Research & Ethics Committee

AGENDA

Tuesday, September 5 at 4:00 PM

Meeting ID: 876 8368 0070

Passcode: 561473

Item	Description	
1	Call to Order & Introductions	Chair
2	Declarations of Conflict of Interest	Chair
3	Approval of Previous Minutes – January 17, 2023*	Chair
4	Business Arising:	
5	**Research & Ethics Report for Q1 – April 1, 2023 – June 30, 2023*** 1. General Q4 Commentary 2. Status of Current Research Projects 3. Operational Updates 4. Progress on Strategic Goals	Justine Henry
6	New Business 1. Annual Workplan	Chair
7	Date of Next Meeting: Tuesday, November 28, 2023	

*Denotes attachment

Minutes of Meeting
Research and Ethics Committee
On April 18, 2023, at 4:00pm

Present: Keith McAlpine (Chair), Gary Beattie, Marjorie Belzile (virtual), Lyne St-Pierre-Ellis, Donna Curtis Maillet, Brenda Bossé (virtual), Tracey Burkhardt (virtual), Geri Geldart (ex-officio)

Regrets: None

Staff: Justine Henry, Jamie Roy, Renee Lowe

*****

1. **Call to order**
   Keith McAlpine, Chair called the meeting to order at approximately 4:00 pm.

2. **Declarations of Conflict of Interest**
   Mr. McAlpine asked the members present if there was a need to register a conflict of interest. None expressed.

3. **Approval of previous minutes – January 17, 2023**

Motion:
It was moved by G. Beattie, seconded by B. Bossé that the minutes of January 17, 2023 be approved as presented.

Motion carried.

4. **Business arising**

4.1 **Code of Ethics**
G. Geldart explained that staff will be re-introduced to the updated Code of Ethics through the employee newsletter over time.

5. **Research & Ethics Report for Q4 – January 1 – March 31, 2023**
   J. Henry presented the report for Q4. The report was included in the meeting package. Highlights included:

Symposium 2023

- The event will take place on November 15th with keynote speakers booked and in progress (Dr. Wayne Albert and Dr. Michelle Cardoso, Seniors' Advocate). We have $6500 secured in sponsorships so far.

- The Public Health Agency of Canada will be visiting next week; this visit will include a demonstration of 2RaceWithMe and Genie.

Funding

- We've received funding for two Spark grants for $50,000
  - Extension of our PassiveAware program; expanding recruiting efforts to Ontario.
- A Day in the Life – in partnership with Person Centred Universe, which involves dementia empathy role playing.
- REB is underway for both projects.
- Actively looking for new funding opportunities.

Status of Current Research Projects

- Virtual Reality to Promote Rehabilitative Exercises in Seniors – finished data collection and preliminary analysis has been conducted with non-significant results; will repeat and remove non-responders.
- Promoting Physical Activity with Augmented Reality Experiences – finalizing data and will present strategies to support access to and sustained use of the 2RaceWith Me technology at SLT later this month.
- CanImmunize – enrolled 1 more participant, and 3 additional mini surveys have been completed. Still recruiting until the end of May. The project will wrap up in October.
- MedReviewRx – working on data analysis through Maritime Spor Support Unit with anticipated results by the end of May. A project extension was approved until March 31, 2024.
- Palliative e-Learning – data analysis is underway with the final project report due on June 30th 2023.
- Genie – this is going well; mid-intervention data has been collected and preliminary analysis will be done next week.
- Passive Aware – shifted to a case-study approach. Manuscript has been submitted to a case-study journal "aging and Mental Health".

Operational Updates

- Exploring the possibility of onboarding a new staff member, depending on workload of new Spark project.
- St. Thomas University offered a paid full-time Research Assistant intern. Amber Rae will be starting May 1st for 14 weeks.

Progress on Strategic Goals – update was provided and currently all strategic goals are complete with the exception of developing a CIRA research portal; this has been postponed. We were not successful in the partner applicant on a CFN grant or the Age-Well at Home grant.

6. New Business

6.1 None

7. Date of Next meeting – TBD

On a motion by G. Beattie, the meeting was adjourned at 4:35 pm.

Keith McAlpine, Chair **Renee Lowe, Board Secretary**

REPORT TO THE RESEARCH & ETHICS COMMITTEE

April 2023 – June 2023

Quarter 1

The purpose of this report is to apprise the Board's Research and Ethics Committee of key activities within each quarter of the fiscal year, including an update on key performance indicators and the strategic plan's research pillar. Accordingly, the Committee receives four reports per year with content from the following senior leaders.

Senior Leaders
Justine Henry, Executive Director of CIRA
Jamie Roy, Vice President, Care Services & Quality

Key Areas of Reporting
Research Services
Ethics

General Commentary

Symposium Update

- Nearly $15,000 raised – Aging Secretariat has sponsored for $5000 (without us even asking!). Complete Purchasing - $5000; Shannex - $1500; other from exhibitor booths.

For Q2 Meeting

- Completed research repository: a living document to be updated as research projects reach milestones. This document will contain all relevant information for each research study underway at CIRA (start date, anticipated end date, extensions, funding amount, metrics, outcomes, participants, etc.).

- Would like to discuss what information the committee members would like to have on this document.

Status of Current Research Projects

Virtual Reality to Promote Rehabilitative Exercises in Seniors

- Project completed and end of project report submitted to funding agency on June 30th, 2023. See attachment.

Promoting Physical Activity with Augmented Reality Experiences

- Project completed and end of project report submitted to funding agency on June 30th, 2023. See attachment.

CanImmunize

- Finalizing data analysis and waiting for transfer of usage data from CanImmunize. Final project report due September 30th, 2023.

MedReviewRx

- Data analysis underway by the Maritime Spor Support Unit (MSSU) in Moncton.

Palliative e-Learning

- Extension for final project report approved for November 30th, 2023.

Genie

- All data collected and data analysis underway.

Passive Aware (HSPP)

- Project extended until March 31, 2024 to allow more time for recruitment. Still facing recruitment challenges.

Passive Aware (Spark)

- Recruited one participant from Ontario.
- Connecting with funders regarding recruitment challenges.

A Day in the Life (Spark)

- 7 sites on boarded
- Initial train-the-trainer sessions will be held in Moncton, Fredericton, and Saint John.

Operational Updates

- Hired three new staff.
    - Jessica Davis, part-time research coordinator, Passive Aware.
    - Jivi Mann, part-time research coordinator, generalist.
    - Molly Schriver, full-time research coordinator, Passive Aware.

- Student internship from STU extended to December 31, 2023 – STU covering half of the cost.

Strategic and Operational Goals 2023 – 2024

Strategic Goal	Operational Goal	Measure of Performance	Progress
1. To increase involvement in research activities that focus on promoting and improving the social, emotional, and physical well-being of seniors.	a. Conduct a facility wide needs assessment to determine the direction and focus of future research studies and programming. b. To ensure research activity is reflective of the needs, interests, and issues of the YCC community, establish an advisory committee comprised of staff, families, and residents.	a. Complete needs assessment by September 30th, 2023 and establish plan for regular check ins by December 2023. b. Terms of reference developed by September 2023 and committee established by December 2023.	27 residents interviewed
2. To foster relationships with researchers, stakeholders, and members of the community.	a. Hold the 13th Annual Aging Care and Research Symposium with an increase in attendance from the previous year.	• Held by November 2023.	Venue booked, tickets on sale, some funds raised, exhibitors booked, tentative speaker schedule.
3. To promote and support the translation and transfer of research outcomes, new knowledge, and innovation for the betterment of the aging population.	a. Plan a YCC open house for staff, residents, and family members to learn more about the findings from our research projects.	• Held by December 2023.	

Cover Page

Guidance: Provide the following information:

Home-based and residence-based virtual reality training to increase rehabilitative exercise in seniors

C0020

Area of Focus
(Improving social built environments to foster healthy aging;
Increasing independence, quality of life, and promoting healthy lifestyles;
Using supportive technologies to foster healthy aging at home in our communities;)

Project start and end date

01-September-2019 to 31-March-2023

Total Project Budget: $ 465,484.00

Date of report submission: June 30, 2023

Name of Agency: Centre for Innovation and Research in Aging (CIRA)

Agency contact address: 100 Sunset Drive, Fredericton, NB, E3A 1A3

Agency contact email: jhenry@ycc-cira.ca

Principal Investigator(s):
Dr. Lisa Sheehy (lsheehy@bruyere.org)
Justine Henry (jhenry@ycc-cira.ca)

1. Project Summary

A brief summary of the project, including:

- Background (issue/challenge your research aimed to address)
- Importance of study ("why")
- Research question and main goal / objective ("what")
- Intervention and essential features - research methods / study design ("how")
- Participant information (#'s, demographics, target population) ("who")
- Key impacts / outcomes / results
- Recommendation on the research or project moving forward *(for example, recommendation for future research, program, policy, sustain, scale, etc.*)
- Any plans to sustain or scale

Guidance: Maximum 350 words. Be as concise as possible - there will be opportunity to expand on these topics in the following sections. Reviewing your Plain Language Summary may help to write this.

