

ACADEMIC COUNCIL REPORT

SESSION:

Public

ACTION REQUESTED:

Decision
 Discussion/Direction
 Information

Financial Impact Yes No

Included in Budget Yes No

TO: Academic Council

DATE: January 19, 2022

FROM: Research Committee

PRESENTED BY: Les Jacobs, Vice-President, Research and Innovation

SUBJECT: Creation of the Age With Dignity Campus of Care and Best Practices Research Centre

MANDATE:

In accordance with Article 1.4(b) of By-law No. 2 and the [Procedures for the Creation of Research Entities](#), Academic Council makes recommendations to the Board on matters including the establishment of research centres.

Recommendation: The Research Committee, at its January 18, 2022 meeting, reviewed the proposal by Dr. Manon Lemonde from the Faculty of Health Sciences to establish the Age With Dignity Campus of Care and Best Practices Research Centre and unanimously approved the motion of a recommendation that it go forward to Academic Council.

We request that Academic Council review the Age With Dignity Research Centre proposal and find it appropriate to recommend to the Board of Governors for approval.

BACKGROUND/CONTEXT & RATIONALE:

We are living in unprecedented times, with a global trend showing growth in both the number and the proportion of older people in the population. It is estimated that by 2030, 1 in 6 people in the world will be aged 60 years or over. By 2050, the world's population of people aged 60 years and older will reach 2.1 billion (<https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>). In Canada, the senior population has been steadily increasing and there is no evidence that it will be slowing down - it is predicted that over the next 20 years the population of people 65 and older will grow by 68% (Seniors Population Outlook, 2017). This population has highly diverse and special needs that warrant *careful research with an eye to policy-oriented, evidence-based decision making*.

In parallel with this growth in the ageing population, *ageism* (i.e., prejudice or discrimination against a particular age-group and especially the elderly) has been documented as a pervasive phenomenon. A recent World Health Organization (WHO) report, released in March 2021, indicated that one in two people in the world is believed to hold ageist attitudes (<https://www.who.int/news/item/18-03-2021-ageism-is-a-global-challenge-un>), with significant negative effects on older people's physical and mental health, quality of life and overall well-being. These effects are not only impacting older people but the entire society with consequences of costs in billions of dollars every year. The solution proposed in the WHO 2021 report is to use *evidence-based strategies, improve data collection and research* and combine an action-based interdisciplinary research and policies to build a movement to change how we think, feel and act towards age and ageing. This again highlights the necessity of research towards age and ageing to support change.

Furthermore, the Covid-19 pandemic has revealed and exacerbated the effects of ageism by creating an immense amount of scrutiny and critical engagement by the media, government, and the public with Canada's Age with Dignity and Long-Term Care system (National Institute on Ageing (NIA), 2021). A 2021 report from the NIA, "Pandemic Perspectives on Long-Term Care: Insights from Canadians in Light of COVID-19" indicated that almost all respondents aged 65 years and older report that they will do everything they can to avoid moving into a long-term care home. In contrast, "ageing in place", defined as "remaining living in the community, with some level of independence, rather than in residential care" (Davey, Nana, de Joux, & Arcus, 2004, p. 133), is a popular term in current ageing policy. Ageing in place is a complex issue that needs to account for a variety of factors: housing options, transportation, recreational opportunities, and amenities that facilitate physical activity, social interaction, cultural engagement, and ongoing education (Wahl & Weisman, 2003). Although most discussions on ageing in place focus on home, there is growing recognition, for example, in environmental gerontology (Oswald, Jopp, Rott, & Wahl, 2010), that beyond the home, neighborhoods and communities play a key role in healthy ageing. This is an important gap in the current research on ageing in place which focuses almost exclusively on the home, with little being known about how the community and the other related factors that come into play and support ageing in place. Consistent with this, a recent call for proposals released in November 2021 by the Government of Canada, New Horizons for Seniors Program – Community Based Projects, seeks to fund research on ageing in place. Additionally, in long term care homes, the government noted a need for more research, in particular implementation research on infection prevention and control measures and development of new national standards in long term care. The other aspects to consider and worthwhile to add is adding lifelong learning and community engagement. Ageing with dignity is also about seeing the potential of seniors and that includes getting them into courses and learning, teaching and mentoring roles with younger students, as the centre would turn research to practice in this area especially.

Overall, these ageing trends indicate a strong need for more research to support ageing, no matter where it happens. Additionally, there is a need for research that establishes the importance of respect, autonomy and support for seniors in order for them to age with dignity. Importantly, it was emphasized that the research on ageing with dignity must move beyond basic ethical issues and take an interdisciplinary approach to topics such as healthy ageing, patient input, age-friendly environments, cognitive stimulation, and the role of family/caregiver support and advocacy (Person Centered Care, 2017).

OUR SOLUTION. The patterns and challenges noted above call for urgent action that is informed by research evidence. These challenges are highly complex and thus the potential solution requires:

- Ageing interdisciplinary research
 - input from multiple disciplines (health, social sciences and humanities, engineering, business and IT);

- analyses across various units of analysis (individual, group, systems of care, community, society, etc.);
- combination of different types of research (applied, basic), methods (quantitative, qualitative) and research designs (longitudinal designs, participatory research, integrated knowledge translation, person-centered research approaches).
- Social and Technological solutions
 - a focus on technology and social innovation to support healthy ageing.
- Policy and evidence-informed practice
 - a focus on implementation science, to be able to implement effectively the interventions developed to support ageing;
 - advocacy work to build awareness and educate about various ageing issues.
- Community-driven research and innovation
 - strong partnerships with communities, both to inform research and to effectively mobilize the emerging research evidence.

We will respond to these urgent needs by capitalizing on and connecting the broad research expertise on ageing at Ontario Tech University. Initial discussions and consultation with the research community have commenced with the ultimate goal of creating an Ontario Tech University Age With Dignity Campus of Care and Best Practices Research Centre (referred to as the Age With Dignity Research Centre for the remainder of this document). The Age With Dignity Research Centre will provide a strategic opportunity for Ontario Tech to position itself as a national leader in research, evidenced-based policy, and best practices to reduce ageism and lead to healthy ageing at home, in community or long-term care facilities.

The proposed Age With Dignity Research Centre will bring together expertise from a wide range of disciplines, spanning health, social sciences and humanities, education, and natural sciences and engineering, to build a strong evidence base to inform ageing research and best practices. The name of the Centre reflects its intended outcomes, namely ageing with dignity and community of care. Our approach to researching ageing with dignity will center around healthy ageing, the concept of optimizing opportunities to maintain and improve wellness from a holistic perspective which includes mental, physical, emotional, cognitive, social and spiritual, independence, and quality of life throughout one's lifespan. Creating healthy ageing programs leads to the following benefits: improved health, mobility, social connectivity, financial security, personal dignity, safety, security, and additional life skills and knowledge. Importantly, evidence supports the notion that implementing these types of programs drastically increases the quality of life for seniors and increases the chances of them living a more independent life (Sinha, 2012). In addition, our focus on a community of care recognizes the importance of neighborhoods and communities in supporting healthy ageing.

POSITIONING OUR CENTRE. The proposed Age With Dignity Research Centre is unique in its focus on conducting interdisciplinary research, development of innovative technological solutions and implementation science, to foster healthier lives.

