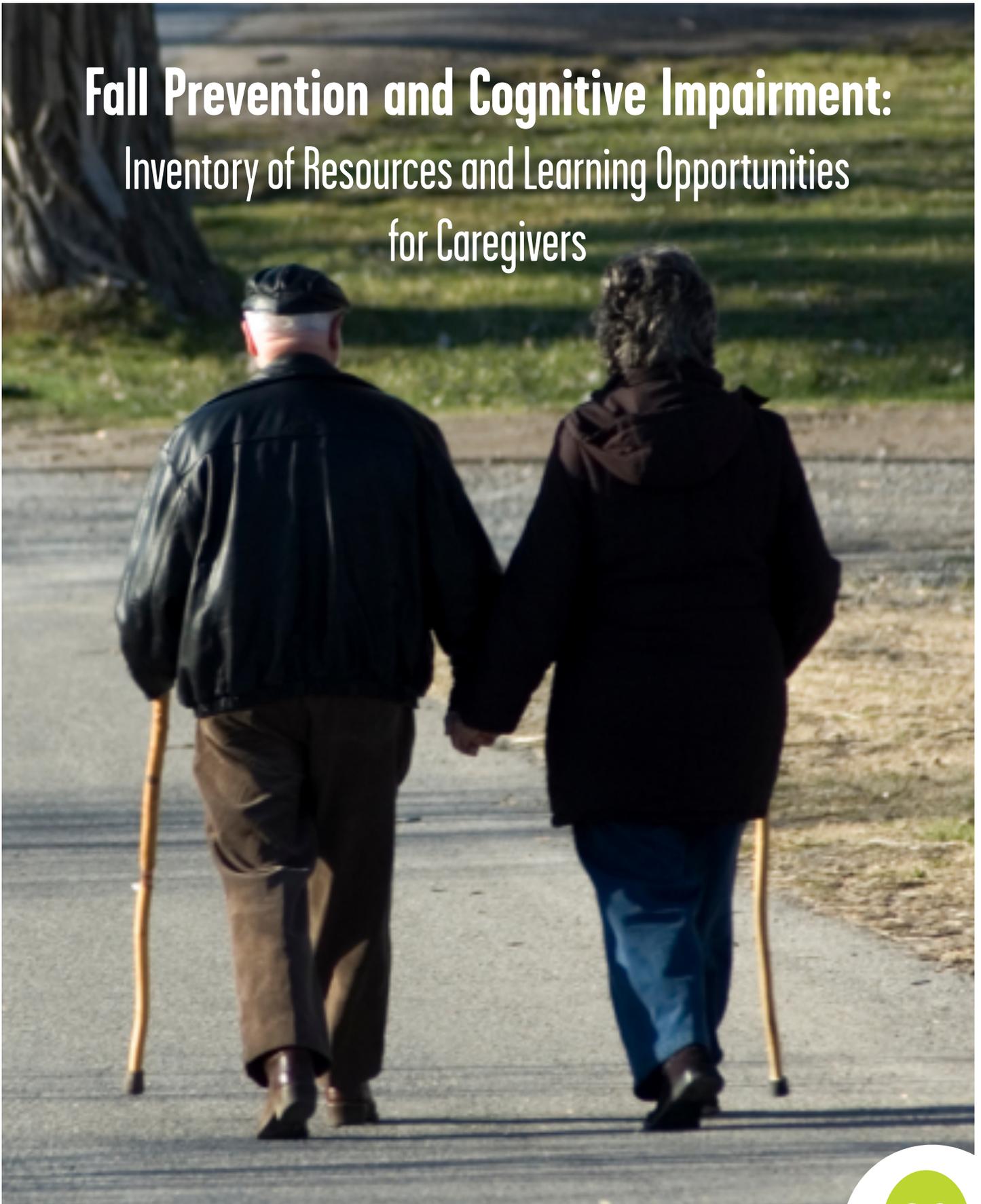


Fall Prevention and Cognitive Impairment: Inventory of Resources and Learning Opportunities for Caregivers



Suggested Citation

Parachute. (2018). *Fall Prevention and Cognitive Impairment: Inventory of Resources and Learning Opportunities for Caregivers*. Parachute: Toronto, ON.

©Parachute 2018 - Version 1.0 (April 15, 2018) □

Acknowledgements

Parachute would like to acknowledge the work of

Alison Stirling, MSt, MHSc
Health Promotion Knowledge Exchange Consultant

who collected and assessed the resources included in this inventory.

Table of Contents

Purpose	1
Methods	1
Summary	2
Understanding Dementia, Cognitive Impairment and Alzheimers	4
General Fall Prevention Education	6
Fall Prevention Education – Activity and Exercise	9
Identifying Falls Risk – Assessments and Decision-Aids	12
Home Safety and Environmental Design.....	13
Footwear	15
Medication Safety and Management	16
Vision/Hearing Loss Assessments	18
Chronic Conditions and Impact with Dementia for Fall Risk.....	20
Post Fall Assessment, Care and Family Involvement	23
Caregiver Supports	24
Suggested Sub-Topics for Literature Search & Environmental Scan Framework.....	27
References	29

Fall Prevention and Cognitive Impairment: Inventory of Resources and Learning Opportunities for Caregivers□

Purpose

The inventory of fall prevention resources and learning opportunities is designed to support those who are caring for a loved one living with dementia or cognitive impairment to understand the risks of falls and create plans to reduce the risks. It is our understanding that this document was of great need to fall prevention stakeholders and caregivers as few documents cover fall prevention for people living with cognitive impairment and their caregivers. It is a 'living' document that should continue to grow as additional resources and learning opportunities are located. The resources that are noted below have been organized by a topic framework and prefaced by description of what the evidence indicates in the references.

Methods

This section provides an overview of the methods in the collection of evidence and resources using grey and scholarly literature searches and environmental scans of resources, as well as results of a compilation of select resources and evidence in systematic reviews and studies. To frame the search for literature references and resources, the Smart Moves Fall Prevention Inventory Committee of Parachute suggested key topics which the consultant grouped into categories [see Appendix A]. Searches of systematic reviews, relevant evidence summaries and syntheses of reviews, fall prevention best practice guidelines, and literature searches of scholarly databases were conducted to find the evidence for effective interventions, resources and approaches. References were hand-searched in strong systematic reviews, evidence summaries on the primary topic of falls and cognitive impairment and qualitative studies of fall prevention interventions with caregivers to identify additional studies, interventions and research related to sub-topic areas.

In the following Summary of findings and in introductions to sub-topic areas, evidence found in literature searches are referenced by numbers in square brackets [], referring to their place in the Reference list Appendix B.

NOTE: For the purpose of this inventory referring to cognitive impairment includes dementia and acquired brain injury.

A broad scan was undertaken of Ontario fall prevention and older adult health organizations with a focus on fall prevention, are information sources and services as well as Canada wide grey literature of government and organization sources, supplemented with American and British resources. Often resources related to an additional sub-topic were found on websites, or within resources, and scanned for potential inclusion. Two similar e-learning modules / courses (*Step Ahead to Fall Prevention, Positive Steps Work*) were completed. The resources inventory is organized by key topics, as suggested and as supported by scholarly evidence.

Resources were assessed for inclusion using an adapted version of the criteria from the Medical Library Association for evaluating health information on the web: sponsorship or source, audience, currency, clearly written and accessible (links and downloads work).