Seniors face many issues that hinder their ability to receive the necessary rehabilitation exercises required to live independently. Some of these issues faced may include transportation, costs, weather conditions, low motivation, or fear for their safety. Low physical ability can make it harder for seniors to perform essential daily tasks and could increase their chance of injuries. Our objective was to assess the use of virtual reality (VR) as a motivating way to encourage seniors to do regular rehabilitative exercise.

Participants were recruited from long-term care and community. One-half of the participants in each group were randomized to perform VR exercises for 20-30 minutes, 3-5 times a week, for 8 weeks. The other half were randomized to continue their usual exercises for 8 weeks. To gain information on the impacts of the VR program, we conducted physical tests and questionnaires about health and physical function, before, after, and one-month after the intervention. We tracked their use of the VR system, if they had any falls, emergency room visits, or hospital stays. We also asked them to keep a logbook of their VR experience. At the end, we completed a short interview with those in the VR group to see if they enjoyed the VR program.

We recruited 31 long-term care residents (21 females; average age ♀84.9 yrs; ♂79.3 yrs) and 16 community dwelling seniors (11 females; average age ♀71.5 yrs; ♂76.4 yrs). Home-based participants did an average of 20 sessions (average of 27 minutes/session). Facility-based participants did an average of 14 sessions (average of 20 minutes/session). Participants using VR enjoyed it and found it helpful to improve their function and mobility. There were no serious adverse events associated with the intervention. Possibly due to impact of COVID-19 on recruitment and participation, there were no significant changes over time for balance, mobility, function and quality of life. During our project, seniors were interested in using the VR program beyond this study, suggesting that this could be a valuable resource for seniors in their daily quest to stay active.

Based on this pilot study, VR may be a viable and feasible means of enhancing seniors' exercise.

2. Increased Knowledge and/or Skills for Participants

A list of key knowledge areas and skills learned by participants involved in the project presented by HSPP Focus Area.

Guidance: 1) Complete the table in Appendix A: Knowledge and Skills Learned by HSPP Focus Area and attach to the completed report.
2) In the space provided below, summarize the key knowledge and skills gained by participants in the project and how these skills will impact seniors.

Our pilot study touched upon the areas of (1) improving social environment; (2) increasing independence, quality of life, and promoting healthy lifestyles; and (3) using supportive technologies to foster healthy aging at home in our communities;)

(1) Seniors were particularly vulnerable to social isolation during COVID-19. As a latent effect of participating in our study, seniors experienced decreased social isolation as they had increased contact with their study partners (i.e., family, facility staff or volunteer), and the research staff. This could have potentially improved the mental health of participants during unprecedented social restrictions posed due COVID-19.

(2) Due to low participant numbers, we are unable to make a definitive assessment. However, based on our usage data and qualitative analysis, seniors had the potential to gain mobility, balance, stability and strength with increased exercise as they were encouraged to be active 3-5 days a week for 20-30 minutes for 8 weeks. Increased activity and accountability with the study partners and researchers may have improved physical activity and quality of life. Participants reported enjoyment and satisfaction with the intervention and increased function and physical fitness.

(3) Technology can be considered a challenge for many seniors. However, with progressive usage of the VR program, many seniors became familiar with the technology and progressed in their interaction with the games. They were also able to monitor their own progress through feedback from the VR program and learn how to safely use VR for exercise.

3. Facilitators and Barriers of Participation in the Project

A summary of key facilitating factors that contributed to participant participation in the project, and a summary of key barriers that prevented/made it more difficult for participants to participate in the project.

Guidance: In the section below, list the key facilitators that enabled and/or encouraged participants to participate in your project (seniors, caregivers, health care workers, etc.).
List the key barriers that prevented or limited participants from participating in the project.
For each barrier provide a suggested mitigation strategy.

Key Facilitators that enabled participation:

- To ensure participants have a proper understanding of the study, visual flowcharts and videos, verbal explanations of the study, were used to improve understanding of the project (Appendix D).
- We posted flyers, effective brochures, and performed demonstrations on various days and locations with the help of the rehabilitation/facility staff and have been posting information to social media and the CIRA website. The Research Coordinator visited interested eligible participants at a convenient time to help recruit them for the study (Appendix D).
- We approached caregivers, power of attorneys (where applicable), the rehabilitative staff and the nursing staff, in order to gauge interest of eligible participants for our study.
- The consent forms were presented in easy to understand language and were made available for potential participants and their caregivers/family members to read at their leisure.
- We approached eligible participants directly in facilities to see if they were interested to join our program. We included an option for potential participants to utilize a "study partner" to supervise their exercise sessions as some facilities did not have adequate rehab staff to support the time requirements for participation. Volunteers were recruited to act as study partners when family, friends or staff were not available. Recruiting directly from the facilities means transportation or location is not an issue for participants. We had a Virtual Reality Kiosk system at each facility that was positioned in an accessible location for all participants who are able to walk using assistive devices or in a wheelchair.
- We changed our eligibility criteria to include all eligible community participants, where they were no longer required to be a recipient of EMP services, essentially opening the project to all seniors aged 65 and over with function/mobility decline or those who could simply benefit from maintenance activity. We also offered information to seniors about available resources that could aid in finding a study partner if they don't have one (i.e., Adopt A Grandparent/Elder).
- We were able to use verbal consent from substitute decision makers, to expedite the research consent process, especially during COVID-19, when visiting restrictions were in place to keep seniors safe.
- We offered to do assessment sessions in participants' homes if travelling to CIRA was difficult.
- Researchers approached more facilities than previously planned, which helped us make the program available to more seniors. Research staff were able to do demonstrations of VR at several facilities as well.
- Advertisements placed in local newsletters and newspapers assisted with recruitment of community-based participants.
- This program was available at no cost to the participant, or their family and/or their facility.
- The VR intervention was adaptable to individuals of all abilities.
- For facility-based participants, staff were supportive and were a key factor in senior participation.

Key Barriers that limited participation and identify the mitigation strategies that worked best for addressing barriers to participation or suggestions for future mitigation strategies:	
Barrier:	**Mitigation:**
Covid-19 has been a major barrier as it prevented facilities from participating in the project. This could have been due to fear of rising COVID-19 cases, changing COVID-19 phase protocols, and resultant lack of resources and staff turnovers in facilities. Due to increase in facility and community exposures, there was increased risk of research staff contracting or being close contacts of positive COVID-19 cases.	We mitigated this through ongoing communication with facilities and home-care services. We also reached out to other LTCF for future participation. Additionally, we kept track of our COVID-19 protocols in place and continued to do daily point of contact testing before meeting with seniors.
EMP involvement was gauged during a meeting with the EMP Fredericton staff. However, EMP involvement had been delayed due to lack of interest or time from EMP staff.	We kept ongoing communication and follow-up with EMP to resume the project; We reached out to the EMP manager to touch base about their involvement; contacted OTs/PTs one-on-one to learn more about barriers and challenges to their participation. Due to lack of participants from Fredericton community receiving EMP care, we changed this criterion for our community participants, where they were no longer required to be a recipient of EMP services to be eligible for our project, essentially opening the project to all seniors aged 65 and over with function/mobility decline or those who could simply benefit from maintenance activity.
Rehabilitative staff were usually busy with their day-to-day activities and it puts an extra burden for them to supervise VR exercise sessions.	We added a volunteer base and introduced "study partners" to help reduce the tasks needed by the rehabilitative staff in LTCFs to better facilitate the project.
One barrier that we have encountered during recruiting has been a lack of understanding on how to use technology to exercise or hesitation when potential participants see or hear the words "technology/computer".	We continuously held demonstrations of the VR activities and had "study partners" for each participant help the participant set-up the Virtual Reality system and subsequently help them become more familiar with the VR program.
Since this is a study directed towards seniors, we cannot recruit individuals who reside at the long-term care facilities who are not seniors but could potentially benefit and are interested to join the study.	Future projects could expand the population age group to look at involvement of non-seniors in LTC.

4. Project Participants

A summary of the participants in the project (i.e., individuals who directly participated in your program, those for whom you collected data), broken up by gender, language, and location.

Guidance: Complete both tables below according to project records. If gender, language, location, and/or other demographic information was not collected, include the total number of participants in the Sub-total/Total line under the appropriate participant description.

Table 1) Number of seniors, caregivers, healthcare workers, and other participants.
Enter the Target Number of participants, the Actual Number of participants, and describe any variance between the target and actual number of participants.

Table 2) The same participants from Table 1 identified as First Nation, Métis, Inuit, Francophone, Anglophone, and Other (please describe), and by Rural or Urban location (if applicable). Enter the number of First Nation, Métis, Inuit, Francophone, Anglophone, and Other participants indicating if they reside in a primarily Rural or Urban setting (Urban being defined as any centre with a population of 10,000 or above).

