**Final Paper + Model**

*144 points (30% of final grade)*

By 9am on Thursday, January 25, please upload to the corresponding Canvas assignment:

* A Word file including your final paper, follinw the naming convention:
  + **FinalPaper\_LastName\_FirstName.doc/docx**
* A R script including an annotated version of your final model, which “runs” to produce a plot embedded in your paper as a figure, following the naming convention:
  + **FinalModel\_LastName\_FirstName.R**

Your final paper should be turned in double-spaced and range between 2000-5000 words (roughly 5-10 pages), not including references and figures.

Please include the following sections:

* *Introduction/Background:* Introduce your infectious disease of interest and summarize:
  + disease history and etiological agent responsible
  + public health impact, with particular emphasis on low-income settings
  + what is known about its transmission dynamics, with particular emphasis on the history of dynamical modeling efforts to understand and/or intervene in the transmission process
  + 500-1000 words (*30 points*)
* *Methods:* Describe your research question and the modeling approach used to address that question. Include the following:
  + Model equations (from Jan 19 homework) and explanation
  + Model diagram (from Jan 15/16 homework) embedded as a figure with caption.
  + An explanation of the parameters used in this model and where the values were sourced.
  + **Attach your annotated R-script that builds this model and plots the corresponding figure.** This script needs to “run” and successfully produce the plot shown in the ‘Results’ section for full credit.
  + 500-1000 words (50 points: 20 for written section + 30 for annotated R script)
* *Results:* Describe what you learned about the disease and/or attempted interventions from your model. In addition to this description, include:
  + At least one plot embedded as a figure in the paper, which demonstrates something about the dynamical nature of this disease, as you inferred from the model. Also include a caption.
  + 250-500 words *(25 points)*
* *Discussion:* Place your findings in context with prior work and discuss how modeling could be used to make more substantive contributions to public health control for this disease in the future. Also discuss limitations of your existing study.
  + 500-100 words *(30 points)*
* *References (25-100):* Formatted according to the Public Library of Science
  + 25-100 references *(9 points)*