

## Research Article

# Context Matters: Dimensions that Facilitate the Spread and Uptake of Evidence in Northern Home Care Centres

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**Abstract**

Home care providers often lack the knowledge, skills, and resources needed to appropriately meet the needs of their clients and their family caregivers and recognize they should have better access to the best available evidence to provide quality care.

The purpose of this study was to identify the contextual factors that may influence the use and exchange of best available evidence by home care providers. The study sample included all Home Care Nurses and all Nurse Case Managers or Allied Health Professionals in the 38 home care centres in the North Zone of Alberta, Canada. Staff was given a choice of responding to an online or paper survey. The Home Care Alberta Context Tool (ACT) was used to obtain information on leadership, culture, feedback, informal interactions, formal interactions, structural and electronic resources, and organizational issues (e.g. time, space, human resources). Thirty-eight nurses (13.2%) and 90 allied health and case managers (44.6%) responded.

The findings of this pilot study revealed the availability or lack of availability of the concepts that promote the spread and uptake of research evidence in the North Zone of Alberta. The concepts of social capital (connections among health care providers), culture, and leadership were all considered important and rated highly. However, the concepts of formal interactions, such as team meetings and family conferences, informal interactions with other health care providers and in-home teaching sessions, structural and electronic resources, and having adequate and private space, occurred to a limited extent and were less available.

**ABBREVIATIONS**

AHS: Alberta Health Services; ACT: Alberta Context Tool; CCHSS: Continuing Care Health Services Standards; iKT: Integrated Knowledge Translation; LPN: Licensed Practical Nurse; PARIHS: Promoting Action on Research Implementation in Health Services; RN: Registered Nurse

**INTRODUCTION**

Home care is “an array of services for people of all ages,

provided in the home and community setting, that encompasses health promotion and teaching, curative intervention, end-of-life care, rehabilitation, support and maintenance, social adaptation and integration and support for the family caregiver” [1]. The challenges for home care providers include the recruitment and retention of staff, issues of risk and cost related to travel, issues of loneliness and safety, and access to clinical skill development, research evidence, and other kinds of knowledge [2,3]. The major challenges for home care clients are the lack of support systems and local resources, and the distance to accessing care [4,5].

In spite of these challenges, home care providers are expected to take an active role in ensuring that home care clients and their family caregivers receive the best available evidence and participate in adapting the evidence so that quality and safe care is provided.

The knowledge needed reflects the diverse acute, chronic, and palliative care needs of clients that enable them to stay in their homes safely with dignity and independence. Support and respite knowledge needs of their family caregivers are also assessed [1]. The types of knowledge required to address these needs includes evidence, which is defined as information or facts that are systematically obtained in a manner that is replicable, observable, credible, verifiable, or basically supportable (i.e., research findings; [6]). This type of knowledge is often translated into best practice guidelines. However, there is strong evidence in the literature indicating inadequate use of well-known best practice guidelines [7]. Researchers have estimated that 30% to 45% of patients do not receive care according to scientific evidence and 20% to 25% of the care provided is not needed or is potentially harmful [8-10]. Thus, the need is great to understand the context of home care centres that facilitates the spread and uptake of best available evidence. This is especially important in rural settings where the home care provider may have the most frequent contact with clients and their family caregivers compared with other health care providers [11]. However, home care providers have reported in our previous research that they often lack the knowledge, skills, and resources needed to appropriately meet the needs of rural clients and their family caregivers [3,12,13].

The context of a health care work setting is widely considered to be an important influence on the use of best available evidence in practice [14-17]. Nurses working in health care settings with a supportive and collaborative culture, strong leadership, and positive evaluation or performance feedback were significantly more likely to report more research utilization, more staff development, and lower rates of patient and staff adverse events than did nurses working in settings where these dimensions of the context were lacking [18]. However, the authors are unaware of any research that has examined the context of northern home care centres that influence the use of best available evidence.

## Research Purpose and Aim

The purpose of this study was to better understand the extent to which the contextual dimensions that influence the spread and uptake of best available evidence are present within home care centres in the Alberta Health Services (AHS) North Zone, Alberta, Canada. The findings from the study will inform our program of research that aims to improve the quality of care and quality of life for home care clients and their family caregivers through integrated knowledge translation (iKT) strategies. These strategies will facilitate the exchange and use of best available knowledge by home care providers, clients, and family caregivers. iKT is a proactive process to enhance the flow of knowledge, to help researchers and knowledge users exchange and create knowledge based on needs, and to develop networks, tools, and best practices so the knowledge reaches those who need it [19-22]. However, it is fundamental that the home care context supports iKT [18,23].