Gaps in Research and Resources

There are gaps where either the evidence did not support resources in a topic area (e.g. oral care and dentition has not yet had published research to link it as a risk factor to falls in cognitively impaired people); or where there is evidence, but not yet resources (e.g. cognitive behavioral therapy appears effective in reducing falls in people with early dementia). There are other gaps in this inventory that may be filled as resources are identified, such as medication management issues or nutrition habits in older adults with CI that may add risks of falling. These gaps may prove fruitful for future work.

Summary

Falls are one of the most serious events affecting older adults' health and ability to live independently in the community. Considerable research, resources and organizational efforts are underway across the country in understanding the risk factors and what works in preventing and ameliorating falls. The Public Health Agency's second report in 2014 on *Seniors' Falls in Canada* [20] summarizes the research and the risk factors for falls among older adults, which are numerous, complex and interactive. Similarly the interventions to address these risk factors need to be multifactorial, evidence-based practices. The RNAO best practices guidelines *Preventing Falls and Reducing Injury from Falls* [21] have provided health practitioners with strong evidence of what may be effective fall prevention interventions to use in care facilities, and other studies offer what works in public or community settings with home care providers [7, 11, 18]. However there is much less research evidence or resources focused on fall prevention strategies for community-dwelling seniors with chronic conditions or cognitive impairment [12, 26]. This resource inventory aims to identify resources to assist caregivers dealing with cognitive impairment and fall prevention.

- ❖ Older people with dementia or other cognitive impairments have higher (2-3 times) risk of falling and sustaining a fall injury than older people without cognitive impairments [12, 20, 26]. Falls risk factors for community-dwelling older adults with cognitive impairment in combination with poor balance, gait, vision and visual perception, dehydration, functional status, medications, psychosocial, the severity of dementia, and caregiver burden [8]. Cognitive impairments (CI) affects brain executive function of memory, planning, multi-task ability, and attention as well as dependent on the person the ability to act on health promoting behaviours such as diet and lifestyle changes and medication management [14].

- ❖ People with mild cognitive impairment (MCI), with early Alzheimers, or an acquired brain injury may need modified assessments or tests, such as dual-task (e.g. walk and talk) turn-to-sit activities to detect risk of falls [1]. “One size fits all” does not apply to these conditions or to tests.
- ❖ Interventions including exercise and multifactorial interventions (e.g. g home safety recommendations, medication review, use show potential to reduce falls [12, 23] A holistic approach is required.
- ❖ Caregivers of people living in the community with dementia or cognitive impairment need information regarding falls risk reduction to be in “the right way...at the right time” for them to be able to act [15]. Caregivers and people with CI want and need to be engaged, respected, and receive effective, relevant and timely communication [6, 15, 16]
- ❖ Relevant and useful resources need accessible format, plain language and practical strategies.
- ❖ There is strong evidence that physical activity and regular exercise building strength and balance and is key to reducing falls risk factors[4, 5, 7, 9, 23], but exercise alone will not be a successful strategy.
- ❖ A mix of strategies needs to include understanding risks, strength and balance training, home and community hazard changes, medications management, and community supports [3].

Section 1

Understanding Dementia, Cognitive Impairment and Alzheimers

Rationale: These resources were selected to provide information on Alzheimer and cognitive impairment, including the symptoms and behaviours. These resources do not specifically address fall prevention but are essential in understanding how cognitive impairment may contribute to falls.

Resource Name	Resource Description
<p>Shifting Focus – A Guide to Understanding Dementia Behaviour</p> <p>http://alzheimer.ca/en/on/We-can-help/Resources/Shifting-Focus</p>	<p>Guide produced by the Alzheimer Knowledge Exchange, the Alzheimer Society of Ontario, and Behavioural Supports Ontario This is a tool to help the families and friends of people with dementia understand behaviour caused by the disease. The tips and tools are designed to help improve the relationship with a person with dementia living with responsive or challenging behaviour.</p>
<p>Alzheimer Society of Ontario’s Finding Your Way</p> <p>http://findingyourwayontario.ca/</p>	<p>This program offers practical tips to stay safe while staying active.</p>
<p>Alzheimer Society of Niagara Region</p> <p><i>"The Home Sense Guide for Dementia" resource guide.</i> 2013. http://alzheimer.ca/en/niagara/We-can-help/Living-Safely</p>	<p>Home-Sense is an excellent, comprehensive, evidence-based, clear and well presented resource for people affected by dementia. It is organized in two parts: the first gives general information about dementia, its symptoms and common problems in everyday activities. The second part provides practical information about simple adaptations around the home and community to better support a person with dementia.</p>
<p>Living with Dementia: Resources for Living Well</p> <p>Murray Alzheimer Research and Education Program (MAREP)</p> <p>http://www.livingwithdementia.uwaterloo.ca - <i>By Us For Us series of guides</i></p>	<p>The By Us For Us© Guides (BUFU guides) are a series of guides created by persons with dementia and/or partners in care, for persons with dementia and/or partners in care.</p>

Resource Name	Resource Description
<p>Before/Early Diagnosis Guide</p> <p>https://uwaterloo.ca/murray-alzheimer-research-and-education-program/education-and-knowledge-translation/products-education-tools/by-us-for-us-guides/before-early-diagnosis</p>	<p>This Guide is meant to provide help and reassurance for those who are concerned about possible symptoms of dementia and provides knowledge about the diagnosis, assessment and testing process.</p>
<p>Living Safely - The By Us For Us© Guides</p> <p>https://uwaterloo.ca/murray-alzheimer-research-and-education-program/education-and-knowledge-translation/products-education-tools/by-us-for-us-guides#Safety</p>	<p>This guide offers many tips and strategies to understand safety concerns related to driving, safety at home and in the community, personal identification and use of technology, health and medication, physical safety, safety of persons with dementia when home alone, and financial safety. In addition, the guide presents information related to safety and dignity and offers a number of additional resources.</p> <p>Safety At Home - how to introduce modifications what is needed, when it is needed.</p>

Section 2

General Fall Prevention Education

Rationale: Understanding the risk factors or causes of falls and effective practices and approaches to act in the home and community is recommended education for caregivers and health care providers [9, 11, 18]. The following resources are broad educational guides and learning opportunities, in some cases more suited to health practitioners, home care workers and older adults group. These resources may not all address the issue of cognitive impairment in older adults.

