A Spatial Parameterization Model of Infant Mortality in Anhui Province in China

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Abstract

Infant mortality levels in China can be broadly divided between a relatively low level in the eastern lowland and a high level in western highland. However, there are two provinces in the east do not fit this profile. In this paper, we attempt to use a spatial parameterized model to examine infant mortality in one of provinces, Anhui, China. The aim is to identify unknown geographic sources that may cause high infant mortality in relatively well-off part of the province. The modeling method is to extend the early spatial cluster parameterization models from pre-specified source to unknown sources. The estimation relies on maximum likelihood approach to iteratively estimate multiple parameters that have been included in both linear and nonlinear components in the statistical model. In both evaluation and extended case study, we found that the spatial parameterization method is effective in terms of identifying cluster influence center and measuring cluster strength. In add! ition, the parameterized method tends to perform better than common spatial cluster detection method in terms of goodness of fit statistic and location specificity.