## Conceptual Framework

The *Promoting Action on Research Implementation in Health Services* (PARIHS) framework was used to inform this research [23-26]. The PARIHS framework considers: (i) the evidence and knowledge being used, (ii) the context, and (iii) how use of the information is facilitated [24]. The evidence and knowledge used is defined as best available research evidence, clinical experience, professional craft knowledge, care recipient preferences and experiences, and local information [24]. The context is home care centres in the AHS North Zone and client homes where research evidence is implemented into practice. Facilitation of the information is determined by the facilitator's "state of preparedness", in terms of acceptance and understanding of evidence, and their receptivity in respect to their resources, culture, and values [24].

The PARIHS framework describes context as including culture [23,25], leadership [23], evaluation [25], and resources [27] as important domains of the work setting that facilitate the use of research evidence in practice. *Culture* is defined as the forces at work, which give the physical environment a character and feel [25] and encompasses the prevailing beliefs and values, as well as consistency in these values and a receptivity to change among home care providers [23]. *Leadership* is defined as the "nature of human relationships" [23, p98] with strong leadership giving rise to clear roles, effective teamwork and organizational structures, and encouraging involvement in decision making and learning. *Evaluation* is described as feedback mechanisms (individual and system level), sources, and methods for evaluation [25] and is recommended to occur routinely by the PARIHS developers. Lastly, Rycroft-Malone, Harvey and colleagues [26] identified time, equipment, and clinical skills as *resources* needed to implement research findings.

## Location of the Study

The study was conducted in the AHS North Zone, one of five health regions in the province of Alberta, with a population of 445,000 to 500,000. The AHS North Zone encompasses 75% of the province's land mass but only 12% of the province's population. In many areas, travel is a challenge as often travel routes do not exist between adjacent communities and travel may be possible only by air or by ice roads in winter [28]. The North Zone comprises 209 unique communities: three cities, 30 towns, 16 villages, eight Métis settlements, and 26 First Nations who live on 73 reserves that make up 16.2% of the North Zone population. Those aged 65+ comprise 12.4% of the total North Zone population [29]. Persons living in these northern communities are more likely to be living in poorer socio-economic conditions compared to those living in other areas of the province. Consequently, they are more likely to report greater mortality rates, lower life expectancy, lower perceived health, higher injury death rates, and more chronic diseases and are more likely to report heavy drinking when compared to other residents of Alberta. The rate of emergency room visits is much higher and residents are less likely to have a regular family physician when compared to those living in other areas of Alberta [30].

Thirty-eight publicly funded home care centres are located in the North Zone. While Home Care services are most commonly

delivered in the home, services may be delivered in a variety of other settings. Client and family caregiver needs are assessed by a Case Manager and together a plan of care is developed that may include home care professional services, personal care services and other services such as caregiver support and respite services [31]. In 2011, AHS North Zone home care centres serviced 5,659 clients (16.0% of whom are 65+). Most clients received maintenance services, with the remainder receiving information, long-term support, acute care, rehabilitation, and end-of-life care (W. Harrison, personal communication, June 29, 2011). Serving these clients were registered nurses (n = 192), licensed practical nurses (n = 95), allied health professionals (n = 30-50), and case managers (n = 162) (D. Arsenault & T. Woytkiw, AHS, personal communication, September 20, 2011).

## MATERIALS AND METHODS

### Methods

The study was conducted in accordance with the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* [32]. Prior to initiating the study, ethical approval was received from the University of Alberta, Health Research Ethics Board and the Athabasca University, Research Ethics Board.

