Division of Biostatistics
Seminar Series Fall 2012

Noninformative Priors for Capture-recapture Data

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Graduate Program classroom, 3rd Floor in Shriner's Building
Coffee, water, and cookies will be provided

Abstract

One critical issue in the Bayesian approach is choosing the priors when there is not enough prior information to specify hyperparameters. Several improper noninformative priors for capture-recapture models were proposed in the literature. It is known that the Bayesian estimate can be sensitive to the choice of priors, especially when sample size is small to moderate. Yet, how to choose a noninformative prior for a given model remains a question.

In this talk, we consider the problem of estimating the population size for capture-recapture data using noninformative priors. We compare the frequentist properties of several different noninformative priors by simulation studies. The simulation results show that the Bayesian approach can provide more accurate estimates than the MLE for small samples.