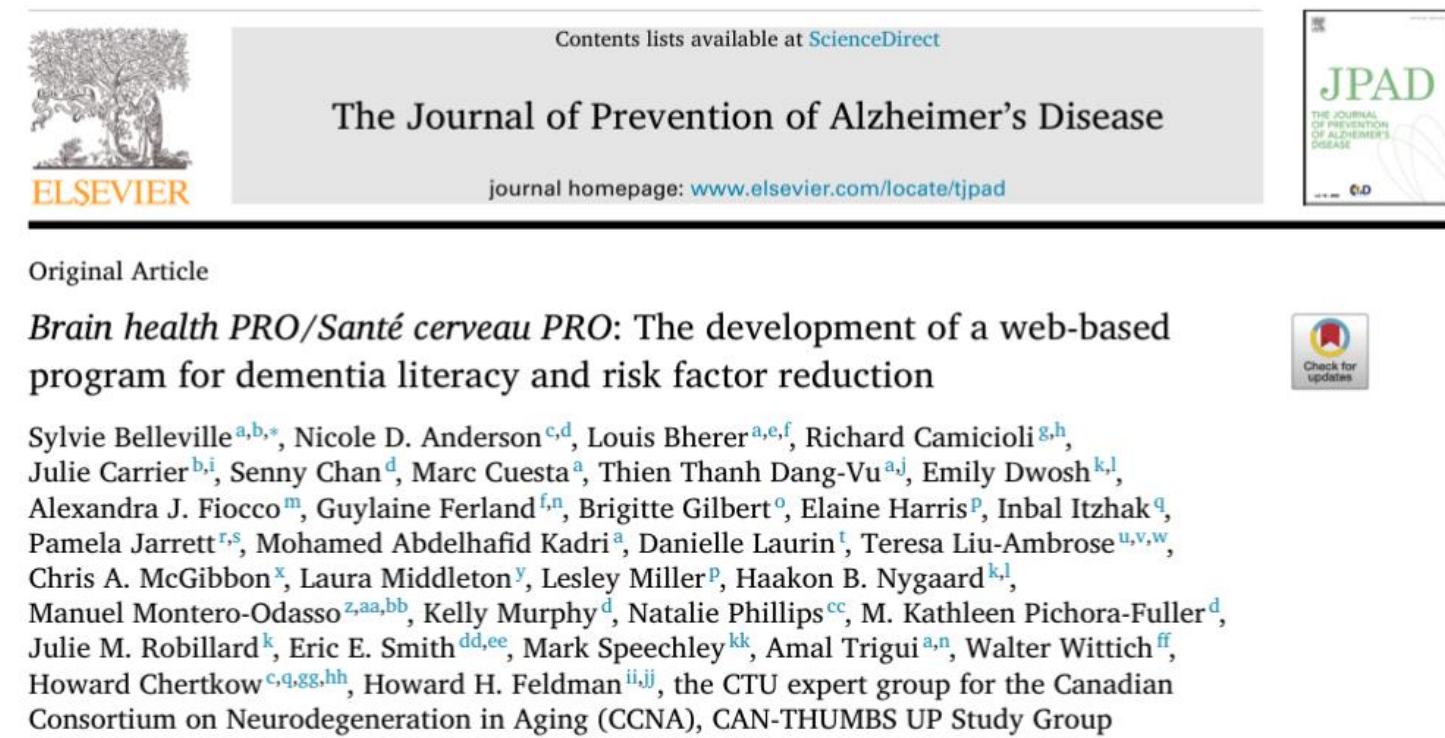
