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REDUCING FALLS AND INJURIES FROM FALLS

Getting Started Kit

June 2013 (Measures Revised April 2015)

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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 interdisciplinary teams in a dynamic approach for improving quality and safety while providing a basis for getting started. This 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 kit was released in 2010. We remain open to working consultatively on updating the content, as more evidence emerges, as together we make healthcare safer in Canada.

Note:

The Getting Started Kits for all interventions used by *Safer Healthcare Now!* are available in both French and English.

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As of June 1, 2016, Safer Healthcare Now! is no longer collecting data and Patient Safety Metrics is no longer available. Our Central Measurement Team continues to offer expert measurement coaching and consultation.

Acknowledgements

The Fall *Prevention/Injury Reduction Getting Started Kit* has been adapted from the earlier 2010 version of the Canadian publication: *Preventing Falls and Injury from Falls Getting Started Kit* developed by *Safer Healthcare Now! in* partnership with the Registered Nurses' Association of Ontario.

The Registered Nurses' Association of Ontario (RNAO) is the professional association representing registered nurses in Ontario. The International Affairs and Best Practice Guidelines Program (IABPG) is a signature program of the RNAO. Since 1999, with funding from the Ontario Ministry of Health and Long-Term Care, IABPG has focused on the development, dissemination, implementation, evaluation and support for uptake of clinical and healthy work environment best practice guidelines to support the development of evidence-based practice cultures. One evidence-based resource developed early was the guideline *Prevention of Falls and Injury from Falls in the Older Adult (rev. 2011).* The Canadian Patient Safety Institute, recognizing the contributions the RNAO had made in the area of falls best practices, approached the RNAO to act as the *Safer Healthcare Now!* Falls Prevention Intervention Lead and work with the Canadian Patient Safety Institute Falls Intervention Faculty to update the Falls *Prevention/Injury Reduction Getting Started Kit*.

RNAO Registered Nurses' Association of Ontario
L'Association des infirmières et infirmiers autorisés de l'Ontario

The Registered Nurses' Association of Ontario for preparing the Fall Prevention/Injury Reduction Getting Started Kit

cpsi icsp Canadian Patient Safety Institute
Institut canadien pour la sécurité des patients

The Canadian Patient Safety Institute (CPSI) provided both financial and in-kind support toward the development of the *Safer Healthcare Now!* Fall Prevention/Injury Reduction Getting Started Kit

Fall Prevention/Injury Reduction Getting Started Kit Faculty Contributors

The Registered Nurses' Association of Ontario leads the fall prevention and injury reduction intervention for *Safer Healthcare Now!* This Fall Prevention/Injury Reduction *Getting Started Kit* has been prepared by the Registered Nurses' Association of Ontario in partnership with *Safer Healthcare Now!* and the Canadian Falls Intervention Faculty. It contains fall-related tools, resources and experiences that reflect long-term care, acute care and home health care practice. The insight and contributions represent an accumulation of knowledge from the *Safer Healthcare Now!* Canadian Falls Intervention Faculty as well as the faculty and improvement teams who participated in the following Fall Prevention/Injury Reduction initiatives:

- National Collaborative for the Prevention of Falls in Long-Term Care (2008-2009)
- Falls Virtual Collaborative (2010-2011)
- Falls Facilitated Learning Series (2011-2012)

We wish to thank and acknowledge our Canadian faculty who has contributed significantly to the work of teams across Canada and for sharing their knowledge and expertise to complete the: Fall Prevention/Injury Reduction Getting Started Kit.

Canadian Falls Intervention Faculty (2013)

Dr. Jenny Basran, MD, FRCPC
Geriatrician, Assistant Professor, Department of Medicine – Division Head, Geriatric Medicine
University of Saskatchewan, Saskatoon, SK

Paule Bernier, P.Dt, M.Sc
Clinical Dietitian, Jewish General Hospital, Montreal, QC
Safety and Improvement Advisor, *Safer Healthcare Now!*

Donna Davis, RN
Co-chair, Patients for Patient Safety Canada, Carievale, SK

Brenda Dusek, RN, BN, MN
Program Manager, International Affairs and Best Practice Guidelines Centre, Registered Nurses' Association of Ontario
Falls Intervention Lead*, Safer Healthcare Now!,* Toronto, ON

Fabio Feldman, PhD
Manager, Seniors Fall and Injury Prevention, Fraser Health Authority, Vancouver, BC

Kimberly Fraser, PhD
Assistant Professor, Faculty of Nursing, University of Alberta, Edmonton, AB

Nadine Glenn
Canadian Patient Safety Institute
Safety and Improvement Advisor, *Safer Healthcare Now!,* Grande Prairie, AB

Heather Keller, RD, PhD
Schlegel Research Chair Nutrition & Aging Department of Kinesiology
University of Waterloo, Kitchener-Waterloo, ON

Anne MacLaurin, RN, BScN, MN
Canadian Patient Safety Institute
Project Manager, *Safer Healthcare Now!,* Edmonton, AB

Susan McAlpine, B.Sc.P.T.
Physiotherapist, CSSS d'Argenteuil, Lachute, Quebec
Coordinator of Clinical Education, Physical Rehabilitation Program
Dawson College, Montreal, QC

Heather McConnell
Associate Director, International Affairs & Best Practice Guidelines Centre
Registered Nurses' Association of Ontario, Toronto, ON

Alexandra Papaioannou, BScN, MSc, CIHR, MD
Eli Lilly Chair Professor of Medicine McMaster University
Hamilton Health Sciences, Hamilton, ON

Vanina Dal Bello-Haas, PT, PhD
School of Rehabilitation Science, McMaster University, Hamilton, ON

Rayma O'Donnell
Director of Care Services, York Manor, Fredericton, NB

Carla Marie Purcell, RN, BScN
Clinical Nurse Educator, Capital Health, Halifax, NS

Helene Riverin
Conseillère clinicienne en physiothérapie, CSSS de la Vieille-Capitale, Québec, QC
Canadian Patient Safety Institute, Safety and Improvement Advisor,
Des *soins de santé plus sécuritaires maintenant!* - Québec

Cheryl Sadowski, PhD
Faculty of Pharmacy & Pharmaceutical Sciences, University of Alberta, Edmonton, AB

Vicky Scott, PhD
Senior Advisor on Fall & Injury Prevention, Injury Research & Prevention Unit
British Columbia Ministry of Health, Victoria, BC

Laura M. Wagner, RN, PhD,
Adjunct Scientist, Rotman Research Institute, Baycrest, Toronto, ON
Assistant Professor, University of California, San Francisco School of Nursing

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The Registered Nurses' Association of Ontario*, Safer Healthcare Now*, Canadian Patient Safety Institute, and contributing organizations are not responsible, nor liable, for the use of the information provided.

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Fall Prevention/Injury Reduction and its Role in Healthcare

Introduction

This *Safer Healthcare Now! Fall Prevention/Injury Reduction Getting Started Kit* is intended to be a guide to assist professionals working across all health sectors (acute, long term care and home health care) to implement fall prevention/injury reduction programs for individuals > 65 years of age. This document:

- Is not a detailed compendium outlining all possible approaches; and
- Highlights high impact, evidence-based strategies to initiate/enhance fall prevention/injury reduction improvement work in various settings.

Fall Prevention/Injury Reduction as a Priority Client Safety Issue

Why are Falls such a Safety Concern for Canadians?

More than one third of individuals 65 years or older experience a fall and the risk increases with the more risk factors an individual has and a diagnosed history of falls or cognitive impairment.[1,2,3] Falls & Related Injuries among Older Canadians: Fall-Related Hospitalizations & Intervention Initiatives[4] reports the following statistics on the consequences of fall and fall injuries in the older adult:

- In the year 2008/2009 in Canada, fall-related hospitalizations (N = 73,190) comprise 85.4per cent of all injury-related hospitalizations (N = 85,703) among those aged 65 years and older, with the range among the provinces from the lowest at 73 per cent (Territories) to the highest at 88 per cent (Nova Scotia). The age-standardized rate is 15.9 per 1,000 seniors.
- Fall-related injuries are known to be the leading cause of injury for seniors across all Canadian provinces and territories and account for over 85 per cent of all injury-related hospitalizations.
- Half (49.6 per cent) of falls resulting in hospitalization among those aged 65 and older (N=35,553) occurred in or around the home while falls in residential institutions accounted for 16.5 per cent (N=11,840) of hospitalization.

- In 2008/2009, 35 per cent (N = 18,800) of seniors discharged from a fall-related hospitalization were discharged to continuing care despite the fact that only 16.5 per cent (N = 11,840) of falls leading to hospitalization occurred in a continuing care setting.
- The average acute length of stay for a fall-related injury was 80 per cent longer (16.0 days) across Canada as a whole compared to the average length of stay (8.9 days) for all other causes of hospitalization excluding falls (2008/2009).

Falls result in pain and suffering for individuals and their families. Falls in older adults often results in moderate to severe injuries (e.g. hip fractures and head injuries with residual deficits). Falls increase the risk for early death and can make it difficult for individuals to live independently.[5, 6] Fall-related injuries result in significant societal economic burden. In Canada in 2004, healthcare costs due to fall-related injuries were approximately $2 billion for individuals aged 65 years and older. In 2004, 4.1 million individuals in Canada were age 65 or older or represented 13 per cent of the total Canadian population, which means the average fall-related costs amounted to approximately $500 per senior.[7] Direct health care costs relating to falls among seniors are estimated at $1 billion every year.[8]

Falls and fall related injuries have a significant impact on the individual, organizations providing health care services and the health care system overall. The prevention of falls takes on even more importance as Canada's senior population grows. Identifying fall risk factors and understanding the relationships between these risk factors (e.g. early gait disturbances and early cognitive changes), may assist in identifying older adults at risk of experiencing mobility decline and falls[2] and help in the creation of effective fall prevention/injury reduction programs to prevent or reduce falls and fall injuries. According to the "Report on Seniors Falls in Canada" a 20 per cent reduction in falls would result in a national savings of $138 million annually.[9]

Annual fall-related hospitalizations in Canada (N = 73,190) comprise 85.4 per cent of all injury-related hospitalizations (N = 85,703) among those aged 65 years and older.

Accreditation Canada

Accreditation Canada has identified a Fall Prevention/Injury Reduction 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 client safety and minimize risk. The intent of fall prevention/injury reduction as an ROP is to reduce the risk of injuries resulting from a fall. There are a number of tests which Accreditation Canada uses to assess an organization's for compliance:

- 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 establishes measures to evaluate their fall prevention strategy on an ongoing basis.
- The team uses the evaluation information to make improvements to its fall prevention strategy.

Accreditation Canada, Required Organizational Practices Handbook available at: http://www.accreditation.ca/accreditation-programs/qmentum/required-organizational-practices/

Accreditation Canada has identified Fall Prevention/Injury Reduction as one of the 32 Required Organizational Practices (ROPs). An ROP is defined as an essential practice that organizations must have in place to enhance client safety and minimize risk.

How to Use this Getting Started Kit

The Getting Started Kit provides support to teams working in various practice settings to start the process of using a small number of clients, make changes, and gradually develop, implement and evaluate fall prevention/injury reduction interventions broadly using quality improvement processes.

This updated document has been developed in order to highlight high impact, evidence-based approaches for fall prevention/injury reduction, 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:

ACUTE CARE

LONG-TERM CARE

HOME HEALTH CARE

Definitions:

Acute care:[11] "a pattern of healthcare in which a client is treated for a brief but severe episode of illness, for the sequelae of an accident or other trauma, or during recovery from surgery. Acute care is usually given in a hospital by specialized personnel using complex and sophisticated technical equipment and materials, and it may involve intensive or emergency care. This pattern of care is often necessary for only a short time, unlike chronic care.

- **Ambulatory care** is health services or acute care services that are provided on an outpatient basis."

Long-term care (LTC):[12] "The provision of medical, social, and personal care services on a recurring or continuing basis to persons with chronic physical or mental disorders. The care may be provided in environments ranging from institutions to private homes. Long-term care services usually include symptomatic treatment, maintenance, and rehabilitation for clients of all age groups."

Home Health Care:[13] "Services provided by a certified agency using an interdisciplinary team of caregivers (includes home support workers) to meet the needs of clients being cared for in out-of-hospital settings such as private homes, boarding homes, hospices, shelters, and so on.

Technological advances now make it possible for clients to receive many treatments at home that formerly were administered only in a hospital. Some examples include oxygen therapy, intravenous drug perfusion (including administration of antineoplastics and antibiotics), and peritoneal dialysis. A variety of agencies and services are available in many communities. Some are public, affiliated with federal or provincial governments or with hospitals (non-profit agencies) while others are privately owned and operated for profit (proprietary)."

Interventions for fall prevention/injury reduction 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 important to individualize strategies to the specific risk factors identified during client assessment. It is recognized that the terminology used to describe the recipients of care vary across sectors, however for ease of reading, the term "client" will be used throughout the Getting Started Kit.

For the purposes of this *Getting Started Kit*, the term "client" will be used to refer to patients, residents, clients, consumers – any individuals who is the recipient of care/service regardless of the setting.

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, which may be witnessed or unwitnessed.

Definitions

For the purpose of this *Getting Started Kit*, the following are the definitions for fall, unwitnessed fall and near fall:

What is a 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.[14] This would include:[15]

- **Unwitnessed fall** - where the client is able/unable to explain the events and there is evidence to support that a fall has occurred.

What is a Near Fall?

A near-fall is a slip, trip, stumble or loss of balance such that the individual starts to fall but is either able to recover (witnessed or unwitnessed) and remains upright because their balance recovery mechanisms were activated and/or caught by staff/other persons, or they were eased to the ground or floor or other lower level, by staff/other persons (e.g. could not stop or prevent falling to the ground, floor or lower surface).[16]

What is a Fall Injury?

A fall injury is defined as an injury that results from a fall, which may or may not require treatment. The injury can be temporary or permanent and vary in the severity of harm.

Fall Prevention/Injury Reduction Intervention Strategies

There are five main components to fall prevention/injury reduction intervention strategies where staff in acute care, long-term care, and home health care can make a difference towards fall prevention and injury reduction.[17]

The components include:

- Prevention: Universal Fall Precautions (SAFE);[18]
- Multifactorial Risk Assessment ;
- Communication and education about fall risk;
- Implementation of interventions for those at risk of falling; and
- Individualize interventions for those at high risk of fall-related injury.

These interventions are summarized in the chart below and are illustrated in **Figure 1: Fall Prevention/Injury Reduction 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.

Interventions for Fall Prevention and Injury Reduction
1. Prevention: Universal Fall Precautions (SAFE) for all **S**afe Environment, **A**ssist with Mobility, **F**all Risk Reduction, **E**ngage Client and Family.
2. Multifactorial Risk Assessment a) Assess all clients' for fall risk on admission, on a regular schedule, and following a significant change in status, and following a fall.
3. Communication and Education about Fall Risk a) Communicate the results of the fall risk assessment to the client and family, and healthcare team. b) Educate all staff on fall prevention/injury reduction strategies and on specific fall risk factors. c) Educate all clients who have been assessed at high risk for a fall and fall-related injury and their family regarding fall risk status.
4. Implement Interventions for those at Risk of Falling

Interventions for Fall Prevention and Injury Reduction

Client level:

a) Create an individualized care plan with interventions targeted to the results of the risk assessment.

Organizational level:

a) Develop organizational policies for fall prevention/injury reduction management that includes role and responsibilities of the organization and each health care provider.

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

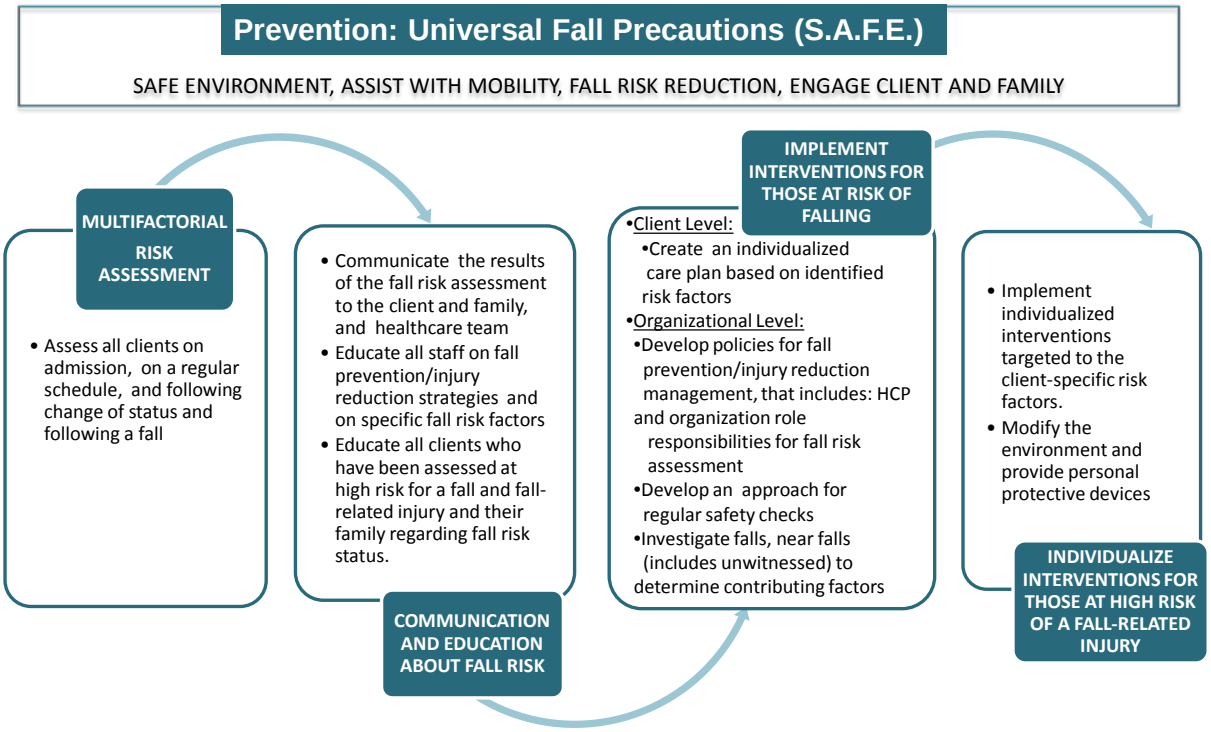
c) Investigate each fall or near fall (includes unwitnessed) to identify contributing factors and to prevent re-occurrence.

5. Individualize Interventions for those at High Risk of a Fall-Related Injury

a) After identifying those clients who are at high risk for a fall and fall-related injury implement individualized interventions targeted to the client-specific risk factors.

b) Modify the environment and provide personal devices to reduce risk of fall-related injury.

Figure 1 - Fall Prevention/Injury Reduction Intervention Model



Prevention

In order to prevent a fall all clients should have universal fall precautions (S.A.F.E.) in place.

The Universal Fall Precautions initiative is founded on the principle that all clients are at risk for falls and a core set of fall prevention principles is applied by all staff to all clients. The acronym S.A.F.E. (**S**afe environment; **A**ssist with mobility; **F**all-risk reduction; and **E**ngage client and family) is utilized to describe the key strategies for universal fall precautions.

Prevention: Universal Fall Precautions (SAFE)

Safe Environment

Assist with Mobility

Fall Risk Reduction

Furthermore, when necessary, specific targeted interventions (e.g., hip protectors, commodes at bedside, bed alarms, closer observation, and referrals) to other interprofessional team members (e.g. Occupational and/or Physiotherapy Therapists) will be implemented for individuals based on identified risk factors for falls and injuries.

As part of the Universal Fall Precautions, during routine client care and safety checks, all clients must be asked (if awake and responsive), these three questions: (1) "Do you need to use the toilet?" (2) "Do you have any pain or discomfort "(3) "Do you need anything before I leave?" **Figure 2** demonstrates a poster/pocket card used at Fraser Health that outlines the safety check steps for implementing Universal Fall Precautions (S.A.F.E.) and **Figure 3** is a Pre-transfer Checklist. An example of an audit tool is available from Fraser Health (**Appendix A**) to evaluate if healthcare providers consistently follow through on Universal Falls Precautions (S.A.F.E.).

Figure 2a - Example: Universal Fall Precautions Poster

Reprinted with permission Fraser Health; 2013.

Figure 2b - Example: Universal Fall Precautions Pocket Card

Reprinted with permission Fraser Health; 2013.

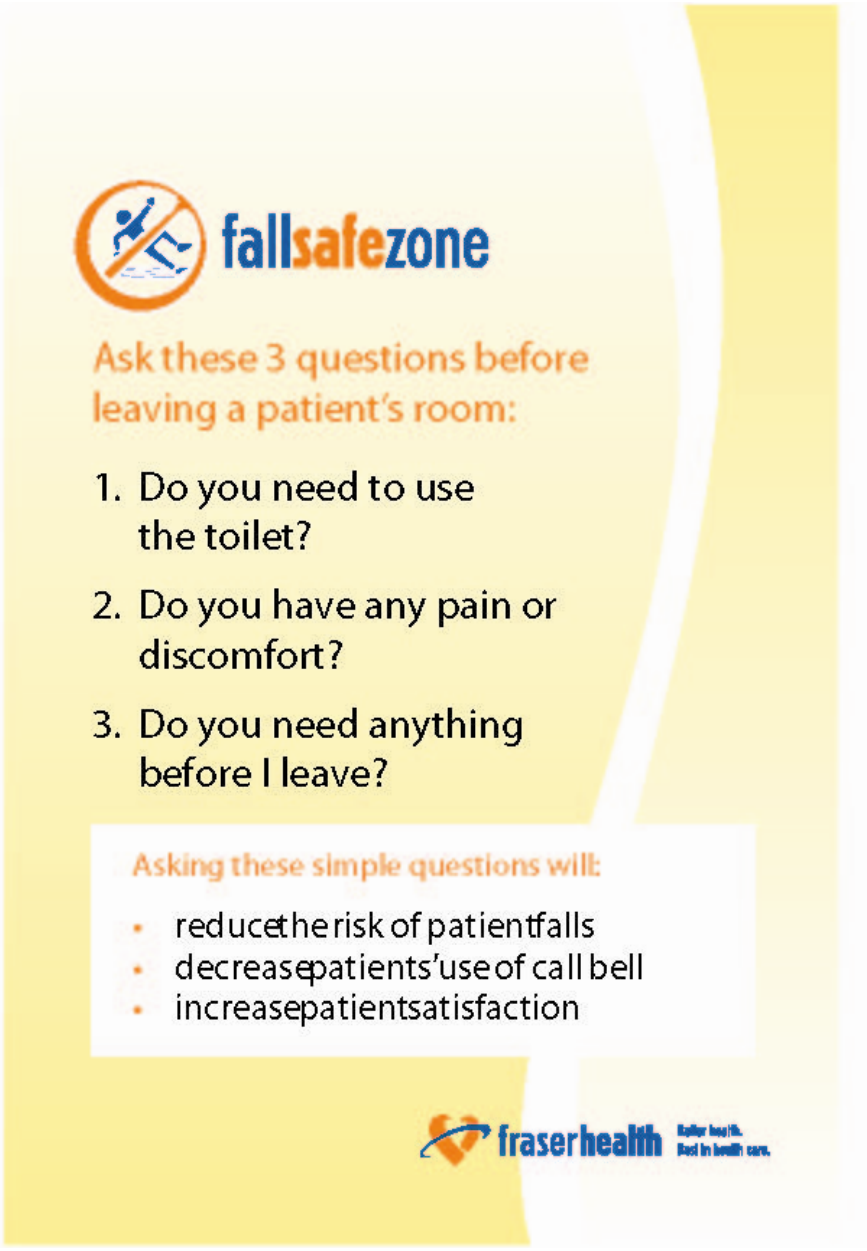
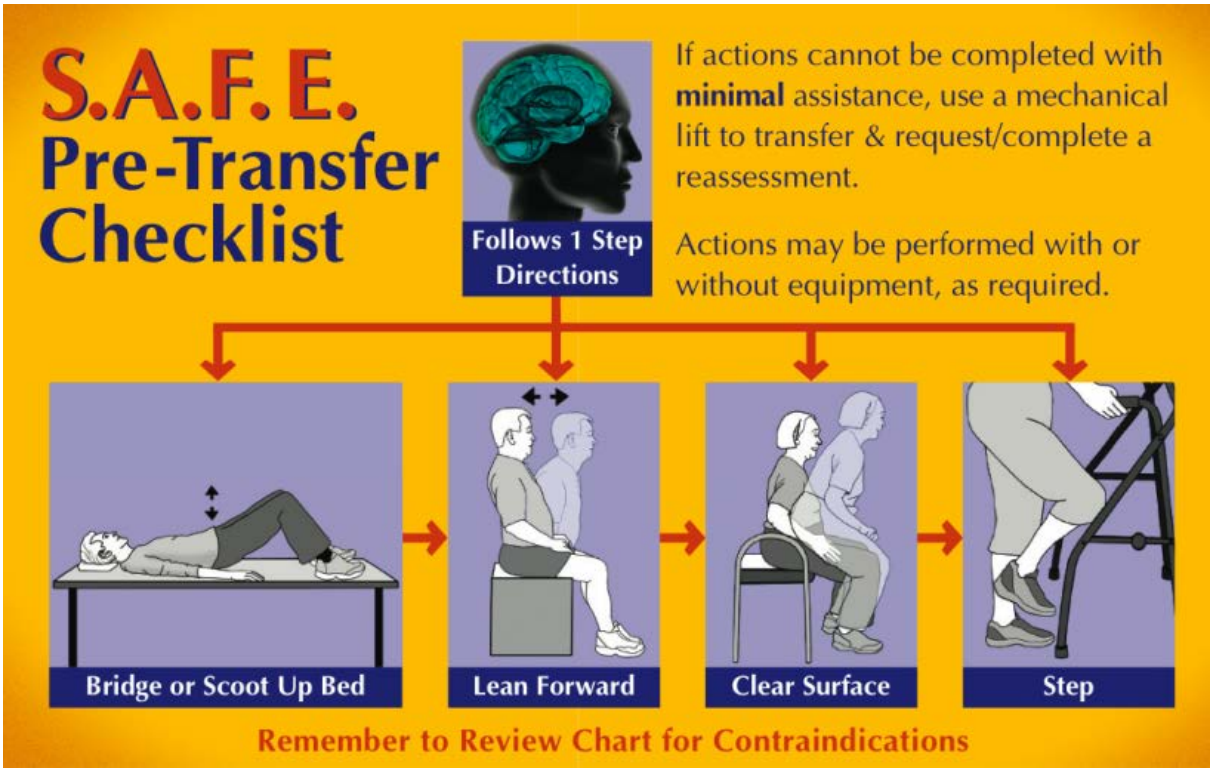


Figure 3 - Example: S.A.F.E. Pre-transfer Checklist

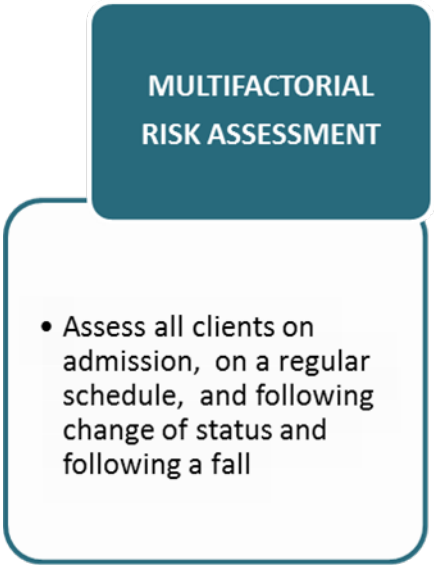
Reprinted with permission Vancouver Coastal Health Authority; 2013.



Multifactorial Risk Assessment

Assess all clients' for fall risk factors:[6, 14]

- on admission;
- on a regularly scheduled basis;
- following any change of status; and
- following a fall or near fall.



An accurate and timely fall and fall-related injury multifactorial risk assessment is an important step in the provision of safe, person-centred care.[3] The results of this risk assessment will provide direction for the development and implementation of individualized care plans for fall prevention/injury reduction.

In home health care settings, the evaluation of client's fall-risk has been identified as not as easy to carry out as in acute or long term facilities. Falls and near falls in the home health care setting are often under reported as clients are often embarrassed to admit to experiencing a fall and/or near falls. Older adults often do not recognize the significance of frequent loss of balance (near falling) and are fearful of not being able to stay at home. Many of the risk factors such as appropriate use of medications, mobility or diet/nutrition challenges, environment and ongoing health issues cannot be easily monitored due to intermittent attendance of service providers.[19] A multifactorial risk factor evaluation [6] should be carried out for new clients on admission to homecare services with the subsequent establishment of a regular schedule of reassessment for updating fall-risk associated with:

- client's perception of their risk for falling or experiencing a near fall;
- medication review;
- evaluation of the safety of the physical environment;
- nutritional status;
- screening for physiological factors (e.g. orthostatic hypotension if indicated); and
- mobility.

Clients receiving home healthcare services who are identified as high risk for falls should have an evaluation by all appropriate interdisciplinary team members since every discipline will not necessarily be involved with the client from the onset. It remains the responsibility of each home health care service provider within their profession's scope of practice to evaluate the

client for fall risk factors and to communicate the results of the assessment to the other members of the team.

The frequency of regularly scheduled basis fall risk assessment will be dependent on the setting. In long-term care residences, 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 client's length of stay and level of acuity (e.g. surgical, complex continuing care, rehabilitation), and acute illness effect on physical and cognitive function.

Risk Factors for Falling [6, 20, 21]

Falls occur due to a loss of balance or an inability to recover balance. A range of risk factors (>400) have been identified as influencing whether individuals are likely to fall. The adapted BBSE MODEL of fall-related risk factors (Figure 4) identifies **b**iological (intrinsic), **b**ehavioural, **s**ocial & **e**conomic and environmental (extrinsic) risk factors. These risk factor determinants of fall, and fall-related injury interconnect, and the more risk factors an individual has, the greater the risk of falling.

Some fall risk factors are modifiable, which means they can be changed, modified or compensated for (e.g. diet, exercise, muscle weakness, poor vision, and some factors for cognitive health) but others factors are non-modifiable, which means they cannot be changed (e.g. genetics, age and gender). A clients' risk for a fall or fall-related injury is influenced by the interaction between intrinsic, extrinsic and situational factors (e.g. certain activities or decisions may increase the risk of falls and fall-related injuries). [22]

Biological (Intrinsic) Risk Factors

These risk factors pertain to the human body (biological) and are related to the natural aging process and/or are the result of chronic, acute or palliative health conditions (e.g. neurosensory impairment, drugs, diseases such as Parkinson, cerebrovascular disease, osteoarthritis, and diabetes). As the number of intrinsic risk factors increase so does the risk for a fall. An awareness of the client's biological or intrinsic risk factors is important for implementation of effective fall prevention/injury reduction strategies targeted to the factors identified.

External Environment (Extrinsic) Risk Factors

These risk factors are social and physical factors that relate to an external environment (extrinsic), unrelated to disease or drug use. This type of risk factor can be eliminated or reduced through lifestyle or behavioural changes.

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

- **Biological (intrinsic)**
- **Behavioural (extrinsic)**
- **Social and economic (extrinsic)**
- **Environmental (extrinsic)**

Behavioural

The identification of behavioural risk factors can facilitate the development of strategies aimed at assisting the client and family understand the association between their identified risk factors and how their actions, emotions or choices can lead to an increase risk of a fall or fall-related injury.

Social and Economic

Various studies reveal that the following social and economic risk factors contribute to falls and fall-related injuries:

- social isolation;
- poor support networks;
- socially deprived populations;
- culture and ethnicity; and
- low income (below $15,000).

Social and economic conditions and factors permit health but also shapes the circumstances in which individuals are born, grow up, and live. Health inequities are often a direct reflection of social inequalities. Individuals with the lowest income die earlier and have significantly higher incidences of chronic disease. Understanding the client's social and economic situation will assist in the development of strategies that take these risk factors into consideration to prevent a fall and/or fall-related injury.

Environmental

This type of risk factor is associated with hazards in our physical surroundings such as:

- building design;
- furniture;
- weather (e.g. rain and snow);
- availability of devices to assist mobility (e.g. hand rails and grab bars); and
- other barriers to mobility in a physical space (e.g. clutter, floor rug).

Figure 4 - BBSE MODEL of Fall-Related Risk Factors

Adapted from: The BBSE MODEL of FALL-RELATED RISK FACTORS[6]			
Biological (Intrinsic) ⟷	**Behavioural (Extrinsic)** ⟷	**Social & Economic** ⟷	**Environmental**
Impaired mobility	History of falls	Low income: inability or lack of willingness to pay for home modifications, assistive devices, etc.	Poor building design &/or maintenance
Balance/gait deficit	Fear of falling	Lower level of education	Inadequate building codes
Muscle weakness	Multiple medications	Illiteracy/language barriers	Stairs
Advanced age	Inappropriate use or prescribing of drugs or classes of drugs (see **Appendix B** for 2012 AGS Beers Criteria) known to be inappropriate for use in older adults due to drug related problems or associated adverse effects such as exacerbation of disease/condition, dry mouth, constipation, falls.[23] Not all classes of drugs on the BEERs list outline falls as a risk however the following have been identified for those with history of falls or fractures: • Anticonvulsants • Antipsychotics • Benzodiazepines • Nonbenzodiazepine hypnotics	Poor living conditions	Home hazards: (e.g. loose rugs, clutter uneven stair risers, wires or power cords, lack of stair railings), inappropriate organization of often-used home items (e.g. telephone, kettle, dishes)

Biological (Intrinsic) ⟷	**Behavioural (Extrinsic)** ⟷	**Social & Economic** ⟷	**Environmental**
	Refer to **Appendix B 1** for Medications and Risk for Fall/ Injury from Fall and B 2 - quick reference chart by class, impact and examples for more detail on drugs that increase fall-risk.		
Chronic illness/disability: • Arthritis • Cognitive impairments: delirium, dementia, depression • Diabetes • Foot disorders • Heart disease • Incontinence • Hypotension: o Postural (orthostatic) o Post-prandial [24] [25] [26] [27] • Osteoporosis • Neurological disorders (e.g. Parkinson's disease) • Cerebrovascular disease (e.g. stroke)	Excessive alcohol	Living alone	Lack of: • Handrails • Curb ramps • Rest areas • Grab bars

Biological (Intrinsic) ⟷	**Behavioural (Extrinsic)** ⟷	**Social & Economic** ⟷	**Environmental**
Visual impairment	Behaviours: • Risk-taking behaviours • Agitation • Disruptive behaviours	Lack of support networks and social interaction	Poor lighting or sharp contrasts Visual aid change: new change in visual prescription glasses such as bifocals/ trifocals which client not used to
Acute illness • Cognitive impairments: delirium, depression	Lack of physical activity	Lack of transportation	Slippery or uneven surfaces (e.g. cracked sidewalks)
	Inappropriate footwear/clothing	Cultural/ethnicity	Obstacles and tripping hazards
	Inappropriate use of assistive devices		
Poor nutrition or hydration	Inadequate or inappropriate food and fluid intake, excessive alcohol use	Inadequate income for nutritious food, budgeting that results in poor food choices, inadequate cooking capacity, and eating alone	Inaccessible grocery stores, lack of adequate and/or safe transportation
	Sleep disturbances		

Assess All Clients' Fall-Risk:

Two goals of a fall risk assessment are to individualize interventions to the client risk profile; and to maximize resource use by targeting interventions to individuals at greatest risk for fall and fall-injury.[6] The selection of a standardized and reliable multifactorial fall-risk tool is a challenging decision, as practitioners need to consider the:

- client population;
- healthcare setting where it will be used;
- potential for staff acceptance, ease of use and training; and
- evidence that demonstrates the tool is valid and reliable.

An example of a repository of fall-related assessment tools is available at www.injuryresearch.bc.ca to support the decision-making process. Although there are many fall risk assessment tools in use for acute, long-term care, and home health care settings the following are the three basic categories of tools:

- **Multifactorial tools**: Questions cover a range of risk factors that demonstrate high level of evidence in predicting a future fall or risk profile.
- **Functional mobility tools**: Assessment measures of physical activity related to gait, strength and/or balance.
- **Environmental Hazard Checklists**: A list of hazards in the environment that are associated with slips, trips and falls.

Assessment tools can further be classified as;

- **Quick Screening**: Used to identify and sort individuals into high or low fall-risk categories.
- **Comprehensive**: Used to identify specific risk profiles of individuals in order to create individualized targeted fall prevention/injury reduction plans of care based on identified risks.

Although there is no universally utilized, validated fall risk assessment tool for all settings, and no validated environmental hazard checklists, **Figure 5** outlines suggestions for screening tools and approaches for certain fall-risk screening parameters which are outlined in **Figure 4**, the adapted BBSE MODEL Fall-related risk factor chart . These factors are known to have a strong association to fall and fall-injury.[6, 28]

The following examples of tools have been either validated or are in use in various healthcare settings:

Acute Care:

- Schmid Fall Risk Assessment
- Stratify
- Morse Fall Scale
- Hendrich II Fall Risk

Long Term Care (Residential):

- Area Ellipse of Postural Sway
- Mobility Fall Chart
- Scott Fall Risk Screen Tool (SFRS) © [29]
- Tinetti Performance Oriented Mobility Assessment (POMA)

Home Health Care:[6]

- Clinical Test Sensory Interaction for Balance
- Falls Efficacy Scale International (FES-I)*
- Five-Minute Walk
- Five-Step Test
- Floor Transfer
- Functional Reach
- Maximum Step Length
- Physiological Profile Assessment (PPA) [30]
- Staying Independent Checklist
- Timed-Up-and-Go Test (TUG)**

* FES-I is easily done by phone.

** TUG test is one of the easiest tests to carry out in a client's home to identify clients at risk for falls that require a more in-depth assessment and evaluation.

Appendix C is not an all-inclusive list of examples, but provides some fall risk factor assessment screening tools that are freely available with instructions for their use:

- Hendrich II Fall Risk Model
- Morse Fall Scale
- Scott Fall Risk Screen Tool©
- STRATIFY Risk Assessment

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 client. Of note, official provincial/territorial health ministry tools to evaluate the level of care required by clients in different settings (home supports, residence) do include screening and evaluation of risk factors. Some tools can be used for quick screen for risk factors while others require a longer time to assess the client.

Figure 5 - Screening Parameter – Screening Tool and Approach Chart

Not an all-inclusive tool/approach list – example(s) only

Screening parameter	Appropriate Screening Tool(s) and Approach
Screen for physical and functional status (*See examples of tools in Appendix D*)	Some examples of tools that could be used to screen for physical or functional status include:[31] [32] Quick Screen: • *Timed Up and Go • Sit-to-Stand • Tandem Stance • Functional Reach Other Assessment tools: • Scott Fall Risk Screen Tool (SFRS)© • *Berg Balance Scale • Fullerton Advanced Balance (FAB) scale • Stop walking when talking • The BESTest (balance evaluation system test) • *Tinetti Performance Oriented Mobility Assessment (POMA) • Walking speed
Screen for cognitive impairment	Examples of tools that could be used to screen for cognitive impairment include:[33] • Mini-Mental Status Exam (MMSE) • Confusion Assessment Method (CAM) • Mini Cog - available at www.fpnotebook.com/Neuro/Exam/MnCgntvAssmntInstrmnt.htm • Montreal Cognitive Assessment (MoCA)

Screening parameter	Appropriate Screening Tool(s) and Approach
Screen for osteoporosis[34]	Osteoporosis screening and intervention are imperative to prevent fractures. All men and women over the age of 50 years, and men or women with one or more risk factors for fragility fractures should have a Bone Mineral Density (BMD) test. ***Any*** client over 50 who has risk factors and a previous fragility fracture will be at higher risk to fracture again. There is a moderate risk for osteoporotic fractures of the spine or hip with T-score of ≤2.5. Osteoporosis Canada [35] report: Risk factors for osteoporosis to include when considering BMD testing are: age, previous fragility fracture, family history of hip fracture, history of taking oral glucocorticoids (Prednisone), history of taking aromatase inhibitors for breast cancer or androgen deprivation therapy for prostate cancer, some diseases such as COPD, rheumatoid arthritis, chronic liver disease, Celiac disease, height loss, low body weight (<60kg) and low estrogen or testosterone levels. Other factors to consider: smoking and alcohol use, falls within the last year, challenges in gait and balance. Further facts and statistics are available at http://www.osteoporosis.ca/index.php/ci_id/8867/la_id/1.htm **Indicators of previous spine fracture:** Loss of height: A 2cm (3/4") loss of height or an overall total loss of 6cm (2 1/2") from youth or a curved back or kyphosis, or 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, and a protuberant abdomen. Clients with vertebral fractures are at high risk for re-fracture. There are two comprehensive fracture risk assessment tools that can be used in Canada to estimate an individual's 10-year absolute risk of fracture: • The Canadian WHO Fracture Risk Assessment Tool (FRAX); and • Canadian Association of Radiologist and Osteoporosis Canada (CAROC) Both can be accessed at http://www.osteoporosis.ca/multimedia/tools.html

Screening parameter	Appropriate Screening Tool(s) and Approach

Screen for hearing and visual acuity	Vision screening tools provide a quick and easy approach to vision assessment to determine if visual impairment is impacting on the older adult's daily activities. Visual examinations and screening should focus on screening for the presence of cataracts, macular degeneration and chronic disease impacts (e.g. diabetes retinopathy).
	
	Misericordia Health Centre focuses on Falls Prevention and Vision Screening.
	
	• A Vision Screening Kit available at: http://www.misericordia.mb.ca/AboutUs/VisionScreening.html contains:
	  • An instruction booklet,
	  • The vision screening tool, and
	  • A referral algorithm.
	
	The Centre for Eye Research Australia has examples of vision screening tools: http://www.cera.org.au/our-work/resources/vision-screening-tools. An example is the:
	
	• **Vision Screening Kit with CERA vision test** available for use by health professionals to test/screen for impaired vision. This kit/tool has been validated for use with:
	  • Older adults of all abilities including those with speech, cognitive and motor impairments,
	  • Individuals who are not fluent in English, and
	  • Individuals with advanced levels of dementia.
	
