



Welcome to the Home Care Knowledge Network

Falls Prevention

Tuesday February 25th
12:00pm – 1:00pm (EST)



About the CHCA Home Care Knowledge Network

The goal of the Network is to encourage learning and information sharing.

The Knowledge Network engages policy makers, home care leaders and researchers from across the country and stimulated dialogue on the role and potential of home care within an integrated health care system.

Features of this webinar:

- In order to hear the presentation please turn on your speakers
- To ensure you will have the best experience please close other programs on your computer
- The presentation will be posted on the Canadian Home Care Association website early next week

Learning Objectives:

- Explore the Pan-Canadian research on safety at home, including types and prevalence of adverse events, their causes and strategies to mitigate them.
- Learn about a new Fall Prevention Toolkit that highlights resources and materials presently available in Canada to mitigate the risk of an adverse event occurring.

The Pan-Canadian Home Care Safety Study: Implications for Falls Prevention in Home Care



Dr. Régis Blais, Ph.D.
Professor, Department of Health
Administration
University of Montreal



The Pan-Canadian Home Care Safety Study: Implications for Falls Prevention in Home Care

February 25, 2014

The Research Team

Team Lead:

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Nursing Health Services Research Unit
Lawrence S. Bloomberg Faculty of
Nursing
University of Toronto

Co-lead:

Dr. Régis Blais, PhD
Department of Health
Administration
School of Public Health
Université de Montréal

21 Research Team Members:

Academia; Researchers; Policy Makers; Direct Patient Care Providers
(e.g., MD, RN, PT)

Study Objectives

- Determine the prevalence, incidence, magnitude & types of adverse events (AEs) in home care (HC) in Canada
- Determine risk factors, service utilization factors & other contribution conditions associated with AEs in the general population, and among the sub-populations of congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), diabetes & dementia
- Determine the burden of patient/ client safety concerns & risks from the perspectives of clients, unpaid caregivers, family members & paid providers
- Identify policies, practices & tools that could reduce avoidable AEs in HC
- Advance a definition of HC safety that reflects the complexity of the HC environment

Adverse Event (AE) Defined

- Defined by the WHO as an injury caused by medical management or complication rather than by the underlying disease itself, and one that results in either **prolonged healthcare**, or **disability at the time of discharge from care**, or **both**.

Challenges

- Homes are unregulated/uncontrolled settings for the delivery of health care services
- Individuals choose to live with risk
- Majority of personal care often provided by unpaid family, friends, neighbours
- HC providers' presence is almost never continuous
- Attribution can be complex in home care
- Safety events may not be observed or reported or documented (under-detection)
- Safety event location may not be in the home
- Variation in length of episode

Multiple Methods

Sub-Projects	Lead Investigator; Methods
1. Integrative Literature Review of the International literature	Dr. M. Harrison (Queens University) Joanna Briggs methodology for literature synthesis
2. Incidence, risk factors, and consequences of adverse events (general HC population and CHF, COPD, Diabetes, Dementia)	Dr. D.M. Doran (Univ. of Toronto); Dr. J. Hirdes (Un. of Waterloo) Analysis of secondary databases (HCRS, DAD, NACRS, CCRS, OMHRS); YT, BC, WRHA, ON, NS
3. Incidence, risk factors, and consequences of adverse events among general HC population	Dr. R. Blais (Univ. of Montreal) Chart review; Charts screened for inclusion criteria by nurses; Criteria positive charts are reviewed by physicians NS, Quebec, WRHA
4. Incident analysis	D. G R. Baker (Univ. of Toronto) 27 Cases (appr. 9 per jurisdiction); falls and medication incidents; interviews clients, family members, caregivers AB, WRHA, ON
5. Care recipient and provider interviews	Drs. M. MacDonald (Dalhousie Univ) & A. Lang (VON) 6 households in each jurisdiction; 4-5 interviews per household; photo-narrated environmental assessment BC, WRHA, NB