Resource Name	Resource Description
<p>Step Ahead to Fall Prevention E-Learning Module</p> <p>https://www.toronto.ca/community-people/health-wellness-care/health-programs-advice/injury-prevention/</p>	<p>Toronto Public Health in partnership with York Region Public Health. 2017.</p> <p>Learning Opportunity □</p> <p>The e-learning Module 1 is for health care providers, caregivers and individuals who provide care to older adults. The 4-part modules focus on fall prevention through age-related changes, perceptions and behaviours about falls, and modifiable risk factors associated with falls. It provides information that will help caregivers to apply fall prevention strategies and coaching of behaviour changes when working with older adults.</p> <p>□</p> <p>Note: this e-learning 4-part Module is medium to high literacy level language, with complex concepts of physiology and behavioral theory presented. The use of examples, tips and ‘what you can do’ assists the user in applying the extensive amount of information presented. Most suitable for professional care providers, personal support workers or social and health staff who are working with community-based seniors. The in-person workshop may be appropriate for caregivers and family members.</p>

Resource Name	Resource Description
<p>Positive Steps Work: a fall prevention course Durham Region Health Department, 2016</p> <p>www.hkpr.on.ca/InfoSet/Lifestyles/PositiveStepsWork.aspx</p>	<p>Positive Steps is a free online interactive fall prevention course designed by public health units for care providers working with seniors in their homes, to help learners understand the impact of falls, risks that lead to a fall and caregiver, senior and family roles in preventing them. It takes a respectful approach to seniors' point of view, and it offers links to community resources (customized by each health unit using it).</p>
<p>Resource Guide on Fall Prevention for Caregivers and Families Canadian Patient Safety Institute</p> <p>http://www.patientsafetyinstitute.ca/en/toolsresources/homecaresafety/documents/resources%20for%20family%20caregivers%20and%20clients%20-%20resource%20guide%20on%20falls%20prevention.pdf</p>	<p>This comprehensive toolkit of resources from national, provincial and regional sources covers general fall prevention education, activity and exercise, identifying falls risk, home and environmental safety, clothing and footwear, medication safety, specific populations and post fall care.</p>
<p>Take Action - Prevent a fall before it happens Alberta Health Services (AHS) 2013</p> <p>https://www.albertahealthservices.ca/assets/programs/ps-1051701-falls-prevention-guide.pdf</p>	<p>Comprehensive easy to read and use resource with checklists, tips, strategies and resources on preventing falls. Includes knowing about and taking action on managing blood pressure, medications, sleep, nutrition, bladder issues, vision, footwear, getting up after a fall, and resources. Similar version in Manitoba www.wrha.mb.ca</p>

Resource Name	Resource Description
<p>Stay On Your Feet (SOYF) Program</p> <p>www.nelhin.on.ca/stayonyourfeet</p>	<p>SOYF is an evidence-based program that, after the Ontario Neurotrauma Foundation sponsored pilots in 3 Ontario communities and an implementation guide, it continues to be used in various Ontario regions. The core strategies of SOYF include: raising awareness, community education, developing policies, home hazard reduction, medication safety and partnerships with health professionals.</p> <p>North-East LHIN Stay on your Feet is the regional strategy to support older adults to stay active, independent and on their feet. The SOYF web-page offers 9 steps to prevent falls, video on medications, newsletters, and relevant links to more resources.</p>
<p>SAIL Fall Prevention Program 2016</p> <p>http://sailfallprevention.ca/</p>	<p>Learning Opportunity</p> <p><i>The Strategies and Actions for Independent Living (SAIL) fall prevention program is an evidence-based fall prevention training program designed for community health workers (CHWs) and home health professionals (HHPs) providing support to clients who receive home support services.</i></p>
<p>Seniors Falls Can Be Prevented</p> <p>BC Injury Research and Prevention Unit</p> <p>http://sailfallprevention.ca/wp-content/uploads/2014/06/Resource_Seniors-Falls-Can-Be-Prevented-Pamphlet-April-24_07.pdf</p>	<p>This is a comprehensive brochure covering many aspects of falls risk and contains tips for seniors on avoiding falls at home and away from home.</p>

Section 3

Fall Prevention Education – Activity and Exercise

Rationale: The strongest evidence-based intervention for fall prevention is physical activity focused on balance and strength, even after a fall [4, 5, 7, 9, 23]. Exercise programs can reduce falls compared with no exercise in older adults living in the community, with Parkinson disease, or with cognitive impairment. The most successful exercise programs for people living in the community included 3 or more hours of exercise per week and that had a high challenge to balance [9, 23]. But exercise by itself will not be a successful strategy.

Resource Name	Resource Description
<p>Minds-In-Motion Alzheimer Society Ontario</p> <p>http://alzheimer.ca/en/on/We-can-help/Minds-in-Motion □</p>	<p>This is the only resource and learning opportunity located that addresses cognitive impairment and fall prevention through activity. It is a community-based 2 hour/week social program running for 8 weeks that uses physical activity and mental stimulation for people with early to mid-stage dementia and their care partners. To get involved as participant, program delivery partner or volunteer by contacting local Alzheimer Society.</p>

The following are general education resources and learning opportunities for older adults on activity and exercise unless noted for specific health conditions.

Resource Name	Resource Description
<p>Canadian Physical Activity Guidelines for Older Adults Canadian Society for Exercise Physiology</p> <p>http://csepguidelines.ca/wp-content/themes/csep2017/pdf/CSEP_PAGuidelines_older-adults_en.pdf</p>	<p>One page overview of Canadian Physical Activity Guidelines for older or frail adults calling for 150 minutes of moderate to vigorous activity per week.</p>

Resource Name	Resource Description
<p>Preventing Falls Through Physical Activity: A Guide for People Working with Older Adults Alberta Centre for Active Living 2012</p> <p>https://www.centre4activeliving.ca/media/filer_public/d9/e0/d9e0faf7-5ead-4a7b-8c49-96142d34a14b/booklet-falls.pdf</p>	<p>This comprehensive guide is for people helping older adults to be active and lower their risk of falling. It offers practical information, exercises and ideas to work on balance and strength. Although Alberta data and programs the guides for choosing programs and activities may be general for any province.</p>
<p>Rural route to active aging: a guide for people in rural areas who want to stay active as they age. 2010</p> <p>https://www.centre4activeliving.ca/media/filer_public/47/68/4768b04b-9d46-40ea-b684-0f80e410e8be/booklet-rural.pdf</p>	<p>It offers photos of strengthening exercise, checklists for walkability and various tips and guides. Higher literacy, it may be most suitable for active rural based adults/ caregivers</p>
<p>Strength and Balance Ottawa Public Health</p> <p>http://www.ottawapublichealth.ca/en/public-health-topics/strength-and-balance-exercises.aspx</p>	<p>Handout on for older adults to help them keep doing exercises in the home. Clear text, photos of doing exercises with a chair.</p>
<p>Seniors Maintaining Active Living Roles Together (SMART) In-Home Exercise Program Victorian Order of Nurses</p> <p>http://www.von.ca/en/service/seniors-maintaining-active-roles-together-smart</p> <p>https://www.vonsmartexercise.com/falls-prevention-education.html</p>	<p>Community-based and in-home, volunteered exercise programs for seniors that accommodate all levels of ability. For Ontario SMART programs contact local or regional VON offices or check The Healthline for listings of regional LHIN health and community services. Evaluation of VON SMART in references [26]</p> <p>VON has 12 YouTube videos on fall prevention Access all of these videos is from the website https://www.vonsmartexercise.com / under the Falls Prevention Education tab. VON Smart Exercises Wellington County offers a 6 week program with the 12 videos on health, wellness and how to reduce risk factors for falls. Modules online.</p>

Resource Name	Resource Description
<p>Sage Advice and Gentle Exercises for Seniors (SAGES) The City of Kawartha Lakes, Community Care</p> <p>https://www.ccckl.ca/services/health-dental/exercise-for-seniors/</p>	<p>An exercise program for older adults called SAGES is a video-based program designed to keep older adults functionally fit. This exercise program is appropriate for older adults exercising at different levels of fitness and capability.</p>
<p>Exercises at the Kitchen Sink Windsor-Essex County Health Unit</p> <p>www.wechealthunit.org https://www.wechu.org/sites/default/files/pdf/Exercise-at-the-kitchen-sink.pdf</p> <p>□</p> <p>Videos on Finding Balance website http://www.findingbalanceontario.ca/index.php/exercise-and-fall-prevention.html or on YouTube www.youtube.com/watch?v=xO0gxu03WCs (part 1) and www.youtube.com/watch?v=N4okjAxDvnU (part 2)</p>	<p>This resource provides very clear instructions for simple exercises in 7 activities that can be done in the home without exercise equipment. Booklet in PDF</p>
<p>Bone Fit™ Learning Opportunity for community fitness professionals</p> <p>www.bonefit.ca</p>	<p>Osteoporosis Canada established the Bone Fit™ evidence-based training program as a collaborative learning for both the exercise health professional and community fitness professional. The workshops, designed with an e-learning module followed by an in-person workshop to provide training on the most appropriate, safe and effective methods to prescribe and progress exercise for people with osteoporosis.</p>

