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: Darrell Tan

Project Title: Untangling the relationship between syndemic mental health conditions, HIV/STIs and sexual behaviour outcomes in the Ontario PrEP Cohort Study

Hospital/Research Institution: St Michael's Hospital

Email: Darrell.tan@gmail.com

Field of Research (2 keywords): HIV prevention; observational study

Department: Medicine

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

Brief Project Description (‹300 words):
Despite decades of effort, Ontario continues to see high numbers of new HIV infections annually, particularly among gay, bisexual and other men who have sex with men. HIV pre-exposure prophylaxis (PrEP) is a safe, efficacious intervention that can decrease HIV risk by up to 100% if adherence is high. However, the emergence of PrEP has raised important questions; for instance, some have expressed concern about how well its HIV prevention potential will be borne out in 'real life', and what kind of balance will be achieved between desirable (eg. decreased HIV infections, adherence) and undesirable (eg. sexually transmitted infections [STIs] and related risk behaviours) outcomes.

The Ontario PrEP Cohort Study (ON-PrEP) is an ongoing observational cohort study of individuals using PrEP, to evaluate biological, behavioural, experiential and health services-related outcomes over two years per participant. Study data includes self-administered electronic questionnaires, clinical information from sites, and data linkage with the Public Health Ontario laboratory. Participants are actively being enrolled at 9 sites in 5 cities; the target sample size is 1250. This project will use baseline study data to examine the relationship between the burden of mental health conditions and HIV risk behaviours/STIs in this at-risk population. The study will be grounded in syndemic theory, which posits that multiple, co-existing health conditions such as depression, childhood trauma and substance use often overlap to produce an excess burden of disease (in this case, HIV/STIs and related risk behaviours) in a population. We will assess syndemic conditions and HIV risk behaviours using validated scales (eg. PHQ-9, AUDIT, DUDIT, HIRI-MSM), and HIV/STIs using clinical/laboratory data. We will evaluate the relationship between predictor and outcome variables using multivariable logistic and linear regression models. Our findings will inform the design of risk reduction interventions to be tested in PrEP-using populations in the future.