	The kit contains:
	  • Vision Screening Booklet
	  • Pinhole
	  • E Card Booklet (Near and Distance visual acuity)
	  • Matching Card
	  • E Card Tests:
	  o Distance –6/6, 6/12, 6/18, 6/60, 3/60
	  o Near – N8, N20, N48

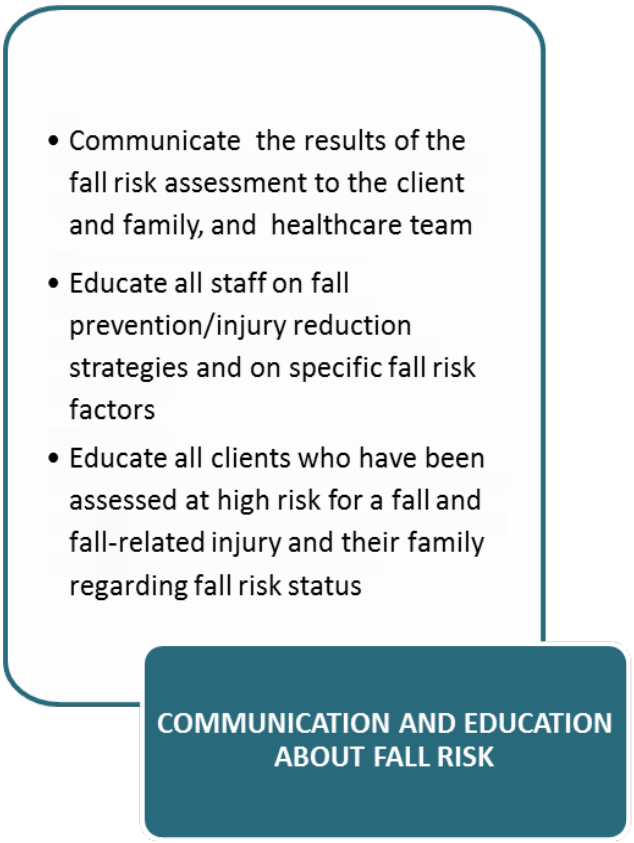
Screening parameter	Appropriate Screening Tool(s) and Approach
Screen for malnutrition (*See examples of tools in Appendix E*) and dehydration	Malnutrition and dehydration result in intermediate effects such as muscle weakness, functional and cognitive impairment and decreased physical activity. Insufficient nutrients (e.g., vitamin D, water), energy and macronutrients (e.g. protein) have been found to be associated with these intermediate effects as well as falls. Assess current nutrition risk with valid tools like *MST, *SCREEN© or *MNA-SF®. Several recommendations to improve food intake can be made based on screening tool risk factors; refer high risk clients who require a full assessment to a dietitian.

Communication and Education about Fall Risk

Proactive, consistent and routine communication in both verbal (e.g. reports) and written (e.g. chart) formats to the interdisciplinary team (regulated and non-regulated staff) and family members is an essential strategy. [17, 36]

Communication should include:

- the client's fall risk;
- individualized plan of care or changes to the plan post-fall incident;
- actual reported/unreported fall-incidents; and
- quality improvement fall prevention/injury reduction strategies or initiatives.



Organizations should review the communication processes between interdisciplinary team members especially between regulated and non-regulated staff, and who has access to the plan of care when implementing individualized approaches for client's identified at risk.

The interdisciplinary team will benefit from proactive, regular (weekly) versus impromptu or informal meetings to discuss:

- fall initiatives;
- fall incidents, and adherence to safety protocols;
- barriers to fall prevention (e.g. communication, staffing, family, environment, equipment; and
- Interdisciplinary team attitudes (e.g. perception of falls as non-preventable).

Client and family members should be included as active team members to help improve fall prevention/injury reduction initiatives and communication in healthcare settings.[36]

Communicate the results of the fall risk assessment to the client, the family and the healthcare team

Visual Identifiers

A variety of methods can be utilized to communicate fall 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 client's risk of a fall. The approach to the use of visual "identifiers" will be dependent on the needs of the client and the location of care provision. Some suggested approaches to using visual indicators include:

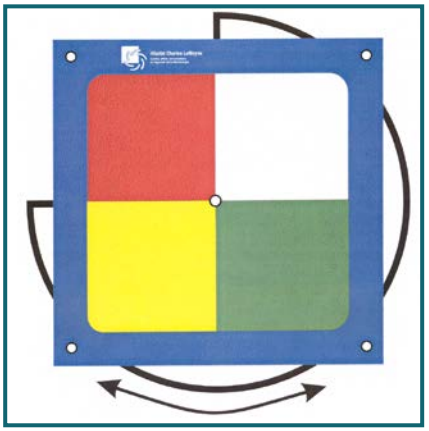
- Implement special coloured wristbands;
- Signage such as bed/room signs (e.g. falling leaf/falling star logo) and/or other visible identifiers;
- Identifiers on mobility aids; or
- Identifiers on healthcare record.

It is essential to maintain the individual's dignity and privacy related to the use of visual indicators. The following examples demonstrate signage and visual identifiers currently in use at hospitals and long term care facilities in Canada:

EXAMPLE: *Acute Care*

Reprinted with permission, CSSS Champlain-Charles-Le Moyne, Montreal, Quebec; 2013.

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



EXAMPLE: *Long Term Care*

Reprinted with permission, ***Kristus Daraz Latvian Home, Ontario; 2013.***

This logo (Granny Smith Apple) was used by staff at Kristus Daraz Latvian Home to communicate fall 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 fall-related educational information and other resources available to staff within their fall prevention program.

EXAMPLE: *Long Term Care*

Reprinted with permission, CSSS de la Vieille-Capitale; 2013.

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A logo is used according to the score obtained by the client with the Scott fall risk screening tool. When a client receives a score above 12 on the screening tool, they are considered to be at high risk of falling and having unsafe ambulation. Increased surveillance is recommended.

The involvement of all persons who work or visit the facility is very valuable. To allow these individuals to intervene with clients at high risk, a logo was created to identify these clients to ensure a better monitoring. The logo symbolizes the movement. It is designed not to stigmatize the person. The logo is placed within the person's room or on their equipment (e.g. wheelchair). Everyone on the unit when they see the person in a risky situation is alerted by the logo indicates that they are at high risk of falling and to call a healthcare team member for assistance. **Appendix F** is the CSSS de la Vieille-Capitale instructions on how to use the tool and their adapted Scott Fall Risk Screen tool.

Direct communication between providers

A key strategy to safe client care is ensuring that an individual's risk for a fall is clearly and directly communicated. This may happen during "hand off" between staff at shift change, when transferring a client 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 fall risk status at transfer of care (shift change), rounds and prior to outings with family;
- Develop hand-over form/report which includes fall risk assessment;
- Incorporate fall risk for those at high risk into discussion at all care conferences;
- Communicate risk to the extended healthcare team, as appropriate, for those receiving home health care services; and
- Include information about potential for a fall in client and family education.

Appendix C, Example: C1 - Morse Falls Scale – Electronic Health Record Screen is an example of an electronic healthcare record that clearly documents fall risk, and **Appendix G** is an example of a communication tool utilized in home healthcare.

Educate all Staff on Fall Prevention/Injury Reduction

A variety of approaches to enhance adult learning can be utilized to support the uptake of fall prevention and fall-related injury reduction strategies by healthcare 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:[14]

- Definition of a fall;
- Statistics on falls – frequency, outcomes and costs to the healthcare system;
- Impact on quality of life, autonomy, "dignity of risk" – ethical dilemmas;
- Fall risk assessment, including use of evidence-based fall assessment tools;
- Risk factors – intrinsic and extrinsic – associated with falling;
- Multi-factorial, interdisciplinary fall prevention/injury reduction strategies;
- Alternatives to restraints;[37] and
- Risk management including post-fall follow-up.

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

EXAMPLE: *Long-Term Care: *Fall Risk Room**

Reprinted with permission St. Joseph's Health Care London's Parkwood Hospital, Veterans Care Program, London, Ontario; 2013.

A resident room was set up to display a range of fall 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 fall 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 some example websites with staff education resources can be found in **Appendix H**. **Appendix I** shows examples of staff education resources and knowledge assessments currently in use in home healthcare and long term care settings.

Educate all clients who have been assessed at high risk for a fall and fall-related injury and their family regarding fall-risk status.

Engaging the client and family in their care is a foundational principle of person-centred care. Providing person-centred fall education has been found to reduce the fear of falling and improve self-efficacy.[38] Education can be provided in a variety of ways, and in a variety of settings. Educational materials distributed to clients and family members should consider factors that are influenced by the aging process. Client educational programs may include the following content:[39]

- Fall risk, safety issues and activity limitations;
- Importance of keeping active and staying mobile;
- Care of feet including use of appropriate footwear;
- 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;
- Psychological issues;
- Informed choice regarding risk;
- Osteoporosis and bone health;
- Opportunities to improve nutritional status; and
- First aid.

Refer to **Appendix H** for examples of websites associated with educational resources for clients.

The Public Health Agency of Canada has a number of educational resources developed specifically for community dwelling seniors related to fall prevention/injury reduction. The key content area addressed in these educational programs that impact on home healthcare include: [40]

- 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; and
- What to do if you fall.

The Public Health Agency of Canada (2006) Seniors and Aging: Preventing 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 clients the healthcare 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.

IMPLEMENT INTERVENTIONS FOR THOSE AT RISK OF FALLING

Client Level:
- Create an individualized care plan based on identified risk factors

Organizational Level:
- Develop policies for fall prevention/injury reduction management, that includes: HCP and organization role responsibilities for fall risk assessment
- Develop an approach for regular safety checks
- Investigate falls, near falls (includes unwitnessed) to determine contributing factors

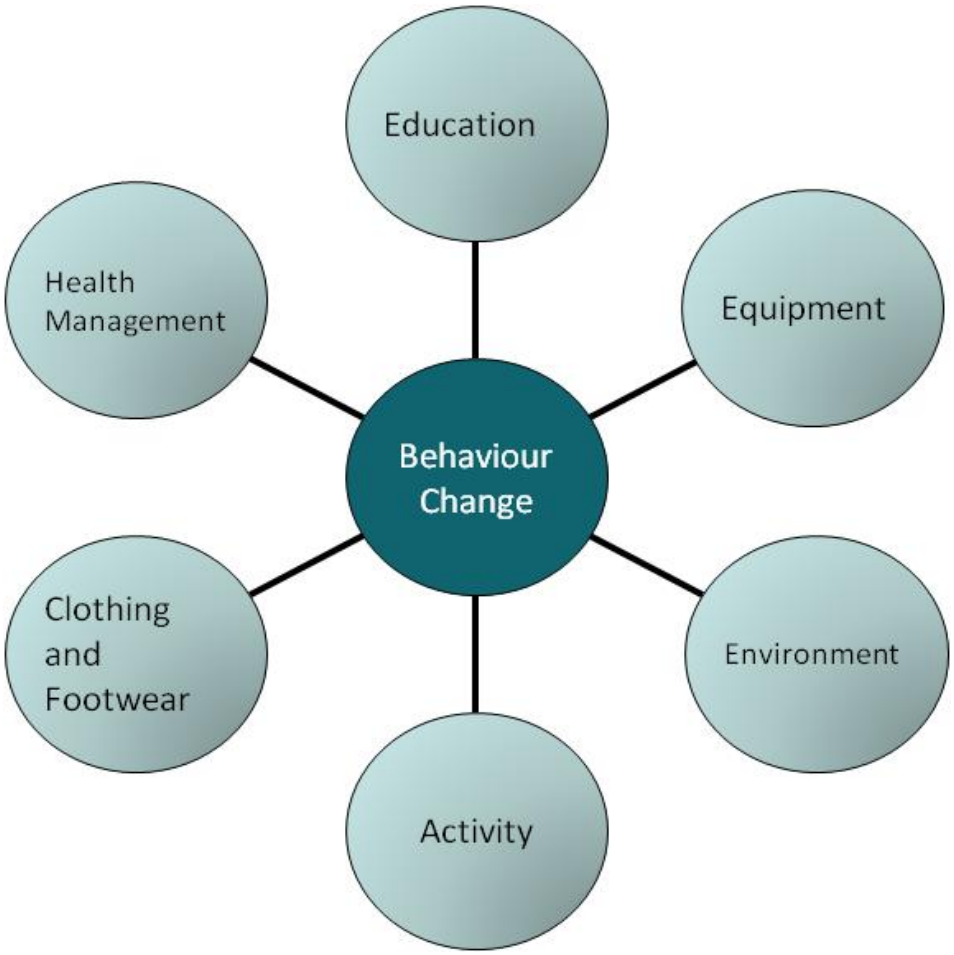
The Canadian Fall Prevention Curriculum (CFPC),[41] a validated award winning curriculum developed with funding from the Population Health Fund of the Public Health Agency of Canada, states that the most effective fall prevention/injury reduction programs use a multifactorial approach targeting selected individuals or groups of older persons based on their risk profiles.

Taking into account the best available evidence, the CFPC presents a comprehensive fall prevention model (See **Figure 6**)[6] using the acronym BEEEACH, which incorporates the following categories:

- **B**ehaviour change - a common goal of all strategies, targeting interventions to client's 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; and
- **H**ealth management - including medical assessments and referrals, medication reviews, vision tests, bone health, healthy nutrition and hydration and chronic disease management.

Figure 6 - Canadian Fall Prevention Curriculum Model- BEEEACH

Reproduced with permission Vicky Scott, PhD; 2013.



Implementing Fall Prevention/Injury Reduction Practices for Every Client

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. **Figure 7** outlines some known interventions that modify fall risk based on targeting client-specific risk factors.

Figure 7 - Interventions Known to Modify Fall Risk Factors

Not an all-inclusive intervention list – example(s) only

Risk Factors for Falls	Interventions known to modify risk based on fall risk factor [42 43 44 45 46]
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 or near falls	• Identify the client as being at risk for a fall or near fall reoccurrence. • Communicate risk by use of a visual identifier. • Address causes of falls based on past fall assessment. • Further assess physical function, balance etc.
Acute illness, such as UTI, pneumonia, etc.	• Treat acute condition and re-evaluate risk factors. Increase observation (e.g. nurse rounding).
Chronic illness and or conditions, such as stroke (balance/mobility/limb paralysis), hypotension, postural (orthostatic) or Post-prandial hypotension, depression, etc.	• Treat chronic condition and re-evaluate risk factors. • Educate client on the risks associated with condition (e.g. change in posture leading to postural orthostatic hypotension).
Osteoporosis	Assess for falls and osteoporosis to reduce potential for fracture: • Implement calcium and vitamin D regimens with an exercise program that incorporates weight bearing. • Consider pharmacologic therapy or treatment

Risk Factors for Falls	Interventions known to modify risk based on fall risk factor [42, 43, 44, 45, 46]
Cognitive impairment (Alzheimer's Disease, Delirium, Dementia, brain injury, etc.)	• Evaluate the individual for reversible causes of cognitive impairment (e.g. delirium) and eliminate causes as relevant. • Monitor those with cognitive impairment regularly with relocation of the client such that nursing staff/family caregivers can monitor regularly. • Utilize monitoring devices if accessible (e.g. Bed/chair or exit alarms). • Implement a behavioural approach to manage impaired cognition. In addition: Long Term Care Considerations: • Always use the same routine and repetitions for the teaching the use of walking aid • Use implicit memory for training • Use significant visual cue on the walking aid Home Health Care Considerations: • Teaching Strategies for family members.
Impaired strength and balance	Provide opportunities for clients assessed and appropriate for: • Strength and balance training • Group exercise
Hearing and vision impairment	• Provide hearing and vision assessment and referral. • Ensure aids are worn and suitable.
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

Risk Factors for Falls	Interventions known to modify risk based on fall risk factor [42, 43, 44, 45, 46]
Poor nutrition and hydration	• Identify risk factors that lead to poor food and fluid intake. • Recommend basic changes based on risk factors (e.g. grocery shopping difficulty → recommend seniors grocery bus). • Refer high risk clients to dietitian for full evaluation of their nutritional status and requirements for individualized nutritional care plan. • Treat acute dehydration.
Medication use	• Conduct medication review with the intent of: o modification to improve treatment of conditions, and o switch, decrease or discontinue medications as appropriate medications to lower fall risk, or discontinue.
Restraints (physical, environmental, chemical)	• Establish and monitor a least restraint policy. In Addition: Long Term Care Considerations: • Educate family members on alternate approaches to use of restraints, and the dangers of restraint use. • Encourage client/family/SDM participation in creation of plan of care to avoid use of restraints. Home Health Care Considerations: • Educate client/family/SDM members on alternate approaches to use of restraints, and the dangers of restraint use at home.
Environmental hazards	• Modify environment, remove environmental hazards
Clothing and footwear (inappropriate, no support, inadequate fit)	• Ensure that clothing and footwear is appropriate and assess to ensure they fit properly • Encourage proper care of feet (e.g. use of podiatrist)

The University Health Network (UHN) is an acute-care teaching organization comprised of three downtown hospitals located in Toronto Ontario, Canada with approximately 1000 beds. UHN has a policy for "Prevention of Falls & Fall-related Injury" that includes:

- a risk assessment process;
- standard safety measures; and
- a brochure for all clients with tips on how to protect themselves from falls in the hospital.

Clients are assessed on:

- admission;
- after a fall;
- when their clinical condition changes; and
- on discharge or transfer to another setting.

A Morse Fall Score >25, requires that the healthcare team must collaborate with the client/substitute decision maker/family to develop an individualized fall prevention plan of care.

The client wears a purple wristband to alert the healthcare team that the client is at risk and has an individualized care plan that helps to standardize their approach to fall risk assessment across the organization.

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

The University Health Network in Toronto utilizes the Morse Falls Scale and CAM Assessment on all the clients in their Orthopaedic/Rheumatology Unit on each client to determine level of risk. The results provide staff with a quick, accurate identification of those at increased risk for falls, and the level of risk determines the extent that interventions put in place. Those with a Morse Falls Scale score of: ≤25 receive Standard Safety Measures. Those with a Morse Falls Scale score of: ≥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 Medications

Medication reviews for all those receiving care in acute care, long-term care and home healthcare as well as medication reconciliation at care transition points is an effective way of reducing the side-effects of medications, and potential fall 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 that certain classes of medication, higher doses, and use of multiple medications leads to greater risk for falling.[6, 47, 48, 49, 50]

The classes of drugs most commonly implicated are the psychotropic medications,[46] including antidepressants, antipsycotics, and sedative-hypnotics.[14] Other classes that are implicated in an increased risk for falls include anticonvulsants, some cardiac medications and non-steroidal anti-inflammatory agents or opioids [51 52 53] but research has not been consistent. Higher doses of medications [54] are considered to be associated with an increase risk of falls. In addition, the number of medications on a client's profile has been associated with increased risk. Earlier research found using four or more medications was associated with risk for falls. This has been repeated in some studies, but pharmacoepidemiologic research over the past two decades implicates an overall increase in the use of medications, including non-prescription and preventative products.[55 56 57] Although the exact number of medications that place an individual at a higher risk is up for debate. Increased use of medications remains a clinical concern in relation to falls.

The timing and management of the medications should also be considered during regular medication reviews. Dosing schedules for medications should be considered (e.g. the timing of laxatives and diruetics) to ensure the least interuption to sleep patterns of the client. In addition, the way a medication is dosed can affect fall risk (e.g. use of pro re nata (PRN) medications can increase risk because clients have less opportunity to build tolerance to a medication (e.g. benzodiazepines)). Overuse of high risk medications is a concern, but undertreatment of health conditions can also increase the risk of falls. Assessing medication adherence, medication burden, and overall use is important.

Appendix B has the Beers Criteria Drug list that identifies types of medication that should not be used, or used with extreme caution in older adults. **Appendix B , B-1, B-2 and B-3** provide a summary of:

- medications associated with risk for fall/injury from a fall; and

- medication classes, impact and examples that are known to increase the potential for falling in a quick reference chart, and a sample poster for medication rooms (e.g. acute care, long term care) that also can be used in home health care as a pocket reference card.[58]

Refer to the Medication Reconciliation Getting Started Kit, for approaches to identifying the best possible medication history.[59]

Many tools exist to encourage clinicians to consider symptoms in older adults as they relate to medications prescribed, identifying related adverse events (e.g. confusion, falls or constipation) and prescribe the appropriate medication based on the client's condition. The medication review screening tool STOPP (**S**creening **T**ool of **O**lder **P**eople's **P**rescriptions) has identified a higher number of older adults hospitalized due to adverse events from taking inappropriate medications than Beers Criteria.[60] However the STOPP criteria includes a list of risky medication situations, specific "drugs-to-avoid", drug-disease interactions, drug-drug interactions, and duration of therapy concerns.[61] The START (**S**creening **T**ool to **A**lert to **R**ight **T**reatment) facilitates physician prescribing of appropriate medication based on the client's condition when no contraindications exist.[62]

All tools used should be reviewed for their validity, psychometric/clinimetric properties and predictive validity with adverse drug events. The Beers Criteria, STOPP and START tools are not substitutes for clinical assessment and judgment. However, these tools can significantly improve the prescribing of appropriate medication in the older adult and may prevent adverse drug events.

Safer Healthcare Now! Getting Started Kit on medication reconciliation available at

http://www.saferhealthcarenow.ca/EN/Interventions/medrec/Pages/resources.aspx

Medication Reviews

Aapted with permission: Finding Balance Algorithm: A Multifactorial Seniors' Falls Risk Assessment and Management Tool, Alberta Centre for Injury Control & Research; 2013.

A medication review can be done in the hospital, long-term care or home healthcare and community settings. A comprehensive medication review by a physician, nurse practitioner, or pharmacist should be conducted on all older adults to determine risk for fall/fall injury. Medication reviews should occur routinely in addition to being conducted on care transitions, post fall incident or with a change in the client's medical status and/or at any time, on request of the client.

Information about medications (e.g. review requests, fall risk factor findings) should be communicated to the older adult and/or caregiver. For example, if a client is started on a benzodiazepine or anti-psychotic medication in hospital, medication should be re-evaluated

upon discharge for appropriateness of use, possible tapering of dose and discontinuation if not required for long-term treatment. The client would need to know of any changes to their medication based on the review and the rationale for the change. Clients should be alerted to the impact of illness when taking medication (e.g. influenza and dehydration creating the potential for postural hypotension and increased risk for a fall).

An annual review consists of a review of all medications including over the counter drugs used, and the dose and frequency of use. It is helpful if the client is asked to bring in all medications and administration devices (e.g. blister packs or dosettes) so the healthcare team/provider can assess how the client actually takes the medications.

In clinical practice there is continuous weighing of the relative benefits and risks of prescribed medications. It may not be possible to eliminate all medications that actually are suspected of or actually increase the risk for falls because they are required for the treatment of the client's health problems.

Medication reviews should include a review of the client's medical conditions/diagnoses/health problems and medications prescribed including:

1. Use of:
    - non-prescription medications; and
    - natural health products.
2. Description of how the client is actually taking the drug products.
3. Identification of any:
    - condition not treated or undertreated;
    - drug product taken without an indication;
    - drug being misused (e.g. excessive duration or dose); and
    - high-risk medication being used with the potential to increase the risk of falling (See **Appendix B**).
4. Treatment for bone health including over the counter Calcium and vitamin D. (See Prevention and Treatment of Osteoporosis Section.)

Studies vary on the exact number of medications taken by client that increases the risk for falls. Some evidence indicates that older clients on more than four prescription medications have a higher risk of falling than those taking fewer medications. What is most important to consider is the type, duration and dosage of medications in use and how they are being used by the client (e.g. medications such as opioids (narcotics) or hypoglycemic agents (e.g. insulin) taken inappropriately; eye drops or gels that affects vision; use of alcohol alone or in combination with sedatives). All these drug actions have potential to increase the risk of falls in clients.

Implementing Fall Prevention/Injury Reduction across the Organization

Organizational Approach to Developing a Program

Falls and fall-related injuries are a growing concern within acute care, long term care and home health care settings. In all settings, a comprehensive approach to prevention is needed to address the multiple and compounding factors that put an older adult at risk for falling. In Canada, the public health approach to fall prevention/injury reduction is rapidly gaining traction for the design, implementation and evaluation of many fall prevention programs.[7]

Figure 8 represents the public health approach and consists of stages that interconnect and build on each other within the context of the setting, populations served, and system (e.g. social and policy).

The public health approach relies on an analysis of baseline surveillance to determine the extent and nature of the problem, identification of the risk and protective factors, implementation of interventions known to reduce falls and fall-related injuries and an evaluation of the implemented fall prevention/injury reduction strategies to see if the initiated interventions are actually working. These steps then allow for further integration, dissemination and spread for sustainability.[63]

Organizations considering the implementation of a fall prevention/injury reduction program should consider a standardized approach to:

- *Defining the problem*: Use consistent definitions for the setting and type of client population to assist the system as a whole understand and measure the:
    - scope of the problem, and
    - associated risk factors.
- *Adoption and implementation of new best practice interventions*: Quality improvement initiatives must focus on both the adoption of the practice (knowledge, skills, abilities) by healthcare practitioners as well as the implementation-related activities and associated costs to ensure adoption and use for sustainability over time in the sector and setting.

- *Evaluation*: The overall fall prevention/injury reduction program as well as the use of the new best practices by healthcare practitioners must be evaluated to ensure effectiveness and sustainability in practice.

Figure 8 - Adapted Public Health Approach Model [7]

Adapted with permission, Elsevier Limited, The Boulevard, Langford Lane,Kidlington,Oxford,OX5 1GB,UK; Authors: Vicky Scott, Brandon Wagar, Alison Sum, Sarah Metcalfe, Lori Wagar; 2013.

Adapted: A Public Health Approach to Fall Prevention Among Older Persons in Canada Model

Implementing Practice Change

Current literature [6, 14, 64] has identified the best practices known to prevent falls and fall related injuries. Organizations and healthcare providers are well informed on **what to do.** However, the challenge for organizations and health care practitioners is **how to implement and integrate** the new way of working within their settings for effective and sustained use of best practices known to reduce falls and fall related injuries in practice.[65] New evidence based on best practices represent a change to the current way of doing things, therefore the acquisition of new knowledge, skills and abilities is required. Practice change therefore requires both organization and system supports for effective sustained use of any implemented evidence-based fall prevention interventions.[65]

There are some great resources on the how to implement and integrate practice change -- see **Appendix M** and Improvement Framework GSK on *Safer Healthcare Now!* website www.saferhealthcarenow.ca

It has been identified that the following organizational and system strategies support the effective adoption and use of evidence-based fall prevention/injury reduction interventions in practice:[65]

- *Use of professional development* for training and coaching of all healthcare providers. The extent and duration of the training and coaching depends on the complexity and degree of change in the practice that will be experienced by the healthcare providers who are adopting the new intervention.
- *Use of skilled implementation specialists* to support knowledge translation, policies and procedures that will be needed for the adoption of the new best practice(s). The skilled implementation specialists assure careful planning and supervised implementation of new prevention activities and assists healthcare practitioners in effectively integrating the new intervention into routine practice.
- *Use of performance assessment for healthcare practitioners' competency development* to measure the use of the desired new knowledge and skills in practice. This should be conducted with support of practitioners and coaches (champions) to allow for constructive feedback.
- *Use of implementation teams* who have special expertise in quality improvement methodology, advancement of knowledge and change theory with regard to human service and implementation science and implementation best practices including evaluation methodology.

Policy and Procedure Development

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

As part of developing a multifactorial fall prevention program, it is important that organizational policies reflect a culture where all healthcare, non-healthcare providers and staff have a role to play in ensuring fall prevention/injury reduction for client safety is an element of everyone's practice. [14] This includes making fall prevention/injury reduction an explicit and important aspect of the organization's planning and budget allocation, as well as promoting a fall prevention/injury reduction culture. Such systems may include:[66]

- Establishment of procedures for multifactorial fall prevention assessment and care planning that is fully understood and implemented by all staff.
- Appointment of individuals or champions who can support fall prevention/injury reduction initiatives.
- Inclusion of the interdisciplinary team in fall prevention/injury reduction initiatives.

Restraint Use to Prevent Falls

Policies on restraint use at the organization and system level, as part of a comprehensive fall program strategy, should promote use of alternative approaches to the use of restraints. Use of least restraint for a minimum amount of time, if no other options are available, can be employed to avoid harm to self/others until non-restraint alternatives are implemented.[14, 37] Provincial and territorial legislation should be reviewed to ensure restraint policies reflect the jurisdiction's expectations (e.g. Ontario has the Patient Restraint Minimization Act and Long Term Care Homes Act which define and outline parameters for the use of restraints; and laws in Quebec outline that two different professionals (OT, PT, RN, MD) must order the use of restraints and prior to use, alternative measures must have been attempted with appropriate documentation).

Restraint use that restricts movement or decreases physical activity may lead to increased confusion, physical agitation, [67] and decreased mobility which can lead to an increased risk for a fall.[15, 37] There is no evidence that the use of, or removal of restraints will reduce falls; however, more serious injuries are associated with use of restraints including negative effects

on psychological health. Studies have found that in first time fallers, those who were restrained were fourteen times more likely to fall than those who were not.[68]

Consider the following strategies in regards to restraint use:[37, 69, 70]

- Alternate approaches to the use of restraint is best practice.
- The best interests of the individual should be put at the centre of any decision-making to proceed with restraint.
- Understanding, prevention, and management are key in clients with dementia. Use alternative approaches to avoid use of restraints.
- When restraint use cannot be avoided due to harm to self/others, the least restraint for a miminal amount of time can be employed as a temporary intervention until other alternatives can be found.
- Investigate alternatives to restraints including: use of bed and chair alarm systems, use of low beds, moving the client closer to the nursing station (if feasible), increased monitoring, regular toileting and/or assistance from family, etc. (Note for more extensive list of alternatives see the Registered Nurses' Association of Ontario guideline: Promoting Safety: Alternative Approaches to the Use of Restraints, [2012] available at http://rnao.ca/bpg/guidelines/promoting-safety-alternative-approaches-use-restraints.
- Explore client behaviours, which are often the manifestations of unmet needs, prior to considering the use of restraints – if the individual is restless/agitated determine the underlying cause such as:
    - Is the individual, cold? thirsty?, lonely?, in pain?, frightened?,
    - Does the indivdual need to toilet?, or have an infection?,
    - Has the individual been started on new medication? etc.,
    - Does the client have conditions if aggrevated can cause pain and discomfort resulting in agitation or anger? (e.g. kyphosis, spine fractures with prolonged standing or sitting).
- Individualize the care plan to address any unmet needs.
- Engage the interdisciplinary team, client to the level of their capacity, and family to ensure the development of an individualized plan of care .
- Educate staff on the least restraint policy and the rationale for it. While there is inconsistent and insufficient evidence to support the effectiveness of specific educational interventions targeting nursing staff for preventing or reducing the use of physical restraints in geriatric long-term care,[70] increasing awareness of least restraint policies and enhancing healthcare provider's knowledge of alternate approaches is beneficial to both the client and the healthcare organization for client safety.

- Link the least restraint policy and education with education in appropriate medication protocols and non-pharmacological approaches to management of behaviour problems.
- The initial use of client preferred alternative approaches used as a first approach, the process and who was involved in the retraint decision with the supporting evidence for consent, justification of use, the least restrictive approach selected to prevent harm to self/others and the monitoring parameters initiated for client safety should be documented for review.
- Additional resources for use of restraints in the long-term care setting can be found at:
    - http://libguides.lib.umanitoba.ca/restraints-longtermcare
    - http://consultgerirn.org/resources/
    - http://consultgerirn.org/topics/physical_restraints/

Safety Walk Through

Develop approaches to regular safety checks, and include environmental audits and modifications as a component of fall prevention/injury reduction strategies.

A multifactorial approach to fall prevention/injury reduction includes assessment and modification of modifiable environmental hazards as an organization strategy.[6] 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 hospitals 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. Staff working in their own setting often develop a blindness or a familiarity with the physical environment which prevents their awareness of potential hazards. Consider having staff not familiar with the environment and who work outside the area participate in the walk through. Also, including clients and families in the walk throughs will provide a valuable perspective that only they can provide. These types of collaborative rounds provide a range of perspectives and ideas to improve client safety.[17] **Appendix J** provides a sample checklist that can be modified to meet the needs of different practice settings.

Home Assessments

Most falls occur in and around the home. Home assessments and modifications should be considered in clients with high risk for falls and visual impairments as they may reduce the risk for a fall.[46] An assessment of the home environment is intended to enhance accessibility, safety and performance of daily living activities.[71] The Public Health Agency of Canada's Safe Living Guide includes a validated home safety checklist (**Appendix K**), which can be completed by seniors themselves, family members or healthcare providers.

Post Fall Procedures/Reviews

Investigate each fall or near fall 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:[15, 72]

- Assessment of potential injury assocciated with the fall;
- Immediate treatment following the fall and consider 24-48 hours monitoring for potential emerging problems including fall reoccurrance;
- Acute care and long term care;
- Determination of contributing factors, location, time and related activity; and
- Post-fall problem solving conferences.

Post-fall assessments following a client fall should be initiated within 24 hours of a fall in order to identify the possible causes. Post-fall assessment and follow-up should include:[44]

- A history of the fall provided by the client 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

Safety Huddles

Post-fall safety "huddles" in acute and long-term care are an effective way of having a quick, interdisciplinary review of the fall incident which provides opportunity for immediate changes to the plan of care, in consulation with the client and family. Therapies staff should be included in post fall safety "huddles" for their expertise. A collaborative approach among interprofessional team members can assist in determining the best modifications to incorporate into the client's plan of care to enhance safety. **Appendix L** 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.

Individualize Interventions for those at High Risk of a Fall-Related Injury

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

In 2008-2009, 38 per cent of all seniors hospitalized due to a fall sustained a hip fracture, 39 per cent sustained other types of fractures and other soft tissue injuries.[7]

Obviously, falls resulting in moderate or severe injury are the most important to prevent. Injury prevention is important for all clients identified with risk factors known to contribute a fall or potentiate the severity of a fall injury, whether in health care facilities or home healthcare.

Figure 9 lists risk factors for falls, hip fracture and severity of fall injury and **Figure 10** outlines interventions to prevent fall related injuries.

- Implement individualized interventions targeted to the client-specific risk factors.
- Modify the environment and provide personal protective devices

INDIVIDUALIZE INTERVENTIONS FOR THOSE AT HIGH RISK OF A FALL-RELATED INJURY

Figure 9 - Risk Factors for Fall, Hip Fracture and Severity of Fall Injury

Risk Factors for Sustaining a Fall [6, 17]	Most at risk* for hip fracture [73]	Factors (ABCs)[74] known to potentiate the severity of fall-injury
• Age - those ≥80 years old • Chronic conditions (e.g. anemia, arthritis, stroke), [75] cognitive impairment, [2] muscle weakness, balance & gait impariments and low body mass • Female gender • Flooring type (e.g carpet, vinyl) • Gait speed < 1m/s[76] • Medication (e.g. benzodiazepine use) • New place of residence or transfer to a different setting (e.g. LTC) • Decreased quadriceps strength, and postural sway • Vision deficits[77] (e.g. cataracts)	Individuals who have: • Previous fall • Previous fracture • Mobility impairments (e.g. balance/gait deficits) • Muscle weakness especially in lower limbs & reduced physical activity • Chronic conditions and/or disabilities such as: ▪ Arthritis ▪ Cardiovascular disease (e.g. postural orthostatic hypotension) ▪ Osteoporosis[78] ▪ Parkinson's disease, ▪ Post stroke (e.g. impaired mobility, balance or limb paralysis) [75] ▪ Vision deficits (e.g. cataracts)	• **A**ge: Over 85 • **B**one disorder: cancer metastasis or osteoporosis • **C**oagulation disorders: bleeding, anticoagulant use • **S**urgical Intervention: Specifically thoracic or abdominal or lower limb amputation or hip/knee surgery

Figure 10 - Interventions to Prevent Fall-Related Injuries

Interventions [14, 44, 74, 78, 79]	
Alarms	• Chair • Safe Exit
Alerting Mechanisms/Communication	• Use of an alerting mechanism (e.g. icon such as falling leaf) • Consistently communicate client risk for injury and individualize information on plan of care • Use of a communication technique model (e.g. SBAR) • Use a communication handoff signal (e.g. passing of yellow baton) between caregivers on client report/ transfer or transport to indicate fall risk communicated
Ambulation Aides	• Gait belts
Beds	• Height adjustable beds • Low beds with/without side rails
Continence	• Bowel Bladder Routines • Use of bedside commode
Education on Fall Prevention/Fall Risk • Staff • Client/family	• Fall Prevention/Fall Risk Initiatives • Policy/Practices • Individualized client fall-risk factors & associated interventions
Environment	• Safety checks • Furniture arrangement to avoid path obstruction & facilitate safe movement in pathways
Footwear	• Non-skid slippers with treads
Hip Protector	• Soft • Hard
Mats	• Rubber anti slip floor mats

Strategies to prevent hip fractures among those with osteoporosis that are at risk for fall-related injury usually consist of: [80]

- Prevention and treatment of osteoporosis
- Injury site protection for fracture prevention (e.g. Hip Protectors)

Prevention and Treatment of Osteoporosis [14, 34, 81]

Figure 11 is a quick reference chart of the following osteoporosis and fracture prevention/treatment strategies.

Osteoporosis is a factor for increased risk of fall related injury due to decreased bone strength, which results in an increased risk for fragility fractures (spontaneous or following minor trauma such as a simple fall from standing height). 2010 Clinical Practice Guidelines for the diagnosis and management of Osteoporosis in Canada [82] recommends a program to address osteoporosis risk should include:

- **Assessment for low bone mineral density (BMD):** Risk identification for fragility fractures is required. Thorough history and physical examination should include the identification of risk factors (refer to **Figure 5**, Screening Parameter – Screening Tool and Approach Chart), height, weight measurements and inquiries into gait and balance disturbances with performance of the Get–Up-and-Go test. Assessment and screening should include blood and radiologic investigations for individuals diagnosed with osteoporosis or recurrent fractures who are already on pharmacologic therapy. Menopausal women and other clients should receive thorough investigations based on findings from clinical assessment.
- **Daily intake of Vitamin D3 and Calcium:** 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. Several studies suggest that both men and women can benefit from Calcium and Vitamin D supplementation to: improve muscle function and reduce risk of falling, especially for female long-term care residents; reduce debilitating effects from osteoporosis; and improve bone mineral density.[83] Vitamin D action on postural adaptations (e.g. muscles and central nervous system may explain the decreased in falls and bone fractures).[84] There is an association between Vitamin D deficiency and muscle weakness which could result in balance problems or an inability to recover from a postural perturbation (e.g. sway). Vitamin D assists with the body's ability to absorb calcium and improves muscle function thereby decreasing the risk of falling. Vitamin D is produced in the body by the sun's rays interacting with skin. In Canada's northern climate there is less sun exposure and combined with any use of sunscreen agents the skin's ability to produce vitamin D is limited. Also, with ageing, the skin's ability to make vitamin D decreases. For these reasons, most Canadians are low on vitamin D and require supplementation.

- **Pharmacologic Therapy:**[85] Current pharmacologic therapy has been shown to reduce fractures particularly in high risk clients who have a history of previous fracture. Clinicians should consider initiation of pharmacologic therapies based on the harm/benefit ratio, individual client-risk factors, preferences, co-morbid conditions and lifestyle.
- **Exercise:** Exercise intervention programs can vary in nature and types of activities such as generalized strengthening exercises, balance and gait training, and aerobic endurance such as walking, bike, or treadmill. Any exercise interventions adopted should be specifically targeted to the individual's age and functional capacity with a focus on muscle strength, balance, flexibility and gait impairments, mobility, reaction time and other physical factors associated with fall risk. Group and home based exercise programs have been shown to reduce both rate and risk for falling. [46]

Injury Site Protection [6, 14, 80, 83]

Falls are recognized as the second leading cause of injury in the older adult. Therefore protective devices that prevent or reduce the degree of associated injury from a fall should be considered for all clients at high risk for repeat falls. Examples of protective devices include helmets, hip protectors, mats and body pillows which offer padding which absorbs and dissipates the impact from a fall.

Helmets [86, 87]

Helmets are protective devices that pad and act as a shock absorber and dissipate the impact of a fall resulting in a head injury (e.g. concussion - a bump, blow, or jolt to the head). Helmets can be hard shelled with a shock absorbent foam liner or soft, lightweight and consist of a core structure with a high tensile strength and high compression and recovery material that helps to absorb and dissipate the impact of a fall that could result in head injury.

Hip Protectors

Hip protector use should be considered in residents identified as having risk factors and at high risk for falls in long term care. Injury site protection from soft shell hip protectors is achieved by absorption of the impact from a fall whereas hard shell hip protectors disperse the fall impact away from hip to surrounding soft tissue. Hip protector use for the older individual who has a diagnosis of osteoporosis, previous fracture and/or at high risk of falls is a component to be considered in any fall management program although the literature has not been consistent related to effectiveness in fracture prevention mainly due to low adherence.[80] Wearing adherence by individuals has been recognized as a very important

issue in hip protector research and implementation. Selection of clients to determine if they are motivated to use this strategy is important because hip protectors cannot work if they are not worn. Individuals who are candidates for hip protector use should participate in the selection process as each vendor product is different and concerns must be addressed regarding body image, size, fit, comfort, skin irritation, and how to deal with toileting.[14]

Figure 11 - Osteoporosis and Fracture Prevention/Treatment Strategies

Strategy	Intervention Considerations
Calcium and Vitamin D3 Supplement[82]	**Supplementation with Calcium**: 1,200mg per day. Preferred mechanism: diet – this is the equivalent of 3-4 servings of dairy products or calcium fortified milk alternatives per day. Calcium supplements have been associated with an increased risk of heart attacks so should be reserved for individuals who cannot fulfill their daily requirements through diet. Supplements should not exceed 1,200mg per day. **Vitamin D3** : • 400-1000 IU daily (age<50 years) or • 800-2000 IU daily (age≥ 50 years)
Pharmacologic Therapy [85]	For menopausal women requiring treatment of osteoporosis, alendronate, risedronate, zoledronic acid and denosumab is recommended as first-line therapies for prevention of hip, nonvertebral and vertebral fractures. Information on osteoporosis pharmacologic agents is available at http://www.osteoporosis.ca/osteoporosis-and-you/drug-treatments/
Individualized Exercise Program	Suggested Exercise for risk: Osteoporosis: Strength-weight-bearing and resistance training and/or aerobic-endurance exercise for improving balance, cardiovascular and cardiorespiratory health and bone density. Vertebral fractures: Core stability exercises for balance, posture, stability and coordination. Falls: Exercises that focus on gait training and balance (e.g. Tai Chi, and/or gait training)

Hip Protectors
88, 89, 90, 91, 92

Category	Hard Shell	Soft Shell
Property	Energy dispersion Higher efficiency	Energy absorption Lower efficiency
Criteria	• Fall with injury in the last six months • Low body mass index • Osteoporosis • History of fracture after 50 years • Decreased safety behaviour	SAME
Pay attention	Sleeping wearing hip protector **NOT PERMITTED** - Risk of skin lesion	Sleeping wearing hip protector permitted
Potential Barriers to Hip Protector Use[80]	• Discomfort • Appearance and distortion of body image • Cost • Skin irritation • Dressing and toileting difficulties • Inadequate client/family instruction and orientation on use	
Supports for Adherence	• Education and promotion of hip protectors to long-term care staff, clients 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 clients • Having a champion (team or person) to lead the implementation ans sustainability of a hip protector program	

Other factors to consider when assessing risk for fall Injury:

Coagulation Disorders

The World Health Organization identifies that traumatic brain injury will be the leading cause of death and disability by 2020 with the main cause being attributed to falls.[93] Anticoagulant use has increased exponentially in the last decade and increased the severity of outcomes post fall.

Interventions should include:

- Assessment of the client's medication history for use of antiplatelets and anticoagulants to obtain the best possible medication history.
- Education of client and families on the effects and safety concerns associated with use of antiplatelets and anticoagulants, risk factors for falling and potential for increase in severity of injury from a fall.

Surgical Intervention

The risk of falls with surgical intervention may be transient (due to surgical procedures) or pre-existing risk factors or conditions that contribute to client falls. In joint surgery procedures the following pre-surgical conditions were found to contribute to falls:

- congestive heart failure,
- coagulation disorders,
- liver disease,
- neurologic disease,
- electrolyte/fluid abnormalities,
- weight loss, and
- pulmonary circulatory disease.[94]

Post procedures individuals may experience de-conditioning or a decline in strength, endurance balance and mobility due to:

- anaesthetic and pain mediating agents effects (cognitive & physiologic),
- physiologic alterations to heart rate, respiratory rate, oxygen saturation, blood pressure, fluid balance (e.g. dehydration),
- episodes of sudden weakness, dizziness, and/or fainting,
- site of surgical intervention (e.g. limbs), and
- environment resulting in change to routines (e.g. toileting for continence).