Section 4

Identifying Falls Risk – Assessments and Decision-Aids

Rationale: Within the health care and long-term care settings, health professionals have an array of assessment tools that can be used when assessing at risk older adults. In the community settings, older adults identified as at risk for falls may not perceive themselves as “high risk” and may not want to be screened, assessed or involved in fall prevention interventions [19,21]. Caregivers, family members, the people at risk of falls, living with cognitive impairment – all need to be engaged in understanding risks, preferences, resources and decisions [14, 15]. The following resources offer screens and aids that community dwelling older adults and caregivers can use by themselves and with health practitioners. It is recommended that individuals seek advice from a professional when possible. The following provide resources as well as opportunity for community older adults look explore their own fall risk and fall risk factors with said tools.

Resource Name	Resource Description
<p>SAIL Fall Prevention Program 2016 Fall Risk Screen</p> <p>http://sailfallprevention.ca/</p>	<p>The SAIL fall prevention program includes publically available downloadable resources such as a Fall Risk Screen brochure, a fall prevention multimedia package engaging both seniors and their doctors and tips for seniors on avoiding falls. http://sailfallprevention.ca/fall-prevention-resources/</p>
<p>When Should You Consult? A few tests you can do yourself</p> <p>National Initiative for the Care of the Elderly (NICE) 2009</p> <p>PDF 28 pages http://www.nicenet.ca/resources-landing</p>	<p>This brochure or booklet is intended for aging people to be easy to assess themselves with no special medical knowledge. For each of seven topics covered in the brochure, there is a test or short questionnaire to complete. Topics include: Hearing well, Vision problems, Sleep apnea, Prostate disorders, Urinary incontinence, Depressive disorders, and Caring for a loved one.</p>
<p>Decision Aids for People Facing Health Treatment or Screening Decisions</p> <p>https://decisionaid.ohri.ca/index.html</p>	<p>The Ottawa Hospital Research Institute (OHRI) hosts an inventory of patient decision aids. Decision aids help people feel more knowledgeable, better informed, and clearer about their values, and they may have more accurate risk perceptions [24].</p>

Section 5

Home Safety and Environmental Design

Rationale: The Seniors' Falls in Canada Report [20] found that about half of all older adults falls that lead to hospitalization occur in the home. The bathroom and stairs are particularly hazardous due to the risk of slipping, tripping and stumbling. The following resources include general safety concerns, and those geared to people with cognitive impairment or dementia.

Resource Name	Resource Description
<p>The Safe Living Guide—A Guide to Home Safety for Seniors Public Health Agency of Canada Revised 2015</p> <p>https://www.canada.ca/en/public-health/services/health-promotion/aging-seniors/publications/publications-general-public/safe-living-guide-a-guide-home-safety-seniors.html</p>	<p>This guide covers risk assessments, medications, mobility aids and checklists for use in different environments.</p>
<p>Maintaining Seniors' Independence Through Home Adaptations: A Self-Assessment Guide Canadian Mortgage & Housing Corporation Revised 2009</p> <p>https://www.cmhc-schl.gc.ca/en/data-and-research/publications-and-reports/maintaining-seniors-independence-through-home-adaptations-a</p>	<p>Designed for seniors, this large-print Guide identifies the types of difficulties seniors can experience in the home and describes adaptations to overcome these difficulties. This Guide helps seniors assess their own unique circumstances including using stairs, moving around the house, doing laundry and answering the door. The Self-Assessment Guide is of interest to seniors, their families and caregivers.</p>
<p>How to Prevent Falls in the Home Canada Safety Council</p> <p>https://canadasafetycouncil.org/how-to-prevent-falls-in-the-home/</p>	<p>A web page with a bulleted list of tips for seniors.</p>
<p>Home Adaptation Checklist Canada Safety Council</p> <p>https://canadasafetycouncil.org/home-adaptation-checklist/</p>	<p>This checklist identifies adaptations that could help prevent injuries and enhance independence.</p>

Resource Name	Resource Description
<p>Safe At Home North Simcoe Muskoka LHIN</p> <p>http://healthcareathome.ca/nsm/en/Getting-Care/Patient-and-Caregiver-Resources/safe-at-home/falls-safety-prevention</p>	<p>Learning Opportunity Online resources with short videos on local resources and tips. Topics include medication safety & storage, falls safety & prevention, fire safety & prevention.</p>
<p>Safety in the Home Alzheimer Society</p> <p>http://alzheimer.ca/en/Home/Living-with-dementia/Day-to-day-living/Safety/Safety-in-the-home</p>	<p>Comprehensive description of issues and ideas for safety. Offers a Home Safety Checklist. More Safety Tips are offered, taken from the Alzheimer Journey, Module 2: On the Road. Get a copy from local Alzheimer Society.</p>
<p>Safety At Home By Us For Us® Guides:</p> <p>https://uwaterloo.ca/murray-alzheimer-research-and-education-program/education-and-knowledge-translation/products-education-tools/by-us-for-us-guides#Safely https://uwaterloo.ca/murray-alzheimer-research-and-education-program/education-and-knowledge-translation/products-education-tools/by-us-for-us-guides/living-safely/safety-home</p>	<p>How to introduce modifications, what is needed, when it is needed.</p>
<p>Home Safety for People with Alzheimer’s Disease U.S. National Institutes of Health, National Institute on Aging</p> <p>https://www.nia.nih.gov/health/home-safety-and-alzheimers-disease and their Home Safety Checklist https://www.nia.nih.gov/health/home-safety-checklist-alzheimers-disease</p>	<p>Web-based information on creating a safe home environment for people with Alzheimer’s Disease.</p>

Section 6

Footwear

[see also Home Safety, and Alheimers Society resources]

Rationale: Many falls experienced by older people result from aging effects on balance and neuromuscular systems. Footwear influences balance and the subsequent risk of slips, trips, and falls both indoor and outdoor [20].

Resource Name	Resource Description
<p>Watch Your Step– Footcare and Footwear</p> <p>http://www.findingbalanceontario.ca/index.php/watch-your-step.html</p>	<p>Three tips sheets to download: Choosing The Ideal Shoe; Foot Care and Foot Wear; Foot Care and Footwear Factsheet. One to two page brochures providing clear language and graphics tips on caring for feet and choosing shoes that can help maintain balance, be pain free and reduce falls risk.</p>
<p>Rate My Treads iDAPT, Toronto Rehabilitation Institute, University Health Network</p> <p>http://www.ratemytreads.com/</p>	<p>Research centre uses an evidence-based slip resistant testing method to find the right footwear to reduce and prevent unintentional slips and falls.</p>

Section 7

Medication Safety and Management

Rationale: Medication can be a contributing factor to falls, especially when multiple medications are being taken (polypharmacy) and may interact, and use of particular medications, such as psychotropic medications [21]. Prescription and over-the-counter drugs combinations can cancel the benefits of any or all medications and produce adverse reactions, such as memory loss, drowsiness, and confusion contributing to risks of falls□

Caregivers are often expected to manage medications in a safe and effective manner for their older care recipient, who may also have cognitive impairment [10]. Managing medications for people with dementia dwelling in the community is a complex task that is frequently left to their informal caregivers. Home care providers and nurses in frequent contact with community-living older adults/people living with dementia, may not be aware of the burden caregivers face in managing medications [2]. There were minimal resources identified specific to the relationship of cognitive impairment, medication management and fall prevention, however the following resources offer useful advice for caregivers and for health care professionals.