Globally, our Centre is aligned with and will contribute to the initiative “Decade of Healthy Ageing (2021–2030)”, developed by the United Nations General Assembly and led by WHO. Recognizing the complexities related to ageing and bringing in change at various levels, the Decade of Healthy Ageing is a global collaboration bringing together governments, civil society, international agencies, professionals, academia, the media and the private sector for 10 years of concerted, catalytic and collaborative action to improve the lives of older people, their families and communities.

Locally, our proposed Age With Dignity Research Centre is unique. Although there are other research centres/institutes on ageing, *our strength and relative advantage is in deliberately*

designing and conducting interdisciplinary research on ageing; developing technological solutions; exploring the role of technology in seniors' lives as both a risk and protective factor and using evidence from implementation science, to maximize our research impact. Below we include more details about what will set us apart from others:

Interdisciplinary Research on Ageing. Researching and supporting ageing spans changes in adults as they age, the ways that society changes with an ageing population, and the ways we apply this information to developing programs and policies for older adults. The magnitude and complexity of these issues requires an interdisciplinary approach to examine the emerging research questions. For instance, research on the physical design of the homes and other spaces for older people is needed to make these places age friendly. According to research, the design should look different based on the community you are in, resident demographics, and whether the facility has a certain specialty. When designing these facilities, the process of ageing must also be kept in mind; this includes reduced vision in low light, reduced field of vision, reduced hearing, loss of muscle strength, reduced reflexes, reduced memory, and visual perception changes. It has been proven that creating a facility that has a friendly and home-like atmosphere increases resident satisfaction. Conversely, too much noise can be a problem – such as in a large dining room or in hallways. (Hsieh, 2012). This work requires expertise from health and social sciences to examine individual changes and preferences related to ageing; community research to inform changes; engineering expertise to develop technological solutions that meet the individual and community needs, as well as advocacy and decision making that are informed by research evidence. To this end, our team of researchers from six faculties brings together the right expertise to address seniors' needs related to health, mental health, community engagement, and optimal design of physical spaces, among others.

Development of Innovative Technological and Social Solutions. Recently there has been a great emphasis on the need for, and development of, technological solutions to assist older adults to live well in place or in the community. For instance, in November 2021, the NRC's *Ageing in Place Challenge* program and CIHR *Institute of Aging* joint funding call was released, seeking proposals for the technological solutions to support various ageing needs. This is one of the many calls and priorities for funding focused on technology to support health ageing. This is well aligned with the strong expertise at our university that translated in the development of video games, gamified platforms, the use of virtual and augmented reality and 3D printing to support education and treatment of older people, their families, and health care providers. This focus is also aligned with Ontario Tech's "tech with a conscience" philosophy, which values and promotes the development of ethical and meaningful technological solutions.

Implementation Science. Implementation science, defined by the National Institutes of Health as the scientific study of strategies to adopt and integrate evidence-based health innovations into routine practice, continues to grow within research, education, and practice-based settings (Bauer et al., 2015). The imperative to attend to the implementation process has emerged over the last two decades in the face of growing recognition that effective practices and treatments/innovations do not passively make their way into routine practice. Implementation requires distinct expertise and capacity. (Brehaut & Eva, 2012) Regardless of how effective an innovation is, not paying attention to its implementation in practice, often leads to suboptimal outcomes and wasteful research. For this reason, implementation science has become a global undertaking. For instance, in United States, most research that has practical/applied impact is required to be informed by implementation science evidence. Similarly, in Canada, several recent calls for research proposals have included requirements to use an implementation science lens/methodology (e.g., Implementation Science Teams – Strengthening Pandemic Preparedness in Long-Term Care Funding Opportunity from CIHR; <https://cihr-irsc.gc.ca/e/52118.html>). Our Centre's focus on

implementation science is timely and consistent with the direction of the geriatric research. For instance, in 2021, the journal *The Gerontologist* released a call for papers for the Special Issue: Implementation Science in Gerontology. To this end, our faculty bring expertise in implementation science and strong community partners, enabling not only the development of research evidence but also the effective implementation of this evidence in practice.

In summary, the proposed Age With Dignity Research Centre is timely and the result of the intersection between pressing, unprecedented, and complex ageing needs, on the one side, and our University's research expertise and unique strengths on the other side. For this reason, we believe that the proposed Centre has the potential to make significant contributions to the science of ageing as well as inform policies, decision-making, and best practices.

RESOURCES REQUIRED:

Physical Requirements

No new resources or equipment will be required from Ontario Tech University. Faculty members who join the Age With Dignity Research Centre will utilize their existing research spaces.

Staffing Requirements

At this point in time, there are no new staff requirements. Project manager, graduate and undergraduate students, associate and senior scientist will join Age With Dignity Research Centre activities as appropriate, in tandem with securing research funding.

Budget and Financial Requirements

No start-up funding is requested.

We have prepared a five-year draft budget for the next five years of the Age With Dignity Research Centre (See attached budget).

Each faculty member is responsible for, and committed to, applying and securing funding for their respective research area, independently or in collaboration. As mentioned in the proposal, the members will be developing a strategic plan and exploring funding opportunities with the funding agencies, their partners and collaborators. Short term, our sustainability approach will capitalize on using in-kind contributions (from various offices on campus) and professional development funds to create a presence on campus, regionally and provincially. At the same time, we will pursue other lines of funding from internal and external grants and the development of courses /microcredentials. We believe that this approach will increase the feasibility and sustainability of the proposed Age With Dignity Research Centre.

IMPLICATIONS/ ALTERNATIVES CONSIDERED:

Not creating the Age With Dignity Centre: This would be a missed opportunity for Ontario Tech University to increase in local, national and international visibility and credibility in this area. Moreover, it would also result in a missed opportunity for the university to obtain significant research funding in this field.

ALIGNMENT WITH MISSION, VISION, VALUES & STRATEGIC PLAN:

The proposed work conducted at the Age With Dignity Research Centre aligns perfectly with Ontario Tech University's strategic research priority (Strategic Research Plan 2020-25): "Healthy populations, community well-being and social justice". The university is committed to creating sustainable and healthy communities by facilitating innovative research that enhances the capacities of local, national and global communities to thrive and grow in ways that are healthy and sustainable.

As such, the Age With Dignity Research Centre will support ongoing collaborations and promote new partnerships between local, national, and international knowledge users and faculty members engaged in the fields of healthy ageing, community and public health, social sciences, and mental health.

The Age With Dignity Research Centre supports Ontario Tech's Strategic Research Plan as follows:

- will play a lead role in strengthening the Faculty of Health Science's, and the overall university's, research capacity in the area of ageing using innovative, interdisciplinary approaches.
- will provide new training opportunities for students. Experiential learning has been a foundational principle of Ontario Tech University since its inception. In particular, faculty members have focused on student engagement in research at both the undergraduate and graduate levels. The proposed research programs will provide excellent training for HQP to pursue graduate-level programs at Ontario Tech University. The work conducted in the Age With Dignity Research Centre will be an excellent forum to expose undergraduate and graduate students to interdisciplinary research as they will participate in research teams with individuals from diverse fields/areas of study and practice.

CONSULTATION:

- *Office of Research Services*: Consultation from April 14, 2021 to September 22, 2021;
- *Research Committee*: Motion passed January 18, 2022
- *Faculty of Health Sciences information/discussion session*: January 19, 2022.

MOTION for CONSIDERATION:

That pursuant to the recommendation of the Research Committee, Academic Council hereby recommends the establishment of the Age with Dignity Campus of Care and Best Practices Research Centre for approval by the Board of Governors, as presented.

