



## Speech-Language & Audiology Canada (SAC): Submission to the Public Health Agency of Canada to Inform the National Dementia Strategy

May 4, 2018

### Executive Summary

Speech, language, communication, swallowing, hearing and balance disorders are prevalent in people with dementia. As such, [speech-language pathologists](#) and [audiologists](#) are integral to achieving optimal care and quality of life for people with dementia and, in turn, their families and caregivers. This submission provides evidence-informed recommendations from the professions of speech-language pathology and audiology to help address the needs of Canadians with dementia and the formulation of a National Dementia Strategy.

Our recommendations are based on the needs of Canadians with dementia as identified in the Senate Standing Committee on Social Affairs, Science and Technology's 2016 report, [Dementia in Canada: A National Strategy for Dementia Friendly Communities](#).

Specifically, SAC recommends:

1. **Research:** Continued investment in research is required to advance science regarding speech, language, communication, swallowing, hearing and balance disorders in people with dementia. Such research is essential to enhance the accuracy of assessment, plan more effective health care, and design more accessible dementia-friendly communities.
2. **Public Awareness:** Government-sponsored public health campaigns should advocate for hearing screening and hearing assessments, and for increased public awareness of hearing health care and hearing accessibility issues. Public health campaigns should also include appropriate messaging about speech, language, communication and swallowing disorders associated with dementia. Increased participation of speech-language pathologists and audiologists in research, policy development and implementation of public health campaigns will assist with the delivery of health services and optimize quality of life for people with dementia and their caregivers.
3. **Interprofessional Collaboration:** Canadian best practice guidelines/quality standards for dementia care must incorporate evidence-informed recommendations pertaining to the speech, language, communication, swallowing, hearing and balance concerns of people with dementia and their caregivers. As members of interprofessional advisory committees, speech-language pathologists and audiologists will facilitate evidence-informed recommendations concerning:
  - a. Human Health Resources Education and Training
  - b. Early Diagnosis

- c. Support for Informal Caregivers
- d. Health Services across the Continuum of Care
- e. Housing and other accessible dementia-friendly community initiatives

## Introduction

Speech, language, communication, swallowing, hearing and balance disorders are prevalent in people with dementia. All people with the frontotemporal lobe dementia variants of primary progressive aphasia exhibit language problems (Mesulam, 2003). Those with Alzheimer's dementia and vascular-based dementia show early language problems, which worsen throughout disease progression (Murdoch et al., 1987; Vuorinen et al., 2000). Furthermore, up to 93% of people with dementia have swallowing impairments (Affoo, Foley, Rosenbek, Kevin Shoemaker, & Martin, 2013). Hearing loss affects about 2/3 of people 70 years of age and older (Bainbridge & Wallhagen, 2014) and is even more prevalent in people with dementia than in controls with normal cognition (Uhlmann et al., 1989). Hearing loss is a significant risk factor for dementia (Lin et al., 2011). A recent meta-analysis showed that the overall combined relative risk of people with hearing impairment to develop Alzheimer's dementia was almost five times greater compared with the control group with normal hearing (Zheng et al., 2017). Hearing loss was identified as one of the most promising modifiable risk factors for dementia (Livingston et al., 2017) and the need for more research on the connections between sensory loss and dementia has been highlighted (Albers et al. 2015). As such, speech-language pathologists and audiologists are integral to the optimal care of people with dementia and of their families and caregivers. They also have an important role to play in research and policy aimed to reduce risk and to prevent and identify early cognitive decline. Speech-Language & Audiology Canada's (SAC) [position statement](#) on the role of speech-language pathologists and audiologists in dementia care asserts that speech-language pathologists and audiologists must participate as members of the dementia care team.

The Senate Standing Committee on Social Affairs, Science and Technology's 2016 report, [Dementia in Canada: A National Strategy for Dementia Friendly Communities](#), identified challenges faced by the increasing number of Canadians living with dementia. The SAC submission outlined below provides a series of recommendations built on input from dementia-based experts in our professions. SAC's recommendations address identified needs in research, public awareness and interprofessional collaboration.

### **Recommendation 1:**

***Continued increases to federal government research investments to advance basic and translational science regarding speech, language, communication, swallowing, hearing and balance in persons with dementia.***

Canadian researchers and clinicians in speech-language pathology and audiology make substantial contributions to the evidence-base for dementia research and care. Several members of SAC are researchers who lead and/or are co-investigators in large-scale Tri-Council-funded investigations such as the [Canadian Consortium on Neurodegeneration in Aging](#), the [Ontario Neurodegenerative Disease Research Initiative](#) and the [Canadian Longitudinal Study on Aging](#). See Appendix A for some example research goals.

