

STATISTICS COLLOQUIUM

FRIDAY, APRIL 18, 2014

TALK: 1:00 PM — SCIENCE CENTER RM. 705

RECEPTION: 2:30 PM — SCIENCE CENTER, 7TH FLOOR

“Statistical Methods for Indirect Comparison of Treatment Effect”

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ABSTRACT

Comparing the efficacy of different drugs is a very important problem in drug development and health care industries. Indirect comparison is an effective approach to avoid high costs of direct comparison via head-to-head trials. A major challenge in indirect comparison, however, is that the unit populations in different trials are often different. When this happens, we need to match the patient population across the two trials of interest. However, in practice, it's very often that only summary statistics, instead of original individual-level data, are available for some trials. For this challenging scenario, most classic matching methods fail. Methods based on weighting adjustment can still be applied, but have to be modified to fit the new challenges. In this dissertation, we will systematically study statistical issues related to casual inference via indirect comparison: assumptions under which the causal effect of interest is estimable, potential methods to estimate the causal effect, and relative efficiency of these methods.