

PART 1 - GENERAL INFORMATION

1. Lead organization

Name of lead organization

University of Western Ontario

Name of project lead

Marie Y. Savundranayagam, PhD

Project lead's preferred method of contact (email address and/or phone number)

msavund@uwo.ca; 519-661-2111 x82215

2. Proposed project

Project title

Be EPIC-Virtual Reality: Inclusive dementia-specific, person-centered communication training for frontline healthcare workers

Project start and end dates

April 1, 2022 to September 30, 2023

Projects must end no later than September 30, 2023.

Amount requested from FSC (total)

\$1,021,879.36

Project partners and their location

Motive.io, British Columbia
International Advisory Board (please see section E – Capacity)

PART 2 - PROJECT SUMMARY

1. Proposed project “one-liner”

How would you describe your new project in one sentence?

Our project transforms the training experience for frontline health providers by scaling *Be EPIC* (a dementia-specific, person-centered communication training for frontline health providers) using virtual reality.

(30 words maximum)

2. Proposed project summary

How would you describe your new project and how it builds on the testing and learning of your current project to date?

We suggest that this summary covers the main information about how your new project addresses all selection criteria of this targeted call.

Personal support workers (PSW) provide the most direct formal care to persons living with dementia (PLWD). Their formal training often does not address complex dementia-related communication impairments and responsive behaviours. Our team created *Be EPIC*, an innovative program that trains PSW to use person-centered communication (PCC) using simulated PLWD. Scaling *Be EPIC* is limited by training simulated PLWD across locations and having trainers travel across locations. Immersive virtual reality (VR) can scale *Be EPIC*. **Existing research using VR for clinical skills training excludes PSW.** The proposed project aims to develop, implement, and assess the effectiveness of *Be EPIC*'s VR version (*Be EPIC-VR*), and to identify factors that influence its implementation in home care and long-term care settings. It builds on what we learned from our current FSC project. We learned that *Be EPIC* is feasible. It enhanced PSW confidence in communicating with PLWD and enhanced their perception of the helpfulness of effective communication strategies. *Be EPIC* also resulted in more PCC by PSW using the gold standard objective outcome of measured, actual interactions. We learned about working conditions that support PCC and the need to include PSW in ongoing training. Our consultations with key stakeholders revealed that we need to offer *Be EPIC* to managers, who are key decision makers who allow PSW to get ongoing training. PSW and managers shared that annual training is done online but is passive and not immersive, reflecting a need for and openness to more interactive training.

(250 words maximum)

3. Additional scope

How does your new project go beyond the scope of your current FSC-funded project?

The additional scope may include expanding or extending a project model, its principles and/or components. For example, it may include expanding the project to new regions or jurisdictions, including new or larger target populations, and testing different delivery formats to understand what works to address demands. This would assume the potential for bringing additional

partners to deliver the project at a broader scale. The additional scope must be grounded in new concrete learning questions to contribute to your work and of others in the skills ecosystem.

Our current FSC project focuses on testing Be EPIC-in person. **The new project focuses on scaling Be EPIC using VR.** We aim to develop, implement, and test the effectiveness of Be EPIC-VR, and identify factors influencing its implementation. Moreover, **we challenge the status quo by including PSW** in innovative training. Managers also will receive Be EPIC-VR training because they possess the decision-making authority to encourage PSW to take Be EPIC-VR and can facilitate workplace conditions for PSW to use person-centered communication. We will use a multi-phase approach to meet project objectives, including beta-testing Be EPIC-VR with PSW, pilot-testing with managers and PSW onsite, and remote-testing Be EPIC-VR and comparing it with Be EPIC-in person data collected in our current FSC project.

(150 words maximum)

4. Importance of the additional scope

Why is the additional scope of your project important to your organization, sector and target populations? Why is it timely?

Stakeholders, including PLWD, family caregivers, PSW, employers, policy makers, stress the critical need for person-centered training that addresses unique unmet needs of PLWD. Care that is not person-centered is task-focused, results in expressions of distress by PLWD, and led to elder abuse, as evidenced during the COVID-19 pandemic. This is what makes the proposed project timely. The pandemic underscores the need to invest in PSW as key members of health care teams and, more importantly, as providers of meaningful social interaction for PLWD. Investment involves inclusion. Our project prioritizes inclusion to meet the goals of equity and diversity. It does this by including PSW in Be EPIC-VR, including managers who can allow PSW to take Be EPIC-VR, and including an avatar depicting dementia from an underrepresented group. Deploying Be EPIC using VR also reaches more diverse and representative participants from different locations and cultural and linguistic backgrounds.

