Scientific Poster Session

Summit 10 2017

10th Annual Summit of the Knowledge Network in Rural and Remote Dementia Care

October 23rd & 24th
2017
Western Development Museum
Saskatoon

Healthcare Delivery Across the Continuum for Rural and Remote Seniors with Dementia

CIHR IRSC Canadian Institutes of Health Research / Instituts de recherche en santé du Canada

SHRF Saskatchewan Health Research Foundation

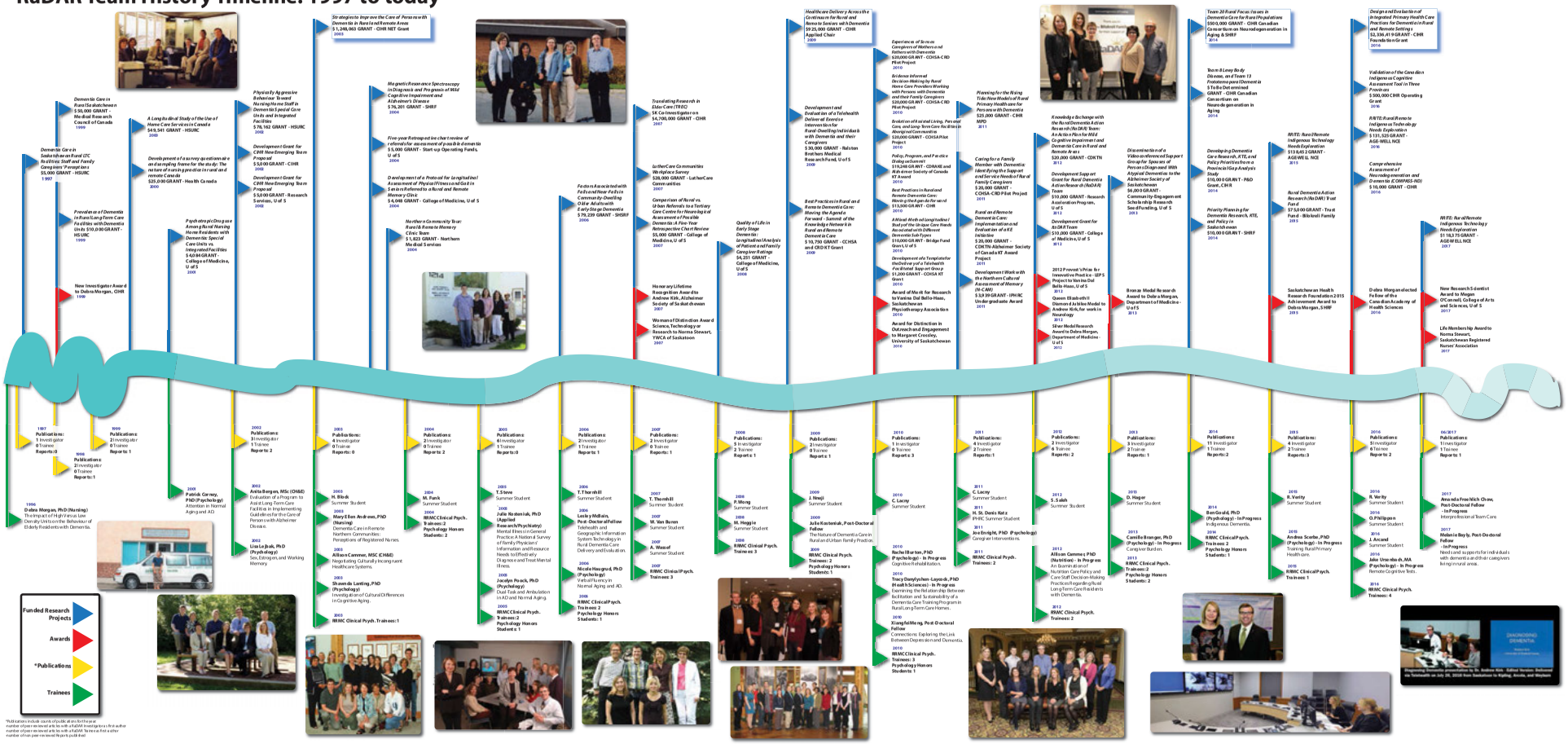
CCHSA / CCSSMA

RaDAR Rural Dementia Action Research

University of Saskatchewan

Monday October 23rd, 2017
Scientific Poster Program
6:30 PM – 9:00 pm at the Western Development Museum (Butler Byers Hall)

RaDAR Team History Timeline: 1997 to today



10 YEARS of Summit Keynotes

RaDAR
RURAL DEMENTIA ACTION RESEARCH

Summit 10 2017

2017 - SUMMIT 10

Dr. Debra Morgan

Professor and Chair – Rural Health Delivery,
Canadian Centre for Health and Safety in Agriculture,
Rural Action Dementia Research (RaDAR), University of Saskatchewan

"Decade of Innovation"

SUMMIT 9 - 2016

Dr. Mark Rapoport

Associate Professor of Psychiatry at University of Toronto and
Neuropsychiatrist at Sunnybrook Health Sciences Center

"Driving Cessation in Dementia"

2015 - SUMMIT 8

Dr. Dallas Seitz

Assistant Professor and Clinician Scientist,
Division of Geriatric Psychiatry, Queen's University

"Primary Care - Dementia Assessment and Treatment Algorithm (PC-DATA)"

Dr. Jayna Holroyd-Leduc

Assoc. Prof. in Dept. of Medicine & Community Health Sciences,
Hotchkiss Brain Institute & O'Brien Institute for Public Health,
University of Calgary

"Dementia Care in Alberta: Opportunities for Shared Learning and Collaboration"

SUMMIT 7 - 2014

Dr. Anthea Innes

Director, Boumemouth University Dementia Institute, UK

"Rural dementia care: Challenges, opportunities and personal reflections"

2013 - SUMMIT 6

Dr. Carrie Bourassa

Associate Professor, First Nations University of Canada

"Issues in Dementia Care in Rural and Indigenous Populations"

SUMMIT 5 - 2012

Dr. Michele Board

Senior Lecturer in Nursing Older People,
Boumemouth University, England

"Bournemouth University Dementia Institute (BUDI) Early Diagnosis Integrated Care Pathway, and the Meaning of Home"

2011 - SUMMIT 4

Dr. Janice Keefe

Professor, Dept. of Family Studies and Gerontology,
Mount Saint Vincent University, Halifax, Nova Scotia
and Director of the Nova Scotia Centre on Aging

"Family/Friend Caregivers: Even the backbone needs support"

SUMMIT 3 - 2010

Dr. John Keady

Professor, Older People's Mental Health Nursing,
University of Manchester, England

"Diagnosing Dementia: Transitions and Tell-Tale Signs"

2009 - SUMMIT 2

Dr. Anthea Innes

Dementia Services Development Centre,
University of Stirling, Scotland

"Dementia care in rural Scotland: Policy, practice and research issues"

SUMMIT 1 - 2008

Dr. Debra Morgan

Professor and Chair – Rural Health Delivery,
Canadian Centre for Health and Safety in Agriculture,
Rural Action Dementia Research (RaDAR), University of Saskatchewan

"Knowledge Network in Rural and Remote Dementia Care"

Purposeful Interactions

Saskatoon Health Region Long Term Care Homes

What are Purposeful Interactions?

- Making connections with each resident.
- Focus on connections and relationships versus "task"
- Regularly checking on resident's needs.
- Providing better than expected care.

Culture Change Launch is 83 % complete!!

(25 of the 30 Long Term Care Homes in Saskatoon Health Region!!)

Purposeful Interactions encourage comfort and wellbeing, providing residents and their loved ones with assurance that their needs will be met in a timely manner.

"[Care team members] go about doing their job – [focused] to get the work done, and don't realize that interaction is part of their job."
~ Ken Udell, Resident

"Purposeful Interactions (PI) focuses on relationship based care. It focuses on making the best quality interaction with each resident, understanding them as an individual with their own needs and providing them with choices. It takes the emphasis off of task orientated work and puts the resident first. When care team members know they are making a positive difference for residents and their families, they are more satisfied in their role and daily work practices. "

-Audra Remenda and Elaine Feltis, Saskatoon Health Region Long Term Care Advisory Council Co-Chairs

"There has been a significant change in culture. I do notice a big change in that I see staff speaking with residents and it makes me feel good to know they are engaging my Mom even though she may not be completely aware. As family, it takes some sadness away from us. Human touch and voice are integral as people go deeper and deeper into dementia/"

-Roxanne
Family Advisor

"I feel encouraged that staff see that individual care to residents' is life giving and not just a task. They are investing in their life; they are "breathing life" into them. Interaction of the staff is more personal now. Feel like everyone in a home/ neighbourhood is a family."

- Wilma, Family Advisor

- ***Resident-directed care*** places maximum possible decision making into the hands of the residents. This means that residents direct their own care. Relationships and choice are of greatest value.
- Resident-directed care occurs when care team members encourage independence and support residents to participate in decisions affecting their environment: their home.
- Resident-directed care is based on:
  - Communication
  - Respect
  - Choice
  - Independence
  - Privacy
  - Autonomy
  - Flexibility
  - Security

Wedding Vow Renewal & Blessings Ceremony

BETTER EVERY DAY

better health • better care • better value • better teams

Mobile Recreation Therapy Services; Private Practice, In Rural Saskatchewan and Surrounding Area.

Donna BoserKelly, Recreation Therapist

Canadian Therapeutic Recreation Association
Association Canadienne de Loisir Thérapeutique

Saskatchewan Association of Recreation Professionals

Developing Strengths and Resources in planning goals, dreams and aspirations, Therapeutic Recreation Practice: A Strengths Approach. (Anderson and L.Heyne, 2012 pg.66).

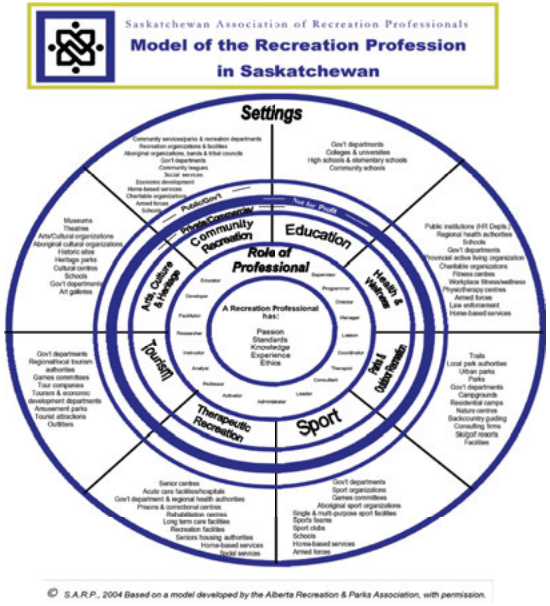
Recreation Therapists assess, plan, implement and evaluate and coordinate recreation based treatment plans for people of all ages and abilities.

Leisure Ability Model:
Functional intervention – Improve functional ability
Leisure Education– Acquire Leisure Knowledge and skills
Recreation Participation – Engage in organized participation opportunities.(Stumbo, Peterson, 2000, p.15).

Recreation Therapy Designed Referral form used by Physicians.
Set up appointment, meet with client and family using the Leisure Diagnostic Battery assessment and the results will identify what the strengths are and or areas to work on in the various domains.
A Recreation Treatment plan is developed and designed with the clients interests, medical information and abilities.
Set goals and Dare to Dream.
Documentation of assessment summary, progress notes and plan updates.
Work closely with family, health professionals in the community along with volunteers, friends and organizations.
Visit one time per week for 8 weeks.
Reassess, results show any changes to be made or maintained.
The client is discharged or continues with the Mobile Recreation Therapy Services

The Mobile Recreation Therapy service is delivered on site and offered in clinical, residential and community settings.
An insurance is purchased yearly
Town Business Licence is purchased yearly
Organizations: CTRA and SARP membership renewal annually
Own vehicle
Equipment and supplies
Quality Assurance checklist:
Qualifications – Proof of Training
Ongoing education is offered with the organizations
Documentation, Physicians orders for Leisure modifications
Physical environment, calendar for each month
Program evaluation.
Activity Analysis form completed for all activities offered
Activity program review
Programs offered that meet the diversity of clients needs and abilities.
Advocate and recommendations on a continual basis (Martini, Weeks and Wirth 2011,p.303).

Codes of Ethics, Values and Standard of Practice, Recreation Therapists, as members of Saskatchewan Association of Recreation Professionals and Canadian Therapeutic Recreation Association.
We value professional leadership in the leisure service field.



This is my friend and client Betty she has advanced dementia. She was referred by her Doctor. We work closely with her family and her friends in the community. Her assessment showed strength in music, sport and walking. An intervention and program began weekly. Her abilities have been improving her sessions have been documented and assessment results available using The Leisure Diagnostic Battery Assessment, Activity Type, Preference Inventory (permission by signing a waiver and also with family). Betty is becoming more social and she is now playing the piano, before she was sleeping a lot, now she enjoys the lifestyle she used to have which provides her with an improved quality of life.

Physical, Social, Emotional

Quality Of Life Domains

Spiritual and Cognitive

Therapeutic Program Design, (Peterson, Stumbo, 2000, p.79)

REWARDING OR REPETITIVE? INVESTIGATING HEALTHCARE STUDENTS' ATTITUDES TOWARD GERIATRIC SPECIALIZATION.