Interventions should include:

- Assessment of the client's history for risk factors known to contribute to a post-surgical fall (pre-surgical conditions, functional ability de-conditioning).
- Education of client and families on post-surgical safety concerns associated with mobility such as:
    - Physiologic alterations,
    - Post-surgical medications (e.g. anticoagulant use, effects and safety concerns),
    - Change in the environment, and
    - Decline in functional ability, balance, strength and endurance resulting in need to call for assistance of ADLs (e.g. toileting).[95]
- More frequent rounding for client safety checks.

Measuring the Success of Fall Prevention/Injury Reduction Programs

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 fall prevention and injury reduction improvement efforts. Healthcare facilities may add additional measures that they track internally to evaluate improvement for their specific setting and client population.

- On an ongoing basis, progress should be measured to evaluate your fall prevention progress.
- Define improvement (what is your improvement aim?).
- To ensure consistency we encourage all participating teams to report data on the core fall measures to the Central Measurement Team of *Safer Healthcare Now!* 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, client's 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.). Refer to **Appendix M** for information on a model or approach to quality improvement.

Types of Measures[96]

This *Getting Started Kit* suggests using three types of measures to monitor your organization's quality improvement efforts related to fall prevention/injury reduction. 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 per cent.

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 fall risk assessments and documenting fall prevention/injury reduction intervention plans. Measuring the results of these process changes will tell you if the changes are leading to improved care for clients.

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

Please note the Falls Measures have been revised. Refer to Appendix N for details.

There are seven measures for **Acute Care** and eight Measures for **Long Term Care**:

- **FALLS 1.0 - Acute & Long Term Care**

  Fall Rate per 1000 Patient/Resident Days (Outcome Measure)

- **FALLS 2.0 - Acute & Long Term Care**

  Percentage of Falls Causing Injury (Outcome Measure)

- **FALLS 3.0 - Acute & Long Term Care**

  Percentage of Patients/Residents with Completed Fall Risk Assessment on Admission (Process Measure)

- **FALLS 4.0 - Acute & Long Term Care**

  Percentage of Patients/Residents with Completed Fall Risk Assessment following a Fall or Significant Change in Medical Status (Process Measure)

- **FALLS 5.0 - Acute & Long Term Care**

  Percentage of "At Risk" Patients /Residents with a Documented Fall Prevention/Injury Reduction Plan (Process Measure)

- **FALLS 6.0 - Acute & Long Term Care**

  Restraint Use (Balancing Measure)

- **FALLS 7.0 - Long Term Care**

  Percentage of residents physically restrained daily on the most recent RAI assessment

- **FALLS 8.0 - Long Term Care / FALLS 7.0 - Acute Care**

  Injury Rate related to falls (Fall Related INJURY Rate) per 1000 patient/resident days (Outcome Measure)

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

Outcome Measures

FALLS 1.0 - Fall 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 per cent in this measure.*

Total Number of Falls

Total Number of Patient/Resident Days on the Unit/in the Facility

x 1000 = Falls Rate per 1000 Patient/Resident Days

FALLS 2.0 - 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 per cent 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:[97]

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

FALLS 8.0 - (Long Term Care): (NEW) Injury Rate Related to Falls

FALLS 7.0 - (Acute Care): Falls Related INJURY Rate per1000 Patient/Resident Days

$$\frac{\text{Total Number of Injuries (Fall related INJURY) related to falls reported this Month}}{\text{Total Number of Patient/Resident Days on the Facility or Unit within the Facility this month}} \times 1000$$

This measure calculates the number of injuries related to falls experienced by patients in acute care or residents of a long-term care home per 1000 patient/resident days. 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 fall-related injury is defined as an injury that results from a fall, which may or may not require treatment. The injury can be temporary or permanent and vary in the severity of harm. *The goal is to achieve an annual reduction of 40 per cent in this measure or annual rate <=0.3.*

Process Measures

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

FALLS 3.0 Percentage of Patients/Residents with Completed Fall Risk Assessment on Admission

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

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

---

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

FALLS 4.0 - Percentage of Patients or Residents with Completed Fall Risk Assessment following a Fall or Significant Change in Medical Status

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

Number of Patients/Residents who experienced a fall, for whom a Fall 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 Fall Risk Assessment completed following a fall or change in medical status

FALLS 5.0 - Percentage of "At Risk" Patients or Residents with a Documented Fall Prevention/Injury Reduction Plan

This measure calculates the percentage of patients or residents for whom a fall risk assessment has identified them as being "At Risk" and for whom a fall prevention/injury reduction plan (e.g. individualized interventions) have been documented. *The goal of this measure is to have a documented fall prevention/injury reduction plan in place for 100 per cent 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 Fall-Related Injury provide examples and approaches for individualized fall 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 Fall Risk Assessment

x 100 = Percentage of "At Risk" Patients/Residents who have a documented "Fall 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.

FALLS 6.0 - 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: [98]

- 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.

Total Number of Patients/Residents with Restraints Applied

Total Number of Patients/Residents Receiving Care in the same time period

x 100 = Percentage of Patients/Residents with Restraints

FALLS 7.0 - (Long Term Care) Percentage of residents physically restrained daily on the most recent RAI assessment

This measure calculates the percentage of residents who were physically restrained daily on the most recent RAI assessment for the appropriate sector (e.g. LTC, CCC, MH [or LONG-TERM CARE, MENTAL HEALTH or COMPLEX CONTINUING CARE]). ***RAI coding for this measure includes: P4c=2, or p4d=2 or p4e=2 AND used daily (=2) for p4c - trunk restraint, p4d- limb restraint and p4e- chair prevents rising.***

$$\frac{\text{Total Number of residents restrained daily on recent RAI assessment}}{\text{Total Number of Patient/Residents RAI recently assessed in the Facility or Unit}} \times 100 = \text{Percentage of residents physically restrained daily on recent RAI assessment}$$

Core Measures – Home Health Care

Please note the Falls Measures have been revised. Refer to Appendix N for details.

There are six measures for **Home Health Care**:

- **FALLS 1.0 - Fall Rate per 1000 Clients** (Outcome Measure)
- **FALLS 2.0 - Percentage of Falls Causing Injury** (Outcome Measure)
- **FALLS 3.0 - Completed Fall Risk Assessment on Admission** (Process Measure)
- **FALLS 4.0 - Fall Risk Reassessment Completed Following a Fall or Significant Change in Medical Status** (Process Measure)
- **FALLS 5.0 - Percentage with Documented Fall Prevention/ Injury Reduction Plan** (Process Measure)
- **FALLS 6.0 - (NEW) Restraint Use** (Balancing Measure)

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

FALLS 1.0 - Fall 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 per cent.*

Total Number of Falls

Total Number of Clients within the Target Population

x 1000 = Falls Rate per 1000 Clients

FALLS 2.0 - 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 per cent.*

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

Process Measures

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

FALLS 3.0 - Completed Fall Risk Screening on Admission

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

Total Number of Clients Admitted to Service for whom a Fall 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 Fall Risk Screening

FALLS 4.0 - Fall Risk Reassessment Completed Following a Fall or Significant Change in Medical Status

This measure calculates the percentage of clients for whom fall 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 per cent of clients.*

Number of Clients who experienced a fall, for whom a Fall Risk Assessment was performed
+
Number of clients who experienced a Significant Change in Medical Status for whom a Fall 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 Fall Risk Assessment completed following a fall or significant change in medical status

FALLS 5.0 - Percentage with Documented Fall Prevention/Injury Reduction Plan

This measure calculates the percentage of clients for whom a fall risk screen has identified them as being "At Risk" and for whom a fall prevention/injury reduction intervention plan has been documented. *The goal is to have a documented fall prevention/injury reduction plan in place for 100 per cent 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 Fall-Related Injury* provide examples and approaches for individualized fall prevention/injury reduction intervention 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"

FALLS 6.0 - Restraint Use (NEW Indicator)

This measure calculates the percentage of clients receiving Home Health Care services with restraints in place at the time of the audit. *The goal is obtain a percentage that is at or below the baseline data.*

Total Number of Clients Receiving Home Health Care with Restraints Applied

Total Number of Clients Receiving Home Health Care in the same time period

x 100 = Percentage of Clients with Restraints

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 fall prevention/injury reduction 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 fall prevention/injury reduction 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, client interviews (if appropriate) and existing statistical information monitored by the organization.
- Submit data to the *Safer Healthcare Now!* Central Measurement Team: See *Safer Healthcare Now!* ***Patient Safety Metrics Training Manual*** for full details on enrollment and data submission, use of worksheets, editing data and running reports available at: https://shn.med.utoronto.ca/PSMetrics-TrainingManual.pdf
- See the Submitting Data to *Safer Healthcare Now!* section on page 90.

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 N** for suggested frequency of data collection/submission.
- Compare to Baseline data collected pre-implementation.
- Submit data to the *Safer Healthcare Now!* Central Measurement Team. (See Submitting Data to *Safer Healthcare Now!* section)
- In addition, some facilities may choose to do independent regular quality improvement audits to ensure that the fall prevention assessment and interventions are in place to maximize client and organization benefits.

As of June 1, 2016, Safer Healthcare Now! is no longer collecting data and Patient Safety Metrics is no longer available

Measurement Tips [99]

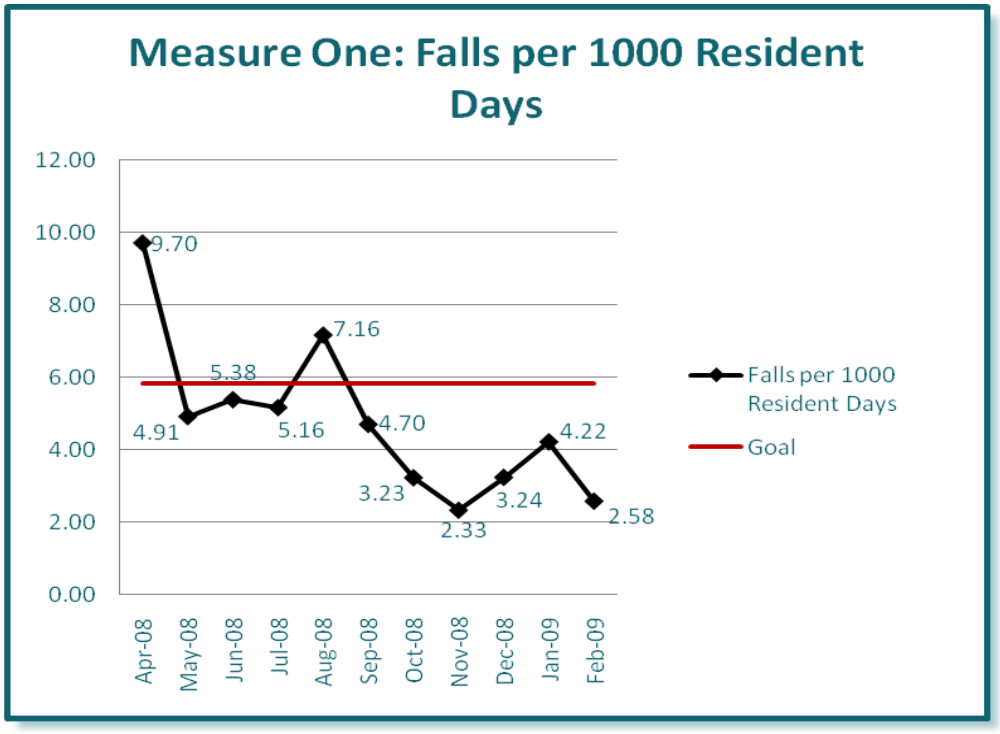
1. Plot data over time

- 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.[100]



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 fall prevention/injury reduction process is going or how to improve the client assessment process.[101]

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!*

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.

Safer Healthcare Now! data can be submitted online to Patient Safety Metrics on a monthly basis.

See *Safer Healthcare Now! Patient Safety Metrics Training Manual* for full details on enrollment and data submission, use of worksheets, editing data and running reports available at: https://shn.med.utoronto.ca/PSMetrics-TrainingManual.pdf

To enroll and access worksheets use the following link:
http://www.saferhealthcarenow.ca/EN/enroll/Pages/default.aspx

As of June 1, 2016, Safer Healthcare Now! is no longer collecting data and Patient Safety Metrics is no longer available

Safer Healthcare Now! has a Data Submission Policy which specifies the following:

- 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 – Example Audit Tool

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UNIVERSAL FALL PRECAUTIONS AUDIT TOOL

STANDARD/CRITERIA	RESIDENT'S ROOM #/ID								# M	# N	# M+N	% C
SAFE ENVIRONMENT												
One bed side rail (bottom) down												
Pathway clear of clutter from bed to bathroom												
Bed brakes applied												
Chair/walker brakes in working order												
Adequate lighting: bedroom												
bathroom												
ASSIST WITH MOBILITY												
Grab bars secured and reachable												
Mobility aid within client's reach												
Current Transfer / Mobility status in ADL :												
FALL RISK REDUCTION												
Call bell within client's reach												
Bed lowered to client's knee height or lowest position of bed												
Client's items reachable												
Proper footwear available and in use for the individual												
Recommended hip protectors worn												
ENGAGE CLIENT AND FAMILY												
Risk factors discussed with client and family (e.g. A Guide for Preventing Falls and Related Injuries brochure, Hip Protectors brochure)												
Documented that mutual fall care plan developed with client/family												
FOR FACILITY												
Equipment to one side of the hallway												
Floor free of glare												
Chairs with arms for resting & placed in hall at regular intervals												
Handrails on both sides of hallway												
Hallway well lit												
Total # M:												
Total # M+N:												
% Compliance = $\frac{M}{M+N}$ X100:												

Overall Compliance:

Appendix B - Beers Criteria List

Reprinted: Table 2, 3, 4, 8 & 9: AGS Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults, The American Geriatrics Society 2012 Beers Criteria Update Expert Panel. Journal of the American Geriatrics Society. © 2012, New York, New York.

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Table 2. 2012 AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Anticholinergics (excludes TCAs)					
First-generation antihistamines (as single agent or as part of combination products) Brompheniramine Carbinoxamine Chlorpheniramine Clemastine Cyproheptadine Dexbrompheniramine Dexchlorpheniramine Diphenhydramine (oral) Doxylamine Hydroxyzine Promethazine Triprolidine	Highly anticholinergic; clearance reduced with advanced age, and tolerance develops when used as hypnotic; increased risk of confusion, dry mouth, constipation, and other anticholinergic effects/toxicity. Use of diphenhydramine in special situations such as acute treatment of severe allergic reaction may be appropriate.	Avoid	Hydroxyzine & promethazine: high; All others: moderate	Strong	Agostini 2001 Boustani 2007 Guaiana 2010 Han 2001 Rudolph 2008

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Antiparkinson agents Benztropine (oral) Trihexyphenidyl	Not recommended for prevention of extrapyramidal symptoms with antipsychotics; more effective agents available for treatment of Parkinson disease.	Avoid	Moderate	Strong	Rudolph 2008
Antispasmodics Belladonna alkaloids Clidinium-chlordiazepoxide Dicyclomine Hyoscyamine Propantheline	Highly anticholinergic, uncertain effectiveness.	Avoid except in short-term palliative care to decrease oral secretions.	Moderate	Strong	Lechevallier-Michel 2005 Rudolph 2008
Antithrombotics					
Dipyridamole, oral short-acting* (does not apply to the extended- release combination with aspirin)	May cause orthostatic hypotension; more effective alternatives available; IV form acceptable for use in cardiac stress testing.	Avoid	Moderate	Strong	De Schryver 2010 Dipyridamole Package Insert

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Ticlopidine*	Safer, effective alternatives available	Avoid	Moderate	Strong	Ticlopidine Package Insert
Anti-infective					
Nitrofurantoin	Potential for pulmonary toxicity; safer alternatives available; lack of efficacy in patients with CrCl <60 mL/min due to inadequate drug concentration in the urine.	Avoid for long-term suppression; avoid in patients with CrCl <60 mL/min	Moderate	Strong	Felts 1971 Hardak 2010 Holmberg 1980
Cardiovascular					
Alpha$_1$ blockers Doxazosin Prazosin Terazosin	High risk of orthostatic hypotension; not recommended as routine treatment for hypertension; alternative agents have superior risk/benefit profile.	Avoid use as an antihypertensive.	Moderate	Strong	ALLHAT 2000 Aronow2011

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Alpha blockers, central Clonidine Guanabenz* Guanfacine* Methyldopa* Reserpine (>0.1 g/day)*	High risk of adverse CNS effects; may cause bradycardia and orthostatic hypotension; not recommended as routine treatment for hypertension.	Avoid clonidine as a first-line antihypertensive. Avoid others as listed.	Low	Strong	Aronow 2011 Methyldopa Package Insert Reserpine Package Insert
Antiarrhythmic drugs (Class Ia, Ic, III) Amiodarone Dofetilide Dronedarone Flecainide Ibutilide Procainamide Propafenone Quinidine Sotalol	Data suggest that rate control yields better balance of benefits and harms than rhythm control for older adults. Amiodarone is associated with multiple toxicities, including thyroid disease, pulmonary disorders, and QT interval prolongation.	Avoid antiarrhythmic drugs as first-line treatment of atrial fibrillation.	High	Strong	Roy 2008 Doyle 2009 Fuster 2006 Van Gelder 2002 Wann 2011a Wyse 2002

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Disopyramide*	Disopyramide is a potent negative inotrope and therefore may induce heart failure in older adults; strongly anticholinergic; other antiarrhythmic drugs preferred.	Avoid	Low	Strong	Fuster 2006 Disopyramide Package Insert
Dronedarone	Worse outcomes have been reported in patients taking dronedarone who have permanent atrial fibrillation or heart failure. In general, rate control is preferred over rhythm control for atrial fibrillation.	Avoid in patients with permanent atrial fibrillation or heart failure	Moderate	Strong	Connolly 2011 FDA Drug Safety 2011 Hohnloser 2009 Korber 2008 Dronedarone Package Insert – revised Dec2011
Digoxin >0.125 mg/day	In heart failure, higher dosages associated with no additional benefit and may increase risk of toxicity; decreased renal clearance may lead to increased risk of toxic effects.	Avoid	Moderate	Strong	Adams 2002 Ahmed 2007 Rathore 2003

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Nifedipine, immediate release*	Potential for hypotension; risk of precipitating myocardial ischemia.	Avoid	High	Strong	Furberg 1995 Nifedipine Package Insert Pahor1995 Psaty1995a Psaty1995b
Spironolactone >25 mg/day	In heart failure, the risk of hyperkalemia is higher in older adults if taking >25 mg/day.	Avoid in patients with heart failure or with a CrCl <30 mL/min.	Moderate	Strong	Juurlink 2004
Central Nervous System					
Tertiary TCAs, alone or in combination: Amitriptyline Chlordiazepoxide-amitriptyline Clomipramine Doxepin >6 mg/day Imipramine Perphenazine-amitriptyline	Highly anticholinergic, sedating, and cause orthostatic hypotension; the safety profile of low-dose doxepin (≤6 mg/day) is comparable to that of placebo.	Avoid	High	Strong	Coupland 2011 Nelson 2011 Scharf 2008

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Antipsychotics, first- (conventional) and second-(atypical) generation (see **Table 8** for full list)	Increased risk of cerebrovascular accident (stroke) and mortality in persons with dementia.	Avoid use for behavioral problems of dementia unless non-pharmacologic options have failed and patient is threat to self or others.	Moderate	Strong	Dore 2009 Maher 2011 Schneider 2005 Schneider 2006a Schneider 2006b Vigen 2011
Thioridazine Mesoridazine	Highly anticholinergic and greater risk of QT- interval prolongation.	Avoid	Moderate	Strong	Goldstein 1974 Ray 2001 Stollberger 2005
Barbiturates Amobarbital* Butabarbital* Butalbital Mephobarbital* Pentobarbital* Phenobarbital Secobarbital*	High rate of physical dependence; tolerance to sleep benefits; greater risk of overdose at low dosages.	Avoid	High	Strong	Cumbo 2010 McLean 2000 Messina 2005

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Benzodiazepines *Short- and intermediate-acting:* Alprazolam Estazolam Lorazepam Oxazepam Temazepam Triazolam *Long-acting:* Chlorazepate Chlordiazepoxide Chlordiazepoxide-amitriptyline Clidinium-chlordiazepoxide Clonazepam Diazepam Flurazepam Quazepam	Older adults have increased sensitivity to benzodiazepines and decreased metabolism of long-acting agents. In general, all benzodiazepines increase risk of cognitive impairment, delirium, falls, fractures, and motor vehicle accidents in older adults. May be appropriate for seizure disorders, rapid eye movement sleep disorders, benzodiazepine withdrawal, ethanol withdrawal, severe generalized anxiety disorder, Peri-procedural anesthesia, end-of-life care.	Avoid benzodiazepines (any type) for treatment of insomnia, agitation, or delirium.	High	Strong	Allain 2005 Cotroneo 2007 Finkle 2011 Paterniti 2002

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Chloral hydrate*	Tolerance occurs within 10 days and risk outweighs the benefits in light of overdose with doses only 3 times the recommended dose.	Avoid	Low	Strong	Bain 2006 Goldstein 1978 Miller 1979
Meprobamate	High rate of physical dependence; very sedating.	Avoid	Moderate	Strong	Keston 1974 Rhalimi 2009
Nonbenzodiazepine hypnotics Eszopiclone Zolpidem Zaleplon	Benzodiazepine-receptor agonists that have adverse events similar to those of benzodiazepines in older adults (e.g., delirium, falls, fractures); minimal improvement in sleep latency and duration.	Avoid chronic use (>90 days)	Moderate	Strong	Allain 2005 Cotroneo 2007 Finkle 2011 McCrae 2007 Orriols 2011 Rhalimi 2009 Wang 2001b Yang 2011
Ergot mesylates* Isoxsuprine*	Lack of efficacy.	Avoid	High	Strong	Isoxsuprine Package Insert

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Endocrine					
Androgens Methyltestosterone* Testosterone	Potential for cardiac problems and contraindicated in men with prostate cancer.	Avoid unless indicated for moderate to severe hypogonadis m.	Moderate	Weak	Basaria 2010 Jones 2011
Desiccated thyroid	Concerns about cardiac effects; safer alternatives available.	Avoid	Low	Strong	Baskin2002 Rees-Jones1977 Rees-Jones1980 Sawin1978 Sawin1989
Estrogens with or without progestins	Evidence of carcinogenic potential (breast and endometrium); lack of cardioprotective effect and cognitive protection in older women. Evidence that vaginal estrogens for treatment of vaginal dryness is safe and effective in women with breast cancer, especially at dosages of estradiol <25 mcg twice weekly.	Avoid oral and topical patch. Topical vaginal cream: Acceptable to use low- dose intravaginal estrogen for the management of dyspareunia, lower urinary tract infections, and other vaginal symptoms.	Oral and patch: high Topical: moderate	Oral and patch: strong Topical: weak	Bath 2005 Cho 2005 Epp 2010 Hendrix 2005 Perrotta 2008 Sare 2008

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Growth hormone	Impact on body composition is small and associated with edema, arthralgia, carpal tunnel syndrome, gynecomastia, impaired fasting glucose.	Avoid, except as hormone replacement following pituitary gland removal.	High	Strong	Liu 2007
Insulin, sliding scale	Higher risk of hypoglycemia without improvement in hyperglycemia management regardless of care setting.	Avoid	Moderate	Strong	Queale 1997
Megestrol	Minimal effect on weight; increases risk of thrombotic events and possibly death in older adults.	Avoid	Moderate	Strong	Bodenner 2007 Reuben 2005 Simmons 2005 Yeh 2000

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Sulfonylureas, long-duration Chlorpropamide Glyburide	Chlorpropamide: prolonged half-life in older adults; can cause prolonged hypoglycemia; causes SIADH Glyburide: higher risk of severe prolonged hypoglycemia in older adults.	Avoid	High	Strong	Clarke 1975 Gangji 2007 Shorr 1996
Gastrointestinal					
Metoclopramide	Can cause extrapyramidal effects including tardive dyskinesia; risk may be further increased in frail older adults.	Avoid, unless for gastroparesis.	Moderate	Strong	Bateman 1985 Ganzini 1993 Miller 1989
Mineral oil, given orally	Potential for aspiration and adverse effects; safer alternatives available.	Avoid	Moderate	Strong	Marchiori 2010a Marchiori 2010b Meltzer 2006 Simmons 2007

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Trimethobenzamide	One of the least effective antiemetic drugs; can cause extrapyramidal adverse effects.	Avoid	Moderate	Strong	Bardfeld 1966 Moertel 1963
Pain Medications					
Meperidine	Not an effective oral analgesic in dosages commonly used; may cause neurotoxicity; safer alternatives available.	Avoid	High	Strong	Kaiko 1982 Szeto 1977 Meperidine Package Insert

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Non–COX-selective NSAIDs, oral Aspirin >325 mg/day Diclofenac Diflunisal Etodolac Fenoprofen Ibuprofen Ketoprofen Meclofenamate Mefenamic acid Meloxicam Nabumetone Naproxen Oxaprozin Piroxicam Sulindac Tolmetin	Increases risk of GI bleeding/peptic ulcer disease in high-risk groups, including those >75 years old or taking oral or parenteral corticosteroids, anticoagulants, or antiplatelet agents. Use of proton pump inhibitor or misoprostol reduces but does not eliminate risk. Upper GI ulcers, gross bleeding, or perforation caused by NSAIDs occur in approximately 1% of patients treated for 3–6 months, and in about 2%–4% of patients treated for one year. These trends continue with longer duration of use.	Avoid chronic use unless other alternatives are not effective and patient can take gastroprotective agent (proton- pump inhibitor or misoprostol).	All others: moderate	Strong	AGS Pain Guideline 2009 Langman 1994 Lanas 2006 Llorente Melero 2002 Pilotto 2003 Piper 1991

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Indomethacin Ketorolac, includes parenteral	Increases risk of GI bleeding/peptic ulcer disease in high-risk groups (See above Non-COX selective NSAIDs) Of all the NSAIDs, indomethacin has most adverse effects.	Avoid	Indomethacin: moderate Ketorolac: high;	Strong	Onder2004
Pentazocine*	Opioid analgesic that causes CNS adverse effects, including confusion and hallucinations, more commonly than other narcotic drugs; is also a mixed agonist and antagonist; safer alternatives available.	Avoid	Low	Strong	AGS Pain Guideline 2009 Pentazocine Package Insert
Skeletal muscle relaxants Carisoprodol Chlorzoxazone Cyclobenzaprine Metaxalone Methocarbamol Orphenadrine	Most muscle relaxants poorly tolerated by older adults, because of anticholinergic adverse effects, sedation, increased risk of fractures; effectiveness at dosages tolerated by older adults is questionable.	Avoid	Moderate	Strong	Billups2011 Rudolph 2008

Organ System/ Therapeutic Category/Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
*Infrequently used drugs *Abbreviations:* ACEI, angiotensin converting-enzyme inhibitors; ARB, angiotensin receptor blockers; CNS, central nervous system; COX, cyclooxygenase; CrCl, creatinine clearance; GI, gastrointestinal; NSAIDs, nonsteroidal anti-inflammatory drugs; SIADH, syndrome of inappropriate antidiuretic hormone secretion; TCAs, tricyclic antidepressants					
The primary target audience is the practicing clinician. The intentions of the criteria include: 1) improving the selection of prescription drugs by clinicians and patients; 2) evaluating patterns of drug use within populations; 3) educating clinicians and patients on proper drug usage; and 4) evaluating health-outcome, quality of care, cost, and utilization data.					

Table 3. 2012 AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults Due to Drug-Disease or Drug-Syndrome Interactions that may Exacerbate the Disease or Syndrome

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Cardiovascular						
Heart failure	NSAIDs and COX-2 inhibitors Nondihydropyridine CCBs (avoid only for systolic heart failure) Diltiazem Verapamil Pioglitazone, rosiglitazone Cilostazol Dronedarone	Potential to promote fluid retention and/or exacerbate heart failure.	Avoid	NSAIDs: moderate; CCBs: moderate; Thiazolidine- diones (glitazones): high; Cilostazol: low; Dronedarone: moderate	Strong	Cilostazol Package Insert Connolly 2011 Dronedarone Package Insert – revised Dec2011 Heerdink 1998 Goldstein 1991 Jessup 2009 Korber 2009 Loke 2011 Pioglitazone Package Insert Rosiglitazone Package Insert

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Syncope	Acetylcholinesterase inhibitors (AChEIs) Peripheral alpha blockers Doxazosin Prazosin Terazosin Tertiary TCAs Chlorpromazine, thioridazine and olanzapine	Increases risk of orthostatic hypotension or bradycardia.	Avoid	AChEIs and alpha blockers: high TCAs and antipsychotics: Moderate	AChEIs and TCAs: strong Alpha blockers and antipsychotics: weak	Bordier 2005 Davidson1989 French 2006 Gaggioli1997 Gill 2009 Kim 2011 Litvinenko 2008 Nickel 2008 Schneider 2006a Schneider 2006b Wild 2010
Central Nervous System						
Chronic seizures or epilepsy	Bupropion Chlorpromazine Clozapine Maprotiline Olanzapine Thioridazine Thiothixene Tramadol	Lowers seizure threshold; may be acceptable in patients with well-controlled seizures in whom alternative agents have not been effective.	Avoid	Moderate	Strong	Pisani 2002

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Delirium	All TCAs Anticholinergics (see **Table 9** for full list) Benzodiazepines Chlorpromazine Corticosteroids H_2 -receptor antagonist Meperidine Sedative hypnotics Thioridazine	Avoid in older adults with or at high risk of delirium because of inducing or worsening delirium in older adults; if discontinuing drugs used chronically, taper to avoid withdrawal symptoms.	Avoid	Moderate	Strong	Clegg 2011 Gaudreau 2005 Laurila 2008 Marcantonio 1994 Moore 1999 Morrison 2003 Ozbolt 2008 Panharipande 2006 Rudolph 2008 Stockl 2010

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Dementia and cognitive impairment	Anticholinergics (see **Table 9** for full list) Benzodiazepines H_2-receptor antagonists Zolpidem Antipsychotics, chronic and as-needed use	Avoid due to adverse CNS effects. Avoid antipsychotics for behavioral problems of dementia unless non-pharmacologic options have failed and patient is a threat to themselves or others. Antipsychotics are associated increased risk of cerebrovascular accident (stroke) and mortality in persons with dementia.	Avoid	High	Strong	Boustani 2007 Hanlon2004 Finkle 2011 Frey 2011 Paterniti 2002 Rasmussen 1999 Rudolph 2008 Schneider 2005 Schneider 2006a Schneider 2006b Seitz 2011 Vigen 2011 Wright 2009

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
History of falls or fractures	Anticonvulsants Antipsychotics Benzodiazepines Nonbenzodiazepine hypnotics Eszopiclone Zaleplon Zolpidem TCAs/SSRIs	Ability to produce ataxia, impaired psychomotor function, Syncope, and additional falls; shorter-acting benzodiazepines are not safer than long-acting ones.	Avoid unless safer alternatives are not available; avoid anticonvulsants except for seizure	High	Strong	Allain 2005 Berdot 2009 Deandrea 2010 Ensrud 2003 Hartikainen 2007 Jalbert 2010 Liperoti 2007 Mets 2010 Sterke 2008 Turner 2011 van der Hooft 2008 Vestergaard 2008 Wagner 2004 Wang 2001a Wang 2001b Zint 2010

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Insomnia	Oral decongestants Pseudoephedrine Phenylephrine Stimulants Amphetamine Methylphenidate Pemoline Theobromines Theophylline Caffeine	CNS stimulant effects	Avoid	Moderate	Strong	Foral 2011
Parkinson disease	All antipsychotics (see **Table 8** for full list, except for quetiapine and clozapine) Antiemetics Metoclopramide Prochlorperazine Promethazine	Dopamine receptor antagonists with potential to worsen parkinsonian symptoms. Quetiapine and clozapine appear to be less likely to precipitate worsening of Parkinson disease.	Avoid	Moderate	Strong	Bateman 1985 Dore 2009 Ganzini 1993 Morgan 2005 Thanvi 2009

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Gastrointestinal						
Chronic constipation	Oral antimuscarinics for urinary incontinence Darifenacin Fesoterodine Oxybutynin (oral) Solifenacin Tolterodine Trospium Nondihydropyridine CCB Diltiazem Verapamil	Ability to worsen constipation; agents for urinary incontinence: antimuscarinics overall differ in incidence of constipation; response variable; consider alternative agent if constipation develops.	Avoid unless no other alternatives	For urinary incontinence: high All others: Moderate/ low	Weak	Glass 2008 Meek 2011

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Chronic constipation	First-generation antihistamines as single agent or part of combination products Brompheniramine (various) Carbinoxamine Chlorpheniramine Clemastine (various) Cyproheptadine Dexbrompheniramine Dexchlorpheniramine (various) Diphenhydramine Doxylamine Hydroxyzine Promethazine Triprolidine		Avoid unless no other alternatives	For urinary incontinence: high All others: Moderate/ low	Weak	Glass 2008 Meek 2011

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
	Anticholinergics/ antispasmodics (see **Table 9** for full list of drugs with strong anticholinergic properties) Antipsychotics Belladonna alkaloids Clidinium-chlordiazepoxide Dicyclomine Hyoscyamine Propantheline Scopolamine Tertiary TCAs (amitriptyline, clomipramine, doxepin, imipramine, and trimipramine)					

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
History of gastric or duodenal ulcers	Aspirin (>325 mg/day) Non–COX-2 selective NSAIDs	May exacerbate existing ulcers or cause new/additional ulcers.	Avoid unless other alternatives are not effective and patient can take gastroprotective agent (proton-pump inhibitor or misoprostol)	Moderate	Strong	Gabriel 1991 Laine 2010
Kidney/Urinary Tract						
Chronic kidney disease stages IV and V	NSAIDs Triamterene (alone or in combination)	May increase risk of kidney injury. May increase risk of acute kidney injury.	Avoid Avoid	NSAIDs: moderate Triamterene: low	NSAIDs: strong Triamtere ne: weak	Farge 1986 Favre 1982 Gooch 2007 Griffin 2000 Lafrance 2009 Murray 1995 Perazella 1999 Schneider 2006 Sica 1989 Winkelmayer 2008

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Urinary incontinence (all types) in women	Estrogen oral and transdermal (excludes intravaginal estrogen)	Aggravation of incontinence.	Avoid in women	High	Strong	Dew 2003 Epp 2010 Grodstein 2004 Hartmann 2009 Hendrix 2005 Perrotta 2008 Ruby 2010
Lower urinary tract symptoms, benign prostatic hyperplasia	Inhaled anticholinergic agents Strongly anticholinergic drugs, except antimuscarinics for urinary incontinence (see Table 9 for complete list).	May decrease urinary flow and cause urinary retention.	Avoid in men	Moderate	Inhaled agents: strong All others: weak	Afonso 2011 Athanasopoulos 2003 Barkin 2004 Blake-James 2006 Chapple 2005 Griebling 2009 Kaplan 2006 Kraus 2010 Malone-Lee 2001 Martin Merino 2009

Disease or Syndrome	Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Stress or mixed urinary incontinence	Alpha-blockers Doxazosin Prazosin Terazosin	Aggravation of incontinence.	Avoid in women	Moderate	Strong	Marshall 1996 Ruby 2010
Abbreviations: CCBs, calcium channel blockers; AChEIs, acetylcholinesterase inhibitors; CNS, central nervous system; COX, cyclooxygenase; NSAIDs, nonsteroidal anti-inflammatory drugs; SSRIs, selective serotonin reuptake inhibitors; TCAs, tricyclic antidepressants						
The primary target audience is the practicing clinician. The intentions of the criteria include: 1) improving the selection of prescription drugs by clinicians and patients; 2) evaluating patterns of drug use within populations; 3) educating clinicians and patients on proper drug usage; and 4) evaluating health-outcome, quality of care, cost, and utilization data.						

Table 4. 2012 AGS Beers Criteria for Potentially Inappropriate Medications to Be Used with Caution in Older Adults

Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation	References
Aspirin for primary prevention of cardiac events	Lack of evidence of benefit versus risk in individuals ≥80 years old.	Use with caution in adults ≥80 years old.	Low	Weak	McQuaid 2006 Wolff 2009
Dabigatran	Increased risk of bleeding compared with warfarin in adults ≥75 years old; lack of evidence for efficacy and safety in patients with CrCl <30 mL/min	Use with caution in adults ≥75 years old or if CrCl <30 mL/min.	Moderate	Weak	Connolly 2009 Diener 2010 Eikelboom 2011 Legrand 2011 Wann 2011b Dabigatran Package Insert
Prasugrel	Increased risk of bleeding in older adults; risk may be offset by benefit in highest-risk older patients (e.g. those with prior myocardial infarction or diabetes).	Use with caution in adults ≥75 years old.	Moderate	Weak	Hochholzer 2011 Wiviott 2007 Prasugrel Package Insert
Antipsychotics Carbamazepine Carboplatin Cisplatin Mirtazapine SNRIs SSRIs TCAs Vincristine	May exacerbate or cause SIADH or hyponatremia; need to monitor sodium level closely when starting or changing dosages in older adults due to increased risk.	Use with caution.	Moderate	Strong	Bouman 1998 Coupland 2011 Liamis 2008 Liu 1996

Vasodilators	May exacerbate episodes of syncope in individuals with history of syncope.	Use with caution.	Moderate	Weak	Davidson1989 Gaggioli1997
Abbreviations: CrCl, creatinine clearance; SIADH, syndrome of inappropriate antidiuretic hormone secretion; SSRIs, selective serotonin reuptake inhibitors; SNRIs, serotonin–norepinephrine reuptake inhibitors; TCAs, tricyclic antidepressant					
The primary target audience is the practicing clinician. The intentions of the criteria include: 1) improving the selection of prescription drugs by clinicians and patients; 2) evaluating patterns of drug use within populations; 3) educating clinicians and patients on proper drug usage; and 4) evaluating health-outcome, quality of care, cost, and utilization data.					

Table 8. First- and Second-Generation Antipsychotics	
First-Generation (Conventional) Agents	**Second-Generation (Atypical) Agents**
Chlorpromazine	Aripiprazole
Fluphenazine	Asenapine
Haloperidol	Clozapine
Loxapine	Iloperidone
Molindone	Lurasidone
Perphenazine	Olanzapine
Pimozide	Paliperidone
Promazine	Quetiapine
Thioridazine	Risperidone
Thiothixene	Ziprasidone
Trifluoperazine	
Triflupromazine	

Table 9. Drugs with Strong Anticholinergic Properties		
Antihistamines Brompheniramine Carbinoxamine Chlorpheniramine Clemastine Cyproheptadine Dimenhydrinate Diphenhydramine Hydroxyzine Loratadine Meclizine	**Antiparkinson agents** Benztropine Trihexyphenidyl	**Skeletal Muscle Relaxants** Carisoprodol Cyclobenzaprine Orphenadrine Tizanidine
Antidepressants Amitriptyline Amoxapine Clomipramine Desipramine Doxepin Imipramine Nortriptyline Paroxetine Protriptyline Trimipramine	**Antipsychotics** Chlorpromazine Clozapine Fluphenazine Loxapine Olanzapine Perphenazine Pimozide Prochlorperazine Promethazine Thioridazine Thiothixene Trifluoperazine	
Antimuscarinics (urinary incontinence) Darifenacin Fesoterodine Flavoxate Oxybutynin Solifenacin Tolterodine Trospium	**Antispasmodics** Atropine products Belladonna alkaloids Dicyclomine Homatropine Hyoscyamine products Loperamide Propantheline Scopolamine	

B1 - Medications and Risk for Fall/Injury from Fall

Reprinted with permission: Maria E. Bybel, BScPharmacy, PharmD; 2013. From the Slips, Trips and Drugs – Medication Workshop. National Collaborative on the Prevention of Falls in Long-term Care. Learning Session 2, Halifax, Nova Scotia (2008).

How do medications contribute to falls in older adults?

Medications can contribute in a number of ways:

Neurologic/CNS

- Affect alertness, judgment, coordination.
- Increase risk of cognitive impairment/delirium.
- Inability to recognize and adapt to obstacles.

Neuromuscular

- Neuromuscular dysfunction or an altered balance mechanism.
- Impaired/altered mobility due to stiffness, weakness or uncontrolled pain.

Cardiovascular

- Postural or orthostatic hypotension.
- Combination Exacerbating or synergistic effects of multiple medications.

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

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

See **Appendix B-2** for quick chart with medication classes, impacts of medication and some examples * not all inclusive list*.

