Challenges and Strategies for Analyzing Complex Survival Data

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Abstract: Survival data analysis presents intricate challenges requiring specific techniques for meaningful interpretation. This talk navigates the complexities of survival data, addressing some key contemporary topics. Emphasizing the significance of understanding various censoring types, we emphasize the use of appropriate methods to handle this incomplete data, ensuring the accuracy and reliability of survival analysis results. Delving deeper, we explore multi-state models, a robust framework for complex survival data analysis. Our discussion offers insights into multistate regression and the estimation of transition probabilities, highlighting the Markov condition and methods for estimating these probabilities while considering covariates. Furthermore, we present some software solutions, some of which have been developed by the authors, emphasizing their crucial role in simplifying the analysis of complex survival datasets.