C. Branger B.Sc. (Hons) PhD Student Clinical Psychology , Supervisor: Dr. Megan E. O'Connell
Department of Psychology, University of Saskatchewan

PURPOSE
Investigate attitudes toward geriatric specialization in a sample of university students training in health care related professions.

RATIONALE
- Growing aging population means shift in care needs toward older adult population.[1]
- Limited specialists in older adults care.[1,2]
- Lack of interest in geriatric specialization among young/training health care professionals. [2]
- Attitudes toward older adults, knowledge of aging, and experience with older adults impacts interest in specialization.[3,4]

METHOD
- Participants rate level of interest (Low, Moderate, High).
- Quantitative measures of attitudes toward older adults (**Aging Semantic Differential; ASD**), knowledge on aging (**Facts on Aging Quiz- Multiple choice; FAQ-mc**) .
- Participants report frequency of contact with older adults.
- Thematic Analysis on responses re: interest in geriatric specialization and perception of a career in geriatrics.

RESULTS
N = 99
86 female, 13 male
85 undergraduate students, 14 graduate students

45% (n = 20) *low* interest
38% (n = 17) *moderate* interest
12% (n = 6) *high* interest

Quantitative findings:
One-way ANOVA investigating Level of Interest by ASD, FAQ-mc, and frequency of contact = ***no significant difference.***

"...by working with elderly people, I could help bring respectful, helpful, meaningful, treatment to their lives."

Qualitative findings:

Themes emerging from qualitative data:
"Please explain why you are interested, or uninterested, in specializing in geriatric care."
*"Please describe your perception of what a career specializing in geriatric care in your profession would look like."**

Prevention versus management focus on management rather than cure and prevention	***Reciprocity/respect*** opportunity to show respect by providing care
Undesirable work *challenges associated with population (hearing loss, loss of mobility) and nature of care tasks*	***Importance/need*** understand aging population is growing
Depressing perceived difficulty watching deterioration/ challenges surrounding loss/ *discomfort in facing the reality of life and death	****Collaborative approach to improving health*** presumed interdisciplinary approach required to provide adequate care and potential for advocacy on behalf of older adults to improve quality of life.
****Status*** negative perception/status associated with specializing in geriatric care	

Assumptions negative (e.g., all older adults have or develop dementia) and positive assumptions (e.g., they are a grateful and pleasant population).

"Depressing. I think it makes you face your own aging and mortality."

CONCLUSION
- Data suggest students interested in geriatric work, are passionate about it.
- Some see professional role as an opportunity to rectify injustices toward older adults.
- Negative assumptions toward aged populations persist.
  Majority of sample endorsed low to moderate interest in geriatric specialization.
  Perception of geriatric specialization as slow, repetitive, and uninteresting is prevalent.
- Experience impacts attitude: experienced students endorse the work as interesting/enjoyable.

- Data highlight:
  Importance of training environment in shaping student attitudes/perceptions.
  Importance of experience working with older adults.
  Training programs should inform on areas specialization (some reported specialization not possible).

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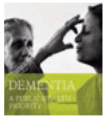
C. Branger is a proud recipient of the Alzheimer's Society Doctoral Award.

The Role of Registered Dietitians in Dementia Care in Rural and Urban Long-term Care

[1,2]A. Cammer, [1]S. Whiting, [2]D. Morgan.

[1]College of Pharmacy and Nutrition, University of Saskatchewan, [2]Canadian Centre for Health and Safety in Agriculture, University of Saskatchewan

Background



Dementia is recognized as a public health priority; worldwide prevalence of dementia is projected to double to 65.7 million by 2030 (WHO, 2012).

Dementia is the top chronic condition prompting relocation to long-term care (LTC) (ADI, 2013) and 60% of Canadian LTC residents have a diagnosis of dementia (CIHI, 2016).

Persons with dementia are at higher risk for malnutrition due to both physiological and behaviour changes. Malnutrition can accelerate cognitive decline, increase risk of negative health outcomes (unwanted weight loss or gain, muscle wasting, infection, poor wound healing, pressure ulcer formation), and negatively impact quality of life.

Nutrition care, ranging from provision of therapeutically appropriate, high quality menus to individualized resident nutrition care plans, is crucial in preventing/addressing malnutrition and enhancing resident quality of life. Registered dietitians (RDs) are recognized experts in nutrition care and crucial members of the interdisciplinary LTC team.

RD role in LTC is not clearly defined (Wassink &Chapman, 2010) and LTC practice is often devalued by RDs (Lordly &Taper, 2008).

Research Question and Objectives

Using an evidence-based practice lens, what is the role of the RD in nutrition care for residents with dementia within the long-term care setting?

- Identify strengths and barriers experienced by RDs in providing quality nutrition care specific to dementia
- Determine whether and how the rural context affects RD care provision for residents with dementia in LTC

Methods

- Qualitative Approach
- Grounded theory methodology (Charmaz, 2014)
- In-depth interviews with RDs from 9 health regions
- Set of guiding questions with prompts
- Constant Comparison method of analysis

Participants

- Theoretical sampling used; Participants initially recruited via LTC Action group contact list
- In-depth interviewed audio recorded then transcribed verbatim
- 27 interviews; 21 in-person, 6 via telephone
- Average age: 38 years (23 – 56)
- Average years as RD: 13.6 years (1 – 31)
- Average years of work in LTC 11 years (0.5 – 31)

Impact of Rural Practice Location

- Increased strain experienced
- Less care time due to travel requirements
- More often multiple sites and different organizational factors to address
- Typically multiple RD roles; not practicing solely in LTC

Findings

"Downstream Role of RD in Dementia Care"

- RD typically not involved in dementia care until late in disease trajectory; not consulted for 'dementia', typically malnutrition secondary to dementia
- Skillset and expertise often misunderstood; stereotype of what qualifies for RD care
- 4 interrelated categories operate in LTC that push RD downstream in dementia care process and prevent ability of RDs in advocating to increase or enhance role

Silo-ing

- Care not coordinated centrally
- Inter-department challenges including communication, levels of cooperation, or authority to enact care plans, direct other staff
- Different systems or practices within each department or unit
- Redundant communication necessary

Relationships

- Fostering good relationships takes on a larger meaning in LTC and dementia
- Key feature in having care plans enacted; knowing what care is needed and how to tailor effectively
- Exist at the level of the home, department, staff, resident, family

Resources

- Low amount of resources in LTC (human, material, knowledge)
- RD - resident time in short supply
- RD an in-demand resource but often underutilized (staff 'makes do')
- Competition for resources creates hierarchies of need; prioritizing
- Care plan often hindered due to reality of resources

Practice Expertise

- Lacking formal education/training'; new emerging area
- Ability to develop expertise challenged by broad scope of job
- Limited ability to gain experiential knowledge or to trial strategies
- Complex cases; intervening late can lead to frustration/perpetuate stereotype of RD role

Implications for Practice

- Dementia presents diverse and complex nutrition care needs within the LTC context, well recognized by RDs.
- Expertise and confidence in dementia care is needed.
- Advocating to be part of the care team in a more upstream manner is required but limited in many ways. Nutrition care for LTC residents with dementia could be enhanced through RD involvement earlier in the trajectory of the disease process.

Acknowledgements

Alzheimer Society Canada

PHARE

wrtc

University of Saskatchewan

Health-related Stigma of Neurological Disease in Rural Adult Populations: A Scoping Review

Valerie Elliot, Julie Kosteniuk, Amanda Froehlich Chow, Melanie Bayly, Debra Morgan
Rural Dementia Action Research (RaDAR), University of Saskatchewan

Background:

- Stigma is widely recognized as a public health issue[1]
- Stigma affects people with neurological disease (ND) and their families, adding to "the toll of illness"[1]
- For people with ND, dealing with stigma is often worse than the limitations of the disease[1]
- Rural populations:
  - ✓are primarily low in numbers and widely dispersed[2]
  - ✓frequently lack access to services, information, and anonymity[2]
  - ✓often have unique culture, health beliefs & practices[3]
  - ✓typically include cohesive, supportive communities[3]

Objectives:

- To explore stigma related to ND in rural adult populations
- To map existing evidence and identify gaps in the literature
- Ultimately, to help inform potential future research and efforts to reduce health-related stigma in this population

Methods:

Framework based on Arksey & O'Malley[4]:

1. Identification of the research question
2. Identification of relevant studies
3. Study Selection
4. Charting the Data
5. Collating, summarizing, and reporting the results

I. Research Questions:

1. What are the main aspects/issues of health-related stigma associated with neurological disease in rural adult populations?

a) What types of stigma have been identified?
For example:

- self-stigma: felt, perceived, internalized
- social stigma: by others/the general public
- associative stigma: stigma by association/'courtesy stigma'
- health professional stigma: a specific type of social stigma
- structural stigma: systemic/institutional/policy

b) Which stigma-related aspects or issues appear to be linked across particular neurological diseases and/or comorbid health conditions?

c) What are the stigma-related outcomes?

II. Identification of Relevant Studies:

i. Search Strategy

Key Words	Search Terms
Rural	rural*mp
+ Stigma	stigma*mp or attitude or prejudic* or stereotyp* or discrimination or perception

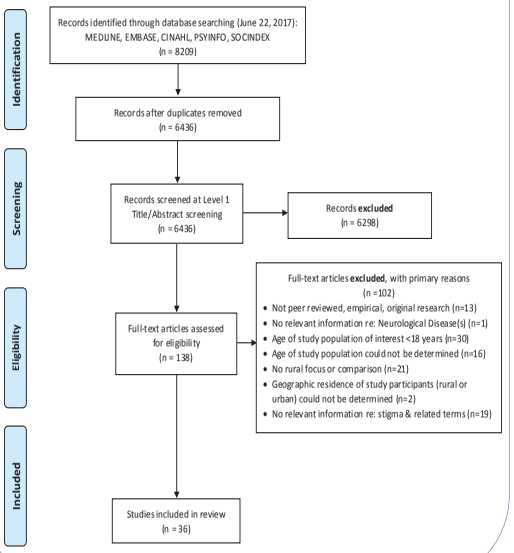
Database	Number of Studies Retrieved
MEDLINE	3673
EMBASE	1650
CINAHL	672
PsycINFO	1231
SocINDEX	983
Total studies	**8,209**

ii. Study Selection

Inclusion criteria:	Exclusion criteria:
• Peer-reviewed, 1992 to present, English language • Qualitative & Quantitative • Addresses main topic (stigma [or related concepts] re: *neurological diseases in rural adult populations) • Study Ps ≥18 (study focus on adults with ND) • Study Ps may include patients (self), informal caregivers/family, health professionals, community members	• Letters to the editor, opinion letters, commentaries, dissertations, reviews, study protocols, policy papers, reports, book chapters & all other non peer-reviewed documents. • Publications written in a language other than English • Main topic not addressed (no relevance to stigma [or related concepts] re: *neurological diseases in rural adult populations) • Study population <18 (study focus on children with ND) • Studies that do not focus on or make a comparison to rural

*Neurological Diseases identified as per those recognized by the National Institute of Neurological Diseases and Stroke (NINDS)

Figure 1. PRISMA[5] flow diagram of the study selection for the scoping review



References:
[1]World Health Organization (WHO). *Public Health Principles and Neurological Disorders*. WHO Press: Switzerland, 2006.
[2]Health care Access in Rural Communities. Rural Health Information Hub website https://www.ruralhealthinfo.org/topics/healthcare-access. Updated September 2017. Accessed October 12, 2017
[3]Thomlinson et al. Health beliefs of Rural Canadians: Implications For Practice. *Aust. J. Rural Health* (2004) **12**, 258–263.
[4]Arksey, H & O'Malley, L (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*, 8: 1, 19-32.
[5]Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement*. Ann Intern Med. 151(4)

IV. Studies Selected for Inclusion: n=36

Initial Findings:

Overarching themes:

- **Inaccurate knowledge**, **misinformation** and **beliefs** about NDs are influenced by cultural norms, and are associated with negative attitudes and stigmatizing behaviours
- **Rural** often offers **supportive, close-knit communities** that can lower stigmatization but there is a **lack of anonymity** that can increase stigmatization
- **Attempts to conceal** ND are often associated with shame and avoidance of stigmatization re: being labelled and losing social status
- **Social exclusion** (both by self and others) is often associated with noticeable, socially undesirable, or fear-provoking symptoms related to NDs
- Stigmatization most often results in **disempowerment and unequal life opportunities** (e.g., employment, marriage)

Gaps in the literature:

- Stigma related to epilepsy accounted for most of the articles in this review (21/36). Almost half of the articles related to epilepsy were conducted in Africa (10/21). Clearly **there is a lack of literature 1) concerning stigma associated with NDs other than epilepsy in rural adult populations in Africa, and 2) stigma related to NDs in rural adult populations globally**

Conclusions/Recommendations:

- **Further research is necessary** to fill the gap in the existing literature on this topic, to gain a better understanding of health-related stigma associated with NDs in rural adult populations **to potentially and appropriately inform future interventions and policy-making in this regard**

Association Between Patients' Sleep Disturbance and Caregivers' Burden, Quality of Life, and Psychological Distress at the Rural and Remote Memory Clinic

G. Fleury, Supervisor: Dr. Megan O'Connell
Department of Psychology, University of Saskatchewan

Introduction

Purpose

The purpose of the proposed research is to gain a better understanding of the associations between patients' sleep disturbance and caregivers' burden, quality of life, and psychological distress.