Please note: We recognize that the categories in Table 2 may not be mutually exclusive. We also acknowledge the limitations of these demographic categories, which are not exhaustive but rather reflect special interest groups identified by GNB in the initiation of HSPP for their relevance to the population of the province.

Participant Table 1	Gender	Target Number	Actual Number	Key reason for variance between target and actual number
Seniors and Elders	Woman	48	32	Our recruitment with home-care rehabilitation services (ExtraMural Program) and long-term care facilities (LTCFs) was delayed due to COVID-19. Hence, we had slow recruitment in LTCFs and in the community.
	Man	48	15	Our recruitment with home-care rehabilitation services (ExtraMural Program) and long-term care facilities (LTCFs) was delayed due to COVID-19. Hence, we had slow recruitment in LTCFs and in the community.
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Sub-Total	96	47	Our recruitment with home-care rehabilitation services (ExtraMural Program) and long-term care facilities (LTCFs) was delayed due to COVID-19.

				Hence, we had slow recruitment in LTCFs and in the community.
Informal Caregivers	Woman	Unknown	Unknown	Unknown
	Man	Unknown	Unknown	Unknown
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Sub-Total	Unknown	Unknown	Our study did not collected data on informal caregivers.

Social and Healthcare workers	Woman	Unknown	Unknown	Unknown
	Man	Unknown	Unknown	Unknown
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Sub-Total	Unknown	Unknown	Our study did not collected data on social and healthcare workers.
Others (provide a description)	Woman	Unknown	Unknown	Unknown
	Man	Unknown	Unknown	Unknown
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Sub-Total	Unknown	Unknown	Our study did not collected data on any other individuals or groups.
Total Participants		96	47	

Participant Table 2	Gender	Rural	Urban	Total
First Nations	Woman	Unknown	Unknown	Unknown
	Man	Unknown	Unknown	Unknown
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Total	Unknown	Unknown	Unknown
Métis	Woman	Unknown	Unknown	Unknown
	Man	Unknown	Unknown	Unknown
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Total	Unknown	Unknown	Unknown

Inuit	Woman	Unknown	Unknown	Unknown
	Man	Unknown	Unknown	Unknown
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Total			Unknown
Francophone	Woman	Unknown	Unknown	Unknown
	Man	Unknown	Unknown	Unknown
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Total			Unknown
Anglophone	Woman	Unknown	Unknown	Unknown
	Man	Unknown	Unknown	Unknown
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Total			Unknown
Others (provide a description)	Woman	Unknown	Unknown	Unknown
	Man	Unknown	Unknown	Unknown
	Non-binary	Unknown	Unknown	Unknown
	Transgender	Unknown	Unknown	Unknown
	Gender diverse	Unknown	Unknown	Unknown
	Preferred to self describe	Unknown	Unknown	Unknown
	Preferred not to say	Unknown	Unknown	Unknown
	Total			Unknown

Additional information about Participants, including explanation of Participant Variance:
N/A

5. Lessons Learned on Gender and Aging

"Gender-Based Analysis Plus (GBA+) is the process by which a policy, program, initiative or service can be examined for its impacts on various groups of women, men, and gender diverse people. GBA+ provides a snapshot that captures the realities of women, men, and gender diverse people affected by a particular issue at a specific time. GBA+ considers many other identity factors such as race, ethnicity, religion, age, and mental or physical disability, and how the interaction between these factors influences the way we might experience government policies and initiatives."

*For the purposes of this report, we are particularly interested in how **aging, gender, and other identity factors** intersect to shape participants' experiences in a program.*

Guidance: Provide responses to the following questions. Use project data and observations from the project to support responses.

1. What assumptions did you have about project participants or project participation prior to GBA+ training and conducting a GBA+? If these assumptions changed as a result of GBA+, how did they change?

We considered gender, and also socioeconomic status, language and location (urban/rural) in developing this project. We purposefully included sites that cover the range of people living in New Brunswick, so that the project might show its ability to be sustainable and scaled to the whole province and elsewhere in Canada. In particular, this project may be seen as somewhat targeting women, since women live longer than men (on average) and are more represented as recipients of home-care and long-term care. This is what we see in our participants gender ratio, where there are 2 women for every one man participating in our study.

2. How did GBA+ impact the research, evaluation, and / or program planning and execution process?

Since ~2/3 of the community and long-term care populations are made up of women, we expected that women will have greater participation than men in this project. It was important to present the project to individuals in a way that is acceptable and enticing to all genders. We present our study as an exercise-based program to improve health and mobility to prevent deterrence of women from technology. It was also important to emphasize that the virtual reality program can be adapted to people of almost any ability level.
Because of the low numbers of participants, we were not able to do sex- or gender-based analyses.

3. Did certain groups face more barriers to participating in your project? If so, for what groups and in what ways?

We ensured that our recruitment process was attractive to both men and women, and that we did not discriminate participation based on gender or one's initial interest in technology. Also, we must emphasize that our program was adaptable to many levels of ability such that all individuals who were medically able to do exercise of a mild to moderate intensity were eligible to participate.

While we intended to partner with long-term care facilities in primarily French-speaking regions of NB, these partnerships did not continue due to staff turnover, therefore there were fewer French-speaking participants than expected. However, we did not specifically track language(s).

4. Was participation more accessible for certain groups? If so, for what groups and in what ways?
Participation was more accessible for residents living in long-term care, since the equipment was set up in a common area and staff and volunteer supports were in place to provide the intervention. A majority of long-term care residents are women. Home-participants were mostly from urban areas as research efforts to recruit were focused mainly within Fredericton, NB, which is primarily an anglophone community.
5. What did your project results reveal in terms of overall impacts (positive and negative) on aging, gender, and other diversity factors? As a result of these outcomes, what lessons have you learned?
There was the potential for an impact on healthy aging, by encouraging more physical activity; however, the low participant numbers did not allow for statistically significant results.
6. What did the GBA+ process combined with your project results teach you about approaching future projects?
There is a need to follow EDI and GBA+ processes with all research, to ensure that the results are applicable to all. This must be included in the planning and execution of the project. There are some groups (ex. Gender-diverse seniors) that are very small and may need to be treated as case-studies.

6. Documented Project Outcomes

Using your completed Appendix B as a guide, report the results/findings of each Expected Outcome (as per the project proposal or subsequent amendments). With reference to your quantitative and/or qualitative analyses, explain how the results/findings for each outcome are supported by your analysis.

Please note:

1) Remember to include ***all*** findings; this includes null results or instances where there was no change in the Expected Outcome.
2) Include results from ***all*** participants (e.g., seniors, family members, caregivers).
3) You may want to consult your projects' Logic Model, Data & Measurement Table, and Key Outcomes tab of the Outcome Indicator Report from your most recent quarterly report as a reference to identify the full list of your project's Expected Outcomes.

Guidance: For <u>each</u> project outcome (short-term, medium-term, long-term):

1. Narratively describe the results from project inception to date, incorporating data from the *Outcome Indicator Report* (Appendix B).
2. Explain any variances between what you intended/hypothesized and the results and/or describe any unexpected outcomes.

For **<u>one</u> Medium-Term Outcome**, please include a **story of change**. A story of change should demonstrate the impact of the project on participants and be supported by indicator data. Stories of change should be clearly linked to a specific project outcome.

Writing a story of change - A story of change should:

- be concise, clear, engaging, and use evidence, such as personal testimonies, etc., to support the story;
- be expressed in plain language and be accessible to a broad audience;
- concentrate on one change per story;
- include interesting information that is relevant, simple, and powerful;
- ensure it is a tangible, human story;
- safeguard the security, privacy/confidentiality and interests of the individuals and communities implicated in the story, ensure you obtain and document consent in your own records.

<u>Short-term outcome(s):</u> Copy the short-term outcome(s) from Appendix B and narratively describe the finding (using data (qualitative and/or quantitative) to support the narrative description); report on each outcome individually.

We did not have any short-term outcomes since we designed this study as a randomized-controlled trial, which requires that the data not be analysed until all data are collected.

