

Full name(s) of VIU faculty involved in the project and their Department(s): Shannon Dames

Contact person email: shannon.dames@viu.ca

Award: Innovate Grant

Number of undergraduate student(s) involved: 2

Number of graduate student(s) involved: 1

Number of community partner(s) involved: 2

Abstract for the project:

#### ABSTRACT

This project will evaluate Roots to Thrive (RTT), an evidence-based curriculum a multi-disciplinary team from Vancouver Island University and Island Health developed with the support of a REACH grant from the Michael Smith Foundation for Health Research. The RTT curriculum aims to improve the mental health of healthcare providers by minimizing stress and maximizing the ability to thrive at work. Workplace stress can lead to burnout, depression, and PTSD, which impacts morale, absenteeism, retention and ultimately, patient care. Some acute care areas report mental illness rates higher than 50%. Despite the need, few studies have developed or examined tools to counter work stress. RTT enhances sense of coherence (including mindfulness) and congruence (including self-compassion and trauma resolution) to build resiliency, counter workplace stress, and promote thriving. RTT is novel in its combination of resilience tools, trauma mitigation, and its 4-week training duration. Investigating its impact will fill an important gap in the literature.

We will complete a pre-pilot investigation of the RTT curriculum with the Nanaimo Hospital Leadership Team in April of 2019 (funded by Island Health) and a formal pilot with the Forensic Nurse Examiner (FNE) team in November of 2019. We will examine the correlation between RTT training and outcomes such as job satisfaction, co-worker relationships, substance use, and brain response (EEG). Pilot outcomes will improve RTT and inform knowledge translation through a participatory action research approach. We will then expand the study to other caregivers and to caregivers in training at VIU. We expect RTT to improve career satisfaction and self-compassion, and to reduce stress and emotional exhaustion at work. This project is part of a larger program of research. Innovate funds will be directed towards the cost of implementation of the FNE pilot study and a mixed methods examination of its efficacy.

**Cultivating the Roots of Caregivers through delivery of the Roots to Thrive curriculum: An Evidence-Based Approach to Minimize Stress and Maximize Thriving**

**Dr. Shannon Dames, Professor of Nursing, Vancouver Island University  
and Forensic Nurse Examiner, Island Health**

**Harmonized Ethics Approval #J2018-122 (University of Victoria & Island Health) granted Jan 30, 2019  
Vancouver Island Ethics Approval: 2019-013-VIUF-DAMES granted February 15, 2019**

**Research Questions:** How does a curriculum that aims to mitigate stressors and promote self-actualization among healthcare providers impact 1) core developmental asset development (sense of coherence, congruence, and self-compassion); 2) their perceived ability to thrive at work, including overall job satisfaction; 3) perception of co-worker relationships; 4) their tendencies to use substances to cope with unresolved stress; and 5) brain response (via EEG measurements)?

**Encouraging Innovation and Creativity**

Piloting this cutting-edge curriculum among leaders and providers within healthcare, this project aligns with Vancouver Island University's goals to support the "Creation of Knowledge, Innovation, Applications and Works," actualizing the Scholarship, Research and Creative Activity Plan.

To address the needs of healthcare providers, with the support of a Michael Smith Foundation for Health Research REACH grant, a collaborative team from IH and VIU developed a curriculum that focuses on core developmental assets (sense of coherence, congruence, self-compassion) combined with mindfulness training to buffer healthcare providers from stress and to promote thriving. This curriculum is the Roots to Thrive (RTT) program. The training delivered by RTT is novel because it gets to the heart of core research-based factors that mitigate humans from stress and promote thriving (congruence and sense of coherence); it acknowledges the trauma (including PTSD and stress related depression) that many healthcare employees grapple with; and it uses evidence-based theory and mindfulness tools to improve emotional management and the tendencies to self soothe (as opposed to using substances/activities to soothe) in high stimulus/high stress work environments. Finally, using neuro-measurements (EEG scores via a neuro-sensing headband) is a novel way of investigating the quantitative impact of the 4-week training on the brain.

**Relevance and Need for Implementation of RTT**

While some healthcare providers leave the workplace as a result of burnout, many stay – further contributing to toxic work environments. In fact, most of us who have been in the field long enough are familiar with the symptoms of burnout and have contributed to workplace hostility as a result; these experiences have become a norm in today's healthcare culture. Locally, in Nanaimo, we are challenged with this very issue, as evidenced by recent reviews and media reports which labelled our hospital environment as toxic.