Rationale

- 25 to 50% of adults with dementia experience sleep disruptions.[1,2]
- Aging adults may experience sleep disturbances as a result of neuropathological, natural brain-related aging, daily behaviours, and environmental factors.[1,3]
- Previous research suggests that patients' sleep disturbance negatively impacts caregivers.[3,4,5]
- Previous research has also suggested that sleep disturbance impacts spousal caregivers more than non-spousal caregivers.[4,7]
- Patient sleep disturbance can be addressed, depending on the reasons that the patient wakes.[1]

Methods

Our data is retrospective, gathered from patients and from family caregivers presenting at the Rural and Remote Memory Clinic.
Patients are diagnosed with no cognitive impairment, mild cognitive impairment, or dementia after interprofessional assessment.

Sleep Disturbance

Sleep disturbance in patients presenting at the RRMC is measured with the Sleep Disorders Inventory.[10]
The Sleep Disorders Inventory describes the frequency, severity, and caregiver burden of sleep-disturbed behaviors during a period prior to its administration.

Burden

The Zarit Burden Interview is a self-report instrument for assessing the burden experienced by the caregivers of persons with dementia.[11] Each item on the interview is a statement which the caregiver is asked to endorse using a 5-point scale ranging from 0 (Never) to 4 (Nearly Always).

Quality of Life

The SF-36 health survey is a multipurpose, short-form health survey with only 36 questions.[12] It yields an 8-scale profile of scores, as well as summary measures. It is a generic measure of health status as opposed to one that targets a specific age, disease, or treatment group.

Psychological Distress

The Brief Symptom Inventory–18 is a self-report questionnaire that measures general psychological distress.[13] It consists of 18 descriptions of physical and emotional complaints; respondents indicate from 0 (not at all) through 4 (very much) to what extent they are troubled by complaints.

Hypothesis

After controlling for dementia severity (clinical dementia rating scale sums of boxed scores) and potentially for patient neuropsychiatric symptoms (neuropsychiatric inventory, severity scale), we hypothesize that sleep disturbances in patients diagnosed with sleep disturbances will:

- predict caregivers' report of burden, quality of life, and psychological distress,
- but only for caregivers who reside with their loved ones.

References
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[2] Shub, D., Darvishi, R., & Kunik, M. E. (2009). Non-pharmacologic treatment of insomnia in persons with dementia. *Geriatrics, 64*, 22-26.
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[10] Tractenberg, R. E., Singer, C. M., Cummings, J. L., & Thal, L. J. (2003). The Sleep Disorders Inventory: An instrument for studies of sleep disturbance in persons with Alzheimer's disease. *Journal of Sleep Research, 12*, 331-337.
[11] Hébert, R., Bravo, G., & Préville, M. (2000). Reliability, Validity and Reference Values of the Zarit Burden Interview for Assessing Informal Caregivers of Community-Dwelling Older Persons with Dementia. *Canadian Journal on Aging / La Revue Canadienne Du Vieillissement, 19*(4), 494-507.
[12] Ware, J. E., Jr. (1999). SF-36 Health Survey. In M. E. Maruish (Ed.), The use of psychological testing for treatment planning and outcomes assessment (pp. 1227-1246). Mahwah, NJ: Lawrence Erlbaum Associates
[13] Derogatis, L. R. (2001). Brief Symptom Inventory (BSI)-18: Administration, scoring and procedures manual. Minneapolis, MN: NCS Pearson.

Meanings of deep and sustained friendships in dementia

M. Rebecca Genoe[1], PhD; Darla Fortune[2], PhD; Colleen Whyte[3], PhD

Introduction

Relationships are vital to the human experience and contribute to psychological well-being (de Medeiros et al., 2012). Research suggests that ongoing participation in community activities with friends can promote identity and autonomy as well as sustained capacity for skills and abilities (Dupuis et al., 2012). However, stigma associated with dementia can lead to social exclusion for people with dementia (Roland & Chappell, 2015). Often, people with dementia reduce their engagement in social situations, yet may still wish to connect with old friends (Fortune & McKeown, 2016). Despite the potential of sustained friendships to support people with dementia, there is a paucity of research that considers both the quality of friendship and meaning of sustained friendships in dementia (Harris, 2011). As such, the purpose of this study is *to explore the meaning of long-standing friendships and the ways in which these friends maintain their deep connections as they negotiate life with dementia together.*

Methodology

This study is guided by hermeneutic phenomenology to explore the life world of our participants. Phenomenology aims to understand how people make sense of their lived experience (van Manen, 1997).

Data collection

Data collection includes individual, dyad, and group interviews with people with dementia and their friends. Interview questions include: What is the meaning of your relationship? How has the relationship shifted, and what are some challenges and rewards of your friendship?

Participants

We are seeking 45 dyads for this study. Participants must have been friends for at least 5 years before diagnosis of dementia. Participants have included:
10 people with dementia;
8 friends;
4 care partners.

Data analysis

Hermeneutic phenomenological analysis will be conducted, including holistic, selective and detailed readings of transcripts.

Preliminary Findings

Supporting each other

I read to her too, and she enjoys that….She likes to meet with me at a certain time and then we'd pick a book, some book I hadn't read but would like to read, and something she hadn't heard and she'd like to hear. It suited both of us. And we did that. We enjoyed that. We're going to do that some more. (participant with dementia, Assisted Living)

Deriving pleasure from her presence

I just love being in her presence still. It doesn't really matter. Sitting and having a cup of tea with her, or coffee or whatever….she used to lock herself out a lot, and we have the main spare key. We just let Anne come and we'd have a cup of tea and then we'd take her home. (friend)

Being together

What do you want to do with friends? You don't have to just sit there and stare at each other. Did you always play cards? Play cards. Did you watch a movie together? What did you do? Go to the show with them. If that's what you want. Go shopping. Plan an activity. Educate, but also make an activity that it's okay, that you're comfortable with. (friend)

Implications

While this study is still in preliminary stages, we have identified several implications that may emerge from our findings, including 1) Illumination of contributions of sustained friendships by describing ways in which friendships are sustained over time; 2) Reveal the systemic and structural complexities of maintaining friendships within community, assisted living, and long term care; 3) Advocate for strategies for maintaining peer-to-peer friendships within community, assisted living, and long-term care settings.

1 University of Regina
2 Concordia University
3 Brock University

Funded by the Social Science and Humanities Council of Canada

Wellness Needs for PEI Indigenous Communities: Opportunities for Development of Technology-based Remote Support

B. Gould, M. E. O'Connell, C. Bourrassa, K. Jacklin, J. Carter, C. MacQuarrie, D. Leblanc, Abegweit First Nation & Lennox Island First Nation

INTRODUCTION

Purpose

→ To work with two First Nation communities in an effort to explore their perceived wellness needs to increase the likelihood of developing appropriate and sustainable technology and services.

Background

→ Relatively little research in Indigenous wellness needs, leading to concerns in identifying appropriate services[1].

→ Research has suggested that racial-ethnic health disparities (e.g., Indigenous health) are partly present due to a lack of trust between patient and healthcare provider, supporting the importance of building trust and strengthening relationships[2].

→ The development of culturally safe, useful technology can only be developed by a cooperative participation with Indigenous end-users, and community[3].

Research Approach

Theoretical Framework

→ All work in this project has been approached through an *Indigenous paradigm* that places the emphasis on *relational networks*[4].

Methodology

→ The communities' perceived wellness needs were explored through *Photovoice*

→ *Photovoice* allowed the community to communicate their stories and describe their thoughts through a culturally appropriate modality[5].

→ Picture sessions were guided by themes based on the *First Nation Mental Wellness Continuum Framework*[6].

Partners

→ This project partnered with Abegweit and Lennox Island First Nations communities from PEI:
- → *Lennox Island Reservation*
- → *Scotchfort Reservation*
- → *Rocky Point Reserrvation*
- → *Morell Reservation*

→ Other supporting partners included:
- → *Mi'kmaq Confederacy of PEI*
- → *Mental Health & Addictions, PEI Dept. of Health*
- → *Dept. of Health & Wellness, PEI Dept. of Health*
- → *University of PEI*
- → *First Nation Inuit Health Branch*

Display

Findings

Shared stories and experiences were thematically analyzed, and specific themes were derived. Below are the most commonly presented themes.

Themes

- → Reconnecting to our Culture
- → Getting Involved in Community Life
- → Family
- → "All My Relations"
- → Connection to Land
- → Race-Based Service Barriers
- → Depression & Marginalization
- → Learn and Contribute
- → Trauma-Induced Mental Health
- → Government & Community Oppression
- → Shame
- → Investing in the next Generation
- → Positive Relationships
- → Limited Community-Based Services
- → Sense of Control & Responsibility

DISCUSSION

Through photovoice, Abegweit and Lennox Island First Nations have expressed their unmet wellness needs in a unique way. In addition to identifying specific services required, both communities presented key values, and perspectives at an individual, communal, and cultural level. This sets the stage for the development of technological services that adapt and adjust to the communities in a way that increases the likelihood of their effectiveness and utility.

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Alzheimer Society
SASKATCHEWAN
Learn More Live Well

First Link Premier lien

First Link is a program of the Alzheimer Society that connects people with dementia and their families to information, support services and education as early as possible and throughout the progression of the disease.

Research

- Referrals from those who diagnose and treat (physicians, specialists and nurse practitioners) were lower than expected despite the outreach efforts of Alzheimer Society staff.
- In 2017, Dr. Leslie Malloy-Weir completed a Formative Evaluation of the Outreach Component of the Alzheimer Society of Saskatchewan's First Link Program. Highlights from the evaluation regarding the low number of referrals from health professionals that diagnose and treat include:
- The persistent challenges that Saskatchewan has faced in terms of turnover and loss of physicians and the province's heavy reliance on international medical graduates
- Multiple barriers that make the provision of outreach to health care professionals that diagnose and treat dementia difficult including difficulty getting face to face time with health care professionals; and movement and migration of health care professionals
- Identified barriers to patient's referrals reported by health care professionals: lack of information about Society-63%, lack of familiarity with referral process – 61%

First Link outreach moving forward

- Shifting the focus from the number of outreach contacts made to relationship building with health care professionals that diagnose & treat (family physicians, geriatric specialists, nurse practitioners)
- Working with Saskatchewan Medical Association to increase awareness about the importance of a diagnosis, referral to First Link and the programs and services of the Alzheimer Society.
- Sharing the benefits of First Link via personal stories

First Link Referral

Who can make a referral?

- Physicians, Specialist, Nurse Practitioners
- Health care professionals
- Community organizations working with individuals and families affected by dementia

Who to refer to First Link?

- Individuals with a diagnosis of Alzheimer's disease or a related dementia
- Caregivers
- Family members

When to refer?

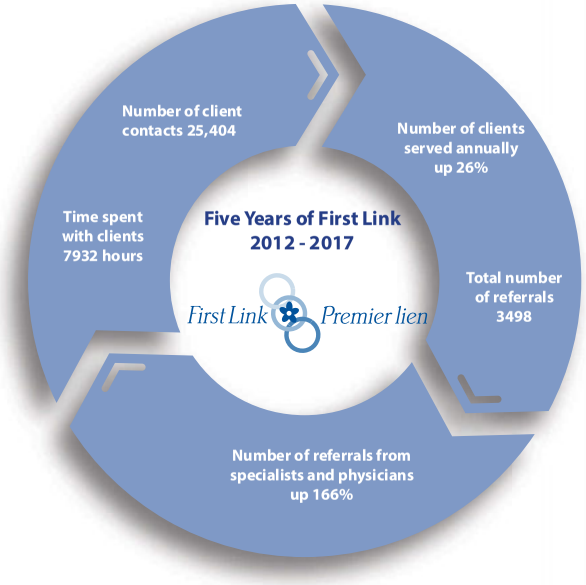
- As soon as a diagnosis is made
- At any other time in the dementia experience

Why refer?

- It is often difficult for individuals and families to ask for help
- Information and support will help patients and families cope with more confidence
- Planning for the future is critical
- There are community and health care services that families need to know about
- With knowledge and skills, people are able to maintain quality of life while living with dementia

How to refer?

- Ask the individual or family member for permission to forward their name to First Link®.
- Complete a one-page referral form that is faxed to First Link® toll free 1-866-746-1507 or emailed to firstlinkreferral@alzheimer.sk.ca



What happens when First Link® receives the referral?

