

Reducing Falls in Older Adults

By Leith, Chayton, Jonah, Nakayla & Jenny



Land Acknowledgement



Thompson Rivers University campuses are located on the traditional lands of the Tk'emlúps te Secwépemc (Kamloops campus) and the T'exelc (Williams Lake campus) within the Secwépemc'ulucw, the traditional and unceded territory of the Secwépemc. Our region also extends into the territories of the St'át'imc, Nlaka'pamux, Nuxalk, Tšilhqot'in, Dalkeh, and Sylix peoples.

Introduction

Older Adult = a person over the age of 60
(UNHCR, 2020)

As of July 2022, there are approximately 9,970,613 Canadians who are over the age of 60
(Government of Canada, 2023).

Fall-related injuries resulted in an estimated 3 million ER visits, over 950,000 hospitalizations or transfers to other facilities, and over 32,000 fatalities in 2018 (Moreland et al., 2020).

Our hope is that these numbers can be drastically reduced with the implementation of appropriate solutions and interventions which we have formulated through extensive and thorough research.



CASE:

- **80 year old male who lives alone in 3 story home presented to the emergency room after a fall.**
- **Patient is non-weight bearing to right leg**
- **Diagnosis: right femur fracture that required surgery**
- **Discharge Barriers:**
 - **Home situation: increased fall risk on stairs, walking after surgery**
 - **Physiotherapy: driving to appointments?**

WE HEAR ABOUT THIS ALL THE TIME

Environmental Scan

1

Exercise/Physiotherapy



2

Proper Footwear



3

Winter Preparation



4

Vision Assistance



5

Medication Safety



6

Adequate Nutrition



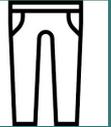
7

Mobility Aids



8

Hip Protectors



Top 3 Solutions



1

**Mobility
Aids**

2

Nutrition

3

Physiotherapy

Solution #1 Mobility Aids



Research has shown that mobility devices increase independence, promote social participation, improve physical activity and decrease falls in older adults (Lee & Tak, 2022).

Mein Hilfsmittel (Germany)



What it is?

Rent any type of mobility aid from anywhere in Germany

Strengths

- Covered by insurance
- Specialist lead
- Accessibility
- Fast processing & delivery

Challenges

- Expensive when not covered
- Clients not wanting to use mobility aids
- Hours of operation

Solution #2 Nutrition



“Nutrition and fall risk are associated and often co-occur, poor diet quality can perpetuate muscle mass and strength loss” (Laur et al., 2020)

New Zealand Meals on Wheels Program

- Health Board is required to provide nutritional supports to older adults
- Helps prevent frailty
- Non-Profit
- Needs Assessments
- Dieticians

(Healthy and Positive Ageing Initiative, 2021)



Kamloops Meals on Wheels Program

- Provided and prepared by RIH
- Lacks re-assessment
- Long wait list
- Available to everyone but can't deliver everywhere in town (Interior Community Services, 2023)

Solution #3 Physiotherapy



PhysioCare at Home

What is it?

Program to bring physiotherapy to the homes of those who have challenges traveling to a central healthcare facility



Strengths

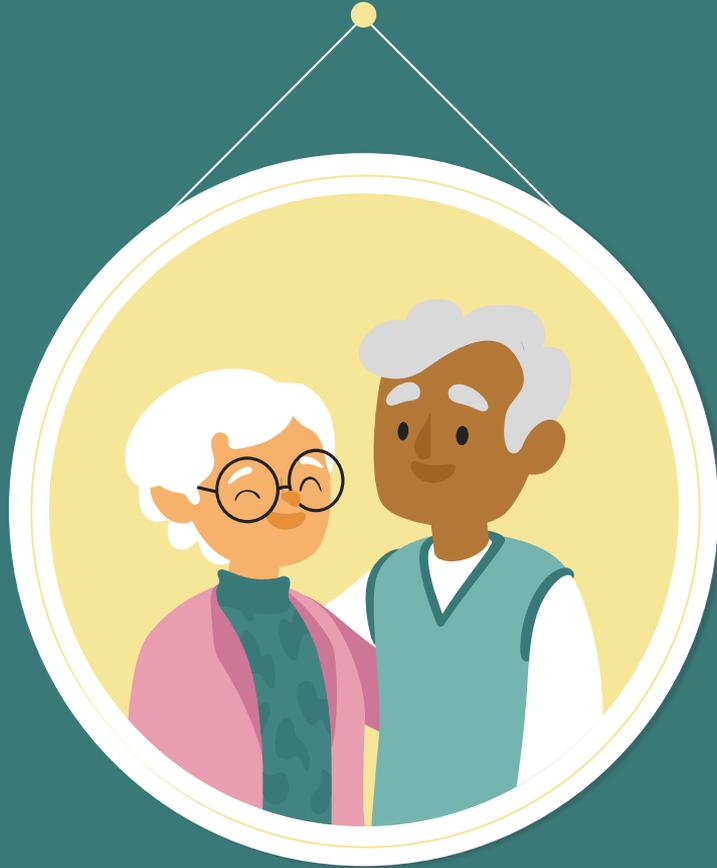
- Builds trust and relationship
- Highly personalizable
- Adaptive
- Accessible

Challenges

- Cost
- Accessibility to remote locations
- Safety

Conclusion





Thank you!