According to the Mental Health Commission of Canada (2018), half a million Canadians miss work every day due to psychological and physical health issues. Of these, health care workers are 1.5 times more likely to miss work due to these factors. As a result, they face higher rates of burnout and fatigue, which impacts their psychological safety and the safety of their patients. Additionally, nearly half of healthcare employees, including physicians, screen positive for depression and report being unwell due to work stress, which impacts morale, absenteeism, retention rates and patient care (BMG Research, 2013; Chandler, 2012; Simon & McFadden, 2017). While this pilot begins with nurses, many providers that work in acute care settings screen positive for PTSD (Iranmanesh, Targari, & Bardsiri, 2013). With the opioid overdose crisis, BC's first responders and frontline care providers have been grappling with a declared public health emergency for almost three years because of highly toxic street

drugs causing unprecedented, preventable fatalities, averaging 4 per day (BC Coroners Service, 2019). While first responders were already vulnerable to high burnout rates (Carleton et al., 2018), the opioid crises adds fuel to the fire. For example, paramedic attended overdose events have skyrocketed from an average of 7 per 100,000 population in January 2015 to 28 in summer 2018 (BC Centre for Disease Control, 2018). With the increase in stress and uncertainty, we will offer the program to paramedics after the pilot is complete (to be funded outside of this grant). Physicians also experience high rates of depression and burnout. In 2017, 49% of residents and 33% of physicians screened positive for depression, and 38% of residents and 29% of physicians for burnout (Simon & McFadden, 2017).

This project plans for and responds to workplace challenges related to burnout, high attrition rates, well-being, and lateral violence. We aim to develop resilience among care providers and improve the care team experience through resources that promote thriving, improve work relationships, reduce stress, reduce the tendency to use substances to cope, and to reduce the risk of acquiring of stress-induced illnesses. One of the core components of thriving is congruence (authentic expression and mitigating shame and trauma). Congruent organizations have high job satisfaction rates, lower attrition rates, and less sick day usage because people feel a replenishing and inspiring sense of meaning and calling in their work roles (Dames, 2018).

Research also shows that working on the aforementioned resilience qualities with providers, impacts workplace culture when supported by leadership (West, 2018). Island Health's Chief Nursing Officer Dawn Nedzelski and the Vancouver Island University (VIU)'s Health and Human Services (HHS) Dean demonstrated a supportive environment in their contribution to the curriculum development process and as evident by multiple support letters for the RTT. As such, implementation of the curriculum with the Nanaimo Regional General Hospital (NRGH) Leadership Team, during the pre-pilot, is a crucial initial step to ensure support for the training.

The target population for the Pilot study was also carefully selected. First, Dr. Dames is a FNE and survivor of PTSD. Second, FNEs work in a trauma-laden environment, treating victims of sexual assault and intimate partner violence. Not surprising, stress leave incidence and attrition rates among FNEs are higher than the general nursing population, especially among novices (REF REQ'D). Aimee Falkenberg is collaborating on this project as a person with lived experience. Aimee is an Island Health (IH) FNE:

*I have been a forensic nurse examiner for 10 ½ years. I love the work that is involved in being a medical forensic health care provider and I really think I'm well suited to it! Over the years I have mentored new forensic nurses as they embark on the challenging work. I have seen many nurses leave forensic nursing due to the impact it was having on their health and their inability to find balance between working a regular line and managing the unknowns of an on-call job as a forensic nurse examiner. I have had health concerns related to stress from this job ... I've been fortunate enough to find techniques and tools to get me through the rough days. Building awareness of the impacts of stress and providing tools to both prevent it and manage it are so important in this line of work. I feel as though in order to do this challenging work of providing medical forensic care to survivors of sexual and intimate partner violence well, we as the providers need to be healthy and balanced.*

The Project aligns with the BC Health System Priorities with a focus on mental health and substance use. As a secondary focus it contributes to cultural safety efforts (contributing to truth and reconciliation efforts) by promoting healthcare environments that celebrate diversity. Other BC Health System priorities are addressed indirectly because research shows that healthy workplaces that promote authenticity and psychological safety improves care quality, reduces errors, mortality and morbidity rates (West, 2018). The impact on attrition rates and coworker relations directly impacts efficiencies and the financial burden on the healthcare system. This research project also aligns with:

- The strategic goals of IH and the collaborating post-secondary institutions to support staff and student wellness as part of a culture of excellence in engagement, quality, and safety.
- BC Health Human Resource's (2015) aim to 'produce an *engaged, skilled, well-led and healthy* workforce that can provide the best patient-centered care for British Columbians.