Individuals or family members will receive:

- A phone call from the First Link® Coordinator within the time frame indicated on the referral form.
- An opportunity to tell their story, ask questions, and receive information specific to their needs.
- An invitation to attend a Learning Series to learn more about their diagnosis, communication and coping strategies and future planning such as Power of Attorney, Health Care Directives and driving
- An invitation to attend a support group where they can connect with others in similar circumstances to learn more, share feelings and common experiences, and exchange coping strategies.
- Contact information for local community and health care services that may be helpful
- Alzheimer Society initiated follow up contact at minimum 6, 12, and 18 months to check in and provide ongoing information and support

For more information visit www.alzheimer.ca/sk or contact your local Alzheimer Society Resource Centre

A routinely prescribed antidepressant drug and its metabolite exert similar toxicity *via* β-amyloid

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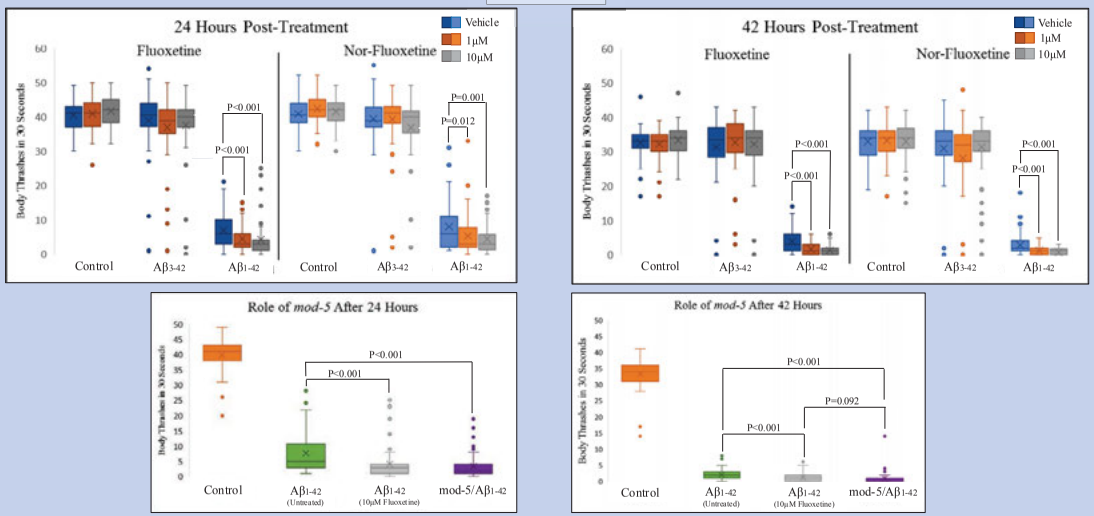
Introduction

There are a number of studies that have shown a link between depression and Alzheimer's disease (AD), where people suffering from depression have a much higher chance at developing AD compared to mentally healthy individuals (Ownby et al., 2006; Meltzer et al, 1998; and Taragano et al, 1997). The risk of developing AD/dementia varies between depressed patients and appears to correlate with the type of antidepressant drug used to treat the depression (Kessing et al, 2009). The greatest risk has been associated with the class of antidepressant drugs called selective serotonin reuptake inhibitors (SSRIs), which block the reuptake channels that remove serotonin from the synapse. There is a possibility that by inhibiting these channels, β-amyloid (Aβ), a protein that is thought to contribute to the pathology associated to AD, may be prevented from leaving the cell. In turn, association to the closed channels could facilitate Aβ aggregation within the cells.

Methods

To test for the effects of SSRIs on the accumulation of Aβ, we used *C. elegans*. These worms are routinely used to model a variety of pathologies associated with aging and/or neurodegeneration. Worms do not produce Aβ, making it a good system to test the *in vivo* consequences of ectopically expressed human Aβ on viability, aging, cell death *etc*. We used two different strains overexpressing Aβ variants in muscle cells; GMC101 worms (McColl et al, 2012) produce the $A\beta_{1\text{-}42}$ protein (most often associated with AD) and CL2120 worms (Fay et al, 1998) express an N-truncated variant ($A\beta_{3\text{-}42}$) protein, whose role in toxicity is not so clear. Phenotypically, Aβ aggregation in muscle cells leads to paralysis (which can be measured as reduced number of thrashing movements). We tested whether two SSRIs, *i.e.* fluoxetine or its metabolite nor-fluoxetine (***Figure, top panels***), could alter the rate of paralysis in these two worm strains. Considering the target of SSRIs, we predict that fluoxetine and nor-fluoxetine will increase the rate of aggregation, thus decreasing the number of thrashes exhibited in GMC101 worms. The thrashing behaviour of worms is assayed in liquid and will allow for quantification of the effects of the SSRIs. As a non-pharmacological way to implicate the serotonin transporter in Aβ-mediated paralysis, we generated $A\beta_{1\text{-}42}$-expressing worms carrying a null mutation in *mod-5*, the *C. elegans* serotonin transporter (CEC215) (***Figure, bottom panels***).

Results



Conclusions

- The $A\beta_{3\text{-}42}$ variant (CL2120 worms) does not show any evidence of aggregation of the Aβ peptide (*i.e.* paralysis) whereas the $A\beta_{1\text{-}42}$ variant (GMC101 worms) paralyzes readily (indicating aggregation/accumulation of the Aβ peptide).
- Both Fluoxetine and nor-Fluoxetine potentiate the accumulation of $A\beta_{1\text{-}42}$ in the GMC101 worm, implicating the metabolite in the negative effect as the parent drug.
- The CEC215 strain, that lacks MOD-5 activity, molecularly mimics the pharmacological inhibition of the serotonin transporter. This strain removes any concern about off-target effects of the antidepressant drugs in our model.
- These findings provide evidence for an association between the SSRI Fluoxetine/Prozac and a potential for a greater risk of Alzheimer disease.
- With Fluoxetine increasingly being prescribed for off-label purposes, the clinician needs to be better informed about potential secondary effects of this drug on vulnerable individuals (for example, individuals with a family history of Alzheimer disease).

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Subjective Quality of Life of the Residents in a Continuing Care Facility's Young Adult Unit

August Kortzman and Dr. Greg Wells

Unique Social Issue

- Seven percent of Continuing Care (CC) population is < 65[1]
- Facilities often designed for an older age group
- Different psychosocial needs than older generation
  - More demanding leisure activities[2]
  - More community participation[2]
  - Socialization with same-age peers[3]

"When you first go in the home you lose a lot of your friends"
"A lot of the stuff was oriented towards the older people"

Bethany Collegeside

- Red Deer, Alberta
- Created Young Adult (YA) unit in 2004
- Unique program
- Prioritizes resident Quality of Life (QOL)

Purpose

- Are subjective QOL needs being met in the YA unit?

QOL Determinants (IASSID)[4]

- Overall Well-being
  - Emotional
  - Physical
  - Individual Rights
- Positive Social Involvement
  - Interpersonal Relationships
  - Social Inclusion
- Opportunities to Achieve Personal Potential
- Aligns with Self-Determination Theory[5]

Methods

Participants

- 18 Young Adults (9M, 9F) 34-63 years old (*M* = 48.5)
- Length at facility, 6 months – 11 years (*M* = 4.6 years)
- MS, Brain Injury, Paraplegia, Quadriplegia

Measures

- Satisfaction with Life Scale (SWLS)[6]
  - 5 (*extremely dissatisfied*) to 35 (*extremely satisfied*)
- QOL questionnaire (QQ)
  - 0 (*disagree*) to 10 (*agree*)

Design/Procedure

- Mixed method design (quantitative and qualitative)
- Semi-structured interviews over 7 weeks
- Thematic analysis

Results

- SWLS Score 21.29 (*SD* = 5.86), "Mildly Satisfied"
- Positive overall perception of facility
- Perception that well-being is met
  - Emotional (QQ 7.53, *SD* = 2.79)
  - Physical (QQ 8.76, SD = 1.60)
  - Individual Rights (QQ 7.59, SD = 2.60)
- Perception that social needs being met within facility
  - Interpersonal Relationships (QQ 8.18, SD = 1.81)
- Barriers to accessing community
  - Expense, Weather, Transportation
- Encouraged to achieve personal potential
  - Physical
  - Intellectual
  - Independence (activities of daily living)

"We have a lot of fun here"
"We are a family"
"We are all in it together"

Discussion

- Dedicated young adult unit largely meeting perceived QOL needs
  - SWLS rating comparable to college students
- Feelings of belonging, community
- Challenges to community accessibility need to be addressed

Limitations

- Small sample size; limited generalizability
- Single coder – reliability of interpretations

Future Directions

- Communication with stakeholders
- Quality of life enhancement interventions/evaluations

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7. Pavot & Deiner, 1993
8. Image retrieved from http://www.renfrewgroup.com/portfolio/chair-4-life/

The RaDAR Program: Community-based Partnership and Impact

Julie Kosteniuk and Debra Morgan

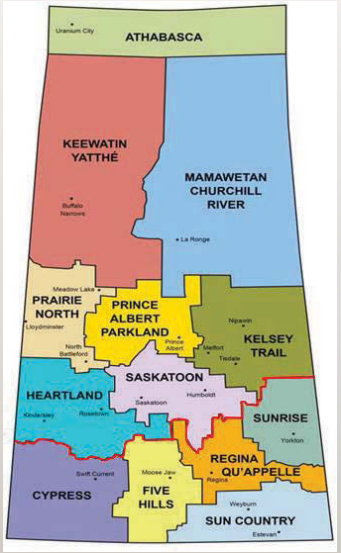
	Rural and Remote Memory Clinic	Rural Dementia Summit	RaDAR-Sun Country Study (CCNA Team 20 Rural)
Description	The clinic is a 1-day, one-stop interdisciplinary clinic for early assessment and diagnosis of atypical and complex cases of dementia. The clinic was established in 2004, funded by a CIHR *New Emerging Team* grant.	First held in 2008, Summit includes of an evening poster session followed by a day of networking and presentations by community partners, researchers, and other stakeholders.	A *Rural Primary Health Care (PHC) Dementia* model is being developed/adapted, implemented, and evaluated in primary health care teams in Sun Country Health Region.
Context[a,b]			
Health issue	To address the gap in specialist services for diagnosing and managing a growing number of individuals with dementia in rural and northern communities	To increase the application of dementia research into practice in SK rural and remote communities	Gap in best practices for dementia diagnosis and management in primary health care
Capacity/readiness	In early 2000's, there was a rapid expansion of the SK telehealth network and strong support from health care providers for a memory clinic that would serve rural/remote populations.	The number of new and repeat attendees indicates that Summit fills a void in a place for front line staff, health administrators, and researchers to collect around an important rural/remote issue.	Prior to the study, Sun Country made dementia a regional priority and collaborated with RaDAR to conduct a dementia learning needs assessment.
Partnership Dynamics[a,b,c]			
Pre-context[d]	Several members of the RaDAR team had pre-existing relationships with rural and northern health care providers and administrators across SK health regions (30 regions at the time). Clinic development involved these groups.	Before the first Summit, a 27-member Decision-Maker Advisory Council formed to involve knowledge users early and often in the "research to practice" process, as a condition of a SHRF/CIHR 5-yr grant.	In 2013, RaDAR and Sun Country partnered on an unsuccessful national funding proposal, but both partners remained committed to collaborating.
Structural	Community consultations were held with health care providers in 14 rural and northern communities to receive feedback on clinic plans, and to determine clinic procedures and evaluation methods. Multiple research methods were used to gather input on the clinic format, and to evaluate patient and family satisfaction with in-person and telehealth visits.	Summit began as a way for the 27-member Council to meet regularly in person. The council's terms of reference are to provide ongoing direction to the RaDAR program, from identifying research priorities to developing policy implications.	Steering Committee includes representatives from, and informs initiatives of, all three partners - RaDAR, Sun Country Health Region, and Alzheimer Society of Saskatchewan.
Relational	The knowledge and insights of local community members and health care providers were valued: the high cost of travel to Saskatoon and absence of public transportation resulted in the 6 northern SK sites being offered telehealth for all follow-up visits and considered as a separate study.	Summit features a regular "On the RaDAR" panel of community initiatives in dementia care, an Alzheimer Society update on programs/services, and a Small Group session to discuss research, practice, and policy priorities.	PHC Facilitators have been important "bridge people" between RaDAR and the PHC teams. Time is allocated for building trust and mutual learning. The study is based on sharing of power and responsibilities.
Type	**Co-operation ("local people work together with outside researchers to determine priorities, with responsibility remaining with outsiders for directing the process"[c])**	**Consultation ("local opinions are asked for, but outside researchers conduct the work and decide on a course of action"[c])**	**Co-learning ("local people and outsiders share their knowledge in order to create new understanding and work together to form action plans, with outsiders providing facilitation"[c])**
Intervention[a,b]			
Fit with local norms and practices	The clinic allowed health care providers to use the existing telehealth network for patient follow-up, rather than requiring patients to travel significant distances to Saskatoon for in-person follow-up. Also, recommendations from an Aboriginal Grandmothers' group led to the development of the Northern Cultural Assessment of Memory for Cree-speaking Aboriginal older adults, as well as two trainee projects that examined nurse perspectives and access to dementia services for northern residents.	Recent Summits have focused on local needs and spreading community-driven innovations.	Local norms and practices are integrated into the study, e.g., PHC Team 1 co-developed the RaDAR Handbook for PHC teams.
Research Design	The design was largely informed by community contexts. Originally, patients from communities with telehealth were to be randomly assigned to in-person care (randomized, controlled trial). However, this design was revised to patients alternating between in-person and telehealth follow-up to lessen the travel burden for those living far from Saskatoon (single case design).	The Summit agenda and organization each year are guided by topical research and community priorities. Participants complete a Summit evaluation each year and feedback guides the following year's event.	To enable long-distance collaboration, model development/adaptation and data collection occur through workgroups, interviews, and communication conducted electronically and in-person.
Impact[a,b,e]			
Health	The clinic provides rural/remote patients and caregivers with access to specialist services, resulting in a diagnosis based on in-depth interdisciplinary assessment and a comprehensive management plan. A timely diagnosis decreases anxiety caused by uncertainty, allows patients to benefit from treatment, and may reduce crises.[f]	Rural/remote individuals with dementia and their families benefit short-term from learning about current programs/services (e.g., Alzheimer Society) and long-term from initiatives to establish new rural/remote programs/services.	A RaDAR Handbook for health care providers was co-developed with the Kipling PHC team. It includes a team-based EMR template, scripts for communicating a diagnosis and driving, work standards, an adapted PC-DATA education manual, and Alzheimer Society resources.
Health sector	The clinic's 1-day in-person interdisciplinary assessment and telehealth follow-up reduce the need to consult multiple specialists in Saskatoon and Regina, and possibly reduce repeated visits to primary care providers.	Summit exposes up-to-date research and programs/services to front line staff across health sectors (e.g., primary care, long-term care).	This study supports collaboration in dementia care across health sectors in Sun Country, including primary care, home care, occupational therapy, mental health, chronic diseases management, and long-term care.
Community	The average distance saved by telehealth vs. travel to Saskatoon is 470 km/round trip, resulting in an estimated 582,000 km in saved travel, time, and cost for over 600 patients and their families to date.	Summit provides an opportunity to "exchange grassroots knowledge" and "build relationships for future collaboration". Front line staff and administrators return to their communities with ideas for "programs and services that have been implemented (elsewhere) and how they have experienced successes" (Summit 9 attendees).	Efforts have increased to close gaps in dementia care across communities in Sun Country, through health sectors sharing information and successful strategies. The study also intends to raise public awareness of dementia across the region.
Volunteer sector	A partnership with the Alzheimer Society of Saskatchewan led to adoption, by the Society, of the memory clinic's telehealth-delivered frontotemporal dementia support group as a province- wide program.	The Alzheimer Society of SK learns about dementia care priorities in rural/remote SK plus innovations elsewhere, while Summit attendees learn about Alzheimer Society programs/services.	The study intends to raise awareness of the Alzheimer Society by embedding referral to the First Link program within the EMR and including the regional First Link coordinator in dementia case conferences.
Policy	The clinic began as a research demonstration project, but recognizing its value in providing a necessary and important service to rural and northern communities, the clinic is now funded by the SK Ministry of Health.	Summit helps to identify policy priorities as well as "a chance to feel like I have a voice to getting some things dealt with" (Summit 9 attendee).	Long-term goals include scaling the *Rural PHC Model* to additional PHC teams in Sun Country and elsewhere in SK.
Trainees	50+ trainees from psychology, nursing, and medicine and other disciplines have received an interdisciplinary clinical and research training experience.	RaDAR trainees share their research directly with community partners and directly receive feedback about community priorities.	Several trainees have received funding support across the disciplines of psychology, nursing, public health, and computer science.
Knowledge/productivity	The longitudinal interdisciplinary clinic database has been used to produce 30+ projects/publications to date, making contributions in the areas of dementia care for Aboriginal seniors in remote northern SK, as well as innovative health service delivery, telehealth, cross-cultural assessment, and cognitive indicators of preclinical dementia.	Aside from the direct knowledge exchange between community partners and researchers, the interactions at Summit also lead to new collaborations to address community needs and answer new research questions.	This study has contributed to knowledge of PHC team processes of providing effective dementia care. Trainee projects will further contribute to knowledge of rural support/education needs and stigma.

