MORE REALISTIC ASSUMPTIONS FOR CONTROLLING CONFOUNDING IN OBSERVATIONAL STUDIES OF TIME-VARYING EXPOSURES

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In observational assumptions, analysts typically assume that treatment assignment is ignorable. Robins (1986) has developed a sequential version of this assumption for longitudinal studies with time-varying treatments and exposures. Unfortunately, the assumption is unrealistic for most observational studies in which treatment and covariates are measured at regular intervals but treatment is not under control of the investigator. We develop a modification to the standard sequential ignorability assumption that is more appropriate for these settings. Further, we develop a method for estimation of parameters in structural nested distribution models that is valid under the revised assumption. We apply the methods to data from the Lipid Research Clinics Coronary Primary Prevention Trial.