The research has significant potential to impact healthcare providers and as a result, healthcare culture, and patient care. To date, there is limited programming and research on the impact of offering a healthcare focused curriculum aimed at developing foundational assets that buffer providers from stress and promote thriving. However, these developmental assets have a profound effect on one's ability to manage stressors and have a potential to provide a solution to the commonly reported state of toxic healthcare work environments.

#### Literature review

**In terms of readiness for change**, attrition rates continue to be problematic for the nursing profession, with rates as high as 30% leaving within the first year of practice, and as high as 57% by the second year (Chandler, 2012; Laschinger, et al., 2012). The nurses who leave the profession commonly report reaching a state of burnout (Suzuki et al., 2010). Furthermore, with an aging nurse population, these attrition rates compound the threat of an impending physician and nurse shortage. The poor health of employees is affecting error rates and patient mortality rates (West, 2018). Financially, over the long-term, our activities could reduce the burden of workplace stress on the health care, estimated by the Conference Board of Canada (2016) to be in the billions.

The B.C Auditor General released a report outlining the impact of healthcare environments on staff; he stated, "Our findings concern me deeply" (2004, p.2). His findings highlight the lack of attention to the psychosocial aspects of healthcare environments, which he suspects is contributing to the rise in mental health ailments among healthcare staff. Psychosocial issues include lack of respect and trust, poor communication, and intimidation and bullying. The Provincial Health Services Authority released a follow-up discussion paper (2006), which calls for a shift from the biased biomedical model toward organizational cultures that put greater value on psychological and relational assets.

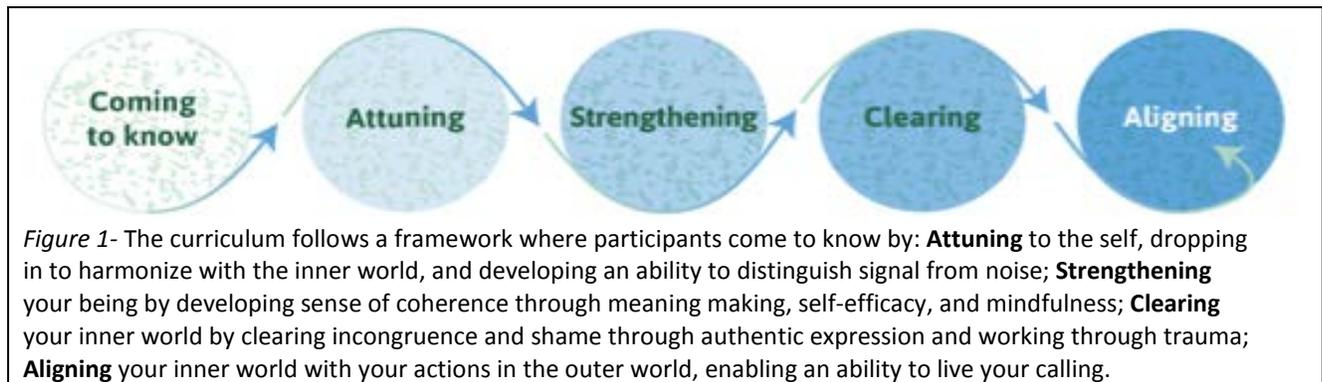
Bodenheimer and Sinsky (2014), two family physicians, proposed that improving the work life of care providers is essential to achieving the widely accepted framework of the Triple Aim, now expanded as the Quadruple Aim and results in "enhancing patient experience, improving population health, and reducing costs" (p.1). Additionally, since Canadian workers spend an average of 10.5 hours working and commuting, promoting healthy behaviours at work is essential to decrease the burden and cost of stress-related absenteeism, lost productivity, disability claims, etc. (Worksafe BC 2018).

