Summarizing the Duration of Response via RMST

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ABSTRACT
The duration of response is an important endpoint in oncology studies. The conventional method estimates the distribution of the duration of response via the KM curve among responders only. However, such an approach can be biased due to informative censoring, and also violates the ITT principle. We will also provide a brief overview of restricted mean survival time (RMST) in general. We will then propose a new metric summarizing the duration of response via the RMST and several new estimators for the distribution of the duration of response including a simple IPCW estimator, its efficiency-augmented counterpart, and a regression-based estimator. The performance of these estimators will be compared theoretically and empirically in numerical studies.