



TreeAge Pro Training: Advanced Markov/Discrete Event Simulation

Agenda

1. Complex Markov Simulation Models
 - Calculate event probabilities based on a complex combination of treatment, health state and patient history
 - Apply the impact of patient history to long-term costs and utilities
2. Discrete Event Simulation Models
 - Build a Discrete Event Simulation (DES) model, replacing Markov event probabilities with DES time-to-event distribution sampling
 - Integrate non-fixed risk time-to-event distributions into the model
 - Run simulation and sensitivity analyses on DES models
3. Patient Tracking Reporting
 - Track patients in model to generate patient tracking reports that follow each patient through the entire model
 - Generate cohort-level “Markov-like” reporting from patient-tracking data
4. Review Internal Calculation Details
 - Output internal trace data to the console to validate model calculations
5. Population Dynamics and Budget Impact
 - Integrate dynamic cohort size into a Markov model to study population dynamics and budget impact
6. Patient Interaction
 - Run patients in a synchronized time environment to represent patient interaction and/or resource constraints
7. Subgroup Analysis
 - Integrate real patient data for simulated patient characteristics through bootstrapping
 - Filter simulation results to study subgroups within a heterogeneous cohort