**As a result of chronic stress**, some caregivers will change work settings, some leave the profession altogether, and many remain working despite their burned-out condition, impacting team morale and patient care (Boamah & Laschinger, 2016; Currie & Carr Hill, 2012; Rush, Adamack, & Gordon, 2013). The staff who takes on the extra workload from unfilled vacancies or sick calls related to emotional exhaustion, experience additional pressure to continue providing high quality care with less time to do so. As a result, patients also suffer, receiving care that is more rushed and of lesser quality (Clark, Leddy, Drain, & Kaldenberg, 2007). Adding to morale and quality care issues, the financial burden on the system is steep. When a caregiver resigns, a recruitment must occur, followed by hiring and training new caregivers to fill the vacancy. In Canada, ten years ago, the average cost to replace a nurse was \$25,000 and up to \$64,000 to replace specialized nurses (O'Brien-Pallas, Murphy, Shamian, Li, & Hayes, 2010; O'Brien-Pallas et al., 2008). In the United States, turnover costs are similar, ranging from \$10,098 to \$88,000 per nurse (Li & Jones, 2012). With inflation, these costs are higher now and continue to climb each year. Compounding high attrition costs, in 2014 the supply of Canadian registered nurses saw its first decline in two decades (CIHI, 2015). The Canadian Nurses Association estimated a nursing shortage in Canada would reach a deficit of 60,000 registered nurses by 2022 (Chachula et al., 2015).

**In terms of healthcare system impacts,** statistics range in the research of caregivers leaving their place of employment or exiting the profession altogether with nursing attrition rates at nearly 20% each year in Canada and the United States (NSI, 2018; O'Brien-Pallas, Tomblin Murphy & Shamian, 2008). The attrition rates of novice caregivers are nearly double the rate of experienced nurses, with over half of them leaving because of co-worker to co-worker violence and the experience of long periods where they do not feel a sense of belonging (Dames, 2018; McKenna et al., 2003; McKenna & Newton, 2007; Thomas & Burk, 2009; Winter- Collins & McDaniel, 2000; Zarshenas, Sharif, Molazem, Khayyer, Zare, & Ebadi, 2014).

### Introduction to Roots to Thrive

The core resilience factors that undergird the curriculum/intervention are the requirements of thriving, congruence and sense of coherence. This research-based curriculum centers on the work of seminal researchers, authors, and theorists. Each of the core concepts have been widely researched and accepted in the field of psychology. The core concepts are: (1) The **basic human requirements to thrive** (Maslow, 1943), underscoring how stress results from a perceived threat to one's basic needs, (2) **congruence** (orientation to self) enables us to reconcile our 'real' and 'ideal' world (Rogers, 1959), and (3) **sense of coherence** (orientation to the external world) determines our ability to understand and confidently manage external stimuli (Antonovsky, 1979), and finally, how the three concepts compound and interweave.



### The Pilot Study

Via a collaborative effort with the Trauma Services manager, John-Marc Priest and the FNE Program coordinator, Aimee Falkenberg, one or two groups forensic nurses, dependent on recruitment response and availability, will go through the 4-week curriculum. Before the curriculum, all of the research participants will be pre-tested using widely validated quantitative data collection tools: (1) sense of coherence scores, (2) self-compassion score, (3) likert scale questions, (4) neurofeedback scores. They will then go through the curriculum and upon completion they will be post-tested, repeating the same tools used for pre-testing. The participants will then participate in a focus group, using a semi-structured format to ascertain how the curriculum could be improved. FNEs who choose not to be part of the research will still be welcome to participate in the curriculum alongside those that are participating. Those who want to participate in the focus group, but not the questionnaire and EEG component will have the option to do so. As this project will evolve using a participatory action research design, curriculum adjustments will be made based on focus group feedback.

**The face-to-face curriculum sessions.** The Curriculum Framework (Figure 1) illustrates the Roots to Thrive attributes that will be developed during the course. The curriculum will be delivered on paid time (two 8-hour days to start and a 2 hour wrap up at the end), which is based on allowances for paid meeting time, and already approved and built into the Trauma Services budget. In between the face to face sessions we will run 3-4 weekly group virtual sessions (1.5 hours each) in a few different time slots

to accommodate varying schedules. The participants will need to attend weekly virtual sessions (3 in total, 1 per week) and complete individual practice assignments at home between group sessions. The curriculum will end with a 2-hour wrap-up focus group and completion of the post-curriculum questionnaires and EEG scores. Figure 2 provides an outline of key activities for the project.