Secondary Databases Sources

- Provided by CIHI, linkable, de-identified
- 2006-2010
 - Home Care: HCRS
 - Home care episodes
 - RAI-HC assessments
 - Hospital inpatient: DAD
 - ED and ambulatory care: NACRS
 - Chronic care/residential care: CCRS (RAI 2.0)
 - Inpatient psychiatry: OMHRS (RAI-MH)

Secondary Databases Sources

- Data included one or more CIHI components for:
 - Ontario
 - Winnipeg Regional Health Authority
 - BC
 - Yukon
 - Nova Scotia
 - Ontario had all datasets represented
- Only Ontario results are presented for overall incidence rate determined from secondary databases

Chart Reviews

3 Criteria for an AE

1. Patient suffered an **injury**
2. There was a **consequence** (disability, increased use of health care resources or death)
3. This was **caused by health care** (healthcare personnel, unpaid caregiver, patient)

Chart Review Methods

Two-step chart review process

1. **Nurses** look for “triggers” or signs of adverse event (AE) up to 1 year before discharge from index admission and 6 months after discharge
2. **Physicians** assess trigger-positive charts to judge if there was an AE

Number of Chart Reviews

- **QC:** 602 charts distributed in 10 agencies (CSSL)
- **NS:** 296 charts (151 in Halifax, 145 in Sydney)
- **MB:** 302 charts in Winnipeg region

Total: 1200 charts

Overall Incidence Rate of AEs Among Home Care Clients

	Proportion of Clients Who Experience an AE	AE incidence rate per client-year (Annual Incidence Rate)
Chart Review	4.2%	10.1%
Secondary databases		13.19% (2008) 13.79% (2009)

56% of Adverse Events were judged to be preventable

Rates of Most Common AEs (identified from Secondary Databases)

- **Injurious Falls (5%)**
- Injurious other than falls (4%)
- Catheter associated UTI (8%)*
- Medication adverse events (3%)
- Peripheral IV infection (3%)*
- Sepsis/bacteraemia (1.3%)

* Among at-risk population



Most Common AEs

(% of all AEs, identified from chart review)

- **Falls (17%)**
- Wound infection (14%)
- Psychosocial/ behavioural (12%)
- Medication adverse events (7% => 22%)*
- Pressure ulcer (7%)
- Other wound problem (4%)
- Non-wound infection (4%)
- Syncope or seizure (4%)

* Including all cases where medication was involved



What Increased Risk of AE (from Secondary databases)

Underlying condition

- Number of chronic illnesses
- Unstable disease
- Impairment in activities of daily living
- Parkinson, Renal Failure, Peripheral vascular disease

Increased odds

23%
20%
13%
up to 26%

Care Factors

- Polypharmacy
- Increased home care days
- Nursing service intensity in last seven days
- Discharge from hospital within 30 days of the baseline RAI-HC assessment
- Caregiver distress

20%
32%
53%
60%
5%

What Increased Risk of AEs

(from chart review)

- **Being sicker:** the risk of having an AE increases by 15% for each additional medical condition (OR 1.15; 95%, CI 1.05 – 1.26)
- **Being more dependent or less functional:** the risk of having an AE increases by 54% for each additional point on a 4-point scale of dependence, i.e. IADL * (OR 1.54; 95%, CI 1.16 – 2.04)

* IADL (Instrumental activities of daily living): cooking, housework, managing medication, managing finances, shopping, using telephone, transportation.

What Contributed to Risk of AEs

(from chart review*)

Adverse Event	Health Care personnel	Unpaid Caregiver	Client
Injurious Falls	31%	25%	75%
Medication problem	83%	17%	17%
Wound Infection	69%	8%	31%
Pressure Ulcer	50%	33%	17%
Psychosocial, behavioral, mental problem	9%	55%	73%
Other	54%	10%	44%
* More than one may have contributed			

Causes of Falls and Medications

(from incident analysis)

- Care inconsistently planned and delivered
- Teamwork: gaps in care due to absence of an integrated, interdisciplinary healthcare team
- Poor standardization of care processes, packaging, and equipment
- Inconsistent standards for medication packaging by community pharmacies
- Trade-offs resulting from clients and families as independent decision-makers



