducing falls and injury from falls by 40%.

A **Process Measure** determines whether the parts/steps in the system are performing as planned. To affect the outcome measures, teams must make changes to improve processes within their practice setting, including, for example, the processes for performing falls risk assessments and documenting falls prevention/protection plans. Measuring the results of these process changes will tell you if the changes are leading to improved care for patient/client/resident.

A **Balancing Measure** is used to ensure that improvements to one part of the system are not causing new problems in other aspects of the system.

Core Measures – Acute Care and Long Term Care

There are six measures for Acute Care and Long Term Care:

1. Falls Rate per 1000 Patient/Resident Days (Outcome Measure)
2. Percentage of Falls Causing Injury (Outcome Measure)
3. Percentage of Patients/Residents with Completed Falls Risk Assessment on Admission (Process Measure)
4. Percentage of Patients/Residents with Completed Falls Risk Assessment Following a Fall or Significant Change in Medical Status (Process Measure)
5. Percentage of "At Risk" Patients /Residents with a Documented Falls Prevention/Injury Reduction Plan (Process Measure)
6. Restraint Use (Balancing Measure)

See **Appendix M** for detailed technical descriptions of these measures, which includes variables and instructions for data collection.

Outcome Measures

1. *Falls Rate per 1000 Patient/Resident Days*

This measure calculates the number of falls experienced by patients in acute care or residents of a long-term care home per 1000 patient/resident days. *The goal is to achieve an annual reduction of 40% in this measure.*

$$\left[\frac{\text{Total Number of Falls}}{\text{Total Number of Patient/Resident Days on the Unit/in the Facility}}\right] \times 1000 = \text{Falls Rate per 1000 Patient/Resident Days}$$

2. *Percentage of Falls Causing Injury*

This measure calculates the percentage of falls categorized as 2, 3, 4, 5 or 6 on the "Severity of Harm Scale" which range from "Temporary Harm" to "Death". *The goal is to achieve an annual reduction of 40% in this measure.*

The total number of falls categorized as 2, 3, 4, 5, or 6 on the Severity of Harm Scale

The total number of falls that occurred in the identified time period

x 100 = Percentage of Falls Causing Injury

The *Severity of Harm Scale* is summarized below. Categories 2 to 6 on the "Severity of Harm Scale" range from "Temporary Harm" to "Death". Therefore falls resulting in "No Harm" should not be considered to be part of the "Falls Causing Injury" (the numerator).

NOTE: The *Severity of Harm Scale* below is intended as a sample scale only. Some organizations may prefer or be required to use a different harm scale. Teams are encouraged to track measures and use scales that are best suited to their practice context. For the purposes of reporting data to *Safer Healthcare Now!*, any scale that separates falls into categories that includes a "no harm" option can be converted for data submission. Please see the conversion example provided below.

Severity of Harm Scale[54]:

Severity of Harm Scale

Category	Description
Category 1	No Harm to the patient/resident. May require temporary monitoring to ensure no harm has occurred.
Category 2	Temporary harm to the patient/resident and required intervention.
Category 3	Temporary harm to the patient/resident and required initial or prolonged hospitalization
Category 4	Permanent consequences to the patient/resident
Category 5	Intervention necessary to sustain life
Category 6	Death

Note: Harm is defined as "temporary or permanent impairment of physical or psychological body function or structure

In the example provided below, the incident/accident severity scale used in Quebec (adapted from the National Coordinating Council for Medication Error Reporting and Prevention [NCC-MERP]) is mapped onto the Severity from Harm Scale. Quebec improvement teams would report data on all but category C and D.

Category	Description	Quebec's I/A severity scale*
Category 1	No Harm to the patient/resident. May require temporary monitoring to ensure no harm has occurred.	C, D
Category 2	Temporary harm to the patient/resident and required intervention	E1, E2
Category 3	Temporary harm to the patient/resident and required initial or prolonged hospitalization	F
Category 4	Permanent consequences to the patient/resident	G
Category 5	Intervention necessary to sustain life	H
Category 6	Death	I

Process Measures

A **Process Measure** determines whether the parts/steps in the sytem are performing as planned.

3. *Percentage of Patients/Residents with Completed Falls Risk Assessment on Admission*

This measure calculates the percentage of patients or residents for whom a Falls Risk Assessment has been completed on admission. *The goal is to have 100% of patients/residents assessed on admission.*

Total Number of Patients/Residents Admitted for whom a Falls Risk Assessment was performed

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Total Number of Patients/Residents Admitted during the identified time period

x 100 = Percentage of newly admitted Patients/Residents with a completed Falls Risk Assessment

4. *Percentage of Patients or Residents with Completed Falls Risk Assessment Following a Fall or Significant Change in Medical Status*

This measure calculates the percentage of patients or residents for whom a Falls Risk Assessment has been completed following a fall or significant change in medical status. *The goal is to complete a Falls Risk Assessment for 100% of patients/residents following a fall or significant change in medical status.*

Number of Patients/Residents who experienced a fall, for whom a Falls Risk Assessment was performed
+
Number of Patients/Residents who experienced a significant Change in Medical Status for whom a Falls Risk Assessment was Performed

---

Number of Patients/Residents who experienced a Fall
+
Number of Patients/Residents who experienced a significant Change in Medical Status

x 100 = Percentage of Patients/Residents with a Falls Risk Assessment completed following a fall or change in medical status

5. *Percentage of "At Risk" Patients or Residents with a Documented Falls Prevention/Injury Reduction Plan*

This measure calculates the percentage of patients or residents for whom a falls risk assessment has identified them as being "At Risk" and for whom a falls prevention and/or injury reduction plan e.g., individualized interventions have been documented. *The goal of this measure is to have a documented falls prevention and/or injury reduction plan in place for 100% of patients/residents identified as "At Risk".*

This measure is intended to measure patients/residents for whom an individualized intervention has been implemented, not for patients who benefit from environmental or other universal interventions. The sections of this Getting Started Kit focused on Implementing Interventions for those at Risk of Falling and Customization of Interventions for those at Highest Risk of Falls Related Injury provide examples and approaches for individualized falls prevention/injury reduction plans.

Number of Patients/Residents identified as "At Risk" who have a documented "Falls Prevention and/or Injury Reduction Plan"

Number of Patients/Residents identified as "At Risk" on a Falls Risk Assessment

x 100 = Percentage of "At Risk" Patients/Residents who have a documented "Falls Prevention and/or Injury Reduction Plan"

Balancing Measure

A **Balancing Measure** is used to ensure that improvements to one part of the system are not causing new problems in other aspects of the system.

6. Restraint Use

This measure calculates the percentage of patients/residents with restraints in place at the time of the audit. *The goal is obtain a percentage that is at or below the baseline data.*

The Ontario Ministry of Health and Long Term Care define restraints as being physical, environmental or chemical:[55]

- An *Environmental Restraint* is defined as: A barrier to free personal movement which serves to confine patient/residents to specific (geographic) areas.
- A *Physical Restraint* is defined as: An appliance or apparatus that inhibits general movement. Included in this definition are: Jackets and vest restraints; Geriatric chairs or wheelchairs with tabletops in place; Roller bars on wheelchairs; and lap belts if they are applied in such a fashion that the seat belt opening is placed at the back of the chair and the seat belt cannot be undone by the patient/resident. Devices which are not defined as restraints include: devices for positioning or limb support.
- A *Chemical Restraint* is defined as: A pharmaceutical given with the specific purpose of inhibiting or controlling behaviour or movement. Differentiating between the use of a drug, a therapeutic agent or a restraint is difficult. Often a drug may be used for both purposes. When a drug is used to treat "clear cut" psychiatric symptoms rather than socially disruptive behaviours, it should not be considered a restraint.

Teams should familiarize themselves with the definition set forth by the governing body in their jurisdiction and calculate the application of restraint appropriately.

$$\frac{\text{Total Number of Patients/Residents with Restraints Applied}}{\text{Total Number of Patients/Residents Receiving Care in the same time period}} \times 100 = \text{Percentage of Patients/Residents with Restraints}$$

Core Measures – Home Health Care

There are five measures for Home Health Care:

1. Falls Rate per 1000 Clients (Outcome Measure)
2. Percentage of Falls Causing Injury (Outcome Measure)
3. Completed Fall Risk Assessment on Admission (Process Measure)
4. Fall Risk Reassessment Completed Following a Fall or Significant Change in Medical Status (Process Measure)
5. Percentage with Documented Falls Protection or Injury Reduction Plan (Process Measure)

See **Appendix M** for detailed technical descriptions of these measures, which includes variables and instructions for data collection.

1. Falls Rate per 1000 Clients

This measure calculates the number of witnessed or reported falls experienced by clients in home care per 1000 clients. *The goal is to achieve an annual reduction of 40%.*

$$\left(\frac{\text{Total Number of Falls}}{\text{Total Number of Clients within the Target Population}}\right) \times 1000 = \text{Falls Rate per 1000 Clients}$$

2. Percentage of Falls Causing Injury

This measure is intended to calculate the percentage of falls categorized as 2, 3, 4, 5 or 6 on the "Severity of Harm Scale" which range from "Temporary Harm" to "Death". *The goal is to achieve an annual reduction of 40%.*

$$\left(\frac{\text{The total number of falls categorized as 2, 3, 4, 5, or 6 on the Severity of Harm Scale}}{\text{The total number of falls that occurred in the identified time period}}\right) \times 100 = \text{Percentage of Falls Causing Injury}$$

Process Measures

A **Process Measure** determines whether the parts/steps in the sytem are performing as planned.

3. *Completed Fall Risk Screening on Admission*

This measure calculates the percentage of clients for whom a Falls Risk Screening has been completed on admission. *The goal of this measure is to complete a Fall Risk Screen on admission for 100% of clients.*

Total Number of Clients Admitted to Service for whom a Falls Risk Screening was performed

Total Number of Clients Admitted to Service during the identified time period

x 100 = Percentage of newly admitted clients with a Falls Risk Screening

4. *Fall Risk Reassessment Completed Following a Fall or Significant Change in Medical Status*

This measure calculates the percentage of clients for whom falls risk was reassessed following a fall or significant change in medical status. *The goal is to complete a fall risk reassessment following a fall or following a significant change in medical status for 100% of clients.*

Number of Clients who experienced a fall, for whom a Falls Risk Assessment was performed
+
Number of clients who experienced a Significant Change in Medical Status for whom a Falls Risk Assessment was performed

Number of Clients who experienced a Fall
+
Number of Clients who experienced a Significant Change in Medical Status

x 100 = Percentage of Clients with a Falls Risk Assessment completed following a fall or significant change in medical status

5. *Percentage with Documented Falls Prevention and/or Injury Reduction Plan*

This measure calculates the percentage of clients for whom a falls risk screen has identified them as being "At Risk" and for whom a falls prevention and/or injury reduction plan has been documented. *The goal is to have a documented falls prevention and/or injury reduction plan in place for 100% of clients identified as At Risk.*

This measure is intended to measure clients for whom an individualized intervention has been implemented, not for clients who benefit from environmental or other universal interventions. The sections of this *Getting Started Kit* focused on *Implementing Interventions for those at Risk of Falling* and *Customization of Interventions for those at Highest Risk of Falls Related Injury* provide examples and approaches for individualized falls prevention/injury reduction plans.

Number of Clients identified as "At Risk" who have a documented "Falls Prevention and/or Injury Reduction Plan"

Number of Clients identified as "At Risk" on a Falls Screening

x 100 = Percentage of "At Risk" Clients who have a documented "Falls Prevention and/or Injury Reduction Plan"

Data Collection

A. Collect Baseline Data

It is critical to collect baseline data to get a sense of what issues exist in your organization. "Baseline data" reflects the situation within your organization prior to initiating any test of change. Documenting the incidence and severity of falls prior to implementing any interventions will provide the information your team needs to build the case for falls prevention interventions, both in terms of gaining stakeholder support, and in terms of developing interventions suited to your practice setting.

Process for Baseline Data Collection:

- Review data for each of the above measures for the past month, quarter, etc (time period determined as appropriate), particularly the measures 1. "Incidence of Falls", and 2. "Injury from Falls". The full population to be affected by falls interventions should be reviewed, e.g., if the intervention is to be implemented in an entire organization, review data for all patients/clients/residents. Information should be gathered from health records, incident reports, patient/client/resident interviews (if appropriate) and existing statistical information monitored by the organization.
- Submit data to the *SHN!* Central Measurement Team. (See 'Submitting Data to *SHN!* section)

B. Evaluate the Improvements Being Made – Collect and Submit Data

- Collect data for each measure and tabulate at appropriate intervals throughout the pilot period (weekly, monthly, etc as appropriate). See the technical descriptions in **Appendix M** for suggested frequency of data collection/submission.
- Compare to Baseline data collected pre-implementation.
- Submit data to the *SHN!* Central Measurement Team. (See Submitting Data to SHN! section)
- In addition, some facilities may choose to do independent regular quality improvement audits to ensure that the falls prevention assessment and interventions are in place to maximize patient/client/resident and organization benefits.

Measurement Tips[56]

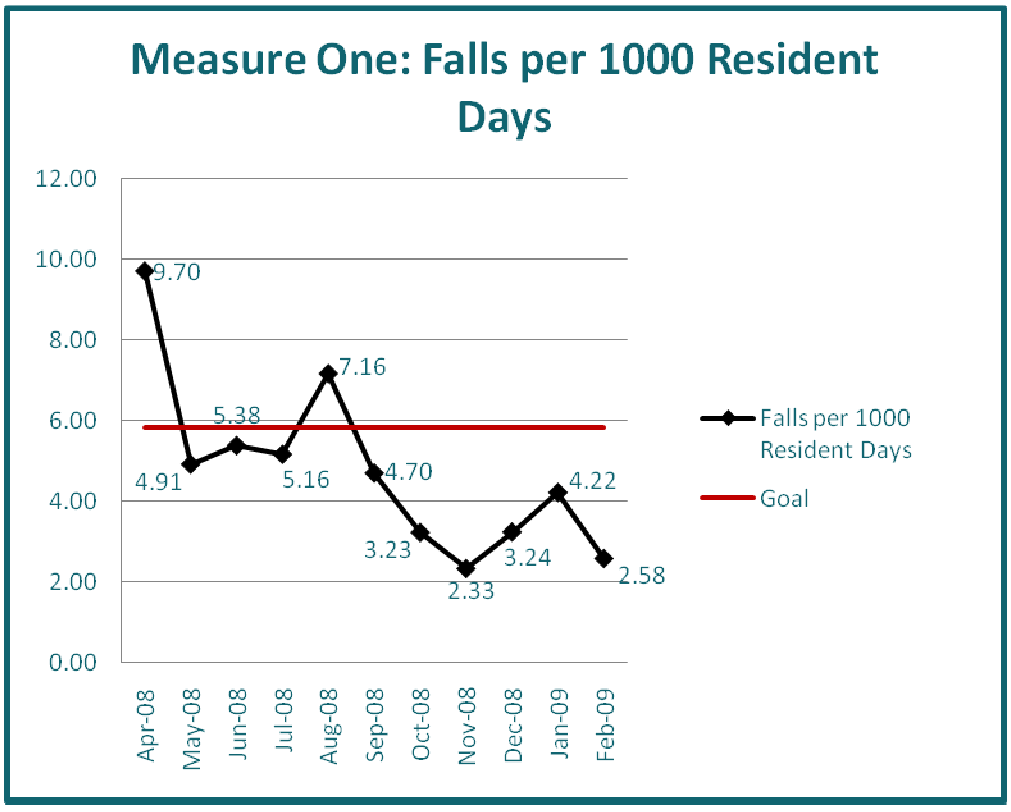
1. Plot data over time.

- Information about a system and how to improve it can be obtained by plotting data over time and then observing trends and other patterns. Tracking a few key measures over time is the single most powerful tool a team can use and will help them to see the effects of the changes they are making. Within your organization we encourage you to use Run Charts, described below, to show progress over time.

2. Run Charts - Track Your Measures over Time

Determining if improvement has really happened and if it is lasting, requires observation of patterns over time. Run charts are graphs of data over time and they have a variety of benefits:

- They help improvement teams formulate aims by depicting how well (or poorly) a process is performing
- They help in determining when changes are truly improvements by displaying a pattern of data that you can observe as you make changes
- They give direction as you work on improvement and information about the value of particular changes.[57]



Number of Falls per 1000 Resident Days *Run Chart from Kristus Darzs Latvian Home, National Falls Collaborative, 2008-2009*

3. Seek usefulness, not perfection.

Measurement is not the goal, rather improvement is the goal. In order to move forward to the next step, a team needs just enough data to know whether changes are leading to improvement.

- **Integrate measurement into the daily routine.** Useful data are often easy to obtain without relying on information systems. Don't wait two months to receive data from your organization's information systems department. Develop a simple data collection form, and make collecting the data part of someone's job. Often, a few simple measures will yield all the information you need.
- **Use qualitative and quantitative data.** In addition to collecting quantitative data, be sure to collect qualitative data, which often are easier to access and highly informative. For example, ask staff how the falls prevention process is going or how to improve the patient/client/resident assessment process. [58]

Remember:

- Goal is improvement, not the development of a measurement system
- Measurement should speed up improvement
- Develop a useful rather than a perfect process
- Key measures should clarify objectives
- Integrate measurement into daily routines
- Link measures for improvement with other initiatives in the unit/organization
- Involve stakeholders in measuring process & outcomes

Submitting Data to *Safer Healthcare Now!*

On a national level, the key question is whether Canadian healthcare facilities are able to learn and implement the changes in practice that have been shown in other settings to reduce adverse events, morbidity and mortality.

The management of data submitted to *Safer Healthcare Now!* is conducted by a University of Toronto based Central Measurement Team (CMT) which is funded by the Canadian Patient Safety Institute (CPSI). Data submitted to the Central Measurement Team will be used to:

- Facilitate the testing of evidence-based strategies for safer healthcare.
- Support teams by providing information on their own performance relative to other teams enrolled in the intervention through the collection, analysis and reporting of organization-level, intervention specific data.

As part of the campaign, *Safer Healthcare Now!* Measurement Worksheets can be completed by participating teams and submitted to *Safer Healthcare Now!* on a monthly basis in order to monitor the success of implementation of falls prevention interventions across Canada.