See **Appendix B-3** - Don't Fall for it: Pills and Spills Poster

B-2 Quick Reference Chart – Medication Class, Impacts and Examples

Class of Medication	Impact of Medication	*Examples*
HIGH RISK		
Sedatives, Hypnotics, 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 a fall by causing the individual to feel restlessness, drowsiness, sedation, blurred vision	Tricyclic antidepressants (amitriptyline, nortriptyline), SSRI (citalopram, fluoxetine, sertraline), SNRI (venlafaxine, mirtazipine)
Psychotropics/ Neuroleptics	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)
MODERATE RISK		
Cardiac Medications	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 Antiarrhythmics: amiodarone, digoxin

Class of Medication	Impact of Medication	*Examples*
Alpha-blockers (for Benign prostatic hyperplasia)	Medication may cause vasodilation, lowering blood pressure and causing confusion.	Alpha Blockers (e.g., tamsulosin)
Anticholinergics	Cause altered balance, motor coordination impairment, impaired reflexes, impaired cognition, visual disturbances	Benztropine, oxybutynin, atropine, hyoscine
Anti-histamines/Anti-nauseants	Affect balance, impair coordination, can cause sedation, and have anticholinergic properties	Antihistamines: meclizine, hydroxyzine, diphenhydramine (benadryl), chlorpheniramine Anti-nauseants: dimenhydrinate (gravol), prochlorperazine, metoclopramide
Anticonvulsants	Tendency to decrease level of consciousness 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, Methocarbamol, orphenadrine, tizanadine
Parkinson treatments	Can lower blood pressure and cause confusion	Levodopa, pramipexole, ropinirole
RISK IN SOME CLIENTS		
Opioids, Narcotic Analgesics	Primarily cause change in level of consciousness leading to confusion, sedation and potential visual hallucinations	Codeine, morphine, hydromorphone, fentanyl, oxycodone
Non-steroidal anti-inflammatory agents (NSAIDs)	Can cause sedation, confusion	Naproxen, ibuprofen

Class of Medication	Impact of Medication	*Examples*
Stimulants	Primarily cause change in level of consciousness leading to confusion, and potential visual hallucinations	Methylphenidate, Ephedra
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 hyperglycemic or hypoglycemic reaction which can result in confusion, possibly orthostatic hypotension, dizziness and change in mental status	
Over the Counter (OTC), Natural or Herbal Products and Alcohol	Over the counter products may contain anticholinergic agents or may have a sedating or stimulating effect	Cough and cold preparations Anti-allergy medication Decongestants Herbal products (e.g., valerian, kava, gotu kola, ginseng, St. John's Wort, ephedra) Alcoholic beverages
Ophthalmic medications	Medications can affect pupil dilation and night vision, sensitivity to light and glare, and blurring.	timolol/latanoprost/ pilocarpine eye drops, natural tears or lubricants

B-3 Don't Fall for it: Pills and Spills Poster

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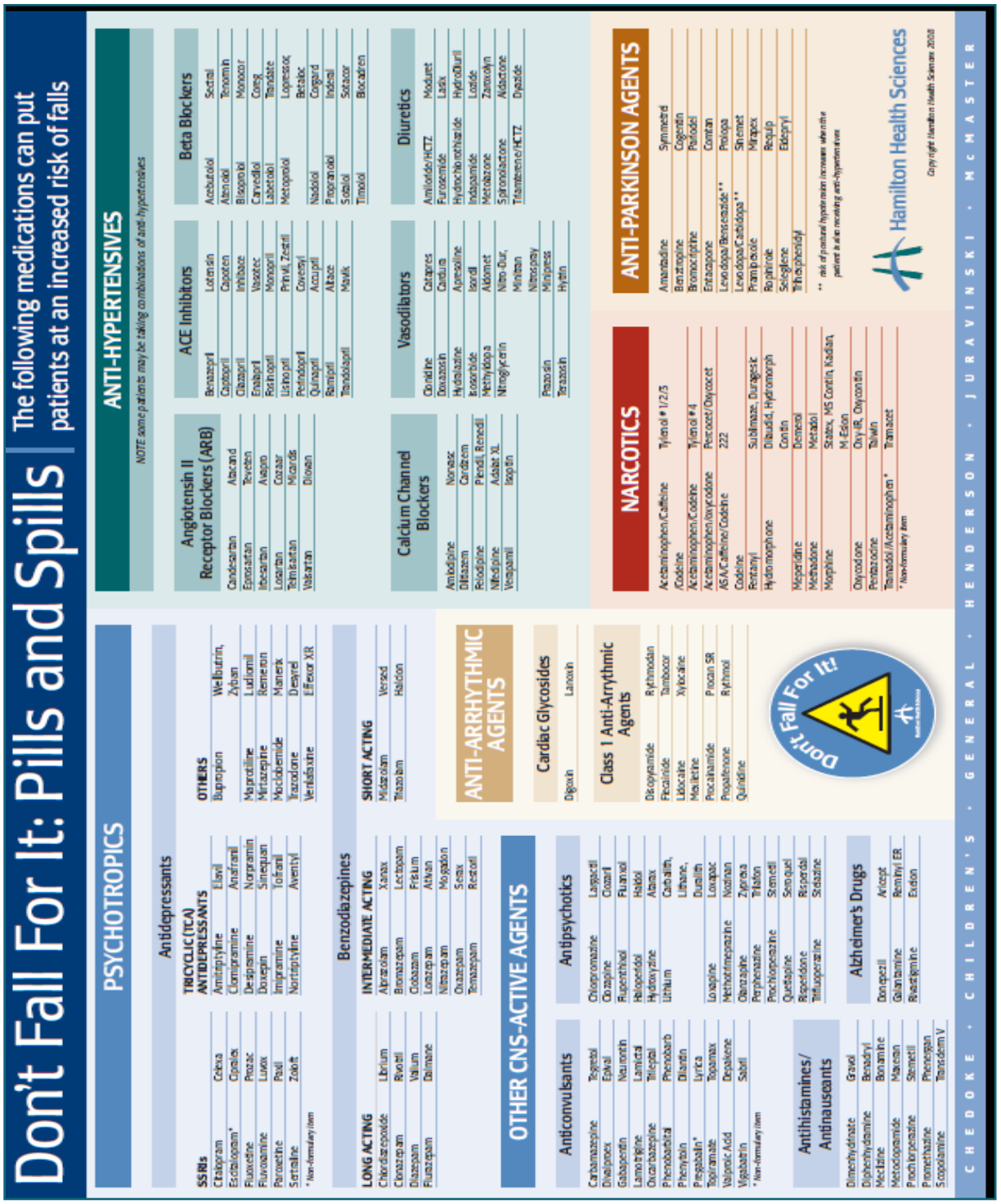

Appendix C – Fall Risk Factor Assessment Tools

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

1) Hendrich II Fall Risk Model

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

2) Morse Fall Scale – See example C1

This scale requires systematic, reliable assessment of an individual's fall 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.

3) SCOTT FALL RISK SCREEN for Residential Long-Term Care© - See example C 2

Is a validated tool in predicting fall risk based on identified risk factors. The tool includes prevention strategies and links specific prevention strategies to the person's identified risk factors such as poor mobility, agitation, incontinence or urgency, poor vision, poor cognition, weakness, dizziness, and inappropriate use of medications.

Poss, J. (2009). Risk factors for falls in residential care: Evidence from RAS MDS 2.0 assessment data. Presented at the Residential Care Fall Prevention Summit, Victoria, BC, November 5-9, 2009.

4) 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.

C1 - Morse Fall Scale

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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.

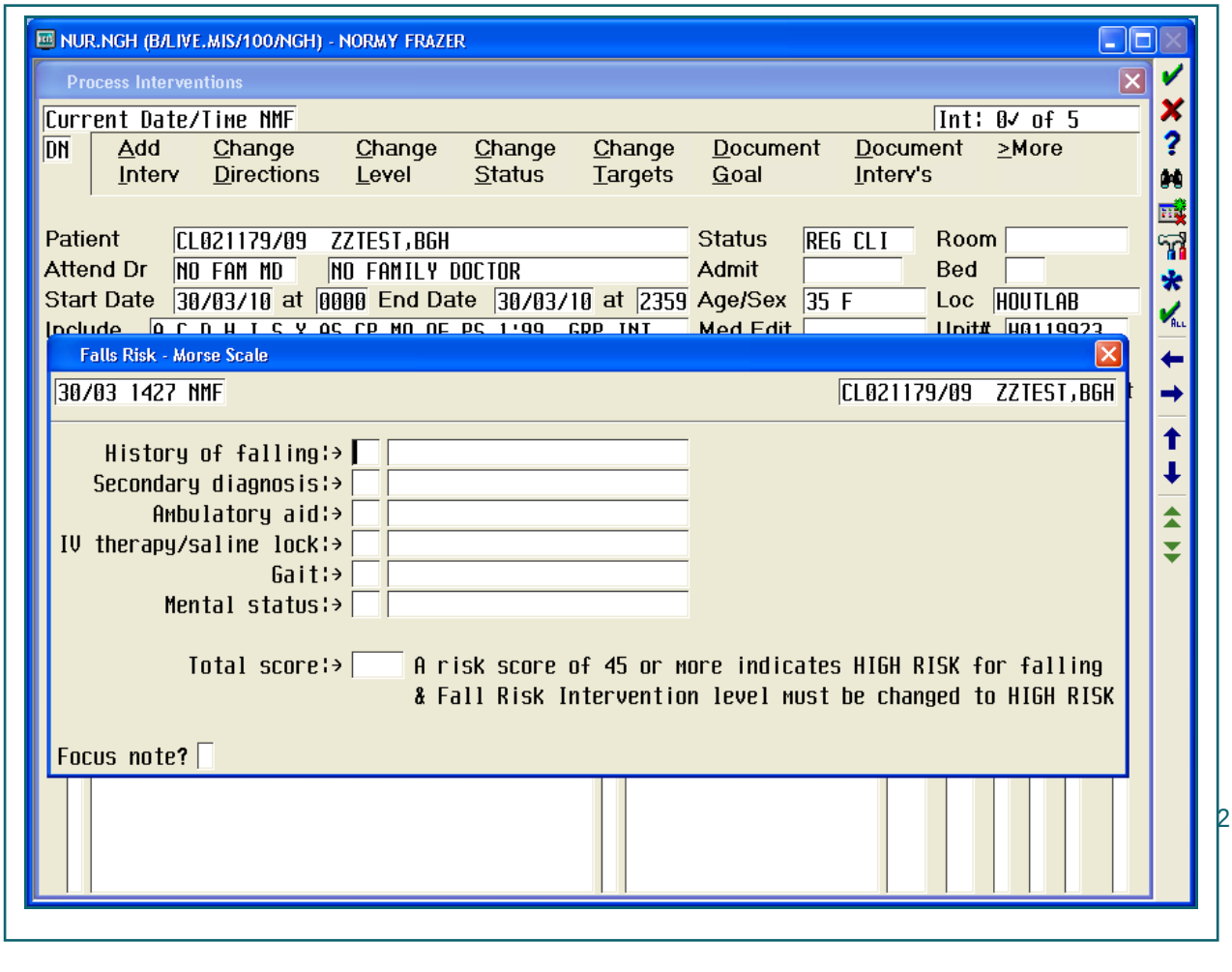
Morse Fall Scale	
High Risk	45 and higher
Moderate Risk	25-44
Low Risk	0-24

To seek more information on Morse Fall Scale visit: http://faculty.utah.edu/u0556920-Janice_Morse_RN,_PhD,_FAAN/research/index.hml

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; 2013.



C2 - SCOTT FALL RISK SCREEN for Residential Long-Term Care©

Reproduced with permission, Vicky Scott, PhD; 2013.

Facility: _____

Resident: _____

Date: _____

SCOTT FALL RISK SCREEN for Residential Long-Term Care©

Reason for completing tool *(circle one)*: 1. New admission; 2. Change of status; 3. Yearly review; 4. Serious fall injury/multiple falls. *[TO BE COMPLETED BY RN, LPN or PT/OT or other health care professionals trained in completing this form]*

RISK FACTOR PRESENT	CIRCLE	POSSIBLE STRATEGIES
More than 2 falls in previous 6 months and/or clinical judgment of high risk	6	Review circumstances of prior falls from fall reports.
Impaired mobility, balance or gait	2	Refer for PT/OT assessment / recommend use of hip protectors.
Altered mental state (e.g., delirium, brain injury, dementia, depression)	2	Monitor daily for change in mental status and ability to remember and follow instructions.
Attempts to unsafely get out of bed due to lack of understanding, agitation or restlessness	3	If confused with impaired mobility, assess for bed alarm / mats / monitoring.
Move to facility in past month	1	Screen for fall risk / assess for mobility.
Dizziness or vertigo	1	Check for orthostatic hypotension, dehydration and vestibular problems. Refer for medical assessment.
Generalized weakness (see back page for indicators)	1	Assess for insomnia, pain, malnutrition, hypoxia or disuse. Refer for medical assessment.
Alternations in urinary and bowel elimination (frequency, urgency, incontinence, etc.)	1	Bladder/bowel routine / bedside commode or light if unsafe at night.
Greater than 7 medications, especially narcotics, anti-depressants, anti-psychotics, diuretics	1	Regular review of medications.
Any prescribed benzodiazepine or psychotropic medications	1	Refer to pharmacist/ physician for reduced dose or alternatives to benzodiazepine or psychotropic meds.
Immobile (unable to walk or stand unaided)	-5	Precautions for falling from bed or chair. Plan for fracture risk related to osteoporosis.
TOTAL		

Risk Assessment Total Score *see reverse for further guidelines for item completion *

Score <7 – universal precautions for fall, plus a plan in place to reduce impact of each indentified risk above.
Score ≥ 7 – deemed to be at high risk for falls.
Score >12 – deemed to be at high risk for falls and unsafe ambulation.

IF resident score <7- plan in place for each risk and:
Follow universal fall prevention plan, including:
- bed in low position
- call bell in place
- good fitting footwear
- incontinence precautions
- environment uncluttered, good lighting, accessible grab bars, non-slip floors
- apply strategies based on risk items above

IF resident score ≥7- plan in place for each risk and:
In addition to universal fall prevention plan, develop tailored falls prevention plan based on risk items above and put in chart, including:
- bedside safety plan put in prominent location in room
- include high risk status in shift report & chart
- least restraint precautions
- hip protectors, bed / chair alarm, as needed
- notify family of fall risk through letter / brochure

IF unsafe ambulation with score >12:
In addition to above, assess for appropriate wheelchair use / least restraints / hip protectors / personal alarm systems
Notify family through letter and/or brochure regarding unsafe ambulation and fall risk
Comments:

Signature *Date* See over →

SCOTT FALL RISK SCREEN (SFRS): RESIDENTIAL LONG-TERM CARE. November 12, 2012, Dr. V. Scott, Senior Advisor Fall & Injury Prevention, B.C. Injury Research & Prevention Unit. Not to be used without permission of the author at: Vicky.scott@gov.bc.ca OR vjbs@shaw.ca

Any changes to the scored items (Risk Factors and assigned score) on the tool mean that the tool will no longer be valid; however, interventions/strategies can be adjusted to suit the setting.

Appendix D – 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.

Berg Balance Scale (see example – D1)

- The BBS scale is intended to show a relationship between walking aids and balance. The scale is not a true ratio score (e.g. every point along the scale does not have the same meaningful difference). Combining the score with client characteristics, opportunity, judgment and likelihood ratios gives clinicians a better indication of fall risk.
- The BBS scale score is not intended to be used as a dichotomous scale to identify clients at high risk for falling.[102] The BBS scale should be used to monitor improvement in the client's ability to keep mobile. BBS Scale is available at:

  http://www.fallpreventiontaskforce.org/pdf/BergBalanceScale.pdf

Falls Efficacy Scale International (FES-1)

- The Short-FES-I is reliable and useful in clinical practice and has also been validated for use in older adults with cognitive impairment and has been translated and tested in different countries/cultures.
- The test has participants answer 16 items thinking about how they usually do the activity. Example: if they usually walk with an aid they should answer items about walking to show how concerned they would be about falling when using that aid.
- The response categories participants can choose from are: 1 = not at all concerned 2 = somewhat concerned 3 = fairly concerned 4 = very concerned.
- To obtain a total score, add the scores on all the items together, to give a total that will range from 16 (no concern about falling) to 64 (severe concern about falling). Results of FES-I enable clients to be triaged as low, medium and high risk, which then determines the level and immediacy of intervention that will be offered. Available at: http://consultgerirn.org/uploads/File/trythis/try_this_29.pdf /or http://www.profane.eu.org/fesi.html.

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.

Tinetti Performance Oriented Mobility Assessment (POMA) (see example – D2)

- An on line tutorial on Tinetti Performance Oriented Mobility Assessment (POMA) is available at http://www.geriu.org/uploads/applications/Tinetti/tinetti.htm

D1 - Berg Balance Scale

Reproduced with the permission of Katherine Berg PhD PT; February 2013.

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)	_____

In general fall risk increases with lower balance scale scores. However the predictability of risk for falls improves when the BBS score is combined with client characteristics, opportunity to fall, judgment and use of likelihood ratios. The BBS score is not intended to be used as a dichotomous scale to identify clients at high risk for falling but rather to monitor improvement in their ability to be mobile.

References

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., Gayton, D. (1989). Measuring balance in the elderly: Preliminary development of an instrument. *Physiotherapy Canada, 41*, 304-311.

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.

Muir, S. W., Berg, K., Chesworth, B., & Speechley, M. (2008). Use of Berg Balance Scale for predicting multiple falls in community dwelling elderly people: A prospective study. *Physical Therapy, 88*(4), 449-459. Retrieved from http://ptjournal.apta.org/content/88/4/449.full.pdf+html

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.

D2 - Tinetti Performance Oriented Mobility Assessment (POMA)

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The Tinetti Gait and Balance Instrument is designed to determine an elders risk for a fall 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^{o}
    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 E - Screening for Malnutrition

Nutrition Screening [103] [104]

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

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.[105]

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 per cent) and specificity (>90 per cent) included the following:

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

MST: Sensitivity >90 per cent (3 of 4 studies); Specificity > 90 per cent (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 (Mini Nutrition Assessment - Short Form®): See E1

MNA-SF® is a shortened form of the classical Mini Nutrition Assessment® (MNA) which was designed to screen adult clients (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 only been validated in the older adult populations.[106] [107]

The MNA® and MNA-SF® is available 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; and
- Body mass index (or alternatively calf circumference).

The MNA-SF®, available in both English and French.

MST (Malnutrition Screening Tool): See E2

The MST was developed for medical and surgical clients. It is a simple, quick, valid, and reliable tool which can be used to identify clients 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. Clients are then considered to be at risk of malnutrition if they receive a score of two or more.[108]

SCREENII © (Seniors in the Community Risk Evaluation for Eating and Nutrition)

SCREENII© is particular to the community setting and can be self- or interviewer-administered. It is valid and reliable and does not require measurements. It can be administered over the phone, completed by the senior while they wait for the appointment, or administered by a provider. It includes questions on food and fluid intake as well as risk factors that impact food intake (e.g. grocery shopping difficulty, swallowing or chewing difficulties, eating alone). The full (14 items) and abbreviated (8 items) have been used in diverse community settings and are available in eight languages. Further information on the SCREENII© can be obtained from http://www.flintbox.com/public/project/2750.

E1 - Mini Nutritional Assessment MNA®

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Mini Nutritional Assessment MNA®

Nestlé Nutrition Institute

Last name: First name:

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

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 ☐☐

References
1. Vellas B, Villars H, Abellan G, *et al.* Overview of the MNA®- Its History and Challenges. *J Nutr Health Aging.* 2006;**10**:456-465.
2. 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
3. Guigoz Y. The Mini-Nutritional Assessment (MNA®) Review of the Literature - What does it tell us? *J Nutr Health Aging.* 2006; **10**:466-487.
4. Kaiser MJ, Bauer JM, Ramsch C, et al. Validation of the Mini Nutritional Assessment Short-Form (MNA®-SF): A practical tool for identification of nutritional status. *J Nutr Health Aging.* 2009; **13**:782-788.

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For more information: www.mna-elderly.com

E2 - Malnutrition Screening Tool (MST)

Reprinted with permission, Table IV from *Nutrition, 15*(6),1999; 2013.

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 = client at risk of malnutrition

Appendix F – CCS de la Vieille-Capitale Instructions and Tool

Reproduced with permission CSSS de la Vieille-Capitale; 2013.

Long Term Care

Centre de santé et de services sociaux de la Vieille-Capitale

Centre affilié universitaire

INSTRUCTIONS

Scott fall risk screening tool

➡ Important: If a resident is restrained in the evaluation of fall risks, evaluate the resident according to his behavior without restraint.

Date : _____	Reason for completing tool :	Admission ☐	Change of status ☐	Review ☐
		Post-fall ☐	Transfer ☐	

- ► Admission = obligatory
- ► Post fall = if changes in risk factors
- ► Change of status = improvement or deterioration
- ► transfer = if significant change in the environment
- ► Review = evaluate the effectiveness of interventions or to review periodically the status of the user to the risks of falling.

RISK FACTORS	○	RAPID RESPONSE	☑

► Circle the risk factors present.

► Once a factor is present, a rapid response must be made.

1. More than 2 falls in previous 6 months	► Falls described by the resident or his family or noted on the medical record
2. Dizziness or vertigo ▪ In a standing position or ▪ Lying to sitting or ▪ Sit to stand	► Verbalized by the resident or observed during an intervention

3. Altered mental state Delirium, brain injury, dementia, depression or agitation or resident can't follow or remember the instructions		► Delirium or depression in the active phase
4. Attempts to unsafely get out of bed Due to lack of understanding, agitation or restlessness		► Observed only within transfers
5. Move to facility in past month		
6. Impaired mobility, balance or gait		► See also physiotherapy form.
7. Generalized weakness ▪ Resident verbalizes that they feel weak. or ▪ Unable to stand unassisted by side of bed for 2 minutes or ▪ Unable to do 2 or more of the following:: *get off and on toilet independently, sit to stand and back to sit without assistance, able to dress and groom independently, walk across room (20 feet), turn and walk back without assistance, transfer / move in bed*		► The inability to do the activities must be due to the weakness and not another problem such cognitive impairments. ► Incapacity with or without walking aid
8. Urinary and bowel elimination ▪ ≥ 7 voiding in 24 h or ▪ Nocturia (gets up at night ≥ 1 time) or ▪ Urgency or ▪ Recent incontinence (in the last month)		► Situations that make the resident tries to use the bathroom quickly, often or night.
9. Médication ▪ Take **≥ 5** medications (including PRN) ▪ Any prescribed benzodiazepine or psychotropic medications		► Do not include drops, ointments, creams, vitamins and minerals (e.g. iron, calcium).
Sub-total		
10. Immobile (unable to walk or stand unaided) *Negative because the fall risk decrease*	- 5	► ATTENTION, the factor 10 is negative, because it makes resident at a lower risk

CONTRIBUTING FACTORS	☑	INTERVENTIONS RAPIDES	☑
► Circle the contributing factors present		► Once a factor is present, a rapid response must be made.	
Troubles of sensory perception ▪ Visual or hearing deficit ▪ Peripherical neuropathy ▪ Gnosis or hemineglect impairment		► Gnosis impairment: impaired recognition of objects or movements ► Difficulty perceiving elements of the environment or to understand how to mobilize members.	
Inadequate nutrition ▪ Malnutrition ▪ Consumption ≤ ¾ of meals including meal ▪ Consumption < 2 meals per day			
Physical restraint use			
Fear of falling. Possible behaviors are : ▪ Resident change his habits during his activities ▪ Resident restricts his displacements ▪ Resident walk with caution ▪ Resident becomes anxious when he's standing		► Two questions should be asked to the resident - Do you fear of falling? - Have you reduced your activities for fear of falling?	

Universal fall prevention plan (Check the interventions by screening score)

► IMPORTANT : Use the identifier when the score is above 12 and that the resident should not transfer himself or walking alone

Note that is possible, despite a higher score than 12, not to use the identifier if the risks are accepted by the user and his family or if the resident has a particular behavior. If this occurs, it's necessary:

- That the decision is made during a discussion with the interdisciplinary team and with agreement of the family;
- That the discussion and decision are the subject of a note in the medical record

Unsafe ambulation > 12

Implement interventions 1-9 and add

10. ☐ Hold an interdisciplinary meeting
11. ☐ Use identifier

12. ☐ Ensure a safe positionning in the chair

Comments or other interventions	N. B. : A note requires a signature at the end of it.

► Write in this section :

- Other risk factors observed;
- Other prevention strategies used;
- If another professional gets a different score at screening, he indicates in this section and discuss with the nurse;
- Other

Complete by Nurse

_____ Date : _____

Other professional Date : _____

_____

Date for the next review :

_____ The next reassessment must be made minimally in 12 months.

► A reassessment date is obligatory and is determined based on professional judgment. This date must not exceed 12 months.

Centre de santé et de services sociaux de la Vieille-Capitale
Centre affilié universitaire

Facility _____

Scott fall risk screening tool

Date : _____	Reason for completing tool : Admission ☐ Change of status ☐ Review ☐ Post-fall ☐ Transfer ☐		
RISK FACTORS	○	RAPID RESPONSES	☑
11. More than 2 falls in previous 6 months	6	▪ Maintenance of lifestyle-related ADL ▪ Orientation of the resident in time and space	☐ ☐
12. Dizziness or vertigo ▪ In a standing position or ▪ Lying to sitting or ▪ Sit to stand	1	▪ Information given to nursing staff telling resident to slow transfers ▪ Resident education to do his transfer slowly	☐ ☐
13. Altered mental state Delirium, brain injury, dementia, depression or agitation or resident can't follow or remember the instructions	2	▪ Introduction of routine care and activities	☐
14. Attempts to unsafely get out of bed Due to lack of understanding, agitation or restlessness	3	▪ Installing a mobility sensor (To be discussed with the occupational therapist)	☐
15. Move to facility in past month	1	▪ Increased surveillance	☐
16. Impaired mobility, balance or gait	2	▪ Increased surveillance ▪ Walking Aid left close (if applicable) ▪ Request the use of hip protectors	☐ ☐ ☐

17. Generalized weakness ▪ Resident verbalizes that they feel weak. or ▪ Unable to stand unassisted by side of bed for 2 minutes or ▪ Unable to do 2 or more of the following:: *get off and on toilet independently, sit to stand and back to sit without assistance, able to dress and groom independently, walk across room (20 feet), turn and walk back without assistance, transfer / move in bed*	1	▪ The level of assistance required for the performance of the activities is determined and recorded in the care plan	☐
18. Urinary and bowel elimination ▪ ≥ 7 voiding in 24 h or ▪ Nocturia (gets up at night ≥ 1 time) or ▪ Urgency or ▪ Recent incontinence (in the last month)	1	▪ Establishing a schedule of continence ▪ Using a commode near the bed ▪ Information provided to staff telling resident to offer voiding before administering a medication that causes drowsiness ▪ The night, changing the lighting leading to the toilet	☐ ☐ ☐ ☐
19. Médication ▪ Take **≥ 5** medications (including PRN)	1	▪ Monitoring of adverse reactions	☐
▪ Any prescribed benzodiazepine or psychotropic medications	1	▪ Monitoring the presence of daytime sleepiness	☐
Sub-total			
20. Immobile (unable to walk or stand unaided) *Negative because the fall risk decrease*	- 5	▪ Check the positioning in the chair ▪ Check the positioning in bed	☐ ☐
TOTAL		Score < 7: universal precautions for falls. Score > 7: deemed to be at high risk for falls. Score >12: deemed to be at high risk for falls and unsafe ambulation.	
SCOTT FALL RISK SCREENING TOOL			

CONTRIBUTING FACTORS	☑	RAPID RESPONSE	☑
Troubles of sensory perception ▪ Visual or hearing deficit ▪ Peripherical neuropathy ▪ Gnosis or hemineglect impairment	☐	▪ Surveillance of wearing glasses or hearing aids ▪ Initiation of action by care worker to assist the resident understanding ▪ Respect the visual field of the resident	☐ ☐ ☐
Inadequate nutrition ▪ Malnutrition ▪ Consumption ≤ ¾ of meals including meal ▪ Consumption < 2 meals per day	☐	▪ Stimulation of feeding ▪ Surveillance of wearing dentures ▪ Make water accessible and near the resident ▪ Surveillance of oral hygiene	☐ ☐ ☐ ☐
Physical restraint use	☐	▪ Ensure that surveillance is performed	☐
Fear of falling. Possible behaviors are : ▪ Resident change his habits during his activities ▪ Resident restricts his displacements ▪ Resident walk with caution ▪ Resident becomes anxious when he's standing	☐	▪ Walking stimulation with one or two care worker	☐

Universal fall prevention plan (Check the interventions by screening score)

Whatever score : (0 to 19)

1. ☐ Bed in low position
2. ☐ call bell in place
3. Good fitting footwear
   ☐ Yes ☐ No, call family
4. Good fitting clothes
   ☐ Yes ☐ No, call family
5. Cluttered room
   ☐ Yes ☐ No, call family
6. Maintain the resident autonomy
   ☐ Mobility ☐ ADL ☐ Continence

Score ≥ 7

Implement interventions 1-6 and add

7. ☐ Indicate the level of risk on care plan
8. ☐ Use customized strategies for fall prevention
9. ☐ If restraint use, to ensure its safe installation

Unsafe ambulation > 12

Implement interventions 1-9 and add

10. ☐ Hold an interdisciplinary meeting
11. ☐ Use identifier

12. ☐ Ensure a safe positioning in the chair

Comments or other interventions	N. B. : A note requires a signature at the end of it.

Complete by Nurse _____ Date : _____

Other professional _____ Date : _____

Date for the next review : _____

The next reassessment must be made minimally in 12 months.

Adaption of the SCOTT, Vicky, et autres (2010). *Fall Screening Tool: Residential Care*

Appendix G – Communicating Fall Risk

Home Health Care

Reproduced with the permission of the Hamilton Niagara Haldimand Brant Community Care Access Centre, Ontario; 2013.

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

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)

☐ 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

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 H – Example Websites for Fall Prevention/Injury Reduction Educational Resources

Health Care Providers

***Agency for Healthcare Research and Quality (AHRQ)*: Preventing Falls in Hospitals: A Toolkit for Improving Quality of Care**: http://www.ahrq.gov/professionals/systems/long-term-care/fallpxtoolkit/

***American Physical Therapy Association (APTA)*:** Balance and Falls: http://www.apta.org/BalanceFalls/

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 a resident fall.
http://ltctoolkit.rnao.ca/sites/ltc/files/resources/falls/EducationResources/FactSheetsPamphletsPocketCardsLogos/Falls6_29.BPGsBedside.pdf

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

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 fall prevention/injury reduction programming into existing seniors' health services policies and protocols; and c) knowledge of appropriate evaluation and dissemination techniques.
http://www.canadianfallprevention.ca/

CSSS de la Vieille-Capitale
http://www.csssvc.qc.ca/telechargement.php?id=926

Institut national de santé publique du Québec
http://www.inspq.qc.ca/pdf/publications/643-PreventChutesAinesVivantDomicile_2eEdi_1.pdf or
http://www.inspq.qc.ca/pdf/publications/1242_PrevChutesPersAgeesRecommandations.pdf

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

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/

RNAO 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 fall prevention) addressed in the Toolkit will benefit from the resources presented
http://ltctoolkit.rnao.ca

RNAO's Falls Prevention: Building the Foundation for Safety
A self-learning package for health care workers on identifying and modifying fall risk.
http://rnao.ca/bpg/guidelines/resources/falls-prevention-building-foundations-patient-safety-selflearning-package

RNAO 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 fall prevention/injury reduction program for residents in long-term care.
http://ltctoolkit.rnao.ca/sites/ltc/files/resources/falls/ImplementationTools/Falls2_8.RNAOToolbox.pdf

Strategies and Actions for Independent Living (SAIL)
SAIL is an evidence-based, client focused, multidisciplinary approach to fall prevention/injury reduction 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

Client/Family

BC Ministry of Health Fall Prevention Brochures and Pamphlets
Information pamphlets on various factors affecting falls. Resources for seniors who are at risk for falling. http://www.health.gov.bc.ca/prevention/fallbrochures.html

Health Education Fact Sheet – Reduce Your Risk for Falls
http://rnao.ca/bpg/fact-sheets/reduce-your-risk-falls

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

Public Health Agency of Canada: What to do if you fall or witness a fall
http://www.phac-aspc.gc.ca/seniors-aines/publications/public/injury-blessure/falls-chutes/index-eng.php

Appendix I – Example of Staff Education Resources in Use

Home Health Care

Reproduced with the permission of Saint Elizabeth Health Care, Markham, Ontario; 2013.

Practice Alert for Falls Prevention

Saint Elizabeth
Well beyond health care

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.

www.saintelizabeth.com

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://ottawa.ca/en/residents/public-health/healthy-living/fall-prevention

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

Or contact Robin Hurst, Advanced practice Consultant Seniors or Gale Coburn, Practice Consultant for Supportive Care.

Written by: Gale Coburn, (905) 940-9655 ext. 6427
Robin Hurst, (905) 940-9655 ext 6459 July, 2008

Acute Care

Reprinted with permission, Hamilton Health Sciences. Hamilton, Ontario; 2013.

Fall Prevention and Injury Reduction - 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 fall 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 fall risk? Select all that apply.**
   - ■ Visual impairment
   - ■ Hearing loss
   - ■ Cognitive problems (e.g. dementia or delirium)
   - ■ Neurological conditions (e.g. Parkinson's disease)
   - ■ Alcohol addiction
   - ■ Acute infections (e.g. 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 a fall 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

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 Fall 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.

- ■ Fall logo at bedside
- ■ Transfer of accountability
- ■ Label spine of patient chart, and Kardex with fall 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 Fall Logo to identify high risk patients?

A B

C D

A is the correct response

- ▫ Inducing nausea and vomiting

12. Select 5 ways to involve the patient and family in fall prevention/injury reduction from the following list:

- Explain to patient and family the risk for a fall
- 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 fall 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 fall assessment by health care team
  - Involve all members of the team - Nurse, physiotherapist, occupation therapy, pharmacy, physician, social work, geriatric clinician, dietitian.
- **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 fall symbol logo at bedside
  - Label spine of patient chart, and Kardex with fall 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 a fall when medical condition changes
  - Communicate high risk for a fall 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 fall 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 a fall** 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 J - Environmental Fall 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.

Reproduced with the permission of Institute for Healthcare Improvement; 2013.

Individual(s) Surveying:

Date:	
Organization:	
Unit:	
Rooms assessed (minimum 10 percent 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 bed check 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 K - Home Safety Checklist

The complete version of the Home Safety Checklist can be accessed in its entirety at http://www.phac-aspc.gc.ca/seniors-aines/publications/public/injury-blessure/safelive-securite/pdfs/safelive-securite-eng.pdf

Outside and Inside Checklists[109]

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 home to remove or put on your shoes & boots.		

Appendix L - Post Fall Assessment Checklist

Reproduced with the permission of Windsor Regional Hospital, Windsor, Ontario; 2013.

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)

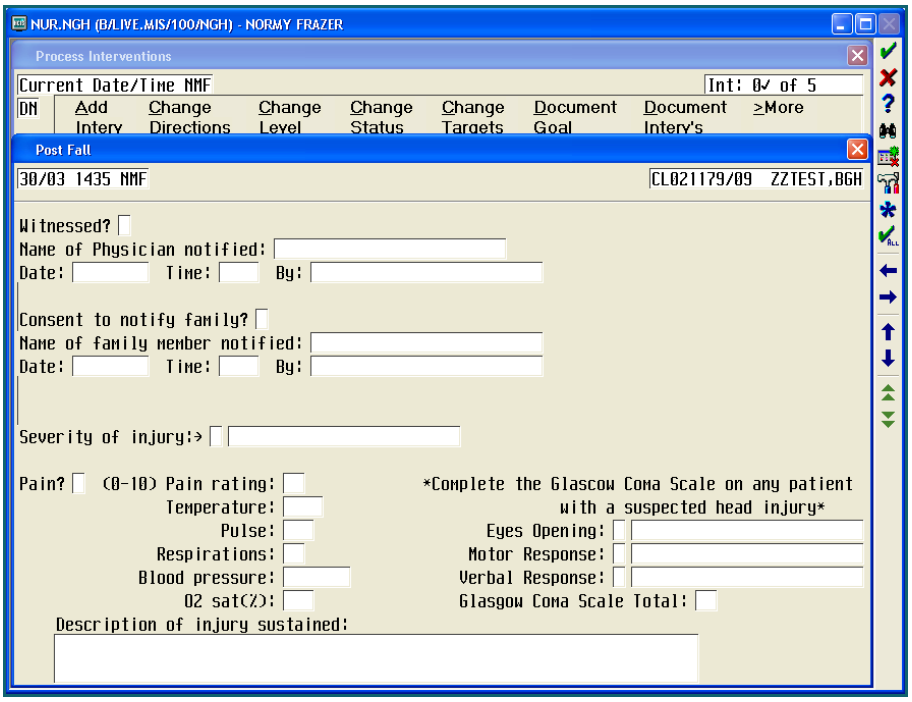
Signature

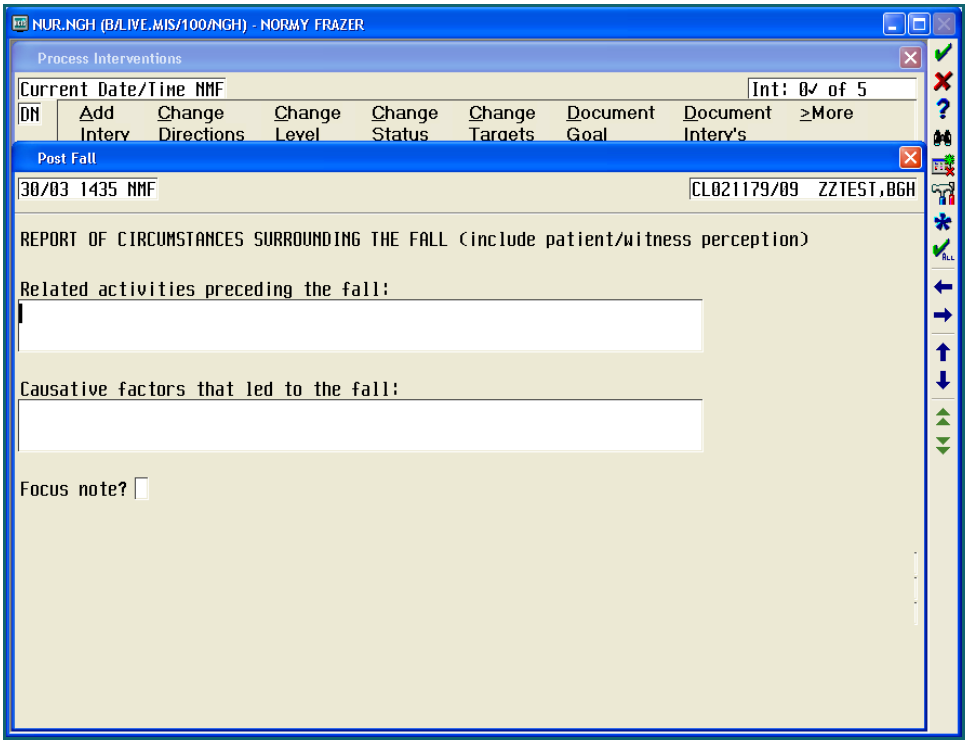
Date/Time submitted to management:

Date and Time

Example of Post-Fall Assessment Documentation – Electronic Health Record

Reproduced with permission from Norfolk General Hospital, Simcoe, Ontario; 2013.





Appendix M – The Model for Improvement [110]

Getting Started: Fall Prevention and Injury Reduction Strategies

This appendix is an adapted version of the *Safer Healthcare Now*! Improvement Frameworks, Getting Started Kit (2011). Complete version is available at: http://www.patientsafetyinstitute.ca/English/toolsResources/ImprovementFramework/Documents/Improvement%20Frameworks%20GSK%20EN.PDF

Key steps for getting started in fall prevention and injury reduction improvement initiatives include:

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

* *Note: Safer Healthcare Now!* recommend using the Model for Improvement when implementing fall prevention/injury reduction strategies in your organization. It is also recommended that an improvement charter is used to document and guide your improvement project.

An Improvement Charter can help teams document and communicate their aims. The aim should be a clear, concise statement. It should include a target and deadline; and define the scope, boundaries and constraints for the initiative. The Improvement Charter can also be used to help teams to document membership, roles and responsibilities, and principles for working together. This document may help provide a base for communication within the team and to sponsors and other stake-holders. The Charter may prevent problems down the road.

For a template and a sample of an improvement charter, refer to the Improvement Framework Getting Started Kit.

The content for this appendix has been adapted from the *Safer Healthcare Now*! *Improvement Frameworks Getting Started Kit* available at: http://www.patientsafetyinstitute.ca/English/toolsResources/ImprovementFramework/Documents/Improvement%20Frameworks%20GSK%20EN.PDF

1. Secure Senior Leadership Commitment

Implementing a successful improvement program requires clear commitment and direction from the highest level of the organization to:

- Enhance the team's ability to implement a falls prevention/injury reduction strategies,
- Support team efforts and directions,
- Facilitate removal of obstacles, and
- Allocate resources.

Engagement of senior leadership in the falls prevention/injury reduction initiative should include:

- *Development of business case* for falls prevention/injury reduction includes:
  - use of statistics (e.g. hospital admissions rate due to falls/fall injury; in-hospital falls; fall injury severity; impacts to length of stay; and other relevant data).
  - financial implications and other costs to be considered related to the fall prevention/injury reduction initiative.
- *Monthly reports or presentations to outline progress* of the fall improvement initiatives to senior leadership which outline the results- data on fall injuries avoided, and any other information (e.g. further resources required to be successful).

2. Form a Team

Team commitment to work together is required to achieve the desired results. The individuals affected by the change or needed to support any change initiative must be represented on the process improvement team for a successful outcome. Teams will vary in size and composition but must take into account the different types of expertise required such as:

- *Day to day leadership to drive the project to its aim*: (e.g. front-line individuals who work daily in the process and who will understand the effects of the planned change[s])
- *Technical expertise* to assist with understanding of the topic and process this includes expertise in quality improvement methodology (e.g. designing and testing change, measurement and data collection, presentations and reporting).

- *System leadership sponsor with influence within the organization*: Influential individuals (e.g. administrators, physicians or nurses) who help facilitate the adoption and implementation of changes and can assist with sustaining the improvement over time.

To lead any improvement initiative, it is recommended that the organization identify a interdisciplinary team to organize implementation of falls prevention/injury reduction strategies. Some organizations may have various team members who 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 need to 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, dietitians, 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 – **Figure 13**) and provide feedback to the coordinating team.

The following **Figure 12** demonstrates the diversity of some actual improvement team from acute care, long-term care or home health care.

Figure 12 - Examples of Actual Improvement Team Compositions

Team	Day-to-Day Leadership	Technical Experts	System Leadership
Brandon Regional Health Center, Manitoba	Manager Inpatient Rehab, Chair Nurse Educator Inpatient Surgical Manager Cancer Care Clinical Resource Nurse Inpatient Long Term Care Manager Inpatient Medicine Manager Inpatient Mat/Child Nurse Educator Emergency Educator Diagnostic Imaging Clinical Resource Nurse Surgical Suite Staff Nurse Haemodialysis Staff Nurse Float Pool Physiotherapist Inpatient Medicine Occupational Therapist Geriatric Adult Psychiatry	Quality Patient Safety and Risk, Facilitator	VP Acute Care Nursing, Executive Sponsor Director Acute Care Nursing
Hôpital Montfort	Clinical Nurse Specialist Clinical Educators Team Leader Medicine Ward Clinical Manager	Executive Director Quality and Safety	Executive Director Quality and Safety
Royal Terrace **Palmerston, Ontario**	Restorative Care Personnel PSW X 3 RPN	Director of Life Enrichment	Registered Nurse
Home Care YHSSA Yellowknife, Dettah and N'Dilo	HSW Supervisor Nurse Intake Coordinator Occupational Therapist Dietitian		Administrative Director

Additional representation to consider:

- Client and/or family members, Substitute Decision Makers
- Clinical leaders,
- Physicians, Primary care providers,
- Frontline caregivers from range of shifts or clinical specialties including regular Agency personnel
- Clerical support
- Regional Coordinators
- Leadership and management representation
- Clerical or Administrative support
- Partners - representatives from:
    - other units
    - service areas (e.g. housekeeping, environmental services, maintenance)
    - community service partners
- Volunteers

3. Use the Model for Improvement to Accelerate Change

The *Model for Improvement (Figure 13)*, developed by Associates in Process Improvement [111] is designed to:

- Assist with a change journey,
- Accelerate the pace of improvement, and
- Improve performance of the healthcare system.

This model which has been used successfully in many countries is a simple yet effective tool and not meant to replace change models that organizations may already be using, but rather provide a framework and tools to assist teams to:

- Make improvements,
- Measure,
- Use evidence based theories in planning,
- Turn planning into action, and
- Facilitate growth in acceptance of the change.

The model has *two parts*:

1. *Three fundamental questions*, to provide direction, focus and context for the improvement:
    - 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?

2. *Plan-Do-Study-Act (PDSA) cycle,* which is used to turn planning into action, guide the test of a change in real work settings to determine if the change is an improvement.

