



Introduction to Simulation

Assignment 2: SIR and Infant Vaccinations

Consider the following scenario:

- Instead of starting a widespread vaccination program among the current population, the government decides to vaccinate only the newborn
 - However, the newborn vaccination only results in a lifelong immunity for a certain percentage of the newborn
1. Use the SIR model from the ItS web site.
 2. Modify the model to reflect this new government policy.
 3. Determine the necessary probability for lifelong immunity to eradicate the disease using only infant vaccinations.
 4. If the effectiveness of the newborn vaccination does not exceed 0.5 for some reason, how effective would the additional adult vaccination program of the government have to be to compensate for that? Determine the necessary number of vaccinations per day to eradicate the disease.