

Study on Probability of Incidence of Disease Through Point Process Modeling

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Forecasting the incidence of the disease in an area at a given time is a very interesting study. It is important because it can be provide information early so that everything can be prepared to reduce the risks that may occur. One of the stochastic model that can explain the natural phenomena that are occur in random in space and time is the point process. In this study, the incidence of the disease at any given time is considered as a temporal point process with inter event time is exponentially distributed. An interesting thing in this study is the conditional intensity of point process can be used to forecast the occurrence probability of exactly one event in one unit of time in the future. In this study, the parameters of conditional intensity were estimated using single decrement approach. Using the incidence of disease data, we will forecast the probability of incidence of disease in the future time at a certain area.

Key words: Single decrement, random phenomena, exponential inter-event time.