

■ Service delivery for older Canadians with dementia : A survey of speech-language pathologists

■ Prestation de services pour les Canadiens âgés atteints de démence : un sondage auprès des orthophonistes

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Abstract

The purpose of this study was to survey speech-language pathologists (S-LPs) working in Canada, who identified themselves as providing services to older adults or adults with neurological communication and swallowing disorders, about their clinical perspectives and practice patterns in the area of dementia. Researchers designed a questionnaire-based survey specifically for this study and mailed it to 514 Canadian S-LPs.

Three hundred and four completed surveys were returned. Respondents reported on their caseload and work habits in the area of dementia and indicated their perspectives on dementia, including the role of S-LPs and perceived barriers to service delivery. Although respondents indicated positive opinions on the role of S-LPs with individuals who have dementia and the potential of affected individuals to benefit from certain interventions, they also reported barriers to providing assessment and intervention services. The results of the survey provide a foundation for future research in the area of S-LP services for individuals with dementia in Canada, as well as directions for education, training, and advocacy.

Abrégé

La présente étude visait à sonder les orthophonistes travaillant au Canada qui ont signalé desservir des personnes âgées ou des adultes ayant des troubles neurologiques de la communication et de la déglutition. Le sondage cherchait à recueillir leur point de vue clinique et leurs modèles de pratique dans le domaine de la démence. Les chercheurs ont élaboré un questionnaire spécialement pour cette étude et l'ont posté à 514 orthophonistes canadiens. Ils ont reçu 304 réponses.

Les répondants ont indiqué leur charge de travail et leurs habitudes de travail dans le domaine de la démence et ont fait part de leur point de vue sur ce trouble, y compris le rôle de l'orthophoniste et les obstacles perçus entravant la prestation de services. Bien que les répondants aient indiqué des opinions positives concernant le rôle des orthophonistes auprès des personnes atteintes de démence et les capacités de ces dernières à bénéficier de certaines interventions, ils ont aussi signalé des obstacles entravant la prestation de services d'évaluation et d'intervention. Les résultats du sondage fournissent un fondement pour de futures recherches sur la prestation de services d'orthophonie pour les personnes atteintes de démence au Canada ainsi que des orientations pour l'éducation, la formation et la défense des intérêts.

Key words: dementia, service delivery, communication, survey, speech-language pathology, Alzheimer's disease

People in developed (e.g., North America, Europe) and developing (e.g., India, Egypt, Mexico) nations of the world are aging rapidly (Kinsella & Velkoff, 2001). In Canada, people older than 65 years currently comprise 13.1% of the country's total population (Statistics Canada, 2006), and the number of Canadians over the age of 65 is projected to increase for several decades. Although many Canadians are healthy in their older age, approximately 8% of individuals over the age of 65 have a diagnosis of Alzheimer's disease or a related dementia (Canadian Study of Health and Aging (CSHA) Working Group, 1994a) with approximately 60,150 new cases of dementia diagnosed each year (CSHA Working Group, 2000). By 2021 592,000 Canadians will have a diagnosis of dementia (CSHA Working Group, 1994a).

Dementia is defined in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000) as "the development of multiple cognitive deficits that include memory impairment" (p.148) and at least one of the following conditions: aphasia, apraxia, agnosia, or dysexecutive syndrome. These cognitive deficits must cause disruption in occupational or social functioning and must represent a decline from previous levels of performance. Of the different types of dementia, Alzheimer's disease (AD) is the most common, accounting for more than 50% of cases (Katzman & Bick, 2000).

In AD, the central executive component of working memory and the episodic memory system are prominently affected in the early stages of the disease (Baddeley, Logie, Bressi, Della Sala & Spinnler, 1986; Greene, Baddeley & Hodges, 1996). These and other cognitive impairments associated with AD adversely affect communication and manifest as deficits in the ability to hold information in mind, to respond appropriately to others' comments, to initiate conversation, and to select the appropriate words for the conversational topic (Bayles & Tomoeda, 1983; Fromm & Holland, 1989; Kempler, Almor, Tyler, Andersen, & MacDonald, 1998; Orange & Purves, 1996; Orange, Lubinski, & Higginbotham, 1996; Ripich, Vertes, Whitehouse, Fulton, & Ekelman, 1991; Tomoeda & Bayles, 1993).

People with communication disorders of dementia may need speech-language pathology (S-LP) services. After a thorough assessment of cognitive-communication abilities, S-LPs may work with individuals who have dementia individually or in groups to improve communication through the use of structured activities and stimuli (e.g., using memory wallets, conducting reminiscence therapy groups). In addition, S-LPs may teach caregivers of individuals with dementia effective communication strategies to help them manage problem behaviours (e.g., repetitive question asking), facilitate activities of daily living, and promote social interaction.

Although S-LPs can provide rehabilitation services to individuals with dementia, little is known about the nature of these services and S-LPs' perspectives on dementia

in a Canadian context. Given the increasing prevalence of dementia among older Canadians, knowledge about service delivery is necessary to determine the need for clinical training, advocacy initiatives, and future research directions. A survey instrument was designed to answer the following research questions: 1) What are S-LPs' perspectives or opinions on service delivery for individuals with dementia? 2) What are S-LPs' practice patterns with regard to individuals with dementia?

Method

Procedure and Sample

Following approval by the Health Research Ethics Board at the University of Alberta (Approval Number B-080402-REM) in 2002, the survey was mailed out to 514 Canadian S-LPs in all provinces and the Yukon (no addresses were available for S-LPs in the Northwest Territories and Nunavut). Survey recipients had given consent to the Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA) to receive outside mail and identified themselves as working with older adults and/or individuals with any of the following diagnoses: dysphagia, dementia, cognitive impairment, and aphasia. CASLPA provided the researchers with names and addresses from the electronic web-based membership directory current at the time of the study.