SUPPORTING REFERENCE MATERIALS:

- Proposal for the establishment of the Age With Dignity Campus of Care and Best Practices Research Centre

**Proposal for the Creation of the
Age With Dignity Campus of Care and Best Practices Research Centre**

1. Name of the Entity

Age With Dignity Campus of Care and Best Practices Research Centre

2. Proposers

Director:

Manon Lemonde, PhD

Associate Professor and Associate Dean, Research and Graduate Studies, Faculty of Health Sciences

Manon.Lemonde@ontariotechu.ca

Co-Proposers (listed in alphabetical order):

Jennifer Abbass Dick, PhD

Assistant Professor, Faculty of Health Sciences

jennifer.abbassdick@ontariotechu.ca

Akramul Azim, PhD

Associate Professor, Faculty of Engineering and Applied Science

akramul.azim@ontariotechu.ca

Pierre Côté, PhD

Professor and Canada Research Chair in Disability Prevention and Rehabilitation, Faculty of Health Sciences

pierre.cote@ontariotechu.ca

Shilpa Dogra, PhD

Associate Professor, Faculty of Health Sciences

shilpa.dogra@ontariotechu.ca

Adam Dubrowski, PhD

Professor and Canada Research Chair in Health Care Simulation, Faculty of Health Sciences

adam.dubrowski@ontariotechu.ca

Bill Kapralos, PhD

Associate Professor, Faculty of Business and Information Technology

Bill.kapralos@ontariotechu.ca

Alyson King, PhD

Associate Professor, Associate Dean, Undergraduate Student Experience, Faculty of Social Science and Humanities

alyson.king@ontariotechu.ca

Joseph Krasman, PhD
Associate Professor, Faculty of Business and Information Technology
joseph.krasman@ontariotechu.ca

Jennifer Laffier, PhD
Assistant Professor, Faculty of Education
jennifer.laffier@ontariotechu.ca

Eleodor Nichita, PhD
Associate Professor, Faculty of Energy Systems and Nuclear Science
eleodor.nichita@ontariotechu.ca

Mika Nonoyama, PhD
Associate Professor, Faculty of Health Sciences
mika.nonoyama@ontariotechu.ca

Jen Rinaldi, PhD
Associate Professor, Faculty of Social Science and Humanities
jen.rinaldi@ontariotechu.ca

Lorayne Robertson, PhD
Associate Professor, Faculty of Education
Lorayne.robertson@ontariotechu.ca

Carol Rodgers, PhD
Dean, Faculty of Health Sciences
carol.rodgers@ontariotechu.ca

Namdar Saniei, PhD
Associate Teaching Professor, Faculty of Engineering and Applied Science
namdar.saniei@ontariotechu.ca

Vivian Stamatopoulos, PhD
Associate Teaching Professor, Faculty of Social Science and Humanities
vivian.stamatopoulos@ontariotechu.ca

Wendy Stanyon, RN, EdD
Associate Professor, Faculty of Health Sciences
wendy.stanyon@ontariotechu.ca

Winnie Sun, PhD
Associate Professor, Faculty of Health Sciences
Winnie.Sun@ontariotechu.ca

3. Background Description and Justification

3.1 CURRENT CONTEXT AND NEEDS. We are living in unprecedented times, with a global trend showing growth in both the number and the proportion of older people in the population. It is estimated that by 2030, 1 in 6 people in the world will be aged 60 years or over. By 2050, the world's population of people aged 60 years and older will reach 2.1 billion (<https://www.who.int/news-room/fact-sheets/detail/aging-and-health>). In Canada, the senior population has been steadily increasing and there is no evidence that it will be slowing down - it is predicted that over the next 20 years the population of people 65 and older will grow by 68% (Seniors Population Outlook, 2017). This population has highly diverse and special needs that warrant *careful research with an eye to policy-oriented, evidence-based decision making*.

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Furthermore, the Covid-19 pandemic has revealed and exacerbated the effects of ageism by creating an immense amount of scrutiny and critical engagement by the media, government, and the public with Canada's Age with Dignity and Long-Term Care system (National Institute on Aging (NIA), 2021). A 2021 report from the NIA, "Pandemic Perspectives on Long-Term Care: Insights from Canadians in Light of COVID-19" indicated that almost all respondents aged 65 years and older report that they will do everything they can to avoid moving into a long-term care home. In contrast, "ageing in place", defined as "remaining living in the community, with some level of independence, rather than in residential care" (Davey, Nana, de Joux, & Arcus, 2004, p. 133), is a popular term in current ageing policy. Ageing in place is a complex issue that needs to account for a variety of factors: housing options, transportation, recreational opportunities, and amenities that facilitate physical activity, social interaction, cultural engagement, and ongoing education (Wahl & Weisman, 2003). Although most discussions on ageing in place focus on home, there is growing recognition, for example, in environmental gerontology (Oswald, Jopp, Rott, & Wahl, 2010), that beyond the home, neighborhoods and communities play a key role in healthy ageing. This is an important gap in the current research on ageing in place which focuses almost exclusively on the home, with little being known about how the community and the other related factors that come into play and support ageing in place. Consistent with this, a recent call for proposals released in November 2021 by the Government of Canada, New Horizons for Seniors Program – Community Based Projects, seeks to fund research on ageing in place. Additionally, in long term care homes, the government noted a need for more research, in particular implementation research on infection prevention and control measures and development of new national standards

in long term care. The other aspects to consider and worthwhile to add is adding life long learning and community engagement. Ageing with dignity is also about seeing the potential of seniors and that includes getting them into courses and learning, teaching and mentoring roles with younger students, as the center would turn research to practice in this area especially.

Overall, these ageing trends indicate a strong need for more research to support ageing, no matter where it happens. Additionally, there is a need for research that establishes the importance of respect, autonomy and support for seniors in order for them to age with dignity. Importantly, it was emphasized that the research on ageing with dignity must move beyond basic ethical issues and take an interdisciplinary approach to topics such as healthy ageing, patient input, age-friendly environments, cognitive stimulation, and the role of family/caregiver support and advocacy (Person Centered Care, 2017).

OUR SOLUTION. The patterns and challenges noted above call for urgent action that is informed by research evidence. These challenges are highly complex and thus the potential solution requires:

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 - input from multiple disciplines (health, social sciences and humanities, engineering, business and IT);
 - analyses across various units of analysis (individual, group, systems of care, community, society, etc.);
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expertise to develop technological solutions that meet the individual and community needs as well as advocacy and decision making that are informed by research evidence. To this end, our team of researchers from six faculties (see section 7 for specific faculty expertise) brings together the right expertise to address seniors' needs related to health, mental health, community engagement, and optimal design of physical spaces, among others.

Development of Innovative Technological and Social Solutions. Recently there has been a great emphasis on the need for and development of technological solutions to assist older adults to live well in place or in the community. For instance, in November 2021, the NRC's Aging in Place Challenge program and CIHR Institute of Aging joint funding call was released, seeking proposals for the technological solutions to support various ageing needs. This is one of the many calls and priorities for funding focused on technology to support health ageing. This is well aligned with the strong expertise at our university that translated in the development of video games, gamified platforms, the use of virtual and augmented reality and 3D printing to support education and treatment of older people, their families and health care providers. This focus is also aligned with Ontario Tech's "tech with a conscience" philosophy, which values and promotes the development of ethical and meaningful technological solutions.

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In summary, the proposed Age With Dignity Research Centre is timely and the result of the intersection between pressing, unprecedented and complex ageing needs, on the one side, and our University's research expertise and unique strengths on the other side. For this reason, we believe that the proposed Centre has the potential to make a significant contribution to the science of ageing as well as inform policies, decision making and best practices.

