

AMSC/MATH 420, Spring 2013
Modeling Epidemics: Team Project 1
due Monday February 18

Monthly data on AIDS diagnoses in various metropolitan areas (and the entire U.S.) is available at <http://wonder.cdc.gov/aids-v2002.html>. To download data for a particular city (and its metropolitan area), select “Month Diagnosed” in Section 1 next to “Group Results By”, and select the city name in Section 2. Then click any of the “Send” buttons. Once the data appears, you can save the data to a file with the “Export” button, but it may be just as easy to copy-and-paste.

In addition to selecting data by region, you can select by demographic information, risk factors, etc.; for now, let’s stick to all diagnoses in a given region. From the monthly data, you can compute the cumulative number of diagnosed cases as a function of time.

Think of the cumulative number of cases as the “infectious” population in the “SI” model discussed in the first two epidemiology lectures. For each of the two cities assigned to your group, find the parameters of this model that fit the cumulative data as best you can. Then, fit the new monthly diagnoses as best you can (not necessarily with the same parameters). What do you think are the most important features of the data that cannot be fit with the SI model?