The researchers used the multiple mail-out method recommended by Salant and Dillman (1994). The first mailing included a cover letter explaining the study, a numbered survey, and a postage-paid return envelope. Six weeks after the first mailing, researchers sent a reminder letter to all individuals who had not yet responded. Three months after the first mailing, researchers sent a second copy of the cover letter, survey and postage-paid return envelope to any individuals who had still not responded. Quebec residents were sent the cover letters and surveys in both English and French. The primary or preferred language of potential respondents could not be identified based on CASLPA address listings and therefore only English versions of the survey were sent to S-LPs outside of Quebec.

Survey Instrument

The researchers developed the questionnaire-based survey for the current study after a literature review revealed no other instrument suitable for this purpose. Two of the authors (S-LPs, TH and SC) designed the questions and refined them with assistance from statistical and methodology consultants hired to assist with survey development, database management and analysis.

The four-page survey consisted of 16 questions in three sections. In Section A: Demographics, respondents indicated their age category, gender, years of practice, primary practice setting, geographic region and community type (i.e., urban >10,000, rural <10,000 or both). In Section B: Typical caseload and work habits respondents were asked to estimate the number, age category and diagnoses of clients seen daily and over the previous 30

and 60 days. Respondents who worked with individuals with dementia were also asked to indicate assessment tools and types of interventions used with these patients.

In Section C: Perspectives on dementia management and the role of the S-LP, respondents rated their level of agreement with 13 opinion statements on a 5-point Likert-type scale. Next to each statement, respondents placed a mark in one of five boxes labeled *strongly disagree*, *disagree*, *neutral*, *agree* and *strongly agree* (see Table 5). The section concluded with seven statements regarding barriers to service delivery for individuals with dementia. Respondents ranked these from most to least significant in importance, using the numbers 1 (*most significant*) to 7 (*least significant*). The final page of the survey included a space for “additional comments” that respondents wished to include.

Data Management and Analyses

Statistical consultants led the data management and analysis. First they coded and entered each survey item into an SPSS database and then verified accuracy of data entry through data editing and comparison with the paper surveys.

The researchers noted several instances of item non-response by survey participants. It is well-documented that survey participants do not respond to every item on a self-administered questionnaire (Huston, 1996). In addition to missing data that occurred randomly and were unrelated to any systematic difference between people who answered the question and people who did not (Weisberg, 2005), survey respondents who did not work with individuals with dementia were instructed to skip certain questions. Therefore, to account for all available data from the respondents, the results for each question include the number of people who responded to each item.

Results

Demographic Information for the Sample

Three-hundred and four completed (304/514; 59.1%) surveys were returned. The largest percentage of respondents (32.6%) worked in Ontario, followed by Alberta (19.7%) and British Columbia (17.4%), with the remainder distributed across the provinces and the Yukon (see Table 1). Response rate by province, based on surveys sent and returned, ranged from a high of 100% (Prince Edward Island and the Yukon) to a low of 43.7% (Nova Scotia).

Two hundred and ninety respondents completed all of the demographic information (290/304 = 95.3%

Table 1

Survey distribution and response rates by province

Province/Territory	Number of surveys sent (/514)	Number (%) of surveys returned by province	Percentage of total surveys returned (/304)
Ontario	183	99 (54.1)	32.6
Alberta	91	60 (65.9)	19.7
British Columbia	90	53 (58.9)	17.4
Quebec	35	20 (57.1)	6.6
Saskatchewan	19	15 (78.9)	4.9
Manitoba	26	14 (53.8)	4.6
New Brunswick	29	14 (48.3)	4.6
Nova Scotia	32	14 (43.8)	4.6
Newfoundland	19	9 (47.3)	3.0
Prince Edward Island	4	4 (100)	1.3
Yukon Territory	1	1 (100)	0.3

completion rate). The vast majority were female (93%) and 76.5% were between the ages of 30-49 years (see Table 2). They reported an average of 14.3 years of experience as an S-LP (SD = 7.45, range 1-36 years) and most (71.4%) worked in urban centres. Approximately 30% of the sample worked in sub-acute care/rehabilitation settings, 16.6% worked in acute care and 15.5% worked in community care/public health settings. Only 3% worked in long-term care settings. More demographic information on the sample, by province, is provided in Table 2.

The demographic numbers for this study sample are similar to those reported in the CASLPA member survey (2005) in which 97.4% of respondents were female, 68% were between the ages of 26-45, and 77.7% reported working in urban centres. Work settings were difficult to compare between surveys because only S-LPs who worked with older adults and/or individuals with dysphagia, dementia, cognitive impairment, and aphasia were selected to receive surveys in the current study and these individuals tend to work in medical settings.

In section B of the survey, respondents indicated their caseload and work habits. Two hundred and eighty two respondents (92.7%) completed this section. Respondents reported providing services to an average of 5.98 clients per day (SD = 3.39, range = 0-28; see Table 3). The average number of clients seen daily was highest in Saskatchewan (7.96) and lowest in Newfoundland (4.89). Seventeen respondents provided services to 12 or more clients per day. These 17 respondents worked in different provinces in both rural and urban settings and had varying years of

