

C0042



New Brunswick Brain Health Initiative: Preventing Alzheimer’s by Lessening Modifiable Risk (NB-PALM)

Summary

- Alzheimer’s disease and related dementia (ADRD) has a big impact on New Brunswick (NB). Research shows that by reducing risk factors, up to 40% of ADRD cases may be delayed or altogether prevented.
- The goal of NB-PALM is to help older adults in NB improve their brain health and reduce the risk of dementia by creating and maintaining a system for providing brain health support.
- The evaluation of NB-PALM had three objectives:
 - Objective 1: Community Engagement with Older Adults about Brain Health.
 - NB-PALM created a survey for people in NB about involving older adults in brain health initiatives.
 - Objective 2: Identify Prevention Strategies.
 - NB-PALM provided brain health initiatives (SYNERGIC@Home and Brain Health Support Program (BHSP)) to eligible participants in their own homes remotely, focusing on factors that can be modified to reduce the risk of ADRD.
 - Objective 3: NB Maps of Modifiable Risk Factors.
 - NB-PALM developed risk profiles for dementia in NB communities.
- Participants in the evaluation for objectives 1 (n=236) and 2 (n=300) were older adults (60+) who lived in their own homes. Participants were mostly women, and mostly living in southern urban locations of the province.

HSPF Focus Area
Project Start & End Date
Organization/Agency
Location
Principal Investigator(s)

Increasing independence, quality of life, and promoting healthy lifestyles.
 January 1, 2020 to March 31, 2024
 University of New Brunswick
 Province-wide
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Indicator	Impact / Outcome / Result
Increased awareness about brain health and participation in programs	<ul style="list-style-type: none"> • Overall, seniors in NB indicated that they want more information on ‘brain health’ from trusted sources like doctors or family members. • Out of 236 people surveyed, around two-thirds said they think about brain health “sometimes” or “almost always”. Most of them (87%) stated that they think about brain health because of aging. • Out of 107 participants who were screened, 66 (62%) showed an increased risk of ADRD. Nearly 90% of these individuals agreed to take part in the BHSP.
Adherence to the interventions on improving gait and cognition	<ul style="list-style-type: none"> • A 16-week home-based intervention program of physical exercises and cognitive training was planned. • Among 72 consenting participants, 60 were selected to start the intervention, 52 completed interventions at the 4-month assessment and 48 completed the 10-month follow-up. • Adherence to the allocated intervention was ~80%. • Preliminary data show trends toward improvement in important ADRD risk factor, such as diet, mental health, body weight, and blood pressure.

Indicator	Impact / Outcome / Result
Identify communities with higher risk of Dementia	<ul style="list-style-type: none"> • Using the Dementia Vulnerability Index (DVI), a total of 243 NB communities were ranked based on their risk profile for dementia. • Indicators of 'risk' included diabetes, social isolation, physical inactivity, smoking, hypertension, obesity and heavy drinking. <ul style="list-style-type: none"> ◦ Overall, physical inactivity was the most pervasive risk factor in NB communities. • None of the communities ranked the highest in the DVI for all eight risk factors. • The link between risk factors and dementia in NB communities is complex. The findings show that the connection between these risk factors and dementia is not very strong. This suggests that risk factors influencing risk of dementia may differ depending on the local context.
Return on Investment (ROI)	<ul style="list-style-type: none"> • A preliminary Cost Benefit Analysis (CBA) and Cost Utility Analysis (CUA) of the SYNERGIC@Home program was conducted. • The findings show that the cost of SYNERGIC@Home is higher than its anticipated benefits. • At the individual level, the monetary benefits of SYNERGIC@Home are modest compared to its program costs (\$53 per patient diagnosed with dementia versus \$1,812 per participant). • If SYNERGIC@Home were offered to NB citizens at risk of being diagnosed with dementia, the estimated costs and benefits would amount to \$5,569,665 and \$1,733,911. • The lack of cost-effectiveness is likely explained by program costs.

Methods and Comparison

The study primarily used quantitative methods – descriptive analysis, Pearson correlation analysis, 2-way ANOVA, Poisson regression and multi-level models. For qualitative data, thematic analysis was conducted, and for mapping, GIS was used.

Conclusions and Lessons Learned

- Objective 1: NB-PALM's educational tools can meaningfully engage older adults in learning about the importance of brain health.
- Objective 2: It is feasible to provide brain health interventions to older adults living at home through remote delivery.
- Objective 3: Community risk profiles can help identify high-risk communities in NB.
- The success of the project is due to several factors like clear communication and participant-centric practices, involvement of family members, especially across generations and remote interventions.

Recommendations

- Objective 1: When developing brain health programs, it is recommended to create evidence-based, clear content that considers diverse communication needs for engaging older adults.
- Objective 2: Scale and spread a home- and community-based brain health program based on the SYNERGIC@Home model.
- Objective 3: Focus programing efforts within communities with the greatest need based on the community risk profiles and monitor these risk profiles to measure success of the interventions.
- General recommendations:
 - Use diversified recruitment strategies: There should be multiple recruitment efforts targeting diverse demographics to ensure fair participation across different groups and identities. Deliberate recruitment efforts should be made to address feasibility and reach underrepresented populations.
 - Use technology: Participants in this project showed a high level of proficiency with technology. It will be important for future initiatives acknowledge and make use of the participants' technological capabilities.

Next Steps

TNB-PALM is seeking funding to expand and scale up the initiative. Applications for funding were submitted to the McKenna Institute and Employment and Social Development Canada.

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