

# Bayesian spatial survival modelling for dengue fever in Makassar, Indonesia

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## Abstract

**Objective:** To understand the spatial pattern of dengue fever (DF) patients' survival and investigated factors influencing DF patients' survival.

**Method:** A Bayesian spatial survival method via a conditional autoregressive approach was used to analyze the factors that influence DF patients' survival in 14 sub-districts from January 2015 to May 2017 in Makassar city, Indonesia. Bayesian spatial and a non-spatial model were compared by using deviance information criterion.

**Results:** The spatial model was more suitable than a non-spatial model. Under the Bayesian spatial model, there was a substantive relationship between age, grade and DF patients' survival time.

**Conclusions:** The relative risk map and related factors of DF patients' survival can indicate the health policy makers to give special attention to the high risk areas in order to faster and more targeted treatment.

**Key words:** Conditional autoregressive Dengue fever, Hazard rate, Spatial survival, Weibull model