These worksheets are available using the following link:
http://tools.patientsafetyinstitute.ca/Communities/falls/default.aspx

The *Safer Healthcare Now!* Campaign has a Data Submission Policy which specifies the following requirements for organizations/teams enrolled in the campaign:

- Baseline data for at least one measure is to be submitted within the first 2 quarters following enrolment.
- Early implementation data for the measure for which baseline data had been submitted, is to be submitted within 2 quarters following the first month of baseline data submission.
- If no data is received for two quarters between the Baseline and Early Phase the team will be designated as “Inactive”.
- During the Early Implementation Phase if data is not received once a quarter the team will be designated as “Inactive”.
- A team may become “re-active” at any time by submitting data.
- A team that has reached its measurement goal (Full Implementation) and held its gains for 6 months is encouraged, but not required, to monitor its performance intermittently to avoid slippage. Voluntary quarterly data submission is recommended.

Appendices

Appendix A – Risk Assessment Tools

Although there are many falls risk assessment scales in use in both acute care and long-term care settings, these tools are commonly used. A repository of falls related assessment tools is available at www.injuryresearch.bc.ca to support the selection process.

1) Morse Fall Scale

This scale requires systematic, reliable assessment of an individual's falls risk factors upon admission, after a fall, with a change in status, and at discharge or transfer to a new setting. The complete scale is provided in this appendix.

Morse, J. M., Morse, R., & Tylko, S. (1989). Development of a scale to identify the fall-prone patient. *Canadian Journal on Aging, 8*, 366-377.

2) STRATIFY Risk Assessment

The St. Thomas Risk Assessment Tool in Falling Elderly Inpatients (STRATIFY) is used to identify clinical fall risk factors.

Oliver, D., Britton, M., Martin, F.C. & Hopper, A. (1997). Development and evaluation of evidence based risk assessment tool (STRATIFY) to predict which elderly inpatients will fall: Case control and cohort studies. *British Medical Journal, 315*(7115), 1049-1053.

3) Hendrich II Fall Risk Model

Hendrich, A., Bender, P., Nyhuis, A. (2003). Validation of the Hendrich II falls risk model: A large concurrent case/control study of hospitalized patients. *Applied Nursing Research, 16*(1), 9-21.

Morse Fall Scale

Reproduced with permission from J.M. Morse

Fall Risk is based upon Fall Risk Factors and it is more than a Total Score. Determine Fall Risk Factors and Target Interventions to Reduce Risks. Complete on admission, at change of condition, transfer to a new unit, and after a fall.

Variables		Score	Admission Date ----------	Review Date ----------	Review Date ----------
History of Falling	No Yes	0 25			
Secondary Diagnosis	No Yes	0 15			
Ambulatory Aid	None/Bedrest/Nurse Assist	0			
	Crutches/cane/walker	15			
	Furniture	30			
IV or IV access	No Yes	0 20			
Gait	Normal/Bedrest/Wheelchair	0			
	Weak	10			
	Impaired	20			
Mental Status	Knows own limits	0			
	Overestimates or forgets limits	15			
		Total			
		Signature & Credentials			

To obtain the Morse Fall Score add the score from each category. Chart the patient scores, and well as level of risk.

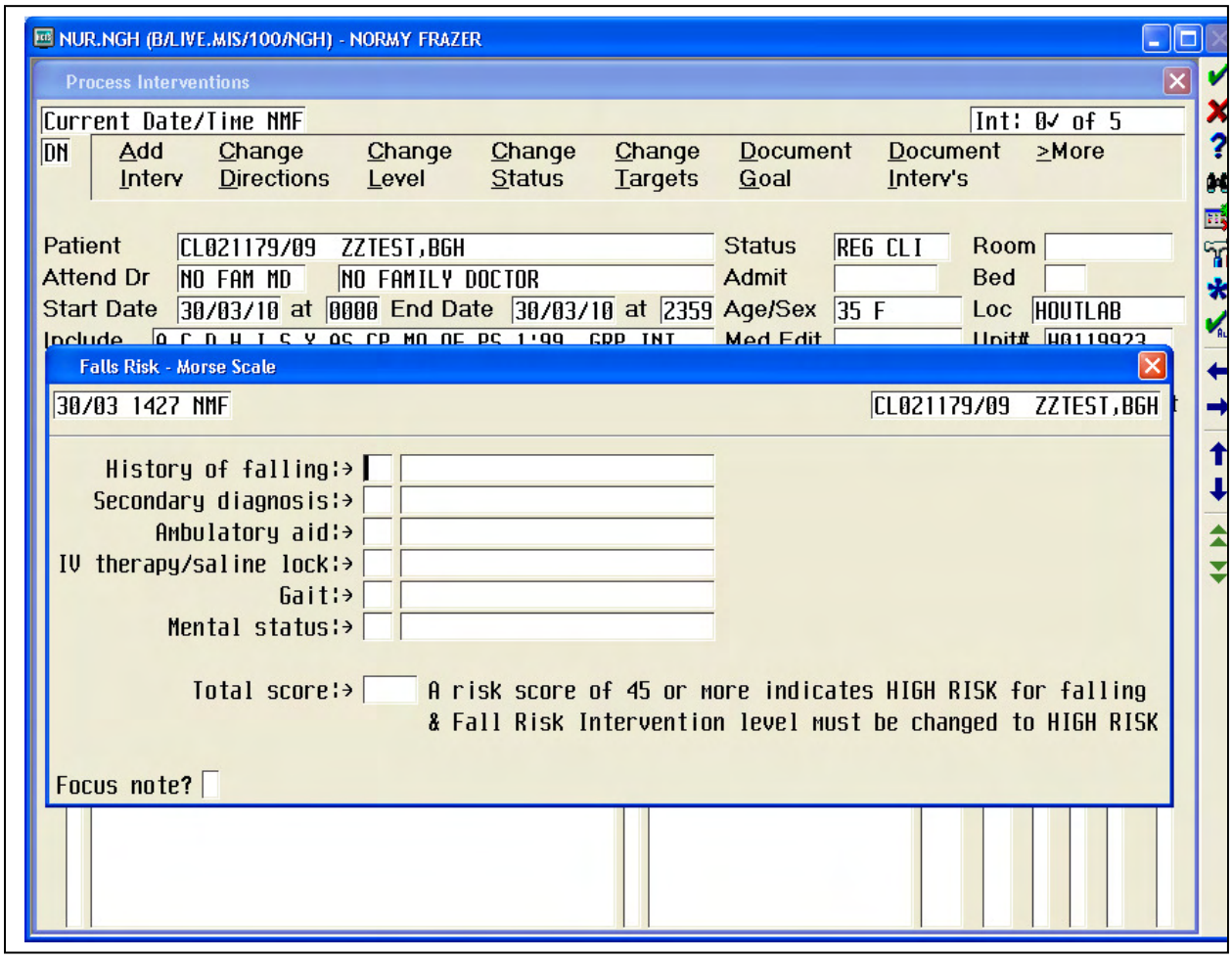
Morse Fall Scale	
High Risk	45 and higher
Moderate Risk	25-44
Low Risk	0-24

Staff training for using the MFS is available online from Hill Rom: www.hill-rom.com/usa/proedu_InService.htm

For additional information on use and development of the scale and fall prevention see: Morse, JM "Preventing Patient Falls" 2nd ed (Springer Pub, Fall 2008).

Morse Falls Scale – Electronic Health Record Screen

Reproduced with permission from Norfolk General Hospital, Simcoe, Ontario



Appendix B – Screening for Physical and Functional Status

The following are examples of tools that can be used to screen individuals in any practice setting for physical and functional status.

Timed Up and Go (TUG)

- The timed "Up & Go" test measures, in seconds, the time taken by an individual to stand up from a standard arm chair (approximate seat height of 46 cm, arm height 65 cm), walk a distance of 3 meters (approximately 10 feet), turn, walk back to the chair, and sit down again.

Berg Balance Scale (see example – B1)

- This scale rates balance, and in turn, can be used to help determine fall risk. Available at http://www.fallpreventiontaskforce.org/pdf/BergBalanceScale.pdf

Tinetti Balance and Gait Evaluation Tool (see example – B2)

- These tools, along with an accompanying tutorial are available at http://geriatrics.uthscsa.edu/tools/TINETTI.pdf

B1 - Berg Balance Test

Reproduced with permission

Name _____ **Date** _____
Location _____ **Rater** _____

ITEM DESCRIPTION	SCORE (0-4)
Sitting to standing	_____
Standing unsupported	_____
Sitting unsupported	_____
Standing to sitting	_____
Transfers	_____
Standing with eyes closed	_____
Standing with feet together	_____
Reaching forward with outstretched arm	_____
Retrieving object from floor	_____
Turning to look behind	_____
Turning 360 degrees	_____
Placing alternate foot on stool	_____
Standing with one foot in front	_____
Standing on one foot	_____
TOTAL	_____

*references at end of instrument

GENERAL INSTRUCTIONS

Please demonstrate each task and/or give instructions as written. When scoring, please record the lowest response category that applies for each item.

In most items, the subject is asked to maintain a given position for specific time. Progressively more points are deducted if the time or distance requirements are not met, if the subject's performance warrants supervision, or if the subject touches an external support or receives assistance from the examiner. Subjects should understand that they must maintain their balance while attempting the tasks. The choices of which leg to stand on or how far to reach are left to the subject. Poor judgment will adversely influence the performance and the scoring.

Equipment required for testing are a stopwatch or watch with a second hand, and a ruler or other indicator of 2, 5 and 10 inches (5, 12.5 and 25 cm). Chairs used during testing should be of reasonable height. Either a step or a stool (of average step height) may be used for item #12.

1. ***SITTING TO STANDING***
INSTRUCTIONS: Please stand up. Try not to use your hands for support.
( ) 4 - able to stand without using hands and stabilize independently
( ) 3 - able to stand independently using hands
( ) 2 - able to stand using hands after several tries
( ) 1 - needs minimal aid to stand or to stabilize
( ) 0 - needs moderate or maximal assist to stand

2. **STANDING UNSUPPORTED**
INSTRUCTIONS: Please stand for two minutes without holding.
( ) 4 - able to stand safely 2 minutes
( ) 3 - able to stand 2 minutes with supervision
( ) 2 - able to stand 30 seconds unsupported
( ) 1 - needs several tries to stand 30 seconds unsupported
( ) 0 - unable to stand 30 seconds unassisted
If a subject is able to stand 2 minutes unsupported, score full points for sitting unsupported. Proceed to item #4.

3. **SITTING WITH BACK UNSUPPORTED BUT FEET SUPPORTED ON FLOOR OR ON A STOOL**
INSTRUCTIONS: Please sit with arms folded for 2 minutes.
( ) 4 - able to sit safely and securely 2 minutes
( ) 3 - able to sit 2 minutes under supervision
( ) 2 - able to sit 30 seconds
( ) 1 - able to sit 10 seconds
( ) 0 - unable to sit without support 10 seconds

4. **STANDING TO SITTING**
INSTRUCTIONS: Please sit down.
( ) 4 - sits safely with minimal use of hands
( ) 3 - controls descent by using hands
( ) 2 - uses back of legs against chair to control descent
( ) 1 - sits independently but has uncontrolled descent
( ) 0 - needs assistance to sit

5. **TRANSFERS**
INSTRUCTIONS: Arrange chairs(s) for a pivot transfer. Ask subject to transfer one way toward a seat with armrests and one way toward a seat without armrests. You may use two chairs (one with and one without armrests) or a bed and a chair.
( ) 4 - able to transfer safely with minor use of hands
( ) 3 - able to transfer safely definite need of hands
( ) 2 - able to transfer with verbal cueing and/or supervision
( ) 1 - needs one person to assist
( ) 0 - needs two people to assist or supervise to be safe

6. **STANDING UNSUPPORTED WITH EYES CLOSED**
INSTRUCTIONS: Please close your eyes and stand still for 10 seconds.
( ) 4 - able to stand 10 seconds safely
( ) 3 - able to stand 10 seconds with supervision

( ) 2 - able to stand 3 seconds
( ) 1 - unable to keep eyes closed 3 seconds but stays steady
( ) 0 - needs help to keep from falling

7. **STANDING UNSUPPORTED WITH FEET TOGETHER**
INSTRUCTIONS: Place your feet together and stand without holding.
( ) 4 - able to place feet together independently and stand 1 minute safely
( ) 3 - able to place feet together independently and stand for 1 minute with supervision
( ) 2 - able to place feet together independently and to hold for 30 seconds
( ) 1 - needs help to attain position but able to stand 15 seconds feet together
( ) 0 - needs help to attain position and unable to hold for 15 seconds

8. **REACHING FORWARD WITH OUTSTRETCHED ARM WHILE STANDING**
INSTRUCTIONS: Lift arm to 90 degrees. Stretch out your fingers and reach forward as far as you can. (Examiner places a ruler at end of fingertips when arm is at 90 degrees. Fingers should not touch the ruler while reaching forward. The recorded measure is the distance forward that the finger reaches while the subject is in the most forward lean position. When possible, ask subject to use both arms when reaching to avoid rotation of the trunk.)
( ) 4 - can reach forward confidently >25 cm (10 inches)
( ) 3 - can reach forward >12.5 cm safely (5 inches)
( ) 2 - can reach forward >5 cm safely (2 inches)
( ) 1 - reaches forward but needs supervision
( ) 0 - loses balance while trying/ requires external support

9. **PICK UP OBJECT FROM THE FLOOR FROM A STANDING POSITION**
INSTRUCTIONS: Pick up the shoe/slipper which is placed in front of your feet.
( ) 4 - able to pick up slipper safely and easily
( ) 3 - able to pick up slipper but needs supervision
( ) 2 - unable to pick up but reaches 2-5cm (1-2 inches) from slipper and keeps balance independently
( ) 1 - unable to pick up and needs supervision while trying
( ) 0 - unable to try/needs assist to keep from losing balance or falling

10. **TURNING TO LOOK BEHIND OVER LEFT AND RIGHT SHOULDERS WHILE STANDING**
*INSTRUCTIONS: Turn to look **directly** behind you over toward left shoulder. Repeat to the right.*
(Examiner may pick an object to look at directly behind the subject to encourage a better twist turn.)
( ) 4 - looks behind from both sides and weight shifts well
( ) 3 - looks behind one side only other side shows less weight shift
( ) 2 - turns sideways only but maintains balance
( ) 1 - needs supervision when turning
( ) 0 - needs assist to keep from losing balance or falling

11. **TURN 360 DEGREES**
INSTRUCTIONS: Turn completely around in a full circle. Pause. Then turn a full circle in the other direction.
( ) 4 - able to turn 360 degrees safely in 4 seconds or less

( ) 3 - able to turn 360 degrees safely one side only in 4 seconds or less
( ) 2 - able to turn 360 degrees safely but slowly
( ) 1 - needs close supervision or verbal cueing
( ) 0 - needs assistance while turning

12. **PLACING ALTERNATE FOOT ON STEP OR STOOL WHILE STANDING UNSUPPORTED**
INSTRUCTIONS: Place each foot alternately on the step/stool. Continue until each foot has touched the step/stool four times.
( ) 4 - able to stand independently and safely and complete 8 steps in 20 seconds
( ) 3 - able to stand independently and complete 8 steps >20 seconds
( ) 2 - able to complete 4 steps without aid with supervision
( ) 1 - able to complete >2 steps needs minimal assist
( ) 0 - needs assistance to keep from falling/unable to try

13. **STANDING UNSUPPORTED ONE FOOT IN FRONT**
INSTRUCTIONS: (DEMONSTRATE TO SUBJECT)
Place one foot directly in front of the other. If you feel that you cannot place your foot directly in front, try to step far enough ahead that the heel of your forward foot is ahead of the toes of the other foot. (To score 3 points, the length of the step should exceed the length of the other foot and the width of the stance should approximate the subject's normal stride width)

( ) 4 - able to place foot tandem independently and hold 30 seconds
( ) 3 - able to place foot ahead of other independently and hold 30 seconds
( ) 2 - able to take small step independently and hold 30 seconds
( ) 1 - needs help to step but can hold 15 seconds
( ) 0 - loses balance while stepping or standing

14. **STANDING ON ONE LEG**
INSTRUCTIONS: Stand on one leg as long as you can without holding.
( ) 4 - able to lift leg independently and hold >10 seconds
( ) 3 - able to lift leg independently and hold 5-10 seconds
( ) 2 - able to lift leg independently and hold = or >3 seconds
( ) 1 - tries to lift leg unable to hold 3 seconds but remains standing independently
( ) 0 - unable to try or needs assist to prevent fall

ITEM	DESCRIPTION	SCORE (0-4)
1.	Sitting to standing	_____
2.	Standing unsupported	_____
3.	Sitting unsupported	_____
4.	Standing to sitting	_____
5.	Transfers	_____
6.	Standing with eyes closed	_____
7.	Standing with feet together	_____
8.	Reaching forward with outstretched arm	_____
9.	Retrieving object from floor	_____
10.	Turning to look behind	_____
11.	Turning 360 degrees	_____
12.	Placing alternate foot on stool	_____
13.	Standing with one foot in front	_____
14.	Standing on one foot	_____
	TOTAL (maximum 56)	**_____**

Scoring:

0-20 - wheelchair bound

21-40 - walking with assistance

41-56 - independent

References

Wood-Dauphinee, S., Berg, K., Bravo, G., Williams, J.I .(1997). The Balance Scale: Responding to clinically meaningful changes. *Canadian Journal of Rehabilitation,10,* 35-50.

Berg ,K., Wood-Dauphinee, S., Williams, J.I. (1995) The Balance Scale: Reliability assessment for elderly residents and patients with an acute stroke. *Scand J Rehab Med,27*, 27-36.

Berg, K., Maki, B., Williams, J.I., Holliday, P., Wood-Dauphinee, S. (1992). A comparison of clinical and laboratory measures of postural balance in an elderly population. *Arch Phys Med Rehabilitation, 73*, 1073-1083.

Berg, K., Wood-Dauphinee, S., Williams, J.I., Maki, B. (1992). Measuring balance in the elderly: Validation of an instrument. *Canadian Journal of Public Health, July/August supplement*, 2, S7-11.

Berg, K., Wood-Dauphinee, S., Williams, J.I., Gayton, D. (1989). Measuring balance in the elderly: Preliminary development of an instrument. *Physiotherapy Canada, 41*, 304-311.