A quantitative, non-experimental approach [33] was used to explore the contextual dimensions of northern home care centres. The Home Care version of the *Alberta Context Tool* (ACT) survey [34] was used to survey home care providers. The ACT collects basic demographic information and examines the following ten contextual dimensions that influence and hinder the spread and uptake of best available evidence: culture, leadership, evaluation, social capital, informal interactions, formal interactions, structural/electronic resources, and organizational slack (e.g., time, space, human resources; [35]). Study participants were asked to respond to 33 statements on a 5-point scale (from strongly disagree to strongly agree; or from never to almost always). In addition there are 25 statements where respondents are asked about the number of times in the last typical month (never = 0 times, rarely = 1-5 times, occasionally = 6-10 times, frequently = 11-15 times, and almost always = 16+) and one statement that uses the last year (never = 0 times, rarely = 1-2 times, occasionally = 3-4 times, frequently = 5-6 times, and almost always = 7+). Cronbach's alpha for the 10 ACT concepts ranged from 0.37 to 0.92 with two concepts performing below the commonly accepted standard of 0.70. Bivariate associations between the ACT concepts and instrumental research utilization levels, demonstrated good construct validity [35]. A strength of this tool was its brevity; the estimated time to complete the ACT is 9.1 minutes when administered online and 13.7 minutes when administered by paper [34].

The target group was all AHS North Zone Home Care Nurses (RN or LPN), all Case Managers (primarily nurses), and Allied Health Professionals (i.e., physiotherapists, occupational therapists, social workers, and recreational therapists) in the 38 home care centres in the North Zone (N= 489). We used two comparable versions of the ACT which differed slightly on the demographic information due to differences in the disciplines. One version of the survey was specifically designed for the Home Care Nurses (n = 287), and the second was for Case Managers or

Allied Health Professionals (n = 202). Each potential participant received an information letter and had the option of filling out the survey either online (mounted on an AHS secure website) or by hard copy to be mailed back to the principal investigator. A senior executive for the North Zone, AHS, informed all the North Zone managers in advance, asked them to encourage participation, and followed up with three electronic prompts and reminders to all Nurses and Case Manager/Allied Health Professionals encouraging them to complete the surveys. Completing and returning the ACT survey implied that the respondent had agreed to participate in the study.

We received a 13.2% (n = 38) response rate from the Nurses Survey, and a 44.6% (n = 90) response rate from Case Managers/Allied Health Professional Survey. Nearly half (46.1%) of the respondents completed a hard copy of the survey and the remainder (53.9%) completed the survey online (mostly Allied Health Professionals). The low return rate from the nurse respondents was thought to be partly due to information fatigue. There had been a number of recent email surveys in the North Zone, and our survey was released close to the Christmas break. In addition, 53% of the potential nurse respondents work part time or casual and might not have felt as engaged with the process of completing the questionnaires. Due to the low Nurses Survey response rate, only the findings from the Case Managers/Allied Health Professionals are reported in the analysis.

The AHS online survey tool, Select Survey, was used to capture the data and to provide basic descriptive analyses (i.e., frequencies and percents) using SPSS. Given the small sample size, only percents, means, and standard deviations (SD) are reported.

## RESULTS AND DISCUSSION

### Findings

**Description of the Survey Respondents:** Forty-seven percent of the respondents to the survey were employed as Case Managers (n = 42) and a further 53% were Allied Health Professionals (n = 48). Over 90% were female. Forty-eight percent of the respondents were under 40 years of age and 16% were 55 or older. Twenty-three percent had completed a Master's degree, which reflects that entry to practice is now a master's degree for many of the allied health professionals. Fifty-seven percent of the respondents had worked in their current office for fewer than five years, 40% for 5-20 years, and 3% had been in this office longer than 20 years. Over a two-week period, nearly 60% worked 61 hours or more.

**Responses to Questions about the Workplace:** Ten contextual dimensions of home care centres that facilitate the spread and uptake of best available evidence were examined: leadership, culture, social capital, formal interactions, informal interactions, evaluation, structural/electronic resources, and organizational slack (i.e., staffing, time, and space). The definitions for each of the dimensions as defined by Estabrooks et al. [35] are included in the title of each Table, however these definitions were not provided on the questionnaires.

**Leadership:** At least half of the Case Managers/Allied Health Professionals agreed or strongly agreed that their leader looked

for feedback (57%), focused on success (66%), calmly handled stressful situations (75%), actively listened (72%) and mentored (55%), and resolved conflicts (53%; Table 1).

**Culture:** Many of the respondents agreed or strongly agreed that they receive recognition (76%), have control over their work (89%), the organization balances best practice and productivity (63%), they are supported to engage in professional development (80%), and are members of a supportive workgroup (80%). Over 93% agreed or strongly agreed that they are clear on what clients want (Table 2).