Resource Name	Resource Description
<p>Anyone Can Fall – Check Your Medications Factsheet Finding Balance Ontario</p> <p>http://www.findingbalanceontario.ca/index.php/doc_download/659-check-your-medications-factsheet</p>	<p>A two-page resource that outlines tips related to medications and their potential role in falls.</p>
<p>Be Falls Smart in What You Do – Medications Finding Balance Ontario</p> <p>http://www.findingbalanceontario.ca/index.php/doc_download/629-be-falls-smart-in-what-you-do-medications</p>	<p>A factsheet with information for seniors about medications and their potential role in falls.</p>

Resource Name	Resource Description
<p>Five Questions to Ask The Institute for Safe Medication Practices Canada</p> <p>https://safemedicationuse.ca/</p> <p>http://www.ismpcanada.org/download/MedRec/5questions/MedSafetyPoster-CaDeN-EN.pdf</p>	<p>Suggests five questions to ask your health provider about your medications, especially if you are on a number of drugs. A place to report medication incidents is also on the website. People need to be an active partner in their health to ensure that they have the information they need to use their medications safely.</p>
<p>Getting Started Kit, Reducing Falls and Injuries from Falls Canadian Patient Safety Institute. 2013</p> <p>http://www.patientsafetyinstitute.ca/en/toolsResources/Pages/Falls-resources-Getting-Started-Kit.aspx □</p>	<p>Information for health practitioners, pharmacists, nurses and home care on medications associated with falls. 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 pocket reference card that can be used in home health care.</p>
<p>"The Role of the Pharmacist in Fall Prevention" The Fall Prevention Community of Practice (CoP) webinar. November 2014</p> <p>https://www.youtube.com/watch?v=wLJosYq_4Wc</p>	<p>Karen Riley presents on the role of pharmacists in falls prevention and assessment. 60 minutes.</p>

Section 8

Vision/Hearing Loss Assessments

Rationale: The *RNAO Preventing Falls and Reducing Injuries Guideline* [20] notes that: Vision assessment and referral for correction of visual impairment may help reduce falls *if combined* with other interventions, according to a strong guideline. However, there is insufficient evidence demonstrating benefit of vision correction among community-dwelling older adults (page 101, table 16).

See checklists / decision-aids for hearing and vision, plus sections in e-learning modules and campaigns. For example – the **North East LHIN Stay on your Feet (SOYF) program** has a two page clear language brochure to [Regularly Check Your Eyesight and Hearing](#) which provides practical advice.

When a patient, client or family member has cognitive impairment (CI) and is preparing for vision/hearing tests, the following resources may be helpful.

Resource Name	Resource Description
<p>Dementia and sensory loss The Social Care Institute for Excellence (SCIE) (Great Britain) https://www.scie.org.uk/dementia/living-with-dementia/sensory-loss/</p>	<p>From Great Britain an extensive website and resource, with videos for caregivers, information on dementia and sight loss, hearing loss, deafness and deafblindness.</p> <p>The SCIE hosts the Vision 2020 UK Dementia and Sight Loss Interest Group which has developed a range of resources including:</p> <ul style="list-style-type: none"> - a web page on the RNIB website on dementia and sight loss https://www.rnib.org.uk/eye-health/sight-loss-other-medical-conditions/dementia-and-sight-loss - a 'Dementia and sight loss' leaflet https://www.rnib.org.uk/sites/default/files/Dementia_and_sight_loss_leaflet.pdf - a checklist for eye tests for people with dementia https://www.rnib.org.uk/sites/default/files/Eye_exam_dementia_vision2020.doc

Resource Name	Resource Description
<p>VisionAware. Tips for Caring for Individuals with Vision Loss and Dementia American Foundation for Blind.</p> <p>http://www.visionaware.org/info/emotional-support/for-family-and-friends/guidance-for-caregivers-of-individuals-who-are-blind-or-visually-impaired/tips-for-vision-loss-and-dementia/1235</p>	<p>Many tips and strategies offered for coping with vision loss, bodily functions, bathing and grooming, medication. home environment, and meals.</p>

Section 9

Chronic Conditions and Impact with Dementia for Fall Risk

Rationale: A wide range of chronic conditions that affect one’s mobility, gait and balance can increase a person’s risk of falls. These chronic conditions include neurological disorders such as Parkinson’s disease, diabetes, arthritis, cardiovascular disease, or the effects of a stroke [20].

Parkinson’s Disease (PD)

Parkinson's is a neurodegenerative disease. Some of the most common symptoms are also risks for falls: slowness and stiffness, impaired balance, rigidity of muscles. Exercise and physical therapy help manage the symptoms.

Resource Name	Resource Description
<p>Parkinson’s Society of Canada www.parkinson.ca</p> <p>Guidelines see CSEP Guidelines for Physical Activity and Parkinson’s Disease</p>	<p>Parkinson’s Disease – Educational Publications where many resources are organized into smaller, more easily-digestible segments such as Exercises for Parkinson’s, Balance and Falling Fact Sheet and Parkinson’s and Dementia. About 50% of people with PD will experience some cognitive decline as the disease advances, and 30% of those people will develop dementia. The help sheet is to provide a general overview of cognitive changes with some tips for enhancing communication. The Parkinson’s Society has a Knowledge Network with videos, podcasts and webinars, including one on Falls Prevention 365 Days a Year.</p>

Osteoporosis

Osteoporosis is a disease that slowly weakens bones which can lead to increased risk of fracture.

Resource Name	Resource Description
<p>Know Your Risk</p> <p>http://osteoporosis.ca/risk</p>	<p>Osteoporosis Canada launched the Know Your Risk tool, a simple quiz to help identify personal risk factors and help Canadians work with their doctors to protect their bones.</p>
<p>Are You Too Fit To Fracture?</p> <p>https://osteoporosis.ca/health-care-professionals/clinical-practice-guidelines/exercise-recommendations/</p>	<p>This is a page with exercise recommendations, guidelines and a one-page guide for older adults and caregivers with useful information on thinking and planning to safely and effectively exercise, with real life examples.</p>

Related resource for older adults living with osteoporosis

"How to prevent fractures if you have osteoporosis" slide-show on U.S. based **WebMed**, <https://www.webmd.com/osteoporosis/ss/slideshow-prevent-fractures> recommended by McMaster Optimal Aging Portal - <https://www.mcmasteroptimalaging.org/full-article/wrr/prevent-fractures-osteoporosis-258>

Message of resource: Prevent slips and falls to avoid broken bones, especially if you have osteoporosis. This resource includes a slide show of falls prevention tips, including: exercise, install good lighting, wear slip-resistant shoes, clear away clutter, use safety devices, limit alcohol, and talking to doctor about medications.

