



Department of Epidemiology, Biostatistics & Occupational Health

Biostatistics Seminars

Fall 2012

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Optimal dynamic regimes for adaptive dose adjustment.

Tuesday, October 23rd, 2012

3:30 pm – 4:30 pm

Purvis Hall, 1020 Pine Ave. West, Room 25

ALL ARE WELCOME

Abstract:

Finding the right dose of a drug is typically a question of balancing the drug's desired action (efficacy) with its side effects (safety or tolerability). Despite sometimes large inter-individual variability in both the systemic exposure resulting from a given dose (pharmacokinetics, PK), and the effects (both good and bad) resulting from a given exposure (pharmacodynamics, PD), when the therapeutic window is sufficiently wide it is possible to recommend the same standard dose for an entire target population. In other cases, drugs may need to be dosed on an individual basis. If dose adjustments are made on the basis of intermediate observations then the resulting regime is dynamic. In this setting, estimation of an optimal treatment strategy is desirable. I consider the application of existing methodology for optimal dynamic treatment regime estimation to the problem of adaptive individualized dosing.

BIO:

Ben Rich is a Ph.D. student in this department under the co-supervision of Prof. Erica Moodie and Prof. David Stephens. He is interested in causal inference methods in general, while his recently defended thesis focused on optimal dynamic treatment regime estimation. He has also worked as a consultant for the pharmaceutical industry in the area of population PK/PD analysis.