Variance: Describe any differences between the expected outcome(s) and actual results; noting any unexpected outcomes.
N/A
Medium term outcome(s): Copy the medium-term outcome(s) from Appendix B and narratively describe the findings (using data (qualitative and/or quantitative) to support the narrative description); report on each outcome individually.
We did not have any medium-term outcomes since we designed this study as a randomized-controlled trial, which requires that the data not be analysed until all data are collected.
Variance: Describe any differences between the expected outcome(s) and actual results; noting any unexpected outcomes.
N/A
Story of Change: See guidance above.
Participants were able to increase their exercise (part of outcome #3) by participating in the study. Participants did an extra 22-23 sessions of exercise with an average of 23-27 minutes/session over 8 weeks beyond their regular daily activities and exercises. This was most noticeable for long-term care residents, who experienced many barriers to exercise including staffing shortfalls, staffing changes and a lack of visits by visitors and volunteers due to ongoing COVID-19 outbreaks. One home-based participant stated that "it was excellent to stay on track with consistent exercise" while another participant claimed that they "don't typically do exercise and liked the VR".
Long-term outcome(s): Copy the long-term outcome(s) from Appendix B and narratively describe the findings (using data (qualitative and/or quantitative) to support the narrative description); report on each outcome individually.
1. improvement in balance, mobility, gait, quality of life and community integration for clients - We were not able to quantitatively assess these outcomes due to small sample sizes caused by recruitment difficulties due to the COVID-19 pandemic. 2. Decrease in falls, emergency room visits, hospital admissions and long-term care admissions - Comparing to the Provincial and National averages, our sample had fewer falls and hospitalizations than the averages. Due to the small sample sizes, it was impossible to compare control and VR groups on falls. 3. Increase exercise by clients, decrease visits, increase caseloads, decrease wait times

- Participants did an extra 22-23 sessions of exercise with an average of 23-27 minutes/session over 8 weeks beyond their regular daily activities and exercises.
- We did not assess extra-mural visits/caseloads/wait times as we changed our recruitment strategy to recruit directly from long-term care homes and from the community rather than through extra-mural.

4. Home-care rehab will decrease in cost
-- We did not assess costs of home-care rehab ("extra-mural") as we changed our recruitment strategy to recruit directly from long-term care homes and from the community rather than through extra-mural.

5. Clients will enjoy VR and feel that it has helped them regain mobility
- VR participants reported that they enjoyed the VR, that it helped them to increase their exercise and their mobility. Many stated that they would like to continue on with the VR after the program was completed.

Variance: Describe any differences between the expected outcome(s) and actual results; noting any unexpected outcomes.

We expected that the physical outcome measures would show statistically and clinically-significant changes between the VR and control groups and between the first and subsequent assessment sessions. The lack of significant results was most probably due to small sample sizes (especially for the home-based group), due to the impact of COVID-19 restrictions on recruitment.

7. Project Readiness for Scale Up and Planning for Sustainability

A description of the readiness for scale-up and sustainability of the project.

Guidance: Complete Appendix C: Self Assessment of Readiness for Scale Up and Planning for Sustainability

Based on the information provided in Appendix C: Self Assessment of Readiness for Scale Up and Planning for Sustainability, which of the following best describes the project readiness for scale up and sustainability? (Select one with YES)

Level of Readiness:	**Project Level of Readiness - Sustainability**	**Project Level of Readiness - Scale**
1. *High level of readiness for sustaining and/or scaling-up*		
2. *Ready to scale up and/or sustainability with support*	Yes	Yes
3. *Intervention is not ready for scale up and/or should not be sustained*		
4. *Evidence for scale up and/or sustainability is not available*		

Next steps required to scale up or sustain the project:

Acquire public funding through a grant program OR develop a business or non-profit model (or attach to an existing non-profit like CIRA) to continue the program.

Supporting evaluation evidence to scale up or sustain the project (can be drawn from section 6. Documented Project Outcomes):

While statistical outcomes were not significant due to small sample sizes, participation numbers (i.e. number of sessions and number of minutes/session) and qualitative data show that the program was popular with seniors, and successful in getting seniors to exercise more.

8. Funding

Financial support secured to continue the project activities beyond the end of HSPP funding. This relates to the initiative or where change can be sustained.

Has your project been successful in securing funding to scale up or sustain the project activities beyond the end of HSPP funding?

Although we had applied for scale-up funding, we have not yet secured funding.

Describe the steps that were taken (or will be taken) to secure funding to maintain the project activities beyond the end of HSPP funding.

We applied for funding from Employment and Social Development Canada through their Age Well at Home – Scaling Up For Seniors program. Unfortunately, we were not successful.

We are continuing to explore other opportunities.

9. New Research / Partnerships / Projects

New research, new partnerships, and/or new projects inspired or created due to project results.

Guidance: Describe any new research, new partnerships, and/or new projects that have come about because of the results of the HSPP project.

- Many new partnerships/connections were made with long-term care facilities (Carleton Manor, Rocmaura Nursing Home, Nashwaak Villa, Loch Lomond Villa, York Care Centre, Pine Grove Nursing Home, Windsor Court, Orchard View).
- This research program has led Dr. Sheehy (co-PI) to expand her research program to include immersive virtual reality. In particular, she is working with a team at Bruyère Research Institute (Ottawa, Ontario) and Université du Québec en Outaouais (Gatineau, QC) to produce a virtual companion to interact with persons living with dementia. She is also leading a study assessing the use of immersive VR experiences to reduce pain and distress in complex continuing care patients undergoing wound dressing changes, and in those experiencing chronic pain.
- Carleton Manor, Nashwaak Villa, York Care Centre were interested to continue to use VR with their residents.

10.Changes Made in Project Design and Delivery

A summary of changes made to improve the project outcomes, or to respond to issues and risks.

Guidance: Describe any changes made throughout the project to reflect an improved understanding of the issues or to respond to changing circumstances. Describe any changes made to the evaluation plan, changes in scope, methodology, approach, etc.

- Volunteers were used to supervise VR sessions in long-term care, rather than staff members
- More long-term care facilities were approached and helped to recruit participants, in order to increase awareness of this project and participation.
- Extra-mural was not involved as they became uninterested in helping to recruit participants. Recruitment was modified; instead of recruiting through extra-mural, we recruited directly from the long-term care facilities, and from the community
- Homecare was not involved, as they did not respond to our follow-up communications. This was less important since we pivoted from recruiting participants receiving extra-mural and homecare services.

11. Lessons Learned and Recommendations

A summary of lessons learned and recommendations for future projects, policies, programs, services, etc.

Guidance: Identify best practices and key lessons learned that can be used in the future to achieve similar results. Provide recommendations based on the lessons learned.

Lessons learned:

- It is easy to over-estimate recruitment potential
- Healthcare staff are very busy and there is much turn-over in staff
- Don't presume that seniors are not interested to use technology

Recommendations for the future, with supporting evaluation evidence:

- Be realistic with estimations of potential recruitment when calculating sample size/length of recruitment period
- Consider using family members/volunteers to supervise residents/participants doing exercise
- Ensure that you market use of technology to all ages

12.Return on Investment (if applicable)

An overview of a return-on-investment (ROI) calculation.

Guidance: In general, this will identify the cost of doing something different and the value of observed outcomes. The approach may vary by project, however, typically these calculations would include the population reached, the cost of doing something different (your pilot intervention cost), and the value of identified outcomes. Examples of how this may be expressed include: "cost per unit of outcome", or the outcomes can be valued in dollars to get a "cost to benefit ratio". Further work may also include what these numbers look like when scaled to population.

N/A

Appendices

Guidance: Attach the following Appendices to the End of Project Report

A. Knowledge and Skills Learned by HSPP Focus Area
B. Outcome Indicator Report
C. Self Assessment of Readiness for Scale-up and Planning for Sustainability
D. Knowledge Transfer Documentation
    i. KT Plan and Tracking Template
    ii. Plain Language Summary (Part 2)
    iii. Other supplemental strategies (e.g., publications, infographics, etc.)
E. List of Team Members and Project Collaborators
F. Final Expenditure Report (Schedule D Annual Statement of Expenditure from Funding Agreement)
G. Meta-analysis
H. Other documents as needed/relevant (e.g., statistical analyses, evaluation report, etc.)

Cover Page

Guidance: Provide the following information:

HSPP Project Title
Promoting Physical Activity With Augmented Reality Experiences

HSPP Project Number
C0063

Area of Focus (select the focus area that aligns with your project)
Increasing independence, quality of life, and promoting healthy lifestyles;

Project start and end date
June 2021-March 2023

Total Project Budget
$335,225 (HSSP - $237,265 HSSP + In-Kind - $97,960)

Date of Report Submission
June 29, 2023

Name of Agency:
Centre for Innovation and Research in Aging (CIRA)

Agency contact address:
100 Sunset Drive,
Fredericton, New Brunswick

Agency contact email:
Justine L. Henry, Executive Director, CIRA

Principal Investigator(s): (name & email)
Dr. Jalila Jbilou: Jalila.jbilou@umoncton.ca
Justine L. Henry: JHenry@ycc-cira.ca
Dr. Mark Chignell: chignell@mie.utoronto.ca

1. Project Summary

A brief summary of the project, including: **NOTE:** added more items to reference and increased word count:

- Background (issue/challenge your research aimed to address)
- Importance of study ("why")
- Research question and main goal / objective ("what")
- Intervention and essential features - research methods / study design ("how")
- Participant information (#'s, demographics, target population) ("who")
- Key impacts / outcomes / results
- Recommendation on the research or project moving forward *(for example, recommendation for future research, program, policy, sustain, scale, etc.*)
- Any plans to sustain or scale

Guidance: Maximum 350 words. Be as concise as possible - there will be opportunity to expand on these topics in the following sections. Reviewing your Plain Language Summary may help to write this.