### **Qualitative Data Collection and Analysis**

The post intervention focus group will be one-hour semi-structured sessions, guided by Merriam's (2014) basic qualitative methodology and led by an experienced research facilitator with a working knowledge of the curriculum. The focus group results will be used to better understand the value and impact of the curriculum and to guide curriculum quality improvement efforts. A semi-structured approach ensures that we honor the purpose of the focus group (attaining feedback for quality improvement) while also providing enough flexibility to create a space where ideas and the discussion can flow relatively freely. This approach encourages reflection and discourse with the aim of uncovering patterns and meaning. The focus group discussions will be recorded and transcribed. To analyze the data, we will use a comparative back and forth analysis process, documenting meaning that emerges, looking for patterns and themes. Meaning-making/thematic analysis will occur by clustering the descriptions used by participants and the connections they made between their experiences. Inductive analysis will occur initially through open coding techniques, followed by deductive analysis, whereby themes are identified. Emergent themes will then be validated via respondent validation (Merriam, 2014) whereby a summary of the themes garnered will be sent out and participants given the opportunity to give feedback to ensure that the themes identified resonate with their experiences. Outliers (falling outside the themes) will be documented and included in the study results and discussion.

### **Quantitative Data Collection Tools and Analysis**

1) The Orientation to Life Questionnaire is a widely researched and validated Sense of Coherence scoring questionnaire (Antonovsky, 1987). Two versions are available, one with 29 questions and a shortened version with 13 questions. Both versions show similar validity, in that using the 29-question version had similar alpha measures of internal consistency. Numerous studies have used the 13-question version, further validating its effectiveness (Eriksson & Lindström, 2005). Based on these results, we will use the 13-question version. The Sense of Coherence (SOC) scale (13 questions) represents the three SOC components, which are comprehensibility, manageability, and meaningfulness. The response choices are rated on a 7-point Likert scale.

2) The Self-Compassion Scale Short Form, a 12-question scale, has a near-perfect correlation with the long scale when examining total scores (Raes, Pommier, Neff, & Gucht, 2011). The scale has good internal consistency ( $\alpha \geq .86$  in all samples) in clinical and non-clinical settings and is comparable to the longer form, as long as researchers are not needing details around the subscales (Voruz, 2013).

3) Likert Scale questions will be asked regarding the participants' career satisfaction and ability to thrive at work, co-worker relationships, and tendencies to use substances to cope with stress.

4) EEG changes: using MUSE, a portable EEG headband that rests along the forehead and ears of the participant, electrical activity produced by the brain will be measured at the scalp level. This electrical activity (brain activity) will be recorded as participants attempt to relax and enter a meditative/rested state for 3 minutes, and as they complete a digital task known as Oddball. In the Oddball task, participants will be shown a series of coloured dots (green and blue) and each time they notice a green-dot appear on screen they will tap the screen in response, this task will be completed by all participants pre and post-delivery of the curriculum. The Oddball paradigm has been shown to elicit a waveform known as the P300, which is closely tied to attention, and has been linked with relaxed cognitive states (Cahn & Polich, 2009).

Pre and post EEG scores, Self-compassion, Sense of Coherence, and Likert Scales will be scored and analyzed for changes and correlations individually and as a group. The pre-scores will be completed after informed consents are signed and prior to curriculum delivery. Post-surveys will be completed on the wrap-up days (after the final face to face meeting and focus group). The Theoretical and Applied Neuroscience Laboratory ([www.krigolsonlab.com](http://www.krigolsonlab.com)) (incorporating graduate students in the work) at the University of Victoria will analyze the quantitative data. Descriptive statistics will be obtained to describe demographic and other factors related to participants. Correlations means and confidence intervals will be reported for all of the research questions.

**Statistical Considerations.** The sample size was determined based on the pilot study feasibility of delivering the curriculum in a small group format (promoting a sense of connection and community) and the number of forensic nurse examiners in Central Vancouver Island. The total sample size will be no greater than 40 (maximum of 20 per group) and no smaller than 20 (minimum of 10 per group). Depending on recruitment uptake, we will either run one or two groups.

### Data Management

The qualitative data (recordings and transcripts) will be kept in a locked desk within a locked office at the VIU campus and the quantitative data will be kept in a locked/secure area at UVIC. Participant names will be protected via the use of pseudonyms. Paper data will be confidentially shredded and the EEG data and focus group recordings will be erased one year after the study completion.



Figure 2-Timeline of key project activities.

