



STATISTICS DEPARTMENT

SEMINAR

TITLE: ESTIMATION WITH HEALTH-RELATED QUALITY-OF-LIFE ADJUSTED CORRELATED TIMES-TO-EVENT

SPEAKER: Adi Andrei

TIME: 4:00 P.M.

DATE: Wednesday, January 31, 2007

ROOM: 140 BARDEEN

ABSTRACT:

In clinical trials evaluating times-to-event, close attention is oftentimes paid to patient health-related quality-of-life (HRQOL). When the context is that of successive or recurrent life events, both the HRQOL scores and the inter-event (gap) times contain useful complementary information. To analyze one source of data without the other might overlook essential aspects of the disease process on HRQOL, and in some cases might lead to contradictory conclusions. We propose a unitary and more comprehensive nonparametric analysis introducing the HRQOL-adjusted gap time concept. The translation of the event data onto the QOL time scale and the correlation between the underlying gap times create a two-level dependent censoring structure. Inverse probability of censoring weighted (IPCW) estimators of the HRQOL-adjusted gap times joint and conditional distributions are proposed and characterized. This part of the talk is based on Andrei and Murray (Biometrika, 2006). Furthermore, in many practical instances, such as the National Emphysema Treatment Trial (NETT), multiple HRQOL scores collected are simultaneously of high relevance. We propose and characterize a nonparametric estimator for the joint distribution of multiple HRQOL-adjusted survival times using IPCW techniques, Method performance is assessed in simulated settings and its practical usefulness is illustrated by an application to a NETT example.

Coffee and Cookies at 3:30 p.m. in Room 1210 MSC