RESEARCH PILLARS. It is important to note that the scope, focus and specific pillars of the Age With Dignity Research Centre were determined as a result of ample consultations with the research and teaching faculty at Ontario Tech University, organized by the Vice-President, Research and Innovation, Dr. Les Jacobs. These consultations took place over the span of several months:

- April 14, 2021 – first town hall meeting, attended by approximately 43 faculty. Faculty expressed high interest and enthusiasm for this initiative.
- May 11, 2021 – meeting to discuss the focus of the proposed Research Centre; those that attended the initial town hall and expressed an interest in continuing to be involved were invited
- September 22, 2021 – meeting to discuss the proposed Research Centre and seek further input from the research and teaching faculty regarding the scope of the Centre, funding mechanisms and organizational structure; those that attended the May 11 meeting and expressed an interest in continuing to be involved were invited.

The following four pillars were identified through consultations, as outlined below.

| PILLAR 1 Ageing Interdisciplinary Research | PILLAR 2 Social and Technological Solutions | PILLAR 3 Policy and Evidence-Informed Practice | PILLAR 4 Community-Driven Research and Innovation |
|---|---|--|--|
| Lead: Dr. Winnie Sun | Lead: Dr. Bill Kapralos | Lead: Dr. Jennifer Laffier | Lead: Dr. Shilpa Dogra |
| Conducting interdisciplinary research to advance the science of ageing with respect to social, physical, cognitive, and emotional age-related changes and their impact on functioning and well-being. | Development of innovative technological solutions to support ageing, regardless of where it happens (e.g., tools for educating older adults and health care providers and for treating older adults). | Using research evidence to inform policies, decision-making, and best practices, by focusing on knowledge mobilization and implementation. | Building strong relations with community partners for community engagement, outreach activities, developing and supporting age-friendly community initiatives, culminating in a campus of care approach to ageing. |

ANTICIPATED OUTCOMES. We anticipate that our Age With Dignity Research Centre will lead to positive impacts for both the society and our institution:

Society

- Advance the science of ageing by conducting interdisciplinary research
- Inform best practices and decision-making in ageing based on research evidence
- Impact communities and contribute to more age-friendly initiatives
- Foster longer and healthier lives for older adults

University

- Increase the visibility of the research and expertise at Ontario Tech University
- Provide unique training and capacity building opportunities for students/trainees

3.2 Describe how the entity will foster synergistic collaboration that would not otherwise be possible, and how the entity would facilitate research among scholars within the university and in the wider community.

As noted above, population ageing has been documented globally (United Nations, 2019; World Health Organization, 2015), nationally (Statistics Canada, 2015, 2019), and locally (City of Oshawa, 2019). The Canadian population, as already mentioned in the background, is ageing and, for 2019, Canada's seniors or older adults aged 65 and older represented about 18% of the country's total population (Statistics Canada, 2019). This number is expected to increase as the baby boomers get older and life expectancy increases (Statistics Canada, 2015). Moreover, in the City of Oshawa, the population of older adults aged 55 and older was estimated at 31% of the city's total population (City of Oshawa, (2019). The ageing process comes with changes that affect older adults' wellbeing. Older adults require a supportive and empowering physical and social environment to counterbalance the age-related changes, and losses (Association of Municipalities Ontario, 2016).

This increase in the senior population highlights the need to better understand ageing and provide supports to enhance quality of life. *There are currently fundamental gaps in our knowledge and best practices, revealed and exacerbated by the Covid-19 pandemic.* This is a highly complex issue that goes beyond individual seniors and cuts across systems of care, social issues, health and mental health outcomes, training of healthcare professionals, development and implementation of evidence-based interventions and technological solutions, and optimal design of physical spaces. *Given the complexity and magnitude of these issues, a collective approach, capitalizing on multiple areas of expertise, is crucial to success.* The proposed Age with Dignity Research Centre, with support and membership from six faculties at Ontario Tech University (Health Sciences; Social Sciences and Humanities; Education; Engineering and Applied Science; Business and Information Technology; and Faculty of Energy Systems and Nuclear Science) is intended to fill this gap.

Over the years, it has been evident that many faculty members from different faculties were interested in improving seniors' lives, including healthy individuals, those living in the community, and those in long-term care residences. The need to merge these collaborations and collaborators is very strategic to ensure the creation and the development of the research center. The creation of the Age With Dignity Research Centre in Oshawa, is certainly an advantage as we are in a privileged position to maintain our "pioneer" work being a significant suburb institution of the Greater Toronto Area; this will provide a foundation for *establishing a state-of-the-art Age With Dignity Research Centre focusing on seniors' quality of life and ageing in dignity, both at home and in long-term care residences.*

We need to build capacity in research to minimize the consequences that the pandemic has had and is still having on seniors such as loneliness, depression, and all related impact of the issues encountered during this period. To this end, the Age With Dignity Research Centre will bring together various areas of expertise (health, social sciences and humanities, engineering) and methodological approaches (quantitative, qualitative) to build a strong evidence base to inform both research and practice. *This is a unique feature of our Age With Dignity Research Centre and our relative advantage: to our knowledge although there are research centers or institutes focused on ageing, that are affiliated with Canadian universities, none take an interdisciplinary approach to ageing with dignity and long-term care best practices.* The proposed Age With Dignity Research Centre is timely as it can focus on lessons learned or to be learned post-pandemic. There is a wealth of opportunities to build from in ensuring not only quality of care for seniors but overall quality of life, using the primary health care approach and the most innovative technologies and evidence.

We envision that this Age With Dignity Research Centre will become a major focal point for ageing related research, consultation, education and training within the university, and in Ontario, Canada and worldwide. This upcoming Age With Dignity Research Centre will bring together the diverse capabilities of individual university academics, leveraging their combined expertise to address specific issues, problems, allowing for more significant funding opportunities to be exploited. For the purposes of this proposal, interested faculty members have been included (see item 7); whilst it is expected that members participate in the grant

applications prepared by the Age With Dignity Research Centre, they remain free to pursue their own funding.

4. Research Mandate

4.1. Outline the type of research to be performed and identify the scope of activities envisaged.

Though Ontario Tech University is a small university, most of the research still happens in silo. The main objective of the proposed research centre is to create a fertile ground for potential collaboration between researchers from different disciplines. More specifically, the Age With Dignity Research Centre will allow researchers to:

- Have more structured opportunities for networking and sharing ideas
- Address bigger challenges in ageing and create larger and impactful solutions for society
- Identify gaps, develop innovative technological solutions guided by the principle of “tech with a conscience”, and examine impacts at multiple levels (individual, institution, society) by combining expertise from health, social sciences and humanities and engineering
- Participate in student supervision and co-supervision (in particular faculty members from faculties that do not have graduate programs)
- Create research and experiential opportunities for both undergraduate and graduate students across the university
- Engage research partners across both the Broader Public Sector and the Private Sector
- Leverage the power of the Age With Dignity Research Centre when applying for individual or large grants (Canada Foundation for Innovation, NSERC Collaborative Research and Training Experience Program (CREATE), NSERC Networks of Centres of Excellence (NCE), New Frontiers in Research Fund, SSHRC Partnership grants, CIHR, Ontario Research Fund – Research Excellence; ORF-RE; eCampus Ontario).

Being a small and innovative university, and with many cross appointments and faculty collaborations, establishing an Age With Dignity Research Centre will provide a rich environment to cultivate and promote research on the influence of the design and development of future technologies, maintaining and enhancing current projects, with local partners such as Oshawa Senior Community Centres (OSCC), Teaching City, Durham Region, and City of Oshawa (age-friendly initiatives).