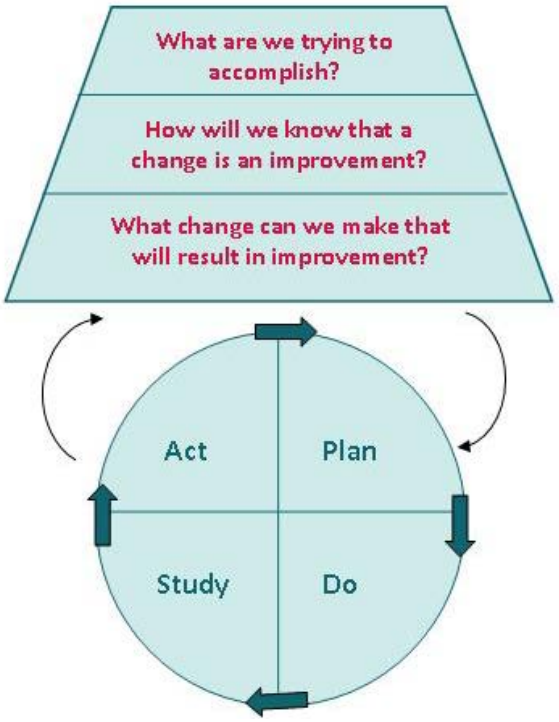
Figure 13 – Model for Improvement[112]

Set Aims

Improvement requires: agreement on:

- Clear, concise and specific aim(s)
- timelines
- measures to be monitored
- the context of the project scope & boundaries
- specific population(s) to be targeted

Aims are: bold, comprehensive, meaningful and challenging!



Establish Measures

Generally 2-6 measures for structure, process and outcome are sufficient to determine if a specific change actually leads to an improvement. Measures are used to learn about, manage and improve care.

Select Changes

All improvement requires making changes, but not all changes result in improvement. Organizations must identify those changes that are highly believed to result in improvement.

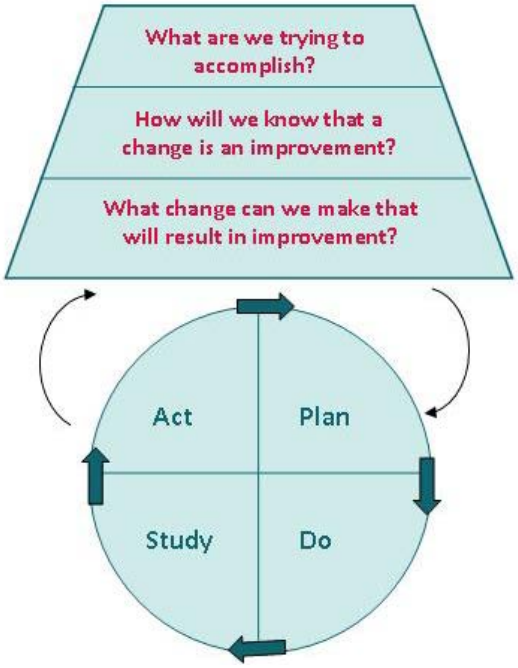
Test Changes

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.

Aims (Goals and Objectives)

Improvement requires setting a challenging goal as the aim. Agreeing on the aim is crucial to allocating the people and resources necessary to accomplish the aim. It should include a target and deadline (timelines), define the scope, boundaries and constraints.



Example of Aims:

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

As teams work on different parts in the care process, the aims should be specific to what they are trying to accomplish.

Establish Measures

Measurement is a critical part of testing and implementing changes to inform the team that changes for fall prevention and injury reduction actually lead to an improvement. *Measurement for improvement should not be confused with measurement for research.*

Measures should be used for learning and as a basis for action to improve, not for judgement and comparisons. The following chart comparing measuring for judgement versus learning and improvement is adapted from SHN (2011) Improvement Frameworks, Getting Started Kit:

Measurement for Judgement	Measurement for Learning and Process Improvement
Used to judge or compare; to reward, motivate or punish	To bring new knowledge into daily practice and bring improvement to the system
Data use is to compare to standards or specifications in goals, budgets or targets.	Many sequential, observable tests to compare historical data with other variables
Ignores variation and reasons for variation	Stabilize the biases from test to test so as to understand variation, systems and interactions
Cannot manage what you cannot measure!	Gather "just enough" data to learn and complete another cycle – completion of small tests of change to build knowledge sequentially for breakthrough results. "Small tests of significant changes" accelerates the rate of improvement

Types of Measures

As discussed in the previous section, there are three types of measures that you can use to monitor your quality improvement efforts – Outcome, Process or Balancing measures.

When to Start Data Collection

Measuring for improvement in reducing falls and injury from falls begins with collecting **baseline data** to determine the seriousness and incidence of falls and fall-related injuries in order to identify the issues and help motivate stakeholders to take action.

Subsequent Data Collection

Data should be collected 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).

Documentation of Operational Definitions of Measures

Once the measures are identified by improvement teams it is important to give meaning to the measure concept by creating operational definitions (refer to section: Measuring the Success of Fall Prevention/Injury Reduction Programs).

Operational definitions help to communicate the meaning of a concept by specifying how the concept is used under certain circumstances to help reduce measurement variation (refer to **Appendix N-1 and N-2** for Detailed Technical Definitions of Measures to assist teams with measurement.

Developing a Change

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 ideas that could lead to an improvement, however, only those ideas where there is a high degree of belief that the changes when implemented will result in an improvement should be developed, tested and implemented. A change concept or idea which is a general notion or approach to change that is thought to be useful to lead to improvement can be supported by evidence or links are seen between the condition and evidence. Teams should involve key stakeholders in development, testing and implementation of changes (refer to 2. Form a Team). Change Ideas for improvement can be selected from interventions in the Falls Prevention/Injury Reduction GSK (see **Appendix O**).

Further development of ideas for change requires creativity (e.g. teams can use of Edward de Bono's six-thinking hats, random word provocations to generate ideas) and knowledge about specific subjects (e.g. teams explore issue with use critical thinking tools such as flowcharting, brainstorming, and process analysis tools or observation, following a hunch, looking at research, asking experts for ideas) to generate ideas for tests of change. After gathering information and 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 Health Quality Ontario in their Residents First initiative have been summarized according to how they relate to key change concepts.

Test Changes

Once a team has set an aim- what they are trying to accomplish, 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.

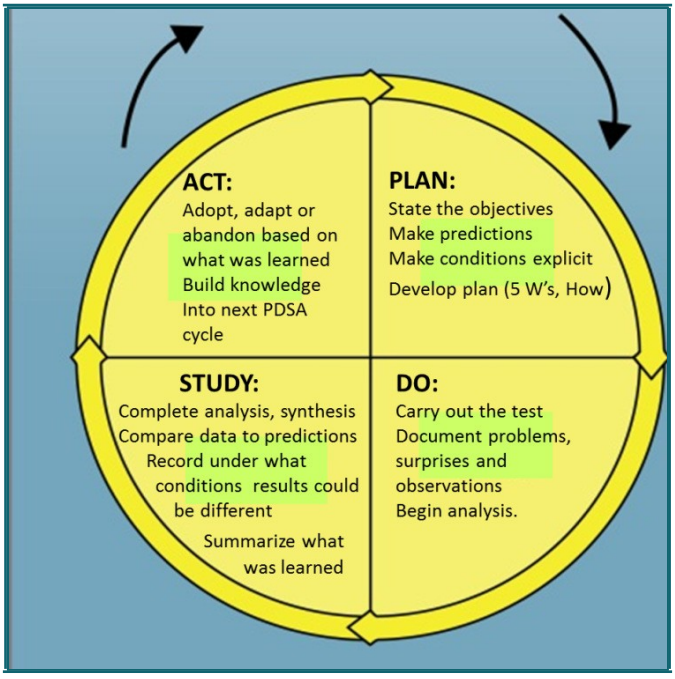
The Plan-Do- Study-Act (PDSA) cycle is shorthand for testing a change — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method used for action-oriented learning. It is important that ideas are tested on an appropriate scale to increase the degree of belief that they will result in an improvement and to minimize the risk of failure on implementation.

Reasons to Test Change are to:

- Increase belief that the change will result in improvement
- Identify those changes that will lead to the desired improvement
- Evaluate how much improvement can be expected from the change
- Determine whether the proposed change will work in the reality of the environment
- Decide which combinations of changes will have the desired effect on the measures
- Evaluate costs, social impact, and side effects from the proposed change
- To minimize resistance on implementation

Steps in PDSA Cycle in Detail:

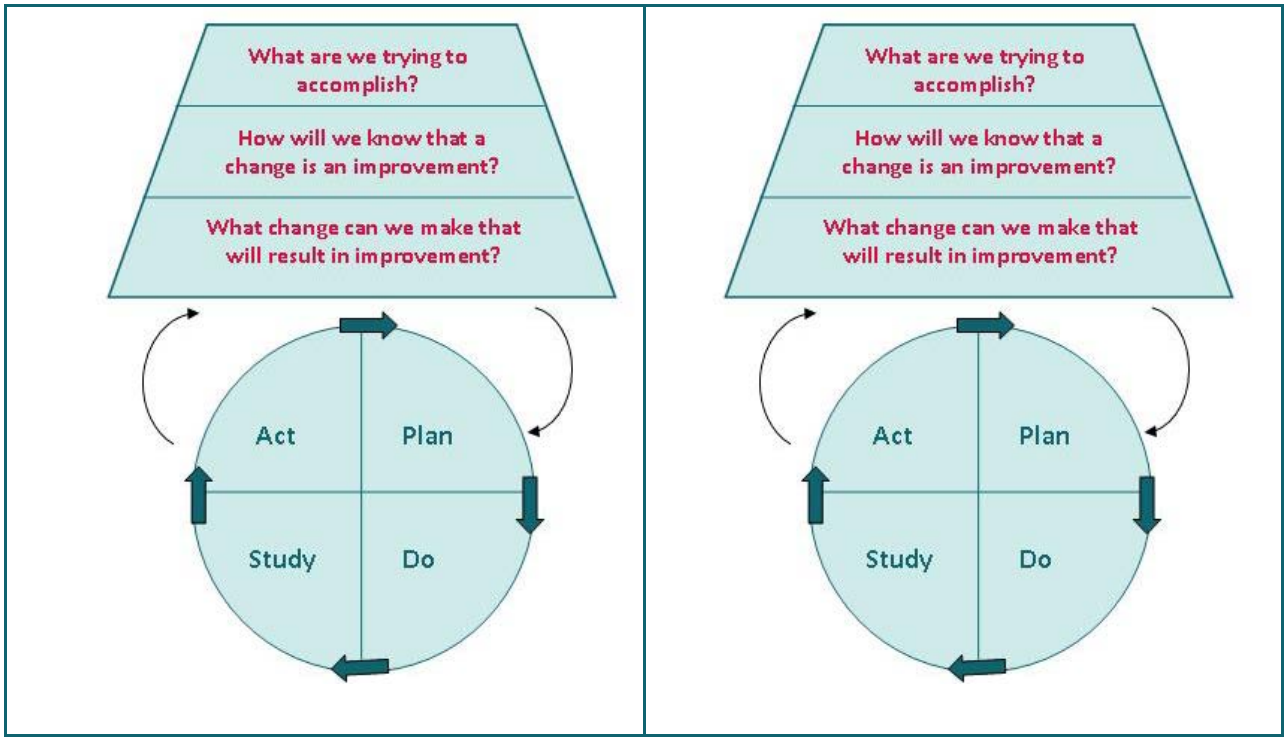
Source: adapted from The Improvement Guide, page 97



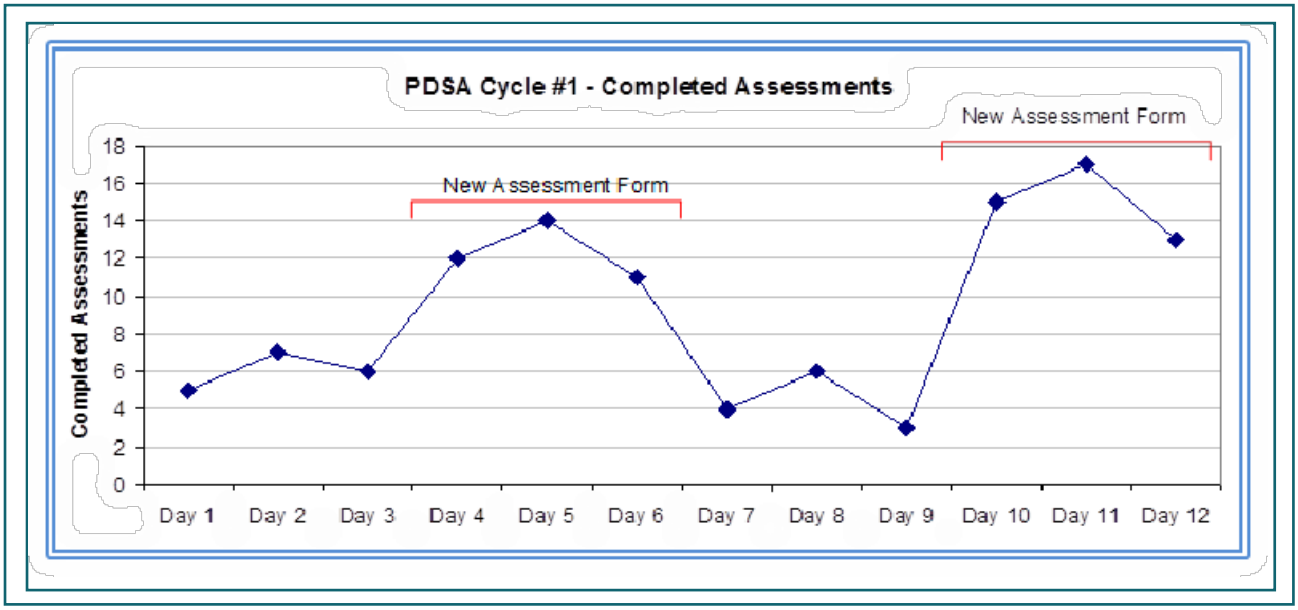
Example of a Test of Change (Plan-Do-Study-Act Cycle)

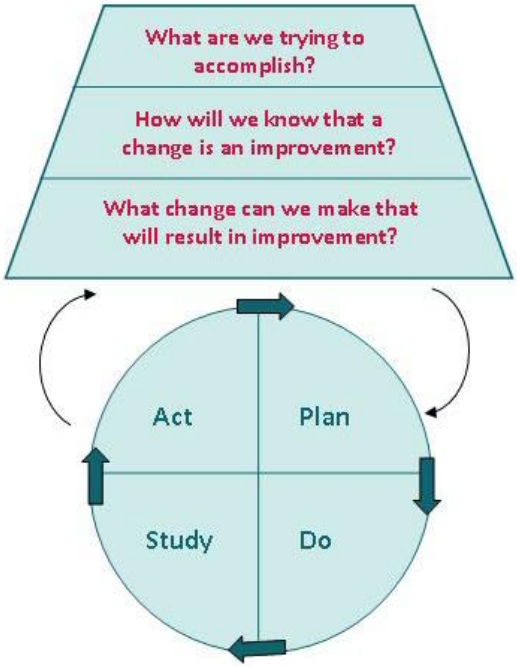
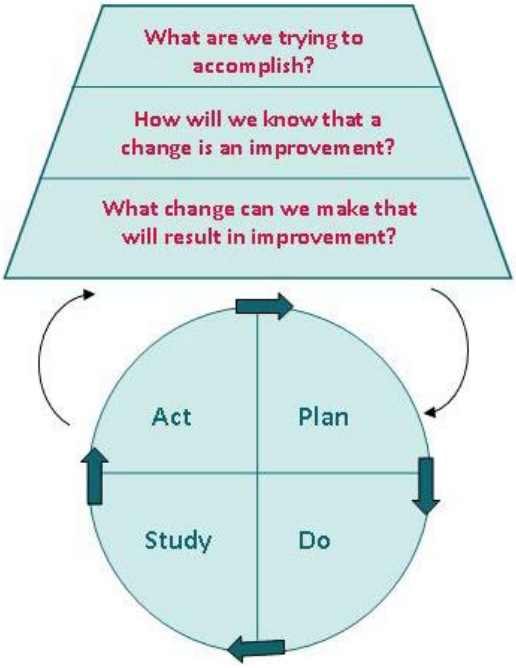
Following is an example of testing a change using a PDSA Cycle, and an example of building knowledge through the use of multiple PDSA's.

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

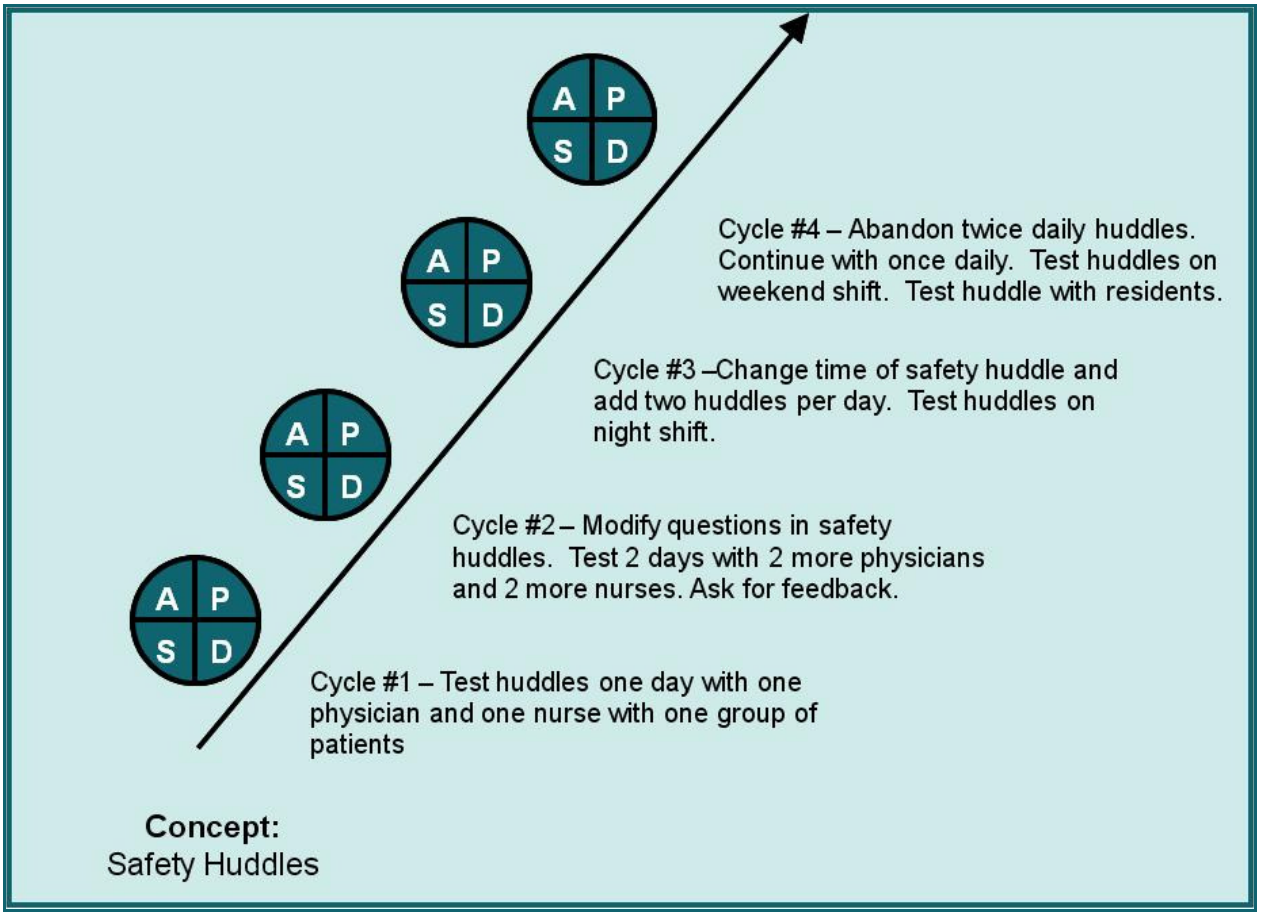


Plan:	**Do:**
The overall aim of our improvement team is to increase falls risk assessments of residents in our long term care home. We believe that a simplified assessment tool might help. The purpose of this PDSA cycle is to test "Will a new simplified assessment tool increase the number of assessments 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.	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

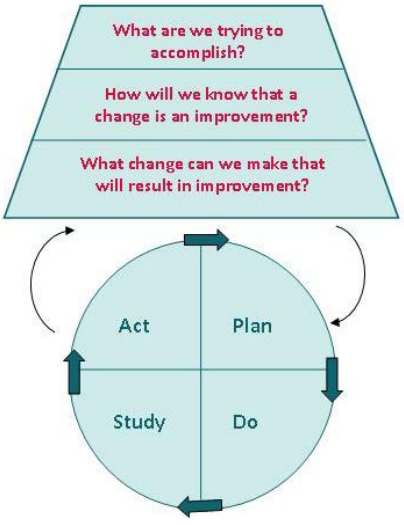


	
Study: The run chart data appear to support our prediction that the new form increased the number of completed assessments. Qualitative feedback from staff also appears to support this idea.	**Act:** For our next cycle, we will ask new employees to test the form. Our prediction is that they will be able to complete assessments at the same rate as do experienced employees.

Multiple PDSA cycles in sequence can help to incorporate what is learned into each subsequent cycle. The following represents learning on fall prevention/injury reduction strategy of safety "huddles".



Implement Changes



Teams can begin to implement change once their belief is high that the change will result in improvement. Testing a change on a small scale, learning from each sequential test, incorporating learning into subsequent PDSA cycles allows for further refinement of the change until it is ready for implementation on a broader scale. For 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.

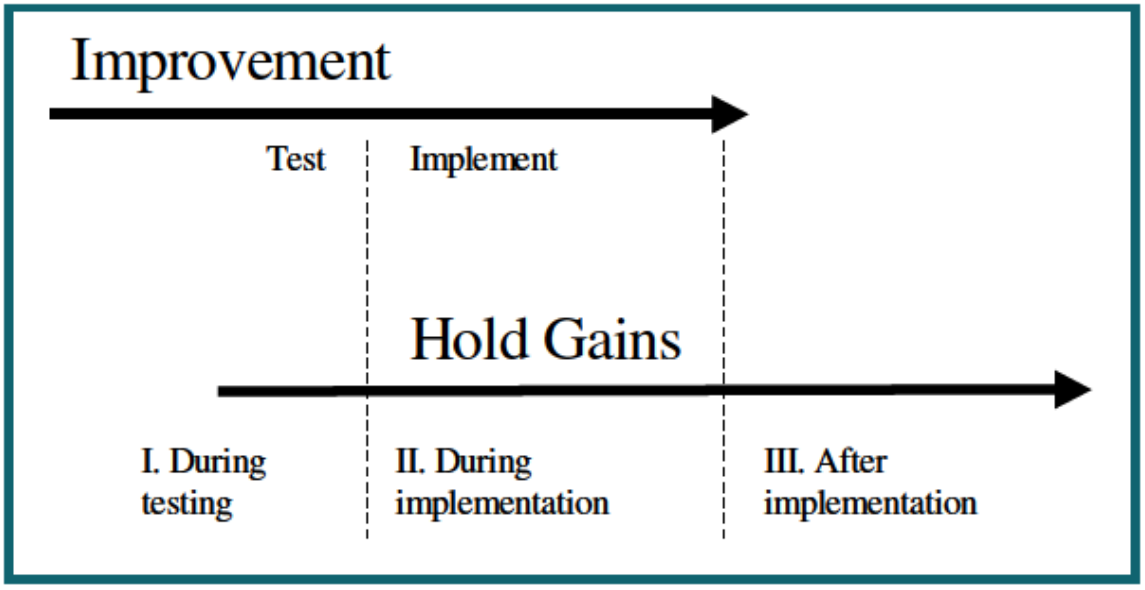
Implementation is a permanent change which may affect documentation, written policies, hiring, training, compensation, and many other aspects of the organization's infrastructure.

Implementation also requires the use of the PDSA cycle. The following table outlines the difference between testing and implementation:

	Testing	Implementation
Expectations of Failure	25-50 per cent of tests should fail: • Failed tests build knowledge and learning • Help teams understand what leads to improvement - what does and does not work and why.	Implementation should not fail to achieve expected results because: • Tested an appropriate amount of times and under multiple conditions with consistent results.
Support Processes (Training, documentation such as job aides and flowcharts, standardization)	Changes transient and go through further refinement with each test cycle	**Very important:** • Training and documentation help individuals understand the new process. • Standardization assists with consistency to reduce variation for consistent results.
Resistance to Change	• Communication of the aim is key • Engaging staff in testing of changes helps reduce resistance to the change and build support. • Feedback encouraged because change is not permanent • Ongoing data collection on measures provides evidence the changes are resulting in an improvement	**Very important:** • Appropriate testing has reduced resistance to change • Communicate the importance of the change & reinforce • Use data to show the results of the change - the improvements • Recognize that permanent change impacts on a human level (social & emotional)
Measures	• Important to focus on outcome measures to demonstrate change results in improvement • Monitoring balancing measures important to avoid negative impacts to other system areas	• Balancing is important to monitor for overall system impacts • Outcome measures monitored to ensure that changes have desired impact and are being sustained – holding the gains

Holding the Gains

Robust designing means to do repeated multiple sequential tests of change to determine what conditions that result in success or limitations of a change idea. This allows the team to learn those strategies or ideas that accomplish the aims and outcomes goals set for the improvement initiative. This type of process allows for successful implementation when the change is permanent. It is always extremely important to actively engage all stakeholders affected by the change and demonstrate the data which demonstrates the change resulted in an improvement. The new system should be designed (e.g. revision of policy, procedures, job descriptions) to make it as difficult as possible to return to the previous system, thus helping hold the gains. Teams must set up post implementation monitoring mechanisms to ensure results are sustained over time and ensure senior leadership accountability for holding the gains.

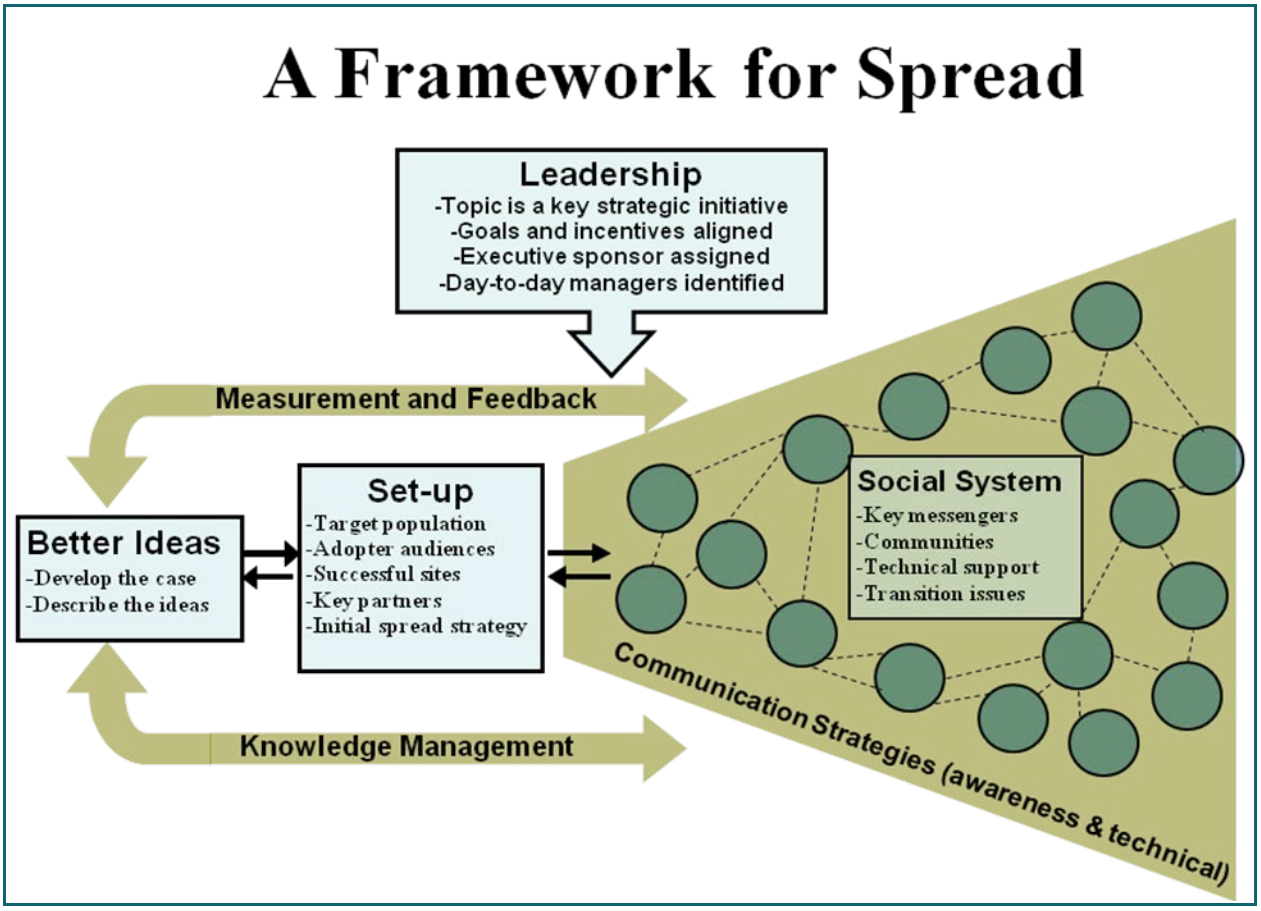


Spread Changes

Spread is the process of taking a successful implementation process from the pilot setting or population and replicating that change or package of changes in other parts of the organization or other organizations which is beyond the scope of the original aim. During implementation, teams have learned valuable lessons through sequential testing, implementation and holding of the gains in the pilot environments, all this is required for successful spread. Spread efforts require senior leadership and sponsors to ensure spread is a priority and communicated explicitly in strategic plans. PDSA cycles are still required for spread. 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 the success of your falls prevention process is measured and data reflects sustained improvement the process can be spread. Each new step requires an evaluation process before spreading to the next area. Retesting of the pilot process in the new areas is needed to identify if any revisions or adaptations to the change are 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[113] will assist teams to develop, test and implement a system for accelerating improvement by spreading change ideas within and between organizations. 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 below Framework for Spread.



The Framework's Seven Components for Spread:

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: [114]

- **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)

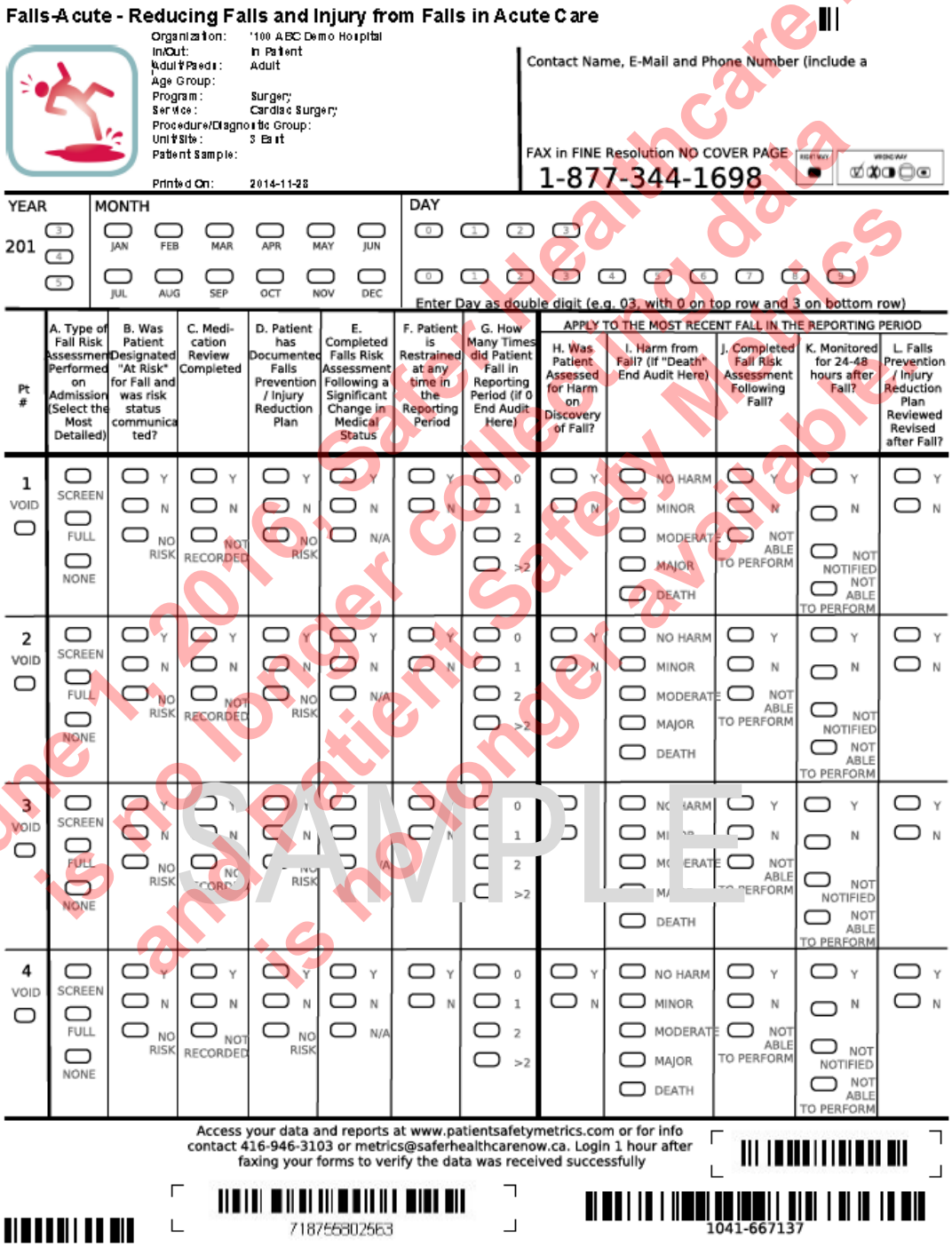
Are you ready for SPREAD? [114]

- 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

Appendix N - Technical Descriptions of Measures

Sample Data Collection Form

More information and instructions for completing the Data Collection Form are available on Patient Safety Metrics



Falls-Acute - Reducing Falls and Injury from Falls in Acute Care

Organization: '100 ABC Demo Hospital
In/Out: In Patient
Adult/Paedi: Adult
Age Group:
Program: Surgery
Service: Cardiac Surgery
Procedure/Diagnostic Group:
Unit/Site: 3 East
Patient Sample:
Printed On: 2014-11-28

Contact Name, E-Mail and Phone Number (include a

FAX in FINE Resolution NO COVER PAGE
1-877-344-1698

YEAR 201 (3 4 5)
MONTH: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
DAY: 0 1 2 3 / 0 1 2 3 4 5 6 7 8 9
Enter Day as double digit (e.g. 03, with 0 on top row and 3 on bottom row)

Pt #	A. Type of Fall Risk Assessment Performed on Admission (Select the Most Detailed)	B. Was Patient Designated "At Risk" for Fall and was risk status communicated?	C. Medication Review Completed	D. Patient has Documented Falls Prevention / Injury Reduction Plan	E. Completed Falls Risk Assessment Following a Significant Change in Medical Status	F. Patient is Restrained at any time in the Reporting Period	G. How Many Times did Patient Fall in Reporting Period (if 0 End Audit Here)	APPLY TO THE MOST RECENT FALL IN THE REPORTING PERIOD: H. Was Patient Assessed for Harm on Discovery of Fall?	I. Harm from Fall? (If "Death" End Audit Here)	J. Completed Fall Risk Assessment Following Fall?	K. Monitored for 24-48 hours after Fall?	L. Falls Prevention / Injury Reduction Plan Reviewed Revised after Fall?
1 VOID	SCREEN / FULL / NONE	Y / N / NO RISK	Y / N / NOT RECORDED	Y / N / NO RISK	Y / N / N/A	Y / N	0 / 1 / 2 / >2	Y / N	NO HARM / MINOR / MODERATE / MAJOR / DEATH	Y / N / NOT ABLE TO PERFORM	Y / N / NOT NOTIFIED / NOT ABLE TO PERFORM	Y / N
2 VOID	SCREEN / FULL / NONE	Y / N / NO RISK	Y / N / NOT RECORDED	Y / N / NO RISK	Y / N / N/A	Y / N	0 / 1 / 2 / >2	Y / N	NO HARM / MINOR / MODERATE / MAJOR / DEATH	Y / N / NOT ABLE TO PERFORM	Y / N / NOT NOTIFIED / NOT ABLE TO PERFORM	Y / N
3 VOID	SCREEN / FULL / NONE	Y / N / NO RISK	Y / N / NOT RECORDED	Y / N / NO RISK	Y / N / N/A	Y / N	0 / 1 / 2 / >2	Y / N	NO HARM / MINOR / MODERATE / MAJOR / DEATH	Y / N / NOT ABLE TO PERFORM	Y / N / NOT NOTIFIED / NOT ABLE TO PERFORM	Y / N
4 VOID	SCREEN / FULL / NONE	Y / N / NO RISK	Y / N / NOT RECORDED	Y / N / NO RISK	Y / N / N/A	Y / N	0 / 1 / 2 / >2	Y / N	NO HARM / MINOR / MODERATE / MAJOR / DEATH	Y / N / NOT ABLE TO PERFORM	Y / N / NOT NOTIFIED / NOT ABLE TO PERFORM	Y / N

Access your data and reports at www.patientsafetymetrics.com or for info contact 416-946-3103 or metrics@saferhealthcarenow.ca. Login 1 hour after faxing your forms to verify the data was received successfully

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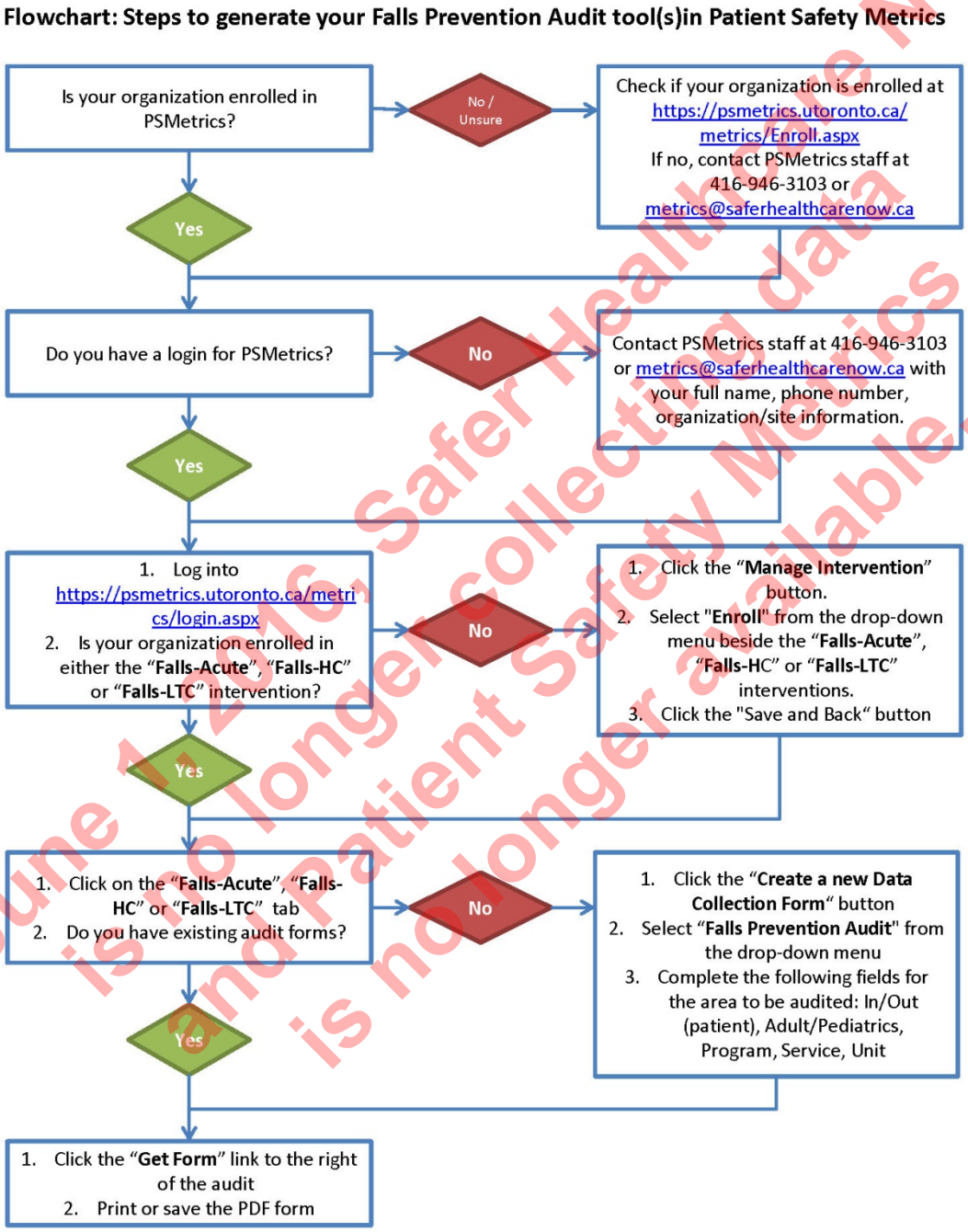
1041-667137

As of June 1, 2016, Safer Healthcare Now! is no longer collecting data and Patient Safety Metrics is no longer available.

SAMPLE

Data Collection Form Flow Chart

To submit the Data Collection Form to the Central Measurement Team, follow the steps in the flow diagram below, or contact metrics@saferhealthcarenow.ca for more information.



As of June 1, 2016, Safer Healthcare Now! is no longer collecting data and Patient Safety Metrics is no longer available.

N1 – 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. When submitted these data will be designated as '**Working to Goal**".

Working to Goal – (Early or Partial Implementation Stage) - The team has set a clear aim(s) for the Falls Prevention 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.

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

Inactive: No data has been submitted for any intervention measures for over three months

The measurement methodology and recommendations regarding sampling size referenced in this GSK, is based on The Model for Improvement and is designed to accelerate the pace of improvement using the PDSA cycle; a "trial and learn" approach to improvement based on the scientific method.[1]

It is not intended to provide the same rigor that might be applied in a research study, but rather offers an efficient way to help a team understand how a system is performing. When choosing a sample size for your intervention, it is important to consider the purposes and uses of the data and to acknowledge when reporting that the findings are based on an "x" sample as determined by the team.

The scope or scale[2] (amount of sampling, testing, or time required) of a test should be decided according to:

1. The team's degree of belief that the change will result in improvement
2. The risks from a failed test
3. Readiness of those who will have to make the change

Please refer to the **Improvement Frameworks GSK (2015)** for additional information.

As of June 1, 2016, Safer Healthcare Now! is no longer collecting data and Patient Safety Metrics is no longer available

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[1] Langley, G., Nolan, K., Nolan, T., Norman, C., Provost, L. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance. San Francisco, Second Edition, CA. Jossey-Bass Publishers. 2009

[2] Provost, Lloyd P; Murray, Sandra (2011-08-26). The Health Care Data Guide: Learning from Data for Improvement (Kindle Locations 1906-1909). Wiley. Kindle Edition

Definitions

The following definitions apply to all Falls measures:

Assessed for Harm on discovery of Fall

This assessment refers to both witnessed and unwitnessed falls and should be conducted as soon as the fall is discovered

At Risk

Using a brief screening tool or a comprehensive assessment to identify and sort individuals into low, medium, and high risk categories. The result of the screen is to determine which individuals require a thorough falls risk assessment, whereas the comprehensive assessment is used to identify specific risk profiles of individuals in order to identify modifiable and non-modifiable factors that contribute to a person's increased risk of falling and to develop an individualized plan where interventions are targeted at the identified risk factors.