The Centre for Innovation and Research in Aging (CIRA), in collaboration with researchers from the Université de Moncton and University of Toronto, tested a novel way to promote physical activity for residents in long-term care centres. The Project was funded by the Department of Social Development (Healthy Seniors Pilot Project), Province of New Brunswick and the New Brunswick Health Research Foundation (NBHRF). Research and Ethics Committee approval was received from the Université de Moncton, in Moncton, New Brunswick. (#2021-054).

The 2RaceWithMe (2RWM) technology, which was tested, combines a 'biking' activity with travel around the world using augmented reality. Individuals, seated in an arm chair or their wheelchair use the hand or foot pedals or both, to exercise and watch the travel videos. York Care Centre (YCC), in Fredericton, New Brunswick launched the pilot project in June 2021. A second site, the Faubourg du Mascaret(FdM), in Moncton, New Brunswick implemented the project in March 2022.

A total of thirty-one older adults were enrolled in the project, ten at YCC and twenty-one at FdM. The participants ranged in age from 55-99 years, including 20 females and 11 males. Ten participants resided in a long-term care unit, fourteen in an independent living unit and seven in a semi-independent living unit.

A quasi-experimental design was used for this study. Both quantitative and qualitative data was collected pre/post intervention. Sample data includes:

- ❑ Personal and health information, physical and cognitive status, social engagement and well-being.
- ❑ Observations and feedback from participants.
- ❑ 2RWM device data (i.e., number of pedal revolutions)

Benefits of using the 2RWM included:

- ❑ An enjoyable way to exercise and increase physical activity (reflected in device data and anecdotal feedback).
- ❑ Enhanced well-being as highlighted by direct feedback from participants.
- ❑ Increased social engagement and enjoyment as highlighted by participants' and family members' feedback.
- ❑ Increased level of comfort using technology as per responses to the Technology Acceptance Questionnaire – Long-Term Care. (TAQ-LTC)

2. Increased Knowledge and/or Skills for Participants

A list of key knowledge areas and skills learned by participants involved in the project presented by HSPP Focus Area.

Guidance: 1) Complete the table in Appendix A: Knowledge and Skills Learned by HSPP Focus Area and attach to the completed report.
2) In the space provided below, summarize the key knowledge and skills gained by participants in the project and how these skills will impact seniors.

The knowledge and skills gained by participants includes the following:

- Increased physical activity.
- New learning and knowledge regarding key facts about numerous cities/towns/countries around the world.
- Increased social engagement with other participants, the project team, students and volunteers during use of the 2RWM.
- Reminiscing and sharing experiences and information about local, national and international destinations where they lived or visited.

3. Facilitators and Barriers of Participation in the Project

A summary of key facilitating factors that contributed to participant participation in the project, and a summary of key barriers that prevented/made it more difficult for participants to participate in the project.

Guidance: In the section below, list the key facilitators that enabled and/or encouraged participants to participate in your project (seniors, caregivers, health care workers, etc.).
List the key barriers that prevented or limited participants from participating in the project.
For each barrier provide a suggested mitigation strategy.

Key Facilitators that enabled participation:

- Support from family members and/or Power of Attorneys.
- Support of activity coordinators, rehab team members, unit coordinators and staff.
- Support and assistance from the Research Team, volunteers and students to help residents actively use the 2RWM.
- Support from Department Leads, notably, the Manager of Therapeutic Recreation and Volunteer Services.
- Support from the Senior Leadership teams.

Key Barriers that limited participation and identify the mitigation strategies that worked best for addressing barriers to participation or suggestions for future mitigation strategies:

Barrier:	Mitigation:
❖ Ability to use the 2RaceWithMe independently due to physical limitations and/or pedaller constraints (i.e., small foot pedals, height of hand pedals).	❖ Collaborated with the rehab team, nursing staff and activity coordinators to determine optimal positioning for participants to easily and safely use the 2RMW. ❖ Research staff, students and volunteers' assistance facilitated residents' optimal use of the 2RWM. ❖ Consulted with the unit staff if participants' health status changed throughout the project.
❖ Software or WiFi connectivity issues. ❖ Impact of pandemic or outbreak guidelines on consistent access to and use of the 2RWM.	❖ Consulted with the Centivizer, Inc. Support Team to effectively troubleshoot connectivity or software issues. ❖ Unit staff provided opportunities for physical activities and/or social engagement pending outbreak/pandemic guidelines.

4. Project Participants

A summary of the participants in the project (i.e., individuals who directly participated in your program, those for whom you collected data), broken up by gender, language, and location.

Guidance: Complete both tables below according to project records. If gender, language, location, and/or other demographic information was not collected, include the total number of participants in the Sub-total/Total line under the appropriate participant description.

Table 1) Number of seniors, caregivers, healthcare workers, and other participants.
Enter the Target Number of participants, the Actual Number of participants, and describe any variance between the target and actual number of participants.

Table 2) The same participants from Table 1 identified as First Nation, Métis, Inuit, Francophone, Anglophone, and Other (please describe), and by Rural or Urban location (if applicable). Enter the number of First Nation, Métis, Inuit, Francophone, Anglophone, and other participants indicating if they reside in a primarily Rural or Urban setting (Urban being defined as any centre with a population of 10,000 or above).

Please note: We recognize that the categories in Table 2 may not be mutually exclusive. We also acknowledge the limitations of these demographic categories, which are not exhaustive but rather reflect special interest groups identified by GNB in the initiation of HSPP for their relevance to the population of the province.

Participant Table 1	Gender	Target Number	Actual Number	Key reason for variance between target and actual number
Seniors and Elders Note: Total targeted # of participants – 30 Total enrolled across sites – 32 YCC – 10 Pre-and Post-Intervention FdM- Pre-intervention – 22 Post-intervention - 17	Woman	15	**YCC – 6/10 (60%)** **FdM –** **Pre- 15/22 (68%)** **Post - 11/17 (65%)** **Total Across Sites;** **Pre – 21/32 (66 %)** **Post-17/27 (63%)**	Population of enrolled female participants was greater than men at both sites. **Note**: 4 women at FdM withdrew prior to the end of the intervention period.
	Man	15	**YCC – 4/10 (40%)** **FdM–** **Pre-7/22 (32%)** **Post – 6/17 (35%)** **Total Across Sites:** **Pre -11/32 (34%)** **Post – 10/27 (37%)**	**Note**: 1 man at FdM withdrew prior to the end of the intervention period.
	Non-binary	0	0	
	Transgender	0	0	
	Gender diverse	0	0	
	Preferred to self describe	0	0	
	Preferred not to say	0	0	
	Sub-Total			
Informal Caregivers	Woman	0	0	
	Man	0	0	
	Non-binary	0	0	
	Transgender	0	0	
	Gender diverse	0	0	
	Preferred to self describe	0	0	
	Preferred not to say	0	0	
	Sub-Total	30	21- Women 11 Men	
Social and Healthcare workers	Woman	0	0	
	Man	0	0	
	Non-binary	0	0	
	Transgender	0	0	
	Gender diverse	0	0	
	Preferred to self describe	0	0	
	Preferred not to say	0	0	
	Sub-Total	0	0	
Others (provide a description)	Woman	0	0	
	Man	0	0	

	Non-binary	0	0	
	Transgender	0	0	
	Gender diverse	0	0	
	Preferred to self describe	0	0	
	Preferred not to say	0	0	
	Sub-Total	0	0	
Total Participants		0	0	

Participant Table 2	**Gender**	**Rural**	**Urban**	**Total**
First Nations	Woman	0	0	0
	Man	0	0	0
	Non-binary	0	0	0
	Transgender	0	0	0
	Gender diverse	0	0	0
	Preferred to self describe	0	0	0
	Preferred not to say	0	0	0
	Total			
Métis	Woman	0	0	0
	Man	0	0	0
	Non-binary	0	0	0
	Transgender	0	0	0
	Gender diverse	0	0	0
	Preferred to self describe	0	0	0
	Preferred not to say	0	0	0
	Total	0	0	0
Inuit	Woman	0	0	0
	Man	0	0	0
	Non-binary	0	0	0
	Transgender	0	0	0
	Gender diverse	0	0	0
	Preferred to self describe	0	0	0
	Preferred not to say	0	0	0
	Total	0	0	0
Francophone	Woman	No Target Identified	**YCC – 0 FdM- Pre- N = 15/22 (68%) Post- N = 11/17 (65%)**	**Pre – N= 15/22 (68%) Post - N = 11/17 (65%)**
	Man	No Target Identified	**YCC – 0 Faubourg du Mascaret – Pre -N = 7/22 (32%) Post - N = 6/17 (35%)**	**Pre- N = 7/22 (32%) Post -N = 6/17 (35%)**
	Non-binary	0	0	0

	Transgender	0	0	0
	Gender diverse	0	0	0
	Preferred to self describe	0	0	0
	Preferred not to say	0	0	0
	Total		Pre-22 Post - 17	Greater proportion of women enrolled in project.
Anglophone	Woman	No Target Identified	**YCC – 6/10 (60%)** **FdM- 0**	All participants at FdM were Francophone
	Man	No target identified	**YCC – 4/10 (40%)** **FdM - 0**	
	Non-binary	0	0	0
	Transgender	0	0	0
	Gender diverse	0	0	0
	Preferred to self describe	0	0	0
	Preferred not to say	0	0	0
	Total	0	10	Variance, as noted above.
Others (provide a description)	Woman	0		
	Man	0	0	0
	Non-binary	0	0	0
	Transgender	0	0	0
	Gender diverse	0	0	0
	Preferred to self describe	0	0	0
	Preferred not to say	0	0	0
	Total	0	0	0

Additional information about Participants, including explanation of Participant Variance:

The population of long-term care settings typically includes a higher proportion of women than men. This was reflected in this project's participant population across each site.