**Recommendation 2:**

***Government-sponsored public health campaigns should advocate for hearing screening and hearing assessments, and for increased public awareness of hearing health care. Public health campaigns should also include appropriate messaging about speech, language, communication and swallowing disorders associated with dementia.***

The prevalence of hearing loss increases with age and is the third most common chronic disability in old age. Unfortunately, seeking help for hearing problems is often delayed 10-20 years from when these problems first begin to affect communication in middle age. Those with unaddressed hearing loss are at increased risk for cognitive decline and social isolation (Mick & Pichora-Fuller, 2016). Language disorders is a key diagnostic criterion for Alzheimer's and other dementias (Albert et al., 2011; American Psychiatric Association, 2013). Despite significant evidence showing caregivers' significant concerns about the language, communication, hearing and swallowing disorders of their relatives with dementia, the public are largely unaware that these difficulties often are associated with dementia and that interventions are available and effective. Increased participation of speech-language pathologists and audiologists in research, policy development and implementation of public health campaigns and dementia-friendly community initiatives will assist with delivery of health services and optimize quality of life for people with dementia and their caregivers.

**Recommendation 3:**

***Canadian best practice guidelines/quality standards for dementia care incorporate evidence-informed recommendations pertaining to the speech, language, communication, swallowing, hearing and balance concerns of people with dementia through inclusion of speech-language pathologists and audiologists as members of interprofessional Advisory Committees.***

As integral members of interprofessional care teams, speech-language pathologists and audiologists address the speech, language, communication, swallowing, hearing and balance disorders that are prevalent in people with dementia.

Specific recommendations concerning education and training, early and improved diagnosis, support for informal caregivers, integration of health services, home and community care and housing are as follows:

**Recommendation 3a:**

***Communication enhancement education and training programs be developed and provided to medical, nursing and other health care professionals, care providers and students who deliver care to people with dementia so that they can learn how to create environments that optimize communication and swallowing function and reduce fall risk. Speech-language pathologists and audiologists should lead the development and implementation of these specific components of education and training programs.***

Provincial quality standards and international dementia care guidelines recommend communication skills education and training for health care professionals, health care providers and students working with people with dementia and their families (National Institute for Health and Care Excellence (NICE),

2006; Guideline Adaptation Committee, 2016; Health Quality Ontario, 2018 a, b). The majority of people with dementia have hearing loss and given the importance of hearing in almost any communication interaction, audiologists can provide key information to the interprofessional health care team regarding accommodation for individuals with comorbid hearing loss and dementia, including the use of assistive technology when communicating in care situations (Dupuis et al., submitted for publication). Additionally, guidelines indicate that people with dementia should be supported to receive adequate nourishment and hydration (NICE, 2006; NHMRC, 2016).

**Recommendation 3b:**

**Early and improved diagnosis of dementia will be facilitated by:**

- i. Including speech-language pathology and audiology services in specialized dementia assessment clinics (e.g., family medicine, memory clinics).**
- ii. Hearing screening prior to cognitive, medical, neurological or psychiatric assessments for persons with suspected dementia or who are diagnosed clinically with dementia. Protocols for referral to audiology for those who fail screening need to become integrated into primary care and geriatric care, especially for older adults who have or are at risk for cognitive impairment.**
- iii. Implementing dysphagia (swallowing problems) screening programs including access to speech-language pathology dysphagia services in long-term care settings (Namasivayam-MacDonald, Morrison, Steele, & Keller, 2017).**

Early and accurate identification of speech and language disorders can help identify and differentiate the subtypes of dementia (e.g., vascular dementia vs. Alzheimer's type dementia vs frontotemporal dementia), leading to appropriate management approaches. Hearing loss can negatively affect the validity of cognitive screening and full diagnostic assessments. Hearing must be evaluated in advance of testing, such that appropriate hearing accommodations can be implemented to optimize the accuracy of cognitive assessments. The auditory status of persons with dementia must be considered when interpreting cognitive test results. Apparent cognitive problems that are exacerbated by difficulty hearing could be ameliorated by audiologic rehabilitation to ensure that people with dementia have access to the best possible quality of auditory input (Palmer et al., 1999). Early identification of dysphagia in persons with dementia optimizes health-care based decision-making about oral intake, feeding tubes and helps avert medical problems such as pneumonia, dehydration and malnutrition (Waters & Sullivan, 2012).

**Recommendation 3c:**

**Greater support for informal caregivers should include:**

- i. Caregiver involvement in audiologic rehabilitation to train them to provide the most effective support for their significant other with dementia and hearing loss.**
- ii. Access to quality communication and feeding enhancement education and training programs developed and implemented by speech-language pathologists.**

Provincial quality standards and international dementia care guidelines recommend communication skills education and training for the caregivers of people living with dementia (NICE, 2006; Guideline Adaptation Committee, 2016; Health Quality Ontario, 2016, 2018). Models designed to enhance

communication among people with dementia exist (e.g., Orange, Ryan, Meredith, & McLean, 1995; Ryan, Meredith, MacLean, & Orange, 1995) and caregiver communication training programs designed and implemented by speech-language pathologists have been shown to improve communication between caregivers and people living with dementia (e.g., Orange & Colton-Hudson, 1998; Ripich, Wykle & Niles, 1995; Small & Perry, 2012/13; Savundranayagam & Orange, 2011, 2014). Similar to caregiver burden, hearing loss can affect the health and quality of life of family members of people who have hearing loss and hearing care can benefit significant others; therefore, hearing care should be included in programs for caregivers (Gillingham et al., submitted for publication).

