

## Abstract 13

### **Latent Class Transition Models for the Elderly U.S. Chronically Disabled**

Toby White  
Graduate Student, Statistics

The chronically disabled population of elderly (age 65+) Americans often requires long-term care. To better allocate resources to those subgroups that need, or may potentially need assistance, it is prudent to understand the dynamics of how this population changes across time and age. For example, if one could identify common patterns of disability progression, health care and its associated cost could be directed to at-risk groups early on. I propose to use latent class transition models to examine how both individuals and cohorts shift among latent disability classes over time, and as they age. I develop a group-based modeling approach that adjusts for left and right censoring, which are both present in many longitudinal surveys with panel design. I am also interested in determining the optimal number of latent classes for models with and without covariates. I use Activities of Daily Living data from the National Long Term Care Survey, 1982-2004, to illustrate the group-based modeling approach and model selection issues.