B2 - Tinetti Gait & Balance Instrument:

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The Tinetti Gait and Balance Instrument is designed to determine an elders risk for falls within the next year. It takes about 8-10 minutes to complete. The evaluator should review the questions prior to evaluation of the individual and ask any questions regarding the Instrument prior to beginning. The individual is asked to complete the gait portion first with the evaluator walking close behind the elder and evaluating gait steppage and drift. The person is then asked to complete the balance portion with the evaluator again standing close by (towards the right and in front). The individual is then asked to sit, and the score is then totalled.

Scoring – The higher the score, the better the performance. Scoring is done on a three point scale with a range on each item of 0-2 with 0 representing the most impairment. Individual scores are then combined to form three scales: a Gait Scale, a Balance Scale and then overall Gait and Balance score. The maximum score for gait is 12 points while the maximum for Balance is 16 points with a total maximum for the overall Tinetti Instrument of 28 points.

Score Interpretation:

<19 High Risk for Falls

19-24 Risk for Falls

Are you unclear on what steppage is? Evaluators usually have the most questions about steppage.

For a complete tutorial on gait analysis visit:
http://sprojects.mmi.mcgill.ca/gait/normal/intro.asp.

BALANCE

Instructions: Subject is seated in hard armless chair. The following manoeuvres are tested.

1. Sitting balance
    a. Leans or slides in chair =0
    b. Steady, safe =1
2. Arise
    a. Unable without help =0
    b. Able but uses arm to help =1
    c. Able without use of arms =2
3. Attempts to arise
    a. Unable without help =0
    b. Able, but requires more than one attempt =1
    c. Able to arise with one attempt =2
4. Immediate standing balance (first 5 seconds)
    a. Unsteady (staggers, moves feet, marked trunk sway) =0
    b. Steady, but uses walker or cane or grabs other object for support =1
    c. Steady without walker or cane or other support =2

5. Standing balance
    a. Unsteady =0
    b. Steady, but wide stance (medial heels more than 4" apart) or uses cane, walker or other support =1
    c. Narrow stance without support =2
6. Nudge (subject at maximum position with feet as close together as possible, examiner pushes lightly on subject's sternum with palm of hand 3 times)
    a. Begins to fall =0
    b. Staggers, grabs, but catches self =1
    c. Steady =2
7. Eyes closed (at maximum position #6)
    a. Unsteady =0
    b. Steady =2
8. Turn at 360°
    a. Discontinuous steps =0
    b. Continuous =1
9. Sit down
    a. Unsafe (misjudged distance; falls into chair) =0
    b. Uses arms or not a smooth motion =1
    c. Safe, smooth motion =2

Balance Score: _____ /16

GAIT

Instructions: Subject stands with examiner. Walks down hallway or across room, first at his/her "usual" pace, then back at "rapid, but safe" pace (using usual walking aid such as cane, walker).

10. Initiation of gait (immediacy after told to "go")
    a. Any hesitancy or multiple attempts to start =0
    b. No hesitancy =1
11. Step length and height
    a. Right swing foot
        i. Does not pass left stance foot with step =0
        ii. Passes left stance foot =1
        iii. Right foot does not clear floor completely with step =0
        iv. Right foot completely clears floor =1
    b. Left wing foot
        i. Does not pass right stance foot with step =0
        ii. Passes right stance foot =1
        iii. Left foot does not clear floor completely with step =0
        iv. Left foot completely clears floor =1
12. Step symmetry
    a. Right and left step length not equal (estimate) =0
    b. Right and left step appear equal =1

13. Step continuity
    a. Stopping or discontinuity between steps =0
    b. Steps appear continuous =1
14. Path (estimated in relation to floor tiles, 12 inch diameter. Observe excursion of one foot over about 10 feet of course).
    a. Marked deviation =0
    b. Mild/moderate deviation or uses walking aid =1
    c. Straight without walking aid =2
15. Trunk
    a. Marked sway or uses walking aid =0
    b. No sway but flexion of knees or back or spreads arms out while walking =1
    c. No sway, no flexion, no use of arms and no walking aid =2
16. Walk stance
    a. Heels apart =0
    b. Heels almost touching while walking =1

Gait Score: ____/12

Total Score: ____/28

Appendix C - Screening for Malnutrition

www.adaevidencelibrary.com/conclusion.cfm?conclusion_statement_id=251197

Thank you to Paule Bernier, P.Dt., M.Sc. Clinical Dietitian, Jewish General Hospital and Safety and Improvement Advisor, Quebec Campaign: Together Let's Improve Healthcare Safety, Montréal, Québec for contributing the content for screening for malnutrition.

Nutrition Screening

Nutrition Screening is the process of identifying patients, residents, clients, or groups who may have a nutrition diagnosis and benefit from nutrition assessment and intervention by a registered dietician.

Key Considerations:

- Nutrition screening may be conducted in any practice setting, as appropriate
- Nutrition screening tools should be quick, easy to use, valid and reliable for the individual, population or setting
- Nutrition screening tools and parameters are established by Registered Dietitians (RD), but the screening process may be carried out by a Dietetic Technician, Registered (DTR) and others who have been trained in nutrition screening
- Nutrition screening and rescreening should occur within an appropriate timeframe for the setting.[59]

Currently, there are several tools that are available to screen for malnutrition/undernutrition. Several nutrition screening instruments have been developed but not all have been validated. Further validation research on these nutrition screening instruments is needed. The American Dietetic Association (ADA) reviewed the evidence and ranked tools for which there were Grade I and II evidence in terms of the highest sensitivity and specificity (some tools were not used in the conclusion statement, because they did not meet the criteria for a quick and easy tool in this evidence analysis question).

Grade I evidence was available for one tool (Nutritional Risk Screening [NRS-2002]), and Grade II evidence was available for four tools (Simple Two-Part Tool, Malnutrition Screening tool [MST], Mini Nutrition Assessment Short Form [MNA-SF] and Malnutrition Universal Screening Tool [MUST]). Tools in the highest quartile for sensitivity (>83%) and specificity (>90%) included the following:

MNA-SF: Sensitivity >90%; Specificity >90% (1 of 2 studies)

MST: Sensitivity >90% (3 of 4 studies); Specificity > 90% (2 of 4 studies)

Of the tools with high sensitivity and specificity, one tool was evaluated for inter-rater reliability using a kappa statistic. The MST had a kappa score of 0.83 to 0.88. No data were available to evaluate the reliability of the MNA-SF.

Based on the available evidence, the MST has been shown to be both valid and reliable for identifying nutrition problems in acute care and hospital-based ambulatory care settings. While the MNA-SF has been found to be valid, no data are available to evaluate the reliability of the tool.

Care must be taken when applying these conclusions beyond the populations studied. The MST was studied in adults in acute care and oncology outpatient settings. The MNA-SF was studied in the geriatric population in acute inpatient, subacute and ambulatory settings. Further research is needed to determine the validity and reliability of these three screening tools in other populations.

MNA-SF:

The Mini Nutrition Assessment–Short Form (MNA-SF) is a shortened form of the classical Mini Nutrition Assessment (MNA) which was designed to screen elderly patients (65 years old and older) for malnutrition. The MNA-SF has six questions that can be completed in less than 5 minutes. The questions were found to strongly correlate with results of the MNA and clinical judgment. The MNA-SF has not been validated in populations other than the elderly. [60] [61]

The MNA and MNA-SF can be found at http://www.mna-elderly.com/mna_forms.html

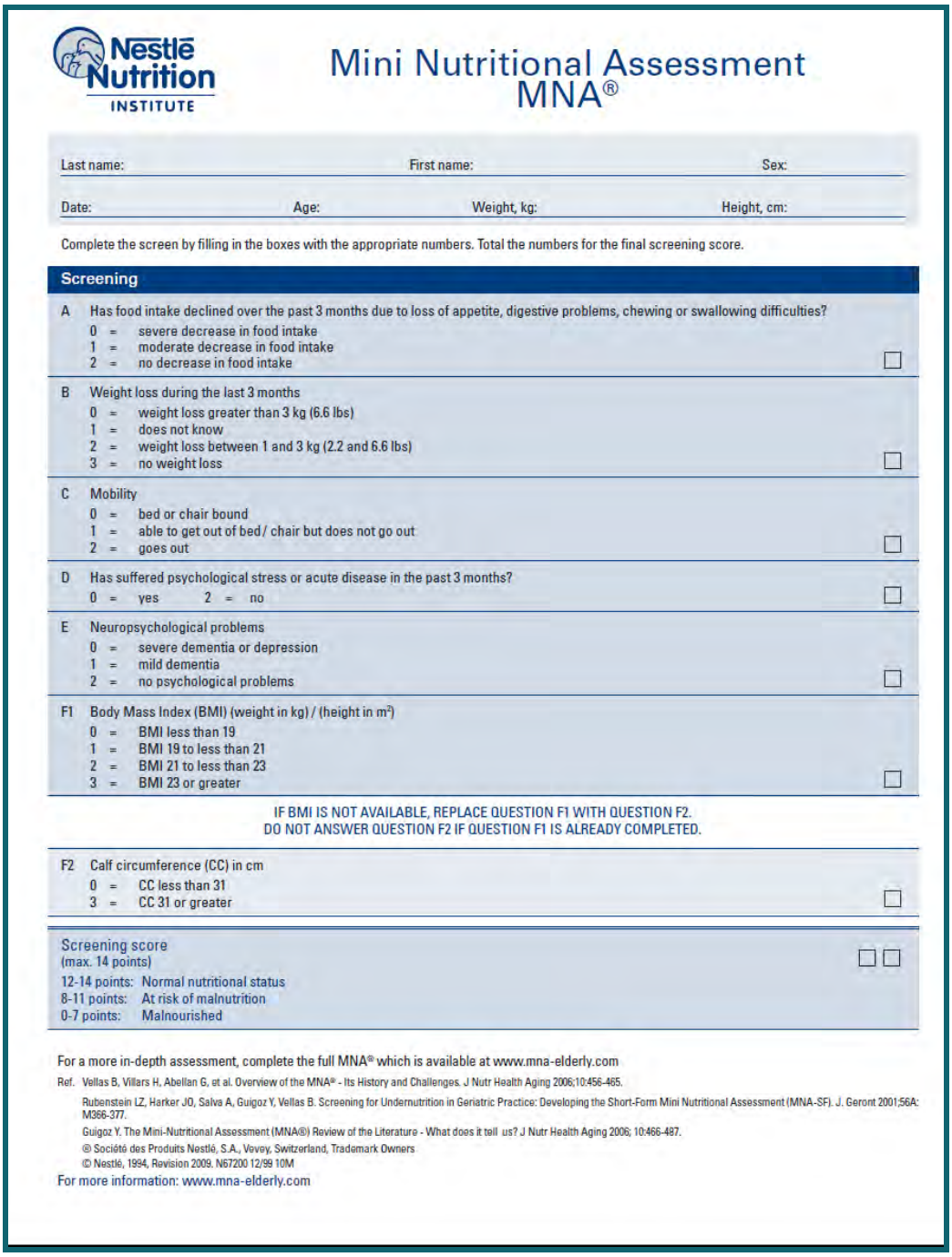
The six component of this screening tool include:

- Change in appetite
- Weight loss
- Mobility
- Psychological stress
- Neuropsychological problems
- Body mass index (or alternatively calf circumference)

The MNA SF, available in both English and French, have been reproduced with the permission of Nestle Nutrition Institute in this Appendix on the pages that follow.

MST:

The Malnutrition Screening Tool (MST) was developed for medical and surgical patients. It is a simple, quick, valid, and reliable tool which can be used to identify patients at risk of malnutrition. It consists of two questions, appetite and recent unintentional weight loss. The sum of these two parameters is obtained to give a score between zero and five. Patients are then considered to be at risk of malnutrition if they receive a score of two or more.[62]



Nestlé Nutrition INSTITUTE

Mini Nutritional Assessment MNA®

Last name: First name: Sex:

Date: Age: Weight, kg: Height, cm:

Complete the screen by filling in the boxes with the appropriate numbers. Total the numbers for the final screening score.

Screening

A Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties?
0 = severe decrease in food intake
1 = moderate decrease in food intake
2 = no decrease in food intake ☐

B Weight loss during the last 3 months
0 = weight loss greater than 3 kg (6.6 lbs)
1 = does not know
2 = weight loss between 1 and 3 kg (2.2 and 6.6 lbs)
3 = no weight loss ☐

C Mobility
0 = bed or chair bound
1 = able to get out of bed / chair but does not go out
2 = goes out ☐

D Has suffered psychological stress or acute disease in the past 3 months?
0 = yes 2 = no ☐

E Neuropsychological problems
0 = severe dementia or depression
1 = mild dementia
2 = no psychological problems ☐

F1 Body Mass Index (BMI) (weight in kg) / (height in m^2)
0 = BMI less than 19
1 = BMI 19 to less than 21
2 = BMI 21 to less than 23
3 = BMI 23 or greater ☐

IF BMI IS NOT AVAILABLE, REPLACE QUESTION F1 WITH QUESTION F2.
DO NOT ANSWER QUESTION F2 IF QUESTION F1 IS ALREADY COMPLETED.

F2 Calf circumference (CC) in cm
0 = CC less than 31
3 = CC 31 or greater ☐

Screening score ☐☐
(max. 14 points)
12-14 points: Normal nutritional status
8-11 points: At risk of malnutrition
0-7 points: Malnourished

For a more in-depth assessment, complete the full MNA® which is available at www.mna-elderly.com

Ref. Vellas B, Villars H, Abellan G, et al. Overview of the MNA® - Its History and Challenges. J Nutr Health Aging 2006;10:456-465.
Rubenstein LZ, Harker JO, Salva A, Guigoz Y, Vellas B. Screening for Undernutrition in Geriatric Practice: Developing the Short-Form Mini Nutritional Assessment (MNA-SF). J. Geront 2001;56A: M366-377.
Guigoz Y. The Mini-Nutritional Assessment (MNA®) Review of the Literature - What does it tell us? J Nutr Health Aging 2006; 10:466-487.

For more information: www.mna-elderly.com

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Malnutrition screening tool (MST)

Have you lost weight recently without trying?	
Yes	0
Unsure	2
If yes, how much weight (kilograms) have you lost?	
1 to 5	1
6 to 10	2
11 to 15	3
> 15	4
unsure	2

Have you been eating poorly because of a decreased appetite?	
no	0
yes	1

Total
score of 2 or more = patient at risk of malnutrition

Appendix D – Communicating Falls Risk

Home Health Care

Reproduced with the permission of the Hamilton Niagara Haldimand Brant Community Care Access Centre, Ontario

This form is an example of a communication tool used to share falls risk information with the primary care providers of those receiving home care services.

Connecting you with care
Votre lien aux soins

CCAC CASC
Community Care Access Centre
Centre d'accès aux soins communautaires

Hamilton Niagara Haldimand Brant CCAC
CASC de Hamilton Niagara Haldimand Brant

☐ Brant Branch
274 Colborne Street
Brantford ON N3T 2H5
519-759-7752

☐ Burlington Branch
440 Elizabeth Street
4th Floor
Burlington ON L7R 2M1
905-639-5228

☐ Haldimand-Norfolk Branch
76 Victoria Street
Simcoe ON N3Y 1L5
519-426-7400

☐ Hamilton Branch
310 Limeridge Road West
Hamilton ON L9C 2V2
905-523-8600

☐ Niagara Branch
149 Hartzel Road
St. Catharines ON L2P 1N6
905-684-9441

Fax/Télécopie

To/Destinataire

Organization/Organisme

Fax/Télécopie

Date

Subject/Sujet **Falls Alert for:**

From/De Case Manager: Ext:

No. of page (including cover)/Nbre de pages (y compris las page couverture)

Comments/Commentaires

HNHB CCAC has been identified as a Best Practice Spotlight Organization for the Registered Nurses Association of Ontario (RNAO).

All branches of HNHB have implemented the RNAO BPG – ***Prevention of Falls and Fall Injuries in the Older Adult.*** This BPG involves early detection and screening for clients that are at risk for falls.

We have adopted a recommended standardized screening tool and case managers are using this tool with their older clients whenever they suspect that someone is at risk for falls.

The standardized screening tool is: ***The Timed Up and Go (TUG)***

**Podsiadlo D., Richardson S. The Timed "Up & Go": A Test of Basic Functional Mobility for Frail Elderly Persons. Journal of the American Geriatrics Society 1991; 39(2): 142-148

Attached is a "Falls Alert" for your client. This is intended to improve communication between CCAC Case Managers and Physicians and alert you to clients who have fallen or are at high risk for falls. If the fall or risk is due to medical status then it may be necessary for you to follow-up.

If you would like further information, please do not hesitate to call me.

The information contained in this communication is private and confidential, intended only for the named recipient(s). If received in error, please notify the sender by telephone immediately and keep the information in a secure manner until further direction is given by the sender. Do not copy the information or disclose it to any other person.

L'information contenue dans la présente communication est privée, confidentielle et réservée au(x) ou aux destinataire(s) nommé(s). Si vous l'avez reçue par erreur, veuillez le signaler immédiatement à l'expéditeur et garder l'information en sécurité jusqu'à ce que celui-ci vous donne d'autres instructions. Ne copiez pas l'information, et ni ne la révélez pas à une autre personne.

Ontario

Hamilton Niagara Haldimand Brant CCAC CASC

Client label/information:

Fall Alert

Fall Occurrence (Part A)

Please be advised that the above mentioned client has fallen: Date:

The severity of the fall is classified as follows:

Severity of Injury Scale* (circle one)

- ☐ 1 no injury
- ☐ 2 minor: abrasion, contusion
- ☐ 3 moderate to serious: laceration, tissue tear, hematoma, impaired mobility due to injury, fear of subsequent fall and fall injury
- ☐ 4 serious: fracture, multiple fractures, subdural hematoma, head injury

*Reference (RNAO, 2002)

High Risk For Fall Identified (Part B)

Please be advised that the above mentioned client has been identified as a high risk for falls.

