

Research Accomplishments

I have continued to have an active program of research since my last promotion in 2009 with over 55 publications in that time period (lifetime total of 118 including editorials and book chapters), competitive peer-reviewed funding, including several CIHR grants. I recently completed a 5-year non-renewable CIHR / Ontario Ministry of Health & Long Term Care Applied Chair in Health Services and Policy Research with a focus on Equity and Resource Allocation.

My research has focused around three main research endeavours. First, I am an expert in decision analysis modeling, with a particular focus on issues related to Human Immunodeficiency Virus (HIV) infection, decision-science based methods for measuring quality of life and trade-offs, and issues related to injection drug use. Some highlights of this work include: cost-effectiveness analyses of routine screening for HIV infection, which has been published in high-impact journals and has led to policy changes in favour of routine surveillance for HIV in health care testing at the U.S. Centres for Disease Control, several U.S. states, and British Columbia; cost-effectiveness analysis of the treatment of late-stage HIV infection using novel antiretroviral therapies; and cost-effectiveness analyses of supervised injection facilities in several Canadian settings that have made meaningful and important contributions to the policy debate.

Second, my research has been directed to a specific focus within my Applied Chair program, namely to facilitate better resource allocation decisions, focusing on measures of social value, exploring methods to measure equity concerns alongside efficiency calculations, and developing useful frameworks and tools for decision makers to assess equity implications of resource allocation decisions. My research has increasingly focused on questions of how economic evaluation can be integrated with, and considered alongside, social considerations, and how public and patient participation can be incorporated into resource allocation decisions. Current research interests in this regard include working with a team of researchers at the Centre for Research on Inner City Health interested in intersectoral approaches to evaluating policies and, more generally, Health in All Policies approaches (including equity concerns), and research to define the objectives of patient and public participation in drug resource allocation decision making and ongoing work to develop an evaluation framework for assessing whether such participation is meeting these objectives. The latter topic was the main focus of work for one of my post-doctoral fellows and was the theme of a recently funded and highly rated CIHR grant. I am also exploring methods that expand economic evaluation to incorporate both cross-sectoral considerations as well as equity concerns. I am also interested in extending the work I have initiated exploring values in social epidemiological research, particularly the question of what it means to be a public intellectual in health research and what models exist for such approaches. These research interests incorporate social science methods and perspectives and aspects that are both applied as well as methodological and foundational.

Third, I am part of a group of researchers working with databases held at the Institute for Clinical Evaluative Sciences and other cohorts to establish a program for assessing HIV health services research. I have a CIHR grant to investigate retention in care for people living with HIV. In collaboration with other health services and researchers, this line of inquiry has the potential to produce high-impact research, based in a universal health care system, which informs the best methods for delivering health care to marginalized populations. Within the next year, we will submit funding to establish 2 longitudinal cohort studies of people who inject drugs. One will be Toronto-based and venue-based sampling to recruit 1000 individuals who will be followed annually for 4 years. This will be the first large longitudinal cohort study directly recruiting people who use drugs in Toronto and will characterize the epidemiology of drug use, facilitate real-world evaluations of novel harm reduction interventions, and will serve as a springboard for novel intervention research. The second will be the first longitudinal cohort study of

people who use drugs based on administrative health records in Ontario and will facilitate comprehensive assessments of health services use, including cost and type of care. These are large and ambitious projects that are the focus of my short-term research interests. I am also a co-Principal Investigator for the CANOC collaboration, a Canada-wide initiative that combines data from multiple observational cohort studies of people living with HIV. I am the co-director for the health services research component of the study.

In addition to the peer-reviewed publication list included in my CV, several other chapters and reports are worthy of mention. I am the co-principal investigator of the Toronto and Ottawa Supervised Consumption Study (TOSCA), a report assessing whether supervised injecting or smoking facilities for people who use drugs would be of public health benefit. This study, released in April 2012, has had a significant impact on this complicated health policy question and has established an important evidence base for the discussion. No other similar report has used as wide an array of methods or as comprehensive an approach. I am also the lead author on a chapter on Values in Social Epidemiological Research in a textbook entitled "Rethinking Social Epidemiology." This chapter provides a framework for thinking both about how values are integral to epidemiological research, how social justice considerations are important for understanding how epidemiological research is conducted and used, and how understanding values facilitates effective knowledge translation of policy-oriented research. Finally, I was the lead for the HIV chapter of the POWER Study (Project for an Ontario Women's Health Evidence-Based Report), a major review of indicators of women's health.