(150 words maximum)

PART 3 - PROJECT DETAILS

A. Relevance:

Over half a million Canadians live with dementia. This number is expected to double by 2031. Personal support workers (PSW) provide the most direct formal care to persons living with dementia (PLWD) but the complex care needs of PLWD far exceed the formal training and abilities of PSW. There is strong evidence that PSW are under-educated and under-trained to care for PLWD^{1,16–21}. Current training programs for PSW focus primarily on activities of daily living (ADL; e.g., toileting), with little attention to communication and responsive behaviours³⁴ common among PLWD. Yet stakeholders, including PLWD, family caregivers, PSW, employers, policy makers, stress the critical need for person-centered training that addresses unique unmet needs of PLWD^{35–37}. **Care that is not person-centered** is task-focused²⁷ and results in expressions of distress and refusing care PLWD²⁸. It led to elder abuse and standard of practice breaches during the COVID-19 pandemic²⁹. This is what makes the proposed project timely.

The pandemic underscores the need to invest in PSW as key members of health care teams and, more importantly, as providers of meaningful social interaction for PLWD. Recruitment and retention of PSW are grave problems compounded by greater demands of dementia care, early hospital discharge policies, and burnout and stress among PSW^{14,30}. Also, tasks that were completed previously by regulated health professionals are shifted to PSW^{20,31}. This perpetuates inadequate dementia-specific training and exacerbates low PSW retention. In Ontario, most PSW are women age 40+ entering the PSW role later in their career³², suggesting labour market disruptions³³ and displacement from previous jobs. Their formal education or prior work experiences do not always prepare PSW for the range of responsibilities³¹. Fortunately, education and training yield higher job satisfaction³⁰ and retention³². This is **a key strategy we will use to address the systemic exclusion of PSW from innovative continuing education**.

To address these challenges, our team created Be EPIC¹, an innovative, evidence-informed training program on using person-centered communication (PCC) strategies with PLWD. PCC addresses unmet needs of PLWD by incorporating their life histories and preferences during care²². PCC includes recognizing, negotiating, facilitating, and validating PLWD^{23–26}. Be EPIC focuses on assessing the [E]nvironment, using [P]erson-centered communication, focusing on client relationships ([I] matter too), and incorporating the [C]lient's abilities, life history and preferences during care. Be EPIC is novel because it emphasizes learning to use PCC via simulation, reflection, and constructive feedback provided by participants, trained simulated PLWD, and trainers with extensive dementia-related experience.

Scaling Be EPIC is limited by resource demands of finding/training simulated PLWD across locations and having trainers travel across locations. Virtual reality (VR) is an innovative way to scale Be EPIC. VR creates realistic, interactive, and consistently delivered simulations that are less costly than in-person training. There is limited research on the effectiveness of VR to educate and train PSW to provide PCC. Guided by Fox and colleagues' taxonomy of VR research⁷ and the Consolidated Framework for Implementation Research¹⁵ (CFIR), the proposed project **objectives** are to develop, implement, and assess the effectiveness of Be EPIC's VR version (Be EPIC-VR), and to identify factors influencing its implementation in home care and long-term (LTC) care settings.

This project aligns with FSC's first strategic priority by collecting and analyzing **data** on the effectiveness and implementation of Be EPIC-VR. Findings will be shared with employers/managers and PSW, and all stakeholders listed above, so they can **make evidence-**

informed decisions about dementia-specific training. Second, this project generates evidence on Be EPIC-VR's effectiveness, which responds to real-time crises in LTC and will serve as a highly proactive approach to minimize the disruptive and disheartening effects of the pandemic and what it uncovered about lack of PSW training. Finally, the project fosters collaboration and engagement across stakeholders from several sectors (LTC, home/community care, family care, researchers, educators), who are on our advisory board. Many members are involved in Ontario Health Teams and can advocate for policy change related to education for PSW. Our project includes an innovative collaboration with Motive.io, a technology company, that is helping us build/refine Be EPIC-VR.