**Social Capital:** A least 70% of respondents agreed or strongly agreed that information is shared among the group (84%), their observations are taken seriously by those in positions of authority (85%), information is shared between groups (70%), they are comfortable talking about client care issues with those in authority (88%), the aim of group exchanges is to help others do their job (86%), and group participation is valued by members of the group (79%; Table 3).

**Formal and informal interactions:** Less than a quarter of the respondents reported that, in the last typical month, they frequently or almost always participated in formal interactions such as team meetings (25%), case reviews (22%), or family conferences (2%). Few (16%) respondents reported attending continuing education opportunities in the past year (Table 4).

Following is a list of the percent of Case Managers/Allied Health Professionals who reported, that within the last typical month, they frequently or almost always had informal interactions within their home care organization with: other professionals in their discipline (53%), health care aides (50%), other nurses (64%), physicians (14%), other health care providers (24%), research coordinator (1.2%), clinical educator (1.2%), quality improvement person (0%), someone with new ideas (0%), and "hallway talk" (25%) in the last typical month. Only 13% of respondents participated in informal, in-home teaching sessions frequently or almost always during the last typical month (Table 5).

**Evaluation of Group or Team Performance:** Less than half of the respondents reported that they agree or strongly agree with the following statements: they routinely receive information on their team's performance (34%), routinely discuss the data

informally (47%) or formally (34%), routinely formulate an action plan based on the data (32%), monitor their performance (30%), and compare their performance with others (17%; Table 6).

**Structural and Electronic Resources:** The respondents reported that, in the last typical month, they frequently or almost always used the following resources: library (2.3%), text books (18%), journals (10%), notice boards (19%), policy and procedures (12%), clinical practice guidelines (18%), in-services (24%), computer connected to the internet (97%), computer decision support (27%), email reminder systems (44%), and websites 66%; Table 7).

**Staffing, Space and Time Resources:** The following illustrates the proportions of respondents who reported that, in the last typical month, they frequently or almost always had enough staff to get the work done (39%), to deliver quality care (34%), adequate space to provide client care (42%), and adequate private space to discuss confidential client care (50%). Of these respondents, 53% frequently or almost always made use of this space. The percentage of respondents who responded frequently or almost always to the remaining statements included: had time to do something extra for clients (8%), to talk with someone about a care plan (56%), to look something up (24%), or talk with someone about new clinical knowledge (20%; Table 8).

## Limitations

Although the ACT was developed for home care providers, it was not specifically developed for *rural* home care providers. The response options for statements related to the dimension of formal and informal interactions were 'never' to 'almost always'. 'Rarely' in the last typical month was defined as one to five times and in the past year 'rarely' was defined as one to two times. Considering the rural/remote location of some of these home care centres and the few available staff, having nearly half the staff participate in formal interactions up to five times per month and to attend a continuing education program once or twice a year may be a realistic and acceptable amount of interaction to sustain a healthy workplace. More informative response options would be 'never', 'rarely', 'occasionally', 'frequently' and 'almost always' without the number of times included as this would provide a better reflection of the respondents' perceptions of their ability

**Table 1: Leadership:** The actions of formal leaders in an organization (unit) to influence change and excellence in practice, items generally reflect emotionally intelligent leadership [1].

Items [2]	% Strongly Disagree	% Disagree	% Neither Agree Nor Disagree	% Agree	% Strongly Agree
1. Looks for feedback (n=85)	4.7	11.8	27.1	37.7	18.8
2. Focuses on successes (n=85)	2.6	8.2	23.5	48.2	17.7
3. Calmly handles stress (n=85)	1.2	3.5	20	49.4	25.9
4. Listens, acknowledges, responds (n=85)	3.5	3.5	21.2	40	31.8
5. Actively mentors and coaches (n=85)	5.9	12.9	25.9	42.4	12.9
6. Resolves conflicts (n=85)	4.7	15.3	27.1	36.5	16.5

<sup>1</sup>[36, p4]

<sup>2</sup>Short forms of the original items

**Table 2: Culture:** The way that “we do things” in our organizations and work units; items generally reflect a supportive work culture [1].

