

The Breslow estimator, the Breslow-Crowley theory, and their modern impacts

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Abstract:

In his (1972) discussion of D. R. Cox's famous paper on the Cox proportional hazards model, Norman Breslow showed how the baseline cumulative hazard function, Λ , could be estimated in a natural way in parallel with the estimators of the regression parameters proposed by Cox. The resulting "Breslow estimator", together with Breslow's (1974) joint paper with John Crowley on the asymptotic behavior of the Kaplan-Meier estimator, set the stage for an extraordinary collection of developments in survival analysis, semiparametric models, and counting processes. These developments continue to have significant and profound consequences for present day statistical research and practice.

In this talk I will give a personal and subjective (but not Bayesian!) overview and survey of some of these impacts and their history, with a side commentary on Norm's effects on my own research directly (and indirectly) over a period of more than 30 years.