For health practitioners: **Clinical Practice Guidelines** <https://osteoporosis.ca/health-care-professionals/clinical-practice-guidelines/> The 2010 guidelines help to better identify fractures caused by weakened bones.

Other resources for healthcare professionals include the BoneFit workshops .

Stroke and Aphasia

Aphasia is an impairment in communications ability, to speak, read or write. The most common cause of aphasia is stroke and can also be the result from head injury or other neurological causes such as dementia.

Heart and Stroke Canada **Aphasia Services** <http://www.heartandstroke.ca/services-and-resources/aphasia-services> to help connect with a speech pathologist or locate other resources to improve communication skills.

Lists national and provincial, regional resources, organizations and groups for caregivers and stroke survivors. An Ontario example is **Aphasia Friendly Canada** <http://aphasiafriendlycanada.ca> . The Cognitive Neuroscience Laboratory at the University of Windsor provides businesses with training and resource support to be aphasia-friendly and offers caregivers support. **Caregiver Exchange** <http://aphasiafriendlycanada.ca/thecaregiverexchange/> □

The Aphasia Caregiver Exchange is both a support and education program weekly group-based meetings for family members and caregivers of persons living with aphasia.

Caregivers Guide to Stroke Recovery (second edition). March of Dimes - Stroke Recovery Canada. 2018. <https://www.marchofdimes.ca/EN/news/whatsnew2018/Pages/Caregivers-Guide-to-Stroke-Recovery.aspx>

Diabetes and Fall Risk

Diabetes related elevated blood glucose, can cause nerve damage, or neuropathy, in about half of all diabetics. Neuropathy can affect sensory information in feet and loss of muscle tone in feet and toes, and difficulty walking and in balance. High glucose levels can also result in retinopathy, a leading cause of vision loss in people with diabetes. Together, these conditions increase falls risk.

Foot Care - Wounds Canada. *Guideline on Diabetes Foot Ulcer and Diabetes Healthy Feet and You* <https://www.woundscanada.ca/about-dhfy>

This website provides consumers, patients and clinicians with information about effective self-monitoring, prevention, early detection and treatment of diabetic foot ulcers, and keeping healthy feet.

Section 10

Post Fall Assessment, Care and Family Involvement

Rationale: The RNAO Preventing Falls and Reducing Injury Guideline notes that person- and family-centred care is foundational to the care of people at risk for falls and fall injuries. Partnering with the person and their family in health system reform to improve the quality, delivery, and design of health care and services at all levels (micro, meso, and macro).[21]

Resource Name	Resource Description
<p>Preventing Falls and Reducing Injury from Falls (3rd ed.). Registered Nurses' Association of Ontario (2017) Toronto, ON</p> <p>http://rnao.ca/bpg/guidelines/prevention-falls-and-fall-injuries</p>	<p>In this best practice guideline, the Appendices hold multiple tools and resources that are useful for caregivers and community health workers. In Appendix J there are post-fall assessment resources and an example checklist action plan from St. Joseph's Health Centre in Hamilton.</p>

Section 11

Caregiver Supports

Resource Name	Resource Description
<p>Caregiver Exchange: Practical Insights for Busy Caregivers</p> <p>http://www.caregiverexchange.ca</p>	<p>CaregiverExchange is a mini-site of thehealthline.ca, a partnership between thehealthline.ca Information Network (a non-profit organization) and the Local Health Integration Networks - Home and Community Care - of Ontario.</p>
<p>Caring for the Caregiver McMaster Optimal Aging Portal</p> <p>https://www.mcmasteroptimalaging.org</p>	<ul style="list-style-type: none"> ○ Blog Post: Caring for the caregivers: Who is meeting the care needs of older adults? ○ Blog Post: Delivering home-care services: empathy and respect needed ○ Blog Post: 3 simple ways to manage challenging behaviours associated with dementia ○ Evidence Summary: Support programs for both community-dwelling people with dementia and their informal caregivers are beneficial ○ Web Resource Rating: Caregiver stress: Tips for taking care of yourself
<p>Caregiver's Support Guide North Simcoe Muskoka Local Health Integration Network. Barrie ON. August 2016</p> <p>http://healthcareathome.ca/nsm/en/Getting-Care/Patient-and-Caregiver-Resources/Publications or</p> <p>http://www.caregiverexchange.ca/Uploads/Documents/Caregiver%20Support%20Guide_NSM.pdf</p>	<p>A practical guide covering all facets of caregiving, with some focus on Simcoe-Muskoka.. □</p>

Resource Name	Resource Description
<p>Southwest Self Management Program South-West LHIN, News Spring 2018.</p>	<p>Learning Opportunity Powerful Tools for Caregivers - http://www.swselfmanagement.ca/content.aspx?pagelD=595 <i>A new free workshop in the south west, participants meet for 2 hour sessions each week for 6 weeks, engaging in activities such as managing self care, mastering caregiving decisions and action planning. Participants receive free copy of "The Caregiver Handbook" Listings of all topics of workshops and locations found at http://www.swselfmanagement.ca/ConsumerWorkshops/upcomingWorkshops.aspx. Similar caregiver-focused workshops can be found in other LHINs through searching www.thehealthline.ca</i></p>
<p>The Caregiver Toolkit: An Online Toolkit to Facilitate Support for Caregivers of Seniors BC Psychogeriatric Association and Government of Canada.</p>	<p>The Caregiver Toolkit offers evidence-informed resources for those working with caregivers, either directly or indirectly. These resources are designed to be used by a diversity of front line workers, program managers, policy analysts, administrators, health educators, advocates.</p>
<p>Community Supports and Age-Friendly Communities for Caregivers of People with Dementia Age-Friendly Communities. Public Health Agency of Canada https://www.canada.ca/en/public-health/services/health-promotion/aging-seniors/friendly-communities.html In Ontario see the Ministry for Seniors and Accessibility for Age-Friendly Planning guide. https://www.ontario.ca/page/ministry-seniors-accessibility</p>	<p>Age-friendly communities are set up to help seniors live safely, enjoy good health and stay involved. By including older adults in, and valuing their contribution to, all aspects of community life, age-friendly communities provide opportunities for people of every age, stage and ability to live safe, healthy, meaningful and active lives in their own community or home.</p>

Resource Name	Resource Description
Dementia-Friendly Communities BC http://alzheimer.ca/en/bc/About-dementia/Dementia-friendly%20communities	This initiative includes education to the professional sector, municipalities and the general public so that everyone can take part in creating accessible, inclusive spaces for people with dementia.

□

Appendix A

Suggested Sub-Topics for Literature Search & Environmental Scan Framework

To frame the search for literature references and resources, the Smart Moves Fall Prevention Inventory Committee suggested key topics which the consultant grouped into categories as follows:

Falls and cognitive impairment: Falls and Dementia, Falls with Acquired Brain Injury, Falls with Mental Health Diagnosis - it is the *symptoms* of these that directly need some focus and then with these *combined with other things such as vision, hearing loss, pain* that may not be expressed or identified because of dementia etc.

- Falls with people with short term memory loss,
- Falls with people that are impulsive/ restless, ...with no insight of safety risk
- Falls and delirium
- Falls and sun downing
- Living at risk or least restraint use

Chronic condition and impact with the dementia e.g. diabetes, osteoporosis, cancer
Aphasia and nutrition with cognitive impairment as the decline contributes to falls

Vision loss by itself, but also for the deaf/blind.