Conclusion and Recommendations

- Falls are one of the most frequent AEs in HC
- Shared responsibility for falls: client and caregivers need help from providers to prevent falls
- Several falls are related to medication: all providers need to be aware of medications and medication changes
- Vulnerable clients (sicker and dependent – low IADL) are at higher risk: these should be detected and receive special attention

References

- Blais R, Sears N, Doran D, Baker GR, Macdonald M, Mitchell L, et al. (2013). Assessing adverse events among home care clients in three Canadian provinces using chart review. *BMJ Quality & Safety*. **0**:1-9. doi:10.1136/bmjqs-2013-002039. (PMID:23828878).
- Doran, D.M., Regis, B., Hirdes, J.P., Baker, G.R., Poss, J.W., Li, X., Dill, D., Gruneir, A., Heckman, G., Lacroix, H., Mitchell, L., O'Beirne, M., White, N., Droppo, L., Foebel, A.D., Qian, G., Nahm, S.M., Yim, O., Mclsaac, C., & Jantzi, M. (2013) Adverse Outcomes among Home Care Clients Associated with Emergency Room Visit or Pre-Hospitalization: A Descriptive Study of Secondary Health Databases. *BMC Health Services Research*, 13(1), 227. (PMID: 23800280).
- Doran, D.M., Regis, B., Hirdes, J.P., Baker, G.R., Poss, J.W., Li, X., Dill, D., Gruneir, A., Heckman, G., Lacroix, H., Mitchell, L., O'Beirne, M., White, N., Droppo, L., Foebel, A.D., Qian, G., Nahm, S.M., Yim, O., & Mclsaac, C. (2013) Adverse Events Associated with Hospitalization or Detected through the RAI-HC Assessment among Canadian Home Care Clients. *Healthcare Policy*, 9(1), 1-16.
- Canadian Patient Safety Institute. (2013). Safety at Home: A Pan-Canadian Home Care Study. <http://www.patientsafetyinstitute.ca/English/research/commissionedResearch/SafetyatHome/>

Home Care Falls Prevention: Leveraging Best Practices



Julie McShane, BNSc, MN, RN
Knowledge Exchange Coordinator
University of Toronto



Home Care Falls Prevention: Leveraging Best Practices

Diane Doran RN, PhD & Julie McShane RN, MN

Objectives

1. Highlight key findings from the Safety at Home Study related to falls.
2. Preview a fall prevention toolkit for home care providers and clients.
3. Examine how currently available tools can be used with best practices to mitigate the risk of falls in home care.

Toolkit Background

- Study Findings
- Knowledge Exchange Board Feedback
- Environmental scan

Toolkit Development

- Comprehensive scan of the grey literature of the past 10 years
- Federal/Provincial Government websites
- Websites of groups known to be involved in fall or injury prevention
- Focus on Canadian resources, although some US and international ones included

Assessment of Resources

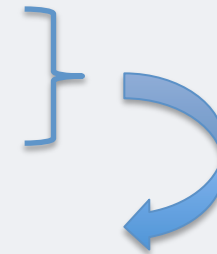
Medical Library Association criteria:

- Sponsorship
- Currency
- Clearly written (clients) or Evidence based (care providers)
- Audience

This is not a grading process!!

Organization

- **Best Practice Guidelines**
- **Resources for Care Providers**
- **Resources for Clients and Families**
 - Further divided by topic
 - Multilingual links provided where possible



Example: Identifying Falls Risk

THE SAFETY AT HOME STUDY FOUND A FALL RESULTING IN INJURY WAS THE MOST FREQUENT ADVERSE EVENT AMONG CANADIAN HOME CARE CLIENTS

Safer Healthcare Now Falls Getting Started Kit

<http://www.saferhealthcarenow.ca/EN/Interventions/Falls/Documents/Falls%20Getting%20Started%20Kit.pdf>