Identified risks include:

- ☐ fall in the last 90 days
- ☐ sudden change of mental functioning
- ☐ being treated for dementia
- ☐ Being treated for Parkinsonism
- ☐ unsteady gait

Adapted from RAI-Home Care (RAI-HC) © Manual – Canadian Version Second Edition)

Timed Up & Go (TUG) Result **(see below)

- ☐ Greater or Equal to 20 (High Risk for Falls)

Current CCAC Service Plan:

Request MD Follow Up:

- ☐ medication review
- ☐ symptom review
- ☐ outpatient services
- ☐ Other

Comments: _____

Case Manager Signature and Extension _____ Date(dd/mmm/yyyy) _____

☐ **Hamilton**	☐ **Niagara**	☐ **Haldimand-Norfolk**	☐ **Brant**	☐ **Burlington**
310 Limeridge Rd. Hamilton, ON L9C 2V2 905 523 8600	149 Hartzel Rd. St. Catharines, ON L2P 1N6 905 684 9441	76 Victoria St. Simcoe, ON N3Y 1L5 519 426 7400	274 Colborne St. Brantford, ON N3T 2H5 519 759 7752	440 Elizabeth St., Burlington, ON L7R 2M1 905 639 5228

Timed Up and Go Predictive Results (See Page 2 for Instructions):

Seconds	Rating
<10	Freely mobile
<20	Mostly independent
≥20	Impaired mobility (high risk)

**ref. Podsiadlo, D., Richardson, S. The Timed 'Up and Go' Test: a Basic Functional Mobility for Frail Elderly Persons. Journal of American Geriatric Society. 1991; 39: 142-148)

CS.CM.Form.019 draft 06.09 version 09.03

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Appendix E – Selected Falls Prevention Educational Resources

Health Care Providers

RNAO's Falls Prevention: Building the Foundation for Safety
A self-learning package for health care workers on identifying and modifying falls risk.
http://www.rnao.org/Storage/26/2035_168_Falls_Self-LearningPackage_FINAL.pdf

BPGs to the Bedside…Actions for Personal Support Workers (2007)
A series of fact sheets to increase Personal Support Worker's (unregulated care providers) knowledge on how they can prevent resident falls.
http://ltctoolkit.rnao.ca/sites/ltc/files/resources/falls/EducationResources/FactSheetsPamphletsPocketCardsLogos/Falls6_29.BPGsBedside.pdf

Toolbox for the Implementation of a Falls Prevention Program in Long-Term Care
A guide complete with a case study illustrating each step in the process to implement a falls prevention program for residents in long-term care.
http://ltctoolkit.rnao.ca/sites/ltc/files/resources/falls/ImplementationTools/Falls2_8.RNAOToolbox.pdf

LTC Best Practices Toolkit
The Best Practices Toolkit has been compiled by the RNAO Long-Term Care Best Practices Initiative Team. It is intended to be used by regulated and unregulated LTC home staff to support their efforts in best practice implementation. LTC homes in various stages of guideline implementation and sustainability related to the five best practice clinical topics (including falls prevention) addressed in the Toolkit will benefit from the resources presented
http://ltctoolkit.rnao.ca

Canadian Falls Prevention Curriculum
The goal of the Canadian Falls Prevention Curriculum is to give participants the knowledge and skills needed to operate from an evidence-based approach to seniors falls and fall-related injury prevention, including a) an approach to selection of interventions consistent with proven prevention strategies; b) an understanding of how to integrate falls prevention programming into existing seniors' health services policies and protocols; and c) knowledge of appropriate evaluation and dissemination techniques.
http://injuryresearch.bc.ca

Ordre des infirmières et infirmiers du Québec
While conducting a search using the word 'falls' a catalogue of different tools and algorithms was identified.
http://www.oiiq.org/recherche

Medication and Fall Prevention
http://www.fallpreventiontaskforce.org/falls_medication.htm

Canadian Centre for Activity and Aging (CCAA)
The mission of the CCAA is to develop, encourage and promote an active, healthy lifestyle for Canadian adults that will enhance the dignity of the aging process.
http://www.uwo.ca/actage

Strategies and Actions for Independent Living (SAIL)
SAIL is an evidence-based, client focused, multidisciplinary approach to falls prevention that actively involves the Community Health Worker (CHWs), the Home Health Professional (HHPs), and clients and families working together to maintain or improve client health and well-being, enhance quality of life, and prevent falls or injuries from falls.
http://www.injuryresearch.bc.ca

Osteoporosis Canada
Osteoporosis Canada educates, empowers and supports individuals and communities in the risk-reduction and treatment of osteoporosis. They provide educational resources for health care professionals as well as the public.
http://www.osteoporosis.ca/

Patient/Client/Resident/Family

Health Education Fact Sheet – Reduce Your Risk for Falls
http://www.rnao.org/Storage/25/1967_Reduce_Your_Risk_for_Falls.pdf

Health Canada: Seniors and Aging; Preventing Falls In and Around Your Home
http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/life-vie/fp-pc-eng.php

Smart Moves - A Toolkit to Prevent Falls in Older Adults
SMARTRISK developed the Smart Moves toolkit. Designed with both seniors and their caregivers in mind, the toolkit is a large-type, highly readable booklet divided into four main categories key to preventing falls: bone health, exercise, medication management, and home modifications.
http://www.smartrisk.ca/index.php/publications/item/smart_moves_toolkit

Seniors Falls Can Be Prevented – A Falls Pamphlet for Seniors
This 4-page pamphlet has been prepared by the B.C. Falls and Injury Prevention Coalition and it is designed specifically as a resource for seniors who are at risk for falling.
http://www.injuryresearch.bc.ca/admin/DocUpload/3_20070425_160715Senior's%20Falls%20Can%20Be%20Prevented%20Pamphlet%20April%2024_07.pdf

Appendix F – Staff Education Resources - Examples

Home Health Care

Reproduced with the permission of Saint Elizabeth Health Care, Markham, Ontario

Practice Alert for Falls Prevention

Did you know that?

Falls reports at SEHC have increased steadily since 2002, rising from a low of 45 incidents in 2002 to a high of 74 in 2006. Falls occur in the bathroom, during transfers and during ambulation (SEHC, 2008).

Many of the clients we see in their homes have medical and physical conditions which may limit their independence; they may be elderly and require assistance with their personal care. As clients age it is safe to assume that these conditions may change over time. These changes may result in an increased risk for falls. Best practices for falls prevention (RNAO, 2005) and Health Canada (2005) suggest that:

- They Are over the age of 65
- Have vision or hearing problems
- Take medication to help them sleep or calm their nerves
- Take more than four medications each day which may cause postural hypotension
- Have problems with balance or difficulty walking
- Have difficulty getting in or out of the bathtub
- Have problems with strength or sensation in their legs or feet
- Have had a slip, trip or fall in the last twelve months
- Have gone to the emergency room 2 or more times in the last month
- Have mood changes or are depressed
- Have memory problems

What can you do to prevent your client from falling?

You can observe or assess the environment that the client is living in. Are there any physical objects or conditions that could cause a fall or pose a risk to the clients or even your own safety? These objects/conditions may include:

- Slippery floors
- Extension cords and other objects in the hallways
- Loose rugs. Scatter mats and or carpets that have ripples or tears
- Chairs, sofas or beds that are not at a 90 degree angle when the client is sitting

Observe the stairs inside and out for safety

- Are there handrails on both sides of the stairs?
- Is the stairway free of any clutter?
- Are the stairs well lit?
- Are the stairs edges marked with contrasting colours?
- Do the stairs have a non slip surface?

With the permission of your client remove any objects that pose an immediate risk to your client or yourself. This may involve creating an ongoing plan with the client; the clients care giver, the case manger, SEHC supervisor or manger and a referral for an OT or physiotherapist to mange or reduce the clients risk for falls.

Bathrooms are a common place for falls to occur

You can help to prevent falls in the bathroom by asking for a safety assessment or call your supervisor to decide if the client needs the following in the bathroom

- a bath seat a hand-held shower
- a raised toilet seat
- grab bars in the tub area or portable grab bars on the side of the tub
- Anti-slip decals on the bottom of the tub that are no more than two inches apart
- Two grab bars in the tub area
- Portable grab bars (on the side of the tub) do not move when used for support
- A rug outside the bathtub that has a rubber backing

(Adapted from Health Canada 2008, City of Ottawa, 2008)

Do not leave clients alone while getting ready or finishing a bath. Clients who need help with their bath need supervision all the time.

Call your supervisor if you feel the client is unsafe to bathe in the tub/shower

If a client falls during care:

- Do not move the client until you have observed and examined the client for any injuries
- Call 911 if client has pain or obvious injuries or you have any concern for their well being
- Administer First AID
- Call your supervisor to report the fall

Report all falls (occurring during a visit or any other time that you are made aware of) , to the supervisor/manager so that the fall is entered into the risk monitor for tracking purposes. If you are injured while supporting a client during a fall be sure to report your injury as well as the clients to your supervisor.

All clients who sustain a fall should be reassessed for their risk of future falls; has something changed in the clients' health, treatment, physical environment, mental status that may increase their risk of falling? Report any changes in the client's condition.

Further information about preventing falls can be found at:
Health Canada: Seniors and Aging: Preventing Falls In and Around Your Home
http://www.hc-sc.gc.ca/hl-vs/alt_formats/pacrb-dgapcr/pdf/iyh-vsv/life-vie/fp-pc-eng.pdf or the City of Ottawa Falls and Seniors web site
http://www.ottawa.ca/residents/health/living/injury_prevention/senior_safety/fallprevention_en.html

RNAO : Prevention of Falls and Fall Injuries in the Older
Adulthttp://www.rnao.org/Page.asp?PageID=924&ContentID=810

Acute Care

Reproduced with the permission of Hamilton Health Sciences. Hamilton, Ontario

Prevention of Falls & Fall Injuries - Self-Learning Test (with Answers)

1. **A fall is… an event which results in a person coming to rest inadvertently on the ground or floor or other lower level.**
   ■ True ▫ False

2. **All patients will be assessed for falls risk on admission to hospital.**
   ■ True ▫ False

3. **What are 2 questions we ask all patients to assess their fall risk?**
   ■ Has the patient fallen in the past 90 days?
   ■ Does the patient have cognitive impairment or a change in mental status?
   ▫ Does the patient have throw rugs at home?
   ▫ What type of shoes does the patient normally wear?
   ▫ Does the patient use a walker?

4. **Bed exit alarms are one effective fall prevention tool and may help reduce restraint use.**
   ■ True ▫ False

5. **Restraint use is an effective fall prevention strategy.**
   ▫ True ■ False

6. **Select the one answer that doesn't correctly explain why patients may be at risk of falling:**
   ▫ Their physical condition
   ▫ Their mental condition
   ▫ Their external environment
   ■ Their position on capital punishment

7. **Which of the following factors do you think may contribute to being a high falls risk? Select all that apply.**
   ■ Visual impairment
   ■ Hearing loss
   ■ Cognitive problems (eg. dementia or delirium)
   ■ Neurological conditions (eg. Parkinson's disease)
   ■ Alcohol addiction
   ■ Acute infections (eg. urinary tract infection, pneumonia)
   ■ A history of falling
   ■ Urinary urgency
   ■ Has had surgery in the past 24 hours
   ■ Malnutrition

8. **Medications can increase the patient's risk for falls by which of the following? Select all that apply.**
   - ■ Affecting alertness, judgment, and coordination
   - ■ Some medications may increase postural hypotension (significant drop in blood pressure with a change in position resulting in dizziness)
   - ■ Altering the balance mechanism
   - ■ Affecting mobility by causing stiffness or weakness
   - ▫ Keeping the patient sedated
   - ▫ Inducing nausea and vomiting

9. **Select 4 Universal Fall Precautions from the following list:**
   - ■ Ensure that patient knows where personal possessions are and can safely access them
   - ■ Ensure patient footwear is fitted, non-slip and used properly
   - ■ Maintain call bell in reach and have patient demonstrate ability to call for assistance
   - ▫ Do not allow any patients to walk to bathroom at night
   - ▫ Give each patient a flashlight so that they can use the bathroom at night
   - ▫ Posting the Falls sign on the patient's door
   - ▫ Use the Caution – Wet Floor signs often

10. **Select 4 ways you would communicate to your co-worker that the patient is at high risk of a fall.**
    - ■ Falls logo at bedside
    - ■ Transfer of accountability
    - ■ Label spine of patient chart, and Kardex with falls logo sticker
    - ▫ Sending an email to the team prior to the end of your shift
    - ▫ Putting a sticky note on the patient's chart
    - ▫ Telling the patient to let the next shift know he/she is at risk.
    - ▫ Your co-worker should already be aware of this by reviewing the patient's chart

11. **Which sign is the Falls Logo to identify high risk patients?**

A  B  C  D 

A is the correct response

12. **Select 5 ways to involve the patient and family in falls prevention from the following list:**
    - ■ Explain to patient and family the risk for falls
    - ■ Discuss the patient's specific fall risk factors
    - ■ Ensure the patient knows how to use the call bell, and any assistive devices
    - ■ Orient the patient to their environment
    - ■ Provide patient education materials to reinforce the health teaching provided
    - ▫ Give the patient a new pair of slippers that fit properly
    - ▫ Upon discharge, give the patient the falls sign posted over his/her bed
    - ▫ Tell the patient he/she is not allowed to leave the bed until discharge

Case Study

Harry is a 71-year-old male came into hospital with mild confusion. His daughter Anne had indicated he had fallen six weeks ago and has been declining since his wife died three months ago. Patient was transferred to the ward last night. This morning he was found on the floor in the bathroom at 6 a.m.

- How would you **implement a "post-fall protocol"** for this Harry?
  - Post falls assessment by health care team
  - Involve all members of the team - Nurse, physiotherapist, occupation therapy, pharmacy, physician, social work, geriatric clinician, dietician.

- **Select at least 6 ways** you can **ensure high-risk fall prevention interventions** in place for Harry and his family from the following list:
  - Ensure falls symbol logo at bedside
  - Label spine of patient chart, and Kardex with falls symbol sticker
  - Consider placement in room near nursing station or in area of high visibility
  - Reorient patient to surroundings as needed
  - Monitor patient regularly and reassess level of risk for falls when medical condition changes
  - Communicate high risk for falls during Transfer of Accountability
  - Identify specific risk factors and make multidisciplinary referrals
  - Assist with transfers and ambulation
  - Orient Harry and family to unit and fall prevention strategies
  - Encourage Harry's family cooperation
  - Provide Harry education materials
  - Upon discharge, give Harry his own personal copy of the falls logo

- **Select 4 things** you would **include in the Safety Occurrence report** from the following list:
  Patient activity at time of event:
  - Environmental factors leading to occurrence (floor wet/dry, bedside up/down)
  - Equipment factors leading to occurrence
  - Description of injury
  - Pre-occurrence condition (alert & oriented, confused, /disoriented, combative, sedated, anesthetized, non responsive)
  - Whether or not the patient was watching television
  - Whether or not the patient had a room-mate

- **Select 3 ways** you can communicate with patient and family to **help reduce the risk of falls** from the following list:
  - Orient patient/family to unit and fall prevention strategies
  - Encourage family cooperation
  - Provide patient education materials
  - Call the patient at home after discharge
  - Ask the next shift to follow through with the communication to the patient

Appendix G - Medications and Risk for Falls

Adapted from: Maria Bybel, BScP, PharmD (2008). Slips, Trips and Drugs – Medication Workshop. National Collaborative on the Prevention of Falls in Long-term Care. Learning Session 2, Halifax, Nova Scotia.

How do medications contribute to falls in older adults?

Medications can contribute in a number of ways:

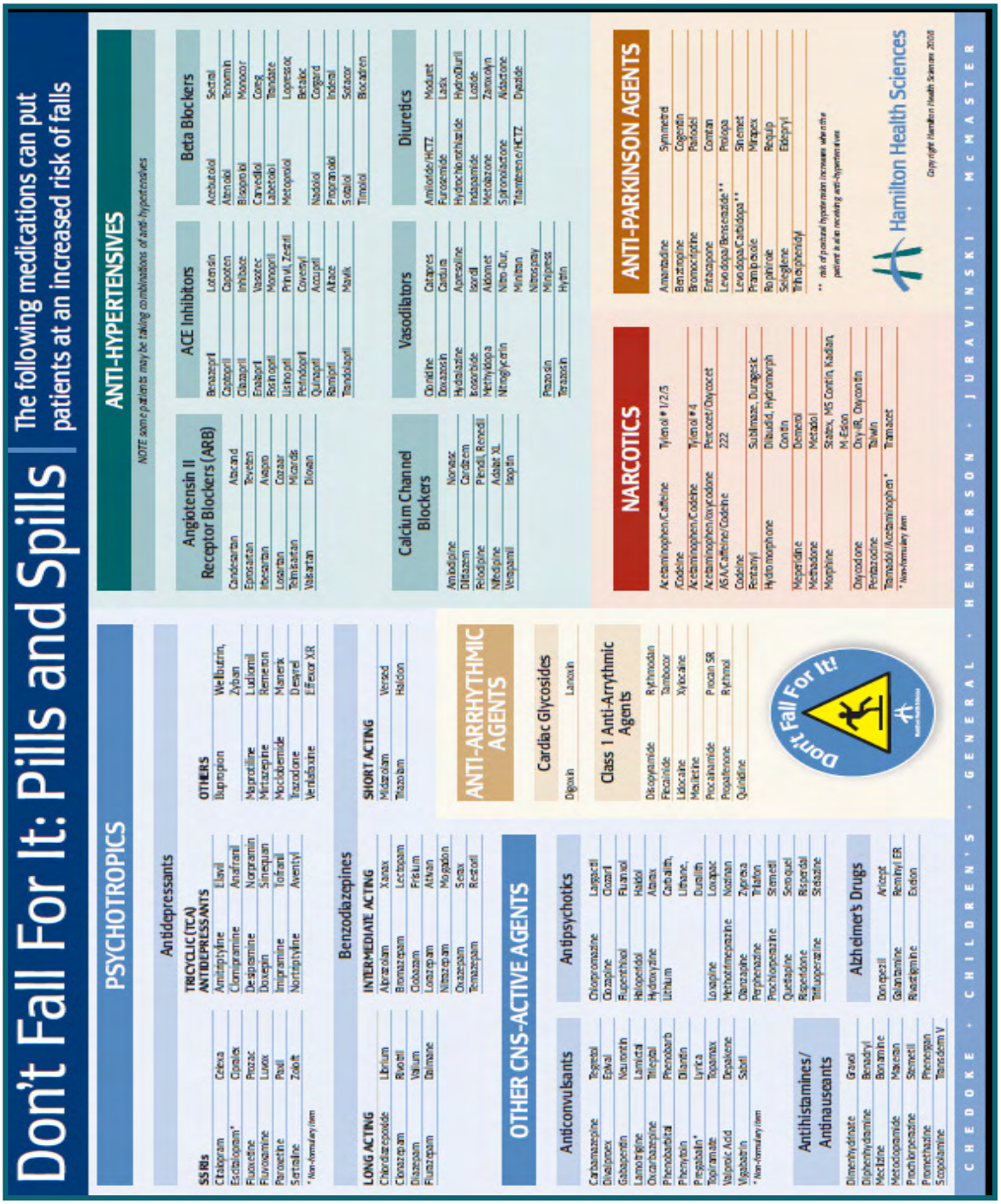
- Affect alertness, judgment, coordination
- Increase risk of cognitive impairment/delirium
- Postural or orthostatic hypotension
- Neuromuscular dysfunction or an altered balance mechanism with the inability to recognize and adapt to obstacles
- Impaired/altered mobility due to stiffness, weakness or uncontrolled pain
- Exacerbating or synergistic effects of multiple medications