Table 2
Demographic Characteristics of the Sample

Province/ Territory	<i>n</i>	Age ranges reported (%)	Community: Urban and/or rural (%)	Mean years of experience (SD)	Three employment sites most frequently reported (%)
Total Sample	290	20-29 (6.2) 30-39 (41.7) 40-49 (34.8) 50-59 (16.6) 60+ (0.7)	Rural (11.7) Urban (71.4) Both (16.9)	14.33 (7.45)	Subacute/Rehab (30.3) Acute (16.6) Public Health (15.5)
Ontario	91	20-29 (9.9) 30-39 (38.5) 40-49 (39.6) 50-59 (12.1) 60+ (0.0)	Rural (9.9) Urban (64.8) Both (25.3)	13.90 (7.43)	Subacute/Rehab (26.4) Acute (17.6) Private Practice (16.5)
Alberta	58	20-29 (3.4) 30-39 (51.7) 40-49 (34.5) 50-59 (10.3) 60+ (0.0)	Rural (5.2) Urban (77.6) Both (17.2)	14.06 (7.62)	Subacute/Rehab (34.5) Public Health (22.4) Public Education (15.5)
British Columbia	52	20-29 (3.8) 30-39 (32.7) 40-49 (36.5) 50-59 (26.9) 60+ (0.0)	Rural (1.9) Urban (88.5) Both (9.6)	15.64 (7.18)	Acute Care (23.1) Subacute/Rehab (21.2) Public Health (21.2)
Quebec	18	20-29 (5.6) 30-39 (33.3) 40-49 (27.8) 50-59 (22.2) 60+ (11.1)	Rural (0.0) Urban (88.9) Both (11.1)	17.06 (10.25)	Subacute/Rehab (55.6) Acute (11.1)
Saskatchewan	15	20-29 (6.7) 30-39 (33.3) 40-49 (20.0) 50-59 (40.0) 60+ (0.0)	Rural (26.7) Urban (53.3) Both (20.0)	15.07 (8.28)	Subacute/Rehab (26.7) Public Education (26.7) Public Health (13.3) Acute Care (13.3)
Manitoba	14	20-29 (7.1) 30-39 (42.9) 40-49 (50.0) 50-59 (0.0) 60+ (0.0)	Rural (28.6) Urban (71.4) Both (0.0)	13.14 (6.30)	Subacute/Rehab (42.9) Public Education (21.4) Long-term care (14.3)
New Brunswick	14	20-29 (0.0) 30-39 (42.9) 40-49 (42.9) 50-59 (14.3) 60+ (0.0)	Rural (28.6) Urban (57.1) Both (14.3)	15.07 (4.59)	Subacute/Rehab (28.6) Acute (28.6) Public Education (21.4) Public Health (14.3)
Nova Scotia	14	20-29 (0.0) 30-39 (50.0) 40-49 (28.6) 50-59 (21.4) 60+ (0.0)	Rural (28.6) Urban (57.1) Both (14.3)	13.93 (6.74)	Subacute/Rehab (21.4) Public Education (21.4) Public Health (21.4)
Newfoundland	9	20-29 (22.2) 30-39 (66.7) 40-49 (11.1) 50-59 (0.0) 60+ (0.0)	Rural (33.3) Urban (66.7) Both (0.0)	7.56 (3.13)	Subacute/Rehab (44.4) Public Health (22.2) Acute Care (22.2)

Continued on page 118

Table 2 (continued)
Demographic Characteristics of the Sample

Province/ Territory	<i>n</i>	Age ranges reported (%)	Community: Urban and/or rural	Mean years of experience (SD)	Three employment sites most frequently reported (%)
PEI	4	20-29 (0.0) 30-39 (75.0) 40-49 (0.0) 50-59 (25.0) 60+ (0.0)	Rural (50.0) Urban (25.0) Both (25.0)	13.13 (8.49)	Public Health (50.0) Home Care (25.0) Subacute/Rehab (25.0)
Yukon Territory	1	*	Both	*	Subacute/Rehab

Note: Public Health - Community Care/Public Health; Home Care = Social Services/Home Care

PEI = Prince Edward Island

*=Demographic data omitted to protect anonymity

Table 3
Number of Clients Seen Daily by S-LPs for Each Province

Province/Territory	<i>n</i>	Numbers of clients seen daily Mean (SD)	Number of clients seen daily (Range)
Total Sample	282	5.98 (3.39)	0 - 28
Ontario	91	5.52 (3.64)	0 - 28
Alberta	57	6.39 (3.61)	0 - 20
British Columbia	47	6.41 (3.73)	0 - 18
Quebec	19	5.53 (1.62)	4 - 10
Saskatchewan	14	7.96 (4.35)	3 - 18
Manitoba	14	5.36 (2.86)	0 - 13
New Brunswick	13	5.58 (2.99)	0 - 13
Nova Scotia	13	5.96 (1.48)	5 - 10
Newfoundland	9	4.89 (1.24)	4 - 8
PEI	4	6.25 (1.50)	5 - 8
Yukon Territory	1	7.00 ^a	

PEI = Prince Edward Island

^a = Actual value

experience; however, the majority (*n*=12) identified their primary site of employment as the “public education sector.” The survey did not include an option for S-LPs to indicate if services were provided via individual or group treatment sessions.

Researchers were unable to calculate the total numbers

of clients seen over 30, 60 and 90 day periods, or the number of those clients with a diagnosis of dementia and/or dysphagia. Many of the respondents estimated the number of total client visits they had completed, rather than the number of unique clients seen within the specified time period. One respondent (Participant 155) noted, “I tallied client contacts per work day. Please note these may be the same clients but on different days” and another (Participant 157) wrote, “... information was provided via patient visits – therefore, repeat clients.” These respondents and others noted that this section was too time consuming to complete. For example, one (Participant 184) stated, “This section took our receptionist/workload measurement person two hours to do...” and another (Participant 70) commented, “It would be very time consuming to look back on my caseload in this way.”

Only 10% of the respondents indicated that they were required to provide a minimum amount of their professional time to older adults. The authors contacted CASLPA and all of the provincial speech-language pathology associations to verify if a mandate exists for the provision of S-LP services to older adults. Representatives from CASLPA, six provinces (NB, MB, ON,

SK, AB), and one territory (NWT) responded, indicating that provincial mandates do not exist; mandates, if any, are decided at the site of employment.