***Recommendation 3d:***

***Health services across the continuum of care address the speech, language, communication, swallowing, hearing, and balance concerns of people with dementia and their caregivers by including speech-language pathologists and audiologists as members of interprofessional dementia care teams.***

Comprehensive assessment and individualized care plans are central components of health care for people with dementia (NICE, 2006; Guideline Adaptation Committee, 2016; Health Quality Ontario, 2016, 2018). In hospitals, rehabilitation units/centres and long term care, speech-language pathologists and audiologists working with people with dementia and their caregivers contribute to cognitive and functional assessments, provide information to optimize communication and swallowing function and minimize fall risk, and develop individualized evidence-informed interventions (Egan, Bérubé, Racine, Leonard, & Rochon, 2010; Hopper et al., 2013; McGilton et al., 2017). These services must be routinely and consistently integrated within service delivery models and across care facilities.

People living with dementia should also have access to community-based care from an interprofessional team with expertise in dementia (Health Quality Ontario, 2018). Community-based speech-language pathologists address the communication and swallowing needs and goals of people with dementia and their families thereby facilitating social inclusion (see, for example, [Alberta Health Services Speech Language Pathology Consulting Services in Continuing Care—Edmonton Zone](#)). Similarly, community-based audiologists address the spectrum of hearing health including balance problems leading to risk of falls. Audiological rehabilitation programs (including assistive listening devices such as hearing aids, counselling and auditory cognitive therapy) can help mitigate the negative effects of hearing loss (Johnson, Xu, & Cox, 2016; Cox, Johnson, & Xu, 2016) and limit social isolation (Weinstein et al., 2016), which can be a risk factor for dementia. Overall, hearing loss is one of the most potentially modifiable risk factors for dementia (Livingston et al., 2017).

***Recommendation 3e:***

***Safe living environments for people with dementia include modifications that address hearing, communication and swallowing needs.***

People living with dementia require a safe living environment that meets their specific needs (Health Quality Ontario, 2018). Universal design modifications that optimize communication include good acoustics, lighting, common areas that encourage socialization, and accessible signs and notice boards, among other supportive elements. Assistive listening and alert devices also need to be considered to

keep people connected and safe (e.g., visual, vibrotactile and auditory signals for fire alarms, doorbells etc.).

## **Conclusion**

SAC recommends increased investment in speech-language pathology and audiology research that will provide knowledge that can be translated into practices and policies to improve the health and social support of people with dementia and their families. In addition, initiatives must be designed to improve public awareness of speech, language, communication, swallowing, hearing and balance disorders associated with dementia. Finally, dementia care guidelines/quality standards must include recommendations that address the speech, language, communication, swallowing, hearing and balance needs of people with dementia and their caregivers. Speech-language pathology and audiology contributions to dementia care guidelines/quality standards will facilitate the development, implementation and monitoring of evidence-informed recommendations concerning education and training, early diagnosis, support for informal caregivers, health services across the continuum of care and housing.

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## Appendix A

### Examples of Speech-Language Pathology and Audiology Research Goals

- Further investigate how hearing care could be provided to reduce risk of developing dementia (e.g., hearing screening and public health strategies to promote hearing and communication as key factors contributing to cognitive health), improve care for those receiving home care or in long-term care, and improve caregiving by family members and professionals.
- Develop new protocols to screen for dementia that are adapted for people with sensory problems including hearing loss and dual sensory (hearing and visual) impairments and incorporate sensory screening into preventive and early identification protocols based on findings that hearing loss is predictive of incident dementia ten years before dementia onset.
- Further identify preclinical and prodromal speech, language and swallowing signs of dementia in order to provide targeted treatment as early as possible to delay the onset of the disease.
- Develop Innovative speech-language pathology and audiology ehealth interventions to improve access to supportive services for individuals with dementia living in rural and remote Canadian communities.
- Undertake high-quality behavioural studies to develop theoretically sound and methodologically rigorous communication enhancement education and training programs for formal and informal caregivers of people with dementia.
- Determine the potential effectiveness of sensory and cognitive stimulation and behavioural-based interventions combined with pharmacological treatments on the communicative and swallowing functioning of people with dementia.
- Examine the benefits of mealtime interventions for individuals with swallowing difficulties (dysphagia) associated with dementia across the continuum of care.