B. Innovation and evidence

Our team, including an international advisory board, **used the existing literature on PCC to conceptualize, develop, implement, and initially test Be EPIC.** PSW who use PCC^{22,23,38} when talking with PLWD are rated by LTC home staff as more affirming, competent, helpful, and satisfied with conversations than staff who are directive²⁴. Few published studies to date by the research team examined which language-based strategies (e.g., open-ended questions, rephrasing) characterize PCC^{23,25,26,28,38}. Regardless of methodology, results showed that 1) staff are challenged to interact socially while performing care activities (e.g., getting residents ready for breakfast), 2) over 1/3 of staff utterances involved PCC indicating that it is possible to use PCC during care activities, 3) the positive impacts of PCC are not sustained, 4) there are several missed opportunities to use PCC and 5) the more staff used PCC, the more likely the residents reacted positively and the more missed opportunities, the more likely that residents expressed distress and refused care.

Be EPIC-in person Training focuses on using PCC to respond to unmet needs of PLWD. Each of its four modules lasts 2.5 hours. Modules 1-2 are implemented in session 1. Modules 3-4 are implemented in session 2, which occurs a week later. Module 1 involves creating group process³⁹, data collection and video-recording vignettes between each participant and a simulated PLWD. Module 2 is on identifying PCC and language-based strategies supporting PCC, using PCC with ADL and addressing responsive behaviours. Module 3 is on identifying different types of delirium, often similar in presentation to dementia, and using PCC to address symptoms of delirium. Module 4 mirrors Module 1 ending with debriefing on Be EPIC. Content in Modules 2 and 3 is delivered didactically in the first 30 minutes, followed by vignettes with moderate-stage simulated persons living with Alzheimer's dementia in smaller groups, and ends with debriefing as a whole group. Vignettes are based on extant research, audio-recordings from the PI's research,^{25,26} and the advisory board's input. Debriefing after each vignette involves trainees' reflections on their interactions with simulated PLWD and feedback from peers, simulated PLWD, and trainers.

The innovation: Be EPIC-VR aligns with Be EPIC-in person. It includes asynchronous and synchronous components. Asynchronous components focus on learning content that is shared didactically in Be EPIC in-person and learning by evaluating video-recorded scenarios for PCC. Synchronous components include elements where human interaction is critical for success. These include creating group process³⁹, participation in fully immersive VR simulations with the virtual PLWD, and post-simulation feedback/debrief from peers and facilitators. Trained Be EPIC facilitators are critical to ensure quality and integrity of Be EPIC-VR are maintained and will lead synchronous sessions. ***Vignettes in VR are identical to vignettes in Be EPIC-in person.*** They involve using PCC to help with activities of daily living, and address responsive behaviours and symptoms of delirium. Naturalistic communication of and with virtual PLWD is based on samples of recorded phrases from our team's audio (N=92) and video (N=317) databank of

interactions between PSW and both simulated and actual PLWD⁵. Since January 2021, our team has been working with Motive.io to create the virtual environment, to write dialogues based on our real-world but sanitized conversational databank, and to create two avatars depicting dementia. The avatars include a Caucasian male and South Asian female. Working with Motive.io, we used speech recognition and conversational artificial intelligence (AI) to enable trainees to interact more naturally in the VR environment. The environment is the avatar's bedroom, which is the same as the in-person version. Be EPIC-VR will include a custom-built training module to orient participants to the VR headset and interacting in the VR environment, prior to starting the program. We chose a head-mounted VR headset so participants can engage freely with virtual PLWD and walk in the environment as they would with actual PLWD.

The new knowledge generated is listed in sections C and F.

C. Learning

The proposed project builds on our previous studies (including the current FSC project) on Be EPIC's effectiveness and feasibility^{1-3,14}. We learned that Be EPIC is feasible. It enhanced PSW confidence in communicating with PLWD and enhanced their perception of the helpfulness of effective communication strategies². Be EPIC resulted in more PCC by PSW using the gold standard objective outcome of measured, actual interactions^{3,4}. We inquired about virtual training options to scale Be EPIC during our current FSC project. PSW and managers shared that annual training is done online but is passive and not immersive, reflecting a need for and openness to more interactive training.

