Graduate Diploma in Health Research
PROGRAM – 2018 SUPERVISOR &
PROJECT INFORMATION FORM

Please complete and return via email only (gdip.hres@utoronto.ca) by September 4, 2018
(forms received after this date will not be posted).

Supervisor Information

Name: Donald Redelmeier
Email: dar@ices.on.ca

Degrees: MD, FRCPC, FACP, MS(HSR)
SGS: HPME

Academic Rank: Professor of Medicine
Research: Trauma

Research Institution Affiliation (if applicable): Sunnybrook Hospital

Student contact time: 1-4 hours per week
**Project Information** (for posting on GDipHR website)

**Title:** Medical Decision Science

**Description (max 500 words):**

My group conducts an eclectic program of research focusing on how people reason, formulate judgments, and make decisions. We have conducted multiple studies on errors in decision making, with particular attention to general internal medicine. A secondary theme examines motor vehicle trauma, a domain where mistakes in reasoning can have irreparable consequences. The goal is to learn from mistakes to improve daily medical care.

Most projects are based on statistical methods and other dry-bench methodology. Recent projects with medical students explored physician warnings for unfit drivers (Chris Yarnell), traffic crashes during pregnancy (Sharon May), organ donation after traumatic brain injury (Jason Woodfine), optical illusions while driving (Sheharyar Raza), and concussion contributing to dementia (Fizza Manzoor). Future projects depend on the interests of the student and ongoing priorities.

If human subjects are involved, have the appropriate Research Ethics Board approvals been obtained?
   
   YES

Do you expect this work will be published within the 20 months?

   YES
Student’s roles and responsibilities (please be specific):

The student will be involved in all parts of the research including conception, design, literature review, ethics submissions, data collection, results interpretation, manuscript preparation, and scientific peer review. The student is also expected to integrate with the full academic group, attend seminars, and give feedback to others on other projects.

The specific project for this student examines the role of online patient portals for transmitting information and reducing potential error. We choose this project because online medical records are a new idea for empowering patient care by communicating health data in a reliable and secure manner. Sunnybrook created the MyChart system a decade ago as a patient portal allowing access to online medical records. We theorize that such information may enhance care, lessen confusion, and reduce minor emergency departments visits.

Our specific study question is “Does access to Sunnybrook MyChart lead to a decrease in non-urgent emergency department visits in Ontario.” Our methodology relies on BigData analysis integrated with ICES systems-wide information to track individual patients throughout Ontario over multiple years. We anticipate a sample size of 100,000 patients that provides sufficient power to identify a 10% increase or decrease in emergency departments visits.

The methodology relies on a self-matched longitudinal analysis of emergency department visit rates for each patient before and after activating MyChart. The study population is all patients activating a MyChart account with at least 3 separate logins. The primary outcome is the subsequent rate of emergency department visits, distinguishing non-urgent CTAS = 5 (primary end-point) and urgent CTAS = 1-4 (control end-point). Each person is his or her own control.

The null hypothesis is that access to an online patient portal leads to no difference in subsequent minor emergency department visits. We hypothesize, in contrast, that access to an online patient portal leads to a significant reduction in minor emergency department visits. If true, the findings might increase uptake at Sunnybrook as well as encourage more consideration of online patient portals for patients at other hospitals throughout Ontario.

The overall project for this student requires the full 20 months for completion (perhaps a bit longer due to vagaries of peer-review medical journals). The project will be judged complete on publication of an article and addressing follow-up knowledge translation activities (scientific presentations, letters-to-the-editor, media interviews, academic dialogue, community outreach).

Please indicate who will serve as the student’s direct report for daily oversight (PI, PhD student, technician, etc...):
The student will report directly to me. Of course, the student is welcome to interact with other trainees, technicians, statisticians, and faculty at the Institute for Clinical Evaluative Sciences.