Are there any
Questions?

References

Alberta Health Services. (2023, June 15). *Preventing falls in older adults*. Health Information and Tools. <https://myhealth.alberta.ca/Health/pages/conditions.aspx?hwid=ug2329spec>

Appeadu, M., & Bordoni, B. (2023). *Falls and Fall Prevention in the Elderly*. National Library of Medicine. <https://www.ncbi.nlm.nih.gov/books/NBK560761/>.

Blain, H., Moit, S., & Bernard, P. (2020). How Can We Prevent Falls? In *Orthogeriatrics* (pp. 273–290). essay, SpringerLink. https://link.springer.com/chapter/10.1007/978-3-030-48126-1_16.

Božić, D., & Zelenović, M. (2022). The Effect of Physical Activity on the Prevention and Number of Falls in Elderly People. *SportLogia*, 18(1), 45–59. <https://doi-org.ezproxy.tru.ca/10.5550/sgia.221801.en.bz>

Government of Canada. (2023). Population estimates on July 1st, by age and sex. Statistics Canada. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501>

Healthy and Positive Ageing Initiative.(2020). *International approaches to the development of meals on wheels and home-meals service guidelines in five OECD countries - An Evidence Brief*. Dublin: Department of Health. <https://assets.gov.ie/180883/7f38971f-7aea-4f89-8717-0d17069fbf9.pdf>

Hernandez, N. (2023, September 20). *Acorn Stair Lifts Review 2023*. We evaluated Acorn Stair Lifts, so you don't have to. See if Acorn has the right stair lift for you. <https://www.ncoa.org/adviser/stair-lifts/acorn-stair-lifts-review/>

Interior Community Services. (2023). *Meals on wheels*.

Lazarus, G., & Soejono, C. H. (2022). *Unsupervised home-based exercise for rural frail elderly: An evidence-based case-report*. *Activities, Adaptation & Aging*, 46(3), 218–235. <https://doi-org.ezproxy.tru.ca/10.1080/01924788.2022.2028052>

Laur, C., Carew, W., & Keller, H. (2021). Building Nutrition into a Falls Risk Screening Program for Older Adults in Family Health Teams in North Eastern Ontario. *Canadian Journal on Aging / La Revue Canadienne Du Vieillissement*, 40(1), 97-113. doi:10.1017/S0714980819000850. <https://www.interiorcommunityservices.bc.ca/programs/seniors/meals-whee>

Lee, D., & Tak, S. H. (2022). Barriers and facilitators of older adults' usage of mobility devices: A scoping review. *Educational Gerontology*, 49(2), 96-108. <https://doi.org/10.1080/03601277.2022.2084309>

Montero-Odasso, M., van der Velde, N., Martin, F., Petrovic, M., Ryg, J., & Masud, T. (2022). World guidelines for falls prevention and management for older adults: A global initiative. *Age and Ageing*, 52(10). <https://doi.org/10.1093/ageing/afad199>

Moreland, B., Kakara, R., & Henry, A. (2020). Trends in nonfatal falls and fall-related injuries among adults aged ≥ 65 years — United States, 2012-2018. *MMWR. Morbidity and Mortality Weekly Report*, 69(27), 875-881. <https://doi.org/10.15585/mmwr.mm6921a5>
PhysioCare At Home. (2023). *Physiotherapy home care for seniors*. <https://physiocareathome.com>.

Ren, L., & Peng, Y. (2019). Research of Fall Detection and Fall Prevention Technologies: A systematic review. *IEEE Access*, 7, 77702-77722. <https://doi.org/10.1109/access.2019.2922708>

Rent Medical Products Online!. MeinHilfsmittel.de. (n.d.). <https://meinhilfsmittel.de/en>

Soukkio, P. K., Suikkanen, S. A., Kukkonen, H. K. T., Kautiainen, H., Hupli, M. T., Aartolahti, E. M., Kääriä, S. M., Pitkälä, K. H., & Sipilä, S. (2022). Effects of a 12-month home-based exercise program on functioning after hip fracture – Secondary analyses of an RCT. *Journal of the American Geriatrics Society*, 70(9), 2561-2570. <https://doi-org.ezproxy.tru.ca/10.1111/jgs.17824>

UNHCR. (2023). *Older persons*. UNHCR. <https://emergency.unhcr.org/protection/persons-risk/older-persons#:~:text=can%20accessdistribution%20mechanisms.,Overview,or%20age%2Drelated%20health%20conditions>.

Yahaya, S. A., Ripin, Z. M., & Ridzwan, M. I. Z. (2019). Test systems for the biomechanical evaluation of hip protectors: A systematic review. *Osteoporosis International*, 31(1), 43-58. <https://doi.org/10.1007/s00198-019-05128-x>