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Getting SMART about Adapting Interventions

Susan Murphy, University of Michigan

H.E. Robbins Professor of Statistics & Professor of Psychiatry, Research Professor,
Institute for Social Research

Digital Media Center Theatre
April 28, 2014 - 03:30 pm

Abstract:

Imagine you are a child with ADHD. Wouldn't you like your doctors to periodically adapt your treatment to your unique--and ever-changing--condition? And wouldn't you be excited to learn that an algorithm used to analyze your medical data was originally developed for applications in robotics and artificial intelligence? This lecture will explain how a randomized clinical trial design (Sequential Multiple Assignment Randomized Trial or SMART) is being used to develop adaptive interventions--protocols that systematize sequential decision-making that is key to effective treatment of health problems. Examples include a study of children with ADHD and an ongoing study to improve care at mental health clinics.

Speaker's Bio:

My current primary interest concerns clinical trial design and the development of data analytic methods for informing multi-stage decision making in health. In particular for (1) constructing individualized sequences of treatments (a.k.a., adaptive interventions) for use in informing clinical decision making and (2) constructing real time individualized sequences of treatments (a.k.a., Just-in-Time Adaptive Interventions) delivered by mobile devices. See [Workshop on Just in Time Adaptive Interventions](#). Adaptive Interventions, also known as dynamic treatment regimes, are composed of a sequence of decision rules that specify when to alter the therapy and specify which intensity or type of subsequent therapy should be offered. The decision rules employ variables such as patient response, risk, burden, adherence, and preference, collected during prior therapy. These regimes hold the promise of maximizing treatment efficacy by avoiding ill effects due to over-treatment and by providing increased treatment levels to those who can benefit.

My work has been funded by [National Institute on Drug Abuse](#) and by [National Institute of Mental Health](#). I work with researchers at [The Methodology Center](#) on these topics.
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Refreshments will be served.

This lecture has a reception @ 03:00 pm

