
RHONDA ROSYCHUK, University of Alberta

An Examination of Spatial Scan Statistics Based on Time to Event Data

The spatial scan statistic (SSS) is used to identify the geographical clusters of higher number of cases of a disease. It can also identify geographic areas with longer time to events using appropriate distributions. Other authors have proposed Exponential and Weibull distributions for the event times. We propose log-Weibull as an alternative distribution for the SSS and compare the three distributions through simulation to investigate Type I censoring. Methods are also illustrated on time to specialist visit (cardiology or internal medicine) data for discharged patients presenting to Emergency Departments for atrial fibrillation and flutter in Alberta during 1999-2011.