**Outputs and Knowledge Mobilization** A knowledge translation process will begin early in the research process as we investigate influencing factors, adapt the knowledge/curriculum to the local context, assess barriers and facilitators of knowledge use, monitor knowledge use and the development of mechanisms to sustain knowledge use (over the course delivery period and at 6 months post). The Knowledge-to-Action Cycle (Graham, Logan, Harrison, Straus, Tetroe, Caswell, & Robinson, 2006), a framework that outlines strategies for enhancing the implementation of KT will guide these initiatives. As for research and KT impacts, this project will:

- Enable curriculum implementation and the **research of its the impacts**, including both the theory and tools to promote thriving.
- **Nurture and strengthen existing ties between IH, VIU, and UVIC.** It will provide training/learning opportunities for nursing and neuroscience students (**two undergraduate students and one graduate student**), and health professionals who are solidifying their research skills (Dr. Dames).
- Inform and **leverage future grant applications** to enable broader curriculum delivery and continued improvement (scaling up knowledge use)
- **Better prepare students entering the healthcare** field and bolster resources for current students
- **Promote individual & cultural wellness** to buffer caregivers against well-known stressors endemic in high stimulus work settings. The ultimate goal is to sustain the program via a train the trainer model.

We will accomplish these aims via curriculum implementation, KT activities, and ongoing research.

**Cultivating the Roots of Caregivers: An Evidence-Based Approach to Minimize Stress and Maximize Thriving**

BUDGET

NOTE: as this project is part of a larger program of research its cost exceeds the \$5,000 maximum of the Innovate Grant. These costs are already incurred or covered by cash or in-kind contributions from Island Health

Description of Expense	Innovate Grant	VIU Cash
<b>GRADUATE STUDENT (TIME) SUPPORT:</b> University of Victoria Graduate Student from the Neuroscience Lab (paying for part of their salary - will oversee/analyze quant. data) and Brain Response Measurements (EEG Changes). Included in this fee is the support of Dr. Olave Krigolson, a Neuroscientist and the Manager of the Neuroscience lab.	\$2500	
<b>UNDERGRADUATE STUDENT WAGES</b> Two undergraduate BsN students are expected to be recruited through VIU's Work Opportunity program for the fall of 2019. These students will assist with delivery of the program, training of the graduate student, analysis and knowledge mobilization as required.		\$2172
<b>*STUDENT TRAVEL:</b> Two BsN Student(s) Travel (km and per diems) to University of Victoria to train the University of Victoria Graduate Student. $(\$48*4) + (230* \$ .52*4) = \$670.40$ plus travel to NRGH x 6 trips = \$18.72 <b>PRINCIPAL INVESTIGATOR TRAVEL:</b> Two trips to the University of Victoria $(230* .52*2) = \$239.20$ + per diem $(\$48*2) = \$96$ . Four trips to Island Health in Victoria for partner meetings $(260* .52 + \$20$ per diem) = \$620.80. Four trips to Duncan (CDH) for facilitator training meetings $(212* .52*4) = \$424.00$ Six trips to NRGH for meetings and research roll-out = \$18.72 *This budget is based on the assumption that we will have two work-op student appointed for the fall of 2019. If we are not awarded two students, we will use part of these funds to hire one student to work with the principal investigator and the graduate student (diverting travelling funds for this purpose).	\$1849	
<b>PRINTING COSTS FOR RTT MANUAL</b> According to VIU Print Shop Quote = \$10.50/training manual = 62 manuals.	\$651	
<b>TOTAL</b>	<b>\$5000</b>	<b>\$2172</b>

**In Kind Funding > \$23,500**

- Island Health Research Office Support: Dr. Wendy Young, acting as a liaison and assisting with recruitment and the informed consent process to minimize dual role conflicts (>\$5,000)
- University of Victoria: Dr. Olave Krigolson's time and expertise as the overseer of the Graduate student and Neuroscience measurement tools (MUSE headbands) and activities (>\$5,000).
- Island Health Forensic Nurse Examiner wages – Funded through Island Health (>\$10,000).
- Island Health Facilitator wages and travel – Funded through Island Health (~\$3,500)

March 14, 2019

The Michael Smith Foundation  
200 – 1285 West Broadway  
Vancouver, B.C. V6H 3X8 Canada

To the Review Committee:

These letters included here are for release time funding for Dr. Dames to support the time required for full program of research, including the Pilot study described in this INNOVATE application. I INCLUDED THEM TO DEMONSTRATE PARTNER SUPPORT.

We are delighted to provide this letter of collaboration in support of Shannon Dames' application to the Michael Smith Foundation, titled "*A Program of Research on a Curriculum that aims to Minimize Stress and Maximize Thriving Among Healthcare Providers.*" Dr. Dames is a professor and researcher at Vancouver Island University (VIU), and her program of research brings together a multidisciplinary team from Island Health to address one of the greatest needs in our organization, within the province, and across the healthcare system: burnout and attrition among staff (nurses in particular) due to stress-induced mental health challenges. Dr. Dames and her team seek to promote mental health among healthcare providers by developing and piloting a "Roots to Thrive" curriculum that emphasizes congruence (including self-compassion and unresolved trauma) and coherence (including the development of mindful habits). Congruent organizations tend to have high job satisfaction rates, lower attrition rates, and less sick day usage; employees feel a sense of meaning and calling in their roles. The proposed program of research will help Island Health meet the quadruple aim and achieve our strategic priorities by developing and supporting a healthy, engaged workforce.