5. Lessons Learned on Gender and Aging

"Gender-Based Analysis Plus (GBA+) is the process by which a policy, program, initiative or service can be examined for its impacts on various groups of women, men, and gender diverse people. GBA+ provides a snapshot that captures the realities of women, men, and gender diverse people affected by a particular issue at a specific time. GBA+ considers many other identity factors such as race, ethnicity, religion, age, and mental or physical disability, and how the interaction between these factors influences the way we might experience government policies and initiatives."

*For the purposes of this report, we are particularly interested in how **aging, gender, and other identity factors** intersect to shape participants' experiences in a program.*

Guidance: Provide responses to the following questions. Use project data and observations from the project to support responses.

1. What assumptions did you have about project participants or project participation prior to GBA+ training and conducting a GBA+? If these assumptions changed as a result of GBA+, how did they change?

- Assumed that there would potentially be more women than men enrolled in the project. This assumption was supported by participant data across both sites.
- Assumed that age, gender and diversity would not significantly impact individuals' participation in the project. This was supported by project results

2. How did GBA+ impact the research, evaluation, and / or program planning and execution process?

- Physical and cognitive factors impacted the evaluation process to a greater extent than age, gender or diversity factors.

3. Did certain groups face more barriers to participating in your project? If so, for what groups and in what ways?

- Individuals who were in electric wheelchairs or who remained in bed were unable to access the 2RWM due to the current design of the device. This information has been shared with the Centivizer, Inc. development team for consideration.
- Individuals with significant cognitive or physical abilities faced barriers to participating in the project due to their ability to access the device with or without assistance.
- Gender, age or diversity did not significantly impact individuals' participation.

4. Was participation more accessible for certain groups? If so, for what groups and in what ways?

- As noted above, individuals in manual wheelchairs required assistance with wheelchair placement to achieve optimal benefit from using the 2RaceWithMe. They were only able to access the bike when staff or volunteers were available to assist them.
- Individuals at FdM were able to access the 2RaceWithMe independently or with a minimal amount of assistance so used the device during the evenings and week-ends in addition to weekdays.

5. What did your project results reveal in terms of overall impacts (positive and negative) on aging, gender, and other diversity factors? As a result of these outcomes, what lessons have you learned?

- Increased physical activity, social engagement and enhanced well-being were outcomes that equally impacted females and males.
- Use of the 2RWM did not appear to be impacted by participants' age ranges as the oldest participant was 99 years of age. Physical or cognitive abilities potentially create greater barriers or reduced access to the 2RWM, unless support is provided by staff or volunteers, when appropriate.

6. What did the GBA+ process combined with your project results teach you about approaching future projects?

- Age, gender and diversity factors can enrich project planning, execution and outcomes.
- Continue to strive for diversity in project recruitment, whenever possible.

6. Documented Project Outcomes –

Using your completed Appendix B as a guide, report the results/findings of each Expected Outcome (as per the project proposal or subsequent amendments). With reference to your quantitative and/or qualitative analyses, explain how the results/findings for each outcome are supported by your analysis.

Please note:

1) Remember to include ***all*** findings; this includes null results or instances where there was no change in the Expected Outcome.
2) Include results from ***all*** participants (e.g., seniors, family members, caregivers).
3) You may want to consult your projects' Logic Model, Data & Measurement Table, and Key Outcomes tab of the Outcome Indicator Report from your most recent quarterly report as a reference to identify the full list of your project's Expected Outcomes.

Guidance: For <u>each</u> project outcome (short-term, medium-term, long-term):

1. Narratively describe the results from project inception to date, incorporating data from the *Outcome Indicator Report* (Appendix B).
2. Explain any variances between what you intended/hypothesized and the results and/or describe any unexpected outcomes.

For **<u>one</u> Medium-Term Outcome**, please include a **story of change**. A story of change should demonstrate the impact of the project on participants and be supported by indicator data. Stories of change should be clearly linked to a specific project outcome.

Writing a story of change - A story of change should:

- be concise, clear, engaging, and use evidence, such as personal testimonies, etc., to support the story;
- be expressed in plain language and be accessible to a broad audience;
- concentrate on one change per story;
- include interesting information that is relevant, simple, and powerful;
- ensure it is a tangible, human story;
- safeguard the security, privacy/confidentiality and interests of the individuals and communities implicated in the story, ensure you obtain and document consent in your own records.

<u>Short-term outcome(s):</u> Copy the short-term outcome(s) from Appendix B and narratively describe the finding (using data (qualitative and/or quantitative) to support the narrative description); report on each outcome individually.

- Increased physical activity with implementation of the 2RWM.
- The 2RWM is an acceptable and usable intervention (potential for software or hardware issues to impact consistent functionality).

Outcome: **Increased Physical Activity: Average Number Pedal Revolutions and Use of the 2RWM:**

a). FdM: Number of pedal revolutions over time in both pavillons (Gallant and Leblanc) from May-Oct. 2022:

Gallant (N= 15) / Leblanc (N = 5) (Note: N= number of participants and M= Mean)
May; M = 4588; June: M = 8287/ 8472; July: M = 2721/6876; August: M = 7323/5359;
Sept: M = 2899/3049; Oct: M = 477/ 2734

YCC: Number of pedal revolutions from Oct. 2021-March 2022 for all 10 participants:

October, 2021: M=1989; November: M – 2476; December: M- 2974;
January: M – 1901; February: M – 2131; March: M - 2551

b). The percentage of participants who used the 2RWM 2-3 times per week over a 6-month period:

FdM: Gallant (N= 15) and LeBlanc (N=5) (Gallant/LeBlanc)

May: 57% (Gallant only); June: 52%/67%; July: 33%/50%;
August: 33%/39%; September: 36%/25%; October: 20%/20%

YCC – N=10

October 2021: 68%; November: 65%; December 63%;
January 2022: 48%; February: 75%; March: 60%

Variance: Describe any differences between the expected outcome(s) and actual results; noting any unexpected outcomes.

The number of pedal revolutions and percentage of participants using the 2RWM decreased slightly at YCC in early 2022 and moderately at FdM, particularly when the research team were t not consistently resent at FdM. Also, seasonal variations, choice of a range of activities, and pandemic guidelines may have ontributed to decreased usage at both sites. Periodic technological issues also impacted consistent usage, particularly s computer hardware and software updates were made in the early-mid stages of project implementation.

Medium term outcome(s): Copy the medium-term outcome(s) from Appendix B and narratively describe the findings (using data (qualitative and/or quantitative) to support the narrative description); report on each outcome individually.

Outcome: Increased/improved exercise motivation, physical function and mood.

FdM - T-Test and p-value
TAQ-LTC : t (16) = 3.31, p = 0.02 <0,05
TGU-GO : t (16) = .338, p=0.37
Grip Strength : t (16) =.253, p = .402
EuroQol : t (16) = -.925, p = .184

YCC - T-Test and p-value)
Grip strength : t (7) = -1.355, p = .11
EuroQol : t (8) = .667, p = .262 NOTE: The TAC-LTC was only administered post-intervention as it was not available pre-intervention. However, 67% of participants reported that they found the 2RWM enjoyable, easy to use and it helped strengthen their muscles (i.e., participants rated these items as a 5 - agree or 6 – strongly agree on the TAC-LTC). The TUG-GO not applicable for YCC participants.

FdM
The results of the statistical analyzes suggest significant results for two indicators:
- Results suggest that there is a significant difference in TAQ-LTC between the pre-intervention data (M=4.69, SD=0.53) and post-intervention data (M=3.63, SD=1.13); t (16) = 3.31, p< 0.05
- Results suggest that there is a significant difference in Anxiety and Depression score between the pre-intervention data (M=0.18, SD=0.39) and post-intervention data (M=0.47, SD=0.51); t (16) = -2.58, p< 0.05

No significant differences between pre- and post-intervention can be explained because the cognitive level and the physical level of the participants were high from the start. Participants were highly independent and had good cognitive reserve.

YCC
Results suggest that there is a significant difference in cognitive performance score of the Inter-Rai between the pre-intervention data (M=1.3, SD=0.95) and post-intervention data (M=1.6, SD=1.07); t (9) = -.605, p< 0.05

No significant differences between pre- and post-intervention survey data analysis.

