

## Lab 6: Discrete outcome regression

**Data:** cac.csv (see the cac.pdf file for data dictionary/useful information).

**Practical objective:** To practice implementing and interpreting models involving discrete outcomes.

**Scientific objective:** To investigate kidney stones as a predictor of coronary artery calcification (CAC).

**Noteworthy commands:** Below is a list of Stata commands and options that will be helpful for this lab.

- `logistic`
- `mlogit`

**Exercises:** Below is a set of exercises that we will go through individually, in small groups, and/or together as appropriate and as time permits.

**Exercise 1:** Load the CAC data set into Stata. Report estimates and 95% confidence intervals for the coefficients of an logistic regression model that includes any kidney stone history (yes or no) as the predictor and any CAC (yes or no) as the outcome.

**Exercise 2:** Summarize two circumstances under which it would be considered a good idea to adjust for age (justify your response under each circumstance). Now, repeat Exercise 1 adjusting for age (linearly, for simplicity of the problem).

**Exercise 3:** Fit a model similar to that of Exercise 3, instead treating the CAC outcome nominally. Interpret each model coefficient that that (a) has scientific meaning and (b) can reasonably be estimated.

**Exercise 4:** Fit a model similar to that of Exercise 3, instead treating the CAC outcome ordinally. Interpret each model coefficient that that (a) has scientific meaning and (b) can reasonably be estimated.