Dr. Dames' relationship with Island Health's Professional Practice and Research departments is long-standing. We originally connected with her in 2015 when she accessed our research support services. At that time, she was a VIU faculty member, an Island Health forensic nurse, and a graduate student at the University of Calgary. In 2017, Island Health supported a leave request that allowed Dr. Dames to complete her dissertation project around students moving into novice nursing roles, and we will use the resulting evidence to enhance our existing new graduate transition program. We also collaborated with Dr. Dames on her successful REACH award to develop the "Roots to Thrive" curriculum, and are now eager to continue our collaboration to pilot and evaluate it.

The proposed work is timely and well-aligned with our strategic priorities, which include supporting employee well-being, enhancing recruitment and retention (especially for new nurses), and reducing turnover and absence due to illness, burnout, or moral distress. In keeping with these priorities, Island Health is currently implementing an Engagement 2 Experience Framework, which aims to achieve exemplary patient, care team, and community care through excellence in engagement. Dr. Dames' work will support the implementation of this framework by helping to create and sustain healthy and respectful work environments and relationships, and by combatting a lack of respect or trust, poor communication, intimidation or bullying that could lead to emotional exhaustion, burnout, and mental or physical ailments.

Given its alignment with our priorities and its potential for scale-up, and in light of our successful collaboration to develop the curriculum, we fully endorse the continued participation of Island Health employees on Dr. Dames' research team. Dr. Wendy Young is Island Health's Research Facilitator and Knowledge Translation Coordinator, and can contribute significant expertise and experience to this work. She has conducted collaborative health services research and evaluations for the past 20 years, and is strongly committed to supporting collaborative interdisciplinary teams to improve care and practice. As a member of Island Health's Professional Practice Education Leadership Committee, she will attend Dr. Dames' research team meetings, co-facilitate face-to-face planning meetings, and act as a liaison to the Leadership Committee (which includes Dawn Nedzelski, Chief Nursing Officer). Dr. Young was co-lead in the curriculum development phase and is well-versed in the impacts of key developmental factors that enable thriving. Other Island Health team members include the forensic nurse examiner team (Aimee Falkenberg and John-Marc Priest) - which will pilot the curriculum - a facilitator from Spiritual Health (Marnie Roper), and a family physician (Dr. Graham Blackburn). In addition, Island Health's Research Department will support Dr. Dames' work through data management and analysis, as well as in-kind meeting space, teleconference and webinar capacity, event coordination, and communications and knowledge translation, as required, and can share updates and results through regional e-newsletters and magazines, and on social media (Facebook and Twitter). The Research Department can also provide editorial support for peer-reviewed and other publications.

In sum, Dr. Dames' program of research is highly relevant to t Island Health and to the BC health system; the BC government's Health Human Resources Strategy is identified as "a key enabling strategy ... to support the priorities of the health system and to produce an engaged, skilled, well-led and healthy workforce that can provide the best patient-centred care for British Columbians." Her work has the potential to improve experience and outcomes for patients, providers, and the health system by increasing satisfaction and decreasing errors due to burnout and attrition. As strong evidence of Island Health's commitment to and investment in this work, and as a precursor to the proposed program of research, Dr. Dames and her team have been invited to provide the "Roots to Thrive" curriculum for the leadership team at Nanaimo Regional General Hospital in April of this year. We are delighted to begin piloting this important work in Nanaimo, and look forward to continuing our work with Dr. Dames to evaluate and scale it up.

Yours sincerely,



Dawn Nedzelski (BSN, MA)  
Chief Nursing Office  
Chief of Professional Practice  
Learning & Performance Support, Island Health



Cindy Trytten (MSc, CHE)  
Director  
Research and Capacity Building  
Island Health



**University  
of Victoria**

**Theoretical and Applied  
Neuroscience Laboratory**

January 20th, 2019

Dr. Olave E. Krigolson Associate Director  
Centre for Biomedical Research Phone: 250 721 7843  
Email: krigolson@uvic.ca

Dear Dr. Dames,

I am keen to collaborate on your project 'A Program of Research Surrounding a Curriculum that Centers on a Developmental approach to Minimize Stress and Maximize Thriving' being submitted to the Michael Smith Foundation for Health Research.

