Prevention of Falls & Related Injuries in Residential Care

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Acknowledgements

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Goal

To facilitate the translation of evidence into practice through the application of a public health framework for the prevention of falls and related injuries in residential care (RC).

http://www.hiphealth.ca/CEMFIA
Public Health Framework for RC Fall Prevention

**Approach**

- Public Health Approach

**Program Planning Steps**

- Defining the Problem
- Identifying Risk Factors
- Examining Best Practices
- Translating the Knowledge
- Evaluating the Program

**Population**

- LTC Residential

**Strategies & Actions**

- Data Analysis
- Assessment Individual/Organization
- Best Practices/Guidelines
- Program Implementation
- Evaluation Report

**Social & Policy Context**

- Older Persons, Families, Care Providers, Organizational Procedures, Accreditation Standards and Legislation
DEFINING THE PROBLEM
Fall Facts: Residential Care

- Average rate of RC falls is 1.7 falls per person-year or approx. 1 fall every other day in a 100 bed facility (Rubinstein 2006)
- 25% of falls in RC result in injury requiring medical attention (Becker & Rapp, 2010)
- RC fall-related hospitalizations 3.6 times higher than for community seniors (CIHR 2009)
Fall–Related Deaths Among Seniors
B.C., 2007

- Only 5.6% of BC seniors’ population are in RC¹, yet account for 22% of fall-related deaths

Deaths 65+:
- Non-residential = 651
- Residential = 185

¹Quantum Analyzer Version 2.12 People 33, 2006/2007
Direct and Indirect Deaths Due to Falls Among Seniors in Residential Care and Seniors not in Residential Care, B.C., 2000 to 2007

* Statistically significant ($p < 0.05$).
** Age-Standardized to B.C. 1991 population.

Notes:
Direct cause of death = the underlying cause of death or what the person died of.
Indirect cause of death = contributing, associated, or antecedent causes to the underlying cause of death.
Falls = ICD-9 E880 - E888, ICD-10 W00 - W19.
Prepared by: Population Health Surveillance and Epidemiology, Ministry of Healthy Living and Sport, 2009.
Direct and Indirect Deaths Due to Falls Among Seniors in Residential Care and Seniors not in Residential Care, B.C., 2000 to 2007

Number of Deaths

Year

Rate per 10,000 Population

Deaths - In Res Care
Deaths - Not in Res Care
Rate** - In Res Care
Rate** - Not in Res Care
Linear Trendline

* Statistically significant ($p < 0.05$).
** Age-Standardized to B.C. 1991 population.

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Hip Fracture Hospitalizations, 65+, 2008/09

• 95% of hip fractures r/t a fall (CIHI 2009)

• Fracture risk is greatest in period immediately after admission (Becker & Rapp, 2010)
The risk of a fracture in the first month after admission is nearly double in comparison to the end of the first year.

Fall-Related and Fall-Related Hip Fracture Hospital Cases and Rates Among Seniors in Residential Care, Ages 65+ Years, B.C., 2001/02 to 2007/08

* Statistically significant (p < 0.05).
** Standardized to the B.C. 1991 population.

Source: Acute/rehab. separations from the 2001/02 to 2007/08 Canadian Institute of Health Information Discharge Abstract Dataset. Prepared by: Population Health Surveillance and Epidemiology, Ministry of Healthy Living and Sport, July 2009.
Definition of a Fall

- Unintentionally coming to rest on the ground or other lower level with or without an injury
RISK ASSESSMENT
RC Fall Risk Factors

- Muscular weakness
- Balance and gait deficits
- Poor vision
- Delirium
- Cognitive and functional impairment
- Orthostatic hypotension
- Urinary urge, incontinence and nocturia
- Chronic/ acute symptoms, e.g., attention deficits, executive dysfunction, visual field loss
- Medication side effects and interactions
- Environment
Risk Assessment

- Must be implemented for all residents 1–2 days after admission and after a fall
- Tools must be valid and reliable:
  - strong predictive validity among the population of interest, and reflect known risk factors
  - Consistent findings across repeated prospective tests
- Used to individually tailor prevention strategies
- Facility–wide assessment also important
EXAMINING BEST PRACTICES
BEEeach Model

- Education
- Equipment
- Health Management
- Environment
- Clothing and Footwear
- Activity
What Works?

- Exercise
- Medication review
- Post-fall assessment
- Increased supervision/volunteer companions
- Vitamin D supplements
- Hip protectors (fracture prevention)
- Multifactorial interventions by qualified multidisciplinary team
What Doesn’t Work?

• Restraints
Equipment
Hip Protectors Kits
a Fraser Health Initiative
Procedure

- On admission (or as the need emerges), if the resident meets criteria for requiring hip protectors, the PT/OT or Nurse will initiate a one week trial of hip protectors.
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<th>HipSaver</th>
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<td><strong>Quick Change</strong></td>
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Responsive Flooring

SMARTCELLS HOME
A NEW GENERATION OF CUSHIONING TECHNOLOGY

SorbaSHock
a safer floor

US and PCT Patents Pending

- Deflection strips
- Resilient floor overlay (e.g., commercial PVC floor)
- Reinforcing bar
- Concrete Column structure and upper plate
Low Beds & Sensor Mats
Toronto Rehab scientists have developed a simple footwear insole which has proven to improve balance and prevent falls.
TRANSLATING THE KNOWLEDGE
Sustaining Fall Prevention in RC

- Organizational commitment
- Leadership
- Staff empowerment
- Staff training
- Collaboration across disciplines
Canadian Fall Prevention Curriculum

• Offered as a facilitated 2–day Workshop or On–line Course
• Coordinated through BCIRPU by Sarah Elliott (sarah.elliott@gov.bc.ca)
• For health professionals and communities to learn how to design, implement and evaluate a fall prevention program
• Workshops offered through provincial leads
• E–learning offered through:
  – U. Victoria Continuing Education – in English
  – Campus St. Jean at U. Alberta – in French
EVALUATING THE PROGRAM
Canadian Accreditation Standards

Required Operating Practice 2.2: The team implements and evaluates a fall prevention strategy to minimize the impact of client falls.

• Tests for compliance
  15.2.1 The team has implemented a fall prevention strategy.
  15.2.2 The strategy identifies the population(s) at risk for falls.
  14.2.3 The strategy addresses the specific needs of the populations at risk for falls.
  15.2.4 The team evaluates the fall prevention strategy on an ongoing basis to identify trends, causes and degree of injury.
  15.2.5 The team uses the evaluation information to make improvements to its fall prevention strategy.
PHAC FP Inventories

- 2001: 117 programs
- 2005: 195 programs
- 2010: 293 programs
- 293 programs in 2010, a 150% increase from 2001.
- 87% of the programs/initiatives serve >50 older adults.
- Majority of programs and initiatives target community–well and community–frail older adults.

Falls & Related Injuries among Older Canadians:

Fall-related Hospitalizations & Prevention Initiatives

By: Vicky Scott, Lori Wagar & Sarah Elliott
Thank you!

And remember…
Falls can be prevented.

Except falling in love.

www.injuryresearch.bc.ca
www.hiphealth.ca/CEMFIA