Where is the physical rehabilitation for falls in Canadians living with dementia?

An EPIC-AT policy brief by:

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Problem Statement/Purpose:

Due to the primary focus on impaired cognition in persons with dementia, there is a lack of focus on physical impairments (e.g., poor balance) in this population and how to address these challenges to prevent costly and fatal events such as falls. This is of great importance given that persons with dementia are far more likely to fall than persons without dementia and have poorer long-term health outcomes. This policy brief was written to urge diagnosing practitioners to automatically refer persons living with dementia to physical services and programs for fall prevention, risk reduction, and rehabilitation. This brief will contribute to prevention, risk reduction, and rehabilitation standards for addressing falls in persons with dementia, lessening the costs and demands on caregivers and health systems.

Executive Summary/Key Messages:

- Persons with dementia are more likely to fall than persons without dementia, which is costly to the Canadian health care system (e.g., hospitals).
- Existing programs delivered to older adults in community-based settings (e.g., adult day programs) are created using universal (i.e., one-size-fits-all) design and do not inclusively address the diversity of persons with dementia (e.g., exercise modifications based on differing levels of physical and/or cognitive function). A prime example of this is only offering seated exercises, which does not challenge balance, a key risk factor for falling.
- This policy brief urges diagnosing practitioners to automatically refer persons living with dementia to <u>tailored</u> physical services and programs for fall prevention, risk reduction, and rehabilitation. To do so requires a standardized set of guidelines and policies set in place, inclusive of persons with dementia at varying stages of the disease trajectory.

Introduction/Issue:

By 2030, researchers project that nearly 1 million Canadians will be living with dementia, with the total number expected to reach 1.7 million Canadians by 2050 (Alzheimer Society of Canada, 2024). Persons with dementia are ***at least twice as likely*** to fall than individuals without dementia (Meuleners et al., 2016), making cognitive impairment an independent risk factor for falling (Hsu et al., 2012). Falls are a substantial public health problem and one of the leading causes of unintentional injury deaths worldwide (World Health Organization, 2021). Persons with dementia are more likely to visit emergency departments for fall-related injuries and be admitted to hospital (Canadian Institute for Health Information, 2024; Zhang et al., 2022). This results in increased strain on caregivers and Canadian health care systems, as well as substantial health care costs.

In addition to cognition, the risk of falls in dementia is also linked to physical factors, such as impairments in balance and gait (Fernando et al., 2017; Tangen et al., 2014). Concerns about falling (i.e., persistent feelings related to one's risk of falling during daily activities; Neuroscience Research Australia, 2024) are also known to increase the occurrence of falls in persons with dementia (Delbaere et al., 2013; de Melo Borges et al., 2015). However, recently consolidated evidence suggests that exercise-based rehabilitation interventions can reduce concerns about falling in persons with dementia (Dove et al., submitted) while simultaneously targeting other cognitive and physical fall risk factors (e.g., mobility).

Rehabilitation is defined as “a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment” (World Health Organization, 2023). Because rehabilitation is multi-faceted, there are many different types or forms in which it can be tailored or targeted. For example, in dementia, there has been past literature on ***cognitive*** rehabilitation (e.g., Choi & Twamley, 2013). However, such a narrow emphasis on cognition creates a problem where society and health care practitioners only focus on the brain-based impairments of persons with dementia (e.g., memory), and fail to incorporate rehabilitative elements targeting other aspects of health (e.g., physical, psychological, social, etc.). To address this gap, this policy brief will focus on ***physical*** rehabilitation for falls in the context of dementia, as this is a limited area of exploration, despite existing literature strongly warranting urgent action.