Common Adverse Drug effects of medications contributing to falls in the older adult

- Agitation/anxiety/restlessness
- Arrhythmias
- Cognitive impairment/confusion
- Dizziness, orthostatic hypotension
- Gait abnormalities/extrapyramidal reactions
- Increased ambulation (due to frequent urination or diarrhea)
- Postural disturbances
- Sedation, drowsiness
- Syncope
- Visual Disturbance

Class of Medication	Impact of Medication	Examples
Sedatives, Hypnotics, Tranquilizers, Anxiolytics	These medications tend to cause an altered or diminished level of consciousness impairing cognition and causing confusion	Benzodiazepines (Diazepam, Oxazepam, Lorazepam, Chloral Hydrate, Zopiclone)
Antidepressants	Increase risk of falls by causing the individual to feel anxiety, restlessness, drowsiness, sedation, blurred vision	Tricyclic antidepressants (amitriptyline, nortriptyline), SSRI (citalopram, fluoxetine, sertraline), SNRI (venlafaxine, mirtazipine)
Psychotropics/ Neuroleptics	Psychotropics and neuroleptics tend to cause individuals to experience agitation, cognitive impairment, dizziness, gait or balance abnormalities, sedation and visual disturbances (e.g., hallucinations)	Neuroleptics (haloperidol, risperidone, olanzapine, quetiapine, chlorpromazine, perphenazine)
Narcotic Analgesics, Opiates, Stimulants	Primarily cause change in level of consciousness leading to confusion, sedation and potential visual hallucinations	Narcotics/Opiates: codeine, morphine, Hhydromorphone, fentanyl, oxycodone Stimulants: methylphenidate, caffeine
Anticholinergics	Cause altered balance, motor coordination impairment, impaired reflexes, impaired cognition, visual disturbances	Benztropine, oxybutynin, timolol/latanoprost/pilocarpine eye drops, atropine, domperidone, metoclopramide, dicyclomine, hyoscine Alpha Blockers e.g., tamsulosin (flomax)
Anti-histamines/Anti-nauseants	Affect balance, impair coordination, can cause sedation all leading to an increased risk of falls	Antihistamines: meclizine, hydroxyzine, diphenhydramine (benadryl), chlorpheniramine Anti-nauseants: dimenhydrinate (gravol), prochlorperazine, metoclopramide
Anticonvulsants	Tendency to decrease level of consciousness (ie. sedation) or cause disequilibrium (problems with balance)	gabapentin, valproic acid, phenytoin, carbamazepine
Muscle Relaxants	Affect balance, motor coordination, reflexes, may impair cognition by causing sedation	Baclofen, Cyclobenzaprine (Flexeril), Methocarbamol (Robaxisol), orphenadrine(Norflex), tizanadine (zanaflex)

Class of Medication	Impact of Medication	Examples
Antihypertensives	Medications that affect or alter blood pressure can increase the individual's risk to experience a fall Can be expressed as syncope	Vasodilators: hydralazine, minoxodil, nitroglycerin Diuretics: hydrochlorthiazide, lasix, spironolactone Calcium Channel Blockers: amlodipine, diltiazem, nifedipine, verapamil Beta Blockers: metoprolol, carvedilol, atenolol Alpha Blockers: terazosin Ace-Inhibitors: captopril, enalapril, fosinopril, ramipril Other agents: amiodarone, digoxin,
Insulin and oral hypoglycemics	Duration of action can vary from individual to individual due to different sources of exogenous insulin or oral medication Too little or too much insulin can cause a hyper or hypo reaction which can result in orthostatic hypotension, vertigo and change in mental status	
Over the Counter (OTC), Natural or Herbal Products and Alcohol		Cough and cold preparations Anti-allergy medication Decongestants Herbal products (e.g., valerian, kava, gotu kola, ginseng, St.John's Wort, ephedra) Alcoholic beverages



Don't Fall for it: Pills and Spills

Appendix H - Environmental Falls Risk Assessment Checklist

Adapted from: Boushon, B. et al. (2008). Transforming Care at the Bedside. How to Guide: Reducing Patient Injuries from Falls, Institute for Healthcare Improvement. [Online]. www.IHI.org

Individual(s) Surveying:

Date:	
Organization:	
Unit:	
Rooms assessed (minimum 10% of rooms):	
Individual (s) Surveying:	

Environmental Consideration

Patient/Resident Room

- ☐ Is there adequate lighting in the patient's/resident's room? (Bright light – no burned out bulbs?)
- ☐ Is the nightlight on the patient's/resident's bed functional/operating?
- ☐ Does the patient/resident have an unobstructed path to the bathroom?
- ☐ Are patient/resident room furnishings safely arranged?
- ☐ Is bedside furniture free of sharp edges?
- ☐ Is the bedside furniture sturdy?
- ☐ Are beds/stretchers kept at lowest possible setting whenever possible?
- ☐ Are beds/stretchers kept in locked position?
- ☐ Were the upper siderails in the up position for patient/resident to reach controls?
- ☐ Was the bedcheck system on in the patient's/resident's room?
- ☐ Were the patient's /resident's personal belongings/telephone/call bell within reach?
- ☐ Are handrails provided in patient/resident bathroom properly secured?
- ☐ Emergency call button/cord in patient/resident care bathroom present and work properly?
- ☐ Are nonslip surfaces provided in patient/resident showers?
- ☐ Are the door openings into the patient/resident bathroom wide enough for an assistive device to fit through?
- ☐ Are door openings flush within the floor for ease of movement for patient/resident equipment?

Equipment

- ☐ Portable equipment pushed by patient /resident (i.e., IV pole) sturdy and in good repair?
- ☐ Are bedside commodes available on the unit and have proper rubber slip tips on the legs?
- ☐ Do walkers/canes/crutches have the appropriate tips?
- ☐ Are wheelchairs locked when stationary?
- ☐ Is broken equipment properly tagged for non-use?

Other Environmental Considerations

- ☐ Are floor surfaces/carpeting free of cracks and tripping hazards?
- ☐ Are hallways kept adequately clear/clutter free to allow patient/resident ambulation?
- ☐ Are floors properly marked when wet to avoid slipping or spill cleaned up immediately?
- ☐ Do parking lots have uneven pavement/tripping hazards?
- ☐ Do sidewalks have uneven pavement/tripping hazards?
- ☐ Entrance areas free and clear?
- ☐ Parking areas/entrances well-lit?
- ☐ Parking lots well marked?

Environmental Fall Risk Assessment Follow-Up

Item #	Corrective Action	Date Initiated	Responsible Individual(s)	Anticipated Date of Completion

Appendix I - Home Safety Checklist

Excerpt from the Public Health Agency of Canada. The complete version of the Home Safety Checklist can be accessed in its entirety at www.phac-acpc.gc.ca

Outside and Inside Checklists[63]

Outside	Yes	No
Do all your entrances have an outdoor light?	☐	☐
Do your outdoor stairs, pathways or decks have railings and provide good traction (i.e. textured surfaces)?	☐	☐
Are the front steps and walkways around your house in good repair and free of clutter, snow or leaves?	☐	☐
Do the doorways to your balcony or deck have a low sill or threshold?	☐	☐
Can you reach your mailbox safely and easily?	☐	☐
Is the number of your house clearly visible from the street and well lit at night?	☐	☐

TIP: If you live in a rural area and don't have a visible house number, make sure your name is on your mailbox and keep a clear description of directions to your home (main roads, landmarks, etc.) by each phone in your house.

Inside	Yes	No
Are all rooms and hallways in your home well lit?	☐	☐
Are all throw rugs and scatter mats secured in place to keep them from slipping?	☐	☐
Have you removed scatter mats from the top of the stairs and high traffic areas?	☐	☐
Are your high traffic areas clear of obstacles?	☐	☐
Do you always watch that your pets are not underfoot?	☐	☐
If you use floor wax, do you use the non-skid kind?	☐	☐
Do you have a first aid kit and know where it is?	☐	☐
Do you have a list of emergency numbers near all phones?	☐	☐

TIP: Install a seat at the entrance of your home to remove or put on your shoes and boots.

Appendix J - Post Fall Assessment Checklist

Reproduced with the permission of Windsor Regional Hospital, Windsor, Ontario

This example of a post-fall assessment checklist used in a continuing care setting could be modified to sector specific requirements.

WINDSOR REGIONAL HOSPITAL
OUR FAMILY... CARING FOR YOUR FAMILY

MALDEN PARK CONTINUING CARE CENTRE

Post Fall Investigation

Resident Name: _____ Date and Time of Fall: _____

1. **Was this fall observed? Yes No**
   If yes, by whom?
   1._____ 2. _____
   (name & title of person) (name & title of person)

2. **Was the Resident identified as "High Risk" prior to the fall? Yes No**

3. **Resident's Vital Signs**

Temp.	Pulse	Resp.	B/P	O_2 Sat.	Blood Sugar(diabetics only)

4. **Does the Resident have a history of falls? Yes No**
5. **What was Resident's response to "Why do you think you fell?"**
6. **What footwear did the Resident have on?**

Barefoot / Socks		**Slippers**	
Shoes		**Other**	

7. **Resident activity / needs at the time of the fall (Check all that apply):**

	Yes	No		Yes	No
Getting in or out of bed?			Going to the dining room?		
Going to the bathroom?			Transferring?		

Getting up from chair?			In pain?		
Looking for something? Specify:			Other:		

8. Location of fall:

Resident's Room		Bathroom		Outside	
Dining Room		Shower		Hall	
Activity / Day Room		Toilet		Other:	

9. Was a restraint in place at the time of this fall?

Restraint	Yes	No	**Was the restraint in good repair?**	**Yes**	**No**
None					
Table Top					
Seat Belt					
Other					

10. What mechanical devices were in use?

Mechanical Device	Yes	No	**Was the mechanical device in good repair?**	**Yes**	**No**
None					
Personal Alarm					
Bed Alert					
Bed Rail(s) Circle number used: 0 1 2 3 4					
Hi-Lo bed, at lowest level					

11. What assistive devices were in use?

Assistive Device	Yes	No	**Was the assistive device in good repair?**	**Yes**	**No**
Cane Straight Quad					
Crutches					
Walker: Standard 2-wheeled 4 -wheeled					
Wheelchair					

Broda Chair					
Other:					

12. Mental Status of Resident: (check all that apply)

	Prior to the fall	**Following the fall**
Alert		
Able to follow directions		
Confused / Disoriented		
Change in behaviours		
Other:		

13. Physical Status of Resident at time of fall: (check all that apply)

Incontinence		Change in BP	
Weakness / fatigue		Recent weight loss / gain	
Unsteady gait		Decrease in fluid intake	
Recent acute illness Specify:		Recent change in lab values (Hgb, blood sugar)	
Pain		Recent cough / cold	
Visual impairment		Glasses on	
Hearing impairment		Hearing aid on & working	
Dizziness			

14. Environmental status at time of fall: (check all that apply)

Call bell within Resident's reach		Call bell on at time of fall	
Bed locked		Room light on	
Wheelchair locked		Night light on	
Throw rugs		Floor wet	
Uneven floor surface		Power / phone / TV cords	
Other:			

15. List all new medications or dosage / time changes or prn medications prescribed / administered to the resident within the past 48 hours:

Date	Medication

16. Did fall result in transfer to hospital? Yes No

If yes, Ministry of Health Unusual Occurrence Form initiated? Yes

If yes, Complete WRH Risk Monitor Pro Yes

17. Executive Director notified only if the resident was transferred to hospital

Date & Time Executive Director notified: _____

18. Physician notified? Yes No Date & Time: _____

19. Family notified Yes No Date & Time: _____

20. Is there a need to re-educate the resident, family and staff? Yes No

Summary: Factors contributing to fall

_____

_____

_____

_____

Action Plan(s)

_____

_____

_____

_____

Post Fall Follow Up

Activity	**Date**
Fall documented in progress notes	
Fall entered in Incident Log	
Post Fall Investigation summary documented in progress notes	
Fall Risk Assessment Tool completed	
Fall Prevention Care Plan reviewed	

Unit Staff Safety Huddle:

Within 72 hours post fall Review incident, cause and action plan(s) Initial & Date when completed	Nights	Days	Evenings

Assessment completed by:

Name (print)

_____

Signature

_____

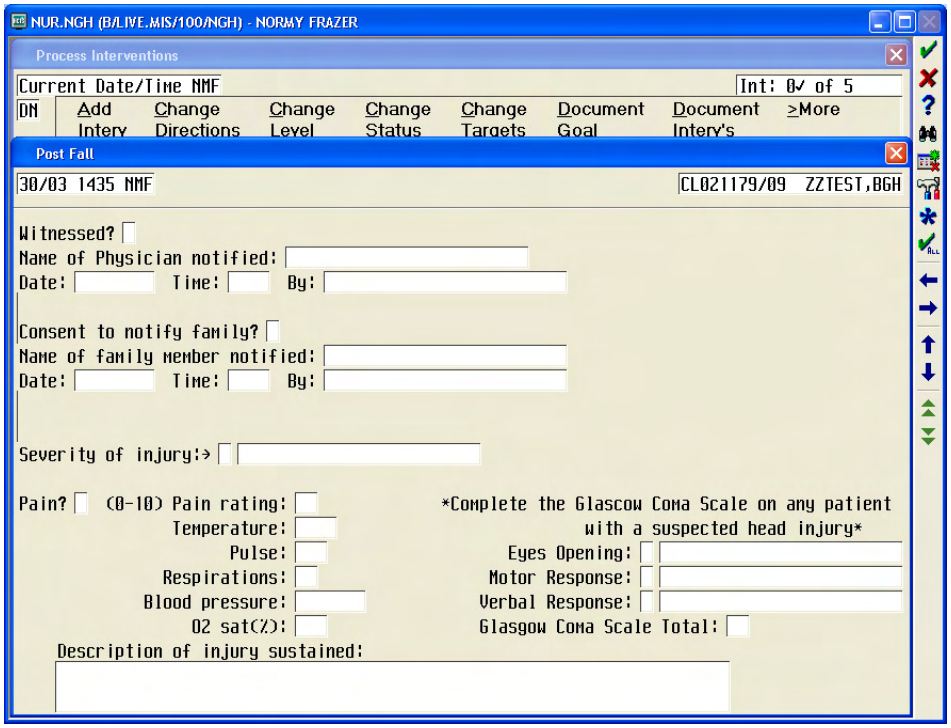
Date/Time submitted to management:

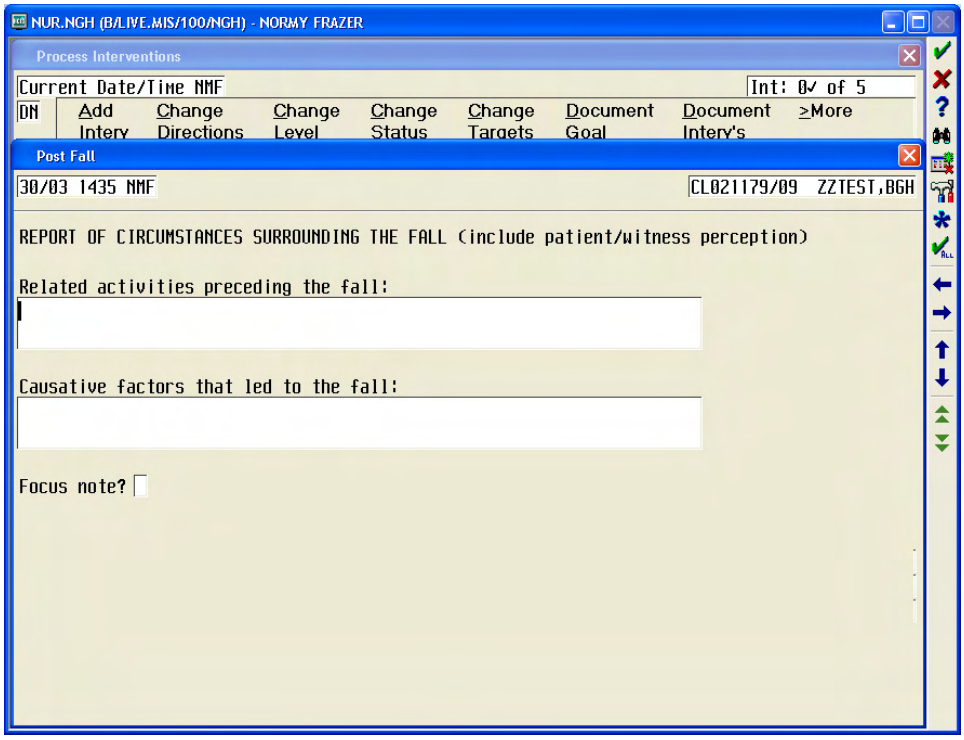
_____

Date and Time

Example of Post-Fall Assessment Documentation – Electronic Health Record

Reproduced with permission from Norfolk General Hospital, Simcoe, Ontario





Appendix K – The Model for Improvement

Getting Started with Reducing Falls and Injury from Falls Strategies

The following key steps for getting started in falls prevention and injury reduction include:

- Secure Senior Leadership Commitment
- Form a Team
- Use the Model of Improvement to Accelerate Change by:
    - Set Aims (Goals and Objectives)
    - Establish Measures
    - Select Changes
    - Test Changes (PDSA Cycle)
    - Implement Changes
    - Spread Changes

* *Note: Safer Healthcare Now!* recommends using the Model for Improvement when implementing falls prevention strategies in your organization.

