Presenting evidence and summary measures to best inform societal decisions when comparing multiple strategies

Abstract: Multiple strategy comparisons in health technology assessment (HTA) are becoming increasingly important, with multiple alternative therapeutic actions, combinations of therapies and diagnostic and genetic testing alternatives. Comparison under uncertainty of incremental cost, effects and cost effectiveness across more than two strategies is conceptually and practically very different from that for two strategies, where all evidence can be summarized in a single bivariate distribution on the incremental cost-effectiveness plane. Alternative methods for comparing multiple strategies in HTA have been developed in (i) presenting cost and effects on the cost-disutility plane and (ii) summarizing evidence with multiple strategy cost-effectiveness acceptability and expected net loss curves and frontiers. However, critical questions remain for the analyst and decision maker of how these techniques can be best employed across multiple strategies to (i) inform clinical and cost inference in presenting evidence, and (ii) summarize evidence of cost effectiveness to inform societal reimbursement decisions where preferences may be risk neutral or somewhat risk averse under the Arrow-Lind theorem. In this talk, I will present new joint research with Andrew Willan of the University of Toronto that critically considers how evidence across multiple strategies can be best presented and summarized to inform inference and societal reimbursement decisions, given currently available methods.