

AMSC/MATH 420, Spring 2015

First Project on Modeling Epidemics: Sensitivity of Parameters to Data

Oral presentation due Tuesday March 24

Written presentation due Thursday March 26

Start by downloading monthly AIDS diagnoses data for the entire U.S. and for the Miami reporting area. The goals of this project are to develop and test methods for fitting parameters of a modified SIR model (to be discussed further in class) to the data, and to determine how the parameters that “best” fit the data depend on the data itself; in particular, to quantify what the uncertainty in the parameters is for a given amount of uncertainty in the data. The uncertainty in the data may include both random fluctuations and systematic biases in reporting accuracy. The parameter sensitivity will depend on which data set you are using; start with the two data sets assigned to you, and then look at some other cities in the southeastern U.S. to see how broadly your conclusions apply.