The content for this appendix has been adapted from Safer Healthcare Now's Medication Reconciliation in Long Term Care *Getting Started Kit*.

1. Secure Senior Leadership Commitment

Implementing a successful falls prevention program requires clear commitment and direction from the highest level of the organization. Visible senior leadership support can help to remove obstacles and allocate resources, enhancing the ability of teams to reduce falls and injuries from falls.

Actively engage senior leadership by building a business case for falls prevention and demonstrating the need for a falls prevention program through statistics regarding falls, severity, hospital admissions, length of stay, and other relevant data, as well as any available information regarding financial and other costs. Present progress to senior leadership monthly: present data on injuries avoided by the falls prevention program; identify resources needed to be successful.

2. Form a Team

Including the right people on a process improvement team is critical to a successful improvement effort. Teams vary in size and composition. A team approach is needed to ensure falls prevention programs are implemented successfully. To lead the initiative, it is recommended that the organization identify a interdisciplinary team to organize

implementation of falls prevention strategies and to conduct tests of change in the organization, whether in acute care, long-term care or home health care.

Some organizations may have various teams that take on a range of roles (e.g., a management team to guide the process and provide support; a frontline team to implement and refine the process). Structures to support successful practice change will be dependent on the culture of the organization, and resources available.

Each organization will establish teams to meet its own needs, but efforts should be made to include a range of professionals, such as physicians, nurses, physiotherapists, occupational therapists, dieticians, etc. For each practice setting, a small team is helpful to coordinate and initiate tests of change (Plan-Do- Study-Act (PDSA) cycles – See Model for Improvement) and provide feedback to the coordinating team.

Representation on the site or sector coordination team could include:

	 
• Client and/or family members • Clinical leaders including primary care providers, nurses, allied health professionals (physiotherapists, occupational therapists, dietitian, etc) • Frontline caregivers • Regional Coordinator • Agency Educator • Managerial/Agency Administrative support • Community partners	• Patient/Resident and/or family members • Clinical leaders representing physicians, nurses, and allied health professionals (physiotherapists, occupational therapists, dietitians, etc) • Front line caregivers from a range of disciplines, shifts and/or clinical specialties • Representatives from other units or committees (e.g., housekeeping, environmental services, maintenance etc) • Educator – ongoing staff training • Management representation • Clerical support

3. Use the Model for Improvement to Accelerate Change

The *Model for Improvement*, developed by Associates in Process Improvement[64], is a simple yet effective tool not meant to replace change models that organizations may already be using, but rather to accelerate improvement. This model has been used very successfully by hundreds of healthcare organizations in many countries to improve many different healthcare processes and outcomes.

The model has two parts:

- Three fundamental questions, which can be addressed in any order.

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

- The Plan-Do-Study-Act (PDSA) cycle is used to test and implement changes in real work settings. The PDSA cycle guides the test of a change to determine if the change is an improvement.

Set Aims

Improvement requires setting aims. The aim should be time-specific and measurable; it should also define the specific population of patients that will be affected.

Establish Measures

Teams use quantitative measures to determine if a specific change actually leads to an improvement.

Select Changes

All improvement requires making changes, but not all changes result in improvement. Organizations therefore must identify the changes that are most likely to result in improvement.

Test Changes

The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change in the real work setting — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method used for action-oriented learning.

Langley G;Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance.

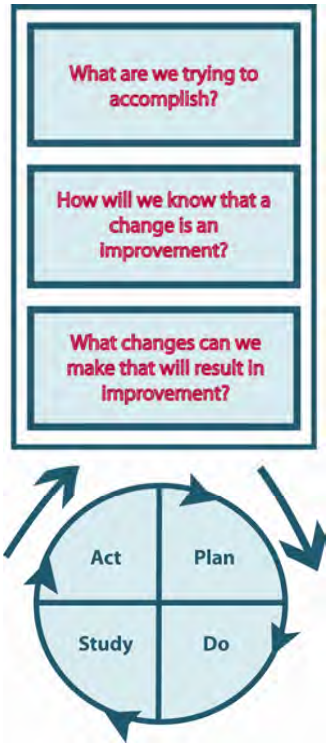


Figure 3: Model for Improvement[65]

1. Set Aims (Goals and Objectives)

Improvement requires setting aims. An organization will not improve without a clear and firm intention to do so. Setting an aim can assist teams to focus on what they are hoping to achieve when implementing falls prevention strategies. The aim should be time-specific and measurable; it should also define the specific population of patients/clients/residents that will be affected. Agreeing on the aim is crucial; so is allocating the people and resources necessary to accomplish the aim.

The following are examples of aims:

- To reduce the number of falls and severity of injury by 40% in the [unit] of [facility] by [date].
- Reduce the number of major injuries from falls by 50% and the number of falls by 10% by [date] on [unit].

As teams work on different points in the care process, the aims should be specific to what it is they are hoping to achieve.

2. Establish Measures

Measurement is a critical part of testing and implementing changes; measures tell a team whether the changes they are making actually lead to improvement. Measurement for improvement should not be confused with measurement for research.

This difference is outlined in this chart:

	Measurement for Research	Measurement for Learning and Process Improvement
Purpose	To discover new knowledge	To bring new knowledge into daily practice
Tests	One large "blind" test	Many sequential, observable tests
Biases	Control for as many biases as possible	Stabilize the biases from test to test
Data	Gather as much data as possible, "just in case"	Gather "just enough" data to learn and complete another cycle
Duration	Can take long periods of time to obtain results	"Small tests of significant changes" accelerates the rate of improvement

Types of Measures
There are three categories or types of measures that you can use to monitor your quality improvement efforts.

***Outcome* Measures** (How is the system performing? What is the result?)
- Incidence of falls
- Severity of injury from falls

Process Measures (the workings of the system)
Are the parts/steps in the system performing as planned?
- Risk assessment completion
- Risk assessment completion after a fall or change in status
- Documentation of a prevention and/or protection plan

Balancing Measures (looking at a system from different directions/dimensions)
Are changes designed to improve one part of the system causing new problems in other parts of the system?
- Restraint utilization

Measuring for improvement in reducing falls and injury from falls starts with collecting baseline data to determine the seriousness and incidence of falls in order to identify issues and help motivate stakeholders to take action. Then, collect data regularly to track the effectiveness of change over time. (See the section in this Kit - Measuring the Success of Reducing Falls and Injury from Falls - for more details).

3. Select Changes

While all changes do not lead to improvement, all improvement requires change. The ability to develop, test, and implement changes is essential for any individual, group, or organization that wants to continuously improve. There are many kinds of changes that will lead to improvement, but these specific changes are developed from a limited number of change concepts.

A change concept is a general notion or approach to change that has been found to be useful in developing specific ideas for changes that lead to improvement. Creatively combining these change concepts with knowledge about specific subjects can help generate ideas for tests of change. After generating ideas, run Plan-Do-Study-Act (PDSA) cycles to test a change or group of changes on a small scale to see if they result in improvement. If they do, expand the tests and gradually incorporate larger and larger samples until you are confident that the changes should be adopted more widely.

The approaches to reducing falls and injury from falls discussed in this *Getting Started Kit* and being utilized by the Ontario Health Quality Council in their Resident's First initiative have been summarized according to how they relate to key change concepts in **Appendix L**.

4. Test Changes

Once a team has set an aim, established its membership, and identified measures to determine whether a change leads to an improvement, the next step is to test a change in the real work setting. The Plan-Do- Study-Act (PDSA) cycle is shorthand for testing a change —

by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method used for action-oriented learning.

Reasons to Test Changes:

- To increase your belief that the change will result in improvement
- To decide which of several proposed changes will lead to the desired improvement
- To evaluate how much improvement can be expected from the change
- To decide whether the proposed change will work in the actual environment of interest
- To decide which combinations of changes will have the desired effects on the important measures of quality
- To evaluate costs, social impact, and side effects from a proposed change
- To minimize resistance upon implementation

Steps in the PDSA Cycle

Step 1: Plan

Plan the test or observation, including a plan for collecting data.

- State the objective of the test
- Make predictions about what will happen and why
- Develop a plan to test the change (Who? What? When? Where? What data needs to be collected?)

Step 2: Do

Try out the test on a small scale.

- Carry out the test
- Document problems and unexpected observations
- Begin analysis of the data

Step 3: Study

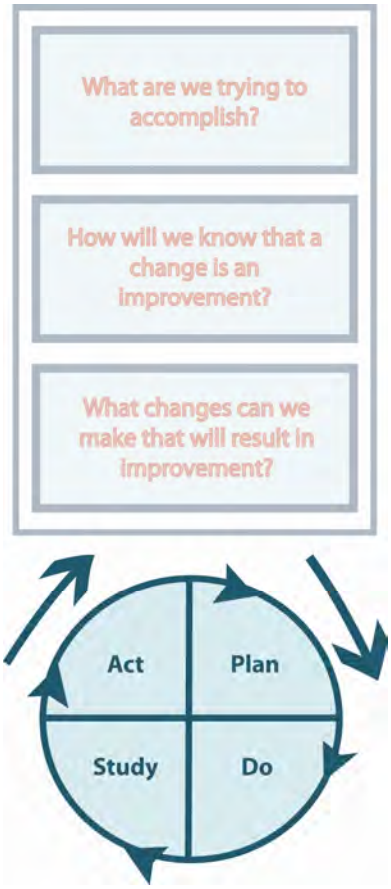
Set aside time to analyze the data and study the results.

- Complete the analysis of the data
- Compare the data to your predictions
- Summarize and reflect on what was learned

Step 4: Act

Refine the change, based on what was learned from the test.

- Determine what modifications should be made
- Prepare a plan for the next test



Example of a Test of Change (Plan-Do-Study-Act Cycle)

Depending on the aim, teams choose promising changes and use Plan-Do-Study-Act (PDSA) cycles to test a change quickly on a small scale, see how it works, and refine the change as necessary before implementing it on a broader scale. The following example shows how a team worked to increase knowledge about falls risk factors within their facility:

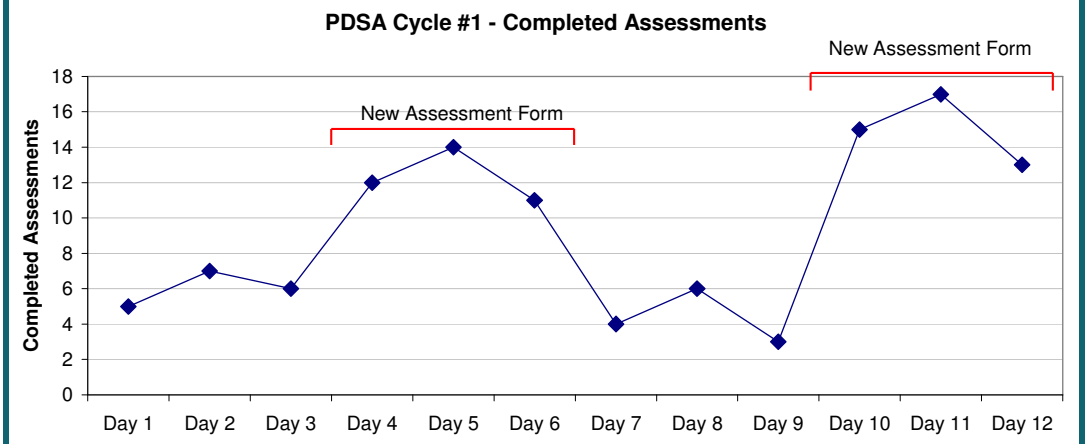
Increasing Use of a Falls Risk Assessment Tool in a Long-Term Care Facility

Plan:

The overall aim of our improvement team is to increase falls risk assessments of residents in our long term care home. We believe that a simplified assessment tool might help. The purpose of this PDSA cycle is to test "Will a new simplified assessment tool increase the number of assessments completed?". Our prediction is that it will because the tool will be easier for nursing staff to use. The test is set to use an on/off strategy; three days with the new tool being used, followed by three days with the old tool. Testing will start the following Monday and run for two cycles for a total of twelve days. A count of daily assessments will be plotted over time on a run chart and comments by staff will also be recorded.

Do:

The test cycle was completed, the run chart and comments are shown below:



Comments from staff captured during the test:

- The new form seemed much easier to use
- I liked the new form as it took less time to complete
- I think the check boxes should be larger on the new form

Study:

The run chart data appear to support our prediction that the new form increased the number of completed assessments. Qualitative feedback from staff also appears to support this idea.

Act:

For our next cycle, we will ask new employees to test the form. Our prediction is that they will be able to complete assessments at the same rate as do experienced employees.

5. Implement Changes

After testing a change on a small scale, learning from each test, and refining the change through several PDSA cycles, the change is ready for implementation on a broader scale, for example, for an entire pilot population or on an entire unit. Implementation is a permanent change to the way work is done and, as such, involves building the change into the organizational structures. It may affect documentation, written policies, hiring, training, compensation, and aspects of the organization's infrastructure that are not heavily engaged in the testing phase. Implementation also requires the use of the PDSA cycle.

Example

- *Testing a change:* A small number of nurses on different shifts/units begin using a new falls risk assessment form and post-fall assessment form. These nurses provide feedback on ease of use, format of the form etc.
- *Implementing a change:* All nurses on the pilot unit, on all shifts begin using the new falls risk assessment and post-fall assessment.

Example of Implementing a Falls Assessment Process on Select Unit

Initially implement a falls assessment process on a small scale with select groups of patients/residents, on select units or during a specific point in the continuum of care to develop forms and tools that work in your organization and to gain expertise in the falls risk assessment process. Specific examples of these types of tools are available in the Appendices of this Kit.

Use a simple process flow diagram to outline the current process in place. Note: keep this process simple, its purpose is to identify the sequence of events, who is doing what and where opportunities exist for change and/or how falls prevention would "fit in".

Expand the use of the falls risk assessment and post-fall assessment tools to the entire patient/resident population with the unit.

The purpose of these tools is to help identify patients/residents who are at risk of falling, and to determine the factors causing the fall when a fall does occur. Additionally, the tools can aid in sharing information with physicians, rehabilitation or occupational therapists, other healthcare providers and family members so that appropriate care plans can be developed. As with any change you make, the recommendation is to test the tool first on a small scale, and then move to use it across the patient/resident population.

6. Spread Changes

Spread is the process of taking a successful implementation process from a pilot unit or pilot population and replicating that change or package of changes in other parts of the organization or other organizations. During implementation, teams learn valuable lessons necessary for successful spread, including key infrastructure issues, optimal sequencing of tasks, and working with people to help them adopt and adapt a change.

Spread efforts will benefit from the use of the PDSA cycle. Units adopting the change need to plan how best to adapt the change to their unit and to determine if the change resulted in the predicted improvement.

As experience develops and measurement of the success of your falls prevention process reflects sustained improvement the process can be implemented for more patients/clients/residents in more areas. Evaluate at each new step before adding more units or service delivery areas to the process. Retest the pilot process in new areas in order to identify any revisions that may be needed. The roll-out across an organization requires careful planning to move through each of the major implementation phases.

A key factor for closing the gap between *best* practice and *common* practice is the ability of healthcare providers and their organizations to spread innovations and new ideas. The IHI's 'A Framework of Spread: From Local Improvements to System-Wide Change[66] will assist teams to develop, test and implement a system for accelerating improvement by spreading change ideas within and between organizations. This paper will assist teams to "prepare for a spread; establish an aim for spread; and develop, execute, and refine a spread plan." Some issues to address in planning for spread include training and new skill development, supporting people in new behaviours that reinforce the new practices, problem solving, current culture regarding change, degree of buy-in by staff, and assignment of responsibility. See **Appendix N** for a summary of the Framework for Spread.

Appendix L – Paths to Improvement: Change Concepts

Reproduced with permission of the Ontario Health Quality Council

This chart summarizes an approach to reducing falls and injury from falls linked to quality improvement methodology change concepts. This framework is being utilized in the quality improvement initiative, Residents First, being led by the Ontario Health Quality Council, in long-term care homes across Ontario.

Paths to Improvement at a Glance

This table offers guidance on areas where change should be discussed and considered, and possible steps to engage in order to bring these quality improvement changes to life.

Recognition and Assessment	Engage Residents/Family	Care Planning for Prevention	Improve Work Flow	Develop routine practices/Standardize	Design Systems to avoid mistakes
Assess all residents on admission; change of status and at required intervals (quarterly/annual) Evaluate the "at risk" resident for Falls • Morse Fall Scale • RAIMDS Screen: Physical and Functional Status • Berg Balance Scale • Tinetti Gait and Balance Instrument • Timed Up and Go Screen: Osteoporosis Age, Low Bone Mineral Density, Height Loss, History of Falls, Family Fracture History • Reference: Ontario Osteoporosis Strategy for Long Term Care Screen: Cognitive Impairment • Mini-Mental Status Exam • Confusion Assessment Method Instrument (CAM) Screen: Visual Acuity • Ensure Client has easy access to glasses of the correct prescription as required	Clearly identify: • All residents assessed to be at risk for falling (Using discrete identifiers), Health Record Share risk information with resients and families and engage them in prevention strategies	Communicate: • Falls risk with resident, family and staff (verbal, health record, care plan, shift change, risk rounds, care conferences, programming staff, etc.) Care Planning: • Create individualized plan of care with resident, family and staff and communicate (verbal, health record, care plan, shift change, risk rounds, care conferences, programming staff, etc.) Prevention Strategies: • Hip Protectors for those who have osteoporosis, arthritis of hip, fallen or at risk for falling, previously broken hip, unsteady walking and independently transferring, and/or dementia • Hi Lo Beds • Mats on Floor Prevention Strategies: • Implement strength, balance, and coordination to improve/maintain/delay decline of physical fitness/strength • Strength/Balance Program Consistently implement interventions that are consistent with the resident's goals, values, needs, wishes, preferences and risk factors	Educate Staff: • Orientation, Annually, Regular Intervals • Prevention of Falls and Fall injuries • Safe mobility, risk assessment, risk management, post fall follow up, alternatives to restraints etc. • Develop Organizational policy and procedure for falls prevention • Review Organizational policy for Least Restraint • Create an environment that supports interventions for fall prevention • Provide access to supplies and equipment for preventing falls and/or signaling high-risk situations to the multidisciplinary team Environmental Modifications: • Furniture arrangement, lighting, clear exits etc.	Consider additional risk factors: • Environmental (Floor wax, clutter, lighting, call bell accessibility, electrical cords etc.) • Resident Footwear Medication Review • Consult with Physician and Pharmacist • Benzodiazepines, tricyclic antidepressants, selective serotonin-reuptake inhibitors, trazodone Manage medications: Poly-pharmacy and psychotropic medications Review Risk: • Indentify cause of any previous fall incidents • Consider care process-related problems that may contribute to falls	Monitor: • Environmental Safety Rounds • Inspection of Mobility Aids • Stimulation (noise, group size) • Chair alarms • Alternatives to Restraints • Ensure completion of risk assessments, care processes, fall follow up and care planning • Falls huddles Provide adequate support to Falls Improvement Team to facilitate above activities

Appendix M1 – Technical Descriptions for Measurement – Acute and Long Term Care

Technical Description of the Measurement Worksheets:

Implementation Stages – Definitions apply to all interventions and measures

Baseline Stage - Pre-intervention - Data collected for Baseline should be collected prior to implementing small tests of change and reflect the current process.

