Author's response to reviews

Title: A two-stage Bayesian method to estimate the accuracy and disease prevalence for two dependent dichotomous screening tests when the status of individuals negative on both tests is unverified

Authors:

Jin Liu (liujinseu05@126.com)
Feng Chen (dr.chenfeng@163.com)
Hao Yu (niyuhao@vip.sina.com)
Ping Zeng (zpstat@xzmc.edu.cn)
Liya Liu (tutu_1114@163.com)

Version: 2
Date: 8 July 2014

Author's response to reviews: see over
Dear Dr. Chiu-Hsieh (Paul) Hsu,

We would like to submit our manuscript entitled “A two-stage Bayesian method to estimate the accuracy and disease prevalence for two dependent dichotomous screening tests when the status of individuals negative on both tests is unverified” to be reviewed for publication in *BMC Medical Research Methodology*.

Estimating the disease prevalence and test accuracy when two tests are dependent and when the status of individuals negative on both tests is unverified presents a considerable challenge. Our article presents a method within a unified framework to handle this type of problem using two-stage Bayesian modeling. The method is different from the methods presented recently by Bohning (*J Am Stat Assoc*, 2008), Chu (*Stat Med*, 2010), and Li, et al (*Stat Methods Med Res*, 2011) for addressing the problems. We understand that papers published in your journal should be accessible to a broad audience, and therefore, our paper’s background presents a brief overview of the area of discussion and a motivating example, combined with a series of simulations based on the model’s potential applications in practice. We declare that we have no competing interests.

As the authors are non-English speakers, we used the *Wiley Editing Services* to make the paper suitable for publication in the English language.

Thank you for your consideration of our paper, we look forward to the reviewer’s comments.

Kind regards,

Dr. Jin Liu