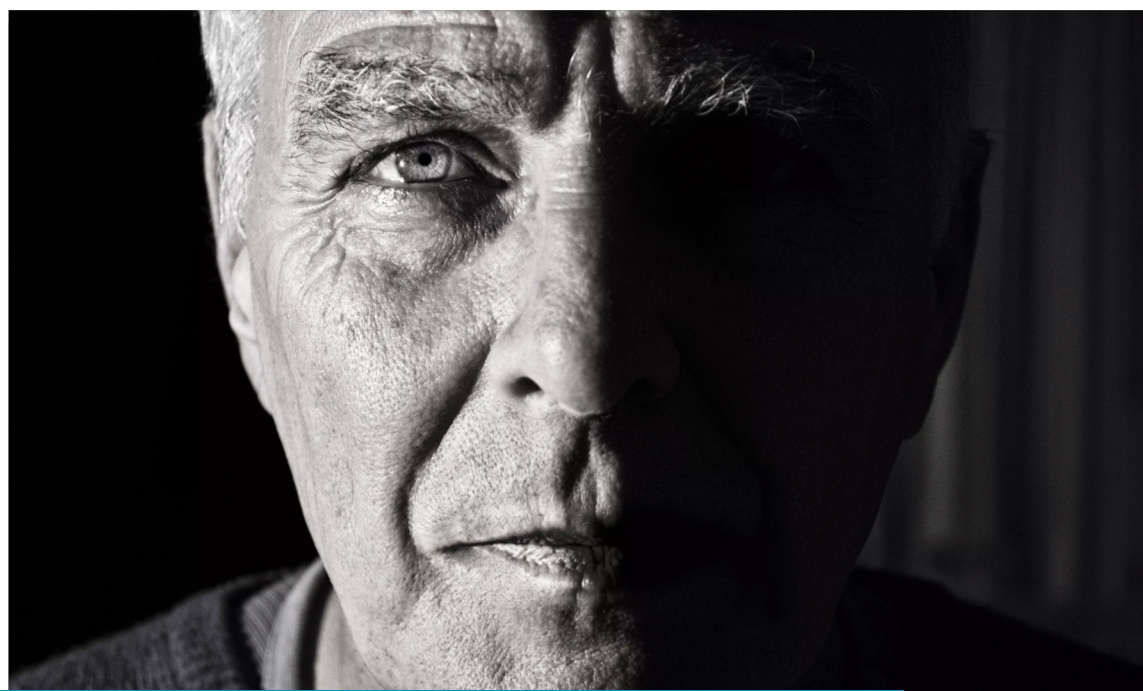# Ring of Support (RoS) – A Story of Industry–Clinical Partnership, Collaboration, and Revolutionizing Aging at Home

Linda Kaleis, MHI[1]; Joe Au-Yeung, MMI[2]; Amos Adler, MSc[1]; Mary Lou Ackerman, MBA, BScN[2]

[1]MEMOTEXT Corp, [2]SE Futures

RING OF SUPPORT

BACKGROUND

Ring of Support (RoS) is a program which supports both caregivers/care providers and the seniors they are caring for who may be living with mild cognitive impairment(MCI)/early-stage dementia. RoS is a personalized digital engagement system incorporating the use of smart assistants (the Amazon Echo) to prolong independence for seniors at home and provide peace of mind while reducing the burden of stress for the caregiver.

CONTACT

MEMOTEXT is a digital health company that builds personalized health interventions that engage patients in achieving their health goals.

SE Health is a non-for-profit which provides homecare to people across Canada. SE Futures is a team within SE Health that aims to co-create a future where Canadians age with health, vitality and dignity.

Futures

PROBLEM

- Prevalence of dementia worldwide, **tripling by 2050**[1]
- Shortage of beds, **shortfall of 157,000 by 2038**[2]
- **½ of caregivers experience distress**, spending an average of 26 unpaid hours per week caregiving[3]
- **$15 billion/year burden** on healthcare system in CA, rising to $153 billion by 2038[2]
- This demographic shift is leaving healthcare systems struggling to allocate scarce resources and is taking a toll on caregivers'/care providers' abilities to provide adequate home and community care services.