VR create interactive⁵ virtual PLWD, who elicit the same communication and physiological behaviours from users who interact with actors^{6,7}. Methodologically, VR creates realistic simulations that are delivered consistently across participants and settings providing high experimental control⁸ (i.e., high treatment fidelity), and are less costly than creating them across different settings⁷. **VR permits inclusion** of avatars depicting dementia from **underrepresented groups** and participants from **different locations and cultural and linguistic backgrounds**, reaching more diverse and representative participants. Finally, VR offers consistent and efficient data collection of verbal and non-verbal communication behaviours⁷.

Existing research using VR for clinical skills training excludes PSW, targeting instead health professionals/students (e.g., nurses, medical students, and surgeons^{9,10}). Dementia education/training using VR focuses on experiencing what it is like to live with dementia, creating a better understanding of its symptoms and engendering empathy towards PLWD¹¹⁻¹³. What is unknown is the extent to which interactive simulations with virtual PLWD can enhance PCC by PSW.

Accordingly, we will investigate the effectiveness of Be EPIC-VR and explore facilitators and barriers to its implementation. We will use CFIR¹⁵, a framework that guides evaluations of complex interventions. We will use CFIR's taxonomy of common constructs across the following five domains that influence implementation success: intervention characteristics, outer setting (external factors), inner setting (organizational factors), individual characteristics, and implementation process. Relevant constructs within each domain will be used to collect (pre-, during, post-implementation) and analyze data. We will use Fox and colleagues' taxonomy to study Be EPIC-VR as (1) an object, meaning we will explore similarities/differences of experiences in Be EPIC-VR and real-world clinical encounters, (2) an application created for participants to apply new skills learned in VR into their clinical interactions with PLWD, and (3) a research method to investigate ways in which participants respond to depictions of dementia, including communication and responsive behaviours⁷.

D. Equity, diversity, and inclusion (EDI): Inclusion of underrepresented groups is an essential step toward addressing goals of equity and diversity. EDI are weaved throughout the project. The ***composition of the research team and advisory board*** (section E) includes end-users and key stakeholders. We will continue to make every effort to recruit highly qualified personnel (HQP) from under-represented groups (e.g., women, racialized minorities, etc.) ***because representation*** is critical when ***recruiting participants and gaining their trust***. Notably, PSW tend to be women from racialized groups⁴⁰. Finally, Section C outlines how VR permits EDI in terms of avatars and reaching diverse and underrepresented groups. We prioritized EDI by creating a ***female avatar of South Asian descent***, representing a major racialized group of elders in Canada. This is groundbreaking research and future projects with Be EPIC-VR will include other underrepresented, including avatars representing LGBT elders.

E. Capacity

The team involves partnerships among researchers and an advisory board who have a long-standing history of successful collaborations in dementia care research and practice, including the ***good track record in our current FSC project***. **Drs. Savundranayagam (Lead) and Orange** hold full-time faculty appointments in the Faculty of Health Sciences at Western University. **Dr. Campos** holds full-time appointments at University Health Network and University of Toronto. All have dedicated infrastructure, resources, and capacity to ensure successful project completion. All researchers are members of Canadian Consortium on Neurodegeneration in Aging (CCNA)'s Team 17 and have a strong history of collaborating on research related to aging, communication, multi-sensory integration, and cognition.

Dr. Savundranayagam is the Director of the **Sam Katz Community Health and Aging Research Unit**, an endowed and Canada Foundation for Innovation funded research unit. She has over 20 years of experience in dementia caregiving research. Her research focuses on improving caregiving relationships through enhanced communication, identifying ways to enhance personhood for PLWD, and uncovering the mechanisms by which caregiver interventions are effective. She will lead the project through all phases and mentor all HQP.

Dr. Orange is the Scientific Director of the Canadian Centre for Activity and Aging. He has over 35 years of experience in communication and dementia. His research addresses language and cognitive-communication disorders of adults and older adults, with an emphasis on discourse, conversation, and communication of individuals with dementia and aphasia. Dr. Savundranayagam and Dr. Orange have collaborated for over 20 years on several peer-reviewed funded research studies on dyadic conversations and dementia and intervention studies focused on enhancing skills of formal and informal caregivers. Dr. Orange's contributions will include recruitment, implementation, and assessment of Be EPIC-VR (especially conversational analyses), and all knowledge mobilization (KMb) activities.

