
GARY SNEDDON, Mount Saint Vincent University
Analysis of Cross-Classified Spatial Data

Our work is motivated by analysis of hospital admission data where patients are cross-classified by their residential areas and general practices. Patient outcomes tend to be correlated within geographical areas and general practices; however, the clustering effects are cross-classified rather than hierarchical. In addition, patient outcomes might be spatially correlated among geographical areas. In this study, we incorporate crossed random effects of geographical areas and general practices into Poisson models. We also consider spatial correlation among effects of geographical areas. An orthodox best linear unbiased predictor approach has been developed in the estimation of our model.