Items [2]	% Strongly Disagree	% Disagree	% Neither Agree Nor Disagree	% Agree	% Strongly Agree
1. Receive recognition (n=88)	1.1	9.1	13.6	67.1	9.1
2. Control over work (n=88)	0	4.6	6.8	64.8	23.9
3. Organization balances (n=88)	2.3	11.4	23.9	52.3	10.2
4. Professional development (n=88)	1.1	9.1	10.2	62.5	17.1
5. Clear on what clients want (n=88)	0	4.6	2.3	63.6	29.6
6. Supportive workgroup (n=88)	3.4	4.6	12.5	44.3	35.2

<sup>1</sup>[36, p4]  
<sup>2</sup>Short forms of the original items

**Table 3: Social Capital:** The stock of active connections among people. These connections are of three types: bonding, bridging, and linking [1].

Items [2]	% Strongly Disagree	% Disagree	% Neither Agree Nor Disagree	% Agree	% Strongly Agree
1. Share information with others (n=85)	0	4.7	11.8	58.8	24.7
2. Observations are taken seriously (n=86)	2.3	3.5	9.3	68.6	16.3
3. Information is shared between groups (n=86)	3.5	7	19.8	54.7	15.1
4. Comfortable talking to those in positions of authority (n=86)	0	1.2	10.5	67.4	20.9
5. Aim is to help others (n=86)	1.2	4.7	8.1	61.6	24.4
6. Group participation is valued (n=84)	1.2	3.6	16.7	63.1	15.5

<sup>1</sup>[36, p4]  
<sup>2</sup>Short forms of the original items

**Table 4: Formal Interactions:** Formal exchanges that occur between individuals working within an organization (unit) through scheduled activities that can promote the transfer of knowledge [1].

Items [2]	% Never: 0 times	% Rarely: 1-5 Times Per Month	% Occasionally: 6-10 Times Per Month	% Frequently: 11-15 Times Per Month	% Almost Always: 16+ Per Month
1. Team meetings (n=87)	9.2	49.4	16.1	11.5	13.8
2. Client case review (n=87)	14.9	49.4	13.8	11.5	10.3
3. Family conferences (n=88)	44.3	45.5	8	1.1	1.1
Items [2]	% Never: 0 times	% Rarely: 1-2 Times Per Year	% Occasionally: 3-4 Times Per Year	% Frequently: 5-6 Times Per Year	% Almost Always: 7+ Per Year
4. Continuing education (n=88)	11.4	43.2	28.4	11.4	4.6

<sup>1</sup>[36, p4]  
<sup>2</sup>Short forms of the original items

**Table 5: Informal Interactions:** Informal exchanges that occur between individuals working within an organization (unit) that can promote the transfer of knowledge [1].

Items [2]	% Never: 0 Times	% Rarely: 1-5 Times Per Month	% Occasionally: 6-10 Times Per Month	% Frequently: 11-15 Times Per Month	% Almost Always: 16+ Per Month
1. Other professionals in my discipline <sup>2</sup> (n=88)	3.4	25	18.2	27.3	26.1
2. Health care aides (n=86)	4.7	20.9	24.4	24.4	25.6
3. Nurses (n=87)	2.3	12.6	20.7	27.6	36.8
4. Physicians (n=88)	11.4	50	25	10.2	3.4
5. Other health care providers (n=85)	8.2	36.5	31.8	14.1	9.4
6. Research nurse or coordinator (n=87)	75.9	23	0	1.2	0
7. Clinical educator/instructor (n=87)	63.2	29.9	5.8	1.2	0
8. Quality improvement representative (n=88)	89.8	10.2	0	0	0
9. Someone who brings new ideas (n=88)	85.2	12.5	2.3	0	0
10. 'Hallway talk' (n=88)	20.5	31.8	22.7	14.8	10.2
11. Informal teaching (n=87)	34.5	33.3	19.5	8.1	4.6

<sup>1</sup>[36, p4]  
<sup>2</sup>Short forms of the original items

**Table 6: Evaluation:** The process of using data to assess group/team performance and to achieve outcomes in organizations or units (i.e., evaluation) [1].