Practice Patterns: Assessment and Intervention Services for Individuals with Dementia

The respondents were instructed to complete the section about assessment tools and intervention approaches only if they worked with clients with dementia. One hundred and fifteen respondents (115/304 or 38%) completed the section on assessment. Seventy-six of the respondents (66.1%) reported using the Arizona Battery for Communication Disorders of Dementia (ABCD; Bayles & Tomoeda, 1993) whereas only 22 respondents (19.1%) reportedly used the Functional Linguistic Communication Inventory (FLCI; Bayles & Tomoeda, 1994) (see Figure 1). Approximately 77% of respondents used the Boston Diagnostic Aphasia Examination (Goodglass & Kaplan, 1972) and 65.2% used

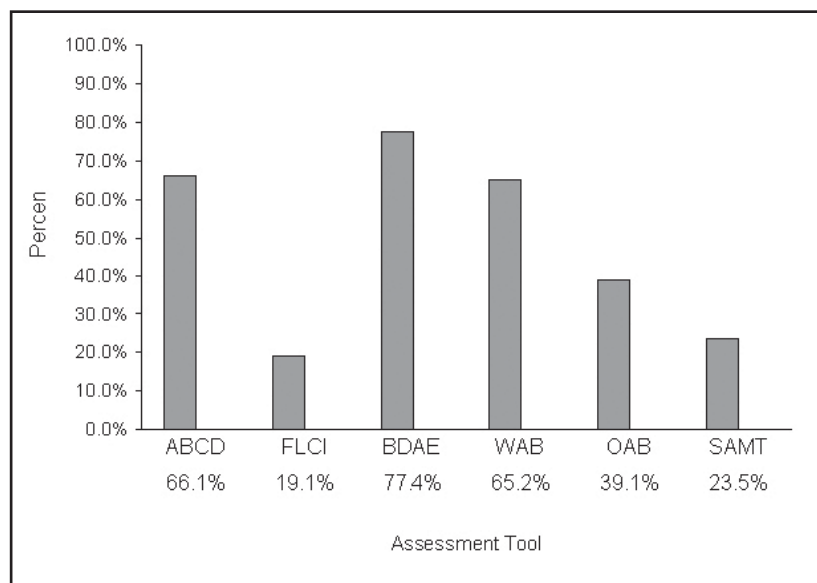


Figure 1. Percentage of respondents who reported using selected assessment tools ($n=115$)

Note: ABCD = Arizona Battery for Communication Disorders of Dementia; FLCI = Functional Linguistic Communication Inventory; BDAE = Boston Diagnostic Aphasia Examination; WAB = Western Aphasia Battery; OAB = Other aphasia batteries (unspecified); SAMT = Specific Aphasia Modality Tests (unspecified)

the Western Aphasia Battery (Kertesz, 1982). Respondents also indicated using other aphasia batteries and specific aphasia modality tests (both unspecified in the survey).

For the question related to interventions, fewer respondents provided a rating of type and frequency of interventions used with their clients with dementia ($n=101$; see Table 4). More than 80% of respondents reported that they often or always used caregiver training with patients

who have dementia (Table 4, item “e”) followed in frequency by swallowing interventions (75.2%; item “d”). Direct one to one behavioural treatment and cognitive therapy were less likely to be utilized (see items “a” and “b”) and 80.2% of respondents indicated that group treatment (item “c”) was rarely or never used. Respondents reported the most variability in the frequency of use of program development (item “f”), ranging from 38.6% of the sample never or rarely using this approach, 29.7% indicating sometimes using it, and 31.7% stating that they often or always used it.

Perspectives on Individuals with Dementia and the Role of the S-LP

Table 5 contains a summary of responses to questionnaire statements on S-LP perspectives on rehabilitation of individuals with dementia and the role of S-LPs in their care. Respondents indicated whether they agreed or disagreed with 13 statements by choosing from five descriptors (i.e., *strongly disagree*, *disagree*, *neutral*, *agree* and *strongly agree*). In this section of the survey, 255 respondents completed some or all of the questions. After a listwise deletion for this section (in which only those individuals who responded to all items were included in the analysis), the sample size was 206/304 (67%). For purposes of reporting, ‘agree’ refers to the combined categories of *strongly agree* and *agree* and ‘disagree’ refers to the combined categories of *strongly disagree* and *disagree*.

The vast majority (91.8%) of respondents agreed that treating individuals with dementia is within the scope of practice of S-LPs (Table 5, item “e”). One S-LP (Participant 111) commented: “[I] strongly feel there is a role for the speech-language pathologist with this population, even if it is only working with family/caregivers to help them understand the communication/language/speech difficulties and increase awareness of strategies to facilitate communication.” However, another (Participant 95) questioned S-LP involvement in cognitive-based interventions for individuals with dementia, asking, “Does the survey assume that S-LPs are in the best position to provide intervention? (vs. other disciplines). Scope of practice question: In Manitoba generally OTs [occupational therapists] are more involved in “cognitive therapy.” Participant 122 stated the following

about the role of S-LPs with individuals with dementia: “It has been my experience that S-LPs do not see themselves as a provider of service to individuals with Alzheimer’s/ other dementing illnesses. This is a tremendous loss to individuals with Alzheimer’s/dementing illnesses because they desperately need a way to communicate – a way to connect.”

