# Causal Inference for Complex Observational Data

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**Abstract**

Observational data often have issues which present challenges for the data analyst. The treatment status or exposure of interest is often not assigned randomly. Data are sometimes missing not at random (MNAR) which can lead to sample selection bias. And many statistical models for these data must account for unobserved confounding. This talk will demonstrate how to use standard maximum likelihood estimation to fit extended regression models (ERMs) that deal with all of these common issues alone or simultaneously.