Dr. Campos is a Canada Research Chair (Tier 2) in Multisensory Integration and Aging. She has over 20 years of developing and using VR in research, including therapeutic interventions to enhance wellbeing in PLWD. She is the Chief Scientist of KITE's \$40 million, world class simulation facilities (Challenging Environment Assessment Laboratory). She is a member of AGE-WELL (aging and technology National Centre of Excellence). Her research focuses on understanding how sensory health supports mobility and brain health. Her contributions will include implementation and assessment of Be EPIC-VR and all KMb activities.

Aligned with the concept of "nothing about us without us", our team includes an international Advisory Board with members who have been engaged from Be EPIC's inception, who advised this proposal's research questions and who will be intentionally engaged throughout this project to optimize accessibility and validity of content of Be EPIC-VR,

evaluations of its implementation and effectiveness, KMb, and scaling. **Advisory Board Members:** were recruited intentionally to *include* those with *lived experiences and diverse perspectives*. Members include Roger Marple (a PLWD) and Lisa Poole (family caregiver). Both are members of the Canadian Dementia Network. Ms. Poole also is editor of *Dementia Connections* and co-chair of Dementia Advocacy Canada (a grassroots group of PLWD and care partners that aims to influence policy, inform program development, and improve access to services in Canada). We also will recruit a PSW. Our employment partners are Medical Priorities (home care agency in London ON; Mary Wellman, owner), McCormick Home (LTC home in London, ON; Tanya Pol, administrator), McCormick Dementia Services (adult day program; Karen Johnson, director), and Behavioural Supports Ontario/Alzheimer Society of Chatham-Kent (Mary Ellen Parker). Our PSW training partners are Madelaine Currelly, CEO, Community Training and Development Centre and Lisa Wauchope, Chair, Canadian PSW Network and Education & Training Specialist for *AGE Inc.* Academic partners include CCNA (Team 17, Drs. Savundranayagam, Orange, and Campos) and Aging Concerns/Oregon State University (Dr. V. Schmall, creator of *Powerful Tools for Caregivers*).

Motive.io works within our current FSC project to create a protocol for Be EPIC-VR. Motive.io will provide technical support to create/refine Be EPIC-VR. New/revised training modules can be deployed remotely using their training platform. The potential scalability and reach of training content are orders of magnitude greater than traditional methods. When modules are complete and user-tested, we will devise a strategy for roll-out of Be EPIC-VR to a larger network of long-term care homes and training PSW.

F. Coherence

This project uses an effectiveness-implementation hybrid design⁴¹, which includes testing the effects of Be EPIC-VR and collecting data on implementation. It includes multiple phases and methods to address the objectives (see workplan).

Phase 1 includes beta-testing VR simulations with PSW who took Be EPIC-in person in 2019-2020 and conduct interviews. The aim is to obtain feedback on VR simulations' realism, usability, and functionality and understand similarities/differences between VR simulations vs. vignettes using actors.

Phase 2 includes *pilot-testing Be EPIC-VR with managers* of PSW using a pre-post-design that includes interviews. **This design is based on findings from our current FSC project;** it provides Be EPIC-VR to **stakeholders who possess the decision making authority** to encourage PSW to take Be EPIC-VR and can ensure workplace conditions for PSW enable PCC¹⁴. The managers are from home care agencies and LTC homes in SW Ontario (Chatham, London, and Kitchener) who have agreed to participate. Using CFIR's interview guide (<http://cfirguide.org/>), **managers in pre-implementation interviews** will identify priorities for training and organizational readiness for VR training and identify potential facilitators/barriers to implementation (including technology infrastructure). **Post Be EPIC-VR semi-structured, individual interviews with managers** aim to understand managers' experiences with Be EPIC-VR as an object and an application⁷ and to explore CFIR constructs related to intervention characteristics, outer setting inner setting, individual characteristics, and process.