Approximately 55% of the sample disagreed with the

Table 4*Type and Frequency of Interventions Provided to Patients with Dementia (n=101)*

	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Always (%)
(a) Direct 1:1 Behavioral Treatment (e.g., speech, language or communication treatment; including training in memory strategies).	13.9	27.7	35.6	15.8	6.9
(b) "Cognitive therapy" (e.g., memory strategies)	13.9	25.7	39.6	15.8	5.0
(c) Group Treatment (e.g., several clients reading aloud in a group; reminiscence or other games).	65.3	14.9	14.9	5.0	0.0
(d) Swallowing Interventions (e.g., thermal stimulation, mealtime or dining room management, compensatory strategies – chin tuck, head turn, and dietary texture)	6.9	2.0	15.8	48.5	26.7
(e) Caregiver Training	1.0	3.0	14.9	44.6	36.6
(f) Program Development	26.7	11.9	29.7	22.8	8.9

statement that the progressive nature of dementia prevents individuals from improving in direct one-to-one speech, language, communication and cognitive interventions (see items "a" and "b"). However, a large percentage indicated a neutral stance on these items (23.8% and 26.2%, respectively) and approximately 20% of the sample agreed that dementia prevents individuals from improving in direct intervention programs. Respondent comments reflected this variability. Participant 171 stated, "I'm not sure regarding improvement, but believe intervention may facilitate maintenance of some functions." Participant 187 commented, "I feel that individual one-on-one therapy may not be cost effective or therapeutically beneficial unless family members are active participants... even then, benefits may be limited..." and Participant 130 stated, "I believe individuals with dementia may benefit from... indirect rather than direct treatment which only frustrates and confronts the person with dementia."

The large majority of respondents (88.8%) agreed that individuals with dementia retain strengths that can be capitalized on in therapy (see item "f"). In addition, 94.7% agreed that consistent routines (item "i") may facilitate higher levels of functioning in people with dementia, 78.2% agreed that individuals with dementia benefit from consistent cognitive stimulation (see item "m") and 95.6% agreed that structured activities may be beneficial (item "j"). (The nature of these activities was unspecified in the opinion statement provided.) One person (Participant

122) wrote, "I feel very strongly that S-LP services benefit individuals with Alzheimer's and other dementing illnesses. I have seen the improvement in clients and the positive comments from family and staff."

With respect to learning by individuals with dementia, the majority of respondents disagreed with the statement that individuals with dementia could not learn functional information because of memory impairments (78.6%; item "h"). Fewer, however, agreed that individuals with dementia could learn new information (51.9%; item "g") and in fact, a large portion of the sample indicated a neutral position regarding new learning (30.6%).

Most respondents indicated support for caregiver communication training programs. Approximately 96% of respondents agreed that personal and professional

caregivers can learn to use effective communication strategies with individuals who have dementia (Table 5, items "k" and "l"). One person (Participant 109) stated the following: "One-to-one therapy does not benefit most of this population but compensatory strategies working with family members/caregivers and environmental adaptation are more productive and have a longer-term impact." However, some respondents noted that caregiver training alone is insufficient for long-term effects on the functioning of individuals with dementia. One respondent (Participant 33) stated, "Lack of follow through by busy special care aides and family make implementation of therapy haphazard and largely unsuccessful." Another (Participant 168) noted, "... Treatment needs to be carried through by nursing staff, caregivers or other therapists, etc. One of the biggest frustrations to providing services to [individuals with dementia] is lack of follow through."

S-LPs perceived barriers to providing services to individuals with dementia. Approximately 60% of respondents agreed with the statement that some individuals with dementia may benefit from speech-language pathology services but caseload demands prevent them from providing this service (Table 5, item "c") and 76.3% agreed that individuals with dementia were not referred for speech-language pathology services (item "d").

In the final part of Section C of the survey, respondents were instructed to rank seven potential barriers to service delivery from most to least significant. Two hundred and

Table 5*Perspectives on Individuals with Dementia and the Role of the S-LP (n=206)*

Opinion Statement	Strongly Disagree <i>n</i> (%)	Disagree <i>n</i> (%)	Neutral <i>n</i> (%)	Agree <i>n</i> (%)	Strongly Agree <i>n</i> (%)
a) The progressive nature of dementia prevents individuals from improving in direct 1:1 speech, language, and/or communication interventions.	10 (4.9)	105 (51.0)	49 (23.8)	35 (17.0)	7 (3.4)
b) The progressive nature of dementia prevents individuals from improving in direct 1:1 cognitive therapy.	8 (3.9)	104 (50.5)	54 (26.2)	34 (16.5)	6 (2.9)
c) Some individuals with dementia may benefit from speech language pathology services but caseload demands prevent me from providing this service.	6 (2.9)	36 (17.5)	39 (18.9)	73 (35.4)	52 (25.2)
d) Some individuals with Alzheimer's disease/ other dementing illnesses may benefit from speech language pathology services but these individuals are not referred to me.	4 (1.9)	16 (7.8)	29 (14.1)	112 (54.5)	45 (21.8)
e) Treating patients with dementia is within the scope of practice of S-LPs.	4 (1.9)	1 (0.5)	12 (5.8)	99 (48.1)	90 (43.7)
f) Individuals with Alzheimer's disease/other dementing illnesses retain strengths that can be capitalized on in therapy.	0 (0.0)	2 (1.0)	21 (10.2)	124 (60.2)	59 (28.6)
g) Memory impairments prevent individuals with Alzheimer's disease/other dementing illnesses from learning any new information.	12 (5.8)	95 (46.1)	63 (30.6)	34 (16.5)	2 (1.0)
h) Memory impairments prevent individuals with Alzheimer's disease/other dementing illnesses from learning any functional information.	27 (13.1)	135 (65.5)	36 (17.5)	8 (3.9)	0 (0.0)
i) Consistent routines may promote a higher level of function in individuals with Alzheimer's disease/other dementing illnesses.	1 (0.5)	1 (0.5)	9 (4.4)	98 (47.6)	97 (47.1)
j) Structured daily activities may promote a higher level of function in individuals with Alzheimer's disease/other dementing illnesses.	1 (0.5)	2 (1.0)	6 (2.9)	101 (49.0)	96 (46.6)
k) Professional caregivers can be trained to facilitate more effective communication in individuals with Alzheimer's disease/other dementing illnesses.	2 (1.0)	1 (0.5)	5 (2.4)	72 (35.0)	126 (61.2)
l) Personal caregivers can be trained to facilitate more effective communication in individuals with Alzheimer's disease/other dementing illnesses.	2 (1.0)	1 (0.5)	5 (2.4)	72 (35.0)	126 (61.2)
m) Individuals with dementia benefit from consistent cognitive stimulation.	1 (0.5)	5 (2.4)	39 (18.9)	98 (47.6)	63 (30.6)