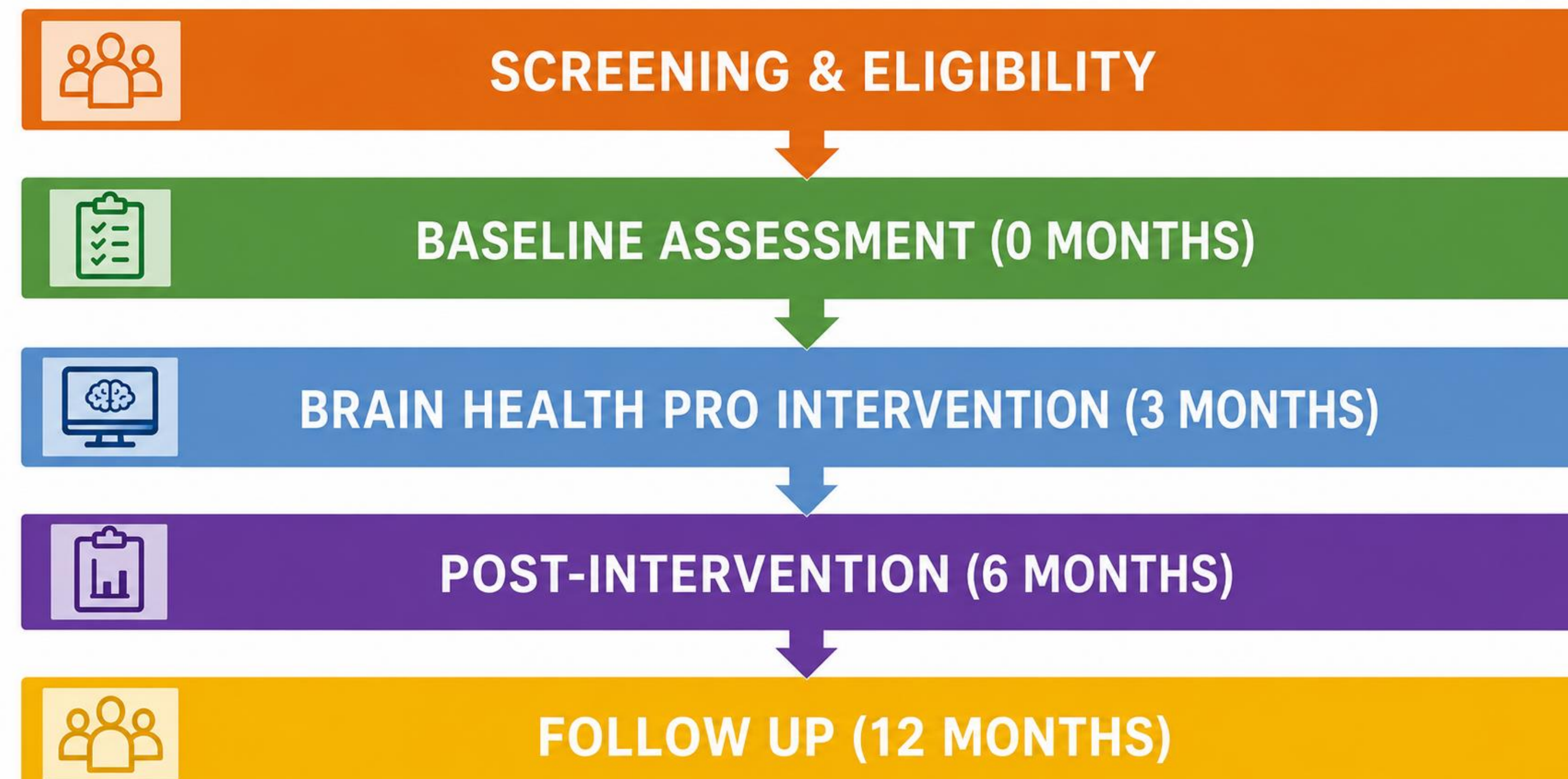


