

# Bayesian Modeling of Spatially Correlated Survival Data

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**Abstract:** The last decade has witnessed major developments in Geographical Information Systems (GIS) technology resulting in the need for Statisticians to develop models that account for spatial clustering and variation. In public health settings, epidemiologists and health care professionals are interested in discerning spatial patterns in survival data that might exist among the counties. This talk develops Bayesian hierarchical model for capturing spatial heterogeneity within the framework of proportional odds. This is deemed more appropriate when a substantial percentage of subjects enjoy prolonged survival. We discuss the implementation issues of our models, perform comparisons among competing models and illustrate with data from the SEER (Surveillance Epidemiology and End Results) database of the National Cancer Institute, paying particular attention to the underlying spatial story.