Table 6*Most Commonly Ranked Barriers to Service Delivery for Individuals with Dementia (n=209)*

	Number of individuals ranking the barrier (%)						
	1	2	3	4	5	6	7
Other patients with more acute concerns have priority	77 (36.8)	47 (22.5)	25 (12.0)	17 (8.1)	10 (4.8)	20 (9.6)	13 (6.2)
Lack of funding	42 (20.1)	53 (25.4)	28 (13.4)	18 (8.6)	11 (5.3)	29 (13.9)	28 (13.4)
Lack of referrals	22 (10.5)	30 (14.4)	52 (24.9)	25 (12.0)	28 (13.4)	25 (12.0)	27 (12.9)
Poor prognosis	18 (8.6)	19 (9.1)	42 (20.1)	53 (25.4)	36 (17.2)	23 (11.0)	18 (8.6)
Limited potential	9 (4.3)	18 (8.6)	17 (8.1)	39 (18.7)	81 (38.8)	21 (10.0)	24 (11.5)
Lack of evidence to support interventions with this population	25 (12.0)	24 (11.5)	29 (13.9)	22 (10.5)	28 (13.4)	52 (24.9)	29 (13.9)
Lack of knowledge about how to conduct therapy with this population	19 (9.1)	17 (8.1)	20 (9.6)	34 (16.3)	16 (7.7)	32 (15.3)	71 (34.0)

Note: 1 = most significant barrier to service provision; 7 = least significant barrier to service provision

nine respondents completed this section of the survey (209/304, 68.7%). Rank order of items from *most* (1) to *least* (7) significant was calculated based on the number of respondents indicating a particular rank for that barrier (see Table 6). Means are not calculated for ranked data; rather, frequency of response is the appropriate way in which to characterize these data.

The barrier ranked as most significant (1) by the majority of respondents was that “other patients with more acute concerns have priority.” The second and third ranked barriers based on frequency of report were “lack of funding” and “lack of referrals” respectively. Participant comments regarding barriers include the following:

- Participant 101: “Although the mandate of my institution is to deal with acute disorders – aphasia especially – I cannot imagine a population that needs more immediate intervention than a patient or family diagnosed with dementia. Unfortunately, because this disorder is not perceived as “acute,” dementia is never the primary diagnosis of the patients that I see.”

- Participant 90: “If time and funding were available [and] referral sources could be in-serviced, I am sure they [other health professionals] would send referrals then.”

- Participant 11: “Overall lack of knowledge of S-LP scope of practice limits the number of referrals by other

disciplines. Those professionals who do realize that we can help are reluctant to refer due to the few S-LPs who are interested in this population. The same situation occurs for ...other degenerative neurological disorders. The exception is if it is a child who is the client! Adults are consistently underserved.”

- Participant 103: “The ‘medical professionals’ see my role as mainly attending to dysphagia – i.e., the referrals for persons with dementia are most often for dysphagia and then if I have time, I will work with language/motor speech/cognition.”

- Participant 54: “...the demand for [dysphagia] services has had a huge impact on the ability to provide communication services even for aphasia.”

- Participant 104: “Swallowing in dementia is considered a priority, communication is not.”

- Participant 63: “Our current situation is such that, for adults, only ‘priority’ clients are seen (i.e., those with swallowing difficulties).”

- Participant 158, “Sadly, communication intervention is not a priority...”

The top ranked barriers to providing services were cross-referenced by primary site of employment. (The number of respondents in several provinces was too low

for meaningful analysis of barriers by province.) The barrier of “other patients with more acute concerns have priority” was ranked as the most or second most significant barrier by the majority of participants in all work settings except the public education sector who ranked “lack of knowledge about how to conduct therapy with this population” as the most significant barrier.

Although “lack of knowledge about how to conduct therapy with this population” was ranked as the least significant barriers to service provision by the majority of the sample, several respondents made comments that suggest training and education would be beneficial to S-LPs. Some comments were explicit. For example, one respondent (Participant 90) stated, “I would need more training to provide in-service and therapy for this population...,” and another (Participant 95) commented that “I don’t feel that my training puts me in the best position to provide the best services for this population.” Other participants made comments that reflected an underlying lack of knowledge about service delivery for individuals with dementia. One (Participant 264) stated: “Not aware of any treatments that will help maintain/improve communication...” Another (Participant 247) wrote, “Current standardized tests have significant limitations for this population. Our profession needs a thorough cognitive-linguistic assessment tool that has statistical data for the main dementia type.” Finally, one individual commented that S-LP services are already being provided to persons with dementia through other agencies in many communities. Participant 269 stated, “I feel that most individuals with Alzheimer’s are well-served in our community through the Alzheimer’s Society, its social workers and adult day programs which are now widely available and are very specialized in the type of programming/structure and caregiver support/education that they provide. We are more concerned about adults with aphasia, dysarthria and cognitive-communication (non-Alzheimer) illnesses...where such specialized and targeted interventions may not always be available across the continuum of care.”

Discussion

The survey results provide useful information on the practice patterns and perspectives of S-LPs with regard to dementia. The implications of these results and directions for future research are discussed in the sections that follow.

Respondents who worked with patients with dementia were asked to report on assessment and treatment techniques. For assessment, 66% of respondents reported using the ABCD, a test designed for individuals with mild to moderate dementia. Yet only 19% reported using the FLCI, a test designed for individuals with moderate to severe dementia. Perhaps these respondents work primarily with individuals in the early stages of dementia and thus the FLCI is not an appropriate choice. Alternatively, the respondents may not know about the availability of evaluation tools for cognitive-communication disorders across the spectrum of dementia severity.

