Evaluating the Impact of Baseline Hazard Function Misspecification on Treatment Effect Estimation

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Objectives

The goal of this study is to evaluate how misspecifying the baseline hazard function can influence the estimation of treatment effects in survival. This work focuses on conducting simulations to compare the exponential, weibull and lognormal models to the semi-parameteric Cox model. We also investigate the impact of utilizing an overly complicated model (e.g., Cox) when a less complex model (e.g., exponential) is sufficient.

Statistical Methods

The purpose of survival analysis is to . Each survival model implements a different baseline hazard function, except for the Cox model, which does not require this specification.

Simulation Design

Data Generation

Measuring Performance

To assess model performance, we used mean-squared error (MSE) and _____.

Results

Conclusions