How to do *vision/hearing etc assessments* when the patient has CI

- a. how to support your parent, partner, etc as well as how to prepare for it (and)
- b. what might support the ophthalmologists, audiologists etc.

Post fall assessment and involvement of family

Footwear

Added: *Home safety and Environmental Design*

Note: For the following suggested topics, literature searches and environmental scans did not find evidence-based research or resources adequate for this inventory in the time allowed

How to support behaviour change in people with CI, at risk of falls because they keep rushing to the bathroom, can't remember to use assistive devices, need support to remember to exercise, etc.

Oral care, which is related to dentition and the ability to obtain good nutrition. Without good nutrition, there is muscle wasting, frailty and falls.

Lower and upper extremity strength- upper in relation to strength to protect one's head by extending your arms and research that Dr. Stephen Robinovitch is doing in Simon Fraser University; lower in relation to strength to get on/off toilet, on/off chair etc □

Note: no specific evidence supporting this topic was found, although resources on balance and strength cover extremity strength. Dr. Robinovitch's research on assistive technologies in this area appears to be developmental.

Appendix B

References

Fall Prevention Resources for Caregivers of People Living with Dementia or Cognitive Impairment Evidence Summaries, Systematic Reviews, Guidelines, and Single Studies

1. Ansai JH, de Andrade LP, Masse FAA, Gonçalves J, de Medeiros Takahashi AC, Vale FAC, Rebelatto JR. [Risk Factors for Falls in Older Adults With Mild Cognitive Impairment and Mild Alzheimer Disease](#). *J Geriatr Phys Ther*. 2017 Mar 3. PMID: 28786910
Among people with MCI, lower functional status, higher time spent on walk and dual task tests, and higher depressive symptom scores were associated with falls. Careful attention should be given to dual-task and turn-to-sit activities when detecting risk of falls among older people with MCI and mild AD.
2. Aston L, Hilton A, Moutela T, Shaw R, Maidment I. [Exploring the evidence base for how people with dementia and their informal carers manage their medication in the community: a mixed studies review](#). *BMC Geriatrics*. 2017;17:242. PMC: 5648510. □

Managing medications for people with dementia dwelling in the community is a complex task that is frequently left to their informal caregivers. Healthcare professionals can be unaware of this burden, and may need more training in supporting medicines management for people with dementia in their own homes.

3. Bunn F, Dickinson A, Simpson C, et al. [Preventing falls among older people with mental health problems: A systematic review](#) *BMC Nursing*. 2014;13(1):4. PMC: 3942767. [Evidence Summary](#).

There is a lack of evidence to suggest that physical activity and exercise alone will be effective in reducing falls among older adults with mental health problems. Older people with mental health issues should be offered strategies with several components to help reduce their risk of falling. These strategies include a mix of strength and balance training, home hazard assessment, vision assessment and medication review, and staff working with older people should be provided with knowledge and skills regarding causes and prevention of falls.

4. Canadian Society for Exercise Physiology. **Canadian Physical Activity Guidelines for Older Adults**. 2017. http://csepguidelines.ca/wp-content/themes/csep2017/pdf/CSEP_PAGuidelines_older-adults_en.pdf [Guideline](#)
The 1 page overview of Canadian Physical Activity Guidelines for older or frail adults recommending 150 minutes moderate to vigorous physical activity per week.
5. Chan WC, Fai Yeung JW, Man Wong, et al. [Efficacy of physical exercise in preventing falls in older adults with cognitive impairment: A systematic review and meta-analysis](#) *JAMDA*. 2015;16:149-154. [Evidence Summary](#).

Physical exercise programs – particularly those tailored to individual needs – can help reduce the risk of falls for older adults with a cognitive impairment.

6. Charlton K, Murray CM, Kumar S. [Perspectives of older people about contingency planning for falls in the community: A qualitative meta-synthesis](#). Bayer A, ed. *PLoS ONE*. 2017;12(5). [PMC:5451003](#).

Best practice guidelines present information and evidence about strategies for falls prevention but options for a plan to get help quickly after a fall are limited. There is an evidence-practice gap as a contingency plan which does not mean older people will use it in a falls emergency. Older people may be influenced by a number of factors including lack of awareness of and knowledge about specific strategies, and different attitudes, fears and worries. Without recognising these factors, any implementation is likely to fail. Therefore it is important for health professionals to consider older peoples' circumstances and provide choices in decision making.

7. El-Khoury F, Cassou B, Charles MA, et al. [The effect of fall prevention exercise programmes on fall induced injuries in community dwelling older adults: Systematic review and meta-analysis of randomised controlled trials](#) *BMJ*. 2013;347:f6234. [Evidence Summary](#).

Fall prevention exercise programs are effective in older adults for preventing falls.

8. Fernando E, Fraser M, Hendriksen J, Kim CH, Muir-Hunter SW. [Risk Factors Associated with Falls in Older Adults with Dementia: A Systematic Review](#). *Physiotherapy Canada*. 2017;69(2):161-170. Review. [PMC: 5435396](#)

Categories of falls risk factors for community-dwelling older adults with dementia or cognitive impairment included balance, gait, vision and visual perception, functional status, medications, psychosocial, (verbally disruptive and attention-seeking behaviour) severity of dementia, and caregiver burden. More research is needed to understand the interaction of risk factors to create successful fall prevention interventions.

9. Gillespie LD, Robertson MC, Gillespie WJ, Sherrington C, Gates S, Clemson LM, Lamb SE. [Interventions for preventing falls in older people living in the community](#). *Cochrane Database Systematic Review*. 2012;(9): Cd007146. Review. [PMID: 22972103](#).

This systematic review concluded that: group and home-based exercise programmes, and home safety interventions reduce rate of falls and risk of falling. Multifactorial assessment and intervention programmes reduce rate of falls but not risk of falling; Tai Chi reduces risk of falling.

10. Gillespie R, Mullan J, Harrison L. [Managing medications: the role of informal caregivers of older adults and people living with dementia. A review of the literature](#). *J Clin Nurs*. 2014 Dec;23(23-24):3296-308. doi: 10.1111/jocn.12519. Review. [PMID: 24354583](#)

Informal caregivers are often expected to manage medications in a safe and effective manner for their older care recipient, who may also have cognitive impairment. Nurses, who

may be in frequent contact with community-living older adults/people living with dementia, can be an important source of information, training and support for informal caregivers.

11. Goodwin V, Jones-Hughes T, Thompson-Coon J, Boddy K, Stein K. [Implementing the evidence for preventing falls among community-dwelling older people: a systematic review](#). *J Safety Res.* 2011 Dec;42(6):443-51. doi: 10.1016/j.jsr.2011.07.008 Review. PMID: 22152262.

Translating the evidence-base into practice involves changing the attitudes and behaviours of older people, healthcare professionals and organisations. However, there is a need for further evaluation on how this can be best achieved.

12. Lach HW, Harrison BE, Phongphanngam S. [Falls and Fall Prevention in Older Adults With Early-Stage Dementia: An Integrative Review](#). *Res Gerontol Nurs.* 2017. May 1;10(3):139-148. Review.

Evidence supports the increased risk of falls in individuals even in the early stages of dementia or MCI, and changes in gait, balance, and fear of falling that may be related to this increased fall risk. Interventions included exercise and multifactorial interventions that demonstrated some potential to reduce falls in this population.