Ripple effects **(one project's outcomes are the context for the next project[d])**

North Saskatchewan Dementia Assessment Team

What's the need?

- Saskatchewan has an aging population
- ↑ age = ↑ risk for dementia
- Limited resources in rural areas result in a service gap
- With this growing need, there is a resulting increase in the demand for dementia-related services in the province. This includes services available to the people in Saskatchewan who have been diagnosed with dementia and extends to the caregivers and staff teams who support them. The program aims to provide services to these groups, regardless of setting.



Provincial Dementia Programming:

- 2 Geographical Areas (North/South)
- Referrals come from a variety of sources: community, long term care, hospital, personal care homes, etc.
- Inpatient units located in Saskatoon and Regina

North: 8 health regions
Age >65: 85,436
489,418 square km

South: 5 health regions
Age >65: 78,667
161,618 square km

Behavioural and Psychological Symptoms of Dementia (BPSD)

"In dementing illnesses, the central symptom is cognitive impairment and the surrounding symptoms are usually called behavioral and psychological symptoms of dementia (BPSD). These BPSD are the most troublesome for caregivers of demented patients and can be classified into two groups:

(i) symptoms that are disclosed following interviews with patients and/or their caregivers, such as delusions, hallucinations, anxiety and depression; and

(ii) symptoms recognized following observation of patients' behavior, such as wandering, psychomotor excitement, agitation and negativism."

- Kosaka, K. (2008). Behavioral and psychological symptoms of dementia (BPSD) in dementia with Lewy bodies. *Psychogeriatrics*, *8*(3), 134-136.

What's our goal?

We provide support to persons with the diagnosis of dementia who are experiencing highly responsive or protective behaviours. We also provide support and consultation for the teams of people who work and live with individuals who have the diagnosis of dementia.

Our beginnings

- Dementia Assessment Outreach Team and Eastview are located at Parkridge Centre in Saskatoon, SK.
- The Dementia Assessment Outreach Team started taking referrals in March 2017
- Eastview accepted its first inpatient admission on April 19,2017

Who do we serve?

Referral Criteria

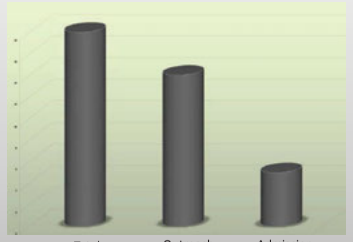
- Primary diagnosis of age-related degenerative dementia with responsive behaviours
- Medically stable
- Require enhance behavioural support in their current care environment
- All local services have been utilized

Exclusionary Criteria

- Delirium
- Primary diagnosis of Acquired Brain Injury

What does it cost?

- There is no charge for accessing the Dementia Assessment Outreach Team, or admission to Eastview
- If admitted to Eastview, clients are expected to continue paying "rent" or fees at their home, as the 90 day programming is temporary in nature



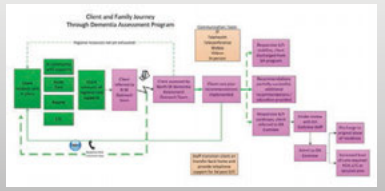
Referrals Mar 21, 2017 – October 12, 2017:

Total # of referrals = 21
- 13 clients receiving/received care in place
- 2 referrals referred successfully to resources in home region
- 6 clients transferred to Eastview

# of referrals by region
- KTHR – 2 clients
- PAPHR – 4 clients
- MCRHR – 2 clients
- KYHR – 1 client
- PNHR – 1 client
- SHR – 11 clients

# of closed files = 6 (5 from Outreach Team, 1 from Eastview)
# of discharges from Eastview = 3

Client and Family Journey



Interdisciplinary Team Approach

- Geriatric Psychiatrist
- Psychologist
- Social Worker
- Occupational Therapist
- Physician
- Recreation Therapist
- Recreation Coordinator
- Pharmacist

Outreach

Inpatient Unit "Eastview"

Dementia Assessment Neighbourhood (Eastview)

- The Dementia Assessment Neighbourhood (Eastview) is a five bed transition unit located at Parkridge Centre in Saskatoon.
- Services include: assessment, observation, care, and treatment planning, for up to 90 days. **In order to access the unit a referral must first be made to the Outreach Team.**
- While on Eastview, service assessments will be provided by: Occupational Therapy, Social Work, Psychology, Geriatric Psychiatry, Physician, Pharmacy, Recreation Therapy, and Nursing/Care staff.

Alzheimer Society
SASKATCHEWAN
Learn More Live Well

U-First!™

U-First! is a training program that helps frontline staff to develop a common knowledge base, language, values and approach to caring for people with Alzheimer's disease and other dementias by:

- Understanding the person living with dementia and associated behaviour changes
- Working as a team to develop individualized support strategies

If you are caring for someone with dementia, the U-First! Program will help you:

- **U**nderstand that there can be many reasons why you might see behaviour changes when a person is living with dementia
- **F**lag the possible changes that you may see when you are supporting a person living with dementia
- **I**nteract in a new way with both skill and a common understanding of dementia
- **R**eflect and report on not only new behaviours you may see in the person you are supporting, but also share your strategies and your tips on working with a person who is living with dementia
- **S**upport the person with dementia, their family and friends in everyday activities
- **T**o know that you are part of an important Team caring for the person with dementia

Understanding Dementia:

Many of the clients or residents you work with will have been diagnosed with some form of dementia.

Dementia is a term used to describe a variety of brain disorders that include symptoms such as loss of memory, confusion and problems with speech and understanding, and changes in mood and behaviour.

One of the causes of dementia is Alzheimer's disease, which is a progressive, degenerative disease of the brain, which causes thinking and memory to become seriously impaired.

You may see changes in the person's ability to interact with the people around them and perform activities of daily living.

When we ask people who work with people who have dementia about the number one difficulty they face as a care provider, the answer is always a challenging behaviour, such as aggression, wandering, physical resistance or agitation.

We call this behaviour "responsive," because it is not unpredictable, meaningless aggression or agitation.

We understand that:

- The person is responding to something negative, frustrating, or confusing in his or her environment
- The reasons or triggers for challenging behaviours may be external rather than within the individual
- Problems in the social or physical environment can be addressed and changed

U-First! Training will help you to work more effectively with people living with dementia, creating a healthy workplace for you.

U-First! provides a practical method for shared problem-solving and care planning, it also assists with the implementation of P.I.E.C.E.S. concepts.

Unique to U-First! is the innovative yet practical "job aide" (the U-First! wheel) which serves as a tool to promote on-the-job dialogue and communication between partners in care.

Note: U-First! is not P.I.E.C.E.S. training. However, participants learn basic P.I.E.C.E.S. concepts and how to apply these to observing changes and participating in care planning.

How do care providers benefit from U-First! Training?

- Increased awareness of the causes of behaviour in people with dementia
- Improved ability to handle situations that arise
- Increased teamwork with other staff
- Increased professionalism
- Increased ability to prevent aggression
- Reduced stress

**Source: Third Party Survey Data Evaluation December 2007 (Alzheimer Society of Ontario)*

Delivery of First Link:

In Person:

U-First! Training is delivered by a U-First! trainer as a one-day (6-hour) format. Class size is minimum 12 participants, maximum 24 participants. Cost $75. Currently piloting in Regina area.

Each learner receives

- 6 hours of training,
- U-First! workbook*,
- a U-First! wheel* and
- certificate of completion**

*The workbook and wheel are used not only as a resource while in the class but following it.

Online:

U-First! Online is offered over a 3-week period, in a blended learning format. Participants are responsible for completing specific activities each week and should be willing to commit approximately 3-5 hours per week for the course. $75

Week 1 complete 9 e-learning modules and 1 discussion forum

Week 2 complete 9 e-learning modules, 1 discussion forum, and a Case Study Assignment

Week 3 participate in 1 live webinar

**For a participant to be considered U-First! trained and receive a certificate of completion, they must be registered at the Alzheimer Society of Saskatchewan

Visit www.u-first.ca for more information and to register for a session.