Classification of Harm

- **No Harm** - post fall evaluation indicates no injuries (no signs or symptoms) resulting from the fall
- **Minor Harm** - Injury results in application of a dressing, ice, cleaning of a wound, limb elevation, topical medication, bruise or abrasion
- **Moderate Harm** - Injury results in suturing, application of steri-strips/skin glue, splinting or muscle/joint strain
- **Major Harm** - Injury results in - surgery, casting, and/ or traction (typically fractures); required consultation for neurological (e.g., basilar skull fracture, subdural hematoma) or internal injury (e.g., rib fracture, liver laceration); or, patients with coagulopathy who receive blood products as a result of the fall
- **Death** - the patient died as a result of injuries sustained from the fall

Communicated

The risk status for each patient in Acute Care, or resident in Long-Term Care, designated as 'at risk' (i.e. > No Risk) by screening or a comprehensive assessment is to be shared with all staff using the communication tools and/or methodology approved by the organization e.g. whiteboard, kardex, posted at bedside etc.

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 Prevention Plan

A Falls Prevention Plan is an individualized documented plan outlining strategies addressing identified falls-associated risks is in the health record (see GSK pages 49-52).

Fall Related Injury

A fall injury is defined as an injury that results from a fall, which may or may not require treatment. The injury can vary in severity of harm and be temporary or permanent.

Falls Risk Assessment

Falls Risk Assessment (FRA) is an assessment that aims to identify a person's risk factors for falling and can be classified as screening or full assessment. Screening is a brief assessment to identify and sort individuals into high or low fall-risk categories. A full assessment, also known as a comprehensive assessment, is used to identify specific risk profiles of individuals in order to create individualized targeted fall prevention/injury reduction plans of care based on identified risks. Risk assessments should be performed using a valid and reliable tool selected by the facility (see GSK page 33).

Injury Reduction Plan

An Injury Reduction Plan aims to reduce the incidence of or severity of injury. This would include interventions such as hip protectors, floor mats, helmets, etc. (see GSK pages 66-74).

Medication Review

A comprehensive medication review by a physician, nurse practitioner, or pharmacist should be conducted on all older adults to determine risk for fall/fall injury). Medication reviews should include a review of the client's medical conditions/diagnoses/health problems and medications prescribed. (See further description on GSK pages 56-57.)

Monitoring

Monitoring includes monitoring for potential emerging problems, e.g. slow bleed, fracture, including fall reoccurrence (See GSK pages 64-65).

Restraints

There are different types of 'restraints'. For the purpose of these measures we recommend using the following three types. (See GSK pages 81-82, except where specifically designated as applying to one type of restraint only - Falls LTC – 7.0)

- **Environmental Restraint** - A barrier to free personal movement which serves to confine patients in Acute Care or residents in Long-Term Care to specific (geographic) areas.
- **Physical Restraint** - 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 in Acute Care or resident in Long-Term Care. Devices which are not defined as restraints include: devices for positioning or limb support.
- **Chemical Restraint -** A pharmaceutical given with the specific purpose of inhibiting or controlling behaviour or movement. Differentiating between the use of a drug, a

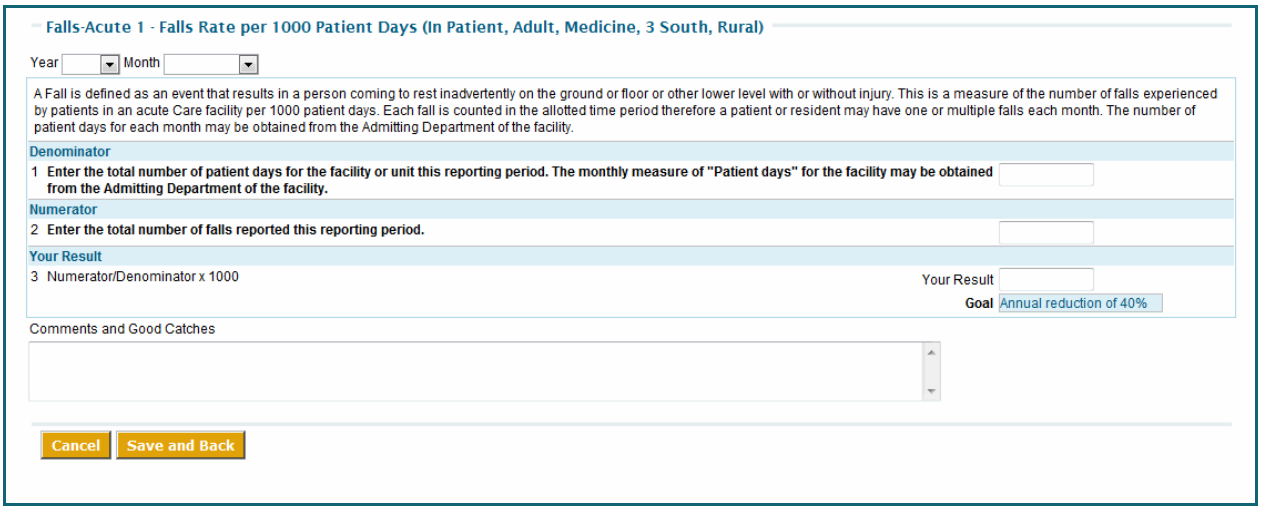
therapeutic agent or a restraint is difficult. Often a drug may be used for both purposes. When a drug is used to treat "clear cut" psychiatric symptoms rather than socially disruptive behaviours, it should not be considered a restraint.

Significant Change in Medical Status

A change in medical status is considered “significant” if it requires a change in treatment or care plan and can be an improvement or worsening.

1.0 Falls Rate per 1000 Patient/Resident Days – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



Falls-Acute 1 - Falls Rate per 1000 Patient Days (In Patient, Adult, Medicine, 3 South, Rural)

Year Month

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 allotted 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.

Denominator

1 **Enter the total number of patient days for the facility or unit this reporting period. The monthly measure of "Patient days" for the facility may be obtained from the Admitting Department of the facility.**

Numerator

2 **Enter the total number of falls reported this reporting period.**

Your Result

3 Numerator/Denominator x 1000

Your Result

Goal Annual reduction of 40%

Comments and Good Catches

Cancel Save and Back

1.0 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

Data Collection Form: no source from data collection form

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/resident days for the facility or unit within the facility this month

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

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

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

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

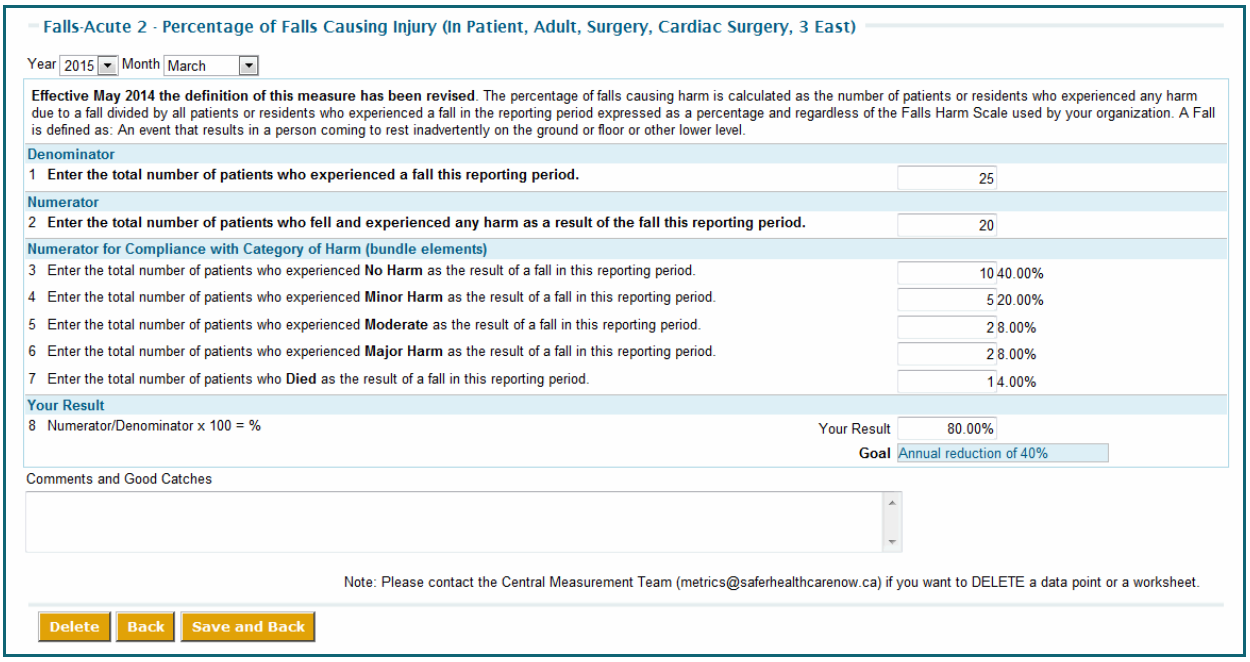
COLLECTION STRATEGY:

- The number of patient/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

2.0 Percentage of Falls Causing Injury - Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



Falls-Acute 2 - Percentage of Falls Causing Injury (In Patient, Adult, Surgery, Cardiac Surgery, 3 East)

Year 2015 Month March

Effective May 2014 the definition of this measure has been revised. The percentage of falls causing harm is calculated as the number of patients or residents who experienced any harm due to a fall divided by all patients or residents who experienced a fall in the reporting period expressed as a percentage and regardless of the Falls Harm Scale used by your organization. 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.

Denominator			
1	**Enter the total number of patients who experienced a fall this reporting period.**	25	
Numerator			
2	**Enter the total number of patients who fell and experienced any harm as a result of the fall this reporting period.**	20	
Numerator for Compliance with Category of Harm (bundle elements)			
3	Enter the total number of patients who experienced **No Harm** as the result of a fall in this reporting period.	10	40.00%
4	Enter the total number of patients who experienced **Minor Harm** as the result of a fall in this reporting period.	5	20.00%
5	Enter the total number of patients who experienced **Moderate** as the result of a fall in this reporting period.	2	8.00%
6	Enter the total number of patients who experienced **Major Harm** as the result of a fall in this reporting period.	2	8.00%
7	Enter the total number of patients who **Died** as the result of a fall in this reporting period.	1	4.00%
Your Result			
8	Numerator/Denominator x 100 = %	Your Result	80.00%
		Goal	Annual reduction of 40%

Comments and Good Catches

Note: Please contact the Central Measurement Team (metrics@saferhealthcarenow.ca) if you want to DELETE a data point or a worksheet.

Delete Back Save and Back

2.0 Percentage of Falls Causing Injury – Technical Description

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

Definition: The percentage of falls causing harm is calculated as the number of patients in Acute Care or residents in Long-Term Care who experienced any harm due to a fall divided by all patients or residents who experienced a fall in the reporting period regardless of the Falls Harm Scale used by your organization

The Degree of Harm Bundle (revised May 2014) is a measure of the extent of harm experienced per patient in Acute Care or resident in Long-Term Care (i.e. No harm, Minor, Moderate, Major or Death) and expressed as a percentage of the number of patients in Acute Care or residents in Long-Term Care who fell

Data Collection Form: Column I

Goal: Annual reduction of 40 per cent

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care who fell and experienced harm as a result of the fall during this reporting period

Numerator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced a fall during this reporting period

Denominator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Degree of Harm Bundle: Of the number of patients in Acute Care or residents in Long-Term Care patients in Acute Care or residents in Long-Term Care who experienced a fall (denominator) enter the number who experienced:

- No Harm
- Minor Harm
- Moderate Harm
- Major Harm
- Death (Died)

The percentage will automatically be calculated for each harm category and an individual line will be displayed on the Compliance Run Chart for each category of harm

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patients in Acute Care or residents in Long-Term Care patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and

denominator data may be captured on a monthly or quarterly basis depending on patients in Acute Care or residents in Long-Term Care patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care who experienced any harm due to a fall divided by all patients in Acute Care or residents in Long-Term Care who experienced a fall in the reporting period

Comments: None

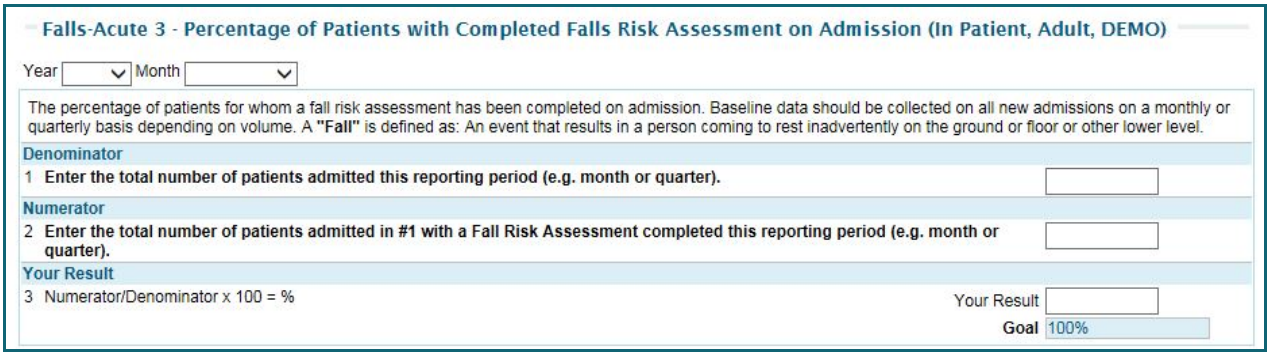
COLLECTION STRATEGY:

The number of falls and the number of falls causing harm may be retrieved from the facility's incident reporting system

Sampling Plan: Count all falls

3.0 Percentage of Patients or Residents With Completed Falls Risk Assessment on Admission – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



Falls-Acute 3 - Percentage of Patients with Completed Falls Risk Assessment on Admission (In Patient, Adult, DEMO)

Year [ ] Month [ ]

The percentage of patients for whom a fall 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.

Denominator

1 **Enter the total number of patients admitted this reporting period (e.g. month or quarter).** [ ]

Numerator

2 **Enter the total number of patients admitted in #1 with a Fall Risk Assessment completed this reporting period (e.g. month or quarter).** [ ]

Your Result

3 Numerator/Denominator x 100 = % Your Result [ ]

Goal 100%

3.0 Percentage of Patients or Residents With Completed Falls Risk Assessment on Admission – Technical Description

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

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

Data Collection Form: Column A

Goal: 100 per cent

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care 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 in Acute Care or residents in Long-Term Care admitted to the facility or unit during this reporting period

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

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patients in Acute Care or residents in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patients in Acute Care or residents in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

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

Comments: None

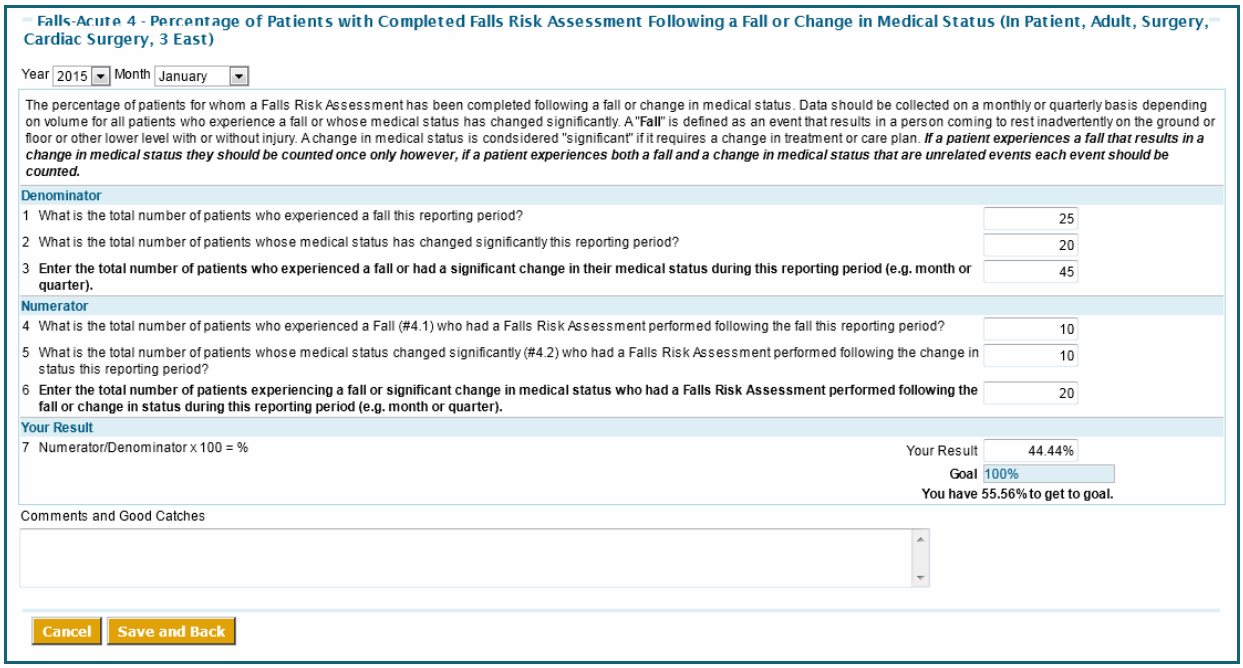
COLLECTION STRATEGY:

Data should be collected on all new admissions on a monthly or quarterly basis depending on volume. For Long-Term Care facilities which have infrequent admissions we recommend you include all new admissions and any residents celebrating an anniversary of admission when the Fall Risk Assessment should be repeated.

Sampling Plan: Count all admissions

4.0 Percentage of Patients or Residents With Completed Falls Risk Assessment Following a Fall or Significant Change in Medical Status – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



Falls-Acute 4 - Percentage of Patients with Completed Falls Risk Assessment Following a Fall or Change in Medical Status (In Patient, Adult, Surgery, Cardiac Surgery, 3 East)

Year 2015 Month January

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 condsidered "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.***

Denominator

1	What is the total number of patients who experienced a fall this reporting period?	25
2	What is the total number of patients whose medical status has changed significantly this reporting period?	20
3	**Enter the total number of patients who experienced a fall or had a significant change in their medical status during this reporting period (e.g. month or quarter).**	45

Numerator

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 reporting period?	10
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 reporting period?	10
6	**Enter the 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 during this reporting period (e.g. month or quarter).**	20

Your Result

7 Numerator/Denominator x 100 = %

Your Result 44.44%

Goal 100%

You have 55.56% to get to goal.

Comments and Good Catches

Cancel Save and Back

4.0 Percentage of Patients or 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 in Acute Care or residents in Long-Term Care for whom a Falls Risk Assessment has been completed following a fall or significant change in medical status

Data Collection Form: no source from data collection form (see Fall measures 12 and 15)

Goal: 100 per cent

CALCULATION DETAILS:

Numerator Definition:

a. The total number of patients in Acute Care or residents in Long-Term Care who experienced a Fall who had a Falls Risk Assessment performed following the fall
b. The total number of patients in Acute Care or residents in Long-Term Care 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:

a. The total number of patients in Acute Care or residents in Long-Term Care who experienced a fall
b. The total number of patients in Acute Care or residents in Long-Term Care whose medical status has changed significantly during the reporting period

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

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care 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 in Acute Care or residents in Long-Term Care who experienced a fall or whose medical status has changed significantly during the

reporting period. Multiply by 100.

COLLECTION STRATEGY:

- The number of patients experiencing a fall may be retrieved from the facility's incident reporting system
- The number of patients experiencing a significant change in medical status will require a chart review to determine if the physician recorded an event in the progress notes and changed treatment in the Doctors' Orders

Sampling Plan: Count all patients who experienced a fall or significant change in medical status which can be a positive or negative change

5.0 Percentage of "At Risk" Patients or Residents With a Documented Falls Prevention/Injury Reduction Plan - Measurement Worksheet

ACUTE CARE / LONG-TERM CARE

Falls-Acute 5 - Percentage of "At Risk" Patients with a Documented Falls Prevention/Injury Reduction Plan (In Patient, Adult, DEMO)

Year [ ] Month [ ]

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.

Denominator

1 **Enter the total number of current patients (baseline) or new admissions or patients with an anniversary of admission identified as "At Risk" on a Fall Risk Assessment this reporting period (e.g. month or quarter).** [ ]

Numerator

2 **Enter the total number of patients in #1 with an implemented Falls Prevention and/or Protection Intervention this reporting period (e.g. month or quarter).** [ ]

Your Result

3 Numerator/Denominator x 100 = % Your Result [ ]

Goal 100%

5.0 Percentage of "At Risk" Patients or 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 in Acute Care or residents in Long-Term Care with a documented Falls Prevention/Injury Reduction plan. (See GSK pages 66-74)

Data Collection Form: Column D

Goal: 100 per cent

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care with a documented "Falls Prevention and/or Injury Reduction Plan" for this reporting period

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

Denominator Definition: The total number of current patients in Acute Care or residents in Long-Term Care identified as "At Risk" on a Falls Risk Assessment for this reporting period

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

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care with a documented "Falls Prevention and/or Injury Reduction Plan" *divided by* the total number of current patients in Acute Care or residents in Long-Term Care 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

6.0 Percentage of Patients or Residents With Restraints – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE

Falls-Acute 6 - Percentage of Patients with Restraints (In Patient, Adult, DEMO)

Year [ ] Month [ ]

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).

Denominator

1 **Enter the total number of patients on the unit or in the facility being audited this reporting period (e.g. month or quarter).** [ ]

Numerator

2 **Enter the total number of patients in #1 with restraints applied at the time of the audit for this reporting period (e.g. month or quarter).** [ ]

Your Result

3 Numerator/Denominator x 100 = %

Your Result [ ]

Goal [ ]

6.0 Percentage of Patients or 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 in Acute Care or residents in Long-Term Care 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 p. 61-63).

Data Collection Form: Column F

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: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care being audited, with restraints applied at the time of the audit, *divided by* the number of patients in Acute Care or residents in Long-Term Care being audited during this reporting period and multiply by 100

Comments: None

COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

7.0 Percentage of Patients or Residents Physically Restrained Daily on the Most Recent RAI Assessment – Measurement Worksheet

LONG TERM CARE/MENTAL HEALTH/COMPLEX CONTINUING CARE

Falls-LTC 7 - Percentage of Residents Physically Restrained Daily on the Most Recent RAI Assessment (In Patient, Adult, DEMO)

Year [ ] Month [ ]

The percentage of residents who were physically restrained daily on the most recent RAI assessment (excluding discharge assessment) for the appropriate sector e.g. LTC, CCC, MH. RAI coding for this measure includes: P4c=2, or p4d=2 or p4e=2 AND used daily (=2) for p4c - trunk restraint, p4d- limb restraint and p4e- chair prevents rising.

Denominator	
1 Enter the total number of residents with at least one MDS RAI assessment completed in the reporting period.	
Numerator	
2 Enter the number of residents who were restrained daily in this reporting period. (Refer to definition of terms in the technical description above)	
Your Result	
3 Numerator / Denominator x 100	Your Result
	Goal

7.0 Percentage of Patients or Residents Physically Restrained Daily on the Most Recent RAI Assessment (Long Term Care/Mental Health/Complex Continuing Care) – Technical Description

Intervention(s): Prevention of falls and injury from falls in L**ong-Term Care, Mental Health or Complex Continuing Care**

Definition: The percentage of patients or residents who were physically restrained daily on the most recent RAI assessment (excluding discharge assessment) for the appropriate sector.

Note: This measure applies to physical restraints only

Data Collection Form: no source from data collection form

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

CALCULATION DETAILS:

Numerator Definition: The total number of patients or residents physically restrained daily on the most recent RAI assessment (for the appropriate sector: LTC, Mental Health or Complex Continuing Care) on the unit or in the facility being audited in this reporting period

RAI coding for this measure includes: P4c=2, or p4d=2 or p4e=2 AND used daily (=2) for p4c - trunk restraint, p4d- limb restraint and p4e- chair prevents rising.

Numerator Exclusions:

- Patients or residents less than 18 years of age
- Patients or residents chemically or environmentally restrained only

Denominator Definition: The total number of patients or residents with at least one MDS RAI assessment completed in 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: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients or residents who were restrained daily in this reporting period based on the most recently RAI assessment on the unit or facility being audited 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

7.0 Injury Rate Due to Falls (Fall-Related INJURY) per 1000 Patient/Resident Days (ACUTE CARE) – Measurement Worksheet

Falls-Acute 7 - Fall Related INJURY Rate per 1000 Patient Days (In Patient, Adult, DEMO)

Year [ ] Month [ ]

The number of fall related injuries experienced by patients in acute care per 1000 patient days. 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 fall-related injury is defined as an injury that results from a fall, which may or may not require treatment. The injury can be temporary or permanent and vary in the severity of harm.

Denominator	
1 The total number of patient days for the facility or unit within the facility this month.	
Numerator	
2 The total number INJURIES related to falls reported this month.	
Your Result	
3 Numerator / Denominator x 1000	Your Result
	Goal Annual reduction of 40% or an annual rate less or equal to 0.3

8.0 Injury Rate Due to Falls (Fall-Related INJURY) per 1000 Patient/Resident Days (LONG-TERM CARE) – Measurement Worksheet

Falls-LTC 8 - Fall Related INJURY Rate per 1000 Resident Days (In Patient, Adult, DEMO)

Year [ ] Month [ ]

The number of fall related injuries experienced by residents in acute care per 1000 patient days. 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 fall-related injury is defined as an injury that results from a fall, which may or may not require treatment. The injury can be temporary or permanent and vary in the severity of harm.

Denominator	
1 The total number of resident days for the facility or unit within the facility this reporting period.	
Numerator	
2 The total number INJURIES related to falls reported this reporting period.	
Your Result	
3 Numerator / Denominator x 1000	Your Result
	Goal Annual reduction of 40% or an annual rate less or equal to 0.3

7.0 (ACUTE Care) Injury Rate Due to Falls (Fall-Related INJURY) per 1000 Patient/Resident Days – Technical Description

8.0 (Long Term Care) Injury Rate Due to Falls (Fall-Related INJURY) 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 fall related injuries experienced by patients in acute care or residents in long term care per 1000 patient days. A fall-related injury is defined as an injury that results from a fall, which may or may not require treatment. The injury can be temporary or permanent and vary in the severity of harm.

Data Collection Form: no source from data collection form

Goal: Annual reduction of 40 per cent

CALCULATION DETAILS:

Numerator Definition: The total number of injuries due to falls (fall related injury rate) reported in acute or LTC per 1000 patient/resident days

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

Numerator Exclusions: Same as denominator

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

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

Measurement Period Length: 1000 patient/resident days

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of injuries related to falls (fall related injuries) reported during the during the measurement period divided by the number of patient or residents in the facility or unit during this measurement period

Comments: None

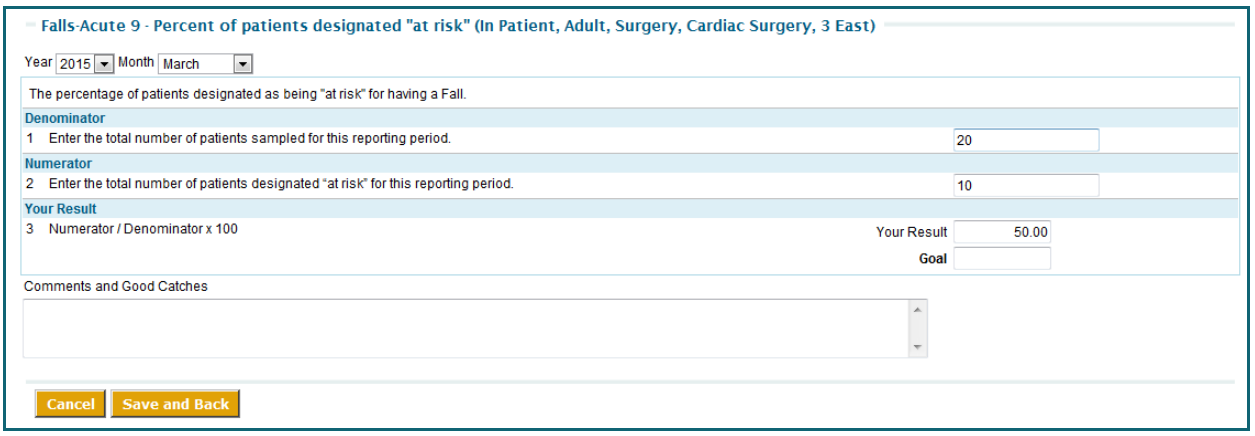
COLLECTION STRATEGY:

- The number of patient/resident days for the facility may be obtained from the Admitting Department of the facility
- The number of injuries related to falls may be retrieved from the facility's incident reporting system

Sampling Plan: Count all injuries

9.0 Percentage of Patients or Residents Designated "At Risk" – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



9.0 Percentage of Patients or Residents Designated "At Risk" – Technical Description

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

Definition: The percentage of patients in Acute Care or residents in Long-Term Care designated as being "at risk" for having a fall based on the results of their Fall Risk Assessment/Screening

Data Collection Form – Column B designation of 'No Risk' otherwise 'At Risk' +/- communication of status.

Goal: Does not apply

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care designated as being "at risk" for having a fall based on the results of their Fall Risk Assessment for the reporting period

Numerator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care sampled for this reporting period

Denominator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on the patient in Acute Care, or resident in Long-Term Care, or client/patient in Acute Care, or resident in Long-Term Care/client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care designated as being "at risk" for having a fall, *divided by* the number of patients in Acute Care or residents in Long-Term Care being audited during this reporting period and multiply by 100

Comments: None

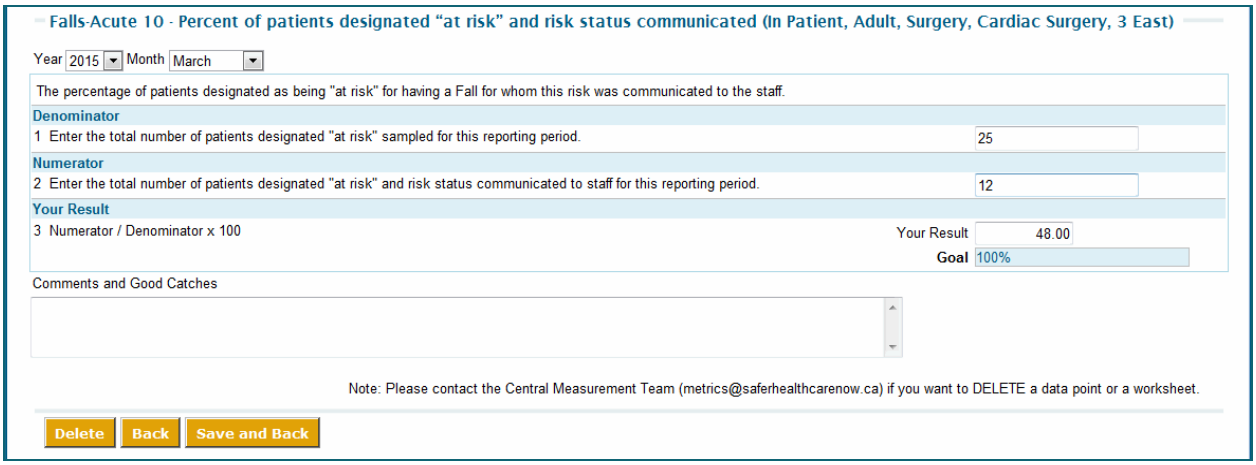
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

10.0 Percentage of Patients or Residents Designated "At Risk" and Risk Status Communicated – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



10.0 Percentage of Patients or Residents Designated "At Risk" and Risk Status Communicated – Technical Description

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

Definition: The percentage of patients in Acute Care or residents in Long-Term Care designated as being "at risk" based on the results of their Fall Risk Assessment **and** the level of risk was communicated to the staff

Data Collection Form: Column B

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care designated as being "at risk" based on the results of their Fall Risk Assessment and the level of risk was communicated to the staff

Numerator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- 'At Risk' patients in Acute Care or residents in Long-Term Care for whom their risk status was not communicated to the staff

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care designated as being "at risk" based on the results of their Fall Risk Assessment

Denominator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care designated as being "at risk" for having a fall for whom their risk status was communicated to the staff, *divided by* the number of patients in Acute Care or residents in Long-Term Care designated as being "at risk" during this reporting period and multiply by 100

Comments: None

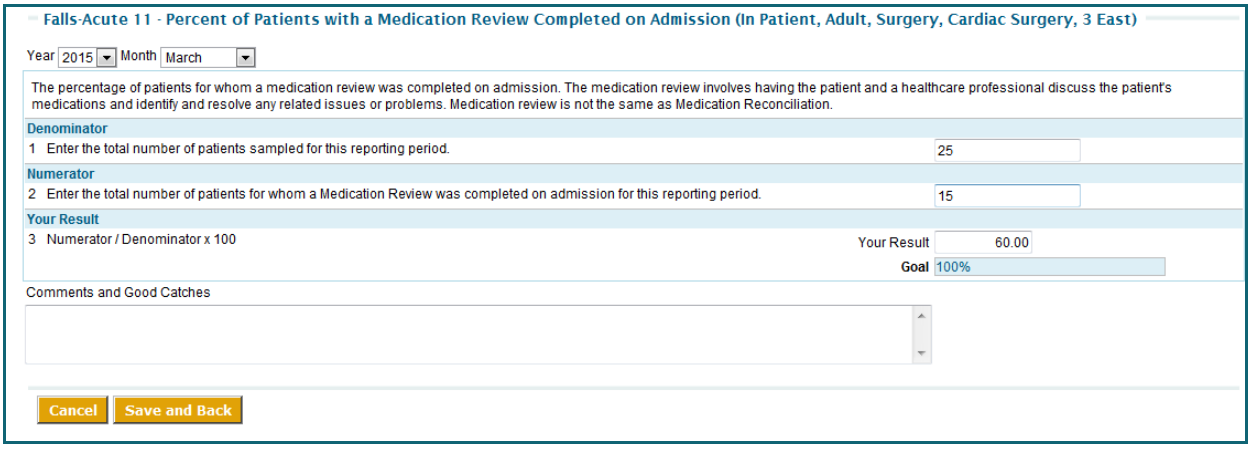
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

11.0 Percent of Patients or Residents With a Medication Review Completed – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



11.0 Percent of Patients or Residents With a Medication Review Completed – Technical Description

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

Definition: The percentage of patients in Acute Care or residents in Long-Term Care for whom a medication review was completed. The medication review involves having the patient in Acute Care or resident in Long-Term Care and a healthcare professional discuss the patient/resident/ client medications and identify and resolve any related issues or problems. Medication reviews should occur routinely in addition to being conducted on care transitions, post fall incident or with a change in the client's medical status and/or at any time, on request of the client. Medication review is not the same as Medication Reconciliation.

Data Collection Form: Column C

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care for whom a Medication Review was completed for this reporting period

Numerator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care sampled for this reporting period

Denominator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care for whom a Medication Review was completed on admission, *divided by* the number of patients in Acute Care or residents in Long-Term Care sampled during this reporting period and multiply by 100

Comments: None

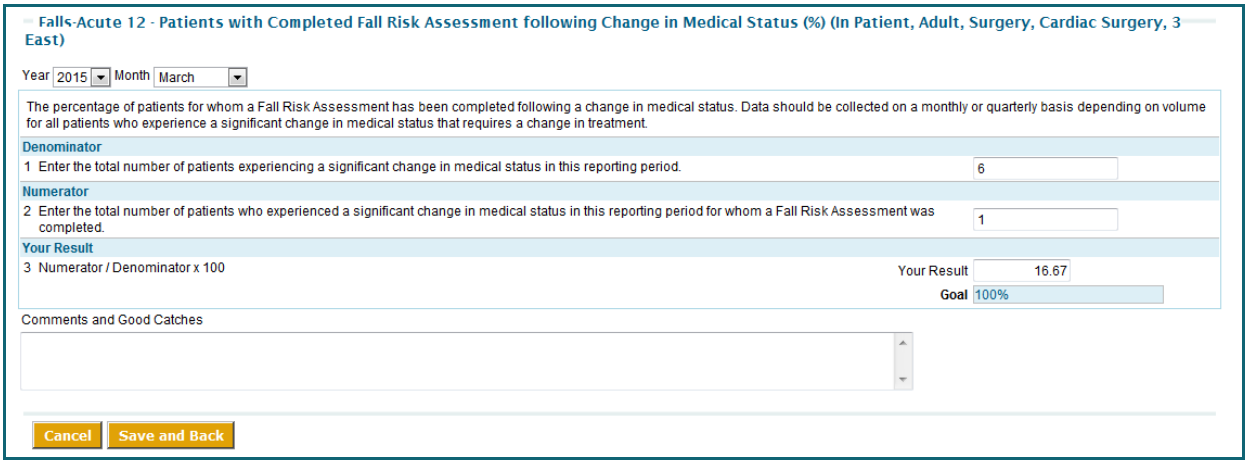
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

12.0 Percent of Patients or Residents With Completed Fall Risk Assessment Following Significant Change in Medical Status – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



12.0 Percent of Patients or Residents With Completed Fall Risk Assessment Following a 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 in Acute Care or residents in Long-Term Care for whom a Fall Risk Assessment has been completed following a significant change in medical status. Data should be collected for all patients who experience a significant change in medical status that requires a change in treatment or care plan and can be an improvement or worsening.

Data Collection Form: Column E

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care for whom a Fall Risk Assessment has been completed following a significant change in medical status for this reporting period

Numerator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a significant change in medical status during the reporting period

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care experiencing a significant change in medical status in this reporting period

Denominator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than five falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care for whom a Fall Risk Assessment has been completed following a significant change in medical status, *divided by* the number of patients in Acute Care or residents in Long-Term Care experiencing a significant change in medical status in this reporting period and multiply by 100

Comments: None

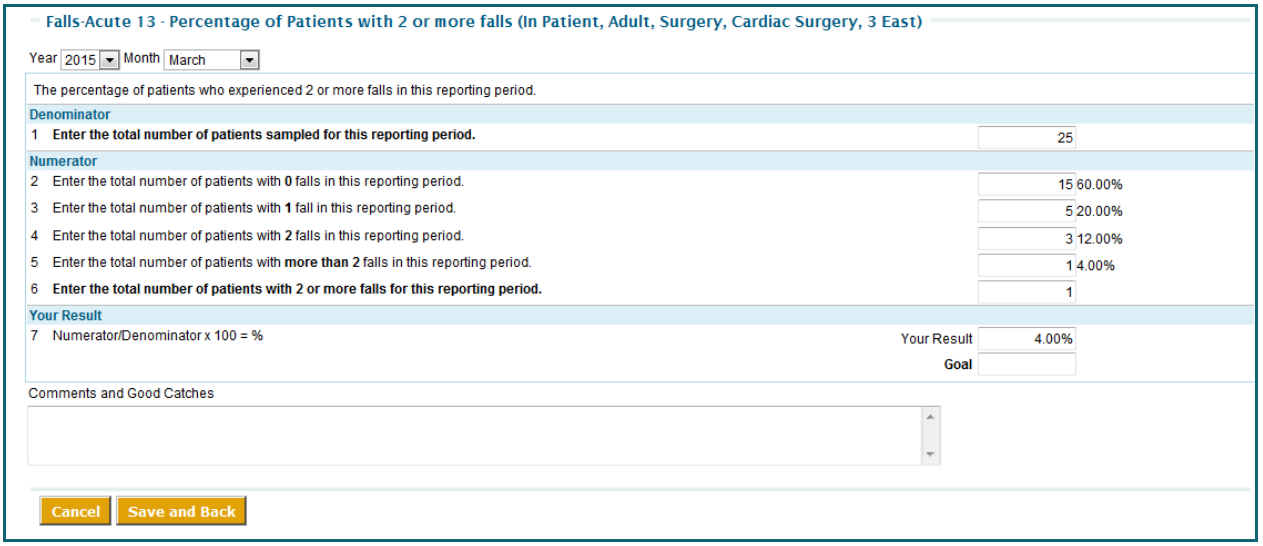
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

13.0 Percent of Patients or Residents With Two or More Falls – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



Falls-Acute 13 - Percentage of Patients with 2 or more falls (In Patient, Adult, Surgery, Cardiac Surgery, 3 East)

Year 2015 Month March

The percentage of patients who experienced 2 or more falls in this reporting period.

