BIOSTATISTICS SEMINAR

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Efficient Epidemiological Study Designs for Quantitative, Multivariate Longitudinal Data

Outcome dependent sampling (ODS) designs are efficient when exposure ascertainment costs limit sample size. In longitudinal studies with a continuous outcome, ODS designs can lead to efficiency gains by using low-dimensional summaries of individual longitudinal trajectories to identify the subset of subjects in whom the expensive exposure variable will be collected. Analyses can be conducted using the outcome, confounder and target exposure data from sampled subjects, or they can combine complete data from the sampled subjects with the partial data (i.e., outcome and confounder only) from the unsampled subjects. In this talk, we will discuss designs for longitudinal and multivariate longitudinal data, and an imputation approach for ODS designs that can be more efficient than the complete data approach, may be easier to implement than full-likelihood approaches, and is more broadly applicable than other imputation approaches. We will examine finite sampling operating characteristics of the imputation approach under several ODS designs and longitudinal data features. We will apply the imputation approach to the analysis of lung function from subjects who participated in the Lung Health Study.

Thursday September 3, 2020 **New time: 3:00 pm - 4:00 pm**

Zoom meeting: Please also find a link in the email invite, with the password.
https://uncsph.zoom.us/j/92138801086?pwd=Y011NUNQcS9lZERjalVhbVZSZ3AwQT09

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