Many respondents reported using aphasia batteries to evaluate individuals with dementia. Although aphasia batteries are designed to assess language in multiple modalities, these tests are not designed for comprehensive evaluation of cognition and the effects of cognitive deficits on communication. The communication deficits of individuals with dementia are a direct result of deterioration of higher cognitive processes, primarily memory, as well as attention and executive functions (Bayles & Tomoeda, 1997). Tests which do not include a focus on cognition and do not have individuals with dementia as part of the standardization sample are not suitable for patients with dementia. Appropriate evaluation tools are necessary to facilitate description of communication deficits and to identify spared and impaired abilities around which to develop comprehensive plans of care (Tomoeda, 2001).

CASLPA (2004) recognizes the relation between cognition and language in its document on *Assessing and Certifying Clinical Competency: Foundations of Clinical Practice for Audiology and Speech-Language Pathology*. According to the document, when demonstrating competence in adult language disorders, the S-LP “Uses appropriate standardized and/or non-standardized procedures for assessing language...gestural communication and complex cognitive functioning relating to language (e.g., aspects of memory, organizational processes, and verbal reasoning)” (p. 31). S-LPs must recognize the contribution of cognition to communication in patients with neurological disease and injury and are well-suited professionally to evaluate both aspects of functioning in their patients. Further, S-LPs are in a unique position to determine the effects of cognitive deficits on communicative function and to design, implement and evaluate programs to address these deficits.

For respondents who worked with clients with dementia, the most frequently reported intervention used was caregiver training. Interventions for individuals with dementia are always designed to improve functioning; however, the focus on the patient may be indirect through caregivers and other aspects of the environment such as development of routines and activities (Clark, 1995; Hopper, 2001). All patients with dementia have the potential to benefit from indirect interventions because they do not have to meet cognitive prerequisites for participation. Therefore, even patients with severe cognitive decline may benefit from skilled caregivers who have been trained in optimal communication techniques. Indeed, an increasing amount of research evidence exists to support caregiver training for individuals with dementia (see for example Bourgeois, Burgio, Schulz, Beach, & Palmer, 1997; Ripich, Zioli, Fritsch & Durand, 1999; Zientz et al., 2007). In the area of caregiver training, the perspectives of respondents were consistent with their practice patterns. An overwhelming majority of the sample agreed that personal and professional caregivers can be taught to use effective communication strategies with individuals who have dementia, that routines may facilitate higher levels of function, and that structured activities may be beneficial.

The majority of respondents agreed that treating individuals with dementia is within S-LPs' scope of practice, yet their opinions varied on direct interventions, or those interventions in which the S-LP provides treatment directly to the person with dementia. Approximately 20% of the respondents agreed that individuals with dementia could not improve in direct speech, language, communication or cognitive therapy. Of those who worked with individuals with dementia, approximately 40% indicated that they never or rarely provided direct one to one behavioural treatment or cognitive therapy to clients with dementia, and 80.2% of the respondents stated that they rarely or never engaged in group treatment sessions with clients with dementia. Clearly, the respondents were unsure about the clinical utility of direct interventions for individuals with dementia and this uncertainty was reflected in their practice patterns.

However, the majority of respondents agreed with the statements that individuals with dementia can learn functional information, despite memory impairments, that they retain strengths that can be capitalized on in therapy, and that consistent cognitive stimulation may be beneficial. These positive opinions suggest that the respondents understand the benefit of cognitively stimulating environments in which functional, meaningful information is the focus of any activity for individuals with dementia. Yet, S-LPs are not designing and implementing these programs. This mismatch between perspectives and practice patterns may be related to varying definitions of what constitutes direct interventions and the challenges of measuring progress of patients in such programs.

Direct, one-to-one treatment provided by S-LPs is often focused at the level of a patient's impairment. For example, confrontation naming tasks coupled with varying stimuli and cueing hierarchies are routinely used to facilitate word-retrieval skills for persons with anomia. The goal of such interventions is to strengthen or re-build lexicons (e.g., semantic, graphemic, phonological) to facilitate access and correct production of words. The expectation of treatment is an improvement in word retrieval as a result of treatment. If someone is improving in treatment then the person is 'getting better' either generally or task-specifically. When patients have progressive neurological diseases that cause irreversible dementia, however, 'getting better' is not a realistic outcome.

Measuring progress made by patients with dementia requires consideration of outcomes related to activities and participation in daily life. For example, the focus for an individual with AD in a behavioural treatment program is not the resolution or restoration of memory or other cognitive impairments. Rather, the focus is on assisting individuals to function at their highest levels whatever the stage of the disease (ASHA, 2005). This goal is realized by capitalizing on cognitive systems that support communication and behaviour, such as procedural and habit memory, which may be relatively preserved in the early to middle stages of Alzheimer-type dementia (Eslinger & Damasio, 1986; Heindel, Salmon, Shults,

Walicke, & Butters, 1989). Focusing on such goals may involve helping the individual with the execution of a task or action deemed important for everyday functioning (e.g., remembering a family member's name; checking a calendar for the day's activity schedule; being able to find the bathroom; remembering to lock the door when leaving the house) or involvement in a life situation (e.g., engaging in reminiscence with a conversation partner; engaging in mealtime conversation; playing a game or doing an activity with others; talking on the phone). Using the International Classification of Functioning, Disability and Health (ICF; World Health Organization, 2001) as a model for assessment and treatment facilitates a holistic view of patients and recognition of their abilities within the context of their physical, social and attitudinal environments. Pairing indirect and direct interventions ensures that clinicians address factors that can hinder or promote optimal functioning of their clients.

