1077-62-1802   **Nils S Nelson*** (`nils.nelson@aggiemail.usu.edu`), 755 East 800 North #2, Logan, UT 84321, and **Haimeng Zhang**. *Relative Efficiencies of the Maximum Partial Likelihood Estimators Under Sampling Schemes.*

Cox's regression model is widely used in epidemiology and medical research to assess the influence of exposure variables and other covariates on mortality or morbidity. Such study and analysis often requires to collect a large cohort of subjects over a long period of time. Sampling schemes, which only process the raw covariate data on a small portion of sampled subjects, not only offer substantial savings, but ultimately become the only practical alternative.

In this project, we compare the performance of the so-called maximum partial likelihood estimator from two popular sampling schemes, the case-cohort sampling design and the nested case-control sampling design, along with that from the full cohort under finite sample through extensive numerical simulations. This comparison is then applied to the analysis of a real data set. Finally, we investigate the relative efficiency of the nested case-cohort sampling design under highly stratified models. (Received September 21, 2011)