Supervisor Name: Michael Farkouh

Project Title: Statins and ezetimibe for the primary prevention of cardiovascular events in older adults with diabetes

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Field of Research (2 keywords): Cardiovascular disease prevention, lipids

Department: Medicine, Division of Cardiology

School of Graduate Studies Appointment (IMS, LMP, IHPME etc)? Yes/No: No
If YES, please name:
**Brief Project Description (<300 words):**

Diabetes is a growing issue in Canada, affecting almost 2.4 million Canadians. Individuals with diabetes are up to four times more likely to develop cardiovascular disease (CVD), and CVD remains the leading cause of death in this population. To reduce this risk, current Diabetes Canada guidelines recommend initiating lipid-lowering statin therapy in adult patients with diabetes. More recently, the emergence of ezetimibe as an additional or adjunctive lipid-lowering agent has presented new opportunities for lipid lowering, demonstrating modest benefits when combined with statins in comparison to statin monotherapy.

Older adults with diabetes are at an especially high risk for cardiovascular complications, yet this population remains underrepresented in clinical trials. The comparative effectiveness of statin- and ezetimibe-based lipid-lowering strategies for primary prevention has not been investigated in older patients with diabetes. Thus, in this retrospective cohort study, we aim to investigate the potential efficacy of statin- and ezetimibe-based lipid-lowering strategies for primary prevention in older adults with diabetes in Ontario by using the CANHEART population-based cohort, housed at ICES.

We will identify all primary prevention patients with diabetes in Ontario ≥65 years of age and classify them according to the lipid-lowering treatment received (statins alone, ezetimibe alone, statins in combination with ezetimibe, or no treatment). Cardiovascular events (death, myocardial infarction, stroke, coronary revascularization) will be compared among these groups after a mean follow-up of 3 years. Similarly, as observed in other populations (younger patients or secondary prevention patients), we hypothesize that lipid lowering therapy will be associated with a reduction in cardiovascular events in our cohort.

The student will work with our team at the Peter Munk Cardiac Centre Clinical Trials and Translation Unit to collect the data from CANHEART, participate in data analysis & presentation in a Cardiology conference, and submit a manuscript to a peer-reviewed journal.