Phase 3 includes *pilot-testing Be EPIC-VR with PSW* (n=8) using a multiple baseline design. Synchronous components of Be EPIC-VR will occur onsite to enable the team to resolve implementation issues (e.g., difficulty with headset). There will be two points of data collection before Be EPIC-VR serving as control conditions, and pre-post intervention data collection designed to assess its effectiveness. Using G*Power⁴², we need N=7 to achieve power of 0.8 with a medium effect size of 0.5. We will recruit 8 participants, assuming a 7% attrition rate⁴³.

Both Be EPIC-VR and its implementation will be assessed using surveys, conversation data, and focus group data. Pre/post focus groups with PSW (Phases 3-5) will be guided by CFIR using similar questions asked of managers. **5-month follow-up Interviews** will be conducted (n=8) with **managers** whose PSW participated in Be EPIC-VR. Post-training interviews aim to understand managers' perceptions of the same CFIR constructs used in Phase 2.

Phase 4 involves **implementing and assessing Be EPIC-VR's effectiveness** using a multi-arm, parallel design consisting of two immediate training groups (in-person and VR) and two waitlist control groups (Be EPIC-in person and VR). This is a strong design because waitlist control groups serve as ideal comparison groups to evaluate the effects of Be EPIC and as replication groups during the study's delayed training component. There will be two points of data collection before Be EPIC (in-person and VR) serving as control conditions, and pre-post intervention data collection designed to assess the impact of Be EPIC's two versions (in-person vs. VR). The study will examine between- and within-group comparisons of pre/post training scores using the same outcomes and analytic plan for conversation, survey, and focus group data as in Phase 3. The comparisons imply that Be EPIC-VR will show the same effectiveness as in-person and that the value of VR is scalability and deployability. Yet, VR may outperform in-person training given its methodological control. This remains an important question to answer.

Using G*Power⁴², we need N=12/group to achieve power of 0.8 with a medium effect size of 0.5 for 4 groups (immediate Be EPIC [in-person and VR] and waitlist control groups [Be EPIC-in person and VR]) and 2 time points (pre/post). We will leverage data collected from the immediate Be EPIC-in person group (N=16) and the waitlist control Be EPIC-in person group (N=15) from October 2019 to March 2020. We will recruit N=24/group for Be EPIC-VR (immediate and waitlist control groups). This strategy is **cost- and time-efficient**, capitalizing on data collected with the current FSC project. To match groups on prior knowledge, education and training, all participants will have graduated from a PSW program in Ontario or international equivalent. History effects (i.e., events external to the study such as new management, COVID-19 protocols, continuing education) are possible due to collecting data in 2019/2020 (with immediate and waitlist control Be EPIC-in person intervention groups) and 2025 (Be EPIC-VR group). To minimize history effects, a) we kept an intervention diary for 2019/2020's data collection and will do the same in 2023, b) focus groups conducted in 2023 will identify events during implementation that may affect outcomes, and c) waitlist control groups can assess history effects.

Value for money: Funds support HQP who will recruit participants/create partnerships to support Be EPIC-VR's implementation in other provinces. HQP will also help implement Be EPIC-VR, collect/analyze data, and contribute to KMB. Motive.io and an e-learning specialist will help us create Be EPIC-VR's synchronous and asynchronous components. Developing Be EPIC-VR from the ground up requires programming animations/facial expressions in a motion capture studio, voice recording by actors, scripting (animations, voice recordings, and realistic responses by avatars) and revisions. This investment can lead to cost-effective implementation in the future. Each phase includes data collection on costs of delivering Be EPIC-VR and identifying key cost-savings outcomes (e.g., retention, fewer responsive behaviours, better teamwork) and the contexts in which they occur.

KMB includes creating awareness of Be EPIC-VR, using findings to co-create plans to scale Be EPIC-VR with managers/PSW, and encouraging participation in future training. Discussions with managers/PSW will help create key messages regarding Be EPIC-VR's ability to enhance PSW's PCC with PWLD. We will create close-captioned videos featuring PSW who showcase how Be EPIC-VR enhanced their ability to use PCC with PLWD and family caregivers. Videos/messages will be shared via the advisory board, conference presentations, and newsletters.