INNOVATION

RoS supports individuals to age in the comfort of their own home as independently as possible, at the same time providing the necessary supports to the often unrecognized second individual affected by MCI/dementia, the caregiver themselves.

Seniors: have access to medication, event, and appointment *reminders*; are monitored through morning and evening wellness *check-ins*; and have access to *in-person support* through SE Health's community response team, using the *Amazon Echo* (Alexa) device and *IVR calls*.

> It's time for your morning check-in. Today is September 26th and you have one event: lunch with mom at 2pm. How are you feeling today?

Caregivers: receive *remote-monitoring updates* about the senior with senior *dashboard* access to track trends over time as well as adaptive mental/caregiving strategy supports via *SMS*.

Nursing Staff: SE Health's community response team *monitors program escalations* (missed check-ins, medication non-adherence) and can respond to *deploy a personal support worker or nurse* to the senior's home.

IMPACT

The impact of RoS is that it aims to:

1) mitigate for loss of memory and cognitive function in seniors by using a smart-notification system to improve medication adherence, participation in activities of daily living, appointment attendance

2) equip caregivers with the right knowledge and supports to avoid caregiver stress/burnout

3) provide real-time monitoring to notify caregivers and health care providers of abnormal behaviour, allowing for timely intervention and sustainable long-term health management

By increasing independence, reducing demand on costly long-term care resources and working directly with homecare and healthcare partners such as SE Health, RoS monitors, identifies risk, pre-empts preventable medical events and ultimately allows for timely interventions for the sustainable long-term health management of our aging population.

CURRENT STUDY

A user experience evaluation of RoS is currently being conducted with 50-60 SE Health home care clients in the Central East LHIN in Ontario over the coming months. The study addresses the objective of evaluating the user experience, preferences, interests and abilities of older adults and their caregivers to use the RoS program.

This study is funded by the Centre for Aging and Brain Health Innovation under its I2P2 program. SE Health, through its SE Research Centre, has received funding to do the user experience testing of the technology.

If you would like to participate in end user focus groups, testing, and development, please contact Linda at linda@memotext.com for more details.

EARLY RESULTS

Beta Testing (2 seniors, 1 week duration)

What did you enjoy most about using Ring of Support?

> *"They give you answers and ask you how you are feeling, **they are interested in you** and ask if you want a nurse to call you, so they were giving you good information."*

> *"My neighbour is paralyzed and this would be great for her to **be informed** who is coming in and out of her home"*

> *"Love to be reminded at night for medications"*

Usability Study
Users are engaging with both the Alexa device and IVR calls for check-ins, event reminders, and medication reminders. One senior home care client who is bedridden had greatly benefitted from the community response service when they had experienced an issue with their breathing tube; a nurse was then promptly deployed to their home for assistance.

CONCLUSIONS

Early results demonstrate the potential RoS holds to support individuals in the comfort of their own home, while keeping their caregivers and care providers in the loop. The usability study will help to better understand the use of voice technology by seniors and how the virtual nurse community response service can be used to develop new models of proactive care.

REFERENCES

1. Hebert, L. E., Weuve, J., Scherr, P. A., & Evans, D. A. (2013). "Alzheimer disease in the United States (2010–2050) estimated using the 2010 census." Neurology, 80(19), 1778-1783.

2. Alzheimer Society, Canada. Rising tide: the impact of dementia on Canadian society. Toronto (ON): Alzheimer Society; 2010. Available: www.alzheimer.ca/~/media/Files/national/Advocacy/ASC_Rising_Tide_Full_Report_e.pdf (accessed March 13, 2015).

3. Canadian Institute for Health Information. Dementia in Canada. Ottawa, ON: CIHI; 2018.