The exploration of new areas and discovery research is also a priority so to equip the current and future health care providers in our programs to be competent in:

- Researching and implementing customized best practice for our diverse ageing population
- Delivering quality care to seniors
- Developing innovative educational materials on intergenerational aspects of ageing and lifespan development (health literacy, grand parents and breastfeeding to be developed further)
- Training health care professionals using innovative methods and technologies to support both technical and non-technical competencies (i.e., communication, relational)

Finally, we will engage in additional activities to better understand the existing strengths and resources at the University, locally and regionally, to realize the vision of the Age With Dignity Research Centre:

- Reviewing what courses are being offered in our programs at Ontario Tech University
- Developing a survey to capture what types of related projects are in progress or completed in all our faculties
- Working with Advancement to identify potential sources of revenues, donations, etc.
- Identifying/collaborating with researchers who are working with local and Indigenous communities
- Engaging with administrators of long-term care homes regionally to explore needs and co-create solutions and explore the possibility of establishing a living lab for nursing, social sciences, and health sciences students (e.g., the new administrator of the long-term care home at Ajax Pickering Hospital; Hillsdale Terraces, Hillsdale Estates, Fairview Lodge, Lakeview Manor)

4.2. Explain how the research activities align with Ontario Tech’s Strategic Research Plan. <https://research.ontariotechu.ca/discover-research/strategic-research-plan/index.php>

The proposed Age With Dignity Research Centre capitalizes on several of the *University’s strengths* - Community Wellness, Human Performance and Health Promotion; Digital Technologies, Machine Learning and Artificial Intelligence; Advanced Manufacturing and Materials.

The proposed Age With Dignity Research Centre will contribute to realizing key *research priorities* such as Data Science, Artificial Intelligence and New Technologies; Healthy Populations, Community Well-Being and Social Justice; Intelligent Manufacturing and Materials Innovation; and Social Innovation, Disruptive Technologies and the New Economy.

The Age With Dignity Research Centre will also contribute to the strategic priority of broadening and intensifying Ontario Tech University’s research agenda under the *broader theme* of “meaningful connections with our local and global communities”. To this end, the Age With Dignity Research Centre will develop new partnerships and strengthen our existing ones with the City of Oshawa’s Teaching City, City Studio Durham, Carea Community Health Centre, Lakeridge Health, Long-term Care & Services for Seniors Division, The Regional Municipality of Durham, Table francophone de concertation en santé de la région Durham/Francophone Community Table on Health – Durham Region, Alzheimer’s Society of Durham and the Oshawa Senior Community Centres at the local level.

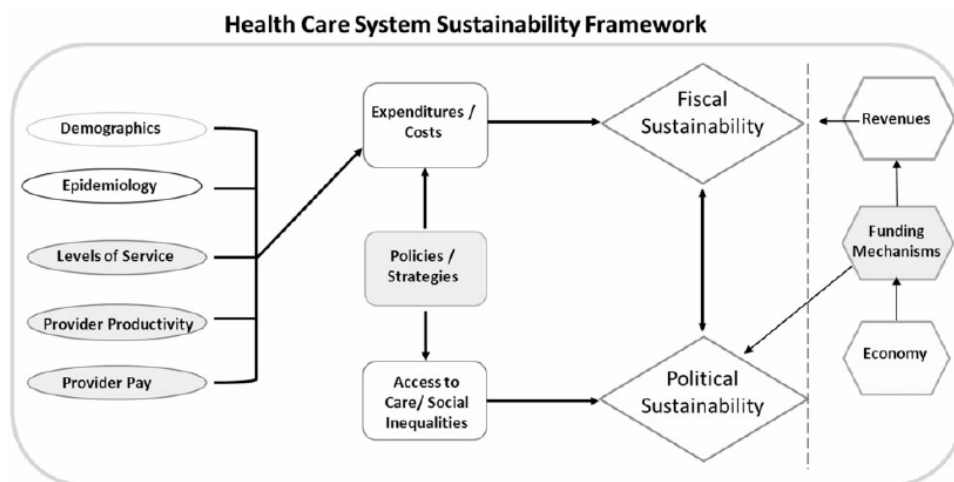
Provincially, nationally, and globally, the co-proposers of the Age With Dignity Research Centre are already involved with the World Health Organization (WHO), Ontario Interdisciplinary Council of Ageing and Health, Baycrest Geriatric Education Centre, Center for Learning and Research Innovation in Long-Term Care, Health Canada, Mental Health Commission of Canada, Migrants Resource Center Canada, Advisory Committee on Seniors Services and Long-Term Care City of Toronto, and University of Toronto Rehabilitation Sciences Institute. We plan to leverage these partnerships, as needed, to maximize the impact of our research.

Finally, the principle of “*tech with a conscience*” is highly relevant as the creation of this Age With Dignity Research Centre will build on the existing strengths in interdisciplinary research to create innovative and ethical technological solutions for the future that will support ageing with dignity.

- 4.3. Provide evidence for long-term sustainability of the entity, including research activities that go beyond collaboration on a single project.

A large body of literature shows that considering sustainability early on is crucial to the success of longevity of various initiatives (Proctor, 2015). For the proposed Age With Dignity Research Centre, sustainability will be ensured by fostering a collaborative approach between faculty members coupled with a solid management plan, with specific outcomes and deliverables.

In addition, the goal of the Director is to use a framework that can guide the development and implementation of evidence and projects into actual settings and contribute to the expansion of seniors related policies. We propose to use the following framework (see Figure below) and adapt it accordingly (as the focus is financial but certainly relevant as we move forward with the Age With Dignity Research Centre).



In place of fear: aligning health care planning with system objectives to achieve financial sustainability Stephen Birch, Gail Tomblin Murphy, Adrian MacKenzie and Jackie Cumming. J Health Serv Res Policy OnlineFirst, published on December 11, 2014 as doi:10.1177/1355819614562053

In addition to the above framework related to sustainability, it is important to focus on implementation, informed by the field of implementation science, which is aligned with the focus of all Tri-Council agencies. To this end, the Consolidated Framework for Implementation Research (CFIR; <https://cfirguide.org/wp-content/uploads/2019/08/cfirconstructs.pdf>) will inform the Centre’s work to ensure that the research evidence is implemented based on strong evidence from implementation science.

Within the first two years, the Age With Dignity Research Centre will focus on a rapid start of activities that include creating a supportive infrastructure and building relationships within and outside the Centre. With the help of various parties at the university, members of the Age With Dignity Research Centre will also be involved in a fundraising program to raise money to support the activities of the Age With Dignity Research Centre. The details of these programs and activities are included below.

A. Build Institute Governance Body, Infrastructure and Relationships

- Create a steering committee (6-7 members) from faculty members within the Age With Dignity Research Centre representing the various areas of interest.
- With the help of the Office of Research Services, the steering committee will develop an internal governance body, responsibilities, procedures and processes for overseeing the Age With Dignity Research Centre activities, including the process of allocating money raised through funding activities, reporting structure, scheduling regular meetings, to mention a few.
- Create promotional materials to reflect the research expertise and capabilities of the Age With Dignity Research Centre.
- Pursue research funding in partnership with private and public sector partners.
- Organize inter-disciplinary funding development workshops.
- Foster and develop inter-university relationships and funding proposals; potential venues for funding the Age With Dignity Research Centre include: NSERC, SSHRC, CIHR, CFI, MITACS, ORF-RE, eCampus Ontario, and OCE.