Variance: Describe any differences between the expected outcome(s) and actual results; noting any unexpected outcomes.

- **FdM** - A significant change in TAQ-LTC (FdM) scores was noted. Results suggest that there was a difference in TAQ-LTC between the pre-intervention data (M=4.69, SD=0.53) and post-intervention data (M=3.63, SD=1.13); t (16) = 3.31, p< 0.05
- **YCC -** No significant differences between pre- and post-intervention. That is, no overall increase or decrease in survey scores.

Story of Change: See guidance above.

York Care Centre – the following quotes from family members of 2 participants demonstrates the impact of using the 2RaceWithMe:

Quote #1:

"She looks forward to getting out of her room for a change of scenery and some physical activity..."

Quote #2: Provided following completion of the intervention period of the project.

"... The decline in his physical ability is very noticeable. I believe in great part due to the lack of movement. He very much enjoyed having that to look forward to. I cannot stress enough how special the CIRA program was to him ..."

Participant Video: Direct Feedback from a Participant – the following link is to a video on Age-Well's website which highlights the change/impact for this participant (Female: age 78 years) Note: the individual provided her consent for this information to be shared.

https://www.youtube.com/watch?v=OEvluo4EvOc&list=PLcZNKfuxT5WU58YjcIjyIluBAiZC-Y46O&index=18

FdM – A Story of Change:

One of the participants quickly joined the project and participated very regularly. He provided this information about what he liked and the benefits of the project:

"c`est vraiment plus gai de venir pédaler avec les vidéos. Le temps passe plus vite. […] Je viens le soir parce que cela m`aide à me détendre et à m`endormir. Je dors vraiment mieux (depuis que je fais le vélo)"
"J`aime ça de pouvoir voyager. J`ai déjà fait plusieurs fois les videos et là je vois qu`il y en a que je n`ai pas faite, j`ai hâte de pouvoir les faire"(Male, . 88 years.).

English translation :
"I have a lot of fun pedaling with the videos. Time flies by quicker. […] I come in the evening because it helps me relax and fall asleep. I sleep much better (since I am using the bike)" "I like it to be able to travel. I have already watched the videos several times and I see now that there are some that I have not watched, I cannot wait to be able to watch them." (Male, . 88 y.o.).

Long-term outcome(s): Copy the long-term outcome(s) from Appendix B and narratively describe the findings (using data (qualitative and/or quantitative) to support the narrative description); report on each outcome individually.

Outcome: Sustainability and scale up of the 2RWM:

- Both sites are in the process of actively preparing for scale up/implementation of the 2RaceWithMe across 2 or 3 units in each Long-Term Care (LTC) setting.

Outcome: Transportability of implementation procedures to other LTC sites:

- Installation guidelines, training documents and videos and troubleshooting suggestions have been developed and updated to facilitate implementation in other LTC sites.

Variance: Describe any differences between the expected outcome(s) and actual results; noting any unexpected outcomes.

Sustainability and scale-up:

- It is important that user and training materials such as Centivizer, Inc.'s online manual and quick set-up guide are regularly updated and available to all users.
- Consistent and timely support from Centivizer Inc.'s Customer Support Team plays a crucial role in helping users/organizations provide consistent access to the 2RWM.
- Regular communication to User Groups/Sites regarding improvements and updates to the technology will enhance knowledge and ease of use of the 2RWM. Centivizer Inc.'s Newsletter is a helpful resource for users.
- Staff availability to support users is a key factor to facilitate consistent access for some residents and to troubleshoot technological issues, as needed.

Transportability of Implementation:

- Facilitating strategies include: Sharing strategies to support implementation, integration of research team members into other activities at the institution, distribution of information/posters about the project, organization of project information sessions for staff, ongoing training, creation and maintenance of social relations with residents, participants and families as well as word continuously sharing information about the project.
- The collaboration with the YCC and FdM research staff, with site staff, students and volunteers played an important role in the successful implementation of the project. At YCC, participants were recruited with assistance from the Activity Director and Rehab Team. At FdM, participants were recruited primarily by word of mouth, as enrolled participants told other residents about the project. This had a significant positive impact on recruitment.

7. Project Readiness for Scale Up and Planning for Sustainability

A description of the readiness for scale-up and sustainability of the project. **NOTE:** Incorporated Sustainability Planning in this Section rather than making it a separate section as per the previous version.

Guidance: Complete Appendix C: Self Assessment of Readiness for Scale Up and Planning for Sustainability

Based on the information provided in Appendix C: Self Assessment of Readiness for Scale Up and Planning for Sustainability, which of the following best describes the project readiness for scale up and sustainability? (Select one with YES)

Level of Readiness:	**Project Level of Readiness - Sustainability**	**Project Level of Readiness - Scale**
1. *High level of readiness for sustaining and/or scaling-up*	YCC – Yes FdM - Yes	YCC – Yes FdM - Yes
2. *Ready to scale up and/or sustainability with support*		
3. *Intervention is not ready for scale up and/or should not be sustained*		
4. *Evidence for scale up and/or sustainability is not available*		

Next steps required to scale up or sustain the project:

YCC:

- Met with Vice President of Clinical Services and Department Leads (Therapeutic Recreation and Lifestyle Living Units) to confirm specific resident units or community programs where the 2RWM will be scaled up/implemented.
- Train Activity Coordinators, Adult Day Program Coordinator, Unit Coordinators, Students and Volunteers.
- Implement use of the 2RWM in 2-3 locations across YCC and conduct an evaluation 2-3 months following implementation.

FdM:

- Research Lead met with the Director of this site and received support to expand use of the 2RWM to more residents in the independent and semi-dependent living units.
- Activity Co-ordinators and students will be identified to help support implementation.
- Implement and evaluate usage, impact on residents' physical activity and well-being.

Supporting evaluation evidence to scale up or sustain the project (can be drawn from section 6. Documented Project Outcomes):

- Positive feedback from participants and family members supports expanding use of the 2RWM across additional units at both project sites.
- The pedaling and usage data demonstrated some variability, which could be attributed to participant choice, seasonal variation in activities and outbreak/pandemic guidelines. However, observation indicated that participants increased their level of physical activity be using the 2RWM.
- Comparisons of pre-post intervention results were mostly non-statistically significant, except for the post-intervention results of the Technology Acceptance Questionnaire – Long-Term Care among FdM's participants. It is important to note here, given the high prevalence of chronic diseases and the precarious health of older adults living in retirement residences and nursing homes, we anticipated and expected to observe a progressive degradation of several health indicators. However, our results showed that most indicators did not decrease.

8. Funding

Financial support secured to continue the project activities beyond the end of HSPP funding. This relates to the initiative or where change can be sustained.

Has your project been successful in securing funding to scale up or sustain the project activities beyond the end of HSPP funding?

- Centivizer, Inc. will/has provided the hardware and software to support scale up.
- YCC and FdM will provide some staff support to facilitate equipment installation and set-up (i.e., position TVs/monitors on the wall, install new electrical outlets, if required, inspect and approve set-up and IT support for connectivity and network troubleshooting).
- Centivizer Inc.'s Customer Support Team is available to assist with hardware/software updates and related troubleshooting, as needed.

Describe the steps that were taken (or will be taken) to secure funding to maintain the project activities beyond the end of HSPP funding.

- A sustainability plan was reviewed with YCC's Department Leads and Senior Leadership and approval provided to expand use of the 2RWM.
- Similarly, FdM's Senior Leadership supported scale up of the 2RWM.
- Centivizer, Inc. has agreed to provide the hardware/software, as noted above.

9. New Research / Partnerships / Projects

New research, new partnerships, and/or new projects inspired or created due to project results.

Guidance: Describe any new research, new partnerships, and/or new projects that have come about because of the results of the HSPP project.

- Expand use of the 2RWM to other units at both sites, potentially including community program such as the Adult Day Program at YCC.
- Evaluate the impact of expansion across a broader population of older adults (i.e., retirement/community residents)
- Continue linkage with the Stan Cassidy Centre for Rehabilitation in Fredericton where a 2RWM demo was provided. The Centivizer, Inc. team will be exploring ways to pair the 2RWM's video/audio library with Stan Cassidy Centre's Stim Bike.
- Explore partnerships with other long-term care centres where the research teams have implemented or are currently carrying out projects with older adults.
- Consider expansion to community settings to implement an updated version of the 2RWM with more independently mobile older adults.

10.Changes Made in Project Design and Delivery

A summary of changes made to improve the project outcomes, or to respond to issues and risks.

Guidance: Describe any changes made throughout the project to reflect an improved understanding of the issues or to respond to changing circumstances. Describe any changes made to the evaluation plan, changes in scope, methodology, approach, etc.

- Hardware (i.e., computers with expanded memory) and software (i.e., video, SD cards, musical genres) updates were completed.
- Regular updates to the device data collection and reporting dashboards have occurred.
- increased access to web-based data and information about use of the 2RWM across user groups evolved throughout the project.
- Explore an updated design of the 2RWM, the *Cross-Over Stepper*, to provide another option for more independent older adults, to increase their physical activity.