**Safer Healthcare
Now!**

Acknowledgements


**Fall
Prevention/Injury
Reduction
Getting Started
Kit Faculty**

**Canadian Falls
Intervention
Faculty (2013)**


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 **Accreditation
Canada**

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REDUCING FALLS AND INJURIES FROM FALLS



Getting Started Kit

June 2013

www.saferhealthcarenow.ca

safer healthcare
now

Example: Identifying Falls Risk

British Columbia Injury Research and Prevention Unit

Seniors Falls Can be Prevented

[http://www.health.gov.bc.ca/prevention/pdf/
seniorsfallscanbeprevented-05-2013.pdf](http://www.health.gov.bc.ca/prevention/pdf/seniorsfallscanbeprevented-05-2013.pdf)

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A product of
BC INJURY RESEARCH
& PREVENTION UNIT
and the
BC FALLS AND INJURY
PREVENTION

Seniors' Falls Can Be Prevented

*Almost
half of
admissions to
long-term care
facilities are
fall-related*

INSIDE:

What contributes to seniors' falls?

- Physical risks
- Indoor risks
- Outdoor risks
- Risky behaviours
- Social & economic

What can I do to lower my risk of falling at home?

- Living areas
- Stairs and steps

Did You Know?

- One-third of people aged 65 years and over typically fall once or more each year
- Falls are the most common cause of injury and the 6th leading cause of death for seniors
- Canadians spend about \$3 billion a year on seniors' fall injuries
- Almost half of admissions to long-term care facilities are fall-related
- Half of the people who have a hip fracture never regain their pre-fall level of functioning
- Falls usually happen because of the combined effects of a number of factors, such as a loss of balance, side effects of medicine, impaired mobility or vision, and environmental hazards
- Most falls occur in seniors' homes, while doing usual daily activities
- 40 per cent of falls that require hospitalization involve hip fractures
- Women are 3 times more likely than men to be hospitalized for a fall
- Seniors may develop a "fear of falling"; causing them to restrict their activities which can increase their risk of falling due to weak muscles, stiff joints and poor balance



What contributes to seniors' falls?

Falls are caused by a lack of balance or

The following pages highlight some of

Example: Medications and Risk of Fall

***IN THE SAFETY AT HOME STUDY
MEDICATIONS WERE IMPLICATED IN MANY OF
THE ADVERSE EVENTS INVOLVING FALLS
RESULTING IN INJURIES***

Finding Balance Ontario/Alberta

Be Falls Smart – medications

http://www.findingbalancealberta.ca/doc_download/629-be-falls-smart-in-what-you-do-medications

http://www.findingbalanceontario.ca/resources/doc_download/629-be-falls-smart-in-what-you-do-medications





Older adults want to live active and independent lives. Falls are not a natural part of aging. As you age, the way some medicines affect you can change. Taking certain medications or combinations

Be Falls Smart...

In What You Do - Medications

FACTS:

- Medications include: prescriptions, over-the-counter pills, vitamins and herbal supplements.
- Medications that relax you, help you sleep, or improve your mood can increase your risk of falling.
- Calcium and Vitamin D help to keep your bones strong.

Medication Safety Tips:

- Talk to your pharmacist and doctor if pills make you drowsy or dizzy. They may need to change the type, dose,

Example: Medications and Risk of Fall

British Columbia Ministry of Health

Medications and the Risk of Falling fact sheet

http://www.gpscbc.ca/system/files/Fact%20Sheet%204_Medications%20and%20the%20Risk%20of%20Falling_Final-June03.pdf

Medications and the Risk of Falling

Which drugs can increase the risk of falls?

In theory ANY drug that causes one of the following effects can increase the risk of falling:

- Drowsiness
- Dizziness
- Hypotension
- Parkinsonian effects
- Ataxia/gait disturbance
- Vision disturbance

As well, theoretically ANY drug that causes the following effects can increase the risk of a serious outcome if the patient falls:

- Osteoporosis or reduced bone mineral density: Increased risk of fracture if a fall occurs
- Bleeding risk: Increased risk of a cerebral hemorrhage if a fall occurs

What can be done if a patient is taking a drug that can increase the falls risk?