Items [2]	% Strongly Disagree	% Disagree	% Neither Agree Nor Disagree	% Agree	% Strongly Agree
1. Routinely receive information (n=88)	10.2	31.8	23.9	29.6	4.6
2. Discusses data informally (n=88)	8	25	20.5	39.8	6.8
3. Formal process (n=88)	12.5	29.6	23.9	29.6	4.6
4. Formulates action plans (n=88)	10.2	27.3	30.7	28.4	3.4
5. Monitors our performance (n=87)	12.64	23	34.5	27.6	2.3
6. Compares our performance (n=88)	12.5	35.2	35.2	14.8	2.3

<sup>1</sup>[36, p4]  
<sup>2</sup>Short forms of the original items

to participate in formal interactions. The provided numbers in the response categories likely did not reflect the reality of their isolated work settings.

Another limitation of the study was the low response rate from the nurses which meant that we were not able to include their data in the analysis. In the future, we would survey only those who work full time or part time as those working casual may work infrequently and may not be as engaged in their home care centres.

## DISCUSSION

The extent to which the dimensions of the context of home care centres in AHS North Zone are present was revealed from

the perspectives of Home Care Case Managers/Allied Health Professionals who participated in our study. These are discussed under the following dimensions: leadership, culture, social capital, formal and informal relationships, evaluation, and resources, which is slightly broader than the four dimensions (leadership, culture, evaluation, and resources), identified in the PARIHS model [23,25] but reflective of the dimensions of the ACT [34].

Leadership practices are extremely important as they can positively or negatively influence outcomes for the home care centre, home care providers, and clients and their family caregivers [18,36,37]. At least half of the respondents agreed or strongly agreed with the ACT statements related to leadership.

**Table 7: Structural/Electronic Resources:** The structural and electronic elements of an organization (unit) that facilitate the ability to assess and use knowledge [1].

Items [2]	% Never	% Rarely	% Occasionally	% Frequently	% Almost Always
1. A library (n=89)	73	15.7	4.5	2.3	0
2. Text books (n=88)	22.7	19.3	39.8	15.9	2.3
3 Journals (n=89)	28.1	29.2	32.6	9	1.1
4. Notice boards (n=88)	22.7	26.1	31.8	14.8	4.6
5. Policies and procedures (n=89)	19.1	25.8	41.6	10.1	2.3
6. Clinical practice guidelines (n=89)	14.6	23.6	43.8	14.6	3.4
7. In-services (n=89)	20.2	24.7	31.5	19.1	4.5
8. A computer connected to the internet (n=89)	0	1.1	2.3	15.7	81
9. Computerized decision support (n=88)	40.9	20.5	9.1	12.5	14.8
10. Reminder systems (n=88)	18.2	11.4	26.1	12.5	31.8
11. Websites (n=89)	1.1	10.1	22.5	39.3	27

<sup>1</sup>[36, p4]<sup>2</sup>Short forms of the original items**Table 8: Staffing, Space and Time:** The cushion of actual or potential resources which allows an organization (unit) to adapt successfully to internal pressures for adjustments or to external pressures for changes [1].

Items [2]	% Strongly Disagree	% Disagree	% Neither Agree Nor Disagree	% Agree	% Strongly Agree
1. Get the necessary work done (n=89)	23.6	20.2	16.9	34.8	4.5
2. Deliver quality care (n=88)	21.6	22.7	21.6	29.6	4.6
3. Adequate space (n=88)	22.7	27.3	8	37.5	4.6
4. Private space (n=87)	21.8	20.7	8.1	43.7	5.8
	<b>% Never</b>	<b>% Rarely</b>	<b>% Occasionally</b>	<b>% Frequently</b>	<b>% Almost Always</b>
5. Use of private space (n=89)	5.7	9.4	32.1	35.9	17
6. Do something extra for clients (n=88)	9.1	38.6	44.3	6.8	1.1
7. Talk to someone about care plan (n=86)	0	9.3	34.9	51.2	4.7
8. Look something up (n=88)	10.2	19.3	46.6	21.6	2.3
9. Talk about new clinical knowledge (n=88)	6.8	39.8	34.1	18.2	1.4

<sup>1</sup>[36, p4]<sup>2</sup>Short forms of the original items

A leader's positive, respectful approach, active listening, ability to calmly handle difficult situations, and willingness to mentor others set the tone for the context of the home care providers' work environment. These relational attributes could be described as reflecting 'emotional intelligence', a concept described as the ability to manage one's own emotions, monitor and discriminate among emotions, and to use the information to guide thought and action [38,39].