Early (Partial) Implementation Stage - The team has set a clear aim(s) for the New Approach to Controlling Superbugs intervention, identified which measures will indicate if the changes will lead to improvement, and started to implement small tests of change (PDSA) to identify and refine processes, procedures and practices which will lead to improvement and achieving the aim. When the team is close to goal they are ready to move to Full Implementation.

Full Implementation Stage (At Goal) - The processes, procedures and practices are finalized and have lead to significant improvement. These practices on the selected unit are being consistently applied and monitored, showing a sustained performance at or close to goal. The team has achieved their aim(s) and is ready to spread to other areas.

Falls-Acute 1 - Falls Rate per 1000 Patient Days - Measurement Worksheet

Prevention of falls and injury from falls in Acute	
Intervention	Prevention of falls and injury from falls in Acute
Definition	A **Fall** is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury. This is a measure of the number of falls experienced by patients in an acute Care facility per 1000 patient days. Each fall is counted in the alotted time period therefore a patient or resident may have one or multiple falls each month. The number of patient days for each month may be obtained from the Admitting Department of the facility.
Goal	**Annual reduction of 40%**
Data Collection Details	
Facility Name	**Team #**
Health Region	
Sample (Describe the source of the sample population e.g. Entire Acute Care or Long Term Care facility or per unit)	

		2008									2009												
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Calculation of Denominator																							
1.1	What is the total number of patient days for the facility or unit within the facility this month? *(Monthly measure of patient or resident days for the facility may be obtained from the Admitting Department of the facility)*																						
Calculation of Numerator																							
1.2	What is the total number of falls reported this month?																						
Final Calculation																							
1.3	Falls per 1000 patient days. Divide # 1.2 by # 1.1. Multiply by 1000.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	GOAL	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

1. Falls Rate per 1000 Patient/Resident Days – Technical Description

Intervention(s): Prevention of falls and injury from falls in Acute or Long-Term Care

Definition: The number of falls experienced by patients in acute care or residents of a Long-Term Care (LTC) facility per 1000 patient or resident days.

Goal: Annual reduction of 40%

CALCULATION DETAILS:

Numerator Definition: The total number of falls reported this month

NOTE: Each fall is counted in the allotted time period therefore a patient or resident may have one or multiple falls each month.

Numerator Exclusions: Same as the denominator

Denominator Definition: the total number of patient or resident days for the facility or unit within the facility this month

Denominator Exclusions: Patients or residents less than 18 years of age

Measurement Period Length: Monthly measure of patient or resident days for the facility may be obtained from the Admitting Department of the facility.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.

Calculate as: Number of falls reported during the measurement period divided by the number or patients or residents in the facility or unit during this measurement period.

Comments: None

COLLECTION STRATEGY:

- The number of patient or resident days for the facility may be obtained from the Admitting Department of the facility.
- The number of falls may be retrieved from the facility's incident reporting system.

Sampling Plan: Count all falls

Falls-Acute 2 - Percentage of Falls Causing Injury - Measurement Worksheet

Prevention of falls and injury from falls in Acute Care	
Intervention	Prevention of falls and injury from falls in Acute Care
Definition	A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury. This is a measure of the percentage of falls categorized as 2, 3, 4, 5 or 6 on the "Severity of Harm Scale" which range from "Temporary Harm" to "Death". Therefore falls resulting in "No Harm" are excluded from the numerator.
Goal	Annual reduction of 40%
Data Collection Details	
Facility Name	**Team #**
Health Region	
Sample *(Describe the source of the sample population e.g. Entire Acute or LTC facility or per*	

		2008									2009												
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Calculation of Denominator																							
2.1	What is the total number of falls for the Acute Care facility or unit this month?																						
Calculation of Numerator																							
2.2	What is the total number of falls categorized as **#2 , 3, 4, 5, or 6 on the "Severity of Harm Scale"**?																						
FINAL CALCULATION for OVERALL FALLS IN CATEGORIES		2, 3, 4, 5 OR 6																					
2.3	Percentage of falls causing injury. **Divide** #2.2 **by** #2.1. **Multiply by 100.**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	GOAL*:	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

2. Percentage of Falls Causing Injury- Technical Description

Intervention(s): Prevention of falls and injury from falls in Acute or Long-Term Care

Definition: The percentage of falls categorized as 2, 3, 4, 5 or 6 on the "Severity of Harm Scale" which range from "Temporary Harm" to "Death".

Goal: Annual reduction of 40%

CALCULATION DETAILS:

Numerator Definition: The total number of falls categorized as #2, 3, 4, 5, or 6 on the "Severity of Harm Scale" during this reporting period.

Numerator Exclusions:

- Falls resulting in "No Harm" are excluded from the numerator.
- Patients or residents less than 18 years of age

Denominator Definition: The total number of falls for the Acute or Long Term Care facility or unit during this reporting period.

Denominator Exclusions: Patients or residents less than 18 years of age

Measurement Period Length: Data may be captured on a monthly or quarterly basis depending on patient / resident volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
- **Severity of Harm Category 1** – No injury to the patient/resident and requires intervention.
- **Severity of Harm Category 2** – Temporary harm to the patient/resident and requires intervention.
- **Severity of Harm Category 3** – Temporary harm to the patient/resident and requires initial or prolonged hospitalization.
- **Severity of Harm Category 4** – Permanent consequences to the patient/resident.
- **Severity of Harm Category 5** – Interventions necessary to sustain life.
- **Severity of Harm Category 6** – Death.

Calculate as: Number of falls resulting in injury or death during the reporting period divided by the number of patients or residents in the facility or unit during this reporting period.

Comments: None

Falls-Acute 3 - Percentage of Patients with Completed Falls Risk Assessment on Admission - Measurement Worksheet

Prevention of falls and injury from falls in Acute Care	
Intervention	Prevention of falls and injury from falls in Acute Care
Definition	The percentage of patients for whom a Falls Risk Assessment has been completed on admission. Baseline data should be collected on all new admissions on a monthly or quarterly basis depending on volume. A "**Fall**" is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
Goal	100%
Data Collection Details	
Facility Name	Team #
Health Region	
Sample *(Describe the source of the sample population e.g. entire Acute or Long Term Care facility or per unit)*	

		2008									2009												
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Calculation of Denominator																							
3.1	What is the total number of patients admitted this month or quarter?																						
Calculation of Numerator																							
3.2	What is the total number of patients admitted this month or quarter (#3.1) with a Falls Risk Assessment completed?																						
Final Calculation																							
3.3	Percentage of newly admitted patients with a Falls Risk Assessment completed. Divide # 3.2 by # 3.1. Multiply by 100.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	GOAL*:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

3. Percentage of Patients/Residents with Completed Falls Risk Assessment on Admission – Technical Description

Intervention(s): Prevention of falls and injury from falls in Acute or Long-Term Care

Definition: The percentage of patients or residents for whom a Falls Risk Assessment has been completed on admission.

Goal: 100%

CALCULATION DETAILS:

Numerator Definition: The total number of patients or residents admitted during this reporting period with a Falls Risk Assessment completed.

Numerator Exclusions: Patients or residents less than 18 years of age

Denominator Definition: The total number of patients or residents admitted to the facility or unit during this reporting period.

Denominator Exclusions: Patients or residents less than 18 years of age

Measurement Period Length: Data may be captured on a monthly or quarterly basis depending on patient / resident volume. In organizations with more than 5 admissions per month we recommend collecting data monthly.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
- **Falls Risk Assessment** – assessment is performed using a valid and reliable tool selected by the facility (see GSK).

Calculate as: Number of patients or residents admitted with a Falls Risk Assessment completed divided by the number of patients or residents admitted to the facility or unit during this reporting period and multiply by 100..

Comments: None

COLLECTION STRATEGY:

Data should be collected on all new admissions on a monthly or quarterly basis depending on volume.

Sampling Plan: Count all admissions

Falls-Acute 4 - Percentage of Patients with Completed Falls Risk Assessment Following a Fall or Change in Medical Status- Measurement Worksheet

Prevention of falls and injury from falls in Acute Care	
Intervention	Prevention of falls and injury from falls in Acute Care
Definition	The percentage of patients for whom a Falls Risk Assessment has been completed following a fall or change in medical status. Data should be collected on a monthly or quarterly basis depending on volume for all patients who experience a fall or whose medical status has changed significantly. A "Fall" is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury. A change in medical status is considered "significant" if it requires a change in treatment or care plan. ***If a patient experiences a fall that results in a change in medical status they should be counted once only however, if a patient experiences both a fall and a change in medical status that are unrelated events each event should be counted.***
Goal	100%
Data Collection Details	
Facility Name	Team #
Health Region	
Sample *(Describe the scope of the sample population e.g. entire Acute or Long Term Care facility or*	

	2008									2009												
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Calculation of Denominator																						
4.1 What is the total number of patients who experienced a fall this month?																						
4.2 What is the total number of patients whose medical status has changed significantly this month?																						
4.3 Total number of patients experiencing a fall or significant change in medical status.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Calculation of Numerator																						
4.4 What is the total number of patients who experienced a Fall (#4.1) who had a Falls Risk Assessment performed following the fall this month?																						
4.5 What is the total number of patients whose medical status changed significantly (#4.2) who had a Falls Risk Assessment performed following the change in status this month?																						
4.6 Total number of patients experiencing a fall or significant change in medical status who had a Falls Risk Assessment performed following the fall or change in status this month? (#4.4 + #4.5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Final Calculation																						
4.7 Percentage with Falls Risk Assessment completed. Divide # 4.6 by # 4.3. Multiply by 100.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
GOAL*:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

4. Percentage of Patients/Residents with Completed Falls Risk Assessment following a Fall or Significant Change in Medical Status – Technical Description

Intervention(s): Prevention of falls and injury from falls in Acute or Long-Term Care

Definition: The percentage of patients or residents for whom a Falls Risk Assessment has been completed following a fall or significant change in medical status.

Goal: 100%

CALCULATION DETAILS:

Numerator Definition: The total number of patients or residents who experienced a Fall who had a Falls Risk Assessment performed following the fall, and the total number of patients or residents whose medical status changed significantly who had a Falls Risk Assessment performed following the change in status during the reporting period.

Numerator Exclusions: Patients or residents less than 18 years of age

Denominator Definition: The total number of patients or residents who experienced a fall, and the total number of patients or residents whose medical status has changed significantly during the reporting period.

Denominator Exclusions: Patients or residents less than 18 years of age

Measurement Period Length: Data may be captured on a monthly or quarterly basis depending on patient / resident volume.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
- **Falls Risk Assessment** – assessment is performed using a valid and reliable tool selected by the facility (see GSK).
- **Significant Change in Medical Status** – A change in medical status is considered "significant" if it requires a change in treatment or care plan.

Calculate as: Number of patients or residents who experienced a fall or whose medical status changed significantly who had a Falls Risk Assessment performed following the fall or significant change in medical status during the reporting period *divided by* the total number of patients or residents who experienced a fall or whose medical status has changed significantly during the reporting period. Multiply by 100.

Falls-Acute 5 - Percentage of "At Risk" Patients with a Documented Falls Prevention/Injury Reduction Plan - Measurement Worksheet

Prevention of falls and injury from falls in Acute Care	
Intervention	Prevention of falls and injury from falls in Acute Care
Definition	The percentage of patients for whom a Falls Risk Assessment has identified them as being "At Risk" and for whom a Falls Prevention and/or Injury Reduction Plan e.g. hip protectors has been documented. Report data on a monthly or quarterly basis depending on patient volume. A "Fall" is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
Goal	100%
Data Collection Details	
Facility Name	Team #
Health Region	
Sample (Describe the source of the sample population e.g. entire Acute Care or Long Term Care facility or per unit)	

		2008									2009												
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Calculation of Denominator																							
5.1	What is the total number of current patients identified as "At Risk" on a Falls Risk Assessment for this reporting period (month or quarter)?																						
Calculation of Numerator																							
5.2	What is the total number of patients in #5.1 with a documented "Falls Prevention and/or Injury Reduction Plan" for this reporting period (month or quarter)?																						
Final Calculation																							
5.3	Percentage of "At Risk" patients with a documented Fall Prevention or Injury Reduction Plan. Divide # 5.2 by # 5.1. Multiply by 100.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	GOAL*:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

5. Percentage of "At Risk" Patients/Residents with a Documented Falls Prevention/Injury Reduction Plan - Technical Description

Intervention(s): Prevention of falls and injury from falls in Acute or Long-Term Care

Definition: The percentage of "at risk" patients or residents with a documented Falls Prevention/Injury Reduction plan.

Goal: 100%

CALCULATION DETAILS:

Numerator Definition: The total number of patients or residents with a documented "Falls Prevention and/or Injury Reduction Plan" for this reporting period (month or quarter).

Numerator Exclusions: Patients or residents less than 18 years of age

Denominator Definition: The total number of current patients or residents identified as "At Risk" on a Falls Risk Assessment for this reporting period (month or quarter)?

Denominator Exclusions: Patients or residents less than 18 years of age

Measurement Period Length: Data may be captured on a monthly or quarterly basis depending on patient / resident volume.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
- **Falls Risk Assessment** – assessment is performed using a valid and reliable tool selected by the facility (see GSK).
- **Falls Prevention and/or Injury Reduction Plan** – an individualized documented plan outlining strategies addressing identified falls-associated risks is in the health record.

Calculate as: Number of patients or residents with a documented "Falls Prevention and/or Injury Reduction Plan" *divided by* the total number of current patients or residents including new admissions or those with an anniversary of admission identified as "At Risk" on a Falls Risk Assessment for this reporting period. Multiply by 100.

Comments: None

COLLECTION STRATEGY:

Data should be collected on all patients and residents experiencing a fall.

Sampling Plan: Count all "At Risk" patients or residents.

Falls-Acute 6 - Percentage of Patients with Restraints - Measurement Worksheet

Prevention of falls and injury from falls in Acute Care	
Intervention	Prevention of falls and injury from falls in Acute Care
Definition	The percentage of patients with restraints applied on the day(s) of audit. Restraints may be physical, chemical or environmental and are used to control the physical or behavioural activity of a person or a portion of the body (see GSK).
Goal	At a minimum to maintain at or below baseline level
Data Collection Details	
Facility Name	**Team #**
Health Region	
Sample	

		2008									2009												
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Calculation of Denominator																							
6.1	What is the total number of patients on the unit or in the facility being audited this reporting period?																						
Calculation of Numerator																							
6.2	What is the total number of patients on the unit or in the facility being audited (#6.1) with restraints applied at the time of the audit?																						
Final Calculation																							
6.3	Percentage of patients on the unit or facility with restraints applied at the time of the audit for this reporting period. Divide #6.2 by #6.1. Multiply by 100.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	GOAL*:																						

6. Percentage of Patients/Residents with Restraints – Technical Description

Intervention(s): Prevention of falls and injury from falls in Acute or Long-Term Care

Definition: The percentage of patients/residents with Restraints

Goal: At a minimum, to maintain at or below baseline.

CALCULATION DETAILS:

Numerator Definition: The total number of patients or residents on the unit or in the facility being audited, with restraints applied at the time of the audit.

Numerator Exclusions: Patients or residents less than 18 years of age

Denominator Definition: The total number of patients or residents on the unit or facility being audited during this reporting period.

Denominator Exclusions: Patients or residents less than 18 years of age

Measurement Period Length: Data may be captured on a monthly or quarterly basis depending on patient / resident volume.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
- **Restraints** – Restraints may be physical, chemical or environmental and are used to control the physical or behavioural activity of a person, or a portion of the body (see GSK)

Calculate as: Number of patients or residents on the unit or facility being audited, with restraints applied at the time of the audit, *divided by* the number of patients or residents on the unit or facility being audited during this reporting period and multiply by 100.

Comments: None

COLLECTION STRATEGY:

Data should be collected on all patients or residents on a monthly basis

Sampling Plan: Include all patients or residents on the unit or in the facility being audited.

Appendix M2 – Technical Descriptions for Measurement – Home Health Care

Technical Description of the Measurement Worksheets:

Implementation Stages – Definitions apply to all interventions and measures

Baseline Stage - Pre-intervention - Data collected for Baseline should be collected prior to implementing small tests of change and reflect the current process.

Early (Partial) Implementation Stage - The team has set a clear aim(s) for the New Approach to Controlling Superbugs intervention, identified which measures will indicate if the changes will lead to improvement, and started to implement small tests of change (PDSA) to identify and refine processes, procedures and practices which will lead to improvement and achieving the aim. When the team is close to goal they are ready to move to Full Implementation.

Full Implementation Stage (At Goal) - The processes, procedures and practices are finalized and have lead to significant improvement. These practices on the selected unit are being consistently applied and monitored, showing a sustained performance at or close to goal. The team has achieved their aim(s) and is ready to spread to other areas.