11. Lessons Learned and Recommendations

A summary of lessons learned and recommendations for future projects, policies, programs, services, etc.

Guidance: Identify best practices and key lessons learned that can be used in the future to achieve similar results. Provide recommendations based on the lessons learned.

Lessons learned:

- It was noted that staff, student and volunteers' presence and availability impacted participant engagement, as use of the 2RWM declined, in both independent and depended populations, when staff, students or volunteers were not available to assist/engage with users. This also impacted the project outcomes, as less data could be collected and analyzed.
- The ongoing support of the senior leadership team, department leads, unit coordinators, activity directors, unit staff, volunteers and students is crucial.
- It is important to Identify key contacts for information sharing, troubleshooting support, ongoing training and technology updates to support residents.

Recommendations for the future, with supporting evaluation evidence:

- Continue to offer older adults the opportunity to exercise in a novel, interesting and informative way with the current and updated versions of the 2RWM.
- It would be helpful to have an implementation framework to promote and facilitate successful implementation. Training materials and an online guide are very helpful for individuals directly involved with use of the 2RWM. For decision makers, an overall implementation framework will assist in determining if this technology aligns with organizational programs, policies and capacity (i.e., human and financial resources).
- Use of a matched control group would help identify impacts on older adults' physical and cognitive abilities with and without use of the 2RWM technology.
- Offer a range of options for older adults, such as an updated version of the 2RWM (Cross-Stepper) for independently mobile individuals, along with the current version of the 2RWM for individuals who are semi-dependent and a device such as a desk-top/mobile hand pedaler for individuals who are using motorized wheelchairs, larger wheelchairs and/or remain in bed for extended periods of time.

12. Return on Investment (if applicable)

An overview of a return-on-investment (ROI) calculation.

Guidance: In general, this will identify the cost of doing something different and the value of observed outcomes. The approach may vary by project, however, typically these calculations would include the population reached, the cost of doing something different (your pilot intervention cost), and the value of identified outcomes. Examples of how this may be expressed include: "cost per unit of outcome", or the outcomes can be valued in dollars to get a "cost to benefit ratio". Further work may also include what these numbers look like when scaled to population.

N/A

Appendices

Guidance: Attach the following Appendices to the End of Project Report

A. Knowledge and Skills Learned by HSPP Focus Area - Attached
B. Outcome Indicator Report - Attached
C. Self Assessment of Readiness for Scale-up and Planning for Sustainability - Attached
D. Knowledge Transfer Documentation
    i. KT Plan and Tracking Template - Attached
    ii. Plain Language Summary (Part 2) - Attached
    iii. Other supplemental strategies (e.g., publications, infographics, etc.)
E. List of Team Members and Project Collaborators - Attached
F. Final Expenditure Report (Schedule D Annual Statement of Expenditure from Funding Agreement) - Attached
G. Meta-analysis - Attached
H. Other documents as needed/relevant (e.g., statistical analyses, evaluation report, etc.) Attached Charts Summarizing Pedaling Data

Research and Ethics Committee - Annual Work Plan 2023/24

Introduction

The purpose of this document is to provide committee members with background and context information to support their plans for the upcoming board year. Each standing committee of the board is asked to establish a proposed workplan for the upcoming board year. A workplan will ensure that staff are prepared to bring appropriate information to the committee to support its work.

Section 1 provides excerpts from the committee terms of reference, specifically the purpose and scope statements. These terms of reference were reviewed and approved by the board in the 2022/23 year.

Section 2 provides excerpts from the Board's Strategic Plan which are aligned with the mandate of the Research and Ethics Committee. Work of the committee should support the organization in achieving the objectives of the strategic plan.

Section 3 provides excerpts from Management's operating plan which are aligned with the mandate of the Research and Ethics Committee. The CEO and the executive team are responsible for the developing and implementing the operating plan in support of the overall strategic plan. The Committee can expect progress updates from the leadership team.

Section 4 is a summary of the accomplishments of the Research and Ethics Committee in the previous year, as well as any issues which were considered / addressed.

Section 5 is a list of issues which might be of interest / concern to the Committee when planning for the upcoming year.

Section 6 is a list of committee members.

Section 7 is a proposed workplan for the committee. This is a draft and should be discussed at the September meeting. The committee is asked to present a final work plan to the board of directors at the October meeting.

Section 1 - Excerpts from the Terms of Reference

The purpose of the Committee is to make recommendations to the Board to ensure that ethical standards and research activities reflect the Vision, Mission and Values of the organization.

The Committee is focused on providing an academic/research environment that promotes professional development and stimulates research activity combined with and applied to a full suite of long-term cares services. The work of the committee includes:

1. Ensuring appropriate policies are in place that respect the ethical standards of the organization as well as applicable privacy legislation.
2. Reviews the Code of Ethics on an annual basis and makes recommendations to the Board if changes are required.
3. Reviewing policies proposed by the President & CEO related to ethical and research matters and recommending those that it supports for approval by the Board of Directors.
4. Encouraging innovation, health promotion and knowledge transfer through the following:

- Increase involvement in research activities that focus on promotion and improving the social, emotional, and physical well-being of seniors.
- Fostering relationships with researchers, stakeholders, and members of the community
- Promoting and supporting the translation and transfer of research outcomes, new knowledge and innovation to the betterment of the aging population.

5. Reviewing and approving proposed research initiatives; monitor related President and CEO actions in support and,when necessary, recommending action for the Board's consideration.
6. Monitoring adherence to the Code of Ethics and initial goals and objectives based on staff responsibilities of allresearch projects and, when necessary, recommend remedial action for the Board's consideration.
7. Ensuring that research activity remains focused on aging and/or long-term care.

Section 2 – Excerpts from the Strategic Plan which align with the Research and Ethics Committee mandate.

The Research Pillar

- Discovery, Innovation & Knowledge Transfer
- YCC aims to build a self-sustaining research centre that will focus on improving care, delivering services through a person-centred approach, and implementing evidence-based practices for the betterment of YCC clients. YCC will continue to promote and share knowledge on policies and procedures.

Goals

1. To increase involvement in research activities that focus on promoting and improving seniors' social, emotional and physical well-being.
2. To foster relationships with researchers, stakeholders, and community members.
3. To promote and support the translation and transfer of research outcomes, new knowledge and innovation for the betterment of the aging population.

Section 3 – Excerpts from Management's Operating Plan which align with the Research & Ethics Committee mandate.

The Research Pillar

1a. Conduct a facility-wide needs assessment to determine the direction and focus of future research studies and programming.

1b. To ensure research activity is reflective of the needs, interests and issues of the YCC community, establish an advisory committee comprised of staff, families and residents.

2. Hold the 13th Annual Aging Care and Research Symposium with an increase in attendance from the previous year.

3. Plan a YCC open house for staff, residents and family members to learn about the findings from our research projects.

Section 4 - Issues & Accomplishments from 2022/23

- Terms of Reference updated.
- Complete review and updating of the Code of Ethics and Professional Conduct
- Quarterly reporting from Executive Director of CIRA
- Research Symposium re-established.

Section 5 - Issues to Consider for Upcoming Year

- Generally strong results on committee evaluation. The only element which scored less than 90% related to the committee meeting being a good use of time and following the agenda. One member commented that it would be good if there were more members who have a direct research background.
- YCC Board commented they have not seen any results from CIRA research projects. We should consider our project wrap-up reporting process to ensure the R&E Committee and YCC Board receive a summary of findings.
- YCC Strategic Planning Committee discussed the concept of "Centre of Excellence" and the role that research should play in YCC's aim to become a Centre of Excellence. The R&E Committee should explore this further – perhaps look at examples such as the Schlegel approach.
- YCC Board re-emphasized that CIRA research must remain aligned with objective of providing benefit for YCC residents.
- Should we consider an education session for this committee on health research in New Brunswick – perhaps have someone from ResearchNB meet with the committee?

Section 6 - Committee Membership

- , Chair
- Brenda Bosse
- Tracey Burkhardt
- Donna Curtis Maillet
- Marjorie Belzile, ex officio
- Geri Geldart, ex officio
- Justine Henry, Jamie Roy, staff

Section 7 - Proposed Workplan

Meeting	Date	Reports and Documents
Q1	Tuesday, Sept 5th @ 4PM	• Review of Annual Workplan • Executive Director's report • Consideration of potential topics for committee education. • Review of new research proposals
Q2	Tuesday, Nov 28, 2023 @ 4PM	• Executive Director's report • Centre of Excellence and the role of research • Review of new research proposals
Q3	Tuesday, January 30, 2024 @ 4PM	• Executive Director's report • Education session - ??ResearchNB • Review of new research proposals
Q4	Tuesday, April 23, 2024 @ 4PM	• Executive Director's report • Review of new research proposals • Annual review of Code of Ethics and Professional Conduct