Comprehensive Research Experience for Medical Students
Summer Research Program 2019
Supervisor/Project Information Form

Due February 20 2019 by email to crems.programs@utoronto.ca

Supervisor Name: Dr. Christopher N.C. Smith

Hospital/Research Institution: Michael Garron Hospital

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Field of Research (2 keywords): Virtual Reality & Dementia

Department: Department of Medicine

School of Graduate Studies Appointment (IMS, LMP, IHPME etc)? Yes/No: NO If YES, please name:

Project Title: VRx: Randomized Controlled Trial to evaluate the impact of Virtual Reality therapy on quality of life and behavioural and psychological symptoms of individuals with dementia admitted to an acute care hospital.

Brief Project Description (‹300 words):

Behavioural and Psychological Symptoms of Dementia (BPSD) commonly present at some point during illness and represent an aspect of dementia particularly difficult to manage for which new treatments are urgently needed. Exposure to natural environments (greenery, natural sounds) has been shown to enhance wellbeing, reduce depression, anxiety and stress levels, and decrease hospital length-of-stay for inpatients.

Virtual Reality (VR) is a novel technology that uses special Head Mounted Displays to generate simulated immersive experiences that can make one feel as being truly present in another place, such as a natural calming environment. We created a library of VR experiences depicting calming nature scenes as prototype for introducing immersive VR-therapy (VRx).

Current means to manage BPSD involve medications (associated with negative side effects, such as feelings of lethargy, loss-of-self, and cognitive decline), and applying physical barriers and restraints (that can cause pressure sores, injury, infection, as well as negative psychological effects such as anxiety, distress, and aggression). A pilot project done earlier this year at MGH demonstrated that VRx can be used safely in in-patients with dementia, and the goal of this RCT is to evaluate whether it can help manage their BPSD.

This will be an open randomized-controlled trial conducted over a 15-month period at MGH with a target total recruitment of 200 participants (treatment and control arms). If successful, VRx could become standard of care for individuals with cognitive and physical impairment, representing a less costly, safer, and more ethically acceptable therapy that can reduce the need for sedatives and antidepressants, and improve patient and caregiver quality of life.

As a trainee, you would be involved in screening patients for eligibility, contacting their SDM for consent, enrolling and randomizing participants, facilitating VRx, and conducting pre/post questionnaires and systematic observations alongside other team members.

Ethics Review: Ethics approval has been obtained; recruitment starts February 2019.