13. Liu TW, Ng GYF, Chung RCK, et al. [Cognitive behavioural therapy for fear of falling and balance among older people: a systematic review and meta-analysis](#). *Age Ageing.* 2018. Feb 20. PMID: 29471428.

Psychological interventions such as cognitive behavioural therapy (CBT) appear to be effective in reducing fear of falling and improving balance among older people.

14. Liu-Ambrose T, Ashe MC, Graf P, Beattie BL, Khan KM. [Mild Cognitive Impairment Increases Falls Risk in Older Community-Dwelling Women](#). *Physical therapy.* 2008;88(12):1482-1491. PMC: 3514550.

Older adults with mild cognitive impairment (MCI) have impaired executive function of brain which impacts memory, planning and attention and possibly ability to act on fall prevention strategies or health-promoting behaviours, such as medication management, dietary and lifestyle changes. Fall risk screening may be prudent in older adults with MCI.

15. Meyer C, Dow B, Hill KD, Tinney J, Hill S. [“The Right Way at the Right Time”: Insights on the Uptake of Falls Prevention Strategies from People with Dementia and Their Caregivers](#). *Frontiers in Public Health.* 2016. Nov 2; 4: 244 PMC5090973 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5090973/>

This paper reports on the views of people with dementia and their caregivers regarding perceptions of falls prevention and the successes and challenges of adopting falls prevention strategies. Caregivers and people with dementia decided on “what we need to know” with firm views that the information regarding falls risk reduction needed to be in “the right way...at the right time.” They felt they were “more than just empty vessels to be

filled” drawing on a “variety of resources” within their circle of influence to be able to positively “adapt to change.”

16. Meyer C, Hill K, Hill S, Dow B. [Translating falls prevention knowledge for community-dwelling people living with dementia: design protocol for a mixed-method intervention](#). *J Alzheimers Dis Parkinsonism* 2015. 5:185. doi:10.4172/2161-0460.1000185 [Evidence Summary](#).

The key to success in falls prevention strategies with older adults with dementia is for their caregivers and health practitioners to work together. Simply giving information to older adults with dementia and their caregivers about falls prevention strategies is not enough. Older adults with dementia and their caregivers should be engaged in care decisions to improve the adoption of effective falls prevention strategies.

17. Montero-Odasso M, Speechley M. [Falls in Cognitively Impaired Older Adults: Implications for Risk Assessment and Prevention](#). *J Am Geriatr Soc*. 2018 Jan 10. PMID: 29318592

Falls remain common in older people, with higher prevalence and injury rates in those who are cognitively impaired. Mounting evidence supports that cognitive therapies such as cognitive training, dual-task training, and virtual reality modalities are promising to improve mobility and help reduce falls in those people with dementia.

18. Ontario Health Technology Assess Service. [Prevention of falls and fall-related injuries in community-dwelling seniors: an evidence-based analysis](#). *Health Quality Ontario*. 2008;8(2):1-78. PMID: 23074507. [Original paper](#). [DARE Summary](#).

Conclusions: long-term exercise programmes in mobile seniors and environmental modifications in the homes of frail elderly effectively reduced falls and possibly fall-related injuries; vitamin D and calcium supplementation in elderly women reduced falls by more than 40%; outdoor gait-stabilising may have reduced falls and fall-related injuries; psychotropic medication withdrawal may have been effective for reducing falls

19. Peach T, Pollock K, van der Wardt V, das Nair R, Logan P, Harwood RH. [Attitudes of older people with mild dementia and mild cognitive impairment and their relatives about falls risk and prevention: A qualitative study](#). *PLoS ONE*. 2017. 12(5): e0177530. <https://doi.org/10.1371/journal.pone.0177530>

In this UK study, participants did not generally see falls prevention interventions as currently relevant to themselves. The challenge is how to present interventions with understanding and respect for the older person’s identity. Simplistic or paternalistic approaches will likely fail. Individualised interventions which focus on maintaining independence and preserving quality of life are more likely to be acceptable by supporting a positive self-image for patients and their relatives.

20. Public Health Agency of Canada. [Seniors’ Falls in Canada, Second Report](#). 2014. Retrieved from <https://www.canada.ca/en/public-health/services/health-promotion/aging-seniors/publications/publications-general-public/seniors-falls-canada-second-report.html>

21. Registered Nurses Association of Ontario (RNAO). [Preventing Falls and Reducing Injury from Falls](http://rnao.ca/bpg/guidelines/prevention-falls-and-fall-injuries) (3rd ed.). 2017. Toronto, ON. <http://rnao.ca/bpg/guidelines/prevention-falls-and-fall-injuries> . **Guideline**

In this best practice guideline, in addition to updated recommendations, the Appendices cover interventions with strong, mixed, low evidence, multiple assessment tools and practical resources such as checklists and links.

22. Robalino S, Nyakang'o SB, Beyer FR, Fox C, Allan LM. [Effectiveness of interventions aimed at improving physical and psychological outcomes of fall-related injuries in people with dementia: a narrative systematic review](#). *Systematic Reviews*. 2018 Feb 20; 7: 31 PMC5819703 □

Most post-fall interventions were not aimed at patients with dementia and have shown little efficacy.

23. Sherrington C, Michaleff ZA, Fairhall N, et al. [Exercise to prevent falls in older adults: an updated systematic review and meta-analysis](#). *Br J Sports Med*. 2016 Oct 4. [Evidence Summary](#). PMID: 27707740.

Exercise programs can reduce falls compared with no exercise in older adults living in the community, with Parkinson disease, or with cognitive impairment. The most successful exercise programs for people living in the community included 3 or more hours of exercise per week and that had a high challenge to balance.

24. Smulders E, Enkelaar L, Schoon Y, Geurts AC, van Schrojenstein Lantman-de Valk H, Weerdesteyn V. [Falls prevention in persons with intellectual disabilities: development, implementation, and process evaluation of a tailored multifactorial fall risk assessment and intervention strategy](#). *Res Dev Disabil*. 2013 Sep;34(9):2788-98. PMID: 23792376.

□

In the general elderly population, multifactorial screening of fall risks has been shown to be effective. Although persons with intellectual disabilities (ID) fall more often, there appears to be no targeted screening for them. The aim of this study was to develop, implement, and evaluate a falls clinic for persons with ID.

25. Stacey D, Légaré F, Lewis K, et al. [Decision aids for people facing health treatment or screening decisions](#). *Cochrane Database of Systematic Reviews* 2017, Issue 4. Art. No.: CD001431.

This review found that people offered decision aids feel more knowledgeable, better informed, and clearer about their values, and they may have a more active role in decision making and more accurate risk perceptions.

26. Stolee P, Zaza C, Schuehlein S. [Evaluation of a volunteer-led in-home exercise program for home-bound older adults](#). *Work*. 2012;41(3):339-54 Evaluates the Victorian Order of Nurses SMART program

27. Winter H, Watt K, & Peel NM. (2013). [Falls prevention interventions for community-dwelling older persons with cognitive impairment: A systematic review](#). *International Psychogeriatrics*, 2013;25(2), 215-227. PMID: 23031328 DARE Summary. Cognitive impairment is a well-known risk factor for falls in older adults, but very little is known about interventions in the vulnerable, but increasing population of cognitively impaired community-dwelling older people. However this systematic review found conflicting evidence and inconclusive results for falls prevention interventions in this highly complex population.