Background

- ❖ Hearing and vision loss are common with aging and are potentially modifiable dementia risk factors.
- ❖ Brain Health PRO/Santé Cerveau PRO (BHPro) is a Canadian online dementia-educational program.
- ❖ The accessibility and effectiveness of BHPro for older adults with sensory difficulties remain unknown.



SENSE-BHP Study Schematic



SPIRIT Schedule

Study Period	Screening	Baseline (T0)	Month 3 (T1)	Month 6 (T2)	12-Month Follow-up*
ENROLMENT					
Informed consent	✓				
Sociodemographic	✓				
Medical/Surgical/Family history	✓				
Height/Weight/BMI	✓				
Eligibility pre-screening (ICOPE-based items + sensory screening questions)	✓				
Cognitive status screening (self-report)	✓				
Final eligibility confirmation	✓				
FOLLOW-UP PHONE CALL (continued interest, satisfaction with BHPPro)			✓	✓	
PRIMARY OUTCOME					
Dementia Literacy (ADKS)		✓		✓	✓*
SECONDARY OUTCOMES					
Self-Efficacy (GSE)		✓		✓	✓
Usability (SUS)				✓	✓
Acceptability (Technology Acceptance Model – adapted)				✓	✓
EXPLORATORY OUTCOMES					
Attitudes Toward Dementia and Dementia Screening (PRISM-PC Parts B & D)				✓	✓
BHPPro Lifestyle Risk Questionnaires		✓	✓	✓	✓*
Sensory Adaptations Used for BHPPro (e.g., hearing aids, captions, magnification, screen-reader, contrast settings)		✓	✓	✓	
Accessibility Barriers and Facilitators			✓	✓	✓

Method

Design: Prospective cohort study

Population: Adults ≥ 60 years (target N=300) with mild-to-moderate:

- ❖ Vision difficulties
- ❖ Hearing difficulties
- ❖ Dual sensory difficulties

Intervention: Participants complete the 45-week BHPro dementia-education program

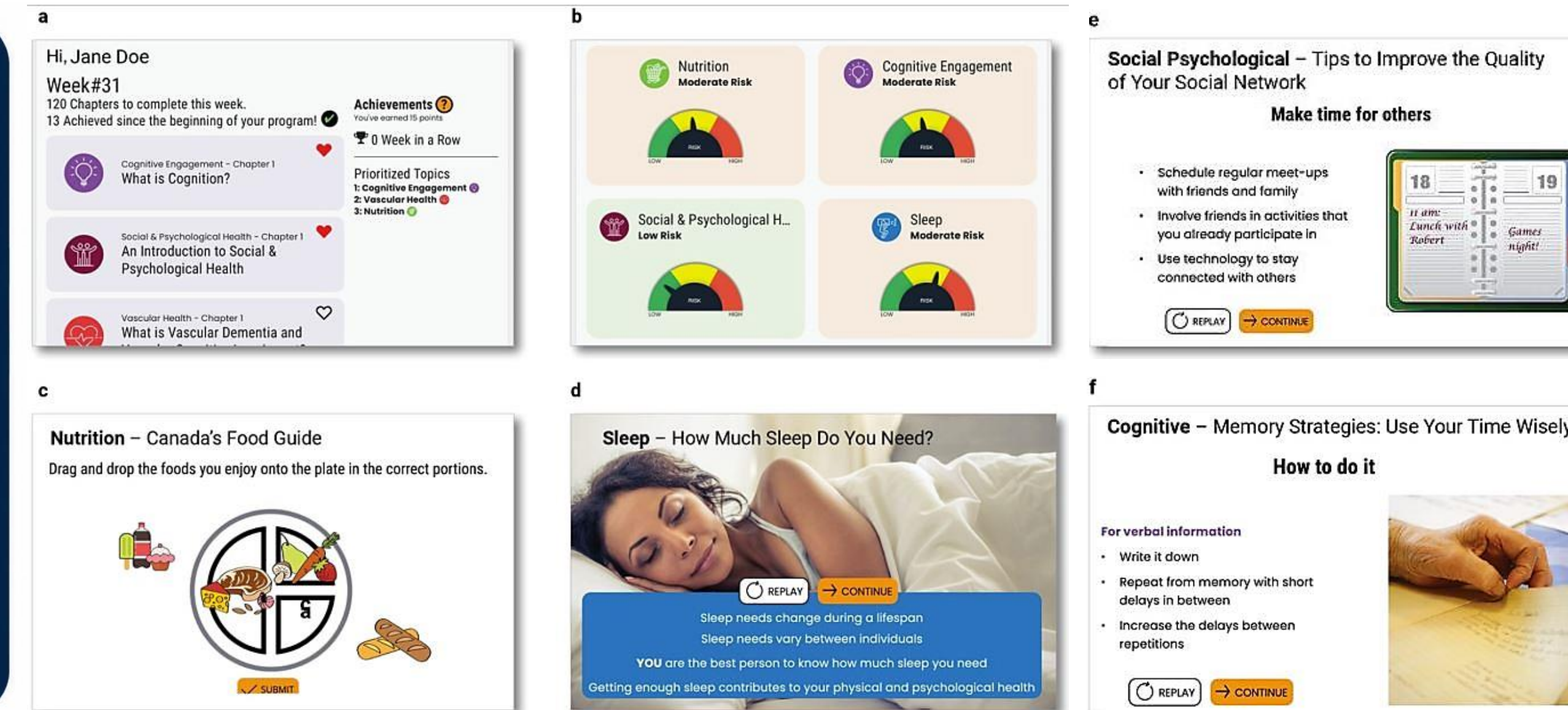
Comparison: outcomes across sensory-loss groups and with the original BHPro cohort