Individualize treatment. Drugs are just one of many factors that can increase the risk of falling.

Assessment: Is this patient at high risk?

- ☐ **Has the patient had a slip, trip, near fall or fall in the last 6 months?**
- ☐ **Is the patient taking a drug that can cause the effects listed above**
(see attached list of drugs)

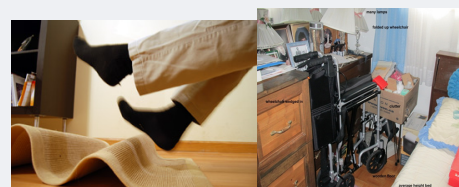
Example: Home and Environmental Safety

THE SAFETY AT HOME STUDY FOUND THAT CLIENTS' HOME WERE OFTEN ILL-SUITED TO THE DELIVERY OF HEALTH CARE. CROWDED SPACE AND CLUTTER CAN CREATE ENVIRONMENTAL FALLS RISKS.

Winnipeg Regional Health Authority

Your Home Safety Checklist -

http://www.wrha.mb.ca/healthinfo/preventinj/files/SOYF_HomeSafetyChecklist.pdf



Bedroom

	Yes	No
1 Are you able to turn on a light easily before you get out of bed?	<input type="checkbox"/>	<input type="checkbox"/>
2 Can you easily get in and out of your bed?	<input type="checkbox"/>	<input type="checkbox"/>
3 Do you have a telephone next to your bed?	<input type="checkbox"/>	<input type="checkbox"/>
4 Is there a clear, well-lit path from the bedroom to the bathroom?	<input type="checkbox"/>	<input type="checkbox"/>
5 If you use a walking aid, can you reach your aid easily before you get out of bed?	<input type="checkbox"/>	<input type="checkbox"/>

Safety Tips

- Have a lamp or light switch within reach of your bed. Nightlights or a flashlight will light your way from the bedroom to the bathroom.
- Keep floors free of clutter in the bedroom to allow easy access to bedroom closets and dressers.
- Remove all loose carpets and mats and make sure floor surfaces are not slippery.
- Keep a telephone on the bedside table and make sure the phone cord is away from pathways.
- Remove or secure all loose cords.
- Ensure your eyeglasses are easy to reach if you use them.
- A firm mattress provides support and makes it easier to get in and out of bed. Your bed should be at a good height (average 22") so you can get in and out of it easily.
- Get out of bed slowly – sit up before you stand up to prevent dizziness.
- If you are having difficulty getting in or out of your bed, speak with your health provider.
- Make sure the items in your closet are easy to reach.
- Install a smoke alarm to alert you to danger.

Example: Home and Environmental Safety

You CAN prevent falls

English -

<http://www.phac-aspc.gc.ca/seniors-aines/alt-formats/pdf/publications/public/injury-blessure/prevent-eviter/prevent-eviter-e.pdf>

French -

<http://www.phac-aspc.gc.ca/seniors-aines/publications/public/injury-blessure/prevent-eviter/index-fra.php>





Agence de la santé
publique du Canada

Public Health
Agency of Canada



**Vous
POUVEZ éviter
les chutes!**

Les faits

- Un tiers des aînés font une chute dans l'année, et la moitié d'entre eux en font plus d'une.
- 40 % des chutes chez les aînés causent des fractures de la hanche.
- On attribue 20 % des décès associés aux blessures chez les aînés à une chute.
- Les aînés subissent plus de blessures à **la maison** qu'ailleurs. La salle de bain et les escaliers sont particulièrement dangereux.