Examples of physical rehabilitation may include targeted exercises (e.g., for balance) initiated by the individual, their caregivers, or rehabilitation clinicians such as physiotherapists and occupational therapists (World Health Organization, 2023). A systematic review and meta-analysis demonstrated that supervised physical exercise improved strength, balance, mobility, and endurance in persons with dementia (Lam et al., 2018). Improving physical outcomes could reduce or potentially prevent falls from occurring in persons with dementia. However, evidence regarding the impact of improving physical outcomes on fall prevention and risk management in persons with dementia is less consistent (Booth et al., 2015; Burton et al., 2015). These findings are related to the small numbers of trials available, small sample sizes, and lack of methodological rigor (Li et al., 2021; Racey et al., 2021). Due to a lack of definitive evidence, policies on fall prevention, risk reduction, and rehabilitation are not part of the standard of care for persons with dementia.

Background/Current Status:

A diagnosis of dementia is complex and is often determined by various practitioners (e.g., neuropsychologists, family doctors) via simple pen-and-paper tests and proxy interviews (Lynds et al., 2023). Upon receiving a diagnosis, particularly in the later stages of the disease, persons with dementia are offered little post-diagnostic support, such as physical rehabilitation (Hall et al., 2023). This is due to negative assumptions and stigma associated with the condition (e.g., myths that persons with dementia cannot learn new things or adhere to therapeutic regimens; Burgon et al., 2019). However, a recent study with dementia care practitioners (e.g., nurses) highlighted the potential benefits of rehabilitation for persons with dementia via person-centred care, meaningful outcome measures to assess intervention efficacy, and making interventions more engaging (Hall et al., 2023).

Fall prevention guidelines and policies exist for other impairments and conditions; for example, guidelines exist for osteoporosis (Giangregorio et al., 2014), Parkinson’s disease (Camicioli et al., 2023), and healthy older adults (Montero-Odasso et al., 2022). However, existing standards do not take the unique cognitive needs of persons with dementia into account, resulting in inaccessibility and exclusion from hypothetically helpful programs and services. This issue is of great interest to the government because the total health care system and out-of-pocket costs of caring for persons with dementia are at least **$10.4 billion a year** in Canada (Alzheimer Society of Canada, 2024) and are further exaggerated by falls.

Policy Recommendations:

Based on the research discussed herein regarding dementia, falls, exercise, rehabilitation, and inclusive design (see **works consulted/references** on pages 5-7), this policy brief presents complimentary/synergistic options to address the problem:

1. Take current '**D**ementia-**I**nclusive **C**hoices for **E**xercise' (DICE) recommendations (Middleton et al., 2023) and adapt them into formal policy guidelines/standards for fall prevention, risk reduction, and rehabilitation in persons living with dementia.

2. Integrate fall and physical risk factor assessments into standard cognitive assessment best practices to build a more wholesome picture of a person with dementia's functioning and overall well-being.

3. Educate diagnostic practitioners on why automatic referrals to rehabilitation for persons with dementia at the time of diagnosis is important to address dementia-related physical impairments well-documented in the literature and clinical practice (e.g., poor balance, falls, etc.).

4. Challenge stigma and stereotypes of the abilities of persons with dementia regarding rehabilitation to take a small but important step towards changing attitudes and misconceptions held by practitioners, the health care system, and society more broadly.

While there are advantages and disadvantages, plus costs and risks associated with these policy recommendations, their benefits far outweigh the harms. For example, addressing fall risk in persons with dementia could prevent hospitalization and health care use, thus saving the Canadian health care system a substantial amount of funding and dedicated staff hours. Funding pools currently being drained by falls and fall-related injuries in dementia could be redirected towards the development, implementation, and evaluation of accessible, inclusive, and tailorable dementia-friendly fall prevention, risk reduction, and rehabilitation/exercise guidelines, services, and programs in Canada. Programs could be implemented in community settings, institutions, outpatient clinics, and personal homes.

Conclusions:

This policy brief urges practitioners to proactively refer persons with dementia to tailored physical rehabilitation services and programs for fall prevention, risk reduction, and rehabilitation at the time of diagnosis. It is hoped that this policy brief will contribute to inclusive health care standards for addressing falls and associated fall risk factors in persons with dementia. Implementing such policies could have an impact on persons with dementia, their families, and the health care systems they interact with, thus leading to decreased service use, reduced health care costs, and improved well-being.

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