Primary outcomes:

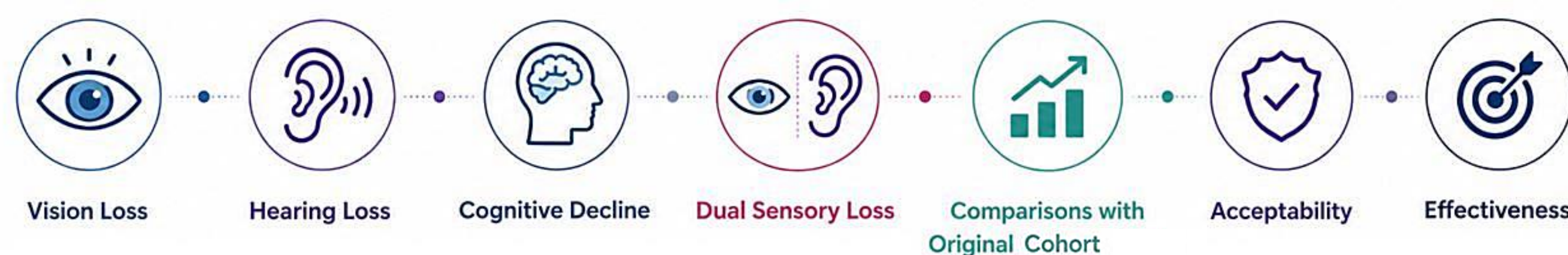
- ❖ Evaluate dementia literacy, risk-reducing behaviors, well-being

Secondary outcomes:

- ❖ Assess changes in health behaviors, self-efficacy, and well-being
- ❖ Identify predictors of engagement and intervention success
- ❖ Compare outcomes across sensory impairment groups
- ❖ Compare outcomes with the original BHPro cohort
- ❖ Evaluate accessibility, acceptability, and usability of BHPro
- ❖ Identify implementation barriers and facilitators for real-world adoption



Expected results



1. Individuals with sensory difficulties will demonstrate improvements in dementia literacy, engagement in modifiable risk behaviors, and self-reported well-being.
2. Differential accessibility needs for BHPro across vision, hearing, and dual sensory difficulties profiles.
3. Comparisons with the original BHPro cohort will clarify whether sensory loss influences digital intervention engagement, acceptability, or effectiveness.

Conclusions

First evaluation of BHPro in older adults with sensory loss.

Findings will inform sensory-inclusive adaptations of dementia education programs.

Results may support integration of sensory health into primary care and dementia risk-reduction initiatives.

Sensory health represents an important pathway for equitable dementia prevention.

Funding