Protégez-vous

Example: Home and Environmental Safety

The hazards associated with winter weather can increase the risk for falls



The **Ontario Senior's Secretariat** has published falls prevention tips for winter weather

Winter Safety Tips –

English -

<http://www.seniors.gov.on.ca/en/seminars/docs/WinterSafetyTips.pdf>

French - <http://www.seniors.gov.on.ca/fr/se>



Ontario Seniors' Secretariat Falls Prevention Seminar

Winter Safety Tips

Plan ahead

- * Keep sidewalks, steps and driveways well lit.
- * Consider installing sensor lights in walkways.
- * Spread salt, sand or non-clumping cat litter on walkways to keep them free of ice.
- * Carry a small bag of salt, sand or non-clumping cat litter in your pocket to spread on icy patches when out walking.
- * Consider using a walking aid with ice prongs or a ski pole.
- * Carry your personal identification.
- * Carry a flashlight with you in the dark.
- * Carry a cell phone and put a whistle in your pocket for emergencies when walking alone.
- * Ask a friend or a neighbour to come along with you.



Be Active

- * Keep moving in the winter months to stay strong, help your balance and give you more energy.
- * Try to be active indoors. Go up and down the stairs, put down the TV remote and get up to change the channel.





Example: Medical Diagnoses and Risk of Fall

THE SAFETY AT HOME STUDY FOUND THAT SOME MEDICAL DIAGNOSES, SUCH AS PARKINSON'S DISEASE, WERE ASSOCIATED WITH AN INCREASED RISK OF AN ADVERSE EVENT SUCH AS AN INJURIOUS FALL – UP TO 26% INCREASED RISK

Adults with Parkinson's

Stay on your Feet (reducing the risk of falling for people with Parkinson's) -

<http://vch.eduhealth.ca/PDFs/FM/FM.495.S73.pdf>



Adults with Multiple Sclerosis (MS)

English –
http://www.csep.ca/CMFiles/Guidelines/specialpops/CSEP_MS_PAGuidelines_adults_en.pdf

French -
http://www.csep.ca/CMFiles/directives/popspeciales/CSEP_MS_PAGuidelines_adults_fr.pdf



Understanding
and reducing
the risk of falling for
people with Parkinson's



stay on your feet!



Pacific Parkinson's Research Centre

Vancouver
CoastalHealth
Providing services. Enriching lives.



Parkinson Society British Columbia
Société Parkinson Colombie-Britannique



Example: Post Fall Care

THE SAFETY AT HOME STUDY FOUND RISK ASSESSMENTS WERE NOT ALWAYS REPEATED AFTER A CLIENT FELL, AND SOMETIMES THERE WAS NO EVIDENCE OF CLIENT TEACHING OR OTHER SECONDARY PREVENTION STRATEGIES INSTITUTED.



Ontario Seniors' Secretariat

What to do if you have a Fall -

English – <http://www.seniors.gov.on.ca/en/seminars/docs/FallTips.pdf>

French - <http://www.seniors.gov.on.ca/fr/seminars/docs/FallTips.pdf>

What To Do If You Fall

Try not to panic, rest for a moment

If You Can Get Up

1



- Roll onto your side
- Push up into sitting position

2



- Turn onto your hands and knees
- Crawl to the nearest stable furniture, e.g. bed, chair, stool, toilet

3



- Place your hands on the seat

4



- Place one foot flat on the floor

5



- Lean forward and push up with your other foot

6



- Sit, rest, then tell

If You Are Injured

DO NOT try to get up.

Get Help

Drag yourself to a phone.
Call 911 and stay on the line.



Keep Warm

Use anything that is near:
bedding, a coat, even a tablecloth.



If You Are Wet

If your bladder “lets go” in the fall, move away from the damp area to keep warm.

Move Your Limbs

Where can I find it?

- Toolkit will be available through CPSI website in late spring/early summer.

*The Questions and Answer POD will be used
to facilitate any questions for presenters.*

Dr. Régis Blais

Julie McShane



Thank you for joining the Canadian Home Care Association
Knowledge Network – Safety at Home Webinar Series

Special thanks to our presenters:
Dr. Régis Blais – University of Montréal
Julie McShane – University of Toronto

Please take a moment to complete the short survey, a link will
appear upon termination of this session.