

Left without being seen: The disappearance of impatient patients, combining current-status, right-censored and left-censored data

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Abstract: I will present a survival-data setting that combines right-censored, left-censored, and current status data. The motivation is the challenge to estimate patience time, namely, the time till leaving without being served, of patients who arrive at an emergency department and wait for treatment. Three categories of patients are observed. The first category consists of patients who get service and thus their patience time is right-censored by the waiting time. The second category comprises those who leave the system and announce it, and thus their patience time is observed while the waiting time is right-censored. The third category consists of patients who leave the system without announcing it; their absence is hence revealed only when they are called to service, which is after they have already left; formally, their patience time is left-censored. The goal is to estimate the (im)patience distribution, based on these three data categories. I will present a novel methodology for distribution estimation using both parametric and nonparametric techniques. I will also present the performance of these estimators via simulated data and data from emergency departments.