There is a dynamic, reciprocal relationship between leadership and culture of an organization [37]. Of all the dimensions of context, the respondents most frequently agreed with the statements related to culture as most perceived that they were supported in their work environment. A supportive culture contributes to a vibrant workplace [40]. In addition, almost all respondents (93.2%) agreed or strongly agreed they are "clear on what clients want". This client-centred focus could be

viewed as a common vision which reflects the strong leadership discussed above. Promoting a common vision is a central element of good leadership [40] and closely resembles 'transformational leadership' [23]. This form of leadership is reported to be among the most effective because the leaders are able to transpose their ideas and beliefs into collective beliefs which eventually become assumptions and part of a centre's culture [23].

Similarly, most (>70%) respondents agreed or strongly agreed with the social capital components of bonding (e.g., sharing of information within a work group), bridging (e.g., sharing of information between groups), and linking (e.g., sharing client care issues with those in authority). Building social capital has been demonstrated to be negatively associated with emotional exhaustion in hospitals [41], a common occurrence in any health care setting including home care [2]. To promote safer care within health care organizations, Hofmeyer and Marck [42] encourage leaders to use ecological thinking to build social capital within their organizations by committing the necessary human and material resources to "(1) forge relations to foster bonding, bridging, and linking social capital; (2) build solidarity and trust; (3) foster collective action and cooperation; (4) strengthen communication and knowledge exchange; and (5) create capacity for social cohesion and inclusion." Leadership, culture, and social capital, three essential dimensions of context, appear to be present in home care centres in AHS North Zone.

Even though most respondents agreed that the components of social capital were present within their home care centres, formal and informal interactions were reported to be relatively infrequent. Few respondents participated in team meetings and case reviews, and almost all had not participated in a family conference in the last typical month. Opportunities to participate in regular interdisciplinary team meetings and family conferences can promote care that is coordinated across disciplines [43] and a family-oriented approach [44]. This is an area that requires further exploration because of the benefits of formal interdisciplinary interactions. In addition, in the past year, few respondents reported attending a continuing education function such as a workshop or conference outside of their organization. However, as discussed in the limitations section, these findings may reflect the isolated work settings of the AHS North Zone where replacement personnel are not available. The infrequent attendance at conferences may be a reality of working in rural and remote areas.

At least half of the respondents reported that they frequently or almost always had client-related discussions with other professionals in their discipline, with health care aides, and with other nurses, who may also have been providing care to the same clients and may have worked in the same home care centre. However, most respondents reported that they infrequently had client-related discussions with physicians and other health care providers. This may be related to the limited numbers and availability of physicians and other health care professionals in the AHS North Zone. Regardless of these challenges, strategies/linkages that encourage more interaction between health care providers who are caring for the same clients but working for another organization need to be implemented. Otherwise, it is difficult to plan and co-ordinate cost-effective quality care that

best meets the needs of the clients and family members. All or most respondents never or rarely had interactions with a quality improvement representative, research staff, clinical educator, and someone "with new ideas". This likely reflects the difficulty in recruiting and retaining specialized personnel in rural and remote locations. Other strategies for connecting with health care specialists, such as conference calls, tele-health, and Skype, should be explored. The high proportion of respondents (67.8%) that reported never or rarely participating in informal, in-home teaching sessions also needs to be further explored as one would expect that home care providers would frequently provide teaching during their home visits. This finding may reflect that Case Manager respondents (n=41, 46%) were primarily involved with assessment of clients and their caregivers and administration duties rather than in-home informal teaching.