Denominator			
1	**Enter the total number of patients sampled for this reporting period.**	25	
Numerator			
2	Enter the total number of patients with **0** falls in this reporting period.	15	60.00%
3	Enter the total number of patients with **1** fall in this reporting period.	5	20.00%
4	Enter the total number of patients with **2** falls in this reporting period.	3	12.00%
5	Enter the total number of patients with **more than 2** falls in this reporting period.	1	4.00%
6	**Enter the total number of patients with 2 or more falls for this reporting period.**	1	
Your Result			
7	Numerator/Denominator x 100 = %	Your Result	4.00%
		Goal	

Comments and Good Catches

Cancel Save and Back

13.0 Percent of Patients or Residents With Two or More Falls – Technical Description

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

Definition: The percentage of patients in Acute Care or residents in Long-Term Care who experienced 2 or more falls in this reporting period

Data Collection Form: Column G

Goal: 0%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced:

- 0 falls in the reporting period
- 1 fall in the reporting period
- 2 falls in the reporting period
- >2 falls in the reporting period

Note: *The percentage of patients in Acute Care or residents in Long-Term Care audited in the reporting period will be automatically calculated and displayed for each category*

Numerator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care sampled in this reporting period

Denominator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care who experienced 0, 1, 2, or >2 falls, *divided by* the number of patients in Acute Care or residents in Long-Term Care sampled in this reporting period and multiply by 100

Comments: None

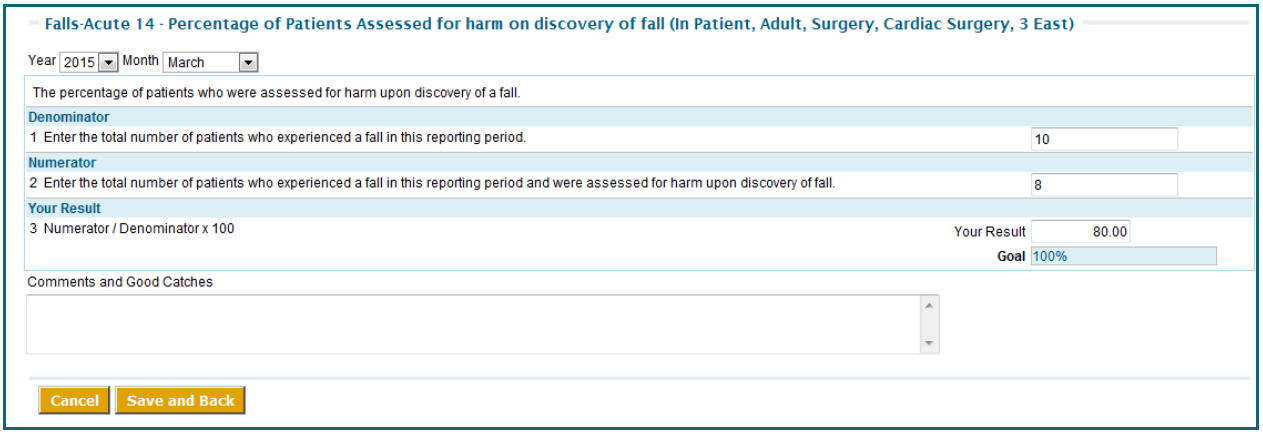
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

14.0 Percent of Patients or Residents Assessed for Harm on Discovery of Fall – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



14.0 Percent of Patients or Residents Assessed for Harm on Discovery of Fall – Technical Description

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

Definition: The percentage of patients in Acute Care or residents in Long-Term Care assessed for harm upon discovery of a fall in this reporting period

Data Collection Form: Column H

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced a fall in this reporting period and were assessed for harm upon discovery of fall

Numerator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced at least one fall in this reporting period

Denominator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care who experienced a fall and were assessed for harm on discovery of the fall, *divided by* the number of patients in Acute Care or residents in Long-Term Care experiencing at least one fall in this reporting period and multiply by 100

Comments: None

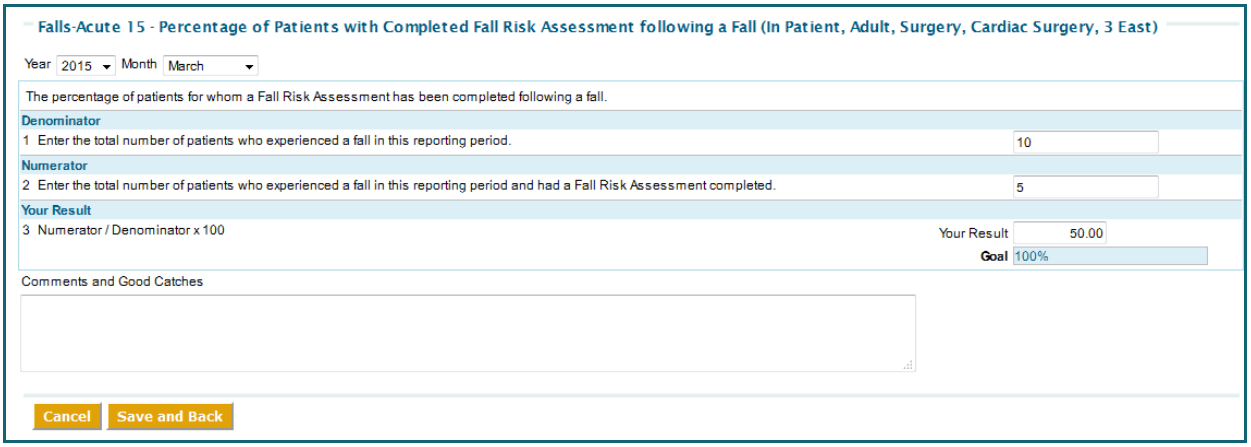
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

15.0 Percent of Patients or Residents With Completed Fall Risk Assessment Following a Fall – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



15.0 Percent of Patients or Residents With Completed Fall Risk Assessment Following a Fall – Technical Description

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

Definition: The percentage of patients in Acute Care or residents in Long-Term Care for whom a Fall Risk Assessment has been completed following a fall in the reporting period

Data Collection Form: Column J

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced a fall in this reporting period and had a Fall Risk Assessment completed

Numerator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced at least one fall in the reporting period

Denominator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care who experienced a fall and had a Fall Risk Assessment completed, *divided by* the number of patients in Acute Care or residents in Long-Term Care experiencing at least one fall in this reporting period and multiply by 100

Comments: None

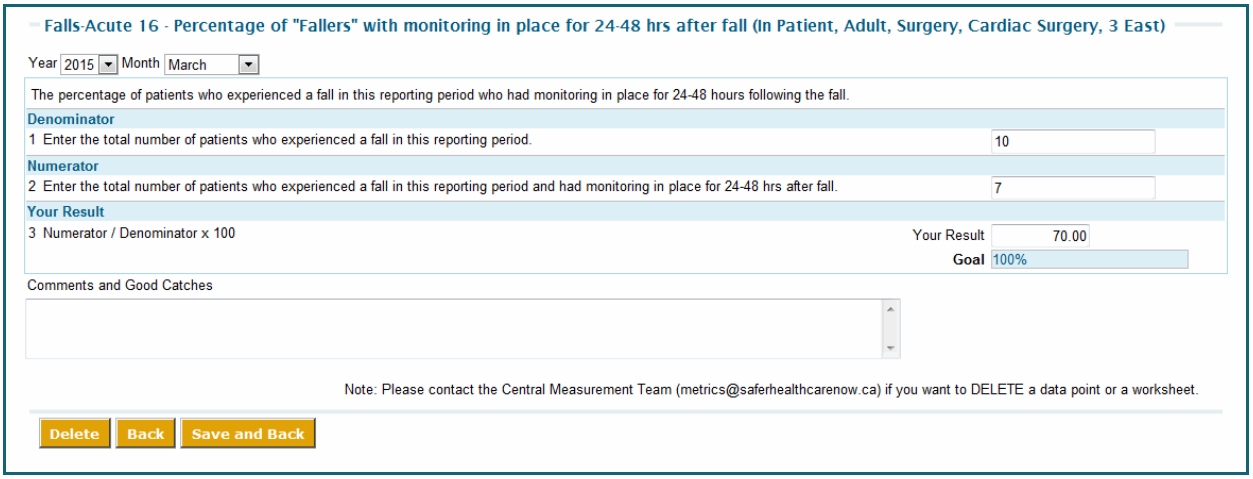
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

16.0 Percent of "Fallers" With Monitoring in Place for 24-48 Hours After Fall – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE


Falls-Acute 16 - Percentage of "Fallers" with monitoring in place for 24-48 hrs after fall (In Patient, Adult, Surgery, Cardiac Surgery, 3 East)

Year 2015 Month March

The percentage of patients who experienced a fall in this reporting period who had monitoring in place for 24-48 hours following the fall.

Denominator

1 Enter the total number of patients who experienced a fall in this reporting period. 10

Numerator

2 Enter the total number of patients who experienced a fall in this reporting period and had monitoring in place for 24-48 hrs after fall. 7

Your Result

3 Numerator / Denominator x 100 Your Result 70.00

Goal 100%

Comments and Good Catches

Note: Please contact the Central Measurement Team (metrics@saferhealthcarenow.ca) if you want to DELETE a data point or a worksheet.

Delete Back Save and Back

16.0 Percent of "Fallers" With Appropriate Monitoring in Place for 24-48 hours After Fall – Technical Description

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

Definition: The percentage of patients in Acute Care or residents in Long-Term Care who experienced a fall in this reporting period **and** who had appropriate monitoring in place for 24-48 hours following the fall

Data Collection Form: Column K

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced a fall in this reporting period and who had appropriate monitoring in place for 24-48 hours following the fall

Numerator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced at least one fall in this reporting period

Denominator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care who experienced a fall and who had appropriate monitoring in place for 24-48 hours following the fall, *divided by* the number of patients in Acute Care or residents in Long-Term Care experiencing at least one fall in this reporting period and multiply by 100

Comments: None

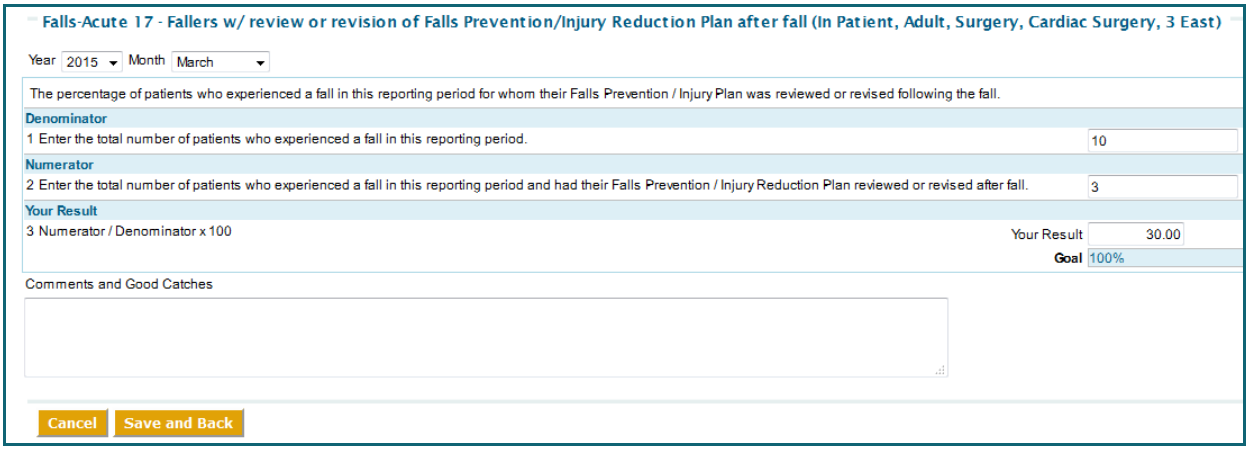
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

17.0 Percent of "Fallers" With Review or Revision of Falls Prevention/Injury Reduction Plan After Fall – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



Falls-Acute 17 - Fallers w/ review or revision of Falls Prevention/Injury Reduction Plan after fall (In Patient, Adult, Surgery, Cardiac Surgery, 3 East)

Year 2015 Month March

The percentage of patients who experienced a fall in this reporting period for whom their Falls Prevention / Injury Plan was reviewed or revised following the fall.

Denominator

1 Enter the total number of patients who experienced a fall in this reporting period. 10

Numerator

2 Enter the total number of patients who experienced a fall in this reporting period and had their Falls Prevention / Injury Reduction Plan reviewed or revised after fall. 3

Your Result

3 Numerator / Denominator x 100

Your Result 30.00

Goal 100%

Comments and Good Catches

Cancel Save and Back

17.0 Percent of "Fallers" With Review or Revision of Falls Prevention/Injury Reduction Plan After Fall – Technical Description

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

Definition: The percentage of patients in Acute Care or residents in Long-Term Care who experienced a fall in this reporting period **and** for whom their Falls Prevention / Injury Plan was reviewed or revised following the fall (see GSK pages 66-74).

Data Collection Form: Column L

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced a fall in this reporting period and had their Falls Prevention / Injury Reduction Plan reviewed or revised after fall

Numerator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care who experienced at least one fall in this reporting period

Denominator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care who experienced a fall and who had their Falls Prevention / Injury Reduction Plan reviewed or revised after fall, *divided by* the number of patients in Acute Care or residents in Long-Term Care experiencing at least one fall in this reporting period and multiply by 100

Comments: None

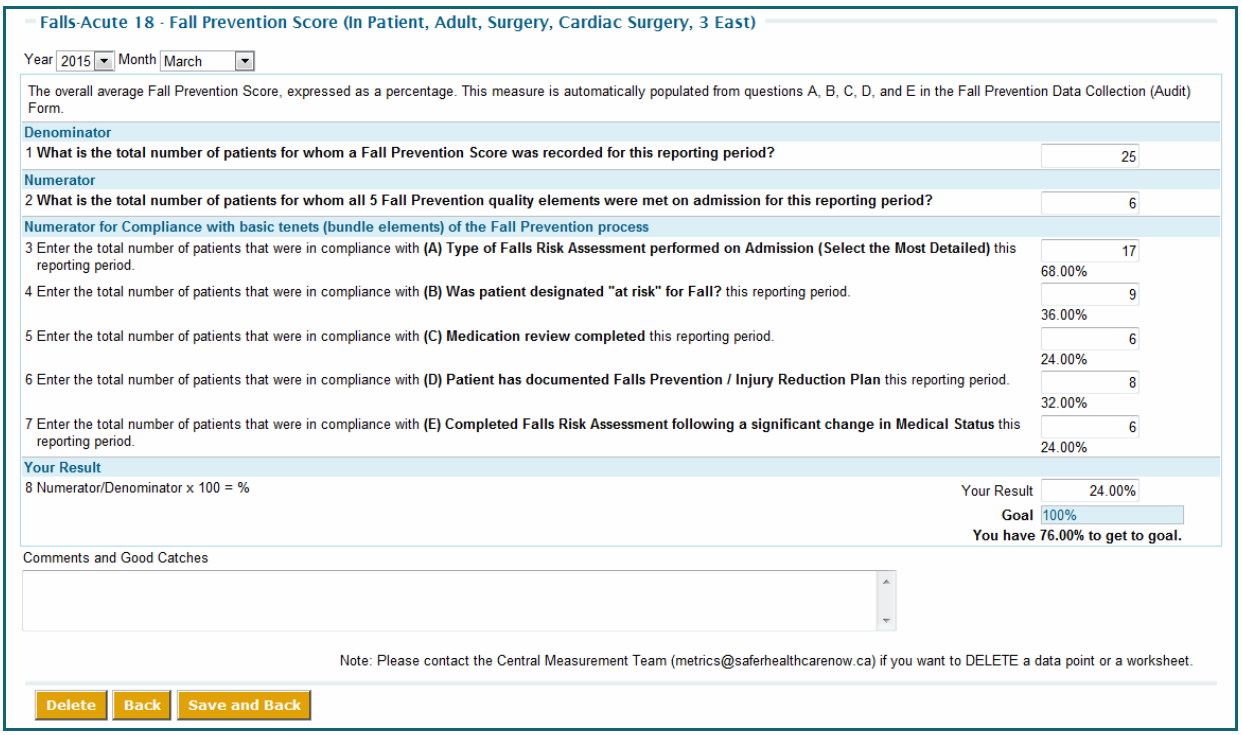
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

18.0 Fall Prevention Score – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



Falls-Acute 18 - Fall Prevention Score (In Patient, Adult, Surgery, Cardiac Surgery, 3 East)

Year 2015 Month March

The overall average Fall Prevention Score, expressed as a percentage. This measure is automatically populated from questions A, B, C, D, and E in the Fall Prevention Data Collection (Audit) Form.

Denominator	
1 **What is the total number of patients for whom a Fall Prevention Score was recorded for this reporting period?**	25
Numerator	
2 **What is the total number of patients for whom all 5 Fall Prevention quality elements were met on admission for this reporting period?**	6
Numerator for Compliance with basic tenets (bundle elements) of the Fall Prevention process	
3 Enter the total number of patients that were in compliance with **(A) Type of Falls Risk Assessment performed on Admission (Select the Most Detailed)** this reporting period.	17 68.00%
4 Enter the total number of patients that were in compliance with **(B) Was patient designated "at risk" for Fall?** this reporting period.	9 36.00%
5 Enter the total number of patients that were in compliance with **(C) Medication review completed** this reporting period.	6 24.00%
6 Enter the total number of patients that were in compliance with **(D) Patient has documented Falls Prevention / Injury Reduction Plan** this reporting period.	8 32.00%
7 Enter the total number of patients that were in compliance with **(E) Completed Falls Risk Assessment following a significant change in Medical Status** this reporting period.	6 24.00%
Your Result	
8 Numerator/Denominator x 100 = %	Your Result 24.00%
	Goal 100%
	You have 76.00% to get to goal.

Comments and Good Catches

Note: Please contact the Central Measurement Team (metrics@saferhealthcarenow.ca) if you want to DELETE a data point or a worksheet.

Delete Back Save and Back

18.0 Fall Prevention Score – Technical Description

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

Definition: The overall average Fall Prevention Score and expressed as a percentage of the total number of patients in Acute Care or residents in Long-Term Care for whom a fall prevention score was recorded. The score is based on responses to whether: a Falls Risk Assessment was performed on admission (col. A); the 'At Risk' status was communicated to staff (col. B); a Medication Review was completed (col. C); there is documentation of a Falls Prevention/Injury Reduction Plan (col. D); and, a Falls Risk Assessment was performed following a significant change in medical status (col. E). Individual average scores for each bundle element listed above are also recorded in the compliance table and on the compliance Run Chart.

Data Collection Form: populated from Columns A, B, C, D, and E

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care for whom all 5 Fall Prevention quality elements named in the definition were met on admission for this reporting period

Fall Prevention Bundle: The total number of patients in Acute Care or residents in Long-Term Care who met the criteria for each of the 5 individual Fall Prevention quality elements named in the definition on admission for this reporting period

Numerator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care for whom a Fall Prevention Score was recorded in this reporting period

Denominator Exclusions: Patients in Acute Care or residents in Long-Term Care less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care who experienced a fall and who had their Falls Prevention / Injury Reduction Plan reviewed or revised after fall, *divided by* the number of patients in Acute Care or residents in Long-Term

Care for whom a Fall Prevention Score was recorded in this reporting period and multiply by 100

Comments: None

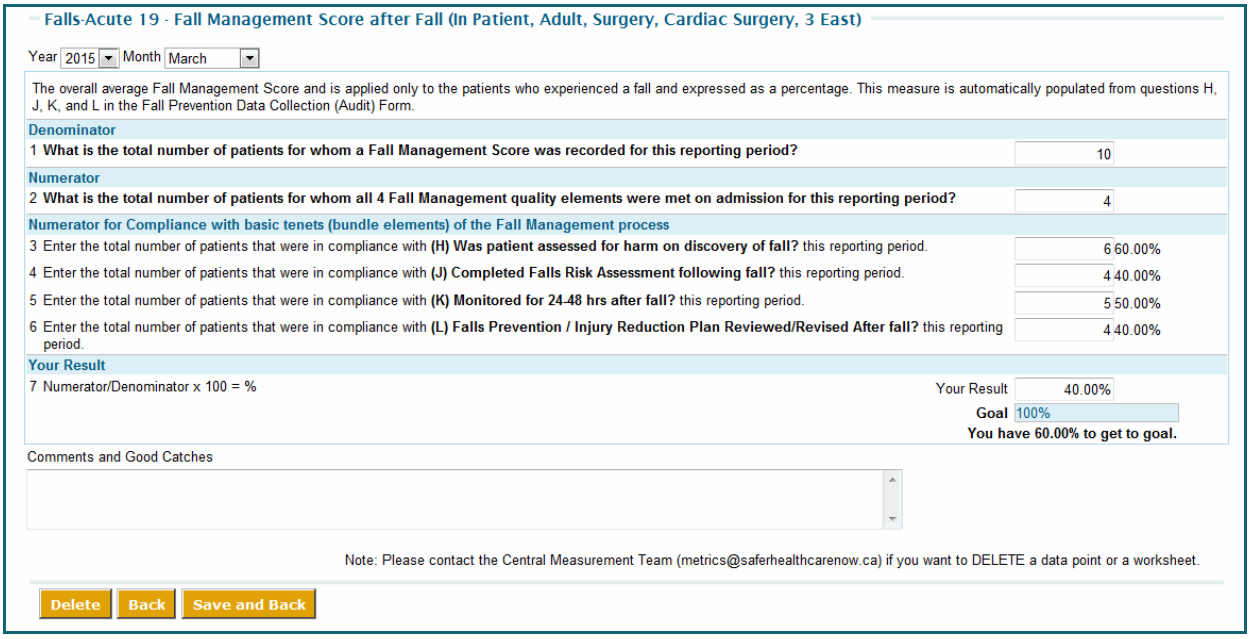
COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

19.0 Fall Management Score After a Fall – Measurement Worksheet

ACUTE CARE / LONG-TERM CARE



Falls-Acute 19 - Fall Management Score after Fall (In Patient, Adult, Surgery, Cardiac Surgery, 3 East)

Year 2015 Month March

The overall average Fall Management Score and is applied only to the patients who experienced a fall and expressed as a percentage. This measure is automatically populated from questions H, J, K, and L in the Fall Prevention Data Collection (Audit) Form.

Denominator			
1 **What is the total number of patients for whom a Fall Management Score was recorded for this reporting period?**	10		
Numerator			
2 **What is the total number of patients for whom all 4 Fall Management quality elements were met on admission for this reporting period?**	4		
Numerator for Compliance with basic tenets (bundle elements) of the Fall Management process			
3 Enter the total number of patients that were in compliance with **(H) Was patient assessed for harm on discovery of fall?** this reporting period.	6	60.00%	
4 Enter the total number of patients that were in compliance with **(J) Completed Falls Risk Assessment following fall?** this reporting period.	4	40.00%	
5 Enter the total number of patients that were in compliance with **(K) Monitored for 24-48 hrs after fall?** this reporting period.	5	50.00%	
6 Enter the total number of patients that were in compliance with **(L) Falls Prevention / Injury Reduction Plan Reviewed/Revised After fall?** this reporting period.	4	40.00%	
Your Result			
7 Numerator/Denominator x 100 = %	Your Result	40.00%	
	Goal	100%	
	You have 60.00% to get to goal.		

Comments and Good Catches

Note: Please contact the Central Measurement Team (metrics@saferhealthcarenow.ca) if you want to DELETE a data point or a worksheet.

Delete Back Save and Back

19.0 Fall Management Score After a Fall – Technical Description

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

Definition: The overall average post Fall Management Score is expressed as a percentage of the total number of patients in Acute Care or residents in Long-Term Care who experienced a fall and for whom a Fall Management Score was recorded. The score is based on responses to whether the patient in Acute Care or resident in Long-Term Care: was assessed for harm on discovery of fall (col. H); a Falls Risk Assessment was completed following the (col. J); monitoring was in place for 24-48 hours after the fall (col. K); and there was documentation of the Falls Prevention and/or Injury Reduction Plan being reviewed or revised after the fall (col. L). Individual average scores for each bundle element listed above are also recorded in the compliance table and on the compliance Run Chart.

Data Collection Form: populated from Columns H, J, K, and L

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of patients in Acute Care or residents in Long-Term Care for whom all 4 Fall Management quality elements named in the definition were met following a fall for this reporting period

Fall Management Bundle: The total number of patients in Acute Care or residents in Long-Term Care who met the criteria for each of the 4 individual Fall Management quality elements named in the definition following a fall for this reporting period.

Numerator Exclusions:

- Patients in Acute Care or residents in Long-Term Care patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Denominator Definition: The total number of patients in Acute Care or residents in Long-Term Care for whom a Fall Management Score was recorded in this reporting period

Denominator Exclusions:

- Patients in Acute Care or residents in Long-Term Care less than 18 years of age
- Patients in Acute Care or residents in Long-Term Care who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care/client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on patient in Acute Care or resident in Long-Term Care/client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of patients in Acute Care or residents in Long-Term Care patients in Acute Care or residents in Long-Term Care who experienced a fall and who had their Falls Prevention / Injury Reduction Plan reviewed or revised after fall, *divided by* the number of patients in Acute Care or residents in Long-Term Care patients in Acute Care or residents in Long-Term Care for whom a Fall Prevention Score was recorded in this reporting period and multiply by 100.

Comments: None

COLLECTION STRATEGY:

Data should be collected on all patients in Acute Care or residents in Long-Term Care on a monthly basis

Sampling Plan: Include all patients in Acute Care or residents in Long-Term Care being audited

N2 - Technical Descriptions for Measurement – Home Care

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. When submitted these data will be designated as '**Working to Goal**".

Working to Goal – (Early or Partial Implementation Stage) - The team has set a clear aim(s) for the Falls Prevention 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.

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

Inactive: No data has been submitted for any intervention measures for over three months

The measurement methodology and recommendations regarding sampling size referenced in this GSK, is based on The Model for Improvement and is designed to accelerate the pace of improvement using the PDSA cycle; a "trial and learn" approach to improvement based on the scientific method.[3]

It is not intended to provide the same rigor that might be applied in a research study, but rather offers an efficient way to help a team understand how a system is performing. When choosing a sample size for your intervention, it is important to consider the purposes and uses of the data and to acknowledge when reporting that the findings are based on an "x" sample as determined by the team.

The scope or scale[4] (amount of sampling, testing, or time required) of a test should be decided according to:

1. The team's degree of belief that the change will result in improvement
2. The risks from a failed test
3. Readiness of those who will have to make the change

Please refer to the **Improvement Frameworks GSK (2015)** for additional information.

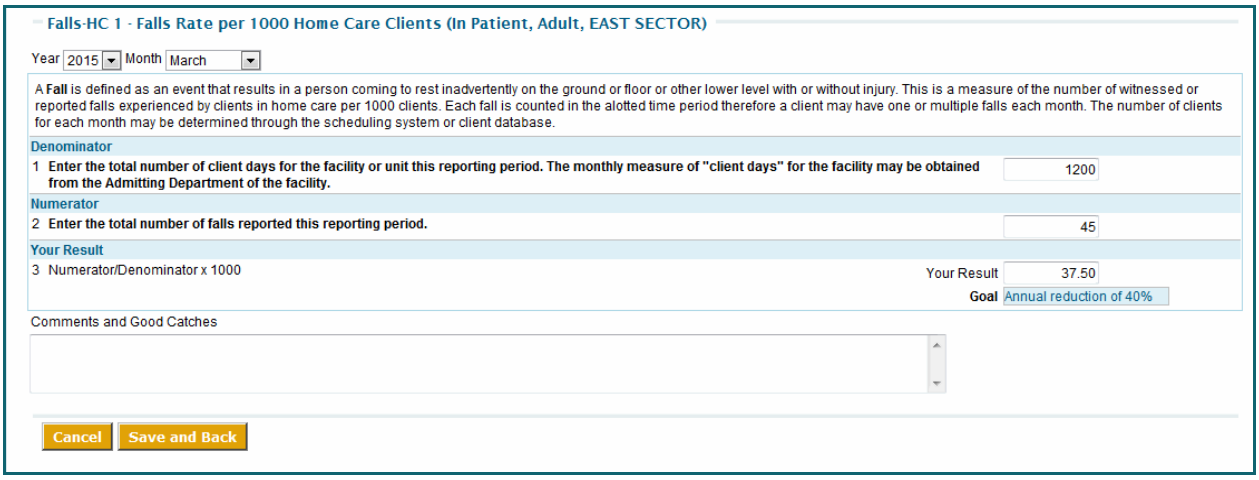
Definitions – see GSK pages 220-22

[3] Langley, G., Nolan, K., Nolan, T., Norman, C., Provost, L. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance. San Francisco, Second Edition, CA. Jossey-Bass Publishers. 2009

[4] Provost, Lloyd P; Murray, Sandra (2011-08-26). The Health Care Data Guide: Learning from Data for Improvement (Kindle Locations 1906-1909). Wiley. Kindle Edition

1.0 Falls Rate per 1000 Home Care Clients – Measurement Worksheet

HOME CARE



1.0 Falls Rate per 1000 Home Health Care Clients – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

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

Data Collection Form: no source from data collection form

Goal: Annual reduction of 40 per cent

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: see 'Definitions' section (GSK pages 204-206)

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

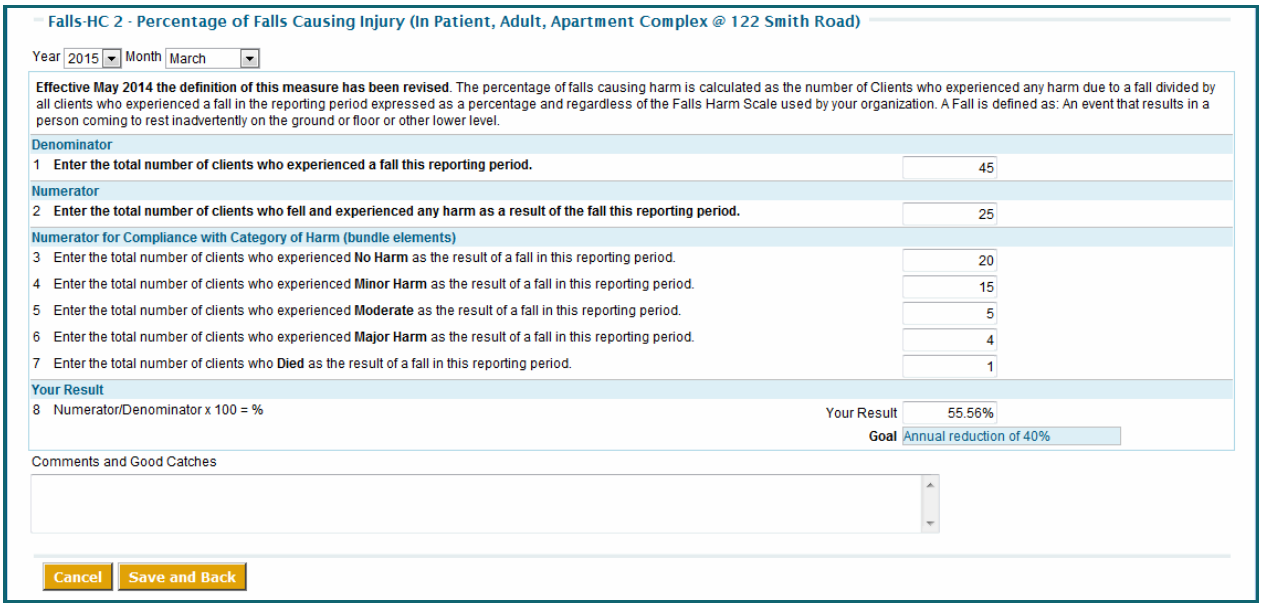
COLLECTION STRATEGY:

- 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

2.0 Percentage of Falls Causing Injury – Measurement Worksheet

HOME CARE



Falls-HC 2 - Percentage of Falls Causing Injury (In Patient, Adult, Apartment Complex @ 122 Smith Road)

Year 2015 Month March

Effective May 2014 the definition of this measure has been revised. The percentage of falls causing harm is calculated as the number of Clients who experienced any harm due to a fall divided by all clients who experienced a fall in the reporting period expressed as a percentage and regardless of the Falls Harm Scale used by your organization. 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.

Denominator		
1	**Enter the total number of clients who experienced a fall this reporting period.**	45
Numerator		
2	**Enter the total number of clients who fell and experienced any harm as a result of the fall this reporting period.**	25
Numerator for Compliance with Category of Harm (bundle elements)		
3	Enter the total number of clients who experienced **No Harm** as the result of a fall in this reporting period.	20
4	Enter the total number of clients who experienced **Minor Harm** as the result of a fall in this reporting period.	15
5	Enter the total number of clients who experienced **Moderate** as the result of a fall in this reporting period.	5
6	Enter the total number of clients who experienced **Major Harm** as the result of a fall in this reporting period.	4
7	Enter the total number of clients who **Died** as the result of a fall in this reporting period.	1
Your Result		
8	Numerator/Denominator x 100 = %	Your Result 55.56%
		Goal Annual reduction of 40%

Comments and Good Catches

Cancel Save and Back

2.0 Percentage of Falls Causing Injury – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of falls causing harm is calculated as the number of Home Care clients who experienced any harm due to a fall divided by all Home Care clients who experienced a fall in the reporting period regardless of the Falls Harm Scale used by your organization

The **Degree of Harm Bundle (revised May, 2014)** is a measure of the extent of harm experienced per Home Care client (i.e. No harm, Minor, Moderate, Major or Death) and expressed as a percentage of the number of clients Home Care who fell.

Data Collection Form: Column I

Goal: Annual reduction of 40 per cent

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients who fell and experienced harm as a result of the fall during this reporting period

Numerator Exclusions: Clients in Home Care less than 18 years of age

Denominator Definition: The total number of clients in Home Care who experienced a fall during this reporting period

Denominator Exclusions: Clients in Home Care less than 18 years of age

Degree of Harm Bundle: Of the number of clients in Home Care who experienced a fall (denominator) enter the number who experienced:

- No Harm
- Minor Harm
- Moderate Harm
- Major Harm
- Death (Died)

The percentage will automatically be calculated for each harm category and an individual line will be displayed on the Compliance Run Chart for each category of harm.

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on client in Home Care volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on client in Home Care volume. In organizations with more than five falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of clients in Home Care who experienced any harm due to a fall divided by all clients in Home Care who experienced a fall in the reporting period.

Comments: None

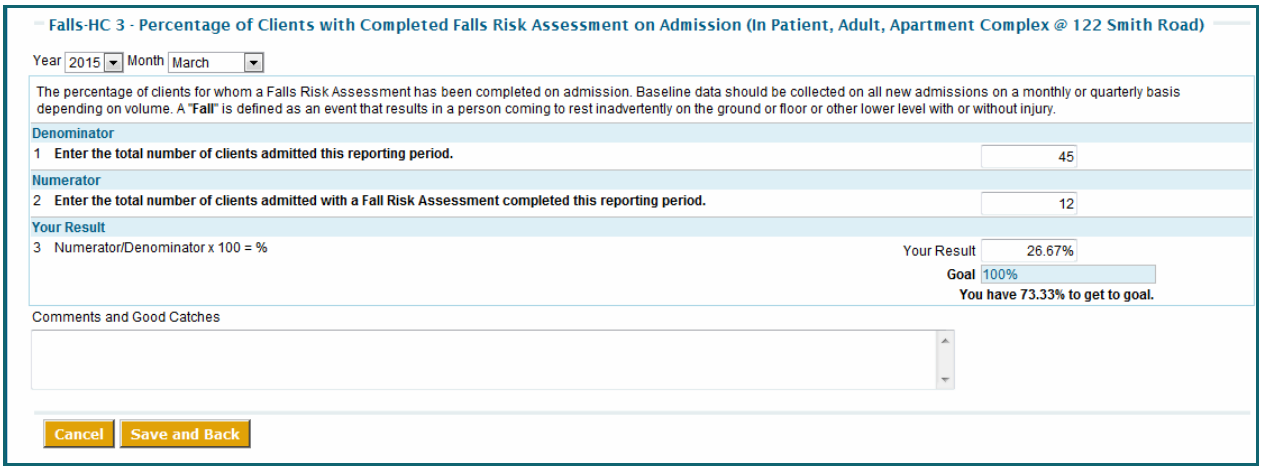
COLLECTION STRATEGY:

The number of falls and the number of falls causing harm may be retrieved from the facility's incident reporting system

Sampling Plan: Count all falls

3.0 Percentage of Cclients in Home Care With Completed Falls Risk Assessment on Admission – Measurement Worksheet

HOME CARE



Falls-HC 3 - Percentage of Clients with Completed Falls Risk Assessment on Admission (In Patient, Adult, Apartment Complex @ 122 Smith Road)

Year 2015 Month March

The percentage of clients 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.

Denominator

1 **Enter the total number of clients admitted this reporting period.** 45

Numerator

2 **Enter the total number of clients admitted with a Fall Risk Assessment completed this reporting period.** 12

Your Result

3 Numerator/Denominator x 100 = % Your Result 26.67%

Goal 100%

You have 73.33% to get to goal.

Comments and Good Catches

Cancel Save and Back

3.0 Percentage of Clients With Completed Falls Risk Assessment on Admission – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

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

Data Collection Form: Column A

Goal: 100 per cent

CALCULATION DETAILS:

Numerator Definition: The total number of clients admitted to Home Care with a Falls Risk Assessment completed during this reporting period

Numerator Exclusions: Home Care clients less than 18 years of age

Denominator Definition: The total number of clients admitted to Home Care during this reporting period

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

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

Comments: None

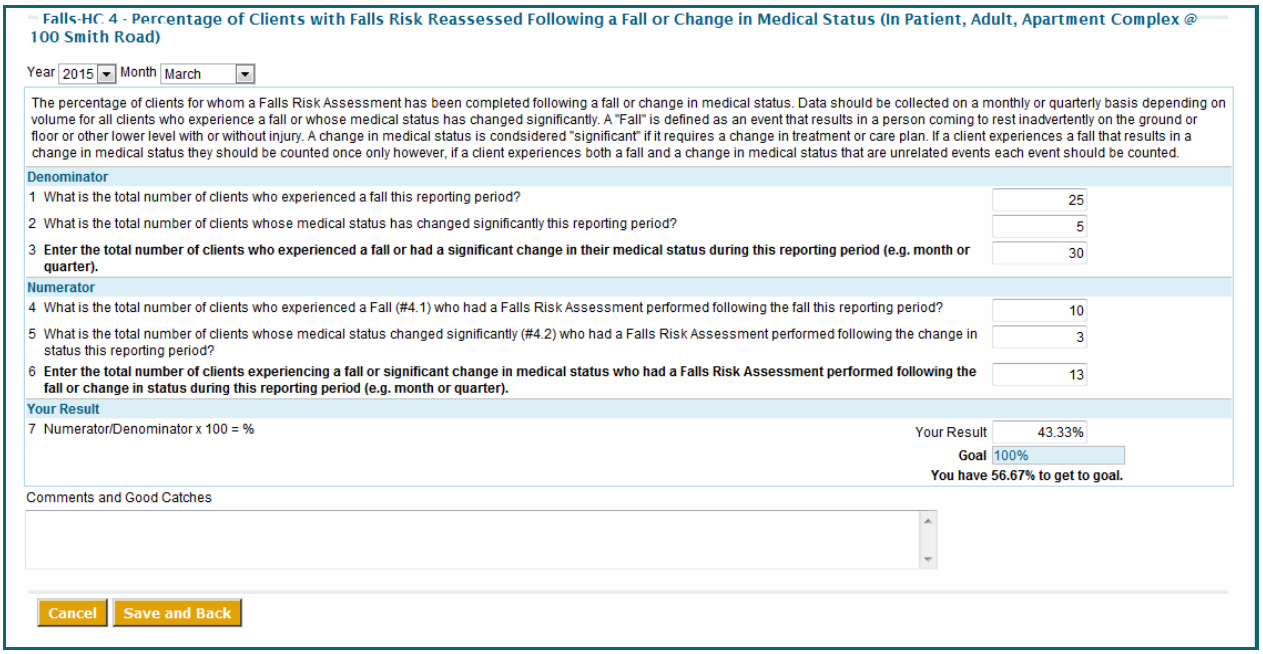
COLLECTION STRATEGY:

Data should be collected on all new admissions on a monthly or quarterly basis depending on volume. For Long-Term Care facilities which have infrequent admissions we recommend you include all new admissions and any residents celebrating an anniversary of admission when the Fall Risk Assessment should be repeated.

Sampling Plan: Count all admissions

4.0 Percentage of Clients With Completed Falls Risk Assessment Following a Fall or Significant Change in Medical Status – Measurement Worksheet

HOME CARE



Falls-HC 4 - Percentage of Clients with Falls Risk Reassessed Following a Fall or Change in Medical Status (In Patient, Adult, Apartment Complex @ 100 Smith Road)

Year 2015 Month March

The percentage of clients 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 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 client experiences both a fall and a change in medical status that are unrelated events each event should be counted.

Denominator		
1	What is the total number of clients who experienced a fall this reporting period?	25
2	What is the total number of clients whose medical status has changed significantly this reporting period?	5
3	**Enter the total number of clients who experienced a fall or had a significant change in their medical status during this reporting period (e.g. month or quarter).**	30
Numerator		
4	What is the total number of clients who experienced a Fall (#4.1) who had a Falls Risk Assessment performed following the fall this reporting period?	10
5	What is the total number of clients whose medical status changed significantly (#4.2) who had a Falls Risk Assessment performed following the change in status this reporting period?	3
6	**Enter the total number of clients experiencing a fall or significant change in medical status who had a Falls Risk Assessment performed following the fall or change in status during this reporting period (e.g. month or quarter).**	13
Your Result		
7	Numerator/Denominator x 100 = %	Your Result 43.33%
		Goal 100%
		You have 56.67% to get to goal.

Comments and Good Catches

Cancel Save and Back

4.0 Percentage of Clients 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 **Home Care**

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

Data Collection Form: no source from data collection form (see Fall measures 12 and 15)

Goal: 100 per cent

CALCULATION DETAILS:

Numerator Definition:

a. The total number of Home Care clients who experienced a Fall who had a Falls Risk Assessment performed following the fall

b. The total number of Home Care clients whose medical status changed significantly who had a Falls Risk Assessment performed following the change in status during the reporting period

Numerator Exclusions: Home Care clients less than 18 years of age

Denominator Definition:

a. The total number of Home Care clients who experienced a fall

b. The total number of Home Care clients whose medical status has changed significantly during the reporting period

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients 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 Home Care clients who experienced a fall or whose medical status has changed significantly during the reporting period. Multiply by 100.

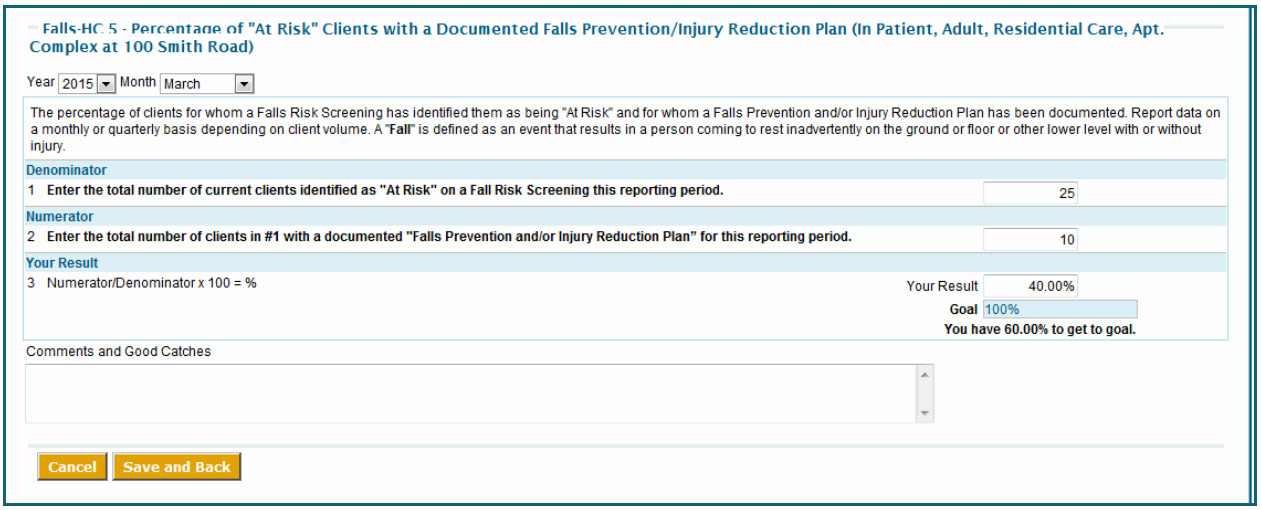
COLLECTION STRATEGY:

- The number of clients experiencing a fall may be retrieved from the facility's incident reporting system
- The number of clients experiencing a significant change in medical status will require a chart review to determine if the physician recorded an event in the progress notes and changed treatment in the Doctors' Orders

Sampling Plan: Count all clients who experienced a fall or significant change in medical status which can be a positive or negative change

5.0 Percentage of "At Risk" Clients With a Documented Falls Prevention/Injury Reduction Plan – Measurement Worksheet

HOME CARE



5.0 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 Care**

Definition: The percentage of "at risk" Home Care clients with a documented Falls Prevention/Injury Reduction plan (See GSK pages 66-74).