B. Fundraising

The Director of the Age With Dignity Research Centre will work with the Advancement Office at Ontario Tech University to develop a plan for initiatives to help attract donors and sponsors. We will additionally capitalize on the strong partnerships that faculty members have already established with various public and private organizations.

The money raised from the fundraising activities will be used to:

- Support interdisciplinary research and innovation in ageing with dignity and long-term care best practices
- Support graduate research assistantship for graduate students
- Create a number of scholarships for graduate and undergraduate students
- Initiate a new major/concentration/specialization in our undergraduate programs specific to ageing with dignity
- Sponsor seminar series on campus and on premise
- Develop relevant courses/micro-credentials

5. Student Involvement and Training

5.1. Explain the level and type of involvement of undergraduate or graduate students in the entity's activities. Describe the unique research and training opportunities that will arise as a result of the entity.

The main reason for establishing the Age With Dignity Research Centre at Ontario Tech University is to bring together our qualified human resources re: ageing and to afford stronger and more impactful research initiatives. It is anticipated that this will attract undergraduate students (for example, from research practicum in health sciences and from other programs who support research in ageing) and build the students' research capacity, enhance their academic engagement and foster their interest in pursuing graduate programs. Importantly, this is aligned with the general direction of the gerontology and geriatrics fields, which are moving forward towards specialized and technological approaches. By including this focus in our programs and the approach of the Age With Dignity Research Centre, we will contribute to training the next generation of highly qualified personnel who will solve key issues related to seniors' care such as long-term care, stay at home, use of technology, and community involvement.

The Age With Dignity Research Centre will also benefit our graduate students from all faculties, as it will open unique opportunities to collaborate with partners (i.e., potentially a new interdisciplinary graduate program); work on large research grants; disseminate research results broadly to influence research, policies and practice; and be trained in research methods across multiple disciplines.

Beyond graduate student opportunities, there is also the chance to engage our students in work with seniors. For example, our B.Ed. students are teaching seniors how to use social media. So many opportunities that benefit both of our student population and the seniors in our community

It is anticipated that members of the Age With Dignity Research Centre will apply for a NSERC Collaborative Research and Training Experience Program (CREATE) grant. Our collaborative and interdisciplinary approaches to research and the Age With Dignity Research Centre's infrastructure will increase the chances of receiving the grant. Additionally, some of the donated funds to be received by the Age With Dignity Research Centre will be used to support additional graduate and undergraduate students, providing these students with additional experiential learning and research practicum opportunities. *A unique feature is that undergraduate and graduate students will also have the opportunity to join the Age With Dignity Research Centre in a more formal way, through a fellowship program that will be developed as part of the centre.*

All faculty members associated with the Age With Dignity Research Centre have a strong track record of supervising graduate and undergraduate students. It is anticipated that the Age With Dignity Research Centre will enable co-supervision from multiple faculties, enhancing students' training experience. This will provide faculty members from faculties that do not have graduate programs with access to supervise graduate students from other faculties. Moreover, given the vision of the Centre to conduct interdisciplinary research on ageing and the Centre membership spanning multiple faculties, *students will have a unique training experience that will address key equity, diversity and inclusion (EDI) challenges.* For instance, underrepresentation of women in certain disciplines creates EDI barriers such as limited exposure to women role models/mentors in science. The proposed Age With Dignity Research Centre, through its interdisciplinary membership spanning across six faculties, will address this barrier and strengthen the University's commitment to EDI. In addition, this collaborative work in interdisciplinary will be important in light of graduate program development in interdisciplinarity.

- 5.2. Describe the contribution, if any, to the development of new courses, seminars, or instructional programs in collaboration with the appropriate Faculty/ies.

Looking ahead, the Age with Dignity Research Centre will consider the following initiatives:

- Creating a joint FHSc-FSSH undergraduate course in ageing with dignity. This course will emphasize the health and social justice issues related to the ageing process.
- Exploring opportunities (in collaboration with colleagues from the Faculty of Engineering and Applied Sciences, Energy Systems and Nuclear Sciences, and Education) to apply software and data analytics methods to study ageing.
- Exploring partnership with the newly created Regional Centre for Dementia Care and Recovery (RCDCR). Preliminary discussions with Dr. Winnie Sun, the Co-Research Chair, suggest that collaborations in the field of cognitive rehabilitation research would benefit both the Research Centre and RCDCR.
- Develop relevant micro-credentials in collaboration with Continuous Learning at Ontario Tech
- Collaborate with TALENT-job readiness skills in providing support for [new grads](#) and/or engaging [current students](#) in a variety of opportunities (such as coops or internships).
- Apply to the eCampus Ontario funding opportunities to create high-quality virtual learning content through the continued development, adaptation, adoption and translation of educational materials and micro-credentials.

6. Research Dissemination and Service Plan

Describe any unique plans for dissemination of research, and/or how the research entity will provide service and impact programs and policies within Ontario Tech University and to the outside community.

It is anticipated that members of the Age With Dignity Research Centre will organize a yearly workshop, or symposium on ageing with dignity at Ontario Tech University to share relevant research outputs as well as to raise the profile of the Age With Dignity Research Centre and the university nationally and internationally. The event will also include community partners and professional personnel such as health care providers, administrators of long-term care homes and decision-makers. Information about the event, in addition to other research activities and outcomes will be continually published on the Age With Dignity Research Centre's website. We will also use social media to increase awareness and promote the activities of the Age With Dignity Research Centre.

To ensure rigor and maximize impact, our dissemination work will be guided by established dissemination and knowledge translation frameworks (e.g., Knowledge to Action Framework, KTA; Graham et al., 2006). This will ensure that there are clear dissemination and knowledge translation goals (i.e., to bring awareness, change practice, inform policy, educate), target audiences (i.e., seniors, health care professionals, decision makers), and activities/products (i.e., prepare policy briefs, conference presentations, infographics and videos, publications). Specifically, to bring awareness about the Age With Dignity Research Centre in the academic world, we will ensure that we have a strong presence at major ageing conferences and events.

Furthermore, to increase our visibility with potential partners, we will use existing networks for dissemination, participate in community events, share promotional materials with the long-term care homes, participate in townhall meetings, among other activities.

7. Membership List, CVs and Affiliations

Provide the name, faculty (or institutional affiliation), Curriculum Vitae, and expected contribution of principal members. (Research entities shall not normally require the hiring of new full-time academic faculty. Each member, including the director, should hold an academic appointment at the university).