PART 4 - PROJECT WORK PLAN AND BUDGET

Phase	Activities	Data Collection & Analysis
1: April-June 2022	Finalize team; Meet with Advisory Board; Beta-test Be EPIC-VR with PSW	Interviews: Interviews/focus groups will be audio-recorded and transcribed verbatim. We will use framework analysis ⁴⁴ five-step ongoing iterative process: familiarization, identifying a thematic framework, indexing, charting, and mapping/interpretation. Textual data will be open-coded and organized deductively (using CFIR's pre-set codes) and inductively (for emergent codes) into themes and subthemes. NVivo 12 software will be used with transcripts to identify, organize, and finalize codes, subthemes, and themes.
2: July-Sept 2022	Pilot-test Be EPIC-VR w/ managers Meet with Advisory Board; Knowledge Mobilization (KMB)	
3: Oct-Dec 2022	Pilot-test Be EPIC-VR w/ PSW 5-month follow-up interviews with managers in Phase 2 Meet with Advisory Board KMB	Surveys, Conversation Data, Focus Groups, Interviews Primary <u>survey-based</u> outcome measures possess robust psychometric properties. They include perceived skill regarding communicating with PLWD ⁴⁵ , perceived competence working with PLWD ⁴⁶ , stigmatizing attitudes toward dementia ^{47,48} and immersive tendencies and presence questionnaire ⁴⁹ . Primary <u>objective</u> outcomes derived from conversations between participants and simulated PLWD include use of PCC strategies, missed opportunities for PCC, and use of language-based strategies for effective communication. <u>Pre-training focus groups:</u> PSW experiences w/ technology in general and in workplace education/training. CFIR questions: intervention characteristics (i.e., cost), inner setting (i.e., structural characteristics, networks/communication, culture, implementation climate, readiness for implementation), and individual characteristics (i.e., knowledge/beliefs about Be EPIC-VR, self-efficacy, individual stage of change). <u>Post-training focus groups</u> aim to understand PSW experiences with Be EPIC-VR as an object and as an application ⁷ and to explore their perceptions regarding the following CFIR constructs: intervention characteristics (i.e., relative advantage, adaptability, trialability, complexity, design quality, and cost), outer setting (i.e., patient needs/resources), inner setting (i.e., structural characteristics, networks/communication, culture, implementation climate, readiness for implementation), and individual characteristics (i.e., knowledge/beliefs about Be EPIC-VR, self-efficacy, individual stage of change).
4: Jan-Sept 2023	Implement/assess Be EPIC-VR using multi-arm parallel design New data collection with PSW: (a) VR, waitlist control, remote; (b) VR immediate, remote) Meet with Advisory Board; KMB	Surveys, Conversation Data, Focus Groups Leverage data already collected with PSW: (a) in-person, immediate; (b) in person, waitlist control)

1. Please complete the project budget template provided to you as part of the application material.
 - a. Include only **new funding** associated with your new project and its additional scope. Please do not include the existing funding that is already part of your current funding agreement with FSC.
 - b. If applicable, identify new funding pending or confirmed for this project from other sources. **This funding should be included as in-kind contributions.** (Please note that funding from other federal sources cannot be counted towards in-kind contributions)
2. Please submit your work plan and budget by sending these files, along with this completed form, to targetedcall@fsc-ccf.ca.
3. You may use the space below to provide comments to accompany your work plan and/or budget.

Conversation and survey data, we will use a repeated measures general linear model approach with covariates to analyze within-group differences. Covariates include gender, age, ethnicity, years of experience working with PLWD, years with employer, education, work status (i.e., full- vs. part-time). Bonferroni corrections will be made for multiple comparisons.

(100 words maximum)

PART 5 - DECLARATION

By submitting an application, the lead organization and its partners agree to the requirements of the following sections, detailed in the guidelines outlined for this funding call, and they affirm that they comply with and/or commit to the following:

- Organization eligibility.
- Active support for co-creating and carrying out an evaluation with an FSC-approved evaluator, if FSC decides an evaluation is appropriate for this project.
- Active engagement in knowledge mobilization activities related to the project.
- Compliance with the Tri-Council Policy Statement on the Ethical Conduct of Research Involving Humans.
- Confidential due diligence inquiries from Future Skills Centre into the applicant.

Signature



Name of signing authority

Per: Lisa Cechetto

Date

October 31, 2021

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