

## Non-Mixture Cure Models for Interval-Censored Data

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### Abstract

We extend the bounded cumulative hazard model (BCH) to accommodate interval-censored data where the time to failure is assumed to follow a lognormal distribution. We also consider another non-mixture cure model dealing with failures at two different levels where we propose a geometric distribution for the latent event times. To assess the performance of both models, a simulation study is conducted under the scenarios of different sample size and covariate value. A real data set is used for illustration.

Keywords: Bounded cumulative hazard, Geometric non-mixture, lognormal, Maximum likelihood