Leadership and Service

I have held leadership positions at international and local levels. Most notable at the international level, I am the President-elect of the Society for Medical Decision Making, my primary academic research society (I will be president from October 2014 to October 2015). I have held a number of positions within the Society, including past Vice-President and chair of the Education Committee (2011-2012) and co-chair of the Annual Meeting of SMDM in 2010. I was also a member of a joint SMDM / ISPOR (International Society for Pharmacoeconomics and Outcomes Research) committee to establish best practices in decision analysis modelling.

Nationally, I was selected to sit on the Canadian Drug Expert Committee of the Canadian Agency for Drugs and Technology and Health; I have been a member since the committee started in September 2011. This national committee makes recommendations to each of the participating federal, provincial, and territorial publicly funded drug plans regarding the listings on their formularies. It also makes recommendations related to the identification, evaluation, and promotion of optimal drug prescribing and use in Canada. From 2008 to 2011, I was a member of the Cancer Care Ontario Subcommittee of the Ontario Public Drugs Program's Committee to Evaluate Drugs.

Locally, I was director of the Clinical Epidemiology and Health Care Research stream within the Institute of Health Policy, Management and Evaluation from 2006 to 2012, in which capacity I have also served on the executive of IHPME. A recent external review of IHPME lauded the successes of this program. I have also served on several other committees within the Institute of Health Policy, Management and Evaluation, the Dalla Lana School of Public Health, the Toronto Health Economics and Technology Assessment Collaborative, and several committees at St. Michael's Hospital.

Teaching, Editing, and Reviewing

I have been invited to teach internationally, including in 2011, when I was invited to Saudi Arabia as a visiting professor to lecture in decision analysis and cost-effectiveness analysis in Riyadh and Jeddah, and in January 2014, when I was invited to give a short course in Singapore at the first Asian meeting of the Society for Medical Decision Making. Until 2011, I was the course instructor for the introductory

course in Decision Analysis and Cost-Effectiveness Analysis at IHPME and I have lectured in several other courses related to decision modeling for policy, measurement of preferences and values, and health economics. I continue to play a major role in the Department's Clinical Epidemiology Institute which is focused on building capacity among a diverse audience, including decision makers and consumers of research. I was also one of the main organizers for the department's first Health Technology Assessment Institute, held in July 2011, which aimed to provide decision makers with tools to understand the theory, application, limitations, and uses of cost-effectiveness analyses in resource allocation and have continued to be active in teaching within the Institute. I have also had prominent positions in international journals as an Associate Editor at the journal *Medical Decision Making*. In 2013, I completed terms as Scientific Officer for a CIHR grant review panel in Health Services Research (and I have continued to do ad-hoc reviewing for the CIHR since then). I have served as a member of the U.S. National Institutes of Health AIDS Research Review Committee between 2005 and 2013 and I continue to be an ad-hoc reviewer for the NIH.

Graduate Supervision

This year, three of my post-doctoral fellows transitioned to research positions. I continue to be the primary supervisor for two Masters and one Doctoral student, and to sit on an additional thesis committee. Within the past 5 years, I have supervised two additional post-doctoral fellows, two PhD students (one as co-supervisor), and three Masters students. Of the 6 student trainees who have completed their training, all are working in research: 5 have primary university appointments at the Clinician-Scientist or Clinician-Investigator level or equivalent and one is working at the Canadian Institute for Health Information and has an adjunct academic appointment. I am active in two CIHR Strategic Training Initiatives, including the ACHIEVE fellowship at St. Michael's Hospital Center for Research on Inner City Health and the Health Technology and Place program at the Department of Health Policy, Management, and Evaluation at the University of Toronto. Of note, I have also been the faculty mentor for three junior faculty members at St. Michael's Hospital during the last 5 years.

Summary

In summary, I have established international expertise in several aspects of medical decision making, both as a scientist with particular expertise in decision analysis and economic evaluation related to HIV and injection drug use as well as an editor, leader and teacher, most notably with regards to the Society for Medical Decision Making, where I am president-elect. I am also active in real-world decision making as an active participant of the Canadian Drug Expert Committee, a leading national body that has attracted considerable international attention for its activities. I have been very active in leadership roles in graduate education at the University of Toronto and have been invited to teach and sit on review panels internationally. I continue to be very active in graduate student research and education.