The proposed Age With Dignity Research Centre has strong support and membership from six faculties at Ontario Tech University (Health Sciences; Social Sciences and Humanities; Education; Engineering and Applied Science; Business and Information Technology; and Faculty of Energy Systems and Nuclear Science). *We believe that this is crucial to its success given that interdisciplinary research is at the core at the Age With Dignity Research Centre, with the ultimate goal of answering complex questions and developing innovative and effective solutions to support ageing with dignity.*

| Name | Position/Faculty | Area of expertise /contribution |
|---------------------------|---|---|
| Manon Lemonde, PhD | Associate Professor, Faculty of Health Sciences | Quality of life and symptoms management; program evaluation; health human resources; seniors' health |
| Jennifer Abbass Dick, PhD | Assistant Professor, Faculty of Health Sciences | Randomized controlled trials; Transition to parenthood; Fathers, partners, grandparents and co-parents |
| Akramul Azim, PhD | Associate Professor, Faculty of Engineering and Applied Science | Embedded systems (including medical and healthcare); software; testing; quality assurance; development |
| Pierre Côté, PhD | Professor and Canada Research Chair in Disability Prevention and Rehabilitation, Faculty of Health Sciences | Epidemiology; Disability; Rehabilitation; Public health |
| Shilpa Dogra, PhD | Associate Professor, Faculty of Health Sciences | Active ageing; Age-friendly environments; Sedentary behaviour and physiology; Chronic disease prevention and management; Community based research; Laboratory based research; Secondary data analysis |
| Adam Dubrowski, PhD | Professor and Canada Research Chair in Health Care Simulation, Faculty of Health Sciences | Simulation; education; 3D printing; innovative technologies; health professionals' education; implementation science |

| | | |
|---------------------------------|---|--|
| Bill Kapralos | Associate Professor, Faculty of Business and Information Technology | Immersive technologies, serious gaming, multimodal virtual environments, virtual learning environments, spatial sound |
| Alyson King, PhD | Associate Professor, Associate Dean, Undergraduate Student Experience, Faculty of Social Science and Humanities | Higher education; adult education; academic integrity; supported education; post-secondary student experience |
| Joseph Krasman, PhD | Associate Professor, Faculty of Business and Information Technology | Organizational behavior; HR |
| Jennifer Laffier, PhD | Assistant Professor, Faculty of Education | Discrimination and Agism; Senior mental health; technology for seniors; age friendly design |
| Eleodor Nichita, PhD | Associate Professor, Faculty of Energy Systems and Nuclear Science | Modelling and computation; Numerical methods; Diagnostic imaging (ultrasound, x-ray, computed tomography, nuclear medicine, MRI); Software development; Data analytics; Artificial Intelligence |
| Mika Nonoyama, PhD | Associate Professor, Faculty of Health Sciences | Chronic respiratory disease; pulmonary rehabilitation; home mechanical ventilation; pediatric respiratory therapy |
| Jen Rinaldi, PhD | Associate Professor, Faculty of Social Science and Humanities | Institutional violence; mental disability; Anti-carceral feminism; Migrant labour |
| Lorayne Robertson | Associate Professor, Faculty of Education | Technology integration, Equity, diversity and Inclusion, Ageing in place |
| Namdar Saniei, PhD | Associate Teaching Professor, Faculty of Engineering and Applied Science | Electronics; Integrated Circuit Design; Computer Engineering; Communications Engineering |
| Vivian Stamatopoulos, PhD | Associate Teaching Professor, Faculty of Social Science and Humanities | Long-term care; unpaid family caregiving; essential family caregivers; Covid-19 policies |
| Wendy Stanyon, RN, EdD | Associate Professor, Faculty of Health Sciences | Mental Health/Illness Awareness; Self- Care; Resilience; Mindfulness; Vulnerable Populations (first responders, homeless individuals, caregivers); Educational Technology (computer-based simulations) |
| Winnie Sun, PhD | Associate Professor, Faculty of Health Sciences | Dementia Care; Home Care; Long-Term Care; Gerotechnology; Geriatric Care; Medication Safety and Management |

8. Resource Requirements

8.1. Physical Requirements

- 8.1.1. Explain the type, size and location of space desired, and how the desired space is appropriate to the proposed research entity's needs. Specific space commitments must be secured from the office of the Provost. Mention all special equipment or other requirements that have space implications.

There are no new lab requirements. Faculty members who join the Age With Dignity Research Centre will utilize their existing research spaces.

- 8.1.2. Provide a complete list of all required resources and equipment including computers, phones, and copiers. Specify what internal resources (i.e. library, audio-visual) will be used and to what extent.

The inaugural director holds an office with all the necessary equipment. The majority of the work can be done virtually, for the initial start, and the proposer and co-proposers have the necessary resources to conduct this work. It is expected to have access to the required journals and periodicals through the library and its resources.

8.2. Staffing Requirements and Governance Structure

- 8.2.1. Explain any requirements for administrative, and/or technical personnel support from the University. List the following for each support staff member:
- Proposed Employer will be the university
 - Role or Duties
 - Source of Compensation

At this point in time, there are no new staff requirements. Project manager, graduate and undergraduate students, associate and senior scientist will join Age With Dignity Research Centre activities as appropriate, in tandem with securing research funding.

- 8.2.2. For personnel within the research entity who are employees of external institutions or corporations and not employees of Ontario Tech University, provide copies of agreements outlining the obligations of both Ontario Tech University and the external institution or corporation.

- 8.2.3. Describe the governance structure for the research entity. Indicate the structure, composition and decision-making processes that will facilitate the operations and research activities of the research entity.

The initial staffing model of the Age with Dignity Research Centre would consist of a **Director**. Initial administrative support will be provided by existing faculty staff. The **Director** will:

- Report to the Dean of the Faculty of Health Sciences and the Vice-President, Research and Innovation
- Lead fundraising initiatives
- Champion the Age With Dignity Research Centre internally and externally, and encourage and enhance pursuit of interdisciplinary research grant applications related to the objectives of the Research Centre

- Lead the development and operation of the Age With Dignity Research Centre as an excellent applied research and outreach organization
- Provide leadership and support to the staff and faculty affiliates of the Age With Dignity Research Centre
 - Support members of the centre with research grant applications and scholarly publishing
- Coordinate the Age With Dignity Research Centre's outreach activities and interact with external bodies (funding agencies, media, other research organizations, and the public)
- Administer funding and in-kind contributions provided in accordance with budgets approved by Ontario Tech University's financial accountability policies
- Oversee conferences as per the funding plan
- Promote the Age With Dignity Research Centre and the work of its affiliate researchers at local, national, and international conferences, and to the media.
- Collaborate with the Committee for an Age-Friendly University (great partner for knowledge mobilization and resource for researchers)

8.3. Budget and Financial Requirements

8.3.1. Prepare a detailed budget projection for the first five years of operation, including all sources of income, expected expenses/disbursements. (See Excel Template)

8.3.2. Start-up funding may be available for the establishment of research entities. Justify your request for start-up funding.

No start-up will be requested.

8.3.3. Provide a plan for the long-term financial sustainability, including external funding, of the Research Entity.

Each core scientist is responsible for and committed to applying and securing funding for their respective research area, independently or in collaboration. As mentioned in the proposal, the members will be developing strategic plan and explore funding opportunities with the funding agencies, their partners and collaborators. Short term, our sustainability approach will capitalize on using in-kind contributions (from various offices on campus) and professional development funds to create a presence on campus, regionally and provincially; at the same time, we will pursue other lines of funding from internal, external grants and development of courses /microcredentials. We believe that this approach will increase the feasibility and sustainability of the proposed Age With Dignity Research Centre.

9. Intellectual Property and Commercialization

9.1. Describe any proposed arrangements with members (including members from external institutions) relating to the ownership and/or commercialization of intellectual property created through work undertaken at the Research Entity

As a research entity within Ontario Tech University, the Age With Dignity Research Centre will follow the same intellectual property and commercialization policy used at the university, which

states that the ownership of intellectual property developed using funding from the research centre belongs to the faculty members and students. All organizations that want to partner with the Age With Dignity Research Centre will follow the regular process established by the Office of Research Services.

9.2. Describe proposed arrangements for the conduct of private sector contract research.

Arrangements for the conduct of such work are undertaken in collaboration with and at the direction of the respective Office of Research of each partner institution, depending on the affiliation of the principal researcher. All arrangements are made consistent with institutional policies and procedures.