Contact Joanne Michael, Director of Programs and Operations - jmichael@alzheimer.sk.ca

A community-based participatory research approach to developing rural dementia care best practices in primary health care teams

Debra Morgan[1], Julie Kosteniuk[1], Dallas Seitz[2], Megan O'Connell[1], Andrew Kirk[1],
Norma Stewart[1], Jayna Holroyd-Leduc[3], Jean Daku[4], Deb Kennett-Russill[4], Tracy Hack[4]
[1]University of Saskatchewan, [2]Queen's University, [3]University of Calgary, [4]Sun Country Health Region

Strengths and challenges in rural/remote communities

✓ Integrated and continuous care within small communities
✓ Accustomed to novel methods of service delivery
✓ Growing number of multidisciplinary primary health care sites
✗ Large and increasing share of older adults at risk of dementia
✗ Low availability of local dementia-specific services and community support
✗ High geographic isolation; cost, time, stress to access specialists and services

Objectives

To support primary health care (PHC) providers to deliver guideline-based dementia care by:

- collaborating with one PHC team to adapt, implement, and evaluate a Rural PHC Dementia Model consisting of 7 elements of comprehensive primary health care for dementia (Aminzadeh et al, 2012)
- collaborating with additional PHC teams to create an inventory of strategies for model adaptation

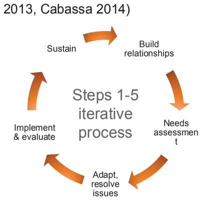
Methods

Community-based Participatory Research

CBPR Principle *	Action
Partners in full research process	Partnership levels • Health region • Full PHC team • Smaller PHC team workgroup
2-way capacity building	RaDAR → Sun Country (decision support tools, specialist support) Sun Country → RaDAR (regional processes, EMR system)
2-way knowledge exchange	Regional steering group meetings, frequent consultation with PHC team, RaDAR newsletters
Action-oriented	Focused on improvement in dementia care across health region and in PHC teams
Sustainability	Focused on sustainability at the outset - by adapting model to PHC team, addressing team priorities (e.g., education), incorporating team processes

5-step adaptation model (McKleroy 2006, Lee 2008, Jansen 2013, Cabassa 2014)

1. Build relationships
2. Conduct needs assessment
3. Assess elements of intervention to be adapted, resolve applicability issues
4. Implement Rural PHC Dementia Model in partnership with Kipling PHC team
5. Sustain model PHC team, repeat steps with next team



Process evaluation of implementation strengths and challenges

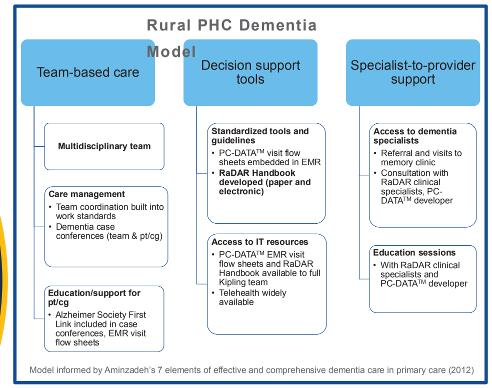
- Consolidated Framework for Implementation Research, Damschroder 2009

Results

➢ Regional steering group quarterly meetings (2013 – present)

➢ Conducted regional needs assessment (baseline study)

➢ Currently collaborating with two PHC teams to adapt, implement, and evaluate the Rural PHC Dementia Model



Model informed by Aminzadeh's 7 elements of effective and comprehensive dementia care in primary care (2012)

Conclusions

INNER SETTING	Enablers	Barriers
Structural characteristics	- Multiple team members took part	- Team members often work in silos - Providers were learning to work together as a team
Networks & communication	- Strong PHC Facilitator role to encourage team coordination - High informal communication because team not all co-located	- EMR and provincial chronic disease initiative launched as we started - Team is now comfortable with tools
Culture	- Strong QI Culture with Lean - Mindset of figuring out how to do more with less and use resources effectively	- OT "thrown under bus" to manage driving issues alone
Implementation Climate	- Strong regional support: - Allowed providers time to participate - Safe climate to try new innovations - Dementia was regional priority	- Not all team members saw dementia or intervention as priority at beginning - Both work flow and intervention required adaptation
Readiness for Implementation	- Team includes multidisciplinary providers - Good capacity for distance-based collaboration	

INTERVENTION CHARACTERISTICS	Enablers	Barriers
Strength/quality	- High quality - Evidence-based tools were important to team members - PC-DATA is based on CCCDTD - credibility	
Relative advantage	- PC-DATA™ includes standardized tools and algorithms to which Kipling is accustomed	
Adaptability	- Model has high adaptability - Region had the human resources - PC-DATA™ developer was willing to be involved, come in person, train team	- Lack of Dementia Care Manager (core PC-DATA™ element) initially seen as challenge - However, DCM is difficult to fit into rural setting
Complexity		- High complexity - many components & providers to co-ordinate - Significant practice change required - EMR template had to be built
Design quality & packaging	- High quality decision suppot tools	- All tools required adaptation to local and SK context
Cost	- Mainly in kind (time of team and regional human resources)	- Travel for researchers to Kipling (2-day round trip, $, time)

- Process evaluation examined inner setting, outer setting, process, and individual and intervention characteristics (PHC Team 1)
- Model will continue to be adapted with each PHC team
- Next steps
  - assess model uptake, usability, and sustainability in each PHC team
  - conduct process evaluation in PHC team 2
  - assess changes from baseline to follow-up

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Feature Selection used to Shorten Mild Cognitive Impairment Test Battery

University of Saskatchewan

{ Neiser, J., Ursenbach, J., O'Connell, M. E., Morgan, D., and Spiteri, R. }

Numerical Simulation Research Lab

Introduction

Feature selection - selecting crucial features from a data set. The selected set is used to build a machine learning model should retain the predictive capabilities of the original model.
CAMCI (Computerized Assessment of Memory and Cognitive Impairment) - used to assess the cognitive performance of older adults using tasks derived from traditional neuropsychological tests [1].

Problem to Solve: The CAMCI battery requires approx. 30 minutes to complete [2], and may not be feasible in busy primary care clinics [3].
How to solve it: *Selective Decision Tree* classification, a feature selection method developed to reduce a set of test features and ultimately the battery of the CAMCI test.

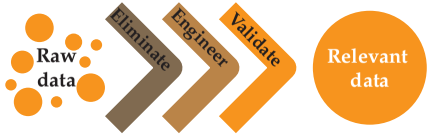

Figure 1: Feature Selection

Classification

Steps to Selective Decision Tree classification:

1. Split the data into a training and testing set.
2. Shuffle the training data; take a 20% sample.
3. Run Decision tree on data from step 2.
4. Select a set of attributes that appear only in the first N levels of the decision tree as relevant features.
5. Repeat steps 2–4 five times to help ensure there are no important features missed.
6. Form a union of all attributes from step 4.
7. Run Decision Tree method on the training and test data using only the final features selected in step 6.

Machine Learning Method

The machine learning method used in Selective Decision Trees is *Decision Tree classification*:

- Used to represent an algorithm that classifies data.
- A tree is built top-down, the most deductive features at the top.
- At each step a feature is chosen from the data set that best splits the remaining features [4].

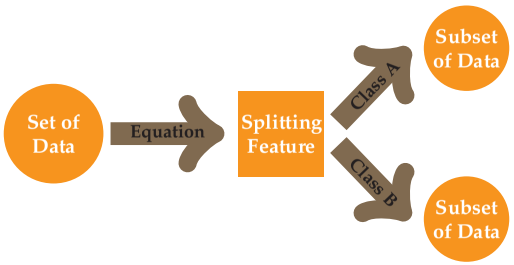

Figure 2: Decision Tree Process

The two criteria used to determine the splitting feature were Entropy and Gini. Entropy Decision Trees were more successful than Gini. The formula for Entropy is,

$$E(S) = \sum_{i=1}^{n_c} -p_i \log_2 p_i$$

where p_i is the probability of class i. Figure 3 is an example of what a decision tree can look like.

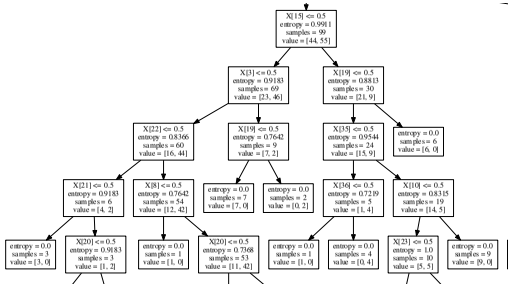

Figure 3: A cut of an Entropy Decision Tree

Results

Depth	Tree Eq.	Δ Battery (s)	Δ Acc. (%)
1	Gini	-492	+2.148
	Entropy	-643	+3.375
2	Gini	-436	+1.381
	Entropy	-436	+2.76
3	Gini	-158	+2.914
	Entropy	-158	+1.534

The table shows the change, Δ, between the full feature set and the selected feature set for Accuracy and the test Battery using different depth levels.

- Best result: Depth level of 1 and the entropy criterion to determine the splitting feature.
- CAMCI battery was reduced by 643; the accuracy of the Decision Tree method applied increased by 3.375%.

Conclusion

The reduction to the CAMCI feature set allows for improvement in many aspects:

- Health care professionals will be able to more feasibly administer CAMCI.
- Fewer features to work with results in shorter computation times, making an impact when working with large data sets.
- Having only the most important features reduces the chance that the data being used is falsely skewing the results.
- The test will be less taxing on individuals receiving it.

Future Work

- Determine an algorithm that gives us the greatest predictive capabilities when accurately assessing cognitive impairment.
- Finalize a shortened set of tests to take to clinical trial.

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Contact

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Changes in actin and tubulin expression in the Alzheimer brain are more predictive of sex-dependent disease progression than are changes in Tau phosphorylation.

Jennifer N.K. Nyarko; Maa O. Quartey; Ryan M. Heistad; Paul R. Pennington; Darrell D. Mousseau.
Cell Signalling Laboratory, Department of Psychiatry, University of Saskatchewan, Saskatoon, SK, Canada.

Introduction

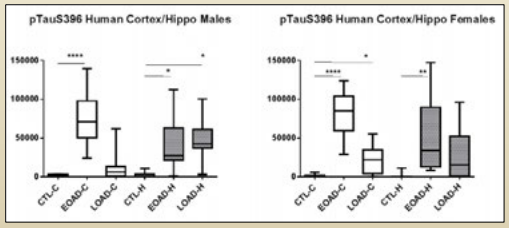
Background: Changes in the cytoskeleton (β-tubulin, β-actin etc) cause cells to lose their structure and connectivity with neighbouring cells. In the Alzheimer disease (AD) brain, it is abnormal phosphorylation of the Tau protein (associated with the hallmark 'neurofibrillary tangle') that is thought to trigger much of this structural change, and disease progression is thought to follow a temporal pattern, *i.e.* neurofibrillary pathology appears in hippocampus first, then in cortex.

Methods: We used standard western blotting to examine the expression of β-tubulin, β-actin, and phosphoSer396-Tau (pS396-Tau: associated with the paired helical filament conformation that precedes the formation of the neurofibrillary tangle) in autopsied AD (early-onset: EOAD; late-onset: LOAD) cortical and corresponding hippocampal samples.

Results: Levels of pS396-Tau were comparable between cortical and hippocampal samples, and were primarily increased in AD samples, and particularly in EOAD samples. The levels of β-tubulin were decreased in AD samples (but a sex-dependent pattern was observed). In contrast, a decrease in levels of β-actin was demonstrated for male EOAD samples and for female EOAD as well as LOAD samples. The decrease in β-actin did not align with any change in *β-ACTIN* mRNA expression. A gnuplot of these data reveals a proportionally greater change in β-actin in female AD cortex, whereas in males with LOAD the change is proportionally skewed towards a loss of β-tubulin in the hippocampus. Changes in the levels of pCofilin, a regulator of β-actin stability mediated by the actin depolymerizing factor, are in keeping with the loss of β-actin in the corresponding samples. The dephosphorylation of GSK-3β does not align with the phosphorylation of Ser396-Tau, a putative substrate in the AD brain.

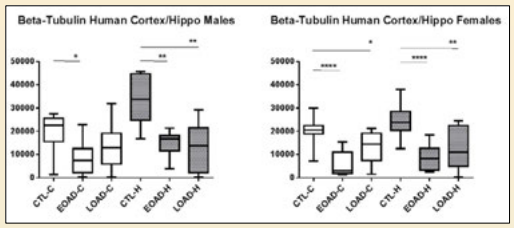
Conclusion: The loss of β-actin and β-tubulin in AD samples are far more consistent than the aberrant phosphorylation of Tau protein. While a loss of either β-actin or β-tubulin would alter connectivity and ultimately a cognitive phenotype, different mechanisms appear to be involved which could explain the sex-dependent risks and differences in AD progression.

Fig. 1: Levels of pS396-Tau are increased in AD



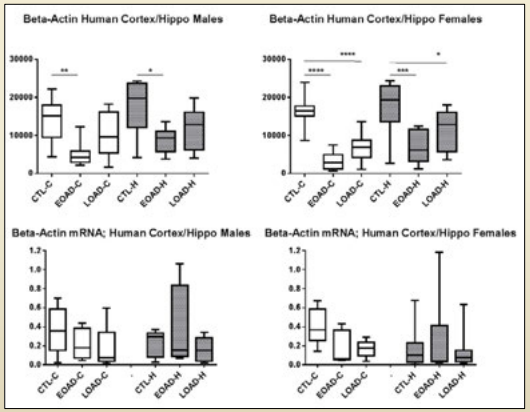
Levels of pS396-Tau in cortical (C) and hippocampal (H) extracts obtained from human autopsied brains [control (CTL); early-onset AD (EOAD); late-onset AD (LOAD)] were determined by western blotting techniques. Increases in levels of pS396-Tau were similar between the cortex and hippocampus, but tended to be greater in extracts from EOAD donors; irrespective of sex. In general, levels of pS396-Tau in LOAD donors was significant in the male hippocampal; and, in contrast, significant in the female cortex.

Fig. 2: β-Tubulin protein levels are decreased in AD in a sex- and region-dependent manner.



Levels of β-tubulin in lysates obtained from human EOAD, and LOAD autopsied brains were decreased significantly in hippocampal (H) samples in both male (***left panel***) and female (***right panel***) AD compared to CTL. In contrast, cortical (C) β-tubulin levels were decreased in female AD and male EOAD, but not male LOAD.

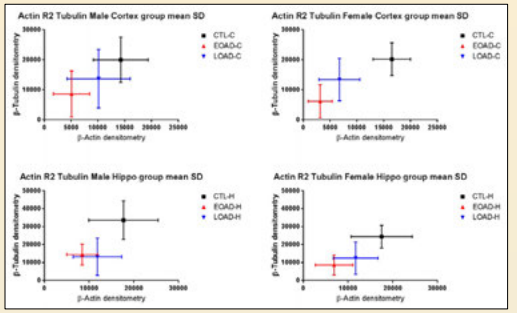
Fig. 3: β-Actin protein levels are decreased in AD in a sex- and region-dependent manner.