Data Collection Form: Column D

Goal: 100 per cent

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients with a documented "Falls Prevention and/or Injury Reduction Plan" for this reporting period

Numerator Exclusions: Home Care clients less than 18 years of age

Denominator Definition: The total number of current Home Care clients identified as "At Risk" on a Falls Risk Assessment for this reporting period

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients with a documented "Falls Prevention and/or Injury Reduction Plan" *divided by* the total number of current Home Care clients 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

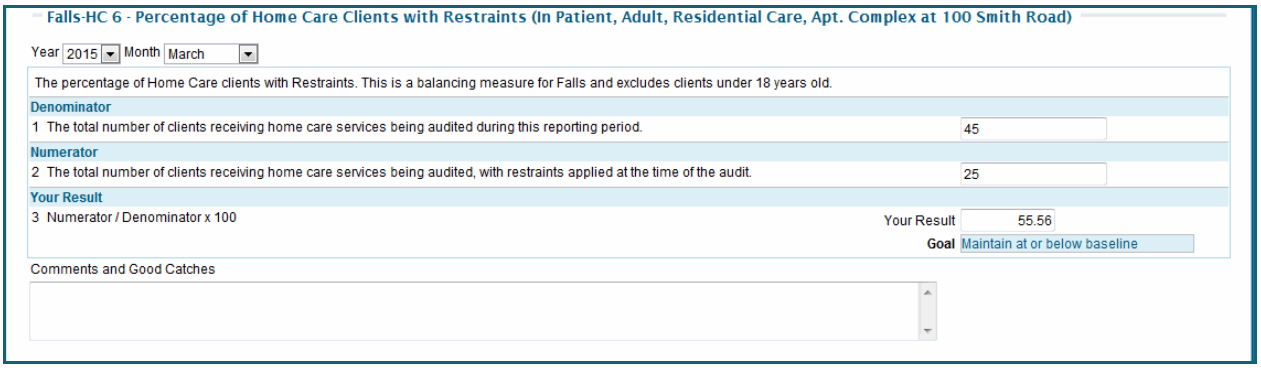
COLLECTION STRATEGY:

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

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

6.0 Percentage of Clients With Restraints – Measurement Worksheet

HOME CARE



Falls-HC 6 - Percentage of Home Care Clients with Restraints (In Patient, Adult, Residential Care, Apt. Complex at 100 Smith Road)

Year 2015 Month March

The percentage of Home Care clients with Restraints. This is a balancing measure for Falls and excludes clients under 18 years old.

Denominator

1 The total number of clients receiving home care services being audited during this reporting period. 45

Numerator

2 The total number of clients receiving home care services being audited, with restraints applied at the time of the audit. 25

Your Result

3 Numerator / Denominator x 100 Your Result 55.56

Goal Maintain at or below baseline

Comments and Good Catches

6.0 Percentage of Home Care Clients With Restraints – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients 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 pages 61-63).

Data Collection Form: Column F

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

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients being audited, with restraints applied at the time of the audit

Numerator Exclusions: Home Care clients less than 18 years of age

Denominator Definition: The total number of Home Care clients being audited during this reporting period

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients being audited, with restraints applied at the time of the audit, *divided by* the number of Home Care clients being audited during this reporting period and multiply by 100

Comments: None

COLLECTION STRATEGY:

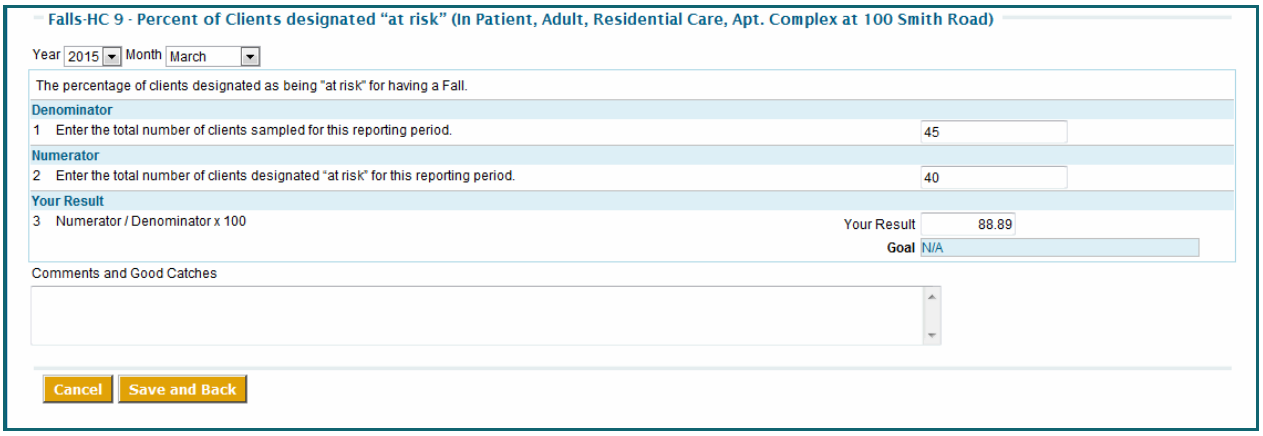
Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

NOTE: Falls Measures 7.0 and 8.0 DO NOT APPLY to Home Care Clients

9.0 Percentage of Clients Designated "At Risk" – Measurement Worksheet

HOME CARE



9.0 Percentage of Home Care Clients Designated "At Risk" – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients designated as being "at risk" for having a fall based on the results of their Fall Risk Assessment/Screening

Data Collection Form – Column B designation of 'No Risk' otherwise 'At Risk' +/- communication of status

Goal: Does not apply

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients designated as being "at risk" for having a fall based on the results of their Fall Risk Assessment for the reporting period

Numerator Exclusions: Home Care clients less than 18 years of age

Denominator Definition: The total number of Home Care clients sampled for this reporting period

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients designated as being "at risk" for having a fall, *divided by* the number of Home Care clients being audited during this reporting period and multiply by 100

Comments: None

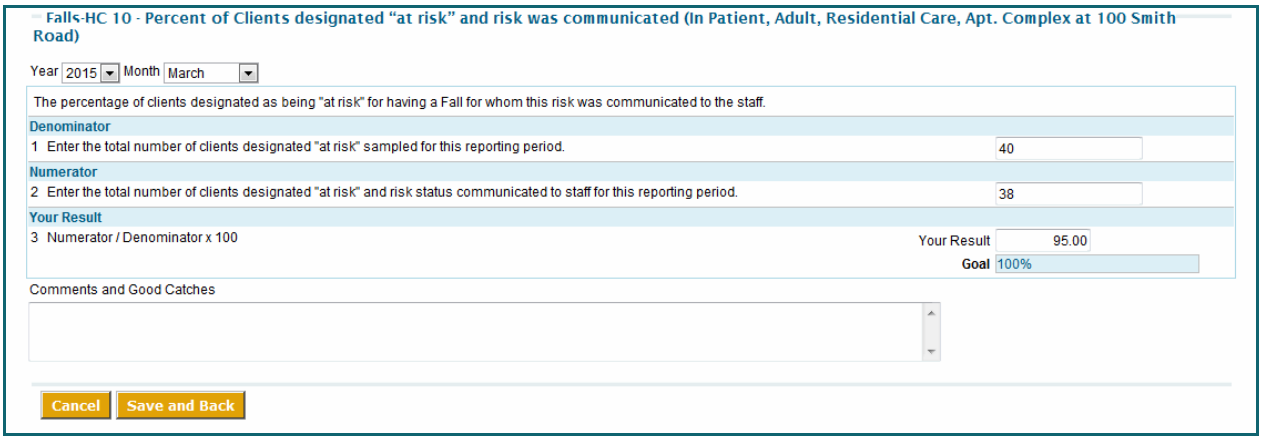
COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

10.0 Percentage of Clients Designated "At Risk" and Risk Status Communicated – Measurement Worksheet

HOME CARE



10.0 Percentage of Home Care Clients Designated "At Risk" and Risk Status Communicated – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients designated being "at risk" based on the results of their Fall Risk Assessment **and** the level of risk was communicated to the staff

Data Collection Form – Column B

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients designated as being "at risk" based on the results of their Fall Risk Assessment and the level of risk was communicated to the staff

Numerator Exclusions:

- Home Care clients less than 18 years of age
- 'At Risk' Home Care clients for whom their risk status was not communicated to the staff

Denominator Definition: The total number of Home Care clients designated as being "at risk" based on the results of their Fall Risk Assessment

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients designated as being "at risk" for having a fall for whom their risk status was communicated to the staff, *divided by* the number of Home Care clients designated as being "at risk" during this reporting period and multiply by 100

Comments: None

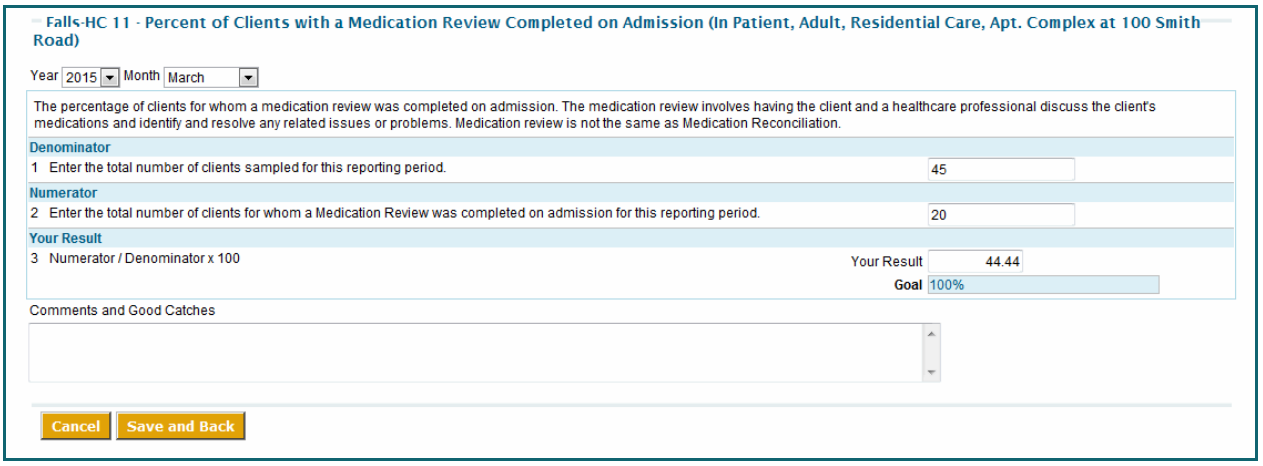
COLLECTION STRATEGY:

Data should be collected on all Home Care clients e on a monthly basis

Sampling Plan: Include all Home Care clients being audited

11.0 Percent of Clients With a Medication Review Completed – Measurement Worksheet

HOME CARE



Falls-HC 11 - Percent of Clients with a Medication Review Completed on Admission (In Patient, Adult, Residential Care, Apt. Complex at 100 Smith Road)

Year 2015 Month March

The percentage of clients for whom a medication review was completed on admission. The medication review involves having the client and a healthcare professional discuss the client's medications and identify and resolve any related issues or problems. Medication review is not the same as Medication Reconciliation.

Denominator

1 Enter the total number of clients sampled for this reporting period. 45

Numerator

2 Enter the total number of clients for whom a Medication Review was completed on admission for this reporting period. 20

Your Result

3 Numerator / Denominator x 100

Your Result 44.44

Goal 100%

Comments and Good Catches

Cancel Save and Back

11.0 Percent of Home Care Clients With a Medication Review Completed – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients for whom a medication review was completed. The medication review involves having the Home Care clients and a healthcare professional discuss the client's medications and identify and resolve any related issues or problems. Medication reviews should occur routinely in addition to being conducted on care transitions, post fall incident or with a change in the client's medical status and/or at any time, on request of the client. Medication review is not the same as Medication Reconciliation.

Data Collection Form: Column C

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients for whom a Medication Review was completed for this reporting period

Numerator Exclusions: Home Care clients less than 18 years of age

Denominator Definition: The total number of clients in Home Care sampled for this reporting period

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients for whom a Medication Review was completed, *divided by* the number of Home Care clients sampled during this reporting period and multiply by 100

Comments: None

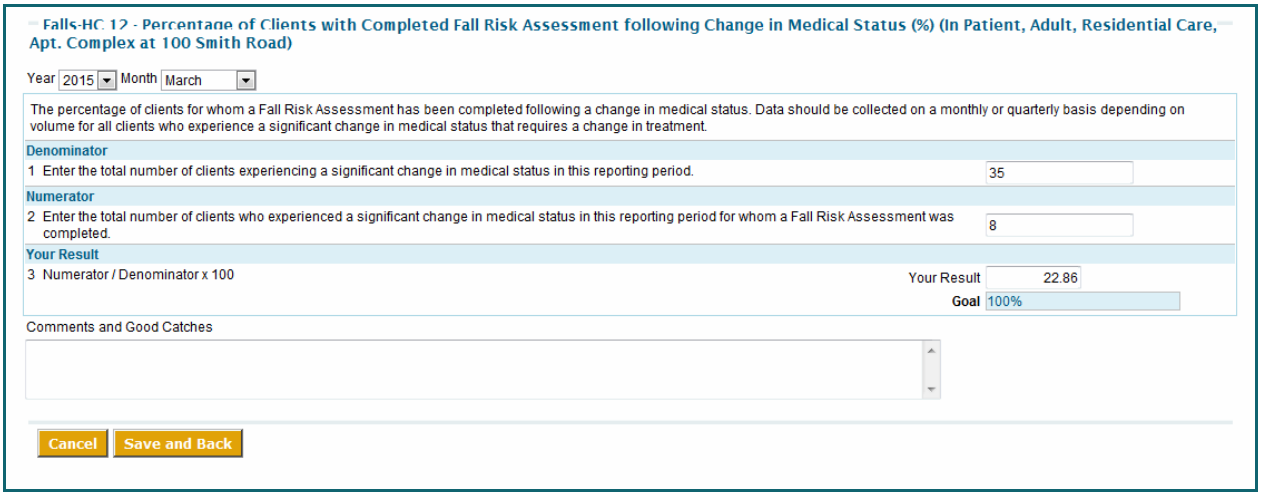
COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

12.0 Percent of Clients With Completed Fall Risk Assessment Following a Significant Change in Medical Status - Measurement Worksheet

HOME CARE



Falls-HC 12 - Percentage of Clients with Completed Fall Risk Assessment following Change in Medical Status (%) (In Patient, Adult, Residential Care, Apt. Complex at 100 Smith Road)

Year 2015 Month March

The percentage of clients for whom a Fall Risk Assessment has been completed following a change in medical status. Data should be collected on a monthly or quarterly basis depending on volume for all clients who experience a significant change in medical status that requires a change in treatment.

Denominator

1 Enter the total number of clients experiencing a significant change in medical status in this reporting period. 35

Numerator

2 Enter the total number of clients who experienced a significant change in medical status in this reporting period for whom a Fall Risk Assessment was completed. 8

Your Result

3 Numerator / Denominator x 100 Your Result 22.86

Goal 100%

Comments and Good Catches

Cancel Save and Back

12.0 Percent of Home Care Clients With Completed Fall Risk Assessment Following a Significant Change in Medical Status – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients for whom a Fall Risk Assessment has been completed following a significant change in medical status. Data should be collected for all clients who experience a significant change in medical status that requires a change in treatment or care plan and can be improving or worsening.

Data Collection Form: Column E

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients for whom a Fall Risk Assessment has been completed following a significant change in medical status for this reporting period

Numerator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a significant change in medical status during the reporting period

Denominator Definition: The total number of Home Care clients experiencing a significant change in medical status in this reporting period

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients for whom a Fall Risk Assessment has been completed following a significant change in medical status, *divided by* the number of Home Care clients experiencing a significant change in medical status in this reporting period and multiply by 100

Comments: None

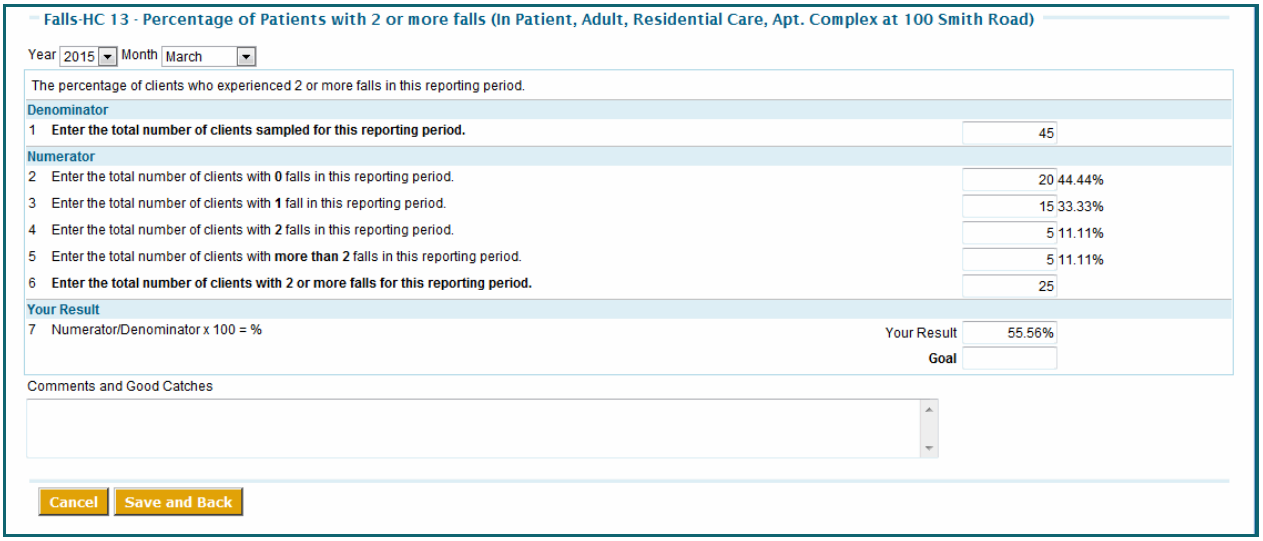
COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

13.0 Percent of Clients With Two or More Falls – Measurement Worksheet

HOME CARE



Falls-HC 13 - Percentage of Patients with 2 or more falls (In Patient, Adult, Residential Care, Apt. Complex at 100 Smith Road)

Year 2015 Month March

The percentage of clients who experienced 2 or more falls in this reporting period.

Denominator			
1	**Enter the total number of clients sampled for this reporting period.**	45	
Numerator			
2	Enter the total number of clients with **0** falls in this reporting period.	20	44.44%
3	Enter the total number of clients with **1** fall in this reporting period.	15	33.33%
4	Enter the total number of clients with **2** falls in this reporting period.	5	11.11%
5	Enter the total number of clients with **more than 2** falls in this reporting period.	5	11.11%
6	**Enter the total number of clients with 2 or more falls for this reporting period.**	25	
Your Result			
7	Numerator/Denominator x 100 = %	Your Result	55.56%
		Goal	

Comments and Good Catches

Cancel Save and Back

13.0 Percent of Clients With Two or More Falls – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients who experienced two or more falls in this reporting period

Data Collection Form: Column G

Goal: 0%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients who experienced:

- 0 falls in the reporting period
- 1 fall in the reporting period
- 2 falls in the reporting period
- >2 falls in the reporting period

Note: *The percentage of* Home Care clients *audited in the reporting period will be automatically calculated and displayed for each category*

Numerator Exclusions: Home Care clients less than 18 years of age

Denominator Definition: The total number of Home Care clients sampled in this reporting period

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients who experienced 0, 1, 2, or >2 falls, *divided by* the number of Home Care clients sampled in this reporting period and multiply by 100

Comments: None

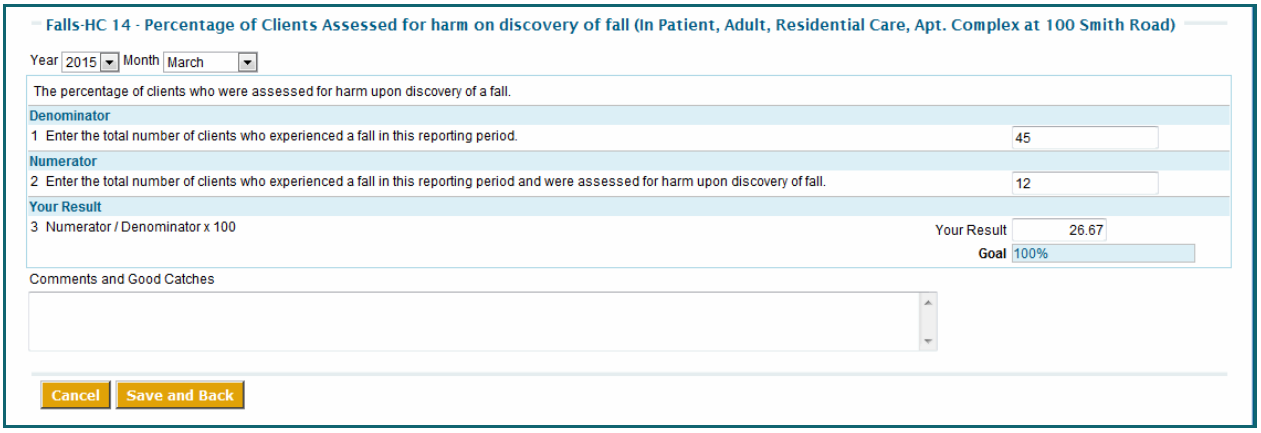
COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

14.0 Percent of Clients Assessed for Harm on Discovery of Fall – Measurement Worksheet

HOME CARE



14.0 Percent of Home Care Clients Assessed for Harm on Discovery of Fall – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients assessed for harm upon discovery of a fall in this reporting period

Data Collection Form: Column H

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients who experienced a fall in this reporting period and were assessed for harm upon discovery of fall

Numerator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Denominator Definition: The total number of Home Care clients who experienced at least one fall in this reporting period

Denominator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients who experienced a fall and were assessed for harm on discovery of the fall, *divided by* the number of Home Care clients experiencing at least one fall in this reporting period and multiply by 100

Comments: None

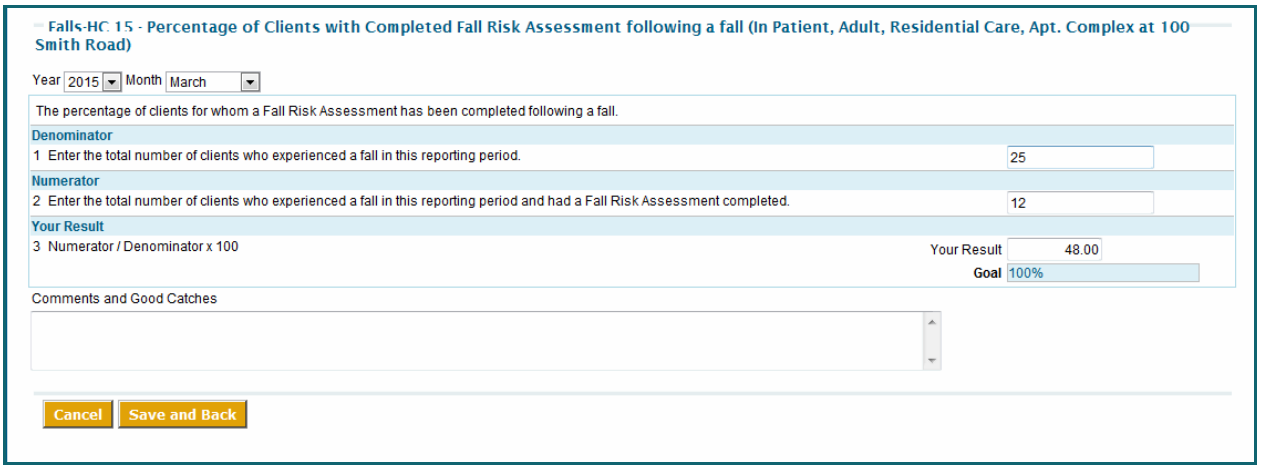
COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

15.0 Percent of Clients With Completed Fall Risk Assessment Ffollowing a Fall – Measurement Worksheet

HOME CARE



Falls-HC 15 - Percentage of Clients with Completed Fall Risk Assessment following a fall (In Patient, Adult, Residential Care, Apt. Complex at 100 Smith Road)

Year 2015 Month March

The percentage of clients for whom a Fall Risk Assessment has been completed following a fall.

Denominator

1 Enter the total number of clients who experienced a fall in this reporting period. 25

Numerator

2 Enter the total number of clients who experienced a fall in this reporting period and had a Fall Risk Assessment completed. 12

Your Result

3 Numerator / Denominator x 100

Your Result 48.00

Goal 100%

Comments and Good Catches

Cancel Save and Back

15.0 Percent of Home Care Clients With Completed Fall Risk Assessment Following a Fall – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients for whom a Fall Risk Assessment has been completed following a fall in the reporting period

Data Collection Form: Column J

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients who experienced a fall in this reporting period and had a Fall Risk Assessment completed

Numerator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Denominator Definition: The total number of Home Care clients who experienced at least one fall in the reporting period

Denominator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients who experienced a fall and had a Fall Risk Assessment completed, *divided by* the number of Home Care clients experiencing at least one fall in this reporting period and multiply by 100

Comments: None

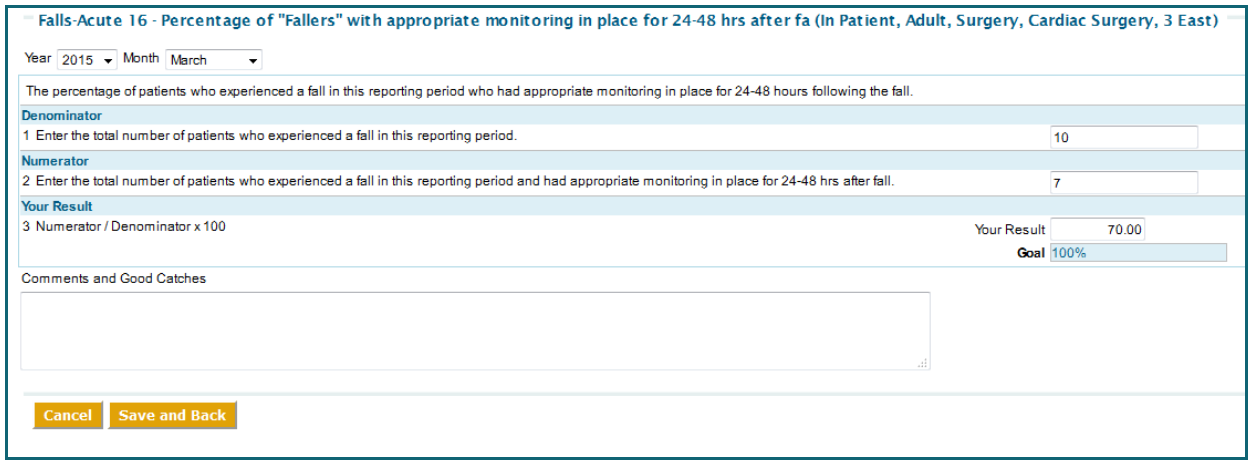
COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

16.0 Percent of "Fallers" With Monitoring in Place for 24-48 Hours After Fall – Measurement Worksheet

HOME CARE



16.0 Percent of "Fallers" in Home Care With Monitoring in Place for 24-48 Hours After Fall – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients who experienced a fall in this reporting period **and** who had monitoring in place for 24-48 hours following the fall

Data Collection Form: Column K

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients who experienced a fall in this reporting period **and** who had monitoring in place for 24-48 hours following the fall

Numerator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Denominator Definition: The total number of Home Care clients who experienced at least one fall in this reporting period.

Denominator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients who experienced a fall **and** who had appropriate monitoring in place for 24-48 hours following the fall, *divided by* the number of Home Care clients experiencing at least one fall in this reporting period and multiply by 100

Comments: None

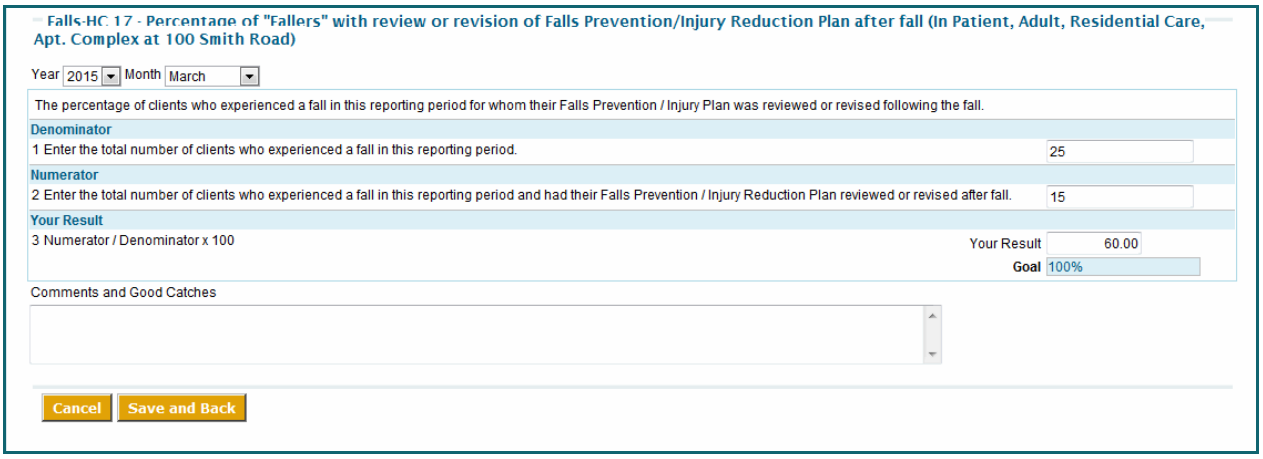
COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

17.0 Percent of "Fallers" With Review or Revision of Falls Prevention/Injury Reduction Plan After Fall – Measurement Worksheet

HOME CARE



17.0 Percent of "Fallers" in Home Care With Review or Revision of Falls Prevention/Injury Reduction Plan After Fall– Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The percentage of Home Care clients who experienced a fall in this reporting period **and** for whom their Falls Prevention / Injury Plan was reviewed or revised following the fall (See GSK pages 66-74).

Data Collection Form: Column L

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients who experienced a fall in this reporting period and had their Falls Prevention / Injury Reduction Plan reviewed or revised after fall

Numerator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Denominator Definition: The total number of Home Care clients who experienced at least one fall in this reporting period

Denominator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients who experienced a fall and who had their Falls Prevention / Injury Reduction Plan reviewed or revised after fall, *divided by* the number of Home Care clients experiencing at least one fall in this reporting period and multiply by 100

Comments: None

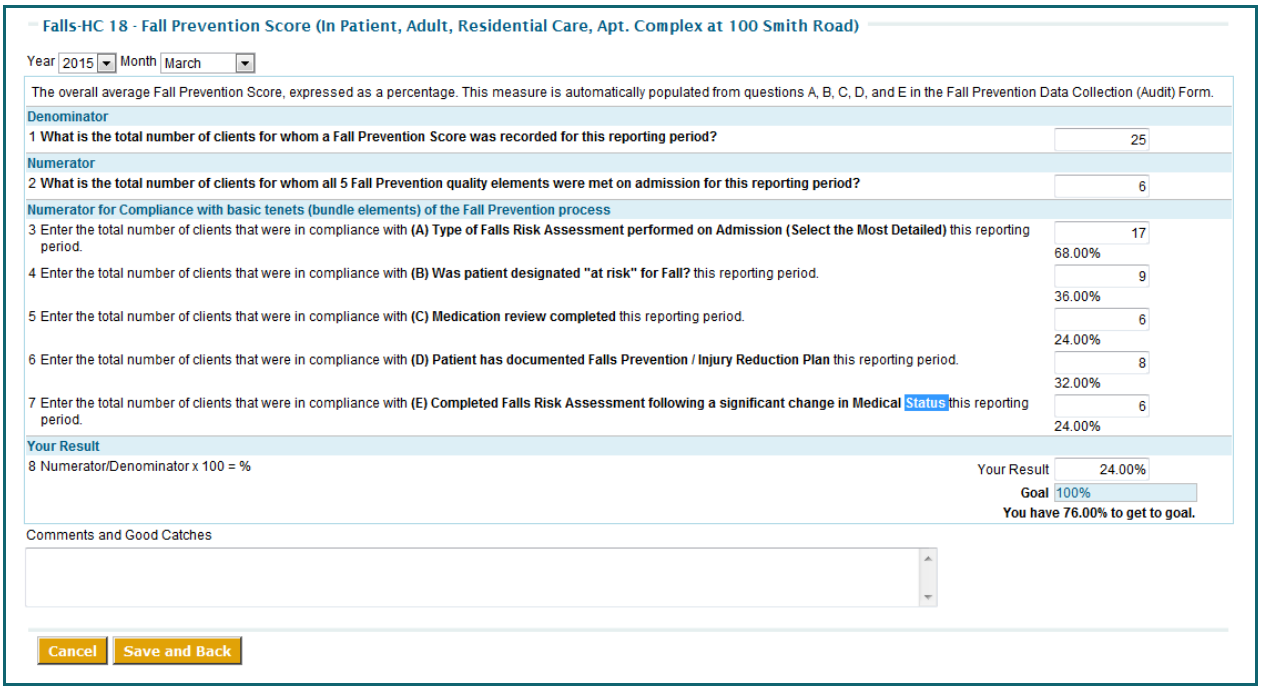
COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

18.0 Fall Prevention Score – Measurement Worksheet

HOME CARE



Falls-HC 18 - Fall Prevention Score (In Patient, Adult, Residential Care, Apt. Complex at 100 Smith Road)

Year 2015 Month March

The overall average Fall Prevention Score, expressed as a percentage. This measure is automatically populated from questions A, B, C, D, and E in the Fall Prevention Data Collection (Audit) Form.

Denominator	
1 **What is the total number of clients for whom a Fall Prevention Score was recorded for this reporting period?**	25
Numerator	
2 **What is the total number of clients for whom all 5 Fall Prevention quality elements were met on admission for this reporting period?**	6
Numerator for Compliance with basic tenets (bundle elements) of the Fall Prevention process	
3 Enter the total number of clients that were in compliance with **(A) Type of Falls Risk Assessment performed on Admission (Select the Most Detailed)** this reporting period.	17 68.00%
4 Enter the total number of clients that were in compliance with **(B) Was patient designated "at risk" for Fall?** this reporting period.	9 36.00%
5 Enter the total number of clients that were in compliance with **(C) Medication review completed** this reporting period.	6 24.00%
6 Enter the total number of clients that were in compliance with **(D) Patient has documented Falls Prevention / Injury Reduction Plan** this reporting period.	8 32.00%
7 Enter the total number of clients that were in compliance with **(E) Completed Falls Risk Assessment following a significant change in Medical Status** this reporting period.	6 24.00%
Your Result	
8 Numerator/Denominator x 100 = %	Your Result 24.00% Goal 100% **You have 76.00% to get to goal.**

Comments and Good Catches

Cancel Save and Back

18.0 Fall Prevention Score (Home Care) – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The overall average Fall Prevention Score and expressed as a percentage of the total number of Home Care clients for whom a fall prevention score was recorded. The score is based on responses to whether: a Falls Risk Assessment was performed on admission (col. A); the 'At Risk' status was communicated to staff (col. B); a Medication Review was completed (col. C); there is documentation of a Falls Prevention/Injury Reduction Plan (col. D); and, a Falls Risk Assessment was performed following a significant change in medical status (col. E). Individual average scores for each bundle element listed above are also recorded in the compliance table and on the compliance Run Chart.

Data Collection Form: populated from Columns A, B, C, D, and E

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients for whom all 5 Fall Prevention quality elements named in the definition were met on admission for this reporting period

Fall Prevention Bundle: The total number of Home Care clients who met the criteria for each of the 5 individual Fall Prevention quality elements named in the definition on admission for this reporting period

Numerator Exclusions: Home Care clients less than 18 years of age

Denominator Definition: The total number of Home Care clients for whom a Fall Prevention Score was recorded in this reporting period

Denominator Exclusions: Home Care clients less than 18 years of age

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients who experienced a fall **and** who had their Falls Prevention / Injury Reduction Plan reviewed or revised after fall, *divided by* the number of Home Care clients for whom a Fall Prevention Score was recorded in this reporting period and multiply by 100

Comments: None

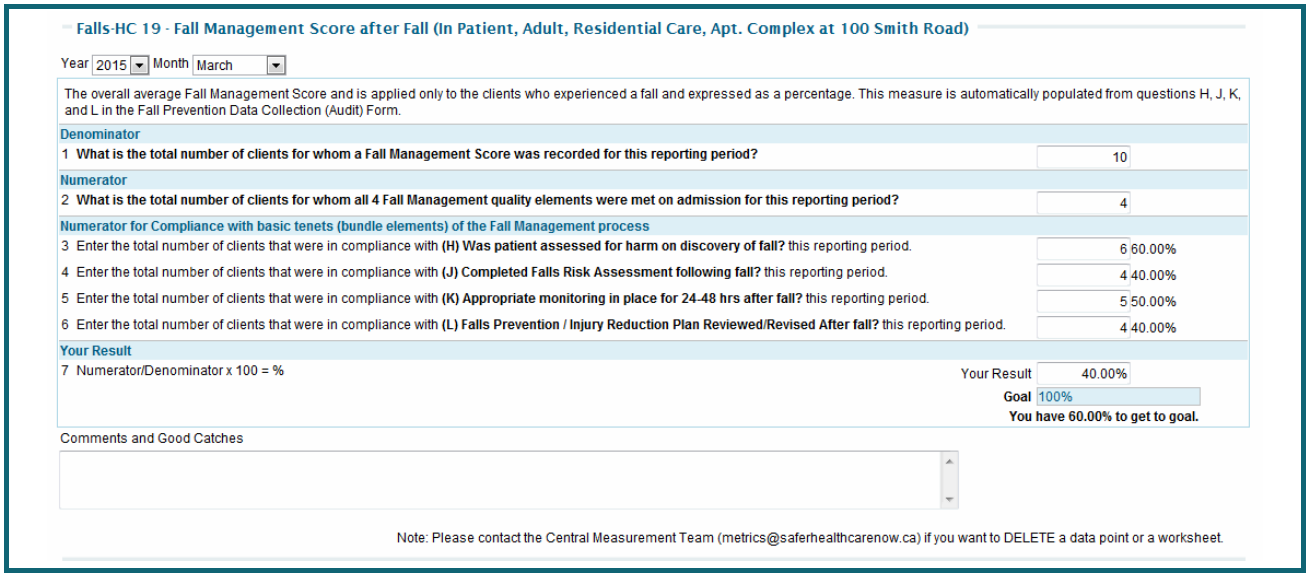
COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all patients in Home Care clients being audited

19.0 Fall Management Score After a Fall – Measurement Worksheet

HOME CARE



Falls-HC 19 - Fall Management Score after Fall (In Patient, Adult, Residential Care, Apt. Complex at 100 Smith Road)

Year 2015 Month March

The overall average Fall Management Score and is applied only to the clients who experienced a fall and expressed as a percentage. This measure is automatically populated from questions H, J, K, and L in the Fall Prevention Data Collection (Audit) Form.

Denominator		
1 **What is the total number of clients for whom a Fall Management Score was recorded for this reporting period?**	10	
Numerator		
2 **What is the total number of clients for whom all 4 Fall Management quality elements were met on admission for this reporting period?**	4	
Numerator for Compliance with basic tenets (bundle elements) of the Fall Management process		
3 Enter the total number of clients that were in compliance with **(H) Was patient assessed for harm on discovery of fall?** this reporting period.	6	60.00%
4 Enter the total number of clients that were in compliance with **(J) Completed Falls Risk Assessment following fall?** this reporting period.	4	40.00%
5 Enter the total number of clients that were in compliance with **(K) Appropriate monitoring in place for 24-48 hrs after fall?** this reporting period.	5	50.00%
6 Enter the total number of clients that were in compliance with **(L) Falls Prevention / Injury Reduction Plan Reviewed/Revised After fall?** this reporting period.	4	40.00%
Your Result		
7 Numerator/Denominator x 100 = %	Your Result	40.00%
	Goal	100%
	You have 60.00% to get to goal.	

Comments and Good Catches

Note: Please contact the Central Measurement Team (metrics@saferhealthcarenow.ca) if you want to DELETE a data point or a worksheet.

19.0 Fall Management Score After a Fall (HOME CARE) – Technical Description

Intervention(s): Prevention of falls and injury from falls in **Home Care**

Definition: The overall average post Fall Management Score is expressed as a percentage of the total number of Home Care clients who experienced a fall and for whom a Fall Management Score was recorded. The score is based on responses to whether the Home Care client: was assessed for harm on discovery of fall (col. H); a Falls Risk Assessment was completed following the (col. J); monitoring was in place for 24-48 hours after the fall (col. K); and there was documentation of the Falls Prevention and/or Injury Reduction Plan being reviewed or revised after the fall (col. L). Individual average scores for each bundle element listed above are also recorded in the compliance table and on the compliance Run Chart.

Data Collection Form: populated from Columns H, J, K, and L

Goal: 100%

****New Measure****

CALCULATION DETAILS:

Numerator Definition: The total number of Home Care clients for whom all 4 Fall Management quality elements named in the definition were met following a fall for this reporting period

Fall Management Bundle: The total number of Home Care clients who met the criteria for each of the 4 individual Fall Management quality elements named in the definition following a fall for this reporting period.

Numerator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Denominator Definition: The total number of Home Care clients for whom a Fall Prevention Score was recorded in this reporting period

Denominator Exclusions:

- Home Care clients less than 18 years of age
- Home Care clients who did not experience a fall

Measurement Period Length: When collecting data using the Data Collection Form data may be captured on a daily, weekly, monthly or quarterly basis depending on Home Care client volume. If data is collected locally and submitted in aggregate as a numerator and denominator data may be captured on a monthly or quarterly basis depending on Home Care client volume. In organizations with more than 5 falls per month we recommend collecting data monthly.

Definition of Terms: see 'Definitions' section (GSK pages 204-206)

Calculate as: Number of Home Care clients who experienced a fall and who had their Falls Prevention / Injury Reduction Plan reviewed or revised after fall, *divided by* the number of Home Care clients for whom a Fall Prevention Score was recorded in this reporting period and multiply by 100

Comments: None

COLLECTION STRATEGY:

Data should be collected on all Home Care clients on a monthly basis

Sampling Plan: Include all Home Care clients being audited

Appendix O – Paths to Improvement: Change Concepts

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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 Health Quality Ontario, in long-term care homes across Ontario.

Paths to Improvement at a Glance

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

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Recognition & 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 & at Required Intervals (quarterly/annual) **Evaluate the "At Risk" Resident for Falls:** • Morse Fall Scale • RAIMDS **Screen: Physical & Functional Status** • Berg Balance Scale • Tinetti Gait & Balance Instrument • Timed Up & 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 residents & families & engage them in prevention strategies	**Communicate:** • Falls risk with resident, family & staff (verbal, health record, care plan, shift change, risk rounds, care conferences, program staff, etc.) **Care Planning:** • Create individualized plan of care with resident, family & staff & communicate (verbal, health record, care plan, shift change, risk rounds, care conferences, program 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 & independently transferring, and/or dementia • Hi Lo Beds • Mats on Floor **Prevention Strategies:** • Implement strength, balance, & 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, references & risk factors	**Educate Staff:** • Orientation, annually, regular Intervals • Prevention of falls & fall injuries • Safe mobility, risk assessment, risk management, post-fall follow up, alternatives to restraints, etc. **Develop organizational policy & procedure for falls prevention:** • Review organizational policy for least restraint • Create an environment that supports interventions for fall prevention • Provide access to supplies & equipment for preventing falls and/or signalling 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 & pharmacist • Benzodiazepines, tricyclic antidepressants, selective serotoninre uptake inhibitors, trazodone **Manage medications:** Poly-pharmacy & psychotropic medications related problems that may contribute to falls **Review Risk:** • Identify 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 & care planning • Falls huddles **Provide** adequate support to falls improvement team to facilitate above activities

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