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| | | Institute Budget | | | | | | | |
|--|-----------------------------------|------------------|------------------|------------------|------------------|------------------|-------------------|--|------|
| | Items | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total | Justification | NOTE |
| 1. Operational Budget | | | | | | | | | |
| 1.1 Labour Costs - Institute Staff | | | | | | | | | |
| | Project Manager | \$ - | \$ - | \$ - | 35,032 | \$ 36,062 | \$ 71,094 | 50% FTE | |
| | | | | \$ - | \$ - | \$ - | \$ - | | |
| | Benefits (9%) | \$ - | \$ - | \$ - | \$ 3,153 | \$ 3,246 | \$ 6,398 | Employer Costs @ 9% | |
| SUB-TOTAL LABOUR | | \$ - | \$ - | \$ - | \$ 38,185 | \$ 39,308 | \$ 77,492 | | |
| 1.2 Labour Costs - Director | | | | | | | | | |
| | Teaching Releases (Director) | \$ 8,823 | \$ 8,823 | \$ 8,823 | \$ 8,823 | \$ 8,823 | \$ 44,115 | 1 course release per year. | |
| | Benefits (9%) | \$ 794 | \$ 794 | \$ 794 | \$ 794 | \$ 794 | \$ 3,970 | | |
| SUB-TOTAL LABOUR | | \$ 9,617 | \$ 9,617 | \$ 9,617 | \$ 9,617 | \$ 9,617 | \$ 48,085 | | |
| 1.3 Institute Operating Costs | | | | | | | | | |
| | IT support and equipment | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 5,000 | video production | |
| | Office Supplies and Services | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 5,000 | basic office supplies, most from faculties | |
| | Other (explain) | | | | | | | | |
| SUB-TOTAL-Institute Operating Costs | | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 10,000 | | |
| 2. Research Networking | | | | | | | | | |
| | Seminars and Workshops | \$ 1,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 9,000 | Annual workshop hosting costs (principally refreshments). | |
| | Work-in-progress Workshops | | | | | | | Attending Canadian Gerontology Association conference (attending regardless) | |
| | Partnerships | | | | | | | | |
| | Other (explain) | | | | | | | | |
| SUB-TOTAL-Research Networking | | \$ 1,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 9,000 | | |
| 3. Communications | | | | | | | | | |
| | Website and social media | \$ 500 | \$ 500 | \$ 500 | \$ 500 | \$ 500 | \$ 2,500 | create, maintain, expand, update website, Domain name server fees | |
| | Other (Merchandise) | | | | | | | | |
| SUB-TOTAL Communications | | \$ 500 | \$ 500 | \$ 500 | \$ 500 | \$ 500 | \$ 2,500 | | |
| 4. Knowledge Transfer and Dissemination | | | | | | | | | |
| | Publication Costs | 1000 | 1000 | 1000 | 1000 | 1000 | 5000 | Promotional material | |
| | Conference | | \$ - | 0 | \$ 25,000 | | 25000 | SSHRC connections grant unsecured | |
| | Other (explain) | | | | | | | | |
| SUB-TOTAL KT | | 1,000 | 1000 | 1000 | 26000 | 1000 | 30000 | | |
| TOTAL OPERATIONAL BUDGET | | \$ 14,117 | \$ 15,117 | \$ 15,117 | \$ 78,302 | \$ 54,425 | \$ 177,078 | | |
| REVENUE | | | | | | | | | |
| | VPRI Contributions | \$ 9,617 | \$ 9,617 | \$ 9,617 | \$ 9,617 | \$ 9,617 | \$ 48,085 | Secured years 1-2 VPRI. Unsecured year 3-5. | |
| | External Grant Funding (Director) | \$ 1,000 | \$ 1,000 | \$ 1,500 | \$ 5,000 | \$ 5,000 | \$ 13,500 | Unsecured | |
| | External Grant Funding (Members) | \$ 5,000 | \$ 10,000 | \$ 10,000 | \$ 30,000 | \$ 30,000 | \$ 85,000 | Unsecured - Proposed that each of faculty member collaborating in the centre contribute \$1,000 - 5,000 each towards centre staff and resourcing. To be built into grant applications. | |
| | SSHRC connections grant | | | | \$ 25,000 | | | Unsecured | |
| | External Donor Funding | \$ - | \$ - | \$ - | \$ 10,000 | \$ 20,000 | \$ 30,000 | Unsecured | |
| TOTAL REVENUE | | \$ 15,617 | \$ 20,617 | \$ 21,117 | \$ 79,617 | \$ 64,617 | \$ 201,585 | As funding is secured additional labour and expenses will be added. Zero sum budget. | |
| TOTAL OPERATIONAL BUDGET LESS REVENUE | | \$ 1,500 | \$ 5,500 | \$ 6,000 | \$ 1,315 | \$ 10,192 | \$ 24,507 | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Note: Budget is an estimate based on project activities. Budget expenditures will only be incurred as funding is secured.

| | Research Costs | | | | | Total | Comments |
|--|------------------|------------------|------------------|-------------------|-------------------|-------------------|--|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | | |
| Student and Postdoc Salaries | | | | | | | |
| Research Assistants | | | | | | | |
| Masters Students | \$ - | \$ 34,000 | \$ 34,000 | \$ 34,000 | \$ 34,000 | \$ 136,000 | Masters students to be paid either as a GRA or Research Assistant. Rates will vary depending and subject to grant funding. |
| PhD Students | \$ - | \$ - | \$ - | \$ 36,000 | \$ 36,000 | \$ 72,000 | PhD students will be included as funding is available. |
| Post-Doctoral Students | | | | \$ 45,000 | \$ 45,000 | \$ 90,000 | Postdoctoral Researcher - at least one PDF will be affiliated with the Institute as funding becomes available. |
| Undergraduate Students | \$ 12,880 | \$ 13,266 | \$ 13,664 | \$ 14,074 | \$ 14,497 | \$ 68,381 | |
| SUBTOTAL Trainees | \$ 12,880 | \$ 47,266 | \$ 47,664 | \$ 129,074 | \$ 129,497 | \$ 366,381 | |
| Research Operating Costs | | | | | | | |
| Travel | \$ - | \$ 1,500 | \$ 2,500 | \$ 5,000 | \$ 5,000 | \$ 14,000 | Students and Faculty travel to conferences |
| Equipment | \$ - | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 4,000 | Software, video conferencing, security |
| Maintenance of research infrastructure | | | | | | | |
| Other (explain) | | | | | | | |
| SUBTOTAL Operating | \$ - | \$ 2,500 | \$ 3,500 | \$ 6,000 | \$ 6,000 | \$ 18,000 | |
| TOTAL RESEARCH COSTS | \$ 12,880 | \$ 49,766 | \$ 51,164 | \$ 135,074 | \$ 135,497 | \$ 384,381 | |
| REVENUE RESEARCH | | | | | | | |
| Grant Funding | \$ 12,880 | \$ - | \$ - | | | \$ 12,880 | Secured - workstudy/USRA/Faculty member match/Other |
| Grant Funding Members/Director | | \$ 49,766 | \$ 51,164 | \$ 135,074 | \$ 135,497 | \$ 371,501 | Unsecured |
| TOTAL REVENUE | \$ 12,880 | \$ 49,766 | \$ 51,164 | \$ 135,074 | \$ 135,497 | \$ 384,381 | |
| TOTAL REVENUE LESS EXPENSES | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | |

NOTE: Research Budget Expenditures will align with secured funding. Expenses will only be incurred as research funding is secured