Spatiotemporal analysis of infant mortality rates in Argentina using mixed Poisson models

Cristina Cuesta*
Universidad Nacional de Rosario, Rosario, Argentina – cbcuesta@gmail.com
María Dolores Ugarte
Universidad Pública de Navarra, Pamplona, Spain – lola@unavarra.es

Infant mortality is considered one of the more important indicators for planning and programming activities in health. Their study contributes to the assessment of one of the Millennium Development Goals (MDGs) proposed by the United Nations (and adopted by Argentina) whose deadline is scheduled for 2015. The fourth of these objectives has the overall goal of reducing by two thirds (between 1990 and 2015) mortality in children. In addition, Argentina has the commitment of reducing by 10% provincial inequalities. This work aims to analyze the fulfillment of these objectives by analyzing infant mortality rates that have been estimated using spatio-temporal mixed Poisson models. The methodology used allows a comprehensive analysis of the differences between regions and periods. From this analysis we conclude that even though Argentina does not have met the MDGs targets yet, there is a slight tendency toward compliance.

Keywords: Infant Mortality Rate, Poisson models, CAR models, Spatiotemporal distribution.