Falls-HC 1 - Falls Rate per 1000 Home Care Clients - Measurement Worksheet

Prevention of falls and injury from falls in Home Care																								
Intervention	Prevention of falls and injury from falls in Home Care																							
Definition	A **Fall** is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury. This is a measure of the number of witnessed or reported falls experienced by clients in home care per 1000 clients. Each fall is counted in the alotted time period therefore a client may have one or multiple falls each month. The number of clients for each month may be determined through the scheduling system or client database.																							
Goal	**Annual reduction of 40%**																							
Data Collection Details																								
Facility Name						**Team #**																		
Health Region						**Facility Type**																		
Sample (Describe the source of the sample population e.g. >65 years old, all clients within the agency)																								
		2008									**2009**													
		Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**		
Calculation of Denominator																								
1.1	What is the total number of clients within the target population this month or quarter? *(Monthly measure of clients may be obtained from the scheduling system or client database).*																							
Calculation of Numerator																								
1.2	What is the total number of falls reported this month?																							
Final Calculation																								
1.3	Falls per 1000 clients. Divide # 1.2 by # 1.1. Multiply by 1000.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
	GOAL	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		

1. Falls Rate per 1000 Clients – Technical Description

Intervention(s): Prevention of falls and injury from falls in home health care.

Definition: The number of witnessed or reported falls experienced by clients in home health care per 1000 clients.

Goal: Annual reduction of 40%

CALCULATION DETAILS:

Numerator Definition: The total number of falls witnessed or reported this month

NOTE: Each fall is counted in the allotted time period therefore a client may have one or multiple falls each month.

Numerator Exclusions: Same as the denominator

Denominator Definition: the total number of clients within the target population this month

Denominator Exclusions: Clients less than 18 years of age

Measurement Period Length: The number of clients for each month may be determined through the scheduling system or client database.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.

Calculate as: Number of falls witnessed or reported during the measurement period divided by the total number of clients within the target population multiplied by 1000.

Comments: None

COLLECTION STRATEGY:

The number of clients for each month may be determined through the scheduling system or client database.

The number of falls may be retrieved from the agency's incident reporting system.

Sampling Plan: Count all falls.

Falls-HC 2 - Percentage of Falls Causing Injury - Measurement Worksheet

Prevention of falls and injury from falls in Home Care			
Intervention	Prevention of falls and injury from falls in Home Care		
Definition	A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury. This is a measure of the percentage of falls categorized as 2, 3, 4, 5 or 6 on the "Severity of Harm Scale" which range from "Temporary Harm" to "Death". Therefore falls resulting in "No Harm" are excluded from the numerator.		
Goal	Annual reduction of 40%		
Data Collection Details			
Facility Name		Team #	
Health Region		Facility Type	
Sample *(Describe the source of the sample population e.g. >65 years old, all clients within the*			

		2008									2009												
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Calculation of Denominator																							
2.1	What is the total number of falls for the target population this month?																						
Calculation of Numerator																							
2.2	What is the total number of falls categorized as #2 , 3, 4, 5, or 6 on the "Severity of Harm Scale"?																						
FINAL CALCULATION for OVERALL FALLS IN CATEGORIES 2, 3, 4, 5 OR 6																							
2.3	Percentage of falls causing injury. **Divide #2.2 by #2.1. Multiply by 100.**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
	GOAL*:	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

2. Percentage of Falls Causing Injury- Technical Description

Intervention(s): Prevention of falls and injury from falls in home health care

Definition: The percentage of falls categorized as 2, 3, 4, 5 or 6 on the "Severity of Harm Scale" which range from "Temporary Harm" to "Death".

Goal: Annual reduction of 40%

CALCULATION DETAILS:

Numerator Definition: The total number of falls categorized as #2, 3, 4, 5, or 6 on the "Severity of Harm Scale" during this reporting period.

Numerator Exclusions:

- Falls resulting in "No Harm" are excluded from the numerator.
- Clients less than 18 years of age

Denominator Definition: The total number of falls witnessed or reported this month

NOTE: Each fall is counted in the allotted time period therefore a client may have one or multiple falls each month.

Denominator Exclusions: Clients less than 18 years of age

Measurement Period Length: Data may be captured on a monthly or quarterly basis depending on client volume. In agencies with more than 5 falls per month, it is recommended that data be collected monthly.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
- **Severity of Harm Category 1** – No injury to the client that requires intervention.
- **Severity of Harm Category 2** – Temporary harm to the client and requires intervention.
- **Severity of Harm Category 3** – Temporary harm to the client and requires initial or prolonged hospitalization.
- **Severity of Harm Category 4** – Permanent consequences to the client.
- **Severity of Harm Category 5** – Interventions necessary to sustain life.
- **Severity of Harm Category 6** – Death.

Calculate as: Number of falls resulting in injury or death during the reporting period divided by the total number of clients within the target population

Comments: None

COLLECTION STRATEGY:

The number of falls resulting in injury or death may be retrieved from the facility's incident reporting system. For the purpose of this measure, the injury from falls is categorized as a dichotomous variable – injury=yes or no regardless of the "Severity of Harm" scale used.

Sampling Plan: Count all falls.

Falls-HC 3 - Percentage of Clients with Completed Falls Risk Screening on Admission - Measurement Worksheet

Prevention of falls and injury from falls in Home Care	
Intervention	Prevention of falls and injury from falls in Home Care
Definition	The percentage of clients for whom a Falls Risk Screening has been completed on admission. Baseline data should be collected on all new admissions on a monthly or quarterly basis depending on volume. A "Fall" is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury
Goal	100%
Data Collection Details	
Facility Name	Team #
Health Region	Facility Type
Sample *[illegible]*	

	2008									2009											
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	[illegible]	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Calculation of Denominator																					
3.1 What is the total number of clients admitted this month or quarter?																					
Calculation of Numerator																					
3.2 What is the total number of clients admitted this month or quarter (#3.1) with a Falls Risk Screening completed?																					
Final Calculation																					
3.3 Percentage of newly admitted clients with a Falls Risk Screening completed. Divide # 3.2 by # 3.1. Multiply by 100	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
GOAL%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

3. Percentage of Clients with a Completed Falls Risk Screening on Admission – Technical Description

Intervention(s): Prevention of falls and injury from falls in home health care

Definition: The percentage of clients for whom a Falls Risk Screening has been completed on admission.

Goal: 100%

CALCULATION DETAILS:

Numerator Definition: The total number of clients admitted during this reporting period (month or quarter) with a Falls Risk Screening completed.

Numerator Exclusions: Clients less than 18 years of age

Denominator Definition: The total number of clients admitted to the agency during this reporting period (month or quarter).

Denominator Exclusions: Clients less than 18 years of age

Measurement Period Length: Data may be captured on a monthly or quarterly basis depending on client volume. In agencies with more than 5 admissions per month in the target client population, it is recommended that data be collected data monthly.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
- **Falls Risk Screen** – screening is conducted utilizing key risk factors for falls in community dwelling clients (see GSK).

Calculate as: Number of clients admitted with a Falls Risk Screening completed divided by the number of clients admitted to the agency during this reporting period and multiply by 100.

Comments: None

COLLECTION STRATEGY:

Data should be collected on all new admissions on a monthly or quarterly basis, depending on volume.

Sampling Plan: Count all admissions.

Falls-HC 4 - Percentage of Clients with a Falls Risk Reassessed Following a Fall or Change in Medical Status - Measurement Worksheet

Prevention of falls and injury from falls in Home Care	
Intervention	Prevention of falls and injury from falls in Home Care
Definition	The percentage of clients for whom Falls Risk was reassessed following a fall or change in medical status. Data should be collected on a monthly or quarterly basis depending on volume for all clients who experience a fall or whose medical status has changed significantly. A "Fall" is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury. A change in medical status is condsidered "significant" if it requires a change in treatment or care plan. ***If a client experiences a fall that results in a change in medical status they should be counted once only however, if a clent experiences both a fall and a change in medical status that are unrelated events each event should be counted.***
Goal	100%
Data Collection Details	
Facility Name	**Team #**
Health Region	**Facility Type**
Sample *(Describe the source of the sample population e.g. > 65 years old, all clients within the*	

		2008									2009												
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Calculation of Denominator																							
4.1	What is the total number of clients who experienced a fall this month?																						
4.2	What is the total number of clients whose medical status has changed significantly this month?																						
4.3	Total number of clients experiencing a fall or significant change in medical status.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Calculation of Numerator																							
4.4	What is the total number of clients who experienced a Fall (#4.1) who had a Falls Risk resssessment performed following the fall this month?																						
4.5	What is the total number of clients whose medical status changed significantly (#4.2) who had a Falls Risk reassessment performed following the change in status this month?																						
4.6	Total number of clients experiencing a fall or significant change in medical status who had a Falls Risk reassessment performed following the fall or change in status this month? (#4.4 + #4.5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Final Calculation																							
4.7	Percentage with Falls Risk reassessment completed. Divide # 4.6 by # 4.3. Multiply by 100.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	GOAL*:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

4. Percentage of Clients with Completed Falls Risk Reassessment Following a Fall or Change in Medical Status – Technical Description

Intervention(s): Prevention of falls and injury from falls in home health care

Definition: The percentage of clients for whom Falls Risk was reassessed following a fall or significant change in medical status.

Goal: 100%

CALCULATION DETAILS:

Numerator Definition: The total number of clients who experienced a Fall who had a Falls Risk reassessment performed following the fall, and the total number of clients whose medical status changed significantly who had a Falls Risk reassessment performed following the change in status during the reporting period.

Numerator Exclusions: Clients less than 18 years of age.

Denominator Definition: The total number of clients who experienced a fall, and the total number of clients whose medical status has changed significantly during the reporting period.

Denominator Exclusions: Clients less than 18 years of age

Measurement Period Length: Data may be captured on a monthly or quarterly basis depending on client volume.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
- **Falls Risk reassessment** – reassessment is conducted utilizing key risk factors for falls in community dwelling clients (see GSK). (see GSK).
- **Significant Change in Medical Status** – A change in medical status is considered "significant" if it requires a change in treatment or care plan.

Calculate as: Total Number of clients who experienced a fall or whose medical status changed significantly who had a Falls Risk reassessment performed following the fall or significant change in medical status during the reporting period *divided by* the total number of clients who experienced a fall or whose medical status has changed significantly during the reporting period. Multiply by 100.

Comments: If a client experiences a fall that results in a change in medical status they should be counted once only; however, if a client experiences both a fall and a change in medical status that are unrelated events, each event should be counted.

COLLECTION STRATEGY:

Data should be collected on all clients experiencing a fall or significant change in medical status.

Sampling Plan: Count all clients.

Falls-HC 5 - Percentage of "At Risk" Clients with a Documented Falls Prevention/Injury Reduction Plan - Measurement Worksheet

Prevention of falls and injury from falls in Home Care	
Intervention	Prevention of falls and injury from falls in Home Care
Definition	The percentage of clients for whom a Falls Risk Screening has identified them as being "At Risk" and for whom a Falls Prevention and/or Injury Reduction Plan has been documented. Report data on a monthly or quarterly basis depending on client volume. A "Fall" is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
Goal	100%
Data Collection Details	
Facility Name	
Health Region	
Sample [illegible]	

	Team #	
	Facility Type	

	2008									2009											
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Calculation of Denominator																					
5.1 What is the total number of current clients identified as "At Risk" on a Falls Risk Screening for this reporting period (month or quarter)?																					
Calculation of Numerator																					
5.2 What is the total number of clients in #5.1 with a documented "Falls Prevention and/or Injury Reduction Plan" for this reporting period (month or quarter)?																					
Final Calculation																					
5.3 Percentage of "At Risk" clients with a documented Fall Prevention or Injury Reduction Plan. Divide # 5.2 by # 5.1. Multiply by 100	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
GOAL*1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

5. Percentage of "At Risk" Clients with a Documented Falls Prevention/Injury Reduction Plan – Technical Description

Intervention(s): Prevention of falls and injury from falls in home health care

Definition: The percentage of clients for whom a Falls Risk Screening has identified them as being "At Risk" and for whom a Falls Prevention/Injury Reduction plan has been documented.

Goal: 100%

CALCULATION DETAILS:

Numerator Definition: The total number of current clients identified "At Risk" on a Falls Risk Screening with a documented "Falls Prevention and/or Injury Reduction Plan" for this reporting period (month or quarter).

Numerator Exclusions: Clients less than 18 years of age

Denominator Definition: The total number of current clients identified as "At Risk" on a Falls Risk Screen for this reporting period (month or quarter)

Denominator Exclusions: Clients less than 18 years of age

Measurement Period Length: Data may be captured on a monthly or quarterly basis depending on client volume.

Definition of Terms:

- **Fall** - A Fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level with or without injury.
- **Falls Risk Screening** – screening is conducted utilizing key risk factors for falls in community dwelling clients (see GSK).
- **Falls Prevention and/or Injury Reduction Plan** – an individualized documented plan outlining strategies addressing identified falls-associated risks is in the health record.

Calculate as: Number of clients with a documented "Falls Prevention and/or Injury Reduction Plan" *divided by* the total number of current clients including new admissions or those with an anniversary of admission identified as "At Risk" on a Falls Risk Screen for this reporting period. Multiply by 100.

Comments: None

COLLECTION STRATEGY:

Data should be collected on all clients experiencing a fall.

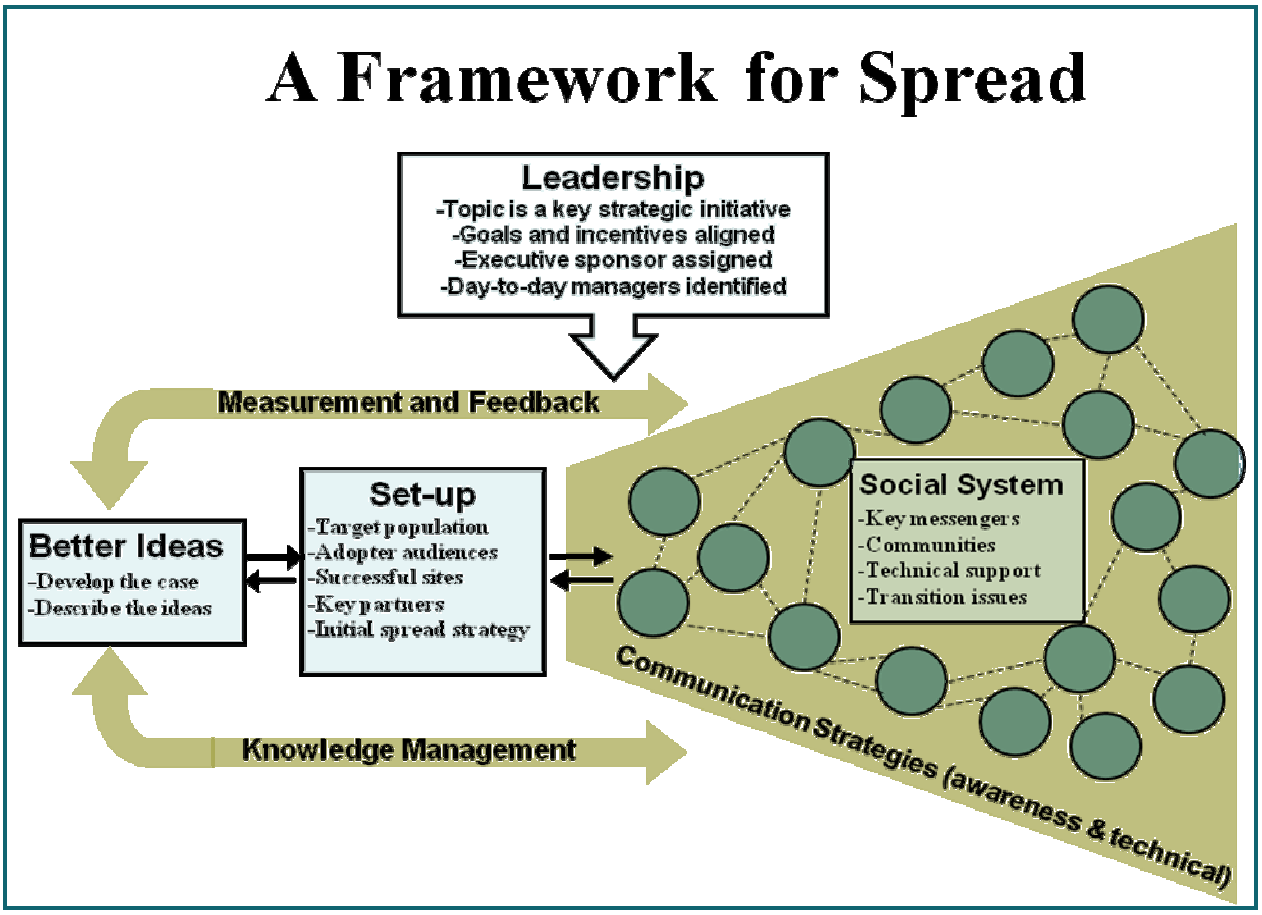
Sampling Plan: Count all "At Risk" clients.

Appendix N – Framework for Spread

What is Spread?

Spread is the degree to which learning is put into operation throughout an organization. It is the science of taking a local improvement (intervention, idea, process) and *actively* disseminating it across a system (e.g. within a hospital, a long-term care home, home health care agency, a group of hospitals, a region, a country). In the context of this Getting Started Kit, it refers to the movement of the small tests of change that have been identified for implementation within a targeted practice setting to the entire organization.

Framework for Spread[67]



The Framework for Spread has seven Components:

1. **Leadership:** Setting the agenda and assigning responsibility for spread
2. **Set-Up for Spread:** Identifying the target population and the initial strategy to reach all sites in the target population with the new ideas
3. **Better Ideas:** A description of the new ideas and evidence to "make the case" to others
4. **Communication:** Methods to share awareness and technical information about the new ideas

5. **Social System:** Understanding the relationships among the people who will be adopting the new ideas
6. **Knowledge Management:** Observing and using the best methods for spread as they emerge from the practice of the organization
7. **Measurement and Feedback:** Collecting and using data about process and outcomes to better monitor and make adjustments to the spread progress

It can also be useful to think about spread as involving three phases[68]:

- **Planning and Set-up** (leadership, set-up, and better ideas)
- **Communication through the Social System** (communication strategies and the nature of the social system)
- **Continuous Monitoring and Feedback** (measurement and feedback and knowledge management)

Are you ready for SPREAD?[69]

- There are demonstrated results
- There is will to spread the idea within the organization
- The strategy is a key initiative for the organization
- A senior leader is responsible for spread of the changes
- There is an agreed upon PLAN documented

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