I am a neuroscientist at the University of Victoria, cross appointed between the Faculty of Education and the Division of Medical Sciences in addition to being an Adjunct Professor in the Department of Psychology. I am also a researcher in the Centre for Biomedical Research and I am the Director of the Neuroeducation Network. I am the principal investigator for the Neuroeconomics Laboratory. I am also a Benjamin Meeker Fellow at Bristol University. In my research I use computational modeling and neuroimaging (both EEGs and functional MRIs) to study the role our brains play in learning and decision-making. I am particularly interested in learning-induced changes and EEG signals and eager to apply these theories to the classroom. As such, I am intrigued by your application of the MUSE technology to investigate how empathy and resilience training affect neural patterns.

After reviewing the program of research proposed by Dr. Shannon Dames and the multi- disciplinary curriculum development team from Island Health, I see many benefits to synchronizing efforts. I will apply my expertise in human neuroimaging and will work with one of my graduate students to oversee the neurofeedback measurements associated with this program of research. In addition, we will oversee the analysis of quantitative data, the write-up of the quantitative results. Further, I will be partnering with Dr. Bruce Wright, the Dean of Medical Sciences for the University of Victoria, who is also keen to be involved in the project.

I look forward to working with you on this collaboration.

Sincerely,

Olave E. Krigolson

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## **Cultivating the Roots of Caregivers: An Evidence-Based Approach to Minimize Stress and Maximize Thriving**

### PROJECT TEAM

**Dr. Shannon Dames, Principal Investigator**, BsN Professor at Vancouver Island University (VIU), Nanaimo, BC. Dr. Dames recently completed her doctorate degree, which focused on Adult Education and looked at the key developmental assets that enable thriving among new graduate nurses. Dr. Dames spearheaded the Roots to Thrive curriculum, garnering a number of interdisciplinary participants and administrative support from VIU and Island Health (IH).

**John-Marc Priest, clinical co-lead**, serves as the Trauma Services Manager for Island Health (IH). He oversees the Island's Forensic Nurse Examiner (FNE) program and is keen to bolster the supports available to promote the health and well-being of healthcare providers in this trauma-laden area of practice. Additionally, John-Marc has a keen interest in studying the effects of neurofeedback tools (MUSE) to promote mindfulness and to mitigate the impact of stressors many of his staff encounter. John-Marc is providing funding to support the hourly wages of FNEs to participate in the research study.

**Dr. Wendy Young is a Research Facilitator/Knowledge Translation Expert** at IH, Victoria, B.C. Dr. Young is an experienced researcher and leads collaborative knowledge translation activities to increase the production and use of evidence in policy and decision-making at Island Health. Dr. Young will attend team meetings, co-facilitate face-to-face planning meetings, and will assist with the recruitment and the informed consent process to minimize dual role conflicts.

**Dr. Olav Krigolson and a University of Victoria Graduate Student.** Dr. Krigolson is the Principal Investigator of the Theoretical and Applied Neuroscience Laboratory at the University of Victoria and is an expert in human neuroimaging. Olav will work with the **Graduate student** and oversee the neurofeedback measurements, analysis of quantitative data, and the write-up of the quantitative results.

**Aimee Falkenberg, a person with 'lived experience'** as a forensic nurse and a 'patient partner.' Aimee comes to the work having served many years as a forensic nurse and now coordinates the program for the Central Island Team. She brings years of professional and personal experience. She is aware of the stress and risks associated with the work and is keen to bring greater awareness and provide the necessary resources to promote thriving and to buffer IH's forensic nurses from burnout.

**Marnie Roper is a Spiritual Practitioner** at Cowichan District Hospital in B.C. Marnie came to the project with experience practicing and teaching mindfulness practice and meditations that focus on self-compassion in the clinical setting. Marnie has received IH approval to act as a Roots to Thrive Facilitator.

**Lori-Anne Demers is an Organizational Development Consultant** for IH in the Cowichan Valley. Lori-Anne has a long history in organizational development, curriculum development, executive coaching, and facilitation. She is an expert in the areas of developing authentic, inclusive, and culturally safe workplaces. She is familiar with IH initiatives with a focus on authenticity that informs and synchronizes with the Roots to Thrive curriculum. Lori-Anne is approved by IH to act as a Roots to Thrive Facilitator.