



The University of Chicago
Department of Statistics

Master's Seminar

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Fitting Regression Models Under Case-control Sampling

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ABSTRACT

Data arising from case-control sampling are the result of complex design involving stratification of the response. Some methods are developed to fit the regression models under case-control sampling for longitudinal data or for secondary analysis. For some models such as Logistic and Poisson models, valid point estimators and asymptotic variance of the odds-ratio parameters are obtained by modifying the prospective logistic regression model to cater for this sampling scheme. The profile likelihood technique for binary response and usual survey weight method with weights inversely proportional to the selection probability are also presented. The modified prospective method and weight method are applied on the analysis of a simulated data set and an actual data set.