Protein levels of β-actin were significantly decreased in female EOAD and LOAD extracts (***top, right***), but only in male EOAD extracts (***top, left***). These changes in protein expression did not align with changes in *β-ACTIN* mRNA transcript levels (qRT-PCR; ***bottom***). This suggests that the changes in protein expression are not due to a transcriptional event, but likely reflect changes in translation or protein stability.

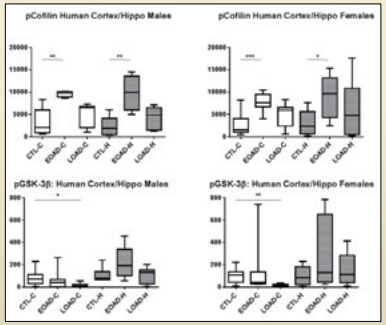
Acknowledgments: DDM is the **Saskatchewan Research Chair** in *Alzheimer disease and related dementia* that is co-funded by the Alzheimer Society of Saskatchewan and the Saskatchewan Health Research Foundation.

Fig. 4: Decreases in the levels of β-actin relative to β-tubulin follow distinct sex- and region-dependent patterns.



β-Tubulin and β-actin protein levels were compared by sex and region using gnuplots. As expected, the levels of both proteins - in comparison to CTL samples (+) - were significantly decreased in EOAD samples, regardless of sex or region (+). In contrast, the loss of β-actin (relative to the loss of β-tubulin) was greater in female cortical LOAD samples (***top, right***), whereas the loss of β-tubulin (relative to β-actin) was greater in male hippocampal LOAD extracts (***bottom, left***).

Fig. 5: Selected relevant signaling molecules.



Changes in the levels of pCofilin, a regulator of β-actin stability mediated by the actin depolymerizing factor, are in keeping with the loss of β-actin in the corresponding samples (***see* Figure 3**). The dephosphorylation of GSK-3β does not align with the phosphorylation of Ser396-Tau (***see* Figure 1**), a putative substrate in the AD brain.

Conclusions:

- **Pathology**: The loss of β-actin (relative to β-tubulin) in the female AD cortex and the loss of β-tubulin (relative to β-actin) in the male AD hippocampus suggests distinct disease processes in males and females.
- **Experimental**: Using either β-actin or β-tubulin as standards in studies involving AD samples will result in an artefactual increase in the gene/protein being studied, and an erroneous conclusion on the role of said gene or protein in AD.

UNIVERSITY OF SASKATCHEWAN

Remote Neuropsychology: Feasibility of Videoconferencing for Rural Dementia Care

RaDAR RURAL DEMENTIA ACTION RESEARCH

M. E. O'Connell & R. Burton

Presented at the 50th International Neuropsychological Society Meeting, New Orleans, LA

Background

- Methods of remote neuropsychology is necessary for rural dementia care
- Objective: detail adaptations required for telehealth videoconferencing for delivery of a support group to spouses of persons with FTD and the feasibility of videoconferenced cognitive rehabilitation

Participants and Methods

Videoconferenced Support Group	Cognitive Rehabilitation Trial
➢ Rural spouses (N = 10) of persons with atypical or young-onset dementia (typically FTD)	➢ Urban participants (N = 6) subjective memory impairment, aMCI, AD
➢ 8 Telehealth locations	➢ Random assignment in-person (n = 3) videoconference (n = 3)
➢ Once/month meetings of 1½ hr	➢ Multiple-baseline single case design
➢ Open interview participant feedback	➢ 8 weeks of cognitive rehabilitation Within session measures

Results

Videoconferenced Interventions

- Good rapport can be established and maintained through videoconference
- Participants noted that, although in-person is preferred, the videoconferenced sessions ran smoothly

Videoconferenced vs In-person

- Support group and cognitive rehabilitation videoconference adaptations included:
  - more explicit with instructions
  - frequent check of comprehension
  - participants must be more self-sufficient
- Support group by videoconferencing required:
  - explicit discussion of subtle signs of emotional distress due to small screen size with 8 sites displayed
  - minimizing in-person discussion for sites with multiple participants
- Cognitive rehabilitation by videoconferencing required:
  - greater reliance on handouts and other on-site props vs in-person rehabilitation
- Researcher noted challenges due to not being able to physically interact with materials
  - for example, instead of reading the participant's day-timer with them, we had to cure them to read out their written notes

Improvement after Rehabilitation

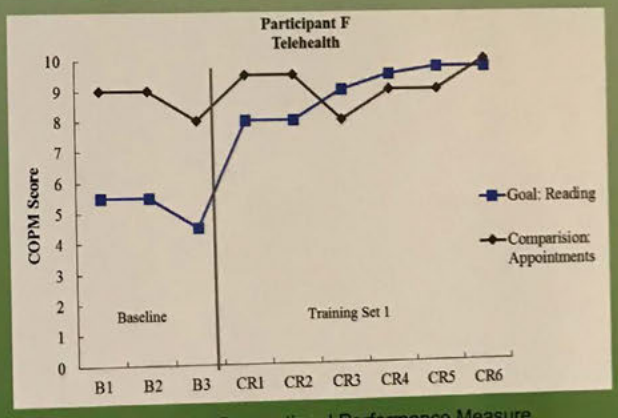


Figure 1. Canadian Occupational Performance Measure (COPM) for participant F who attended videoconferenced cognitive rehabilitation. One goal was to improve recall of what he read. Keeping track of appointments was rated weekly as a comparison to provide a baseline of change over time.

Conclusions

- Our small sample trials suggest videoconferencing, with some adaptations to practice, can be used for remote interventions to provide rural dementia care.

Future Directions

- Remote neuropsychological testing to support rural primary care providers in making a diagnosis of typically presenting dementias; telephone battery and computerized testing.

Funding and in-kind support was generously provided by: Alzheimer Society Canada, SSRL, CIHR IRSC, INNOVATION.CA

Contact:

Monoamine oxidase-A (MAO-A) and MAO-B activities are regulated in a region-dependent manner in the Alzheimer brain.

Maa O. Quartey[1]; Jennifer N.K. Nyarko[1]; Paul R. Pennington[1]; Ryan M. Heistad[1]; Glen B. Baker[2]; Darrell D. Mousseau[1].

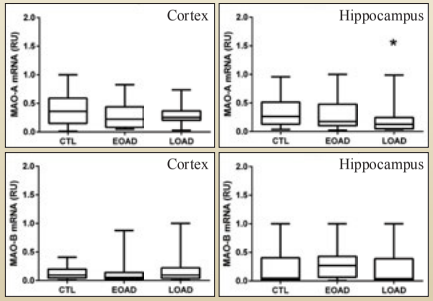
1: Cell Signalling Laboratory, Department of Psychiatry, University of Saskatchewan;

2: Neurochemical Research Unit, Department of Psychiatry, University of Alberta.

Abstract

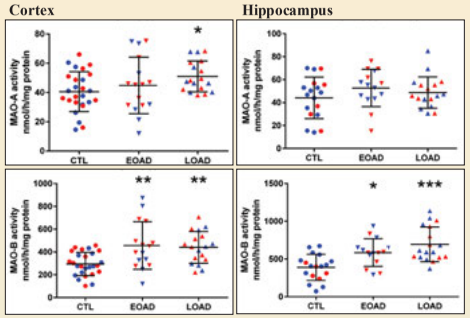
- **Introduction:** Monoamine oxidase-A (MAO-A) and MAO-B regulate neurotransmission by degrading biogenic amine neurotransmitters such as serotonin (5-HT). Changes in MAO function can contribute to a range of brain pathologies, including depression and Alzheimer disease (AD).
- **Methods:** We analyzed autopsied AD (early-onset: EOAD; late-onset: LOAD) cortical and corresponding hippocampal samples for MAO-A/-B mRNA and protein expression, and catalytic activity. We also measured levels of major acid metabolites of serotonin and dopamine, i.e. 5-hydroxyindoleacetic acid, homovanillic acid, and dihydroxyphenylacetic acid.
- **Results:** MAO-A and MAO-B catalytic activities were strongly correlated in cortical samples (across all diagnoses), but in hippocampal samples any such correlation was limited to control samples. MAO-A activity and protein were correlated in control cortical samples, but not in cortical AD samples; in contrast, MAO-B activity and protein expression correlated only in hippocampal AD samples. We also observed changes in MAO-A and MAO-B activities that aligned specifically with the donor's biological sex. Levels of acid metabolites, while aligning with diagnoses, did not align well with MAO activity.
- **Conclusion:** There are very important region- and sex-dependent changes in MAO-A and MAO-B activity in the AD brain. This suggests different disease processes in males and females, which could account for differences in risk as well as inform on specific pharmacological strategies for intervention. It is also important to be aware of the mismatch between MAO activity and MAO protein expression in the human brain, as this suggests different pools of MAO exist (some active; some not). This mismatch needs to be duly considered when using genotyping or neuroimaging to inform on MAO function in the clinical context.

Fig. 1: *MAO* mRNA in control and AD brain samples.



MAO-A mRNA (***top panels***) and *MAO-B* mRNA (***bottom panels***) was converted to cDNA and used for real time-PCR. Except for *MAO-A* mRNA in hippocampal LOAD (*: P <0.05), transcript levels are not significantly altered by a diagnosis of either Early-Onset/EO or Late-Onset/LO AD.

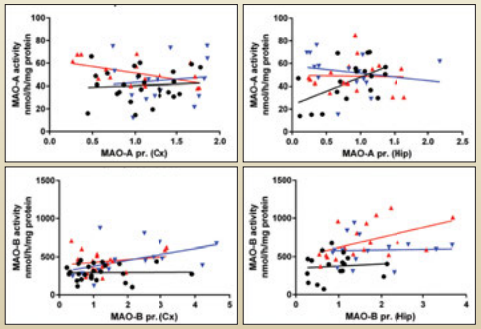
Fig. 2: MAO activities do not reflect mRNA levels.



(***top panels***) MAO-A activities are increased in cortical AD samples, but not in the corresponding hippocampal samples. (bottom panels) In contrast, MAO-B activities are increased in AD in both regions. *: P <0.05; **: P <0.01; ***: P <0.001 *vs.* the respective controls. Blue = male, Red = female.

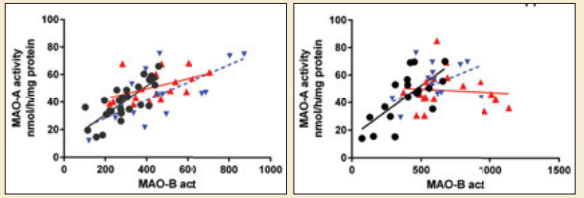
CTL: ●; EOAD: ▼; LOAD: ▲.

Fig. 3: MAO activities do not generally correlate with the respective proteins.



MAO-A (***top panels***) and MAO-B (***bottom panels***) activities and proteins were analyzed for any correlation. Aside from the following, there were no significant correlations: Cortex MAO-A/LOAD: R^2=0.2785; P=0.0244. Hippocampus MAO-A/CTL: R^2: 0.2889; P=0.0214. Hippocampal MAO-B/LOAD: R^2=0.2447; P=0.0369

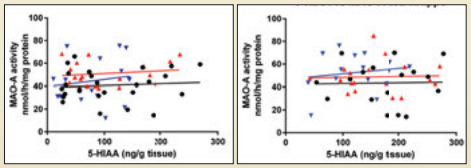
Fig. 4: The correlation between MAO-A and MAO-B activities is disrupted in hippocampal AD samples.



MAO activities were re-analyzed and correlation statistics were based on Pearson's correlation coefficient. The correlation was strong in cortical samples (***left***), but were generally disrupted in hippocampal AD samples (***right***).

Cortex (a) CTL: R^2: 0.6150; P<0.0001; (b) EOAD: R^2: 0.4849; P=0.0027; (c) LOAD: R^2=0.2340; P=0.0419.
Hippocampus (a) CTL: R^2: 0.4935; P=0.0012; (b) EOAD: R^2: 0.2138; P=0.0827; (c) LOAD: R^2=0.0079; P=0.7255

Fig. 5: 5-HIAA levels do not correlate with MAO-A activity.



Levels of 5-hydroxyindoleacateic acid (5-HIAA), the major MAO-A-mediated metabolite of 5-HT, do not correlate with MAO-A activity in either cortical (***left panel***) or hippocampal (***right panel***) samples.

Observations and Conclusion:

- *MAO-A or MAO-B* mRNA transcript levels **do not** correspond to the corresponding MAO activities.
- MAO-A or MAO-B catalytic activities **do not** correlate with to the corresponding MAO protein expression
- MAO-A and MAO-B activities are correlated within a given region; however, this correlation **is lost** in hippocampal LOAD samples.
- 5-HT degradation **does not** match MAO-A activities in either cortex or hippocampus.
- We **conclude** that MAO mRNA or protein expression **cannot** be used as an index of MAO function. To do so would misrepresent the role for MAO in the clinical context.

Acknowledgments: DDM is the **Saskatchewan Research Chair** in *Alzheimer disease and related dementia.* The Chair is jointly funded by the Alzheimer Society of Saskatchewan and the Saskatchewan Health Research Foundation.

Methods of Remote Education Delivery on Dementia for Rural Primary Care

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INTRODUCTION

Challenges to practicing in rural areas[1,2,3]

- Work isolation.
- Inadequately staffed programs.
- Long wait times for referrals.
- Long distances to specialized programs.
- Reduced access to continuing education and professional development, specific to practice in rural areas.
- Fewer educational resources.

