



JOHNS HOPKINS  
BLOOMBERG  
SCHOOL of PUBLIC HEALTH

*Department of Biostatistics*

# BIOSTATISTICS SEMINAR

## Analysis of Rolling Group Therapy Data Using Conditionally Autoregressive Priors

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### *ABSTRACT*

Group therapy is a central treatment modality for behavioral health disorders such as alcohol and other drug use (AOD) and depression. Group therapy is often delivered under a rolling (or open) admissions policy, where new clients are continuously enrolled into a group as space permits. Rolling admissions policies result in a complex correlation structure among client outcomes. Despite the ubiquity of rolling admissions in practice, little guidance on the analysis of such data is available. We discuss the limitations of previously proposed approaches in the context of a study that delivered group cognitive behavioral therapy for depression to clients in residential substance abuse treatment. We improve upon previous analytic approaches by fully modeling the interrelatedness of client depressive symptom scores using a hierarchical Bayesian model that assumes a conditionally autoregressive prior for session-level random effects. Our approach broadly applies to any group therapy setting where groups have changing client composition. It will lead to more efficient analyses of client-level data and improve the group therapy research community's ability to account for how the dynamics of rolling therapy groups lead to client outcomes.

**The Johns Hopkins Bloomberg School of Public Health  
Department of Biostatistics, Wednesday, December 1, 2010  
Room W2030 School of Public Health, 4:00-5:00pm (Refreshments: 3:30)**