

**Department of Epidemiology and Biostatistics  
Biostatistics Seminar**

Thursday, February 27 , 2014  
12:00pm - 1:00pm -- WG73  
Bring your own lunch

**“Latent Mediators in Causal Mediation Analysis – Is There any There There?”**

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**Abstract:** In this talk, we consider the use of latent mediators in causally interpreted structural equations models, or more specifically, causal mediation models. Such a ‘latent mediator model’ may be of interest when multiple intermediate variables, possibly measuring a latent mediator, are available. Previous work has shown that the mediation formula may be used to estimate mediation effects for a latent mediator, allowing, for example, mixed types of outcomes. The present focus is on the assessment of the scientific and statistical appropriateness of the latent mediator model for given data. We also examine the usefulness of this model by considering the interpretation of the latent mediator and the possibility of predicting the effect of future interventions. Finally, we discuss some alternative models and methods for causal mediation analysis with multiple intermediate variables. A motivating example comes from a study of oral health behavioral variables as possible mediators of the relationship between parental factors and dental caries in children.