Audit (data gathered about the processes and/or outcomes of client care) coupled with feedback (data provided to staff) is one of the most commonly applied evaluation methods in healthcare organizations [34]. In the North Zone, similar proportions of responses ranging from agreed, neutral, to disagree were made in response to the statements related to whether the team used data effectively to assess group/team performance. It is unclear why there would be such a wide distribution of responses. Perhaps this reflects that there is diversity among the home care centres in their audit practices, or that at some centres there may not be enough staff to be considered a team that formally discusses action plans, other processes, or client outcomes. The range of responses may also be a reflection that many unique factors affect the quality of care provided in the home. Home care differs from facility-based organizations in terms of the autonomy of the individuals receiving care, the nature of formal service provision, and the role of family members [45]. The contact between home care providers and their clients is shorter and less frequent than that found in facility-based care. Community-based individuals are also more likely to receive services from multiple agencies or professionals. Thus, home care agencies are not in a position to either fully control or directly audit all, or even most, of the direct care home care clients receive. The family caregiver is another factor that may influence the quality of care based on their capability, health, and willingness to provide care. Home care centres influence client outcomes directly through the services they provide to clients and indirectly through the assistance, guidance, and/or respite provided to family caregivers. A home care audit should thus incorporate client and family caregiver outcomes [45]. Indeed, multiple methods and sources of feedback should be incorporated into an organization's evaluative frameworks [23]. In the North Zone, home care data is routinely collected annually or sooner if there is a change in client condition using the Residential Assessment Instrument-Home Care (RAI-HC; [45]). This tool assesses clients' cognition, mood, behaviour, physical functioning, continence, nutritional status, health conditions, informal support, use of health services, and environment. Use of the RAI-HC is encouraged as more effort is being placed on consistent practice and documentation as these are a standard with the Continuing Care Health Service Standards (CCHSS) and with the provincial Case Management framework (T. Woytkiw, AHS, personal communication, January 29, 2013). The CCHSS audits and Accreditation Canada surveys



gather information very two years. However, these may not occur frequently enough to be perceived as “effectively used” (T. Woytkiw, AHS, personal communication, January 29, 2013). In terms of staff evaluation, a formal process for individuals is available but not for evaluating teams, although this is identified in the Accreditation Standards for Home Care (T. Woytkiw, AHS, personal communication, January 29, 2013). With limited resources and isolation, evaluation of the processes and outcomes of client care is particularly challenging in the North Zone. This is an important area that requires further exploration.

Available resources such as structural and electronic resources, and staffing, space, and time were the final contextual dimensions explored. Relatively few respondents regularly used resources such as books, journals, best practice guidelines, or policies and procedures manuals. Further exploration is needed to understand the reasons for not accessing these resources. Almost all respondents had a computer connected to the internet and many accessed websites, slightly less than half used email reminder systems, and a quarter accessed decision support sites. Electronic modalities for communicating, searching for information, and planning care appear to be the preferred approach. Information technology (IT) will likely have an increasingly important role to play in the training of home care providers, sharing information with clients and their caregivers at home, providing services, decreasing isolation, and building healthcare teams [5]. However, it is essential that these IT platforms be integrated and coordinated so that information can be shared between organizations, health care providers, and clients.

Staff shortage emerged as a concern for many respondents who felt that there were not enough staff to get the work done, provide quality care, do something extra for clients, look something up, or talk with someone about new clinical knowledge. Over half of the respondents indicated they had time to talk to someone about plans of care for clients. This situation is not unique to the North Zone. Canada’s resource hinterland, made up of northern small towns and communities, all experience service provision challenges. These challenges are likely to increase as older people are aging in rural and remote places. We will have “increasingly vulnerable rural people in increasingly vulnerable rural places” [46]. Caring for people within their own homes is a cost-effective approach when compared to facility-based care. Thus, it is essential that rural care providers have the resources needed to support and care for people to remain in their own homes for as long as possible. This will require a redistribution of resources from acute care to community care [5].

## CONCLUSION

The findings of this study reveal the availability or lack of availability of the context dimensions that facilitate the spread and uptake of research evidence in the home care centres in AHS North Zone. Most respondents agreed with the statements related to leadership, culture (the way things are done in their home care centres), and social capital (the connections among health care providers). These dimensions are fundamental to establishing a vibrant workplace where employees actively seek out ways to develop and use their skills, knowledge, and abilities to provide evidence-based quality care. When health care providers

collaborate, “the sum becomes greater than the parts, teams and the organization develop capabilities for performance innovation, and creativity that far surpass what individual members bring to their jobs” [40]. Innovative strategies are needed that promote collaboration among health care providers who are working with the same clients but from different organizations. Formal linkages that connect rural health care providers with specialists in urban settings will also enhance evidence-based practice in rural home care centres. How data is currently being used to evaluate group/team performance and to achieve outcomes also needs to be examined in greater detail as there was a wide range of responses to the evaluation statements. In addition, for home care providers to apply their capabilities to the fullest, they also need resources such as staff, time, space, and IT that enable them to collaborate, access, adapt, and apply the best available evidence in their practice. Further research is needed to explore these findings in more depth to better understand the reasons behind the responses and to test innovative, cost-effective approaches that enhance iKT strategies within home care centres and client homes.

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