

Lab 8: Exploring longitudinal data

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

Practical objective: To gain experience with exploration of longitudinal data and writing down models suitable for longitudinal analyses.

Scientific objective: To understand the effect of DFMO on mean spermidine over time.

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 DFMO data set into Stata. Without actually fitting any models, spend some time graphically exploring the longitudinal nature of spermidine in each DFMO group over time.

Now, we will split into groups of three or four. Those groups will be retained next week, so remember your group number when you receive it!

Exercise 2: Before even writing down a mean model, think as a group about some of the key decisions you will have to make when you *do* develop a model. Here are some things to think about:

- How are you going to handle the variable doses of DFMO?
- How are you going to handle time?
- How are you going to handle baseline variables?

Before making any decisions and writing down a mean model, weigh the relative advantages and disadvantages of each approach. You should be able to concede at least *one* limitation of each decision you make.

Exercise 3: Write down a mean model based on the decisions you made in Exercise 2.