

Issues in spatial Epidemiology

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Epidemiology deals with the causes as well as the temporal and spatial distribution of morbidity and mortality. In the last decade spatial analysis of health related data has increased tremendously in quantity as well as quality. The main reasons for this are new techniques in spatial statistics as well as availability of large spatially referenced data sets provided by official and private sources. Presentation of spatial distributions in GIS meanwhile is done by more sophisticated methods as random effect models though still the simple crude SMR estimator

$$SMR_{Crude} = \text{observed cases} / \text{expected cases}$$

is used. In this talk I will give a short overview of the advantages and disadvantages of the types of risk estimates as well as address issues in regard with type II and III error in statistical hypothesis testing in spatial epidemiology.