General To-do:

* Fill spreadsheet of ID courses
* Find better cartoons for several chapters
* Standardize inclusion of figures using the knitr approach
* Review existing materials (MOOCS and textbooks)
* New chapters for virulence evolution

To-do for specific chapters

* Preface:
  + Write/extend
  + Overview
* Dynamical Systems introduction:
  + Check copyright for obesity figure
* Characterizing Infectious Disease States
* Write EID chapter, include drug resistance evolution in this

Possible Outline

1. Introduction to topic
2. Introduction to R/Shiny
3. Single Outbreaks
4. Birth-death
5. Endemic states
6. Oscillations
7. Impact of pre-existing immunity
8. Age structure
9. Vaccination and other Control

Mechanistic Modeling overview

Inference/Fitting

* Basic idea

Thoughts

Check with different academic presses to see if they have an online book model.

Comments from Isaac:

Also, your book should include more practical examples. By "practical", I mean, you should include real-life scenarios, how mathematical models are used in real-life public health practice. And say, given such a data set, e.g., the incidence data from the early phase of Ebola epidemic in W. Africa, what would an infectious disease epidemiologist do with the data? What are the research/practice questions? How would infectious disease modeling help in this context? I think that many practitioners and students find ID modeling wanting or not useful, because they do not know how these tools can be applied in real-life. And your textbook should aim to address this issue, if you want people to buy it and use it in classrooms.

Other ID textbooks:

* Modern Infectious Disease Epidemiology by Giesecke: Mostly classical Epi concepts with an ID slant
* Infectious Disease Epidemiology by Nelson et al.: Mainly a reference book.
* Essentials of Infectious Disease Epidemiology by Manya Magnus: Simpler version of the Giesecke book