Benefits of remote medical education[4,5]

- Reduced barriers to professional development and continued education.
- Increased knowledge on best practice guidelines.
- Increased access to continuing education specific to rural health care.

RATIONALE/OBJECTIVE

- Enhance knowledge of existing modes of remote and rural medical education on dementia to determine the best mode of delivery on training, diagnosis, and management.
- Convey a Cochrane systematic review of existing methods of remote medical education on dementia to understand what has been done up to date. The objective is to create a summary of current knowledge of remote methods of rural medical education on dementia.

QUESTIONS/DESIGN

Research Questions:

- What are the existing modes of remote medical education on dementia in rural areas worldwide?
- Who uses remote medical education (e.g. health professionals, agencies, health authorities, research groups)?
- What evidence exists for remote medical education?
- Who are the tools aimed at? (e.g. primary health care, secondary care, tertiary care)?
- How are modes of remote education evaluated?
- What criteria are used to develop these modes?
- What is available for digital tools in terms of modes of delivery?

Study Search:

- Studies are sought and identified via electronic databases, and review of article citations selected for inclusion in the review. The search strategy process for this systematic review will follow the PRISMA guidelines (Liberati et al., 2009)[6].
- The searched list of databases will be limited to the University of Saskatchewan databases.

RRMC Funding and in-kind support is generously provided by:

CRITERIA/OUTCOMES

Inclusion criteria

- Written in English
- Study took place in the world
- Study at enhancing education on dementia in rural areas
- Case studies, case series, case control studies, randomized, and non-randomized studies will be included in the review.
- Studies eligible for inclusion must be aimed at formal care (e.g. including health care practitioners such as personal support workers, nurses, inter-professional healthcare teams and healthcare executives).

Exclusion criteria

- Clinical assessment tools
- Cognitive training tools
- Education aimed at prevention
- Education targeted to non-rural health care
- Education targeted to students in a health care field
- Face-to-face delivery of educational materials

Primary Outcomes[7]

1) Self-reported positive effects on knowledge, confidence, skills, and motivation to work with dementia
2) Improved adherence to guidelines
3) Comprehensive and coordinated care management
4) Increased referral to community agencies
5) Regular patient follow-ups

Secondary outcomes

1) Data on the types of delivery strategies used.
2) Data on the barriers to remote education delivery.

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Improving rural dementia diagnosis: Implementing remote specialist-to-primary care provider support

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Introduction

Purpose

Improve timely diagnosis of patients with dementia in rural/remote areas by developing, implementing, and evaluating a technology-based platform that connects urban dementia specialists with rural primary care providers

Rationale

- 564,000 Canadians live with dementia, placing a significant burden on informal caregivers, and costing Canadians $10.4 billion annually.[1]
- Timely diagnosis improves patient quality of life[2], while late diagnosis is associated with hospitalization and premature long-term care placement.[3,4]
- Information about a patient's objective cognitive functioning is central to diagnosis[5] but many primary care providers (PCP) lack training in cognitive testing, and opt instead to defer diagnosis until the disease is further progressed.[6]
- Increasing access to cognitive testing and interpretation services will likely improve the timeliness of diagnosis in rural primary care.[6-8]
- Preliminary research suggests telehealth neuropsychological assessments are valid and well-tolerated, and may have diagnostic utility.[9]
- Canadian Longitudinal Study on Aging (CLSA) developed and gathered normative data on a telephone-administered neuropsychological instrument.
- Computer Assisted Mild Cognitive Impairment (CAMCI) is a reliable and valid automated cognitive assessment instrument[10] which may influence PHC provider's care decisions.[11]

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Proposed Research

Study 1: Review of Information Technology-Based Approaches to Cognitive Testing and Interpretation:

Systematic review and meta-analysis of how computer-, videoconference-, and telephone-based cognitive testing have been used internationally with recommendations for application to rural Saskatchewan

- Follow PRISMA and STARD guidelines
- Evaluate each approach based on
  - Validity
  - Feasibility
  - Strength of evidence
  - Quality of normative data

Study 2: Develop an Interpretive Algorithm and Short Form for CAMCI

CAMCI-Research reports patients' performance on 30 variables relative to healthy individuals, making interpretation ambiguous

- In collaboration with computer science researchers, Spiteri and Neiser
- Secondary analysis of large community and clinical sample also assessed for mild cognitive impairment (MCI)
- Compare statistical approaches to maximize accuracy
- Automatically generate interpretive report with recommendations for PCP
- Acknowledge limitations of test results

RRMC Funding and in-kind support is generously provided by:

Proposed Research

Study 3: Validation of CAMCI with RRMC patients

Determine the validity and feasibility of CAMCI battery with rural/remote patient population

- Recruit RRMC patients and caregivers to complete CAMCI battery
- Document how well tolerated the CAMCI is in this population
- Document the convergent and discriminant validity of the CAMCI battery in this population

Implications

- Remote specialist-to-PHC provider support will improve diagnosis of dementia in rural areas.
- Early diagnosis reduces number of rural dementia patients that enter long-term care prematurely, saving associated costs.
- Improve quality of life of informal caregivers, who use diagnostic information to tap appropriate resources and prognostic information to plan accordingly.

These research programs work best when we work together. We would love to hear your thoughts!

Alzheimer Society
SASKATCHEWAN
Learn More Live Well

Minds in Motion®

Minds in Motion® is a community-based fitness and social activity program that incorporates physical activity and mental stimulation for people with early symptoms of Alzheimer's disease and other dementias to enjoy with a friend or family member.

How the program works

A two hour, weekly program that runs for eight consecutive weeks. The program combines:

- 45-60 minutes of physical activity led by a certified physical activity program leader
- 45-60 minutes of socially stimulating mental activities facilitated by an Alzheimer Society of Saskatchewan program staff and volunteers
- Light, healthy refreshments are provided
- Class sizes are limited in order to accommodate the needs of all participants

Benefits to the individual with dementia:

- Increased confidence and comfort with their diagnosis
- Inclusion in community
- Improved balance, mobility, flexibility and alertness

Benefits to the care partner/family/friend:

- Self-care: an opportunity to focus on their own health, rather than focusing exclusively on the needs of the person with dementia
- Pleasure from seeing the person that they care for enjoying themselves
- Mutual support and learning from other care partners

Benefits to both:

- Sharpened mental functioning, sometimes lasting two to three days
- Reduced sense of isolation
- Improved balance, mobility, flexibility, strength and endurance
- Supportive environments which encourage new friendships with others who are living the same

Benefits to volunteers, delivery staff and broader community:

- Increased capacity through exposure, training and learning from one another

2016-2017 Highlights

- Continuation of Minds in Motion in Saskatoon, 4 sessions delivered
- Launch of Minds in Motion in Regina, 2 sessions delivered
- 94 people in attendance, 11 volunteers
- Majority of participants stated they would consider enrolling in Minds in Motion again

"We have been to both sessions of Minds in Motion that have been offered in Regina. The exercise portion has been very good with a good variety of cardio, strength, stretching, and a time of yoga meditation as well. Everyone seems to enjoy the exercise and then the socializing after. The last hour was always a good mix of camaraderie and games. Thanks to the fitness leader for the exercise, and the coordinator and the volunteers. We particularity enjoyed the day the music

Minds in Motion®

2017 – 2018 Plans

- Successful in obtaining grant funding from multiple sources
- Based on participant request, some sessions offered have been expanded from 8 to 12 weeks in Regina and Saskatoon
- Introduction of Minds in Motion to Prince Albert
- Exploration of other locations and partners within Saskatoon and Regina
- Development of sustainability plan for Minds in Motion that increases volunteer involvement in facilitating the program
- Creation of a Minds in Motion Volunteer Facilitator Manual
- Creation of dementia specific training for certified fitness instructors
- Pilot and evaluate of volunteer led model in Swift Current Area
- Seek other opportunities for volunteer led model across Saskatchewan

Minds in Motion Research

The Alzheimer Society of Saskatchewan is one of 12 sites in Canada funded by the Baycrest Centre for Geriatric Care, Centre for Aging and Brain Health Innovation (CABHI) Knowledge Mobilization Partnership Program (KMP2).

Research is to replicate the findings from Ontario Pilot sites:

- On average, participants' endurance improved by 20% and strength by 15%.
- There was an 80% return rate among participants and 40% of them reported engaging in more than three additional hours of physical activity per week.
- 79% reported that they are seeking other opportunities to participate in community programs
- 90% of recreation centre staff volunteers/students identified an increase in their knowledge about older adults and/or dementia

For more information contact Donna Wilkinson, Minds in Motion Coordinator mindsinmotion@alzheimer.sk.ca

Alzheimer Society
SASKATCHEWAN
Learn More Live Well

ABC's of Dementia – More Than Memory

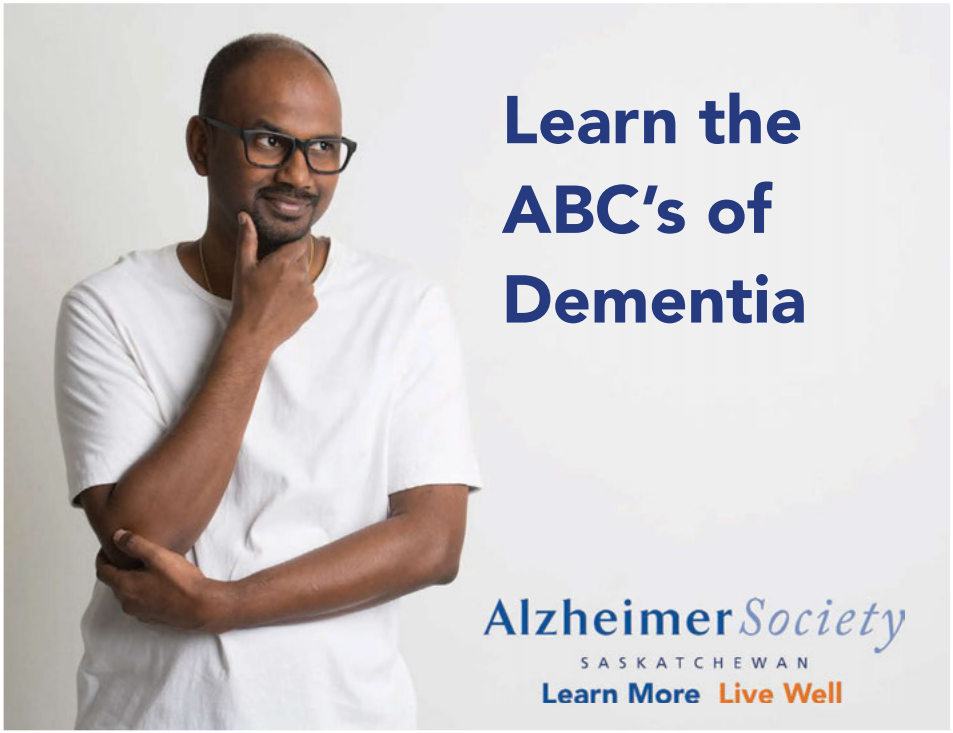
The Alzheimer Society of Saskatchewan's ABC's of Dementia Campaign is a significant public health awareness initiative addressing one of the most critical health care challenges facing the province - the rising rate of dementia and the lack of awareness about the warning signs.

While remaining true to the evidence-based information, our ABC's of Dementia campaign simplifies the warning signs of dementia.

Every 24 hours 10 more people in Saskatchewan develop dementia.

Our ABCDementia.ca site urges individuals to seek an early diagnosis as it is key to empowering people to live well with dementia. The site has a *Getting a Diagnosis Toolkit* that helps individuals prepare for a conversation with their doctor or health care provider.

This campaign has the potential to positively impact thousands of individuals and families across the province.



ABCDementia.ca

The ABC's of Dementia

There are 10 evidence-based changes that have been identified as warning signs for dementia. It's about more than memory loss. The warning signs involve a change in an individual's abilities, behaviours or how they communicate. Different dementias have different warning signs.

Abilities

The loss of ability to perform basic tasks or a sudden struggle to complete an action that was once routine is a significant warning sign.

Occasionally a person may be preoccupied or distracted and miss a step, or misplace an item. However, if the order of a task suddenly becomes confusing, or if functional ability is compromised, it may be an indication of dementia.

The warning signs:

- Changes in day-to-day abilities
- Difficulty performing familiar tasks
- Disorientation of time and space
- Misplacing things

Behaviours

Preferences and interests can shift with age, but major changes in core personality traits are cause to talk to a doctor.

Sudden and unexplainable decreases in initiative or interest can impact relationships and may increase a risk of isolation. Other times problems with judgment or decision making may lead to a dangerous situation if not properly addressed.

The warning signs:

- Impaired judgement
- Changes in mood and behaviour
- Changes in personality
- Loss of initiative

Communication

Unusual changes in vocabulary and language are important signs to discuss with a doctor. Some forms of dementia may affect the area of the brain in charge of language before memory is even involved.

These changes may affect both written and spoken language and may become apparent when incorrect words are substituted in place of others, common words are difficult to understand, or sentences seem hard to follow.

The warning signs:

- Problems with language
- Problems with abstract thinking

What we know is that people who connect with the Alzheimer Society have a far better experience with the disease than those who don't.

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