As is the case with caregiver interventions, research evidence is accumulating to support direct interventions for individuals with dementia. Treatment strategies may include one-to-one and group treatment using evidence-based techniques such as spaced-retrieval training (see Hopper et al., 2005, for a systematic review of the evidence for SRT), memory wallets or communication books (Bourgeois et al., 1997; Hoerster, Hickey, & Bourgeois, 2001), errorless learning procedures (Clare, Wilson, Breen, & Hodges, 1999; Clare, et al., 2000), reminiscence therapy (see Kim et al., 2006 for a systematic review), and Montessori techniques (see Mahendra et al., 2006 for a systematic review of the literature in this area). Of course, not all patients with dementia are able to benefit from direct interventions. In general, patients with more severe cognitive decline will have increased difficulty with basic cognitive processes (e.g., selectively attending to a task) necessary for active engagement in therapeutic activities. More research is needed to delineate patient-specific characteristics that contribute to successful direct treatment outcomes.

Clinicians are encouraged to review pertinent research and apply it to support best practices in their fields. Based on responses to this survey, however, it is possible that S-LPs know about the evidence to support treatment but are unable to devote much of their clinical time to individuals with dementia. A majority of respondents agreed that caseload demands prevent them from providing S-LP services to individuals with dementia. Consistent with this opinion, the majority of respondents in all provinces and across all work settings (except the public education sector) cited "other patients with more acute concerns have priority" as one of the top three most significant barriers to service delivery for individuals with dementia. Respondents also cited lack of funding as a main barrier which may be related to limited staff being available to provide such services.

Patients with acute diagnoses, such as stroke-induced aphasia, are urgent candidates for S-LP services, as are clients with dysphagia, a disorder which has health and safety implications and is related to meeting basic

nutritional needs. Understandably, clinicians must triage patients according to urgency of rehabilitation needs and availability of resources. However, at the very least, S-LPs should evaluate individuals with cognitive-communication disorders of dementia and design individualized, functional treatment programs when necessary. Direct and indirect treatments often can be designed by the S-LP, implemented by caregivers, rehabilitation or nursing assistants, and subsequently monitored over time. This consultative approach to treatment may help ensure that individuals with dementia receive necessary services.

The situation of limited time and resources is complicated by a reported lack of referrals of people with dementia for S-LP services. Respondents' opinions were consistent with this reported barrier. Whereas busy clinicians rarely need to seek referrals for patients, a dearth of referrals does not mean that services are unnecessary. Rather, other professionals may not recognize the role of the S-LP in dementia management, or view the communication problems of individuals with dementia as inevitable and therefore inappropriate as targets for intervention.

Despite such barriers and the problems they pose to service delivery, possible solutions exist. Clinicians can work at a local level to increase referrals for S-LP services in the area of dementia. S-LPs can educate other professionals and family members regarding the relation between cognition and communication, the effects of various types of interventions on the functioning of individuals with dementia and the need for integrated, multi-disciplinary services with S-LPs as part of the care team. Additionally, S-LPs can conduct evaluations and implement intervention programs to demonstrate their role and the outcomes associated with treatment. For example, by working with professional caregivers to identify problem communication behaviours (e.g., repetitive question-asking; verbally aggressive behaviours) and designing programs to reduce the frequency of such problems, the role of the S-LP becomes valued and integral to quality care.

On regional and national levels, clinicians and researchers interested in aging and dementia should work with their professional organizations to increase public awareness of the role of the S-LP with older adults who have dementia and S-LPs should present dementia-related research findings at the conferences directed to other health professionals. Family members may request rehabilitation services if they are aware of the nature of such services and the outcomes they may expect for their loved ones as a result of their participation. Professionals who understand the role of the S-LP in dementia management may then increase referrals to S-LPs for these services. Importantly, S-LPs should partner with advocacy organizations such as the Alzheimer Society of Canada and its many chapters. In many provinces, the Alzheimer Society's chapters offer educational opportunities, counseling and myriad other services for people with dementia and their caregivers. However, these programs should supplement, not supplant, skilled cognitive-communication interventions designed by S-LPs.

Conclusions and Future Directions

The results of this study reveal a complex situation for S-LPs working with older adults. Whereas respondents indicated several positive opinions on the role of S-LPs with individuals who have dementia and the potential of these individuals to benefit from interventions, clinicians reported barriers to providing cognitive-communication services. Several quotes from respondents also support a clinical conundrum regarding dementia: knowing about the potential benefits of communication interventions, but being unable to implement them in the case of limited staffing resources and a focus on conditions such as dysphagia.

In future studies of this type, more information is needed on the number of patients with dementia on clinician caseloads across the county. In addition, the use of provincial registries to identify S-LPs is necessary to avoid under-sampling in provinces where many S-LPs are not members of CASLPA (i.e., Quebec). The current study was limited by the lack of pilot testing of the survey instrument which would have allowed refinement of several items. Variable response rates across survey items may have been a result of unclear wording or the fact that the questionnaire was too time-consuming to complete in its entirety. More information also is needed on the role of the S-LP in long-term care settings, where approximately 50% of individuals with dementia reside (CSHA Working Group, 1994b). In this sample, only 3% of the S-LPs worked in long-term care facilities. A large number of individuals with dementia are residing in centres where, it seems, few S-LPs are employed. Orange, Ryan, Meredith and MacLean (1995) emphasized the importance of "identifying and supporting changes that enhance the long-term care environment" and promoting successful communication for residents with dementia (p. 32). However, it will be difficult to meet such goals if S-LPs are not working where many people with dementia are living.

The results of this study form the basis for defining issues of importance to S-LPs who work with older adults, including those with dementia. Description of the issues is an important first step; however, clinical, research and advocacy initiatives are necessary next steps to meet the communication needs of this growing segment of our population.

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ERRATUM

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Perspectives on the Academic and Clinical Education in Stuttering

In the article "Perspectives on the Academic and Clinical Education in Stuttering" by Robert M. Kroll and Thomas R. Klassen, the following correction is made by this errata sheet. The publisher regrets the error and apologizes for any misunderstandings it may have caused.

The affiliation of co-author Thomas R. Klassen is York University and not University of Toronto as published.